ckb-next

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Chapter 1

README

ckb-next: RGB Driver for Linux and OS X

ckb-next is an open-source driver for Corsair keyboards and mice. It aims to bring the features of their proprietary CUE software to the Linux and Mac operating systems. This project is currently a work in progress, but it already supports much of the same functionality, including full RGB animations. More features are coming soon. Testing and bug reports are appreciated!

Disclaimer: ckb-next is not an official Corsair product. It is licensed under the GNU General Public License (version 2) in the hope that it will be useful, but with NO WARRANTY of any kind.

What happened to the original `ckb`?

We don't know. The author of **ckb** `ccMSC` suddenly disappeared and hasn't showed up since July 2016. So the community around ckb decided to take the project over and continue its development. That's how **ckb-next** was created. Currently it's not rock solid and very easy to set up on newer systems but we are actively working on this. Nevertheless the project already incorporates a notable amount of fixes and patches in comparison to the original ckb.

Contents

- `Current Status`
- `Device Support`
- `Linux Installation`
- `OS X/macOS Installation`
- `Usage`
- `Troubleshooting`
- `Known Issues`
- `Contributing`

See also:

- https://github.com/mattanger/ckb-next/blob/master/DAEMON.md "Manual for the driver daemon"
- `ckb testing repository` (updated more frequently, but may be unstable)

Device Support

Keyboards:

- K65 RGB
- K70
- K70 RGB
- K70 LUX RGB
- K95∗
- K95 RGB
- Strafe
- Strafe RGB
- = hardware playback not supported. Settings will be saved to software only.

Mice:

- M65 RGB
- M65 PRO RGB
- Sabre RGB
- Scimitar RGB

Linux Installation

Pre-made packages:

ckb-next packages:

- Fedora 24/25, CentOS/RHEL 7 (maintained by):
  - `'johanh/ckb'` - based on `master` branch

ckb packages (deprecated):

- Arch Linux (maintained by):
  - `'aur/ckb-git'` - based on `master` branch (more stable)
  - `'aur/ckb-git-latest'` - based on `testing` branch (less stable but fresher)
- Gentoo (maintained by): `emerge -av app-misc/ckb`

If you are a package maintainer or want to discuss something with package maintainers let us know in the issues, so we can have an accountable and centralized communication about this. *If you would like to maintain a package for your favorite distro/OS, please let us know as well.*

Preparation:

ckb-next requires Qt5 (Qt 5.6 recommened for OS X), libudev, zlib, gcc, g++, and glibc.

- Ubuntu: `sudo apt-get install build-essential libudev-dev qt5-default zlib1g-dev libappindicator-dev`
- Fedora: `sudo dnf install zlib-devel qt5-qtbase-devel libgudev-devel libappindicator-de systemd-devel gcc-c++`
- Arch: `sudo pacman -S base-devel qt5-base zlib`
- Other distros: Look for `qt5` or `libqt5*-devel`

Note: If you build your own kernels, ckb-next requires the uinput flag to be enabled. It is located in `Device Drivers -> Input Device Support -> Miscellaneous devices -> User level driver support`. If you don't know what this means, you can ignore this.

Installing:

You can download ckb-next using the "Download zip" option on the right. Extract it and open the ckb-master directory. The easiest way to install ckb is to double-click the `quickinstall` script and run it in a Terminal. It will attempt to build ckb and then ask if you'd like to install/run the application. If the build doesn't succeed, or if you'd like to compile ckb manually, see https://github.com/ccMSC/ckb/blob/master/BUILD.md "'BUILD.md'" for instructions.

Upgrading:

To install a new version of ckb, or to reinstall the same version, first delete the ckb-master directory and the zip file from your previous download. Then download the source code again and re-run `quickinstall`. The script will automatically replace the previous installation. You may need to reboot afterward.

Uninstalling:

First, stop the ckb-daemon service and remove the service file.

- If you have systemd (Ubuntu versions starting with 15.04): "' sudo systemctl stop ckb-daemon sudo rm -f /usr/lib/systemd/system/ckb-daemon.service "'
- If you have Upstart (Ubuntu versions earlier than 15.04): "' sudo service ckb-daemon stop sudo rm -f /etc/init/ckb-daemon.conf "'
- If you have OpenRC: "' sudo rc-service ckb-daemon stop sudo rc-update del ckb-daemon default sudo rm -f /etc/init.d/ckb-daemon "
- `If you're not sure, re-run the`quickinstall`script and proceed to the service installation. The script will say`System service: Upstart detected`or`System service: systemd detected'. Please be aware that OpenRC is currently not detected automatically.

Afterward, remove the applications and related files: "' sudo rm -f /usr/bin/ckb /usr/bin/ckb-daemon /usr/share/applications/ckb.desktop /usr/share/icons/hicolor/512x512/apps/ckb.png sudo rm -rf /usr/lib/ckb-animations "'

Before https://github.com/mattanger/ckb-next/commit/f347e60df211c60452f95084b6c46dc4ec5f42 animations were located elsewhere, try removing them as well: "' sudo rm -rf /usr/bin/ckb-animations "'

OS X/macOS Installation

Binary download:

The latest OS X/macOS binary can be downloaded here: https://github.com/mattanger/ckb-next/releases/late

Click on `ckb.pkg` under the Downloads section. This is an automated installer which will set up the driver for you. After it's finished, open ckb.app (it will be installed to your Applications directory) to get started.

Building from source:

Install the latest version of Xcode from the App Store. Open Xcode, accept the license agreement, and wait for it to install any additional components (if necessary). When you see the "Welcome to Xcode" screen, the setup is finished and you can close the app. Then install Xcode Command Line Tools package issuing `xcode-select --install` in a Terminal app. Afterwards install Qt5 from here: http://www.qt.-io/download-open-source/

The easiest way to build the driver is with the `quickinstall` script, which is present in the ckb-master folder. Double-click on `quickinstall` and it will compile the app for you, then ask if you'd like to install it system-wide. If the build fails for any reason, or if you'd like to compile manually, see https://github.com/ccMSC/ckb/blob/master/-BUILD.md "'BUILD.md'".

Upgrading (binary):

Download the latest `ckb.pkg`, run the installer, and reboot. The newly-installed driver will replace the old one.

Upgrading (source):

Remove the existing ckb-master directory and zip file. Re-download the source code and run the `quickinstall` script again. The script will automatically replace the previous installation. You may need to reboot afterward.

Uninstalling:

Drag `ckb.app` into the trash. If the system service file isn't cleaned up automatically, you can find it and remove it here: `/Library/LaunchDaemons/com.ckb.daemon.plist`.

Usage

The user interface is still a work in progress.

Major features:

- Control multiple devices independently
- United States and European keyboard layouts
- Customizable key bindings
- Per-key lighting and animation
- Reactive lighting
- Multiple profiles/modes with hardware save function
- Adjustable mouse DPI with ability to change DPI on button press
- Key macros (G-Keys also); Have a look at `https://youtu.be/qhrKP03_NrM` for a short video tutorial
- Key macro delays: Handle delays between keystrokes when playing a macro

Closing ckb will actually minimize it to the system tray. Use the Quit option from the tray icon or the settings screen to exit the application.

Roadmap (roughly in order)

- **v0.3 release:**
- Ability to store profiles separately from devices, import/export them
- More functions for the Win Lock key
- **v0.4 release:**

- Ability to import CUE profiles
- Ability to tie profiles to which application has focus
- **v0.5 release:**
- Key combos
- Timers?
- **v1.0 release:**
- OSD? (Not sure if this can actually be done)
- Extra settings?
- ????

Troubleshooting

Linux

If you have problems connecting the device to your system (device doesn't respond, ckb-daemon doesn't recognize or can't connect it) and/or you experience long boot times when using the keyboard, try adding the following to your kernel's `cmdline`:

- K65 RGB: `usbhid.quirks=0x1B1C:0x1B17:0x20000408`
- K70: `usbhid.quirks=0x1B1C:0x1B09:0x0x20000408`
- K70 RGB: `usbhid.quirks=0x1B1C:0x1B13:0x20000408`
- K95: `usbhid.quirks=0x1B1C:0x1B08:0x20000408`
- K95 RGB: `usbhid.quirks=0x1B1C:0x1B11:0x20000408`
- Strafe: `usbhid.quirks=0x1B1C:0x1B15:0x20000408`
- Strafe RGB: `usbhid.quirks=0x1B1C:0x1B20:0x20000408`
- M65 RGB: `usbhid.quirks=0x1B1C:0x1B12:0x20000408`
- Sabre RGB Optical: `usbhid.quirks=0x1B1C:0x1B14:0x20000408`
- Sabre RGB Laser: `usbhid.quirks=0x1B1C:0x1B19:0x20000408`
- Scimitar RGB: `usbhid.quirks=0x1B1C:0x1B1E:0x20000408`

For instructions on adding `cmdline` parameters in Ubuntu, see https://wiki.ubuntu.com/Kernel/-KernelBootParameters

If you have multiple devices, combine them with commas, starting after the `=`. For instance, for K70 RGB + M65 RGB: `usbhid.quirks=0x1B1C:0x1B13:0x20000408,0x1B1C:0x1B12:0x20000408`

If it still doesn't work, try replacing `0x20000408` with `0x4`. Note that this will cause the kernel driver to ignore the device(s) completely, so you need to ensure ckb-daemon is running at boot or else you'll have no input. This will not work if you are using full-disk encryption.

If you see **GLib** critical errors like 'GLib-GObject-CRITICAL **: g_type_add_interface_static: assertion 'G_TYPE_-IS_INSTANTIATABLE (instance_type)' failed' and you are using:

- Qt 5.8 and newer, remove your Qt configuration files and restart the ckb GUI. Also watch out for different style overridings in dotfiles under ~/ generated by Qt automatically, remove them as well.
- Qt 5.7 and lower, install `qt5ct` package on Arch Linux (find a similar one for your distribution). That's all. This is a known Qt bug. It happened because Qt did not ship required GTK files.

If you're using **Unity** and the tray icon doesn't appear correctly, run `sudo apt-get install libappindicator-dev`. Then reinstall ckb.

OS X/macOS

- ∗∗“ckb.pkg” can’t be opened because it is from an unidentified developer∗∗ Open `System Preferences > Security & Privacy > General` and click `Open Anyway`.
- **Modifier keys (Shift, Ctrl, etc.) are not rebound correctly** ckb does not recognize modifier keys rebound from System Preferences. You can rebind them again within the application.
- ∗∗∼ key prints §±∗∗ Check your keyboard layout on ckb’s Settings screen. Choose the layout that matches your physical keyboard.
- **Compile problems** Can usually be resolved by rebooting your computer and/or reinstalling Qt. Make sure that Xcode works on its own. If a compile fails, delete the `ckb-master` directory as well as any automatically generated `build-ckb` folders and try again from a new download.
- **Scroll wheel does not scroll** As of #c3474d2 it’s now possible to **disable scroll acceleration** from the GUI. You can access it under "OSX tweaks" in the "More settings" screen. Once disabled, the scroll wheel should behave consistently.

General

Please ensure your keyboard firmware is up to date. If you’ve just bought the keyboard, connect it to a Windows computer first and update the firmware from Corsair’s official utility.

Before reporting an issue, connect your keyboard to a Windows computer and see if the problem still occurs. If it does, contact Corsair. Additionally, please check the Corsair user forums to see if your issue has been reported by other users. If so, try their solutions first.

Common issues:

- **Problem:** ckb says "No devices connected" or "Driver inactive"
- **Solution:** Try rebooting the computer and/or reinstalling ckb. Try removing the keyboard and plugging it back in. If the error doesn’t go away, try the following:
- **Problem:** Keyboard doesn’t work in BIOS, doesn’t work at boot
- **Solution:** Some BIOSes have trouble communicating with the keyboard. They may prevent the keyboard from working correctly in the operating system as well. First, try booting the OS *without* the keyboard attached, and plug the keyboard in after logging in. If the keyboard works after the computer is running but does not work at boot, you may need to use the keyboard’s BIOS mode option.
- BIOS mode can be activated using the poll rate switch at the back of the keyboard. Slide it all the way to the position marked "BIOS". You should see the scroll lock light blinking to indicate that it is on. (Note: Unfortunately, this has its own problems - see Known Issues. You may need to activate BIOS mode when booting the computer and deactivate it after logging in).
- **Problem:** Keyboard isn’t detected when plugged in, even if driver is already running
- **Solution:** Try moving to a different USB port. Be sure to follow `Corsair’s USB connection requirements`. Note that the keyboard does not work with some USB3 controllers - if you have problems with USB3 ports, try USB2 instead. If you have any USB hubs on hand, try those as well. You may also have success sliding the poll switch back and forth a few times.

Reporting issues

If you have a problem that you can’t solve (and it isn’t mentioned in the Known Issues section below), you can report it on `the GitHub issue tracker`. Before opening a new issue, please check to see if someone else has reported your problem already - if so, feel free to leave a comment there.

Known issues

- Using the keyboard in BIOS mode prevents the media keys (including mute and volume wheel), as well as the K95's G-keys from working. This is a hardware limitation.
- The tray icon doesn't appear in some desktop environments. This is a known Qt bug. If you can't see the icon, reopen ckb to bring the window back.
- When starting the driver manually, the Terminal window sometimes gets spammed with enter keys. You can stop it by unplugging and replugging the keyboard or by moving the poll rate switch.
- When stopping the driver manually, the keyboard sometimes stops working completely. You can reconnect it by moving the poll rate switch.

Contributing

You can contribute to the project by `opening a pull request`. It's best if you base your changes off of the `testing` branch as opposed to the `master`, because the pull request will be merged there first. If you'd like to contribute but don't know what you can do, take a look at `the issue tracker` and see if any features/problems are still unresolved. Feel free to ask if you'd like some ideas.

Chapter 2

Building ckb

Linux

You can build the project by running `./qmake-auto && make` in a Terminal inside the ckb-master directory. The binaries will be placed in a new `bin` directory assuming they compile successfully. If you get a `No suitable qmake found` error, make sure Qt5 is installed and up to date. You may have to invoke qmake manually, then run `make` on its own. If you have Qt Creator installed, you can open `ckb.pro` (when asked to configure the project, make sure "Desktop" is checked) and use `Build > Build Project "ckb" (Ctrl+B)` to build the application instead.

Running as a service:

First copy the binary and the service files to their system directories:

- Upstart (Ubuntu, prior to 15.04): `sudo cp -R bin/* /usr/bin && sudo cp service/upstart/ckb-daemon.conf /etc/init`
- Systemd (Ubuntu 15.04 and later): `sudo cp -R bin/* /usr/bin && sudo cp service/systemd/ckb-daemon.service /usr/lib/systemd/system`
- OpenRC: `sudo cp -R bin/* /usr/bin && sudo cp service/openrc/ckb-daemon /etc/init.d/`

To launch the driver and enable it at start-up:

- Upstart: `sudo service ckb-daemon start`
- Systemd: `sudo systemctl start ckb-daemon && sudo systemctl enable ckb-daemon`
- OpenRC: `sudo rc-service ckb-daemon start && sudo rc-update add ckb-daemon default`

Open the `bin` directory and double-click on `ckb` to launch the user interface. If you want to run it at login, add `ckb --background` to your Startup Applications.

Running manually:

Open the `bin` directory in a Terminal and run `sudo ./ckb-daemon` to start the driver. To start the user interface, run `./ckb`. Running the driver manually may be useful for testing/debugging purposes, but you must leave the terminal window open and you'll have to re-run it at every reboot, so installing it as a service is the best long-term solution.

OSX

Open ckb.pro in Qt Creator. You should be prompted to configure the project (make sure the "Desktop" configuration is selected and not iOS). Once it's finished loading, press `Cmd+B` or select `Build > Build Project "ckb"` from the menu bar. When it's done, you should see a newly-created `ckb.app` in the project directory. Exit Qt Creator.

Alternatively, open a Terminal in the ckb-master directory and run `./qmake-auto && make`. It will detect Qt automatically if you installed it to one of the standard locations. You should see a newly created `ckb.app` if the build is successful.

Running as a service:

Copy `ckb.app` to your Applications folder. Copy the file `'service/launchd/com.ckb.daemon.plist'` to your computer's `/Library/LaunchDaemons` folder (you can get to it by pressing `Cmd+Shift+G` in Finder and typing the location). Then open a Terminal and run the following commands to launch the driver:

"' sudo chown root:wheel /Library/LaunchDaemons/com.ckb.daemon.plist sudo chmod 0700 /Library/LaunchDaemons/com.ckb.daemon.plist sudo launchctl load /Library/LaunchDaemons/com.ckb.daemon.plist "'

After you're done, open `ckb.app` to launch the user interface.

Running manually:

Open a Terminal in the ckb directory and run `sudo ckb.app/Contents/Resources/ckb-daemon` to start the driver. Open `ckb.app` to start the user interface. Note that you must leave the terminal window open and must re-launch the driver at every boot if you choose this; installing as a service is the better long term solution.

Chapter 3

cbk Improvements Roadmap

Short term plan

- merge existing PR submitted to original ckb repo
- Contact other developers interested in collaboration on a new and improved version of ckb
- Figure out the issues relating to MacOS Sierra and other version
- Device support:
  - Determine which will need support other than just USB id additions
- Address existing bugs. Not help requests.

Chapter 4

DAEMON

The daemon provides devices at `/dev/input/ckb*`, where `*` is the device number, starting at 1. Up to 9 devices may be connected at once and controlled independently. The daemon additionally provides `/dev/input/ckb0`, which stores driver information.

Mac note: The devices on OSX are located at `/var/run/ckb*` and not `/dev/input/ckb*`. So wherever you see `/dev/input` in this document, replace it with `/var/run`.

`/dev/input/ckb0` contains the following files:

- `connected`: A list of all connected devices, one per line. Each line contains a device path followed by the device's serial number and its description.
- `pid`: The process identifier of the daemon.
- `version`: The daemon version.

Other `ckb*` devices contain the following:

- `cmd`: Keyboard controller.
- `notify0`: Keyboard- or mouse notifications.
- `notify1`: Keyboard- or mouse notifications, used for macro recording.
- `features`: Device features.
- `fwversion`: Device firmware version (not present on all devices).
- `model`: Device description/model.
- `pollrate`: Poll rate in milliseconds (not present on all devices).
- `productid`: Contains the USB productID of the hardware
- `serial`: Device serial number. `model` and `serial` will match the info found in `ckb0/connected`

Commands

The `/dev/input/ckb*/cmd` nodes accept input in the form of text commands. They are normally accessible to all users on the system (see Security section). Commands should be given in the following format: `[mode <n>] command1 [paramter1] [command2] [parameter2] [command3] [parameter3] ...`

In a terminal shell, you can do this like `echo mycommand > /dev/input/ckb1/cmd`. Programmatically, you can open and write them as regular files. When programming, you must append a newline character and flush the output before your command(s) will actually be read.

The mode parameter is used to group settings. Most (but not all) settings are mode-specific; that is, changing mode 1 will not affect mode 2. By default, all commands affect the current mode. Use mode <n> switch to change the current mode.

When plugged in, all devices start in hardware-controlled mode (also known as idle mode) and will not respond to commands. Before issuing any other commands, write active to the command node, like echo active > /dev/input/ckb1/cmd. To put the device back into hardware mode, issue the idle command.

Features

The features node describes features supported by the device, which may not be present on all devices. The first two words in the features node are always <vendor> <model>, like corsair k70. After that, any of the following features may appear:

- adjrate: Device supports adjustable poll rate.
- bind: Device supports key rebinding.
- fwupdate: Device supports firmware updates.
- fwversion: Device has a detectable firmware version (stored in the fwversion node).
- notify: Device supports key notifications.
- pollrate: Device has a detectable poll rate (stored in the pollrate node).
- rgb: Device supports RGB lighting.

Keyboard layout

The driver has no concept of keyboard layouts; all keys are referred to by their English names regardless of the underlying hardware. This means that, for instance, in an AZERTY layout the q key in ckb-daemon corresponds to A on the physical keyboard. Note that on UK/european (ISO) layouts, the backslash key (beside left shift) is called bslash_iso, while bslash refers to the backslash on the US keyboard. The key next to Enter on the ISO keyboard is known as hash. See src/ckb-daemon/keymap.c for the full table of supported keys.

For technical reasons, the OSX driver may swap the bslash_iso and grave keys if the keyboard layout is not set correctly. To compensate for this, write layout iso or layout ansi to the command node.

Poll rate

A device's current poll rate can be read from its pollrate node, assuming it has one. Keyboards have a hardware switch to control poll rate and cannot be adjusted via software. However, mice have a software-controlled poll rate. You can change it by issuing pollrate <interval> to the command node, where interval is the time in milliseconds. Valid poll rates are 1, 2, 4, and 8.

Profiles and modes

Each mode has its own independent binding and lighting setup. When the daemon starts or a keyboard is plugged in, the profile will be loaded from the hardware. By default, all commands will update the currently selected mode. The mode <n> command may be used to change the settings for a different mode. Up to 6 modes are available. Each keyboard has one profile, which may be given a name. Mode 1 may be saved to the device hardware, or modes 1-3 in the case of the K95. Modes 4 through 6 are software-only. Profile management commands are as follows:

- profilename <name> sets the profile's name. The name must be written without spaces; to add a space, use %20.

- `name <name>` sets the current mode's name. Use `mode <n> name <name>` to set a different mode's name.
- `profileid <guid> [<modification>]` sets a profile's ID. The GUID must be written in registry format, like `{12345678-ABCD-EF01-2345-6789ABCDEF01}`. The optional modification number must be written with 8 hex digits, like `ABCDEF01`.
- `id <guid> [<modification>]` sets a mode's ID.
- `mode <n> switch` switches the keyboard to mode N. If the mode does not exist, it will be created with a blank ID, black lighting, and default bindings.
- `hwload` loads the RGB profile from the hardware. Key bindings and non-hardware RGB modes are unaffected.
- `hwsave` saves the RGB profile to the hardware.
- `erase` erases the current mode, resetting its lighting and bindings. Use `mode <n> erase` to erase a different mode.
- `eraseprofile` erases the entire profile, deleting its name, ID, and all of its modes.

Examples:

- `profilename My%20Profile mode 1 name Mode%201 mode 2 name Mode%202 mode 3 name Mode%203` will name the profile "My Profile" and name modes 1-3 "Mode 1", "Mode 2", and "Mode 3".
- `eraseprofile hwload` resets the entire profile to its hardware settings.

LED commands

The backlighting is controlled by the `rgb` commands.

- `rgb <RRGGBB>` sets the entire keyboard to the color specified by the hex constant RRGGBB.
- `rgb <key>:<RRGGBB>` sets the specified key to the specified hex color.

Examples:

- `rgb ffffff` makes the whole keyboard white.
- `rgb 000000` makes the whole keyboard black.
- `rgb esc:ff0000` sets the Esc key red but leaves the rest of the keyboard unchanged.

Multiple keys may be changed to one color when separated with commas, for instance:

- `rgb w,a,s,d:0000ff` sets the WASD keys to blue.

Additionally, multiple commands may be combined into one, for instance:

- `rgb ffffff esc:ff0000 w,a,s,d:0000ff` sets the Esc key red, the WASD keys blue, and the rest of the keyboard white (note the lack of a key name before `ffffff`, implying the whole keyboard is to be set).

By default, the controller runs at 30 FPS, meaning that attempts to animate the LEDs faster than that will be ignored. If you wish to change it, send the command `fps <n>`. The maximum frame rate is 60.

For devices running in 512-color mode, color dithering can be enabled by sending the command `dither 1`. The command `dither 0` disables dithering.

Indicators

The indicator LEDs (Num Lock, Caps Lock, Scroll Lock) are controlled with the `i` commands.

- `ioff <led>` turns an indicator off permanently. Valid LED names are `num`, `caps`, and `scroll`.
- `ion <led>` turns an indicator on permanently.
- `iauto <led>` turns an indicator off or on automatically (default behavior).

Binding keys

Keys may be rebound through use of the `bind` commands. Binding is a 1-to-1 operation that translates one keypress to a different keypress regardless of circumstance.

- `bind <key1>:<key2>` remaps key1 to key2.
- `unbind <key>` unbinds a key, causing it to lose all function.
- `rebind <key>` resets a key, returning it to its default binding.

Examples:

- `bind g1:esc` makes G1 become an alternate Esc key (the actual Esc key is not changed).
- `bind caps:tab tab:caps` switches the functions of the Tab and Caps Lock keys.
- `unbind lwin rwin` disables both Windows keys, even without using the keyboard's Windows Lock function.
- `rebind all` resets the whole keyboard to its default bindings.

Key macros

Macros are a more advanced form of key binding, controlled with the `macro` command.

- `macro <keys>:<command>` binds a key combination to a command, where the command is a series of key presses. To combine keys, separate them with `+`; for instance, `lctrl+a` binds a macro to (left) Ctrl+A. In the command field, enter `+<key>` to trigger a key down or `-<key>` to trigger a key up. To simulate a key press, use `+<key>,-<key>`.
- `macro <keys>:clear` clears commands associated with a key combination. Only one macro may be assigned per combination; assigning a second one will overwrite the first.
- `macro clear` clears all macros.

Examples:

- `macro g1:+lctrl,+a,-a,-lctrl` triggers a Ctrl+A when G1 is pressed.
- `macro g2+g3:+lalt,+f4,-f4,-lalt` triggers an Alt+F4 when G2 and G3 are pressed simultaneously.

Assigning a macro to a key will cause its binding to be ignored; for instance, `macro a:+b,-b` will cause A to generate a B character regardless of its binding. However, `macro lctrl+a:+b,-b` will cause A to generate a B only when Ctrl is also held down.

Macro playback delay

There are two types of playback delay that can be set with macros; global and local. Setting a *global delay* value introduces a time delay between events during macro execution or playback. *Local delay* allows setting the delay after an individual event, overriding the global delay value for that event. Thus global delay can be used to set the overall playback speed of macros and local delays can be used to tune individual events within a macro.

All delay values are specified in microseconds (us) and are positive values from `0` to `UINT_MAX - 1`. This means delays range from 0 to just over 1 hour (4,294,967,294us, 4,294 seconds, 71 minutes, or 1.19 hours). A value of zero (0) represents no delay between actions.

Global macro delay (default delay)

Global delay allows macro playback speed to be changed. It sets the time between (actually after) each recorded macro event. If global delay is set to 1 microsecond then a 1 ms delay will follow each individual macro event when the macro is triggered.

The *global delay* is set with the ckb-daemon's existing (in testing branch) `delay` command followed by an unsigned integer representing the number of microseconds to wait after each macro action and before the next.

Global delay can also be set to `on` which maintains backwards compatibility with the current development of `ckb-daemon` for long macro playback. That is, setting the global delay to `on` introduces a 30us and a 100us delay based on the macro's length during playback.

NOTE: This setting also introduces a delay after the last macro action. This functionality exists in the current testing branch and was left as-is. It is still to be determined if this is a bug or a feature.

Examples:

- `delay 1000` sets a 1,000us delay between action playback.
- `delay on` sets long macro delay; 30us for actions between 20 and 200, 100us for actions > 200.
- `delay off` sets no delay (same as 0).
- `delay 0` sets no delay (same as off).
- `delay spearmint-potato` is invalid input, sets no delay (same as off).

Local macro delay (keystroke delay)

Local Delay allows each macro action to have a post-action delay associated with it. This allows a macro to vary it's playback speed for each event. If no local delay is specified for a macro action, then the global `delay` (above) is used. All delay values are in microsecods (us) as with the global delay setting.

Examples:

- `macro g5:+d,-d,+e=5000,-e,+l,-l=10000,+a,-a,+y,-y=1000000,+enter,-enter` define a macro for `g5` with a 5,000us delay between the `e` down and `e` up actions. A 1,000us delay between `l` up and `a` down, a delay of one second (1,000,000us) after `y` up and before `enter`, and the global delay for all other actions.
- `macro g5:+d,-d=0` use default delay between `d` down and `d` up and no delay (0us) after `d` up. This removes the noted feature/bug (above) where the last action has a trailing delay associated with it.

DPI and mouse settings

DPI settings are stored in a bank. They are controlled with the `dpi` command.

- `dpi <stage>:<x>,<y>` sets the DPI for a given `stage` to `x` by `y`. Valid stages are `0` through `5`. In hardware, `1` is the first (lowest) stage and `5` is the highest. Stage `0` is used for Sniper mode.
- `dpi <stage>:<xy>` sets both X and Y.

- `dpi <stage>:off` disables a DPI stage.
- `dpisel <stage>` sets the current stage selection.

In order to change the mouse's current DPI, first update one of the stages with the value you want, then select that stage. For instance:

- `dpi 1:1000 dpisel 1` sets the current DPI to 1000x1000.

Additional mouse settings:

- `lift <height>` sets the lift height, from `1` (lowest) to `5` (highest)
- `snap <on|off>` enables or disables Angle Snap.

Notifications

The keyboard can be configured to generate user-readable notifications on keypress events. These are controlled with the `notify` commands. In order to see events, read from `/dev/input/ckb*/notify0`. In a terminal, you can do this like `cat /dev/input/ckb1/notify0`. Programmatically, you can open it for reading like a regular file.

Note that the file can only reliably be read by one application: if you try to open it in two different programs, they may both fail to get data. Data will be buffered as long as no programs are reading, so you will receive all unread notifications as soon as you open the file. If you'd like to read notifications from two separate applications, send the command `notifyon <n>` to the keyboard you wish to receive notifications from, where N is a number between 1 and 9. If `/dev/input/ckb*/notify<n>` does not already exist, it will be created, and you can read notifications from there without disrupting any other program. To close a notification node, send `notifyoff <n>`.

`notify0` is always open and will not be affected by `notifyon`/`notifyoff` commands. By default, all notifications are printed to `notify0`. To print output to a different node, prefix your command with `@<node>`.

Notifications are printed with one notification per line. Commands are as follows:

- `notify <key>:on` or simply `notify <key>` enables notifications for a key. Each key will generate two notifications: `key +<key>` when the key is pressed, and `key -<key>` when it is released.
- `notify <key>:off` turns notifications off for a key.

Examples:

- `notify w a s d` sends notifications whenever W, A, S, or D is pressed.
- `notify g1 g2 g3 g4 g5 g6 g7 g8 g9 g10 g11 g12 g13 g14 g15 g16 g17 g18 mr m1 m2 m3 light lock` prints a notification whenever a non-standard key is pressed.
- `notify all:off` turns all key notifications off.
- `@5 notify esc` prints Esc key notifications to `notify5`.

Note: Key notifications are *not* affected by bindings. For instance, if you run `echo bind a:b notify a > /dev/input/ckb1/cmd` and then press the A key, the notifications will read `key +a key -a`, despite the fact that the character printed on screen will be `b`. Likewise, unbinding a key or assigning a macro to a key does not affect the notifications.

Indicator notifications

You can also choose to receive notifications for the indicator LEDs by using the `inotify` command. For instance, `inotify caps:on` or simply `inotify caps` will print notifications whenever the Caps Lock LED is toggled. The notifications will read `i +caps` when the light is turned on and `i -caps` when it is turned off. It is also possible to toggle all indicators at once using `inotify all` or `inotify all:off`.

Like key notifications, indicator notifications are not affected by bindings, nor by the `ion`, `ioff`, or `iauto` commands. The notifications will reflect the state of the LEDs as seen be the event device.

Getting parameters

Parameters can be retrieved using the `get` command. The data will be sent out as a notification. Generally, the syntax to get the data associated with a command is `get :<command>` (note the colon), and the associated data will be returned in the form of `<command> <data>`. The following data may be gotten:

- `get :mode` returns the current mode in the form of a `switch` command. (Note: Do not use this in a line containing a `mode` command or it will return the mode that you selected, rather than the keyboard's current mode.)
- `get :name` returns the current mode's name in the form of `mode <n> name <name>`. To see the name of another mode, use `mode <n> get :name`. The name is URL-encoded; spaces are written as %20. The name may be truncated, so `name <some long string> get :name` may return something shorter than what was entered.
- `get :profilename` returns the profile's name, in the form of `profilename <name>`. As above, it is URL-encoded and may be truncated.
- `get :hwname` and `get :hwprofilename` return the same thing except taken from the current hardware profile instead of the in-memory profile. The output is identical but will read `hwname` instead of `name` and `hwprofilename` instead of `profilename`.
- `get :id` returns the current mode's ID and modification number in the form of `mode <n> id <guid> <modification>`.
- `get :profileid` returns the current profile's ID and modification number in the form of `profileid <guid> <modification>`.
- `get :hwid` and `get :hwprofileid` return the same thing except from the current hardware profile/mode. As before, the ouput will be the same but with `hwid` and `hwprofileid` instead of `id` and `profileid`.
- `get :rgb` returns an `rgb` command equivalent to the current RGB state.
- `get :hwrgb` does the same thing, but retrieves the colors currently stored in the hardware profile. The output will say `hwrgb` instead of `rgb`.
- `get :dpi` returns a `dpi` command equivalent to the current DPI bank.
- `get :dpisel` returns a `dpisel` command for the currently-selected DPI stage.
- `get :lift` returns a `lift` command for the current lift height.
- `get :snap` returns the current angle snap status.
- `get :hwdpi`, `get :hwdpisel`, `get :hwlift`, and `get :hwsnap` return the same properties, but for the current hardware profile.
- `get :keys` and `get :i` return the current keypress status and indicator status, respectively. They will indicate all currently pressed keys and all currently active indicators, like `key +enter` and `i +num`.

Like `notify`, you must prefix your command with `@<node>` to get data printed to a node other than `notify0`.

Firmware updates

WARNING: Improper use of `fwupdate` may brick your device; use this command *at your own risk*. I accept no responsibility for broken keyboards.

The latest firmware versions and their URLs can be found in the `FIRMWARE` document. To update your keyboard's firmware, first extract the contents of the zip file and then issue the command `fwupdate /path/to/fw/file.bin` to the keyboard you wish to update. The path name must be absolute and must not include spaces. If it succeeded, you should see `fwupdate <path> ok` logged to the keyboard's notification node and then the device will disconnect and reconnect. If you see `fwupdate <path> invalid` it means that the firmware file was not valid for the device; more info may be available in the daemon's `stdout`. If you see `fwupdate <path> fail` it means that the file was valid but the update failed at a hardware level. The keyboard may disconnect/reconnect anyway or it may remain in operation.

When the device reconnects you should see the new firmware version in its `fwversion` node; if you see `0000` instead it means that the keyboard did not update successfully and will need another `fwupdate` command in order to function again. If the update fails repeatedly, try connecting the keyboard to a Windows PC and using the official firmware update in CUE.

Restart

Because sometimes the communication between the daemon and the keyboard is corrupted after resuming from standby or suspend, a restart function is implemented. It first calls the quit() function, then it calls main() again with the original parameter list.

There are two ways to restart the daemon:

- send the string "restart some-description-as-one-word" to the cmd-pipe (normally /dev/input/ckb1/cmd or /dev/input/ckb2/cmd, depending on what device gets which ID.
- send SIGUSR1 to the daemon process (as root).

Later on, there may be a user interface in the client for the first method.

Security

By default, all of the `ckb*` nodes may be accessed by any user. For most single-user systems this should not present any security issues, since only one person will have access to the computer anyway. However, if you'd like to restrict the users that can write to the `cmd` nodes or read from the `notify` nodes, you can specify the `--gid=<group>` option at start up. For instance, on most systems you could run `ckb-daemon --gid=1000` to make them accessible only by the system's primary user. `ckb-daemon` must still be run as root, regardless of which `gid` you specify. The `gid` option may be set only at startup and cannot be changed while the daemon is running.

The daemon additionally supports a `--nonotify` option to disable key notifications, to prevent unauthorized programs from logging key input. Note that this will interfere with some of `ckb`'s abilities. It is also highly unlikely to increase security unless you are using the program in a stripped down terminal environment without Xorg. For most use cases there are many other (more likely) ways that a keylogger program could compromise your system. Nevertheless, the option is provided for the sake of paranoia. If you'd like to disable key rebinding as well, launch the daemon with `--nobind`. `--nobind` implies `--nonotify`, so notifications will also be disabled. As with `--gid`, these options must be set at startup and cannot be changed while the daemon is running.

Chapter 5

Todo List

Global _usbsend (usbdevice ∗kb, const uchar ∗messages, int count, const char ∗file, int line)

A lot of different conditions are combined in this code. Don't think, it is good in every combination...

Check whether this is the same in the macOS variant. It is not dramatic, but if errors occur, it can certainly irritate the devices completely if they receive incomplete data streams. Do we have errors with the messages "Wrote YY bytes (expected 64)" in the system logs? If not, we do not need to look any further.

Global closeusb (usbdevice ∗kb)

What is not yet comprehensible is the call to updateconnected() BEFORE os_closeusb(). Should that be in the other sequence? Or is updateconnected() not displaying the connected usb devices, but the representation which uinput devices are loaded? Questions about questions ...

Global devmain (usbdevice ∗kb)

Hope to find the need for dmutex usage later.

Should this function be declared as pthread_t∗ function, because of the defintion of pthread-create? But void∗ works also...

readcmd() gets a **line**, not **lines**. Have a look on that later.

Is the condition IS_CONNECTED valid? What functions change the condititon for the macro?

Global get_vtable (short vendor, short product)

Is the last point really a good decision and always correct?

Global inputupdate_keys (usbdevice ∗kb)

If we want to get all keys typed while a macro is played, add the code for it here.

Global Kb::Kb (QObject ∗parent, const QString &path)

Is adding notify2 to the notifypaths neccessary?

Global Kb::∼Kb ()

I don't think, that notifypaths is used somewhere. So why do we have it? If we do not need it, searching for an ununsed notify channel can easy be refactored to a private member function.

Global macro_pt_enqueue ()

find a better exit strategy if no more mem available.

Global os_inputmain (void ∗context)

This function is a collection of many tasks. It should be divided into several sub-functions for the sake of greater convenience:

Global os_resetusb (usbdevice ∗kb, const char ∗file, int line)

it seems that no one wants to try the reset again. But I'v seen it somewhere...

Global os_setupusb (usbdevice ∗kb)

in these modules a pullrequest is outstanding

Global os_usbsend (usbdevice ∗kb, const uchar ∗out_msg, int is_recv, const char ∗file, int line)

Since the handling of endpoints has already led to problems elsewhere, this implementation is extremely hardware-dependent and critical!

Eg. the new keyboard K95PLATINUMRGB has a version number significantly less than 2.0 - will it run with this implementation?

Global product_str (short product)

There are macros defined in usb.h to detect all the combinations below. the only difference is the parameter: The macros need the *kb∗*, product_str() needs the *product ID*

Global RebindWidget::applyChanges (const QStringList &keys, bool doUnbind)

There is still a bug in the state machine: If you record a macro in asTyped-mode, switch to another mode and change the vontent of the pteMacroBox manually, then the changes are not saved in the timing buffer. But anyhow, let's do more relevant things...

Global RebindWidget::on_btnClearMacro_clicked ()

I do not know what is the better solution with the delay-buttons in case of clicking clear: Reset the button to the default value or do not touch it? Not clear is ignored.

Global revertusb (usbdevice ∗kb)

Why is this useful? Are there problems seen with deactivating a device with older fw-version??? Why isn't this an error indicating reason and we return success (0)?

The return value of nk95cmd() is ignored (but sending the ioctl may produce an error and _nk95_cmd will indicate this), instead revertusb() returns success in any case.

Global udevthread

These two thread vasriables seem to be unused: usbtread, udevthread

Global udevthread

These two thread vasriables seem to be unused: usbtread, udevthread

Global usb_add_device (struct udev_device ∗dev)

So why the hell not a transformation between the string and the short presentation? Lets check if the string representation is used elsewhere.

Global usb_tryreset (usbdevice ∗kb)

Why does usb_tryreset() hide the information returned from resetusb()? Isn't it needed by the callers?

Global usbmain ()

Why isn't missing of uinput a fatal error?

lae. here the work has to go on...

Global usbmutex

We should have a look why this mutex is never used.

Chapter 6

Deprecated List

Class QuaZipFileInfo

Use QuaZipFileInfo64 instead. Not only it supports large files, but also more convenience methods as well.

Chapter 7

Namespace Index

7.1 Namespace List

Here is a list of all namespaces with brief descriptions:

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Chapter 8

Hierarchical Index

8.1 Class Hierarchy

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Data Structure Index

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Chapter 11

Namespace Documentation

11.1 Ui Namespace Reference

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- class AnimAddDialog
- class AnimSettingDialog
- class ExtraSettingsWidget
- class FwUpgradeDialog
- class GradientDialog
- class KbAnimWidget
- class KbBindWidget
- class KbLightWidget
- class KbProfileDialog
- class KbWidget
- class KPerfWidget
- class LayoutDialog
- class MainWindow
- class ModeSelectDialog
- class MPerfWidget
- class RebindWidget
- class SettingsWidget

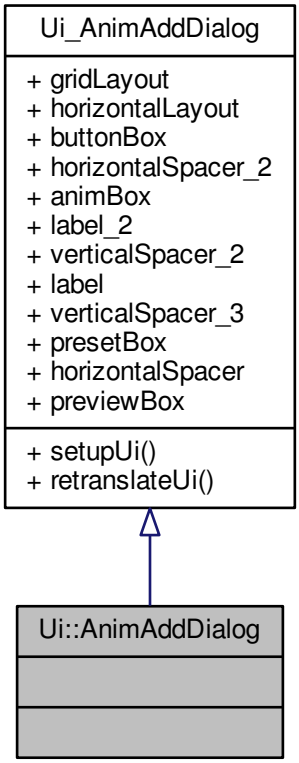
Chapter 12

Data Structure Documentation

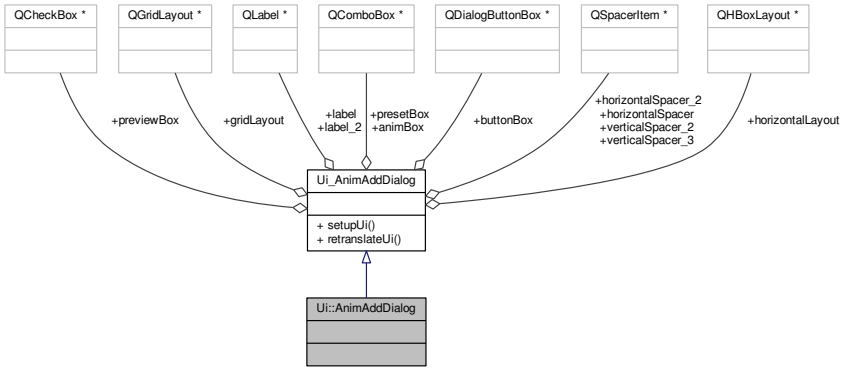
12.1 Ui::AnimAddDialog Class Reference

`#include <src/ckb/ui_animadddialog.h>`

Inheritance diagram for Ui::AnimAddDialog:



Collaboration diagram for Ui::AnimAddDialog:



Public Member Functions

- void setupUi (QDialog *AnimAddDialog)
- void retranslateUi (QDialog *AnimAddDialog)

Data Fields

- QGridLayout * gridLayout
- QHBoxLayout * horizontalLayout
- QDialogButtonBox * buttonBox
- QSpacerItem * horizontalSpacer_2
- QComboBox * animBox
- QLabel * label_2
- QSpacerItem * verticalSpacer_2
- QLabel * label
- QSpacerItem * verticalSpacer_3
- QComboBox * presetBox
- QSpacerItem * horizontalSpacer
- QCheckBox * previewBox

12.1.1 Detailed Description

Definition at line 146 of file ui_animadddialog.h.

12.1.2 Member Function Documentation

12.1.2.1 void Ui_AnimAddDialog::retranslateUi (QDialog * *AnimAddDialog*) [inline], [inherited]

Definition at line 135 of file ui_animadddialog.h.

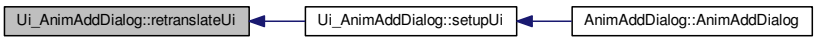
References Ui_AnimAddDialog::label, Ui_AnimAddDialog::label_2, and Ui_AnimAddDialog::previewBox.

Referenced by Ui_AnimAddDialog::setupUi().

```
136     {
137         AnimAddDialog->setWindowTitle(QApplication::translate("AnimAddDialog", "Add Animation", Q_NULLPTR))
    ;
138         label_2->setText(QApplication::translate("AnimAddDialog", "Preset:", Q_NULLPTR));
```

```
139         label->setText(QApplication::translate("AnimAddDialog", "Animation:", Q_NULLPTR));
140         previewBox->setText(QApplication::translate("AnimAddDialog", "Show preview", Q_NULLPTR));
141     } // retranslateUi
```

Here is the caller graph for this function:



12.1.2.2 void Ui_AnimAddDialog::setupUi (QDialog * *AnimAddDialog*) [inline],[inherited]

Definition at line 44 of file ui_animadddialog.h.

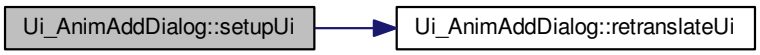
References Ui_AnimAddDialog::animBox, Ui_AnimAddDialog::buttonBox, Ui_AnimAddDialog::gridLayout, Ui_AnimAddDialog::horizontalLayout, Ui_AnimAddDialog::horizontalSpacer, Ui_AnimAddDialog::horizontalSpacer_2, Ui_AnimAddDialog::label, Ui_AnimAddDialog::label_2, Ui_AnimAddDialog::presetBox, Ui_AnimAddDialog::previewBox, Ui_AnimAddDialog::retranslateUi(), Ui_AnimAddDialog::verticalSpacer_2, and Ui_AnimAddDialog::verticalSpacer_3.

Referenced by AnimAddDialog::AnimAddDialog().

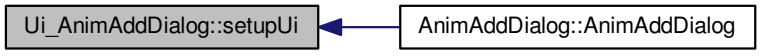
```
45     {
46         if (AnimAddDialog->objectName().isEmpty())
47             AnimAddDialog->setObjectName(QStringLiteral("AnimAddDialog"));
48         AnimAddDialog->resize(350, 205);
49         QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
50         sizePolicy.setHorizontalStretch(0);
51         sizePolicy.setVerticalStretch(0);
52         sizePolicy.setHeightForWidth(AnimAddDialog->sizePolicy().hasHeightForWidth());
53         AnimAddDialog->setSizePolicy(sizePolicy);
54         gridLayout = new QGridLayout(AnimAddDialog);
55         gridLayout->setObjectName(QStringLiteral("gridLayout"));
56         horizontalLayout = new QHBoxLayout();
57         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
58         buttonBox = new QDialogButtonBox(AnimAddDialog);
59         buttonBox->setObjectName(QStringLiteral("buttonBox"));
60         buttonBox->setOrientation(Qt::Horizontal);
61         buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
62         buttonBox->setCenterButtons(false);
63
64         horizontalLayout->addWidget(buttonBox);
65
66
67         gridLayout->addLayout(horizontalLayout, 5, 0, 1, 4);
68
69         horizontalSpacer_2 = new QSpacerItem(50, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
70
71         gridLayout->addItem(horizontalSpacer_2, 1, 3, 1, 1);
72
73         animBox = new QComboBox(AnimAddDialog);
74         animBox->setObjectName(QStringLiteral("animBox"));
75         QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Fixed);
76         sizePolicy1.setHorizontalStretch(0);
77         sizePolicy1.setVerticalStretch(0);
78         sizePolicy1.setHeightForWidth(animBox->sizePolicy().hasHeightForWidth());
79         animBox->setSizePolicy(sizePolicy1);
80
81         gridLayout->addWidget(animBox, 1, 2, 1, 1);
82
83         label_2 = new QLabel(AnimAddDialog);
84         label_2->setObjectName(QStringLiteral("label_2"));
85         QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Preferred);
86         sizePolicy2.setHorizontalStretch(0);
87         sizePolicy2.setVerticalStretch(0);
88         sizePolicy2.setHeightForWidth(label_2->sizePolicy().hasHeightForWidth());
89         label_2->setSizePolicy(sizePolicy2);
90         label_2->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
91
92         gridLayout->addWidget(label_2, 2, 1, 1, 1);
93
```

```
94          verticalSpacer_2 = new QSpacerItem(20, 0, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
95
96          gridLayout->addItem(verticalSpacer_2, 4, 2, 1, 1);
97
98          label = new QLabel(AnimAddDialog);
99          label->setObjectName(QStringLiteral("label"));
100          sizePolicy2.setHeightForWidth(label->sizePolicy().hasHeightForWidth());
101          label->setSizePolicy(sizePolicy2);
102          label->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
103
104          gridLayout->addWidget(label, 1, 1, 1, 1);
105
106          verticalSpacer_3 = new QSpacerItem(20, 0, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
107
108          gridLayout->addItem(verticalSpacer_3, 0, 2, 1, 1);
109
110          presetBox = new QComboBox(AnimAddDialog);
111          presetBox->setObjectName(QStringLiteral("presetBox"));
112          sizePolicy1.setHeightForWidth(presetBox->sizePolicy().hasHeightForWidth());
113          presetBox->setSizePolicy(sizePolicy1);
114
115          gridLayout->addWidget(presetBox, 2, 2, 1, 1);
116
117          horizontalSpacer = new QSpacerItem(50, 20, QSizePolicy::Fixed, QSizePolicy::Minimum
    );
118
119          gridLayout->addItem(horizontalSpacer, 1, 0, 1, 1);
120
121          previewBox = new QCheckBox(AnimAddDialog);
122          previewBox->setObjectName(QStringLiteral("previewBox"));
123          previewBox->setChecked(true);
124
125          gridLayout->addWidget(previewBox, 3, 2, 1, 1);
126
127
128          retranslateUi(AnimAddDialog);
129          QObject::connect(buttonBox, SIGNAL(accepted()), AnimAddDialog, SLOT(accept()));
130          QObject::connect(buttonBox, SIGNAL(rejected()), AnimAddDialog, SLOT(reject()));
131
132          QMetaObject::connectSlotsByName(AnimAddDialog);
133      } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.1.3 Field Documentation

12.1.3.1 QComboBox* Ui_AnimAddDialog::animBox [inherited]

Definition at line 35 of file ui_animadddialog.h.

Referenced by AnimAddDialog::AnimAddDialog(), AnimAddDialog::chosenScript(), and Ui_AnimAddDialog::setupUi().

12.1.3.2 QDialogButtonBox* Ui_AnimAddDialog::buttonBox [inherited]

Definition at line 33 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.1.3.3 QGridLayout* Ui_AnimAddDialog::gridLayout [inherited]

Definition at line 31 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.1.3.4 QHBoxLayout* Ui_AnimAddDialog::horizontalLayout [inherited]

Definition at line 32 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.1.3.5 QSpacerItem* Ui_AnimAddDialog::horizontalSpacer [inherited]

Definition at line 41 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.1.3.6 QSpacerItem* Ui_AnimAddDialog::horizontalSpacer_2 [inherited]

Definition at line 34 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.1.3.7 QLabel* Ui_AnimAddDialog::label [inherited]

Definition at line 38 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::retranslateUi(), and Ui_AnimAddDialog::setupUi().

12.1.3.8 QLabel* Ui_AnimAddDialog::label_2 [inherited]

Definition at line 36 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::retranslateUi(), and Ui_AnimAddDialog::setupUi().

12.1.3.9 QComboBox* Ui_AnimAddDialog::presetBox [inherited]

Definition at line 40 of file ui_animadddialog.h.

Referenced by AnimAddDialog::chosenPreset(), AnimAddDialog::on_animBox_activated(), AnimAddDialog::on_previewBox_clicked(), and Ui_AnimAddDialog::setupUi().

12.1.3.10 QCheckBox* Ui_AnimAddDialog::previewBox [inherited]

Definition at line 42 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::retranslateUi(), and Ui_AnimAddDialog::setupUi().

12.1.3.11 QSpacerItem* Ui_AnimAddDialog::verticalSpacer_2 [inherited]

Definition at line 37 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

12.1.3.12 QSpacerItem* Ui_AnimAddDialog::verticalSpacer_3 [inherited]

Definition at line 39 of file ui_animadddialog.h.

Referenced by Ui_AnimAddDialog::setupUi().

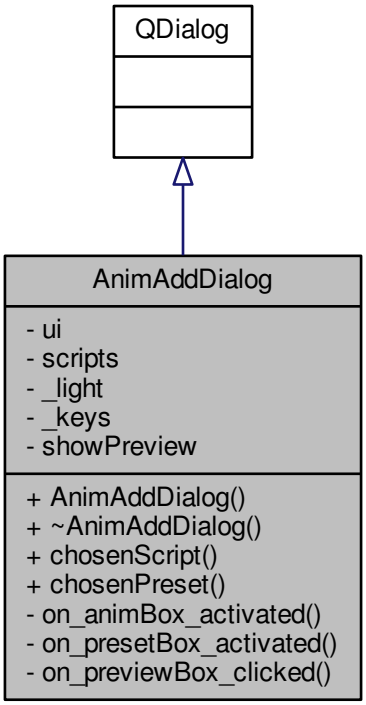
The documentation for this class was generated from the following file:

- src/ckb/ui_animadddialog.h

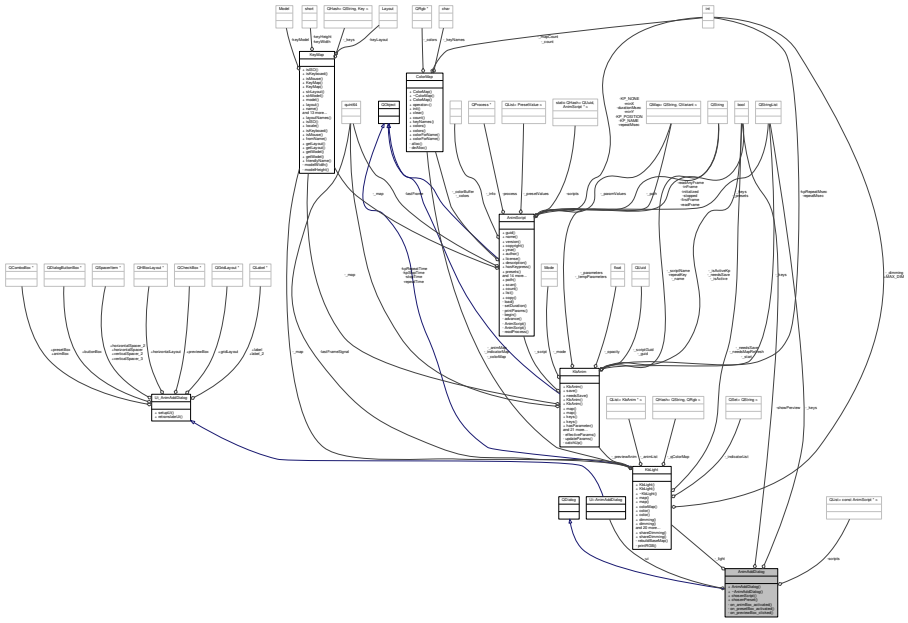
12.2 AnimAddDialog Class Reference

`#include <src/ckb/animadddialog.h>`

Inheritance diagram for AnimAddDialog:



Collaboration diagram for AnimAddDialog:



Public Member Functions

- AnimAddDialog (QWidget *parent, KbLight *light, const QStringList &keys)
- ~AnimAddDialog ()
- const AnimScript * chosenScript ()
- int chosenPreset ()

Private Slots

- void on_animBox_activated (int index)
- void on_presetBox_activated (int index)
- void on_previewBox_clicked (bool checked)

Private Attributes

- Ui::AnimAddDialog * ui
- QList< const AnimScript * > scripts
- KbLight * _light
- QStringList _keys
- bool showPreview

12.2.1 Detailed Description

Definition at line 12 of file animadddialog.h.

12.2.2 Constructor & Destructor Documentation

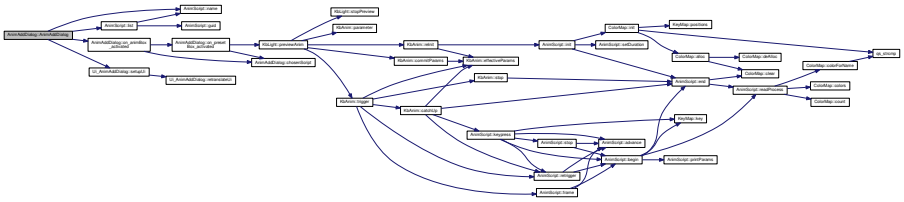
12.2.2.1 AnimAddDialog::AnimAddDialog (QWidget * *parent*, KbLight * *light*, const QStringList & *keys*) [explicit]

Definition at line 4 of file animadddialog.cpp.

References Ui_AnimAddDialog::animBox, AnimScript::list(), AnimScript::name(), on_animBox_activated(), scripts, Ui_AnimAddDialog::setupUi(), and ui.

```
4                                                                                    :
5     QDialog(parent),
6     ui(new Ui::AnimAddDialog), _light(light), _keys(keys),
      showPreview(true)
7 {
8     ui->setupUi(this);
9     scripts = AnimScript::list();
10     foreach(const AnimScript* script, scripts)
11         ui->animBox->addItem(script->name());
12     on_animBox_activated(0);
13 }
```

Here is the call graph for this function:



12.2.2.2 AnimAddDialog::~AnimAddDialog ( )

Definition at line 15 of file animadddialog.cpp.

References _light, KbLight::stopPreview(), and ui.

```
15                                {
16     delete ui;
17     _light->stopPreview();
18 }
```

Here is the call graph for this function:

12.2.3 Member Function Documentation

12.2.3.1 int AnimAddDialog::chosenPreset ( )

Definition at line 24 of file animadddialog.cpp.

References Ui_AnimAddDialog::presetBox, and ui.

Referenced by KbLightWidget::on_animButton_clicked().

```
24                                {
25     return ui->presetBox->currentIndex();
26 }
```

Here is the caller graph for this function:

12.2.3.2 const AnimScript * AnimAddDialog::chosenScript ( )

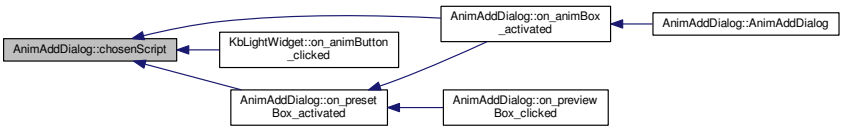
Definition at line 20 of file animadddialog.cpp.

References Ui_AnimAddDialog::animBox, scripts, and ui.

Referenced by on_animBox_activated(), KbLightWidget::on_animButton_clicked(), and on_presetBox_activated().

```
20                                          {
21     return scripts[ui->animBox->currentIndex()];
22 }
```

Here is the caller graph for this function:



12.2.3.3 void AnimAddDialog::on_animBox_activated (int *index*) [private], [slot]

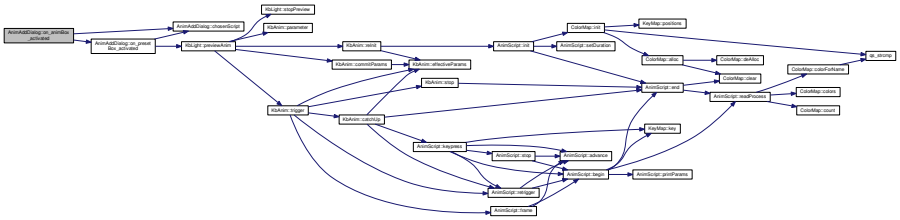
Definition at line 28 of file animadddialog.cpp.

References chosenScript(), on_presetBox_activated(), Ui_AnimAddDialog::presetBox, and ui.

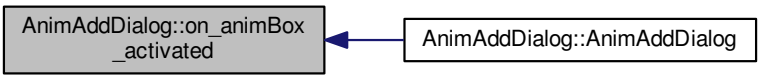
Referenced by AnimAddDialog().

```
28                                          {
29     // Update preset list
30     ui->presetBox->clear();
31     foreach(const QString& preset, chosenScript()->presets())
32         ui->presetBox->addItem(preset);
33     ui->presetBox->setCurrentIndex(0);
34     on_presetBox_activated(0);
35 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.2.3.4 void AnimAddDialog::on_presetBox_activated (int *index*) [private], [slot]

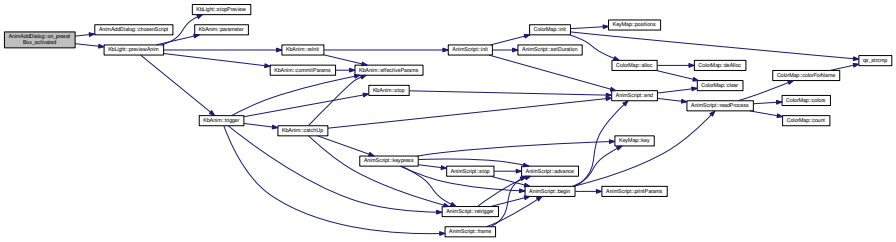
Definition at line 37 of file animadddialog.cpp.

References _keys, _light, chosenScript(), KbLight::previewAnim(), and showPreview.

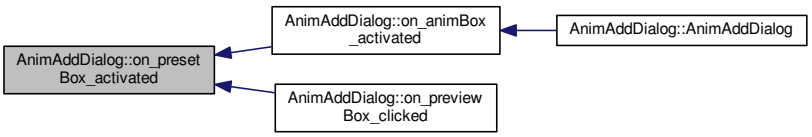
Referenced by on_animBox_activated(), and on_previewBox_clicked().

```
37                                                  {
38     // Update preview
39     if(showPreview)
40         _light->previewAnim(chosenScript(), _keys,
       chosenScript()->preset(index));
41 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



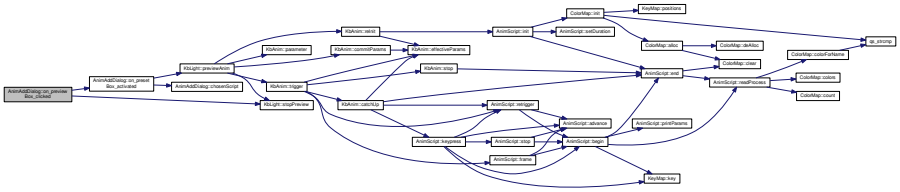
12.2.3.5 void AnimAddDialog::on_previewBox_clicked (bool *checked*) [private], [slot]

Definition at line 43 of file animadddialog.cpp.

References _light, on_presetBox_activated(), Ui_AnimAddDialog::presetBox, showPreview, KbLight::stopPreview(), and ui.

```
43                                                  {
44     showPreview = checked;
45     if(showPreview)
46         on_presetBox_activated(ui->presetBox->currentIndex());
47     else
48         _light->stopPreview();
49 }
```

Here is the call graph for this function:



12.2.4 Field Documentation

12.2.4.1 QStringList AnimAddDialog::_keys [private]

Definition at line 33 of file animadddialog.h.

Referenced by on_presetBox_activated().

12.2.4.2 KbLight* AnimAddDialog::_light [private]

Definition at line 32 of file animadddialog.h.

Referenced by on_presetBox_activated(), on_previewBox_clicked(), and ~AnimAddDialog().

12.2.4.3 QList<const AnimScript*> AnimAddDialog::scripts [private]

Definition at line 30 of file animadddialog.h.

Referenced by AnimAddDialog(), and chosenScript().

12.2.4.4 bool AnimAddDialog::showPreview [private]

Definition at line 34 of file animadddialog.h.

Referenced by on_presetBox_activated(), and on_previewBox_clicked().

12.2.4.5 Ui::AnimAddDialog* AnimAddDialog::ui [private]

Definition at line 29 of file animadddialog.h.

Referenced by AnimAddDialog(), chosenPreset(), chosenScript(), on_animBox_activated(), on_previewBox_clicked(), and ~AnimAddDialog().

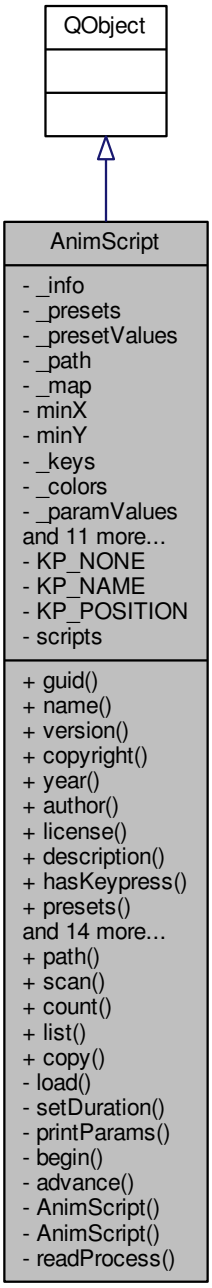
The documentation for this class was generated from the following files:

- src/ckb/animadddialog.h
- src/ckb/animadddialog.cpp

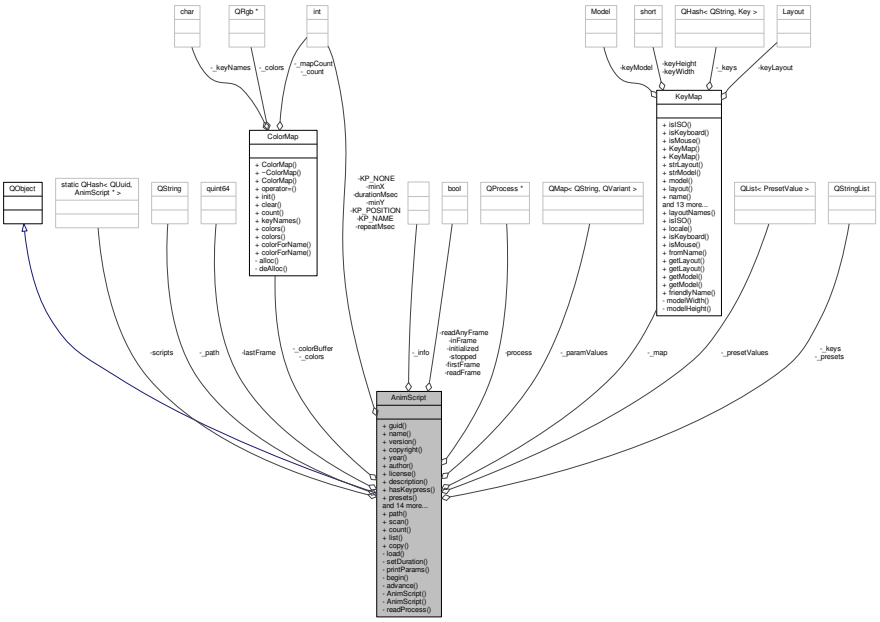
12.3 AnimScript Class Reference

`#include <src/ckb/animscript.h>`

Inheritance diagram for AnimScript:



Collaboration diagram for AnimScript:



Data Structures

- struct Param

Public Types

- typedef QMap< QString, QVariant > PresetValue

Public Member Functions

- const QUuid & guid () const
- const QString & name () const
- const QString & version () const
- QString copyright () const
- const QString & year () const
- const QString & author () const
- const QString & license () const
- const QString & description () const
- bool hasKeypress () const
- const QStringList & presets () const
- const PresetValue & preset (int index) const
- QListIterator< Param > paramIterator () const
- Param param (const QString &name) const
- bool hasParam (const QString &name) const
- void init (const KeyMap &map, const QStringList &keys, const QMap< QString, QVariant > &paramValues)
- void parameters (const QMap< QString, QVariant > &paramValues)
- void retrigger (quint64 timestamp, bool allowPreempt=false)
- void stop (quint64 timestamp)
- void keypress (const QString &key, bool pressed, quint64 timestamp)

- void frame (quint64 timestamp)
- void end ()
- bool hasFrame () const
- const ColorMap & colors () const
- ~AnimScript ()

Static Public Member Functions

- static QString path ()
- static void scan ()
- static int count ()
- static QList< const AnimScript * > list ()
- static AnimScript * copy (QObject *parent, const QUuid &id)

Private Slots

- void readProcess ()

Private Member Functions

- bool load ()
- void setDuration ()
- void printParams ()
- void begin (quint64 timestamp)
- void advance (quint64 timestamp)
- AnimScript (QObject *parent, const QString &path)
- AnimScript (QObject *parent, const AnimScript &base)

Private Attributes

- struct {
  QUuid **guid**
  QString **name**
  QString **version**
  QString **year**
  QString **author**
  QString **license**
  QString **description**
  QList< Param > **params**
  int **kpMode**:3
  bool **absoluteTime**:1
  bool **repeat**:1
  bool **preempt**:1
  bool **liveParams**:1
  } _info

- QStringList _presets
- QList< PresetValue > _presetValues
- QString _path
- KeyMap _map
- int minX
- int minY
- QStringList _keys

- ColorMap _colors
- PresetValue _paramValues
- quint64 lastFrame
- int durationMsec
- int repeatMsec
- bool initialized:1
- bool firstFrame:1
- bool readFrame:1
- bool readAnyFrame:1
- bool stopped:1
- bool inFrame:1
- QProcess * process
- ColorMap _colorBuffer

Static Private Attributes

- static const int KP_NONE = 0
- static const int KP_NAME = 1
- static const int KP_POSITION = 2
- static QHash< QUuid, AnimScript * > scripts

12.3.1 Detailed Description

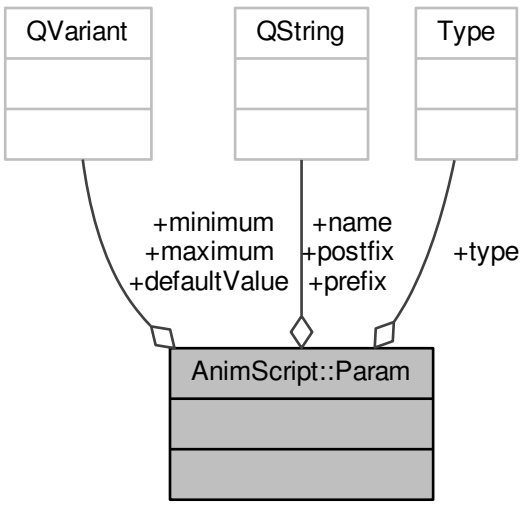
Definition at line 16 of file animscript.h.

12.3.2 Data Structure Documentation

12.3.2.1 struct AnimScript::Param

Definition at line 21 of file animscript.h.

Collaboration diagram for AnimScript::Param:



Data Fields

	Type	

Data Fields

QVariant	defaultValue	
QVariant	maximum	
QVariant	minimum	
QString	name	
QString	postfix	
QString	prefix	
Type	type	

12.3.3 Member Typedef Documentation

12.3.3.1 typedef QMap<QString, QVariant> AnimScript::PresetValue

Definition at line 58 of file animscript.h.

12.3.4 Constructor & Destructor Documentation

12.3.4.1 AnimScript::~AnimScript ( )

Definition at line 21 of file animscript.cpp.

References process.

```
21                          {
22     if(process){
23         process->kill();
24         process->waitForFinished(1000);
25         delete process;
26     }
27 }
```

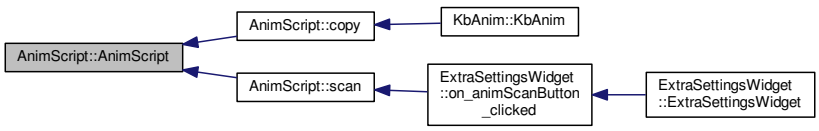
12.3.4.2 AnimScript::AnimScript (QObject * *parent*, const QString & *path*) [private]

Definition at line 11 of file animscript.cpp.

Referenced by copy(), and scan().

```
11                                                          :
12     QObject(parent), _path(path), initialized(false),
       process(0)
13 {
14 }
```

Here is the caller graph for this function:



12.3.4.3 AnimScript::AnimScript (QObject * *parent*, const AnimScript & *base*) [private]

Definition at line 16 of file animscript.cpp.

```
16                                                          :
17     QObject(parent), _info(base._info), _path(base._path),
       initialized(false), process(0)
18 {
19 }
```

12.3.5 Member Function Documentation

12.3.5.1 void AnimScript::advance (quint64 *timestamp*) [private]

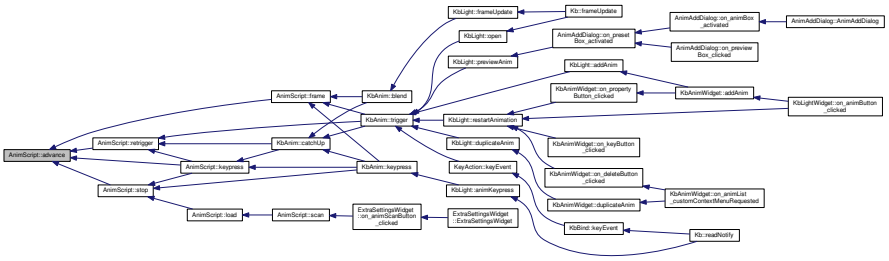
Definition at line 445 of file animscript.cpp.

References _info, durationMsec, lastFrame, and process.

Referenced by frame(), keypress(), retrigger(), and stop().

```
445                                          {
446     if(timestamp <= lastFrame || !process)
447         // Don't do anything if the time hasn't actually advanced.
448         return;
449     double delta = (timestamp - lastFrame) / (double)durationMsec;
450     if(!_info.absoluteTime){
451         // Skip any complete durations
452         while(delta > 1.){
453             process->write("time 1\n");
454             delta--;
455         }
456     }
457     process->write(QString("time %1\n").arg(delta).toLatin1());
458     lastFrame = timestamp;
459 }
```

Here is the caller graph for this function:



12.3.5.2 const QString& AnimScript::author ( ) const [inline]

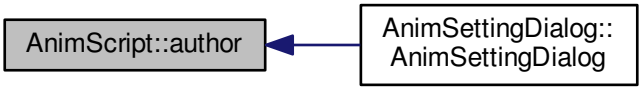
Definition at line 64 of file animscript.h.

References _info.

Referenced by AnimSettingDialog::AnimSettingDialog().

```
64 { return _info.author; }
```

Here is the caller graph for this function:



12.3.5.3 void AnimScript::begin (quint64 *timestamp*) [private]

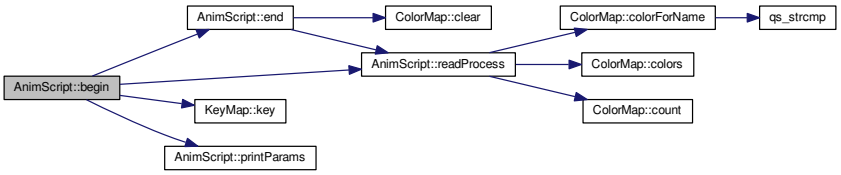
Definition at line 287 of file animscript.cpp.

References _keys, _map, _path, end(), firstFrame, inFrame, initialized, KeyMap::key(), lastFrame, minX, minY, printParams(), process, readAnyFrame, readFrame, readProcess(), stopped, Key::x, and Key::y.

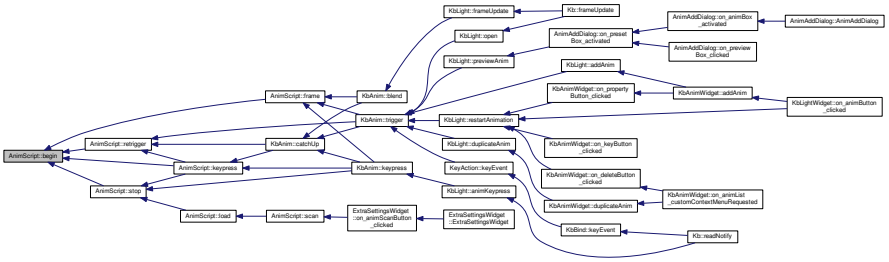
Referenced by frame(), keypress(), retrigger(), and stop().

```
287                                     {
288     if(!initialized)
289         return;
290     end();
291     stopped = firstFrame = readFrame = readAnyFrame =
      inFrame = false;
292     // Determine the upper left corner of the given keys
293     QStringList keysCopy = _keys;
294     minX = INT_MAX;
295     minY = INT_MAX;
296     foreach(const QString& key, keysCopy){
297         const Key& pos = _map.key(key);
298         if(!pos){
299             keysCopy.removeAll(key);
300             continue;
301         }
302         if(pos.x < minX)
303             minX = pos.x;
304         if(pos.y < minY)
305             minY = pos.y;
306     }
307     if(keysCopy.isEmpty()){
308         // If the key list is empty, don't actually start the animation but pretend it's running anyway
309         firstFrame = readFrame = readAnyFrame = true;
310         return;
311     }
312     process = new QProcess(this);
313     connect(process, SIGNAL(readyRead()), this, SLOT(readProcess()));
314     process->start(_path, QStringList("--ckb-run"));
315     qDebug() << "Starting " << _path;
316     // Write the keymap to the process
317     process->write("begin keymap\n");
318     process->write(QString("keycount %1\n").arg(keysCopy.count()).toLatin1());
319     foreach(const QString& key, keysCopy){
320         const Key& pos = _map.key(key);
321         process->write(QString("key %1 %2,%3\n").arg(key).arg(pos.x -
      minX).arg(pos.y - minY).toLatin1());
322     }
323     process->write("end keymap\n");
324     // Write parameters
325     printParams();
326     // Begin animating
327     process->write("begin run\n");
328     lastFrame = timestamp;
329 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.3.5.4 const ColorMap& AnimScript::colors ( ) const [inline]

Definition at line 99 of file animscript.h.

References _colors.

Referenced by KbAnim::blend().

```
99 { return _colors; }
```

Here is the caller graph for this function:

12.3.5.5 AnimScript * AnimScript::copy (QObject * *parent*, const QUuid & *id*) [static]

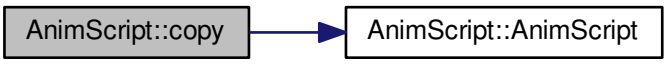
Definition at line 67 of file animscript.cpp.

References AnimScript(), and scripts.

Referenced by KbAnim::KbAnim().

```
67                                                    {
68     return scripts.contains(id) ? new AnimScript(parent, *
       scripts.value(id)) : 0;
69 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.3.5.6 QString AnimScript::copyright ( ) const [inline]

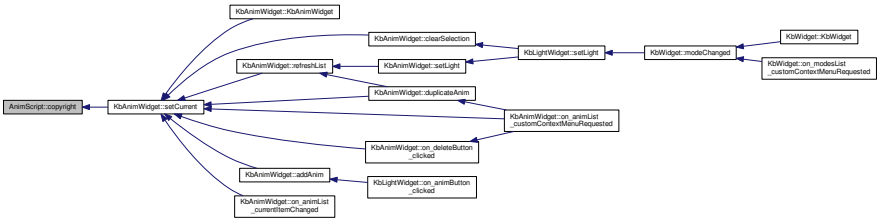
Definition at line 62 of file animscript.h.

References _info.

Referented by KbAnimWidget::setCurrent().

```
62 { return "Copyright © " + _info.year + " " + _info.author; }
```

Here is the caller graph for this function:



12.3.5.7 static int AnimScript::count ( ) [inline], [static]

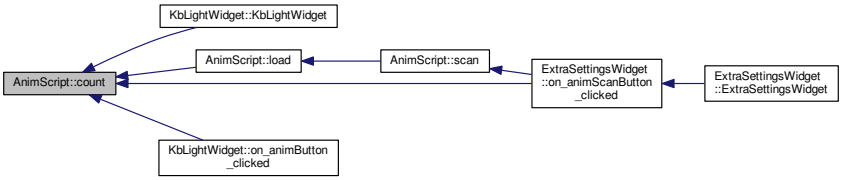
Definition at line 54 of file animscript.h.

References scripts.

Referented by KbLightWidget::KbLightWidget(), load(), KbLightWidget::on_animButton_clicked(), and ExtraSettingsWidget::on_animScanButton_clicked().

```
54 { return scripts.count(); }
```

Here is the caller graph for this function:



12.3.5.8 const QString& AnimScript::description ( ) const [inline]

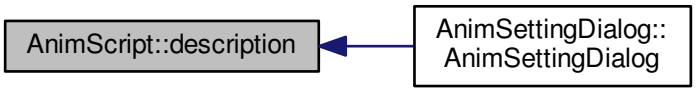
Definition at line 66 of file animscript.h.

References _info.

Referenced by AnimSettingDialog::AnimSettingDialog().

```
66 { return _info.description; }
```

Here is the caller graph for this function:



12.3.5.9 void AnimScript::end ( )

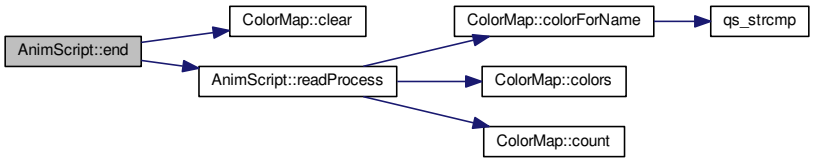
Definition at line 387 of file animscript.cpp.

References _colors, ColorMap::clear(), process, and readProcess().

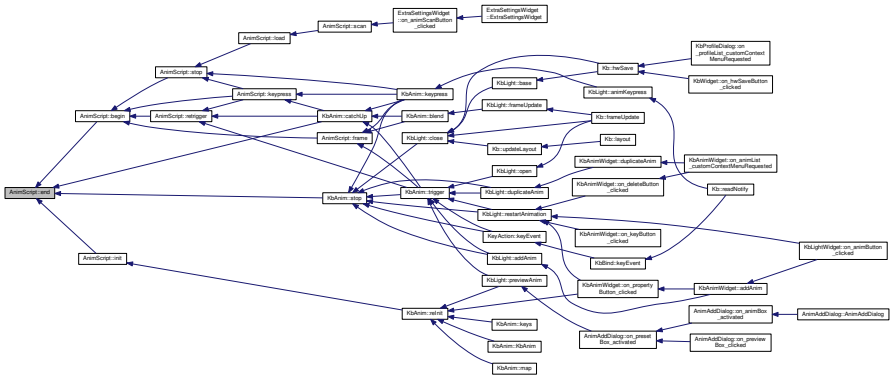
Referenced by begin(), KbAnim::catchUp(), init(), and KbAnim::stop().

```
387                     {
388     _colors.clear();
389     if(process){
390         process->kill();
391         connect(process, SIGNAL(finished(int)), process, SLOT(deleteLater()));
392         disconnect(process, SIGNAL(readyRead()), this, SLOT(readProcess()));
393         process = 0;
394     }
395 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.3.5.10 void AnimScript::frame (quint64 *timestamp*)

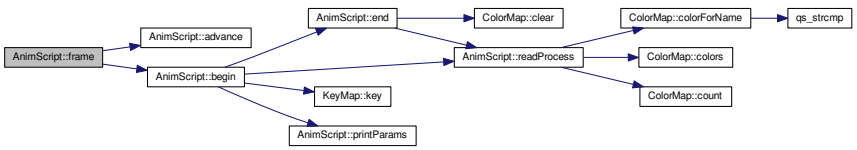
Definition at line 430 of file animscript.cpp.

References advance(), begin(), firstFrame, initialized, process, readFrame, and stopped.

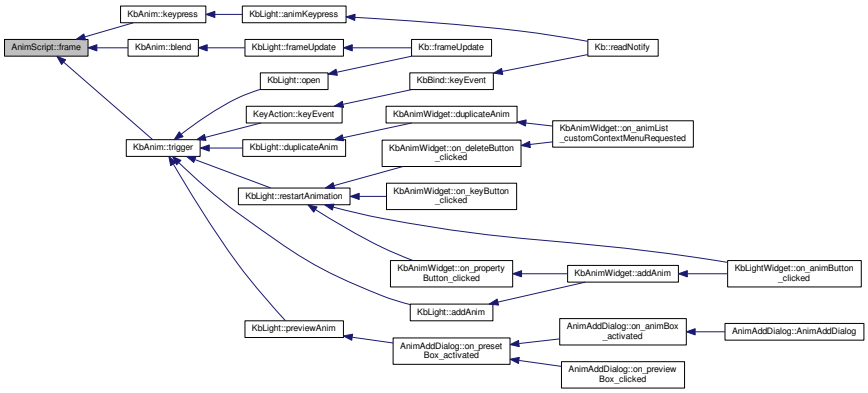
Referenced by KbAnim::blend(), KbAnim::keypress(), and KbAnim::trigger().

```
430                                     {
431     if(!initialized || stopped)
432         return;
433     // Start the animation if it's not running yet
434     if(!process)
435         begin(timestamp);
436
437     advance(timestamp);
438     if((readFrame || !firstFrame) && process)
439         // Don't ask for a new frame if the animation hasn't delivered the last one yet
440         process->write("frame\n");
441     firstFrame = true;
442     readFrame = false;
443 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.3.5.11 const QUuid& AnimScript::guid ( ) const [inline]

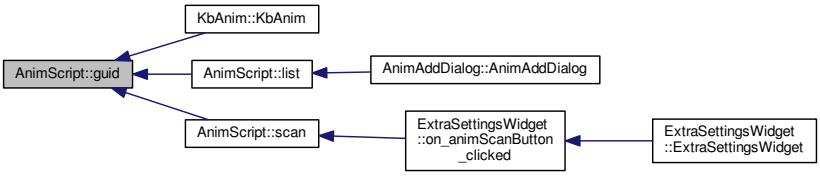
Definition at line 59 of file animscript.h.

References _info.

Referenced by KbAnim::KbAnim(), list(), and scan().

```
59 { return _info.guid; }
```

Here is the caller graph for this function:



12.3.5.12 bool AnimScript::hasFrame ( ) const [inline]

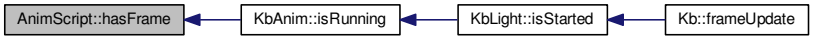
Definition at line 96 of file animscript.h.

References initialized, and readAnyFrame.

Referenced by KbAnim::isRunning().

```
96 { return initialized && readAnyFrame; }
```

Here is the caller graph for this function:



12.3.5.13 bool AnimScript::hasKeypress ( ) const [inline]

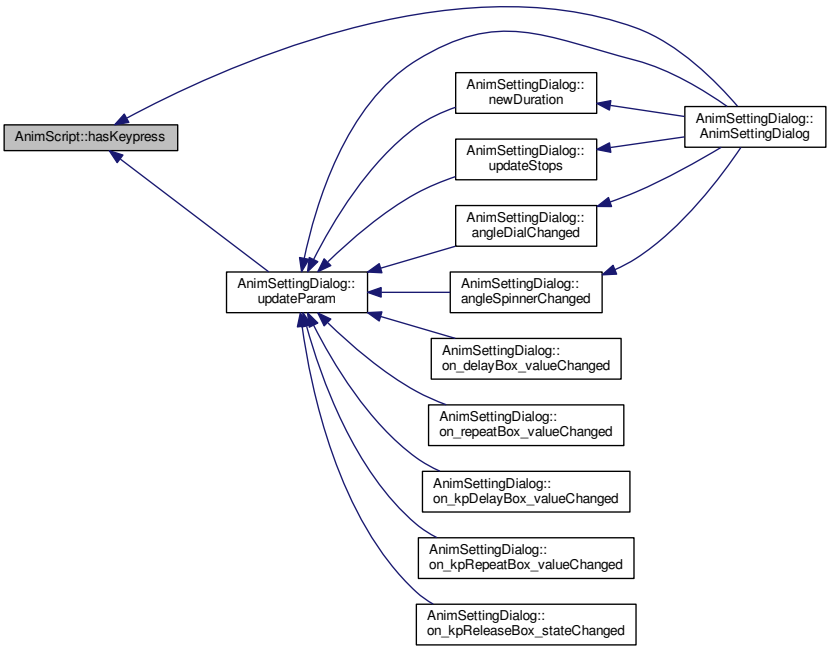
Definition at line 67 of file animscript.h.

References _info, and KP_NONE.

Referenced by AnimSettingDialog::AnimSettingDialog(), and AnimSettingDialog::updateParam().

```
67 { return _info.kpMode != KP_NONE; }
```

Here is the caller graph for this function:



12.3.5.14 bool AnimScript::hasParam (const QString & *name*) const [inline]

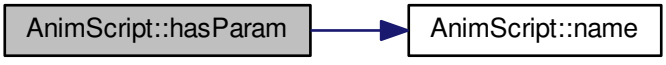
Definition at line 74 of file animscript.h.

References _info, and name().

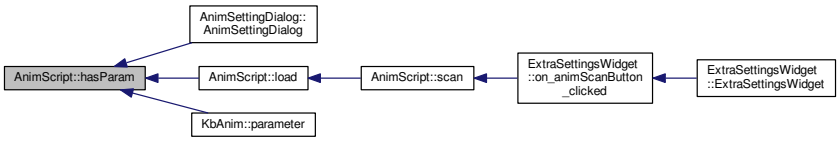
Referenced by AnimSettingDialog::AnimSettingDialog(), load(), and KbAnim::parameter().

```
74 { QListIterator<Param> i(_info.params); while(i.hasNext()){ if(i.next().name ==
     name) return true; } return false; }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.3.5.15 void AnimScript::init (const KeyMap & *map,* const QStringList & *keys,* const QMap< QString, QVariant > & *paramValues*)

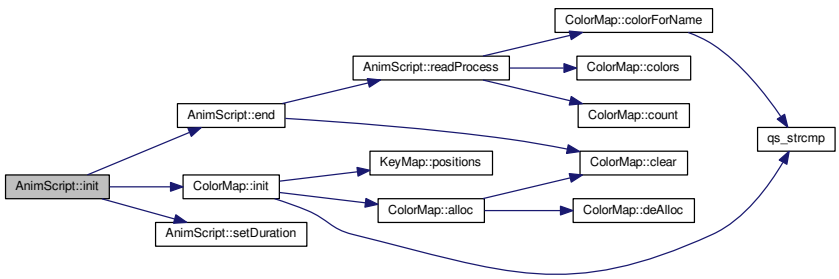
Definition at line 239 of file animscript.cpp.

References _colorBuffer, _colors, _keys, _map, _paramValues, _path, end(), firstFrame, ColorMap::init(), initialized, setDuration(), and stopped.

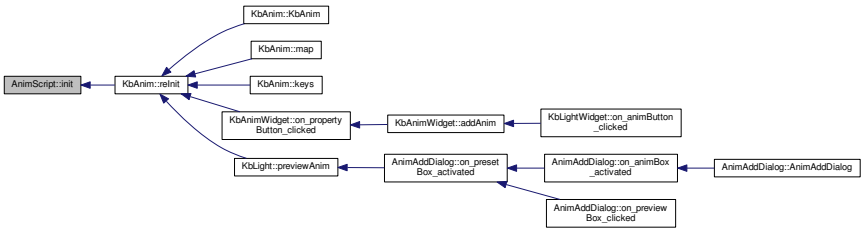
Referenced by KbAnim::reInit().

```
239
    {
240     if(_path == "")
241         return;
242     end();
243     _map = map;
244     _colors.init(map);
245     _colorBuffer.init(map);
246     _keys = keys;
247     _paramValues = paramValues;
248     setDuration();
249     stopped = firstFrame = false;
250     initialized = true;
251 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.3.5.16 void AnimScript::keypress (const QString & *key,* bool *pressed,* quint64 *timestamp*)

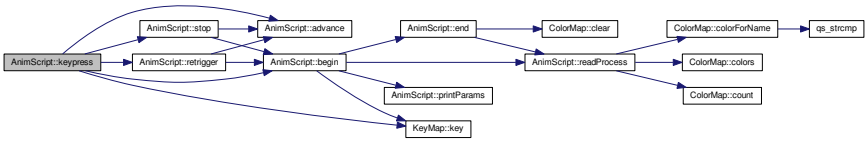
Definition at line 354 of file animscript.cpp.

References _info, _map, _paramValues, advance(), begin(), initialized, KeyMap::key(), KP_NAME, KP_NONE, KP-_POSITION, minX, minY, process, retrigger(), stop(), Key::x, and Key::y.

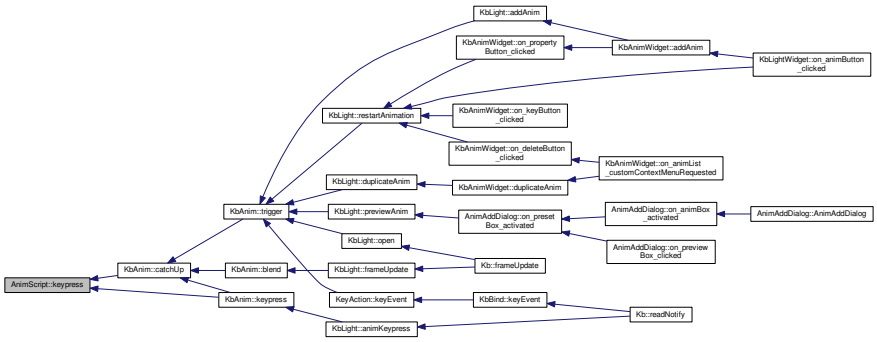
Referenced by KbAnim::catchUp(), and KbAnim::keypress().

```
354                                                                    {
355     if(!initialized)
356         return;
357     if(!process)
358         begin(timestamp);
359     int kpMode = _info.kpMode;
360     if(_paramValues.value("kpmode", 0).toInt() != 0)
361         // Disable KP mode according to user preferences
362         kpMode = KP_NONE;
363     switch(kpMode){
364     case KP_NONE:
365         // If KPs aren't allowed, call retrigger/stop instead
366         if(pressed)
367             retrigger(timestamp);
368         else if(_paramValues.value("kprelease", false).toBool())
369             stop(timestamp);
370         break;
371     case KP_NAME:
372         // Print keypress by name
373         advance(timestamp);
374         process->write(("key " + key + (pressed ? " down\n" : " up\n")).toLatin1());
375         break;
376     case KP_POSITION:
377         // Print keypress by position
378         const Key& kp = _map.key(key);
379         if(!kp)
380             return;
381         advance(timestamp);
382         process->write(("key " + QString("%1,%2").arg(kp.x - minX).arg(kp.
      y - minY) + (pressed ? " down\n" : " up\n")).toLatin1());
383         break;
384     }
385 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.3.5.17 const QString& AnimScript::license ( ) const [inline]

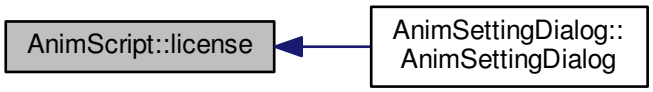
Definition at line 65 of file animscript.h.

References _info.

Referenced by AnimSettingDialog::AnimSettingDialog().

```
65 { return _info.license; }
```

Here is the caller graph for this function:



12.3.5.18 QList< const AnimScript * > AnimScript::list ( ) [static]

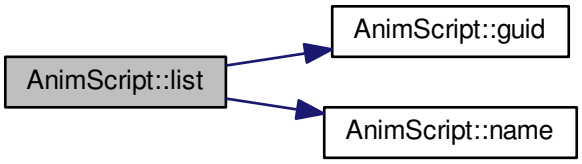
Definition at line 51 of file animscript.cpp.

References _info, guid(), name(), and scripts.

Referenced by AnimAddDialog::AnimAddDialog().

```
51                                      {
52     // Gather the animations into an alphabetically-sorted list
53     QMap<QString, const AnimScript*> result;
54     foreach(AnimScript* script, scripts.values()){
55         QString name = script->name();
56         if(result.contains(name)){
57             // If duplicate names exist, make them unique by including their GUIDs
58             AnimScript* last = (AnimScript*)result[name];
59             last->_info.name += " " + last->guid().toString().toUpper();
60             script->_info.name += " " + script->guid().toString().toUpper();
61         }
62         result[script->name()] = script;
63     }
64     return result.values();
65 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.3.5.19 bool AnimScript::load ( ) [private]

Definition at line 77 of file animscript.cpp.

References _info, _path, _presets, _presetValues, AnimScript::Param::AGRADIENT, AnimScript::Param::ANGLE, AnimScript::Param::ARGB, AnimScript::Param::BOOL, count(), AnimScript::Param::defaultValue, AnimScript::Param::DOUBLE, AnimScript::Param::GRADIENT, hasParam(), AnimScript::Param::INVALID, KP_NAME, KP_NONE, KP_POSITION, kprelease, AnimScript::Param::LABEL, AnimScript::Param::LONG, name(), ONE_DAY, param(), preset(), AnimScript::Param::RGB, stop(), AnimScript::Param::STRING, and urlParam().

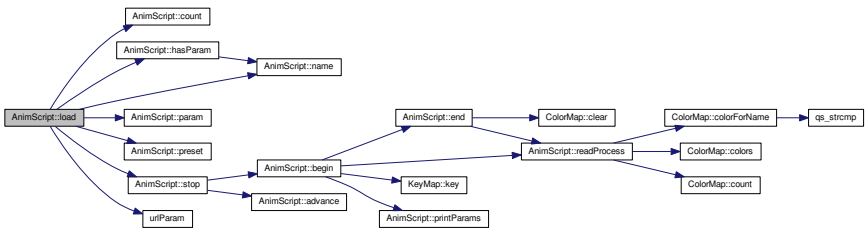
Referenced by scan().

```
77                      {
78     // Run the process to get script info
79     QProcess infoProcess;
80     infoProcess.start(_path, QStringList("--ckb-info"));
81     qDebug() << "Scanning " << _path;
82     infoProcess.waitForFinished(1000);
83     if(infoProcess.state() == QProcess::Running){
84         // Kill the process if it takes more than 1s
85         infoProcess.kill();
86         return false;
87     }
88     // Set defaults for performance info
89     _info.kpMode = KP_NONE;
90     _info.absoluteTime = _info.preempt = _info.liveParams = false;
91     _info.repeat = true;
92     // Read output
93     QString line;
94     while((line = infoProcess.readLine()) != ""){
95         line = line.trimmed();
96         QStringList components = line.split(" ");
97         int count = components.count();
98         if(count < 2)
99             continue;
100         QString param = components[0].trimmed();
101         if(param == "guid")
102             _info.guid = QUuid(urlParam(components[1]));
```

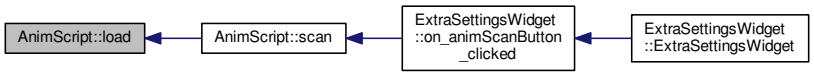
```
103         else if(param == "name")
104             _info.name = urlParam(components[1]);
105         else if(param == "version")
106             _info.version = urlParam(components[1]);
107         else if(param == "year")
108             _info.year = urlParam(components[1]);
109         else if(param == "author")
110             _info.author = urlParam(components[1]);
111         else if(param == "license")
112             _info.license = urlParam(components[1]);
113         else if(param == "description")
114             _info.description = urlParam(components[1]);
115         else if(param == "kpmode")
116             _info.kpMode = (components[1] == "position") ? KP_POSITION : (components[1] ==
    "name") ? KP_NAME : KP_NONE;
117         else if(param == "time")
118             _info.absoluteTime = (components[1] == "absolute");
119         else if(param == "repeat")
120             _info.repeat = (components[1] == "on");
121         else if(param == "preempt")
122             _info.preempt = (components[1] == "on");
123         else if(param == "parammode")
124             _info.liveParams = (components[1] == "live");
125         else if(param == "param"){
126             // Read parameter
127             if(count < 3)
128                 continue;
129             while(components.count() < 8)
130                 components.append("");
131             Param::Type type = Param::INVALID;
132             QString sType = components[1].toLower();
133             if(sType == "long")
134                 type = Param::LONG;
135             else if(sType == "double")
136                 type = Param::DOUBLE;
137             else if(sType == "bool")
138                 type = Param::BOOL;
139             else if(sType == "rgb")
140                 type = Param::RGB;
141             else if(sType == "argb")
142                 type = Param::ARGB;
143             else if(sType == "gradient")
144                 type = Param::GRADIENT;
145             else if(sType == "agradient")
146                 type = Param::AGRADIENT;
147             else if(sType == "angle")
148                 type = Param::ANGLE;
149             else if(sType == "string")
150                 type = Param::STRING;
151             else if(sType == "label")
152                 type = Param::LABEL;
153             else
154                 continue;
155             // "param <type> <name> <prefix> <postfix> <default>"
156             QString name = components[2].toLower();
157             // Make sure it's not present already
158             if(hasParam(name))
159                 continue;
160             QString prefix = urlParam(components[3]), postfix = urlParam(components[4]);
161             QVariant def = urlParam(components[5]), minimum = urlParam(components[6]),
    maximum = urlParam(components[7]);
162             // Don't allow predefined params
163             if(name == "trigger" || name == "kptrigger" || name == "kpmode" || name == "duration" || name
    == "delay" || name == "kpdelay" || name == "repeat" || name == "kprepeat" || name == "stop" || name == "
    kpstop" || name == "kpmodestop" || name == "kprelease")
164                 continue;
165             Param param = { type, name, prefix, postfix, def, minimum, maximum };
166             _info.params.append(param);
167         } else if(param == "preset"){
168             // Add preset
169             QString name = urlParam(components.at(1));
170             QMap<QString, QVariant> preset;
171             for(int i = 2; i < count; i++){
172                 // Scan name/value setting pairs
173                 QString setting = components.at(i);
174                 QStringList sComponents = setting.split("=");
175                 if(sComponents.count() != 2)
176                     continue;
177                 QString param = sComponents.first().trimmed();
178                 QString value = urlParam(sComponents.last());
179                 preset[param] = value;
180             }
181             // If the preset contains a duration, set the repeat time to the same value
182             if(preset.contains("duration")){
183                 QVariant duration = preset.value("duration");
184                 preset["repeat"] = duration;
185                 preset["kprepeat"] = duration;
```

```
186             }
187             _presets.append(name);
188             _presetValues.append(preset);
189         }
190     }
191     // Make sure the required parameters are filled out
192     if(_info.guid.isNull() || _info.name == "" || _info.version == "" ||
    _info.year == "" || _info.author == "" || _info.license == "")
193         return false;
194     // Add timing parameters
195     double defaultDuration = -1.;
196     if(!_info.absoluteTime){
197         defaultDuration = 1.;
198         Param duration = { Param::DOUBLE, "duration", "", "", defaultDuration, 0.1,
    ONE_DAY };
199         _info.params.append(duration);
200     }
201     Param trigger = { Param::BOOL, "trigger", "", "", true, 0, 0 };
202     _info.params.append(trigger);
203     Param kptrigger = { Param::BOOL, "kptrigger", "", "", false, 0, 0 };
204     _info.params.append(kptrigger);
205     if(_info.absoluteTime || !_info.repeat)
206         _info.preempt = false;
207     Param kpmode = { Param::LONG, "kpmode", "", "", 1, 0, 0 };
208     if(_info.kpMode)
209         kpmode.defaultValue = 0;
210     _info.params.append(kpmode);
211     Param delay = { Param::DOUBLE, "delay", "", "", 0., 0., ONE_DAY };
212     Param kpdelay = { Param::DOUBLE, "kpdelay", "", "", 0., 0.,
    ONE_DAY };
213     _info.params.append(delay);
214     _info.params.append(kpdelay);
215     Param kpmodestop = { Param::BOOL, "kpmodestop", "", "", false, 0, 0 };
216     Param kprelease = { Param::BOOL, "kprelease", "", "", false, 0, 0 };
217     _info.params.append(kpmodestop);
218     _info.params.append(kprelease);
219     if(_info.repeat){
220         Param repeat = { Param::DOUBLE, "repeat", "", "", defaultDuration, 0.1,
    ONE_DAY };
221         Param kprepeat = { Param::DOUBLE, "kprepeat", "", "", defaultDuration, 0.1,
    ONE_DAY };
222         // When repeats are enabled, stop and kpstop are LONG values (number of repeats)
223         Param stop = { Param::LONG, "stop", "", "", -1, 0, 1000 };
224         Param kpstop = { Param::LONG, "kpstop", "", "", 0, 0, 1000 };
225         _info.params.append(repeat);
226         _info.params.append(kprepeat);
227         _info.params.append(stop);
228         _info.params.append(kpstop);
229     } else {
230         // When repeats are disabled, stop and kpstop are DOUBLE values (seconds)
231         Param stop = { Param::DOUBLE, "stop", "", "", -1., 0.1,
    ONE_DAY };
232         Param kpstop = { Param::DOUBLE, "kpstop", "", "", -1., 0.1,
    ONE_DAY };
233         _info.params.append(stop);
234         _info.params.append(kpstop);
235     }
236     return true;
237 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.3.5.20 const QString& AnimScript::name ( ) const [inline]

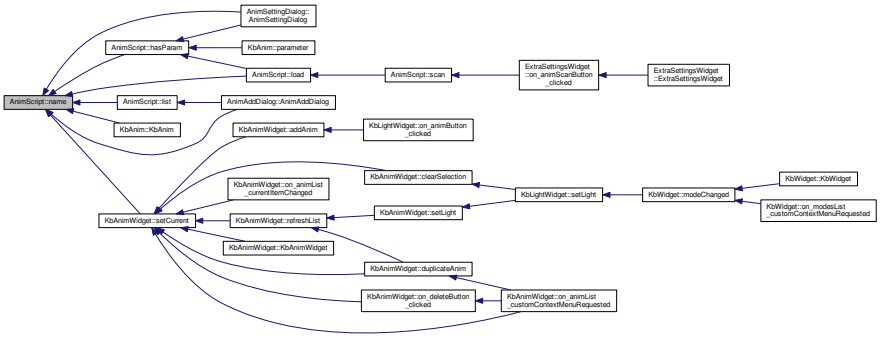
Definition at line 60 of file animscript.h.

References _info.

Referenced by AnimAddDialog::AnimAddDialog(), AnimSettingDialog::AnimSettingDialog(), hasParam(), KbAnim::-KbAnim(), list(), load(), and KbAnimWidget::setCurrent().

```
60 { return _info.name; }
```

Here is the caller graph for this function:



12.3.5.21 Param AnimScript::param (const QString & *name*) const [inline]

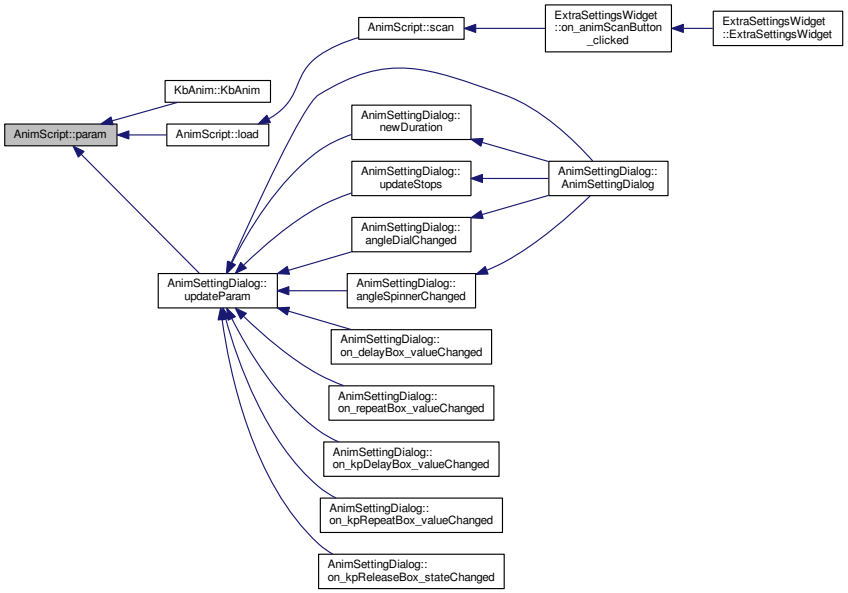
Definition at line 73 of file animscript.h.

References _info, AnimScript::Param::INVALID, and AnimScript::Param::name.

Referenced by KbAnim::KbAnim(), load(), and AnimSettingDialog::updateParam().

```
73 { QListIterator<Param> i(_info.params); while(i.hasNext()){ Param p = i.next(); if(p.name ==
     name) return p; } return ((Param[]){ { Param::INVALID, "", "", "", 0, 0, 0 } })[0]; }
```

Here is the caller graph for this function:



12.3.5.22 void AnimScript::parameters (const QMap< QString, QVariant > & *paramValues*)

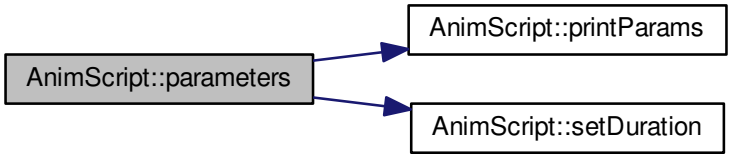
Definition at line 265 of file animscript.cpp.

References _info, _paramValues, initialized, printParams(), process, and setDuration().

Referenced by KbAnim::updateParams().

```
265                                                                    {
266     if(!initialized || !process || !_info.liveParams)
267         return;
268     _paramValues = paramValues;
269     setDuration();
270     printParams();
271 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.3.5.23 QListIterator<Param> AnimScript::paramIterator ( ) const [inline]

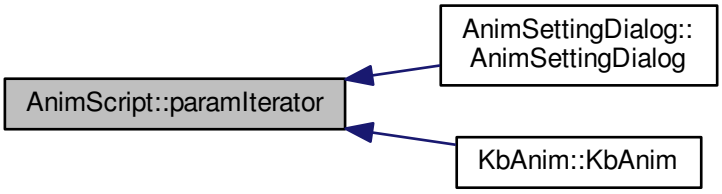
Definition at line 72 of file animscript.h.

References _info.

Referenced by AnimSettingDialog::AnimSettingDialog(), and KbAnim::KbAnim().

```
72 { return _info.params; }
```

Here is the caller graph for this function:



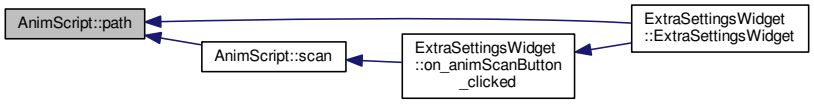
12.3.5.24 QString AnimScript::path ( ) [static]

Definition at line 29 of file animscript.cpp.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and scan().

```
29                       {
30 #ifdef __APPLE__
31     return QDir(QApplication::applicationDirPath() + "/../Resources").absoluteFilePath("ckb-animations");
32 #else
33     return QDir("/usr/lib").absoluteFilePath("ckb-animations");
34 #endif
35 }
```

Here is the caller graph for this function:



12.3.5.25 const PresetValue& AnimScript::preset (int *index*) const [inline]

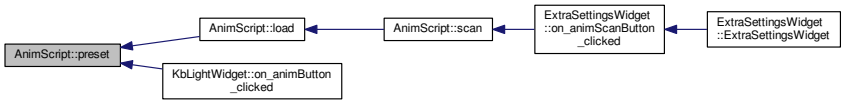
Definition at line 69 of file animscript.h.

References _presetValues.

Referenced by load(), and KbLightWidget::on_animButton_clicked().

```
69 { return _presetValues[index]; }
```

Here is the caller graph for this function:



12.3.5.26 const QStringList& AnimScript::presets ( ) const [inline]

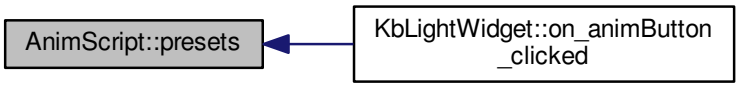
Definition at line 68 of file animscript.h.

References _presets.

Referenced by KbLightWidget::on_animButton_clicked().

```
68 { return _presets; }
```

Here is the caller graph for this function:



12.3.5.27 void AnimScript::printParams ( ) [private]

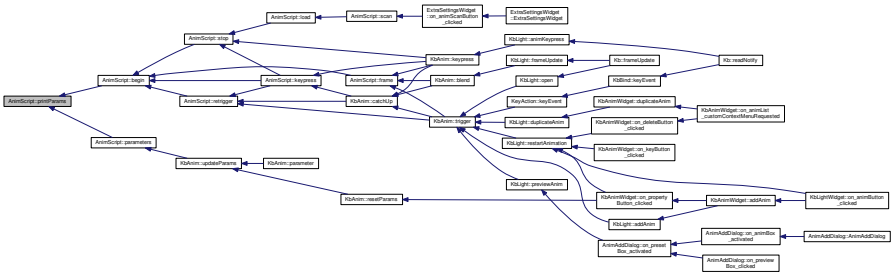
Definition at line 273 of file animscript.cpp.

References _paramValues, and process.

Referenced by begin(), and parameters().

```
273                             {
274     process->write("begin params\n");
275     QMapIterator<QString, QVariant> i(_paramValues);
276     while(i.hasNext()){
277         i.next();
278         process->write("param ");
279         process->write(i.key().toLatin1());
280         process->write(" ");
281         process->write(QUrl::toPercentEncoding(i.value().toString()));
282         process->write("\n");
283     }
284     process->write("end params\n");
285 }
```

Here is the caller graph for this function:



12.3.5.28 void AnimScript::readProcess ( ) [private], [slot]

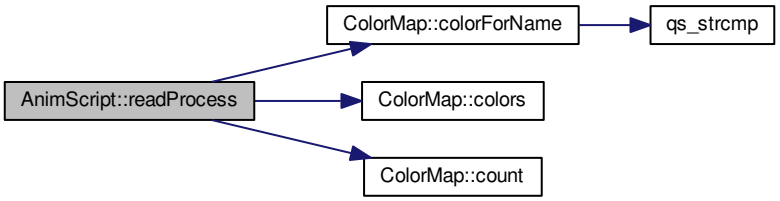
Definition at line 397 of file animscript.cpp.

References _colorBuffer, _colors, ColorMap::colorForName(), ColorMap::colors(), ColorMap::count(), inFrame, process, readAnyFrame, readFrame, and stopped.

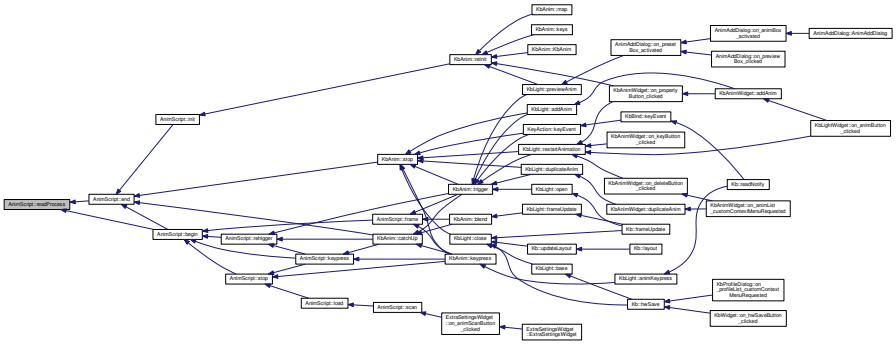
Referenced by begin(), and end().

```
397                             {
398     while(process->canReadLine()){
399         QByteArray line = process->readLine().trimmed();
400         if(!inFrame){
401             // Ignore anything not between "begin frame" and "end frame", except for "end run", which
      indicates that the program is done.
402             if(line == "begin frame")
403                 inFrame = true;
404             else if(line == "end run"){
405                 stopped = true;
406                 return;
407             }
408             continue;
409         }
410         if(line.startsWith("argb ")){
411             // Add a color to the buffer
412             char keyName[31];
413             QRgb keyColor = 0;
414             if(sscanf(line, "argb %30s %x", keyName, &keyColor) != 2)
415                 continue;
416             QRgb* inMap = _colorBuffer.colorForName(keyName);
417             if(!inMap)
418                 continue;
419             *inMap = keyColor;
420         }
421         if(line == "end frame"){
422             // Frame is finished. Copy color buffer back to the atomic map
423             memcpy(_colors.colors(), _colorBuffer.
      colors(), sizeof(QRgb) * _colors.count());
424             inFrame = false;
425             readFrame = readAnyFrame = true;
426         }
427     }
428 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.3.5.29 void AnimScript::retrigger (quint64 *timestamp,* bool *allowPreempt* = `false`)

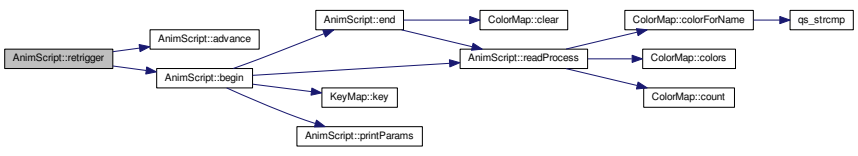
Definition at line 331 of file animscript.cpp.

References _info, advance(), begin(), initialized, process, and repeatMsec.

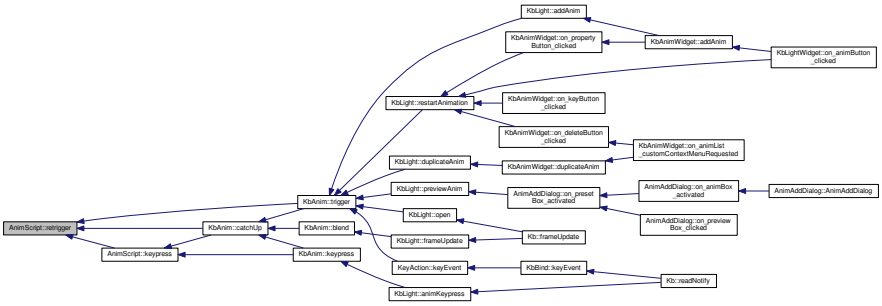
Referenced by KbAnim::catchUp(), keypress(), and KbAnim::trigger().

```
331                                                         {
332     if(!initialized)
333         return;
334     if(allowPreempt && _info.preempt && repeatMsec > 0)
335         // If preemption is wanted, trigger the animation 1 duration in the past first
336         retrigger(timestamp - repeatMsec);
337     if(!process)
338         begin(timestamp);
339     advance(timestamp);
340     if(process)
341         process->write("start\n");
342 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.3.5.30 void AnimScript::scan ( ) [static]

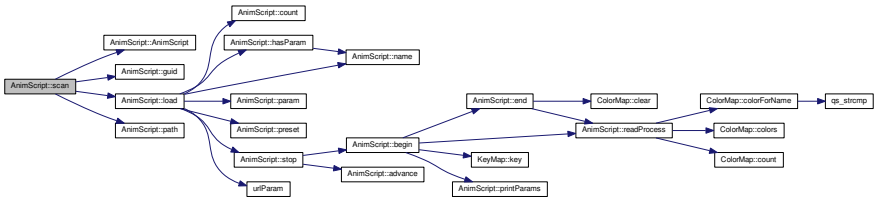
Definition at line 37 of file animscript.cpp.

References _info, AnimScript(), guid(), load(), path(), and scripts.

Referenced by ExtraSettingsWidget::on_animScanButton_clicked().

```
37                     {
38     QDir dir(path());
39     foreach(AnimScript* script, scripts)
40         delete script;
41     scripts.clear();
42     foreach(QString file, dir.entryList(QDir::Files | QDir::Executable)){
43         AnimScript* script = new AnimScript(qApp, dir.absoluteFilePath(file));
44         if(script->load() && !scripts.contains(script->_info.
      guid))
45             scripts[script->_info.guid] = script;
46         else
47             delete script;
48     }
49 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.3.5.31 void AnimScript::setDuration ( ) [private]

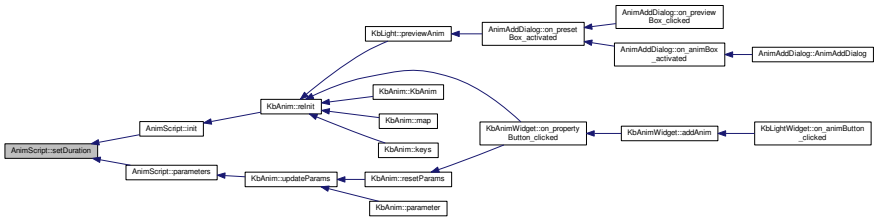
Definition at line 253 of file animscript.cpp.

References _info, _paramValues, durationMsec, and repeatMsec.

Referenced by init(), and parameters().

```
253                             {
254     if(_info.absoluteTime){
255         durationMsec = 1000;
256         repeatMsec = 0;
257     } else {
258         durationMsec = round(_paramValues.value("duration").toDouble() * 1000.);
259         if(durationMsec <= 0)
260             durationMsec = -1;
261         repeatMsec = round(_paramValues.value("repeat").toDouble() * 1000.);
262     }
263 }
```

Here is the caller graph for this function:



12.3.5.32 void AnimScript::stop (quint64 *timestamp*)

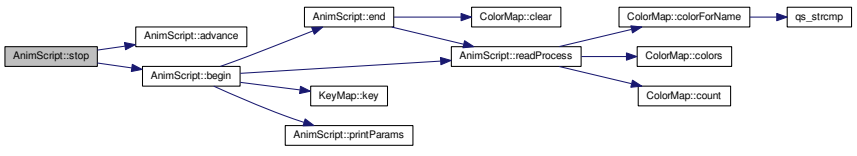
Definition at line 344 of file animscript.cpp.

References advance(), begin(), initialized, and process.

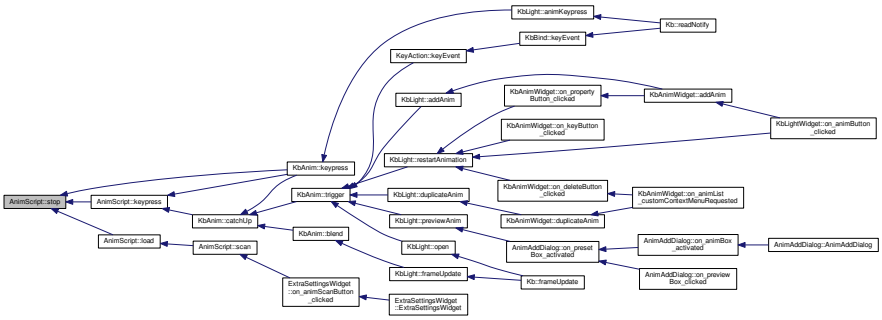
Referenced by KbAnim::keypress(), keypress(), and load().

```
344                                     {
345     if(!initialized)
346         return;
347     if(!process)
348         begin(timestamp);
349     advance(timestamp);
350     if(process)
351         process->write("stop\n");
352 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.3.5.33 const QString& AnimScript::version ( ) const [inline]

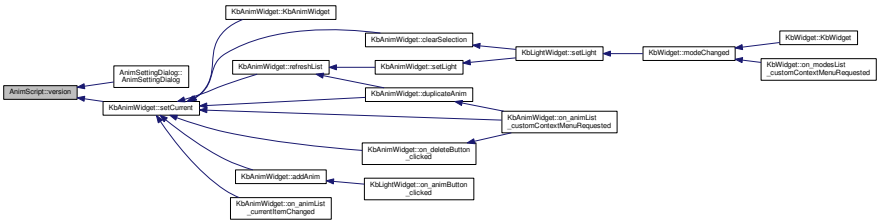
Definition at line 61 of file animscript.h.

References _info.

Referenced by AnimSettingDialog::AnimSettingDialog(), and KbAnimWidget::setCurrent().

```
61 { return _info.version; }
```

Here is the caller graph for this function:



12.3.5.34 const QString& AnimScript::year ( ) const [inline]

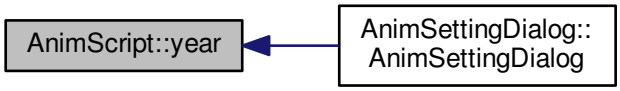
Definition at line 63 of file animscript.h.

References _info.

Referenced by AnimSettingDialog::AnimSettingDialog().

```
63 { return _info.year; }
```

Here is the caller graph for this function:



12.3.6 Field Documentation

12.3.6.1 ColorMap AnimScript::_colorBuffer [private]

Definition at line 143 of file animscript.h.

Referenced by init(), and readProcess().

12.3.6.2 ColorMap AnimScript::_colors [private]

Definition at line 135 of file animscript.h.

Referenced by colors(), end(), init(), and readProcess().

12.3.6.3 struct { ... } AnimScript::_info [private]

Referenced by advance(), author(), copyright(), description(), guid(), hasKeypress(), hasParam(), keypress(), license(), list(), load(), name(), param(), parameters(), paramIterator(), retrigger(), scan(), setDuration(), version(), and year().

12.3.6.4 QStringList AnimScript::_keys [private]

Definition at line 133 of file animscript.h.

Referenced by begin(), and init().

12.3.6.5 KeyMap AnimScript::_map [private]

Definition at line 130 of file animscript.h.

Referenced by begin(), init(), and keypress().

12.3.6.6 PresetValue AnimScript::_paramValues [private]

Definition at line 136 of file animscript.h.

Referenced by init(), keypress(), parameters(), printParams(), and setDuration().

12.3.6.7 QString AnimScript::_path [private]

Definition at line 128 of file animscript.h.

Referenced by begin(), init(), and load().

12.3.6.8 QStringList AnimScript::_presets [private]

Definition at line 125 of file animscript.h.

Referenced by load(), and presets().

12.3.6.9 QList<PresetValue> AnimScript::_presetValues [private]

Definition at line 126 of file animscript.h.

Referenced by load(), and preset().

12.3.6.10 int AnimScript::durationMsec [private]

Definition at line 140 of file animscript.h.

Referenced by advance(), and setDuration().

12.3.6.11 bool AnimScript::firstFrame [private]

Definition at line 141 of file animscript.h.

Referenced by begin(), frame(), and init().

12.3.6.12 bool AnimScript::inFrame [private]

Definition at line 141 of file animscript.h.

Referenced by begin(), and readProcess().

12.3.6.13 bool AnimScript::initialized [private]

Definition at line 141 of file animscript.h.

Referenced by begin(), frame(), hasFrame(), init(), keypress(), parameters(), retrigger(), and stop().

12.3.6.14 const int AnimScript::KP_NAME = 1 [static], [private]

Definition at line 124 of file animscript.h.

Referenced by keypress(), and load().

12.3.6.15 const int AnimScript::KP_NONE = 0 [static], [private]

Definition at line 124 of file animscript.h.

Referenced by hasKeypress(), keypress(), and load().

12.3.6.16 const int AnimScript::KP_POSITION = 2 [static], [private]

Definition at line 124 of file animscript.h.

Referenced by keypress(), and load().

12.3.6.17 quint64 AnimScript::lastFrame [private]

Definition at line 139 of file animscript.h.

Referenced by advance(), and begin().

12.3.6.18 int AnimScript::minX [private]

Definition at line 131 of file animscript.h.

Referenced by begin(), and keypress().

12.3.6.19 int AnimScript::minY [private]

Definition at line 131 of file animscript.h.

Referenced by begin(), and keypress().

12.3.6.20 QProcess* AnimScript::process [private]

Definition at line 142 of file animscript.h.

Referenced by advance(), begin(), end(), frame(), keypress(), parameters(), printParams(), readProcess(), retrigger(), stop(), and ~AnimScript().

12.3.6.21 bool AnimScript::readAnyFrame [private]

Definition at line 141 of file animscript.h.

Referenced by begin(), hasFrame(), and readProcess().

12.3.6.22 bool AnimScript::readFrame [private]

Definition at line 141 of file animscript.h.

Referenced by begin(), frame(), and readProcess().

12.3.6.23 int AnimScript::repeatMsec [private]

Definition at line 140 of file animscript.h.

Referenced by retrigger(), and setDuration().

12.3.6.24 QHash< QUuid, AnimScript * > AnimScript::scripts [static], [private]

Definition at line 152 of file animscript.h.

Referenced by copy(), count(), list(), and scan().

12.3.6.25 bool AnimScript::stopped [private]

Definition at line 141 of file animscript.h.

Referenced by begin(), frame(), init(), and readProcess().

The documentation for this class was generated from the following files:

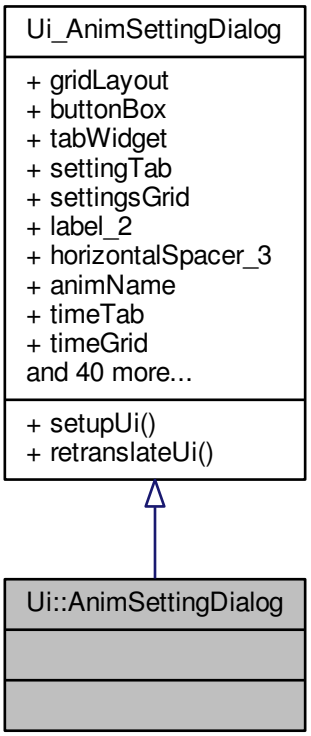
- src/ckb/animscript.h

- src/ckb/animscript.cpp

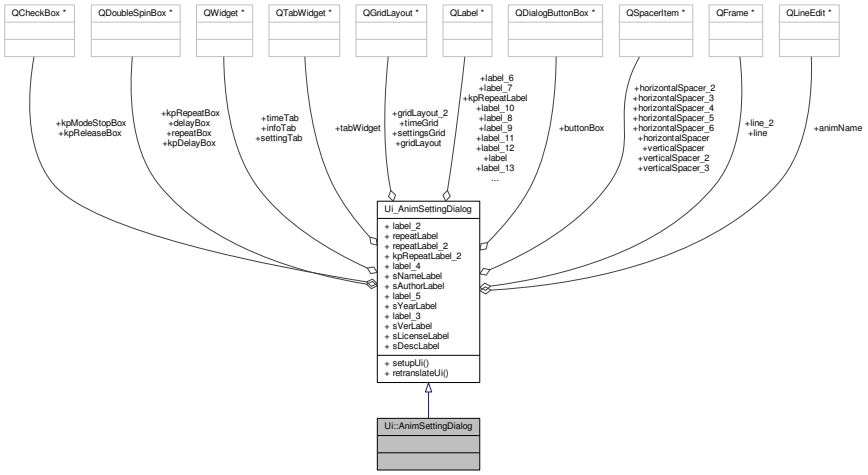
12.4 Ui::AnimSettingDialog Class Reference

`#include <src/ckb/ui_animsettingdialog.h>`

Inheritance diagram for Ui::AnimSettingDialog:



Collaboration diagram for Ui::AnimSettingDialog:



Public Member Functions

- void setupUi (QDialog *AnimSettingDialog)
- void retranslateUi (QDialog *AnimSettingDialog)

Data Fields

- QGridLayout * gridLayout
- QDialogButtonBox * buttonBox
- QTabWidget * tabWidget
- QWidget * settingTab
- QGridLayout * settingsGrid
- QLabel * label_2
- QSpacerItem * horizontalSpacer_3
- QLineEdit * animName
- QWidget * timeTab
- QGridLayout * timeGrid
- QSpacerItem * horizontalSpacer_5
- QLabel * kpRepeatLabel
- QLabel * repeatLabel
- QDoubleSpinBox * repeatBox
- QLabel * repeatLabel_2
- QFrame * line
- QLabel * kpRepeatLabel_2
- QLabel * label_4
- QLabel * label_8
- QDoubleSpinBox * kpDelayBox
- QLabel * label_13
- QLabel * label_12
- QDoubleSpinBox * delayBox
- QCheckBox * kpModeStopBox
- QLabel * label_10
- QSpacerItem * verticalSpacer_3
- QSpacerItem * horizontalSpacer_4

- QCheckBox * kpReleaseBox
- QLabel * label_6
- QDoubleSpinBox * kpRepeatBox
- QSpacerItem * verticalSpacer_2
- QFrame * line_2
- QSpacerItem * horizontalSpacer_6
- QWidget * infoTab
- QGridLayout * gridLayout_2
- QLabel * sNameLabel
- QLabel * label_7
- QLabel * label_11
- QLabel * sAuthorLabel
- QLabel * label_9
- QLabel * label_5
- QLabel * sYearLabel
- QLabel * label_3
- QSpacerItem * horizontalSpacer
- QSpacerItem * horizontalSpacer_2
- QLabel * sVerLabel
- QLabel * sLicenseLabel
- QLabel * label
- QSpacerItem * verticalSpacer
- QLabel * sDescLabel

12.4.1 Detailed Description

Definition at line 385 of file ui_animsettingdialog.h.

12.4.2 Member Function Documentation

12.4.2.1 void Ui_AnimSettingDialog::retranslateUi (QDialog * *AnimSettingDialog*) [inline], [inherited]

Definition at line 349 of file ui_animsettingdialog.h.

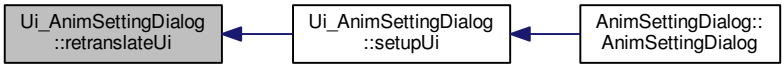
References Ui_AnimSettingDialog::infoTab, Ui_AnimSettingDialog::kpModeStopBox, Ui_AnimSettingDialog::kpReleaseBox, Ui_AnimSettingDialog::kpRepeatLabel, Ui_AnimSettingDialog::kpRepeatLabel_2, Ui_AnimSettingDialog::label, Ui_AnimSettingDialog::label_10, Ui_AnimSettingDialog::label_11, Ui_AnimSettingDialog::label_12, Ui_AnimSettingDialog::label_13, Ui_AnimSettingDialog::label_2, Ui_AnimSettingDialog::label_3, Ui_AnimSettingDialog::label_4, Ui_AnimSettingDialog::label_5, Ui_AnimSettingDialog::label_6, Ui_AnimSettingDialog::label_7, Ui_AnimSettingDialog::label_8, Ui_AnimSettingDialog::label_9, Ui_AnimSettingDialog::repeatLabel, Ui_AnimSettingDialog::repeatLabel_2, Ui_AnimSettingDialog::sAuthorLabel, Ui_AnimSettingDialog::sDescLabel, Ui_AnimSettingDialog::settingTab, Ui_AnimSettingDialog::sLicenseLabel, Ui_AnimSettingDialog::sNameLabel, Ui_AnimSettingDialog::sVerLabel, Ui_AnimSettingDialog::sYearLabel, Ui_AnimSettingDialog::tabWidget, and Ui_AnimSettingDialog::timeTab.

Referenced by Ui_AnimSettingDialog::setupUi().

```
350     {
351         AnimSettingDialog->setWindowTitle(QApplication::translate("AnimSettingDialog", "Dialog", Q_NULLPTR)
    );
352         label_2->setText(QApplication::translate("AnimSettingDialog", "Name:", Q_NULLPTR));
353         tabWidget->setTabText(tabWidget->indexOf(settingTab),
    QApplication::translate("AnimSettingDialog", "Settings", Q_NULLPTR));
354         kpRepeatLabel->setText(QApplication::translate("AnimSettingDialog", "Repeat every:",
    Q_NULLPTR));
355         repeatLabel->setText(QApplication::translate("AnimSettingDialog", "Repeat every:",
    Q_NULLPTR));
356         repeatLabel_2->setText(QApplication::translate("AnimSettingDialog", "seconds",
    Q_NULLPTR));
357         kpRepeatLabel_2->setText(QApplication::translate("AnimSettingDialog", "seconds",
```

```
    Q_NULLPTR));
358         label_4->setText(QApplication::translate("AnimSettingDialog", "<b>On mode start</b>",
    Q_NULLPTR));
359         label_8->setText(QApplication::translate("AnimSettingDialog", "seconds", Q_NULLPTR));
360         label_13->setText(QApplication::translate("AnimSettingDialog", "seconds", Q_NULLPTR));
361         label_12->setText(QApplication::translate("AnimSettingDialog", "Start delay:", Q_NULLPTR));
362         kpModeStopBox->setText(QApplication::translate("AnimSettingDialog", "Stop on key press
    ", Q_NULLPTR));
363         label_10->setText(QApplication::translate("AnimSettingDialog", "Start delay:", Q_NULLPTR));
364         kpReleaseBox->setText(QApplication::translate("AnimSettingDialog", "Stop on key release
    ", Q_NULLPTR));
365         label_6->setText(QApplication::translate("AnimSettingDialog", "<b>On key press</b>",
    Q_NULLPTR));
366         tabWidget->setTabText(tabWidget->indexOf(timeTab), QApplication::translate
    ("AnimSettingDialog", "Timing", Q_NULLPTR));
367         sNameLabel->setText(QApplication::translate("AnimSettingDialog", "Name", Q_NULLPTR));
368         label_7->setText(QApplication::translate("AnimSettingDialog", "Year:", Q_NULLPTR));
369         label_11->setText(QApplication::translate("AnimSettingDialog", "Description:", Q_NULLPTR));
370         sAuthorLabel->setText(QApplication::translate("AnimSettingDialog", "Author", Q_NULLPTR)
    );
371         label_9->setText(QApplication::translate("AnimSettingDialog", "License:", Q_NULLPTR));
372         label_5->setText(QApplication::translate("AnimSettingDialog", "Version:", Q_NULLPTR));
373         sYearLabel->setText(QApplication::translate("AnimSettingDialog", "Year", Q_NULLPTR));
374         label_3->setText(QApplication::translate("AnimSettingDialog", "Author:", Q_NULLPTR));
375         sVerLabel->setText(QApplication::translate("AnimSettingDialog", "Version", Q_NULLPTR));
376         sLicenseLabel->setText(QApplication::translate("AnimSettingDialog", "License",
    Q_NULLPTR));
377         label->setText(QApplication::translate("AnimSettingDialog", "Script name:", Q_NULLPTR));
378         sDescLabel->setText(QApplication::translate("AnimSettingDialog", "Description", Q_NULLPTR
    ));
379         tabWidget->setTabText(tabWidget->indexOf(infoTab), QApplication::translate
    ("AnimSettingDialog", "About", Q_NULLPTR));
380       } // retranslateUi
```

Here is the caller graph for this function:



12.4.2.2 void Ui_AnimSettingDialog::setupUi (QDialog * *AnimSettingDialog*) [inline], [inherited]

Definition at line 85 of file ui_animsettingdialog.h.

References Ui_AnimSettingDialog::animName, Ui_AnimSettingDialog::buttonBox, Ui_AnimSettingDialog::delayBox, Ui_AnimSettingDialog::gridLayout, Ui_AnimSettingDialog::gridLayout_2, Ui_AnimSettingDialog::horizontalSpacer, Ui_AnimSettingDialog::horizontalSpacer_2, Ui_AnimSettingDialog::horizontalSpacer_3, Ui_AnimSettingDialog::horizontalSpacer_4, Ui_AnimSettingDialog::horizontalSpacer_5, Ui_AnimSettingDialog::horizontalSpacer_6, Ui_AnimSettingDialog::infoTab, Ui_AnimSettingDialog::kpDelayBox, Ui_AnimSettingDialog::kpModeStopBox, Ui_AnimSettingDialog::kpReleaseBox, Ui_AnimSettingDialog::kpRepeatBox, Ui_AnimSettingDialog::kpRepeatLabel, Ui_AnimSettingDialog::kpRepeatLabel_2, Ui_AnimSettingDialog::label, Ui_AnimSettingDialog::label_10, Ui_AnimSettingDialog::label_11, Ui_AnimSettingDialog::label_12, Ui_AnimSettingDialog::label_13, Ui_AnimSettingDialog::label_2, Ui_AnimSettingDialog::label_3, Ui_AnimSettingDialog::label_4, Ui_AnimSettingDialog::label_5, Ui_AnimSettingDialog::label_6, Ui_AnimSettingDialog::label_7, Ui_AnimSettingDialog::label_8, Ui_AnimSettingDialog::label_9, Ui_AnimSettingDialog::line, Ui_AnimSettingDialog::line_2, Ui_AnimSettingDialog::repeatBox, Ui_AnimSettingDialog::repeatLabel, Ui_AnimSettingDialog::repeatLabel_2, Ui_AnimSettingDialog::retranslateUi(), Ui_AnimSettingDialog::sAuthorLabel, Ui_AnimSettingDialog::sDescLabel, Ui_AnimSettingDialog::settingsGrid, Ui_AnimSettingDialog::settingTab, Ui_AnimSettingDialog::sLicenseLabel, Ui_AnimSettingDialog::sNameLabel, Ui_AnimSettingDialog::sVerLabel, Ui_AnimSettingDialog::sYearLabel, Ui_AnimSettingDialog::tabWidget, Ui_AnimSettingDialog::timeGrid, Ui_AnimSettingDialog::timeTab, Ui_AnimSettingDialog::verticalSpacer, Ui_AnimSettingDialog::verticalSpacer_2, and Ui_AnimSettingDialog::verticalSpacer_3.

Referenced by AnimSettingDialog::AnimSettingDialog().

```
86      {
87          if (AnimSettingDialog->objectName().isEmpty())
88              AnimSettingDialog->setObjectName(QStringLiteral("AnimSettingDialog"));
89          AnimSettingDialog->resize(480, 457);
90          AnimSettingDialog->setMinimumSize(QSize(480, 0));
91          AnimSettingDialog->setFocusPolicy(Qt::ClickFocus);
92          gridLayout = new QGridLayout(AnimSettingDialog);
93          gridLayout->setObjectName(QStringLiteral("gridLayout"));
94          buttonBox = new QDialogButtonBox(AnimSettingDialog);
95          buttonBox->setObjectName(QStringLiteral("buttonBox"));
96          buttonBox->setOrientation(Qt::Horizontal);
97          buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
98
99          gridLayout->addWidget(buttonBox, 2, 0, 1, 1);
100
101          tabWidget = new QTabWidget(AnimSettingDialog);
102          tabWidget->setObjectName(QStringLiteral("tabWidget"));
103          settingTab = new QWidget();
104          settingTab->setObjectName(QStringLiteral("settingTab"));
105          settingsGrid = new QGridLayout(settingTab);
106          settingsGrid->setSpacing(12);
107          settingsGrid->setObjectName(QStringLiteral("settingsGrid"));
108          settingsGrid->setContentsMargins(12, 12, 12, 12);
109          label_2 = new QLabel(settingTab);
110          label_2->setObjectName(QStringLiteral("label_2"));
111
112          settingsGrid->addWidget(label_2, 0, 1, 1, 1);
113
114          horizontalSpacer_3 = new QSpacerItem(5, 0, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
115
116          settingsGrid->addItem(horizontalSpacer_3, 0, 2, 1, 1);
117
118          animName = new QLineEdit(settingTab);
119          animName->setObjectName(QStringLiteral("animName"));
120
121          settingsGrid->addWidget(animName, 0, 3, 1, 3);
122
123          tabWidget->addTab(settingTab, QString());
124          timeTab = new QWidget();
125          timeTab->setObjectName(QStringLiteral("timeTab"));
126          timeGrid = new QGridLayout(timeTab);
127          timeGrid->setSpacing(12);
128          timeGrid->setObjectName(QStringLiteral("timeGrid"));
129          timeGrid->setContentsMargins(12, 12, 12, 12);
130          horizontalSpacer_5 = new QSpacerItem(15, 0, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
131
132          timeGrid->addItem(horizontalSpacer_5, 3, 2, 1, 1);
133
134          kpRepeatLabel = new QLabel(timeTab);
135          kpRepeatLabel->setObjectName(QStringLiteral("kpRepeatLabel"));
136
137          timeGrid->addWidget(kpRepeatLabel, 11, 1, 1, 1);
138
139          repeatLabel = new QLabel(timeTab);
140          repeatLabel->setObjectName(QStringLiteral("repeatLabel"));
141
142          timeGrid->addWidget(repeatLabel, 3, 1, 1, 1);
143
144          repeatBox = new QDoubleSpinBox(timeTab);
145          repeatBox->setObjectName(QStringLiteral("repeatBox"));
146          repeatBox->setDecimals(1);
147          repeatBox->setMinimum(0.1);
148          repeatBox->setMaximum(86400);
149
150          timeGrid->addWidget(repeatBox, 3, 3, 1, 1);
151
152          repeatLabel_2 = new QLabel(timeTab);
153          repeatLabel_2->setObjectName(QStringLiteral("repeatLabel_2"));
154
155          timeGrid->addWidget(repeatLabel_2, 3, 4, 1, 1);
156
157          line = new QFrame(timeTab);
158          line->setObjectName(QStringLiteral("line"));
159          line->setFrameShape(QFrame::HLine);
160          line->setFrameShadow(QFrame::Sunken);
161
162          timeGrid->addWidget(line, 1, 0, 1, 6);
163
164          kpRepeatLabel_2 = new QLabel(timeTab);
165          kpRepeatLabel_2->setObjectName(QStringLiteral("kpRepeatLabel_2"));
166
167          timeGrid->addWidget(kpRepeatLabel_2, 11, 4, 1, 1);
168
169          label_4 = new QLabel(timeTab);
170          label_4->setObjectName(QStringLiteral("label_4"));
```

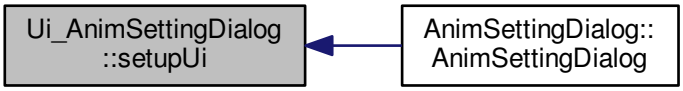
```
171
172         timeGrid->addWidget(label_4, 0, 0, 1, 6);
173
174         label_8 = new QLabel(timeTab);
175         label_8->setObjectName(QStringLiteral("label_8"));
176
177         timeGrid->addWidget(label_8, 2, 4, 1, 1);
178
179         kpDelayBox = new QDoubleSpinBox(timeTab);
180         kpDelayBox->setObjectName(QStringLiteral("kpDelayBox"));
181         kpDelayBox->setDecimals(1);
182         kpDelayBox->setMaximum(86400);
183
184         timeGrid->addWidget(kpDelayBox, 10, 3, 1, 1);
185
186         label_13 = new QLabel(timeTab);
187         label_13->setObjectName(QStringLiteral("label_13"));
188
189         timeGrid->addWidget(label_13, 10, 4, 1, 1);
190
191         label_12 = new QLabel(timeTab);
192         label_12->setObjectName(QStringLiteral("label_12"));
193
194         timeGrid->addWidget(label_12, 10, 1, 1, 1);
195
196         delayBox = new QDoubleSpinBox(timeTab);
197         delayBox->setObjectName(QStringLiteral("delayBox"));
198         delayBox->setDecimals(1);
199         delayBox->setMaximum(86400);
200
201         timeGrid->addWidget(delayBox, 2, 3, 1, 1);
202
203         kpModeStopBox = new QCheckBox(timeTab);
204         kpModeStopBox->setObjectName(QStringLiteral("kpModeStopBox"));
205
206         timeGrid->addWidget(kpModeStopBox, 5, 1, 1, 3);
207
208         label_10 = new QLabel(timeTab);
209         label_10->setObjectName(QStringLiteral("label_10"));
210
211         timeGrid->addWidget(label_10, 2, 1, 1, 1);
212
213         verticalSpacer_3 = new QSpacerItem(0, 10, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
214
215         timeGrid->addItem(verticalSpacer_3, 7, 1, 1, 1);
216
217         horizontalSpacer_4 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
218
219         timeGrid->addItem(horizontalSpacer_4, 2, 5, 1, 1);
220
221         kpReleaseBox = new QCheckBox(timeTab);
222         kpReleaseBox->setObjectName(QStringLiteral("kpReleaseBox"));
223
224         timeGrid->addWidget(kpReleaseBox, 14, 1, 1, 3);
225
226         label_6 = new QLabel(timeTab);
227         label_6->setObjectName(QStringLiteral("label_6"));
228
229         timeGrid->addWidget(label_6, 8, 0, 1, 6);
230
231         kpRepeatBox = new QDoubleSpinBox(timeTab);
232         kpRepeatBox->setObjectName(QStringLiteral("kpRepeatBox"));
233         kpRepeatBox->setDecimals(1);
234         kpRepeatBox->setMinimum(0.1);
235         kpRepeatBox->setMaximum(86400);
236
237         timeGrid->addWidget(kpRepeatBox, 11, 3, 1, 1);
238
239         verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
240
241         timeGrid->addItem(verticalSpacer_2, 15, 1, 1, 1);
242
243         line_2 = new QFrame(timeTab);
244         line_2->setObjectName(QStringLiteral("line_2"));
245         line_2->setFrameShape(QFrame::HLine);
246         line_2->setFrameShadow(QFrame::Sunken);
247
248         timeGrid->addWidget(line_2, 9, 0, 1, 6);
249
250         horizontalSpacer_6 = new QSpacerItem(0, 0, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
251
252         timeGrid->addItem(horizontalSpacer_6, 12, 2, 1, 1);
253
```

```
254         tabWidget->addTab(timeTab, QString());
255         infoTab = new QWidget();
256         infoTab->setObjectName(QStringLiteral("infoTab"));
257         gridLayout_2 = new QGridLayout(infoTab);
258         gridLayout_2->setSpacing(12);
259         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
260         gridLayout_2->setContentsMargins(12, 12, 12, 12);
261         sNameLabel = new QLabel(infoTab);
262         sNameLabel->setObjectName(QStringLiteral("sNameLabel"));
263
264         gridLayout_2->addWidget(sNameLabel, 0, 2, 1, 1);
265
266         label_7 = new QLabel(infoTab);
267         label_7->setObjectName(QStringLiteral("label_7"));
268
269         gridLayout_2->addWidget(label_7, 3, 0, 1, 1);
270
271         label_11 = new QLabel(infoTab);
272         label_11->setObjectName(QStringLiteral("label_11"));
273
274         gridLayout_2->addWidget(label_11, 5, 0, 1, 1);
275
276         sAuthorLabel = new QLabel(infoTab);
277         sAuthorLabel->setObjectName(QStringLiteral("sAuthorLabel"));
278
279         gridLayout_2->addWidget(sAuthorLabel, 2, 2, 1, 1);
280
281         label_9 = new QLabel(infoTab);
282         label_9->setObjectName(QStringLiteral("label_9"));
283
284         gridLayout_2->addWidget(label_9, 4, 0, 1, 1);
285
286         label_5 = new QLabel(infoTab);
287         label_5->setObjectName(QStringLiteral("label_5"));
288
289         gridLayout_2->addWidget(label_5, 1, 0, 1, 1);
290
291         sYearLabel = new QLabel(infoTab);
292         sYearLabel->setObjectName(QStringLiteral("sYearLabel"));
293
294         gridLayout_2->addWidget(sYearLabel, 3, 2, 1, 1);
295
296         label_3 = new QLabel(infoTab);
297         label_3->setObjectName(QStringLiteral("label_3"));
298
299         gridLayout_2->addWidget(label_3, 2, 0, 1, 1);
300
301         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
302
303         gridLayout_2->addItem(horizontalSpacer, 0, 3, 1, 1);
304
305         horizontalSpacer_2 = new QSpacerItem(20, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
306
307         gridLayout_2->addItem(horizontalSpacer_2, 0, 1, 1, 1);
308
309         sVerLabel = new QLabel(infoTab);
310         sVerLabel->setObjectName(QStringLiteral("sVerLabel"));
311
312         gridLayout_2->addWidget(sVerLabel, 1, 2, 1, 1);
313
314         sLicenseLabel = new QLabel(infoTab);
315         sLicenseLabel->setObjectName(QStringLiteral("sLicenseLabel"));
316
317         gridLayout_2->addWidget(sLicenseLabel, 4, 2, 1, 1);
318
319         label = new QLabel(infoTab);
320         label->setObjectName(QStringLiteral("label"));
321
322         gridLayout_2->addWidget(label, 0, 0, 1, 1);
323
324         verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
325
326         gridLayout_2->addItem(verticalSpacer, 6, 0, 1, 1);
327
328         sDescLabel = new QLabel(infoTab);
329         sDescLabel->setObjectName(QStringLiteral("sDescLabel"));
330         sDescLabel->setAlignment(Qt::AlignLeading|Qt::AlignLeft|Qt::AlignTop);
331
332         gridLayout_2->addWidget(sDescLabel, 5, 2, 2, 2);
333
334         tabWidget->addTab(infoTab, QString());
335
336         gridLayout->addWidget(tabWidget, 0, 0, 1, 1);
337
```

```
338
339         retranslateUi(AnimSettingDialog);
340         QObject::connect(buttonBox, SIGNAL(accepted()), AnimSettingDialog, SLOT(accept()));
341         QObject::connect(buttonBox, SIGNAL(rejected()), AnimSettingDialog, SLOT(reject()));
342
343         tabWidget->setCurrentIndex(0);
344
345
346         QMetaObject::connectSlotsByName(AnimSettingDialog);
347     } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.4.3 Field Documentation

12.4.3.1 QLineEdit* Ui_AnimSettingDialog::animName [inherited]

Definition at line 41 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), AnimSettingDialog::name(), and Ui_AnimSettingDialog-::setupUi().

12.4.3.2 QDialogButtonBox* Ui_AnimSettingDialog::buttonBox [inherited]

Definition at line 35 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.3 QDoubleSpinBox* Ui_AnimSettingDialog::delayBox [inherited]

Definition at line 56 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and Ui_AnimSettingDialog::setupUi().

12.4.3.4 QGridLayout* Ui_AnimSettingDialog::gridLayout [inherited]

Definition at line 34 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.5 QGridLayout* Ui_AnimSettingDialog::gridLayout_2 [inherited]

Definition at line 68 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.6 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer [inherited]

Definition at line 77 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.7 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_2 [inherited]

Definition at line 78 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.8 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_3 [inherited]

Definition at line 40 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.9 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_4 [inherited]

Definition at line 60 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.10 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_5 [inherited]

Definition at line 44 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.11 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_6 [inherited]

Definition at line 66 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.12 QWidget* Ui_AnimSettingDialog::infoTab [inherited]

Definition at line 67 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.13 QDoubleSpinBox* Ui_AnimSettingDialog::kpDelayBox [inherited]

Definition at line 53 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and Ui_AnimSettingDialog::setupUi().

12.4.3.14 QCheckBox* Ui_AnimSettingDialog::kpModeStopBox [inherited]

Definition at line 57 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.15 QCheckBox* Ui_AnimSettingDialog::kpReleaseBox [inherited]

Definition at line 61 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.16 QDoubleSpinBox* Ui_AnimSettingDialog::kpRepeatBox [inherited]

Definition at line 63 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and Ui_AnimSettingDialog::setupUi().

12.4.3.17 QLabel* Ui_AnimSettingDialog::kpRepeatLabel [inherited]

Definition at line 45 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.18 QLabel* Ui_AnimSettingDialog::kpRepeatLabel_2 [inherited]

Definition at line 50 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.19 QLabel* Ui_AnimSettingDialog::label [inherited]

Definition at line 81 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.20 QLabel* Ui_AnimSettingDialog::label_10 [inherited]

Definition at line 58 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.21 QLabel* Ui_AnimSettingDialog::label_11 [inherited]

Definition at line 71 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.22 QLabel* Ui_AnimSettingDialog::label_12 [inherited]

Definition at line 55 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.23 QLabel* Ui_AnimSettingDialog::label_13 [inherited]

Definition at line 54 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.24 QLabel* Ui_AnimSettingDialog::label_2 [inherited]

Definition at line 39 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.25 QLabel* Ui_AnimSettingDialog::label_3 [inherited]

Definition at line 76 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.26 QLabel* Ui_AnimSettingDialog::label_4 [inherited]

Definition at line 51 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.27 QLabel* Ui_AnimSettingDialog::label_5 [inherited]

Definition at line 74 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.28 QLabel* Ui_AnimSettingDialog::label_6 [inherited]

Definition at line 62 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.29 QLabel* Ui_AnimSettingDialog::label_7 [inherited]

Definition at line 70 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.30 QLabel* Ui_AnimSettingDialog::label_8 [inherited]

Definition at line 52 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.31 QLabel* Ui_AnimSettingDialog::label_9 [inherited]

Definition at line 73 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.32 QFrame* Ui_AnimSettingDialog::line [inherited]

Definition at line 49 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.33 QFrame* Ui_AnimSettingDialog::line_2 [inherited]

Definition at line 65 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.34 QDoubleSpinBox* Ui_AnimSettingDialog::repeatBox [inherited]

Definition at line 47 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and Ui_AnimSettingDialog::setupUi().

12.4.3.35 QLabel* Ui_AnimSettingDialog::repeatLabel [inherited]

Definition at line 46 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.36 QLabel* Ui_AnimSettingDialog::repeatLabel_2 [inherited]

Definition at line 48 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.37 QLabel* Ui_AnimSettingDialog::sAuthorLabel [inherited]

Definition at line 72 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.38 QLabel* Ui_AnimSettingDialog::sDescLabel [inherited]

Definition at line 83 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.39 QGridLayout* Ui_AnimSettingDialog::settingsGrid [inherited]

Definition at line 38 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and Ui_AnimSettingDialog::setupUi().

12.4.3.40 QWidget* Ui_AnimSettingDialog::settingTab [inherited]

Definition at line 37 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.41 QLabel* Ui_AnimSettingDialog::sLicenseLabel [inherited]

Definition at line 80 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.42 QLabel* Ui_AnimSettingDialog::sNameLabel [inherited]

Definition at line 69 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.43 QLabel* Ui_AnimSettingDialog::sVerLabel [inherited]

Definition at line 79 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.44 QLabel* Ui_AnimSettingDialog::sYearLabel [inherited]

Definition at line 75 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.45 QTabWidget* Ui_AnimSettingDialog::tabWidget [inherited]

Definition at line 36 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.46 QGridLayout* Ui_AnimSettingDialog::timeGrid [inherited]

Definition at line 43 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and Ui_AnimSettingDialog::setupUi().

12.4.3.47 QWidget* Ui_AnimSettingDialog::timeTab [inherited]

Definition at line 42 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::retranslateUi(), and Ui_AnimSettingDialog::setupUi().

12.4.3.48 QSpacerItem* Ui_AnimSettingDialog::verticalSpacer [inherited]

Definition at line 82 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.49 QSpacerItem* Ui_AnimSettingDialog::verticalSpacer_2 [inherited]

Definition at line 64 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

12.4.3.50 QSpacerItem* Ui_AnimSettingDialog::verticalSpacer_3 [inherited]

Definition at line 59 of file ui_animsettingdialog.h.

Referenced by Ui_AnimSettingDialog::setupUi().

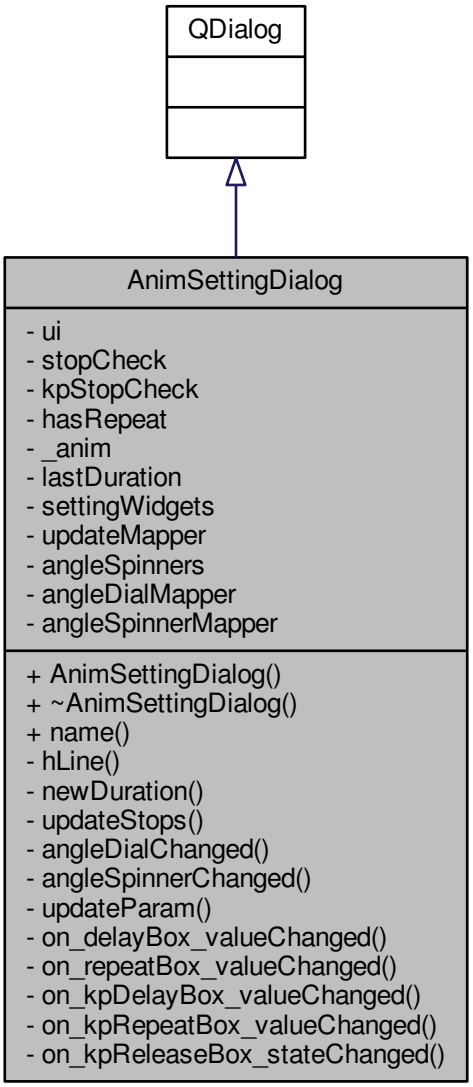
The documentation for this class was generated from the following file:

- src/ckb/ui_animsettingdialog.h

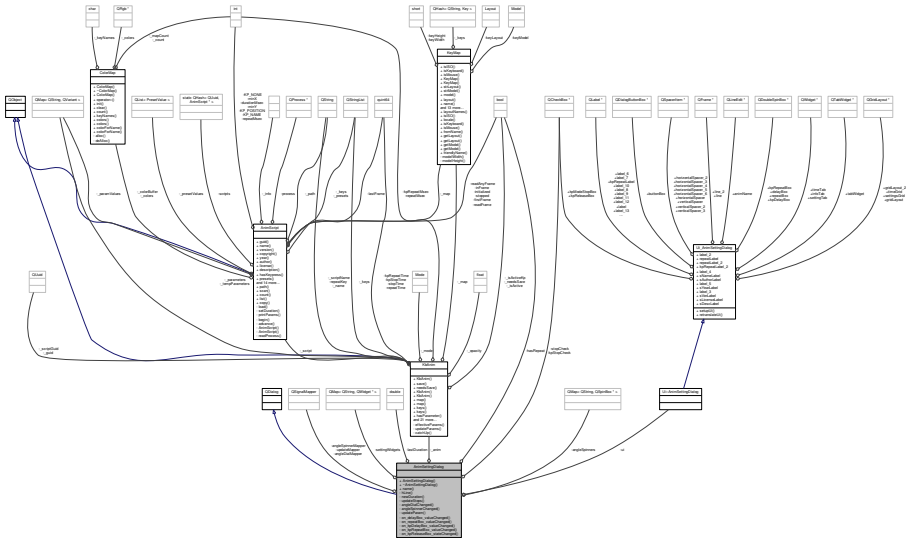
12.5 AnimSettingDialog Class Reference

`#include <src/ckb/animsettingdialog.h>`

Inheritance diagram for AnimSettingDialog:



Collaboration diagram for AnimSettingDialog:



Public Member Functions

- AnimSettingDialog (QWidget ∗parent, KbAnim ∗anim)
- ∼AnimSettingDialog ()
- QString name () const

Private Slots

- void newDuration (double duration)
- void updateStops ()
- void angleDialChanged (QString name)
- void angleSpinnerChanged (QString name)
- void updateParam (QString name)
- void on_delayBox_valueChanged (double arg1)
- void on_repeatBox_valueChanged (double arg1)
- void on_kpDelayBox_valueChanged (double arg1)
- void on_kpRepeatBox_valueChanged (double arg1)
- void on_kpReleaseBox_stateChanged (int arg1)

Private Member Functions

- QFrame ∗ hLine ()

Private Attributes

- Ui::AnimSettingDialog ∗ ui
- QCheckBox ∗ stopCheck
- QCheckBox ∗ kpStopCheck
- bool hasRepeat
- KbAnim ∗ _anim
- double lastDuration
- QMap< QString, QWidget ∗ > settingWidgets

- QSignalMapper updateMapper
- QMap< QString, QSpinBox * > angleSpinners
- QSignalMapper angleDialMapper
- QSignalMapper angleSpinnerMapper

12.5.1 Detailed Description

Definition at line 15 of file animsettingdialog.h.

12.5.2 Constructor & Destructor Documentation

12.5.2.1 AnimSettingDialog::AnimSettingDialog (QWidget * *parent*, KbAnim * *anim*) [explicit]

Definition at line 19 of file animsettingdialog.cpp.

References AnimScript::Param::AGRADIENT, AnimScript::Param::ANGLE, angleDialChanged(), angleDialMapper, angleFlip(), angleSpinnerChanged(), angleSpinnerMapper, angleSpinners, Ui_AnimSettingDialog::animName, AnimScript::Param::ARGB, AnimScript::author(), AnimScript::Param::BOOL, Ui_AnimSettingDialog::delayBox, AnimScript::description(), AnimScript::Param::DOUBLE, AnimScript::Param::GRADIENT, AnimScript::hasKeypress(), AnimScript::hasParam(), KbAnim::hasParameter(), hasRepeat, hLine(), Ui_AnimSettingDialog::kpDelayBox, Ui_AnimSettingDialog::kpModeStopBox, Ui_AnimSettingDialog::kpReleaseBox, Ui_AnimSettingDialog::kpRepeatBox, Ui_AnimSettingDialog::kpRepeatLabel, Ui_AnimSettingDialog::kpRepeatLabel_2, kpStopCheck, AnimScript::Param::LABEL, lastDuration, AnimScript::license(), AnimScript::Param::LONG, AnimScript::Param::maximum, AnimScript::Param::minimum, AnimScript::Param::name, AnimScript::name(), KbAnim::name(), newDuration(), KbAnim::parameter(), AnimScript::paramIterator(), AnimScript::Param::postfix, AnimScript::Param::prefix, Ui_AnimSettingDialog::repeatBox, Ui_AnimSettingDialog::repeatLabel, Ui_AnimSettingDialog::repeatLabel_2, AnimScript::Param::RGB, Ui_AnimSettingDialog::sAuthorLabel, KbAnim::script(), KbAnim::scriptName(), Ui_AnimSettingDialog::sDescLabel, Ui_AnimSettingDialog::settingsGrid, settingWidgets, Ui_AnimSettingDialog::setupUi(), Ui_AnimSettingDialog::sLicenseLabel, Ui_AnimSettingDialog::sNameLabel, stopCheck, AnimScript::Param::STRING, Ui_AnimSettingDialog::sVerLabel, Ui_AnimSettingDialog::sYearLabel, Ui_AnimSettingDialog::timeGrid, AnimScript::Param::type, ui, updateMapper, updateParam(), updateStops(), AnimScript::version(), and AnimScript::year().

```
19                                                                  :
20     QDialog(parent),
21     ui(new Ui::AnimSettingDialog), stopCheck(0),
       kpStopCheck(0),
22     _anim(anim), lastDuration(1.0)
23 {
24     ui->setupUi(this);
25     setWindowTitle(anim->scriptName() + " Animation");
26     ui->animName->setText(anim->name());
27     const AnimScript* script = anim->script();
28
29     connect(&updateMapper, SIGNAL(mapped(QString)), this, SLOT(
       updateParam(QString)));
30     connect(&angleDialMapper, SIGNAL(mapped(QString)), this, SLOT(
       angleDialChanged(QString)));
31     connect(&angleSpinnerMapper, SIGNAL(mapped(QString)), this, SLOT(
       angleSpinnerChanged(QString)));
32
33     // Build settings UI
34     int row = 1;
35     ui->settingsGrid->addItem(new QSpacerItem(0, 10, QSizePolicy::Fixed, QSizePolicy::Fixed),
       row++, 6);
36     ui->settingsGrid->addWidget(new QLabel("<b>Animation</b>", this), row++, 0, 1, 7);
37     ui->settingsGrid->addWidget(hLine(), row++, 0, 1, 7);
38     bool rSpacePlaced = false;
39     QListIterator<AnimScript::Param> i(script->paramIterator());
40     while(i.hasNext()){
41         const AnimScript::Param& param = i.next();
42         // Skip timing/playback params
43         if(param.name == "duration"
44                 || param.name == "trigger" || param.name == "kptrigger"
45                 || param.name == "kpmode"
46                 || param.name == "delay" || param.name == "kpdelay"
47                 || param.name == "repeat" || param.name == "kprepeat"
48                 || param.name == "stop" || param.name == "kpstop"
```

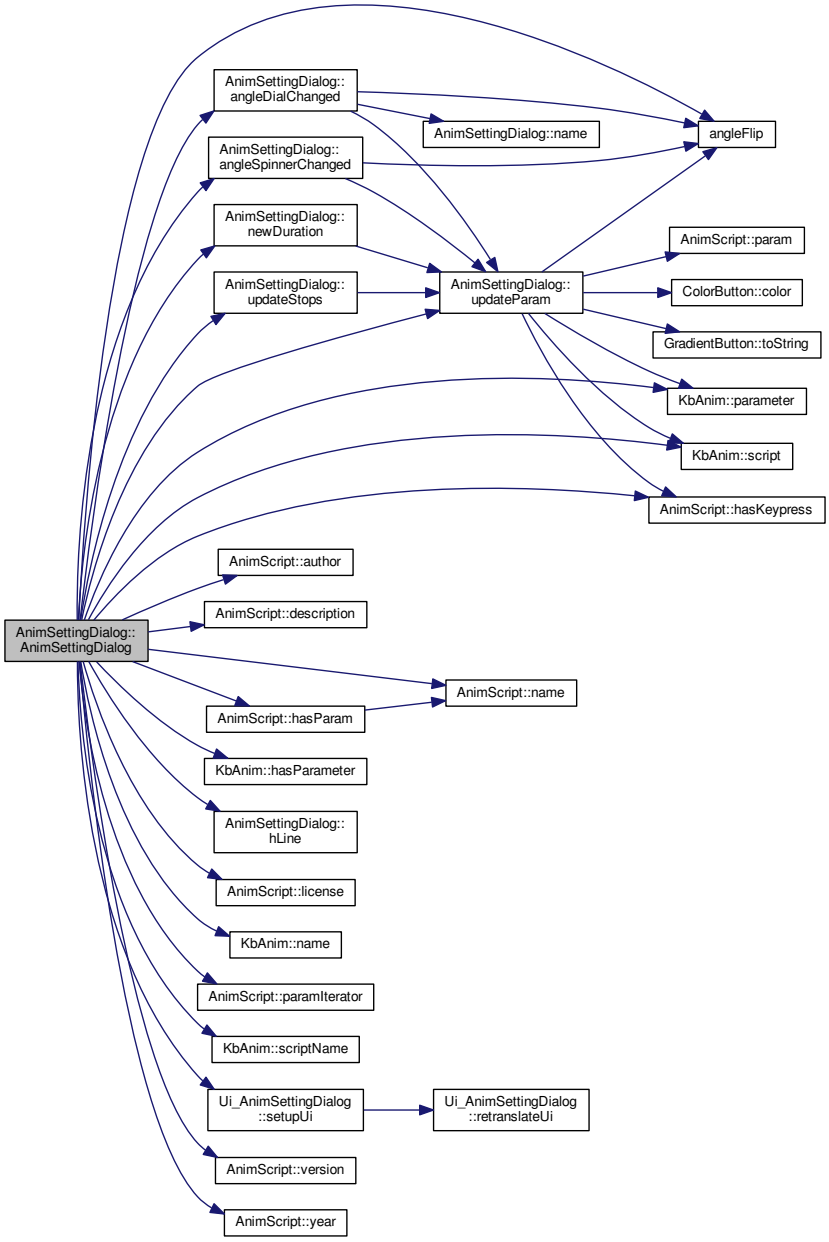
```
49                  || param.name == "kpmodestop" || param.name == "kprelease")
50              continue;
51          QVariant value = anim->parameter(param.name);
52          // Display prefix label on the left (except for booleans and labels)
53          if(param.type != AnimScript::Param::BOOL && param.
    type != AnimScript::Param::LABEL)
54              ui->settingsGrid->addWidget(new QLabel(param.prefix, this), row, 1);
55          // Configure and display main widget
56          QWidget* widget = 0;
57          int colSpan = 1;
58          QString postfix = param.postfix;
59          switch(param.type){
60          case AnimScript::Param::BOOL:
61              widget = new QCheckBox(param.prefix, this);
62              ((QCheckBox*)widget)->setChecked(value.toBool());
63              colSpan = 4;
64              connect(widget, SIGNAL(stateChanged(int)), &updateMapper, SLOT(map()));
65              break;
66          case AnimScript::Param::LONG:
67              widget = new QSpinBox(this);
68              ((QSpinBox*)widget)->setMinimum(param.minimum.toInt());
69              ((QSpinBox*)widget)->setMaximum(param.maximum.toInt());
70              ((QSpinBox*)widget)->setValue(value.toInt());
71              if(postfix.length() <= 3){
72                  ((QSpinBox*)widget)->setSuffix(postfix);
73                  postfix = "";
74              }
75              connect(widget, SIGNAL(valueChanged(int)), &updateMapper, SLOT(map()));
76              break;
77          case AnimScript::Param::DOUBLE:
78              widget = new QDoubleSpinBox(this);
79              ((QDoubleSpinBox*)widget)->setDecimals(1);
80              ((QDoubleSpinBox*)widget)->setMinimum(param.minimum.toDouble());
81              ((QDoubleSpinBox*)widget)->setMaximum(param.maximum.toDouble());
82              ((QDoubleSpinBox*)widget)->setValue(value.toDouble());
83              if(postfix.length() <= 3){
84                  ((QDoubleSpinBox*)widget)->setSuffix(postfix);
85                  postfix = "";
86              }
87              connect(widget, SIGNAL(valueChanged(double)), &updateMapper, SLOT(map()));
88              break;
89          case AnimScript::Param::RGB:
90              widget = new ColorButton(this);
91              ((ColorButton*)widget)->color(QColor("#" + value.toString()));
92              colSpan = 3;
93              connect(widget, SIGNAL(colorChanged(QColor)), &updateMapper, SLOT(map()));
94              break;
95          case AnimScript::Param::ARGB:{
96              widget = new ColorButton(this, true);
97              QString val = value.toString();
98              QColor color;
99              if(val.length() == 8){
100                 color = "#" + val.right(6);
101                 color.setAlpha(val.left(2).toInt(0, 16));
102             } else
103                 color = "#" + val;
104             ((ColorButton*)widget)->color(color);
105             colSpan = 3;
106             connect(widget, SIGNAL(colorChanged(QColor)), &updateMapper, SLOT(map()));
107             break;
108         }
109         case AnimScript::Param::GRADIENT:
110             widget = new GradientButton(this);
111             ((GradientButton*)widget)->fromString(value.toString());
112             colSpan = 3;
113             connect(widget, SIGNAL(gradientChanged()), &updateMapper, SLOT(map()));
114             break;
115         case AnimScript::Param::AGRADIENT:
116             widget = new GradientButton(this, true);
117             ((GradientButton*)widget)->fromString(value.toString());
118             colSpan = 3;
119             connect(widget, SIGNAL(gradientChanged()), &updateMapper, SLOT(map()));
120             break;
121         case AnimScript::Param::ANGLE:
122             widget = new QDial(this);
123             ((QDial*)widget)->setFixedSize(60, 60);
124             ((QDial*)widget)->setMinimum(0);
125             ((QDial*)widget)->setMaximum(360);
126             // this is NOT a typo...     ^
127             // Even though 360 shouldn't be valid, the wheel/arrow keys will lose 1 degree at the bottom
    unless 360 is set as max
128             ((QDial*)widget)->setSingleStep(5);
129             ((QDial*)widget)->setPageStep(15);
130             ((QDial*)widget)->setNotchTarget(6);
131             ((QDial*)widget)->setNotchesVisible(true);
132             ((QDial*)widget)->setWrapping(true);
133             ((QDial*)widget)->setInvertedAppearance(true);
```

```
134             ((QDial*)widget)->setValue(angleFlip(value.toInt()));
135             angleDialMapper.setMapping(widget, param.name);
136             connect(widget, SIGNAL(valueChanged(int)), &angleDialMapper, SLOT(map()));
137             break;
138         case AnimScript::Param::STRING:
139             widget = new QLineEdit(this);
140             ((QLineEdit*)widget)->setText(value.toString());
141             colSpan = 3;
142             connect(widget, SIGNAL(textEdited(const QString&)), &updateMapper, SLOT(map()));
143             break;
144         case AnimScript::Param::LABEL:
145             widget = new QLabel(this);
146             ((QLabel*)widget)->setText(param.prefix);
147             colSpan = 4;
148             break;
149         default:
150             break;
151         }
152         if(widget)
153             updateMapper.setMapping(widget, param.name);
154         if(param.type == AnimScript::Param::BOOL || param.
    type == AnimScript::Param::LABEL){
155             // Boolean values are placed on the left with no prefix or postfix
156             settingWidgets[param.name] = widget;
157             ui->settingsGrid->addWidget(widget, row, 3, 1, colSpan);
158         } else {
159             // Display the widget
160             if(widget){
161                 settingWidgets[param.name] = widget;
162                 ui->settingsGrid->addWidget(widget, row, 3, 1, colSpan);
163             }
164             // Angles additionally have a spin box
165             if(param.type == AnimScript::Param::ANGLE){
166                 QSpinBox* spinner = new QSpinBox(this);
167                 spinner->setMinimum(0);
168                 spinner->setMaximum(359);
169                 spinner->setWrapping(true);
170                 spinner->setSuffix("°");
171                 spinner->setValue(value.toInt());
172                 angleSpinners[param.name] = spinner;
173                 angleSpinnerMapper.setMapping(spinner, param.
    name);
174                 connect(spinner, SIGNAL(valueChanged(int)), &angleSpinnerMapper, SLOT(map
    ()));
175                 ui->settingsGrid->addWidget(spinner, row, 4);
176                 colSpan = 2;
177             }
178             // Display postfix label on the right
179             ui->settingsGrid->addWidget(new QLabel(postfix, this), row, 3 + colSpan, 1, 4 -
    colSpan);
180             if(colSpan < 3 && !rSpacePlaced){
181                 // Add a spacer to compress short elements to the left
182                 ui->settingsGrid->addItem(new QSpacerItem(0, 0, QSizePolicy::Minimum), row, 4
     + colSpan);
183                 rSpacePlaced = true;
184             }
185         }
186         row++;
187     }
188     // Add playback info at bottom
189     ui->settingsGrid->addItem(new QSpacerItem(0, 10, QSizePolicy::Fixed, QSizePolicy::Fixed),
     row++, 6);
190     ui->settingsGrid->addWidget(new QLabel("<b>Playback</b>", this), row++, 0, 1, 7);
191     ui->settingsGrid->addWidget(hLine(), row++, 0, 1, 7);
192     if(script->hasParam("duration")){
193         // Show duration spinner (if allowed)
194         lastDuration = anim->parameter("duration").toDouble();
195         ui->settingsGrid->addWidget(new QLabel("Duration:", this), row, 1);
196         QDoubleSpinBox* spinner = new QDoubleSpinBox(this);
197         spinner->setDecimals(1);
198         spinner->setMinimum(0.1);
199         spinner->setValue(lastDuration);
200         connect(spinner, SIGNAL(valueChanged(double)), this, SLOT(newDuration(double)));
201         settingWidgets["duration"] = spinner;
202         ui->settingsGrid->addWidget(spinner, row, 3, 1, 1);
203         ui->settingsGrid->addWidget(new QLabel("seconds", this), row, 4, 1, 2);
204         row++;
205     }
206     // Show boxes for start with mode/with keypress
207     QCheckBox* check = new QCheckBox("Start with mode", this);
208     check->setChecked(anim->parameter("trigger").toBool());
209     ui->settingsGrid->addWidget(check, row, 3, 1, 4);
210     settingWidgets["trigger"] = check;
211     connect(check, SIGNAL(stateChanged(int)), &updateMapper, SLOT(map()));
212     updateMapper.setMapping(check, "trigger");
213     row++;
214     check = new QCheckBox("Start with key press", this);
```

```
215     check->setChecked(anim->parameter("kptrigger").toBool());
216     ui->settingsGrid->addWidget(check, row, 3, 1, 2);
217     settingWidgets["kptrigger"] = check;
218     connect(check, SIGNAL(stateChanged(int)), &updateMapper, SLOT(map()));
219     updateMapper.setMapping(check, "kptrigger");
220     // Add an option allowing the user to select keypress mode
221     QComboBox* combo = new QComboBox(this);
222     int selected = anim->parameter("kpmode").toInt();
223     if(script->hasKeypress()){
224         // If the script supports keypresses, show the option to handle them that way (default)
225         combo->addItem("on pressed key");
226         combo->addItem("on whole keyboard");
227         combo->addItem("on keyboard (once)");
228     } else {
229         selected--;
230         // Otherwise, just show the choice of whether to start it every time or just once
231         combo->addItem("every time");
232         combo->addItem("only once");
233     }
234     if(selected < 0 || selected > combo->count())
235         selected = 0;
236     combo->setCurrentIndex(selected);
237     ui->settingsGrid->addWidget(combo, row, 5, 1, 2);
238     settingWidgets["kpmode"] = combo;
239     connect(combo, SIGNAL(activated(int)), &updateMapper, SLOT(map()));
240     updateMapper.setMapping(combo, "kpmode");
241     row++;
242
243     // Add horizontal spacer to compress content to left
244     ui->settingsGrid->addItem(new QSpacerItem(0, 0, QSizePolicy::Expanding), 0, 6);
245     // Add vertical spacer to compress content to top
246     ui->settingsGrid->addItem(new QSpacerItem(0, 0, QSizePolicy::Minimum,
    QSizePolicy::Expanding), row, 0);
247
248     // Add timing fields
249     settingWidgets["delay"] = ui->delayBox;
250     ui->delayBox->setValue(anim->parameter("delay").toDouble());
251     settingWidgets["kpdelay"] = ui->kpDelayBox;
252     ui->kpDelayBox->setValue(anim->parameter("kpdelay").toDouble());
253     settingWidgets["kpmodestop"] = ui->kpModeStopBox;
254     ui->kpModeStopBox->setChecked(anim->parameter("kpmodestop").toBool());
255     connect(ui->kpModeStopBox, SIGNAL(clicked(bool)), &
    updateMapper, SLOT(map()));
256     updateMapper.setMapping(ui->kpModeStopBox, "kpmodestop");
257     settingWidgets["kprelease"] = ui->kpReleaseBox;
258     ui->kpReleaseBox->setChecked(anim->parameter("kprelease").toBool());
259     if(anim->hasParameter("repeat")){
260         hasRepeat = true;
261         settingWidgets["repeat"] = ui->repeatBox;
262         ui->repeatBox->setValue(anim->parameter("repeat").toDouble());
263         settingWidgets["kprepeat"] = ui->kpRepeatBox;
264         ui->kpRepeatBox->setValue(anim->parameter("kprepeat").toDouble());
265         // If repeat is enabled, add repeat counts as integer values
266         // Mode repeat
267         ui->timeGrid->addWidget(new QLabel("Repeat:", this), 4, 1);
268         QSpinBox* spinner = new QSpinBox(this);
269         spinner->setMinimum(0);
270         spinner->setMaximum(1000000);
271         spinner->setValue(anim->parameter("stop").toInt());
272         settingWidgets["stop"] = spinner;
273         connect(spinner, SIGNAL(valueChanged(int)), &updateMapper, SLOT(map()));
274         updateMapper.setMapping(spinner, "stop");
275         ui->timeGrid->addWidget(spinner, 4, 3);
276         ui->timeGrid->addWidget(new QLabel("times", this), 4, 4);
277         // KP repeat
278         ui->timeGrid->addWidget(new QLabel("Repeat:", this), 12, 1);
279         spinner = new QSpinBox(this);
280         spinner->setMinimum(0);
281         spinner->setMaximum(1000000);
282         spinner->setValue(anim->parameter("kpstop").toInt());
283         settingWidgets["kpstop"] = spinner;
284         connect(spinner, SIGNAL(valueChanged(int)), &updateMapper, SLOT(map()));
285         updateMapper.setMapping(spinner, "kpstop");
286         ui->timeGrid->addWidget(spinner, 12, 3);
287         ui->timeGrid->addWidget(new QLabel("times", this), 12, 4);
288         // Infinite repeat toggles
289         stopCheck = new QCheckBox("Forever", this);
290         stopCheck->setChecked(anim->parameter("stop").toInt() < 0);
291         ui->timeGrid->addWidget(stopCheck, 4, 5);
292         kpStopCheck = new QCheckBox("Forever", this);
293         connect(stopCheck, SIGNAL(clicked()), this, SLOT(updateStops()));
294         kpStopCheck->setChecked(anim->parameter("kpstop").toInt() < 0);
295         ui->timeGrid->addWidget(kpStopCheck, 12, 5);
296         connect(kpStopCheck, SIGNAL(clicked()), this, SLOT(
    updateStops()));
297     } else {
298         hasRepeat = false;
```

```
299         // If repeat is not enabled, hide repeat-related fields
300         ui->repeatBox->setHidden(true);
301         ui->repeatLabel->setHidden(true);
302         ui->repeatLabel_2->setHidden(true);
303         ui->kpRepeatBox->setHidden(true);
304         ui->kpRepeatLabel->setHidden(true);
305         ui->kpRepeatLabel_2->setHidden(true);
306         // Add stop times as double values
307         // Stop time
308         QDoubleSpinBox* spinner = new QDoubleSpinBox(this);
309         spinner->setDecimals(1);
310         spinner->setMinimum(0.1);
311         spinner->setMaximum(24. * 60. * 60.);
312         double stop = anim->parameter("stop").toDouble();
313         if(stop <= 0.)
314             spinner->setValue(lastDuration);
315         else
316             spinner->setValue(stop);
317         settingWidgets["stop"] = spinner;
318         connect(spinner, SIGNAL(valueChanged(double)), &updateMapper, SLOT(map()));
319         updateMapper.setMapping(spinner, "stop");
320         ui->timeGrid->addWidget(spinner, 4, 3);
321         ui->timeGrid->addWidget(new QLabel("seconds", this), 4, 4);
322         // KP stop time
323         spinner = new QDoubleSpinBox(this);
324         spinner->setDecimals(1);
325         spinner->setMinimum(0.1);
326         spinner->setMaximum(24. * 60. * 60.);
327         double kpstop = anim->parameter("kpstop").toDouble();
328         if(kpstop <= 0.)
329             spinner->setValue(lastDuration);
330         else
331             spinner->setValue(kpstop);
332         settingWidgets["kpstop"] = spinner;
333         connect(spinner, SIGNAL(valueChanged(double)), &updateMapper, SLOT(map()));
334         updateMapper.setMapping(spinner, "kpstop");
335         ui->timeGrid->addWidget(spinner, 12, 3);
336         ui->timeGrid->addWidget(new QLabel("seconds", this), 12, 4);
337         // Infinite run toggles
338         stopCheck = new QCheckBox("Stop after:", this);
339         stopCheck->setChecked(stop > 0.);
340         ui->timeGrid->addWidget(stopCheck, 4, 1);
341         connect(stopCheck, SIGNAL(clicked()), this, SLOT(updateStops()));
342         kpStopCheck = new QCheckBox("Stop after:", this);
343         kpStopCheck->setChecked(kpstop > 0.);
344         ui->timeGrid->addWidget(kpStopCheck, 12, 1);
345         connect(kpStopCheck, SIGNAL(clicked()), this, SLOT(
    updateStops()));
346     }
347     updateStops();
348
349     // Set script info UI
350     ui->sNameLabel->setText(script->name());
351     ui->sVerLabel->setText(script->version());
352     ui->sAuthorLabel->setText(script->author());
353     ui->sYearLabel->setText(script->year());
354     ui->sLicenseLabel->setText(script->license());
355     ui->sDescLabel->setText(script->description());
356
357     // Lock dialog size
358     setFixedSize(minimumSize());
359 }
```

Here is the call graph for this function:



12.5.2.2 AnimSettingDialog::~AnimSettingDialog ( )

Definition at line 476 of file animsettingdialog.cpp.

References ui.

```
476                                        {
477     delete ui;
478 }
```

12.5.3 Member Function Documentation

12.5.3.1 void AnimSettingDialog::angleDialChanged (QString *name*) [private], [slot]

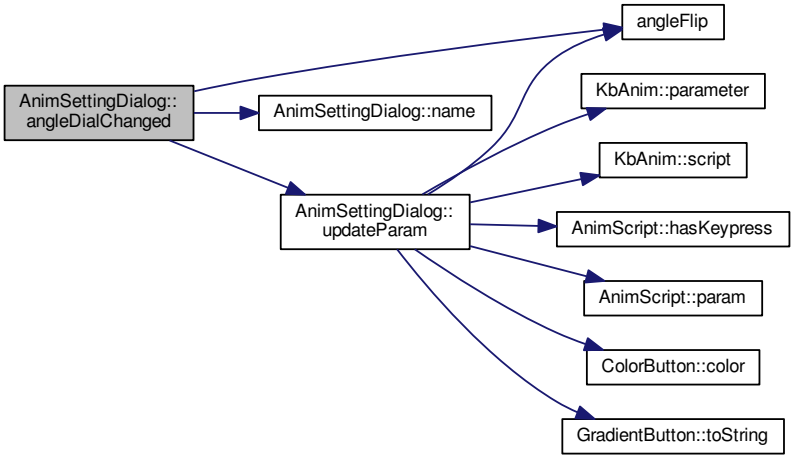
Definition at line 389 of file animsettingdialog.cpp.

References angleFlip(), angleSpinners, name(), settingWidgets, and updateParam().

Referenced by AnimSettingDialog().

```
389                                                 {
390     // Dial changed; update spinner value
391     angleSpinners[name]->setValue(angleFlip(((QDial*)
      settingWidgets[name])->value()));
392     updateParam(name);
393 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.5.3.2 void AnimSettingDialog::angleSpinnerChanged (QString *name*) [private], [slot]

Definition at line 395 of file animsettingdialog.cpp.

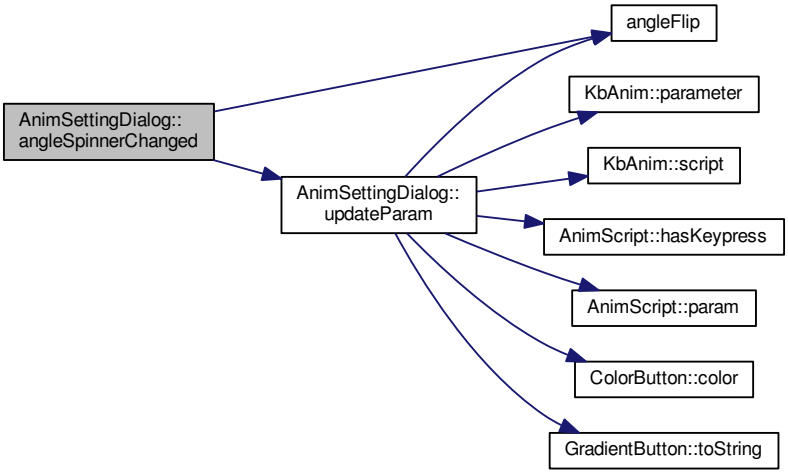
References angleFlip(), angleSpinners, settingWidgets, and updateParam().

Referenced by AnimSettingDialog().

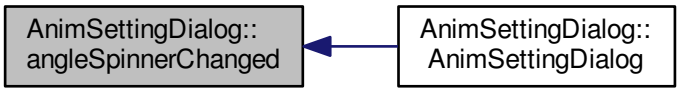
```
395                                                 {
```

```
396     // Spinner changed; update dial value
397     ((QDial*)settingWidgets[name])->setValue(angleFlip(
      angleSpinners[name]->value()));
398     updateParam(name);
399 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.5.3.3 QFrame * AnimSettingDialog::hLine ( ) [private]

Definition at line 480 of file animsettingdialog.cpp.

References frame.

Referenced by AnimSettingDialog().

```
480                                 {
481     QFrame* frame = new QFrame(this);
482     frame->setFrameShape(QFrame::HLine);
483     frame->setFrameShadow(QFrame::Sunken);
484     return frame;
485 }
```

Here is the caller graph for this function:

12.5.3.4 QString AnimSettingDialog::name ( ) const

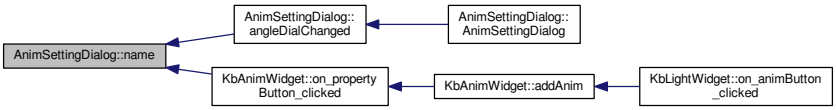
Definition at line 472 of file animsettingdialog.cpp.

References Ui_AnimSettingDialog::animName, and ui.

Referenced by angleDialChanged(), and KbAnimWidget::on_propertyButton_clicked().

```
472                                         {
473     return ui->animName->text();
474 }
```

Here is the caller graph for this function:



12.5.3.5 void AnimSettingDialog::newDuration (double *duration*) [private], [slot]

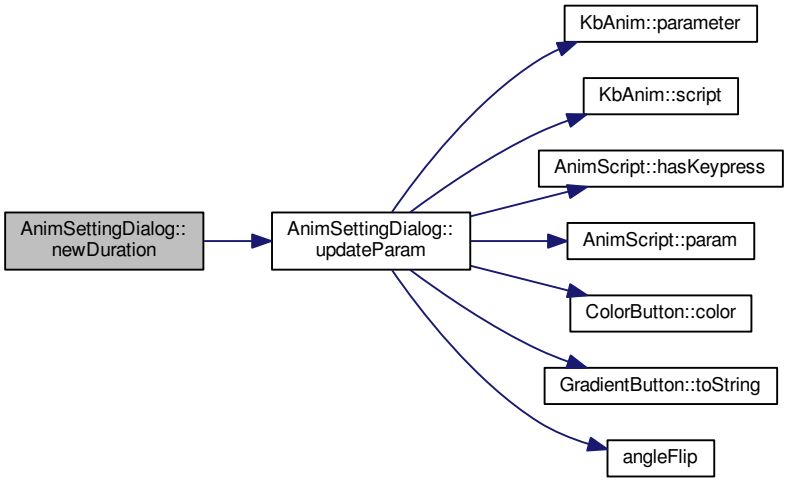
Definition at line 361 of file animsettingdialog.cpp.

References lastDuration, settingWidgets, and updateParam().

Referenced by AnimSettingDialog().

```
361                                                 {
362     // Duration changed. Automatically fix Repeat and KP Repeat to the same values, if they matched before
363     QDoubleSpinBox* rep = (QDoubleSpinBox*)settingWidgets.value("repeat");
364     QDoubleSpinBox* kpRep = (QDoubleSpinBox*)settingWidgets.value("kprepeat");
365     if(rep && rep->value() == lastDuration)
366         rep->setValue(duration);
367     if(kpRep && kpRep->value() == lastDuration)
368         kpRep->setValue(duration);
369     lastDuration = duration;
370     updateParam("duration");
371     updateParam("repeat");
372     updateParam("kprepeat");
373 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

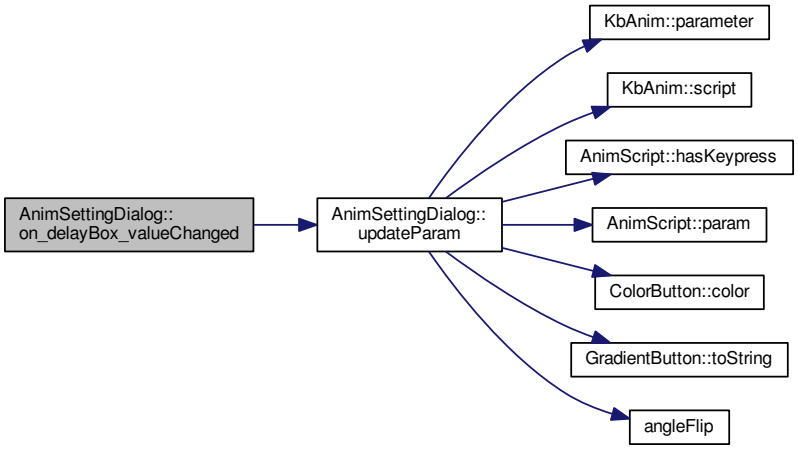
12.5.3.6 void AnimSettingDialog::on_delayBox_valueChanged (double *arg1*) [private], [slot]

Definition at line 487 of file animsettingdialog.cpp.

References updateParam().

```
487                                                    {
488     updateParam("delay");
489 }
```

Here is the call graph for this function:



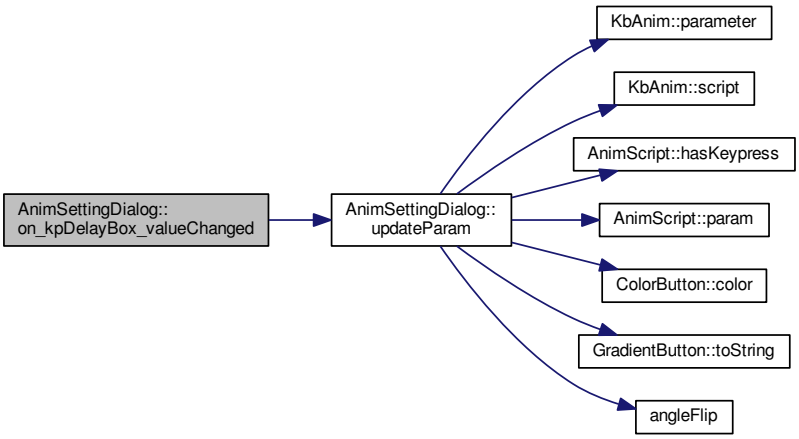
12.5.3.7 void AnimSettingDialog::on_kpDelayBox_valueChanged (double *arg1*) [private], [slot]

Definition at line 495 of file animsettingdialog.cpp.

References updateParam().

```
495                                                    {
496     updateParam("kpdelay");
497 }
```

Here is the call graph for this function:



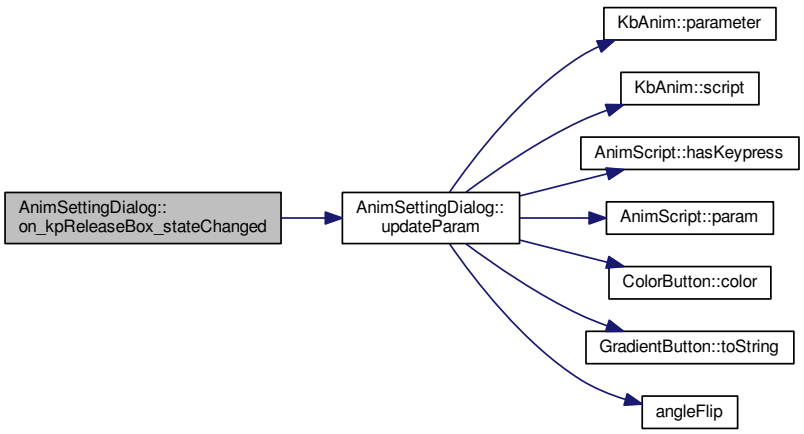
12.5.3.8 void AnimSettingDialog::on_kpReleaseBox_stateChanged (int *arg1*) [private], [slot]

Definition at line 503 of file animsettingdialog.cpp.

References updateParam().

```
503                                                     {
504     updateParam("kprelease");
505 }
```

Here is the call graph for this function:



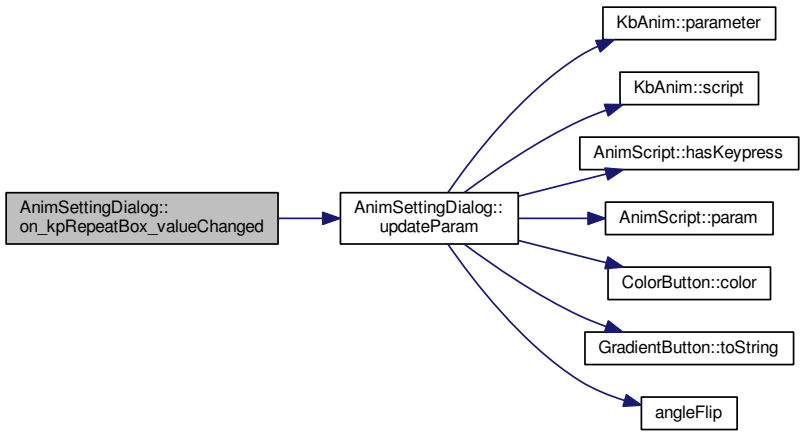
12.5.3.9 void AnimSettingDialog::on_kpRepeatBox_valueChanged (double *arg1*) [private], [slot]

Definition at line 499 of file animsettingdialog.cpp.

References updateParam().

```
499                                                     {
500     updateParam("kprepeat");
501 }
```

Here is the call graph for this function:



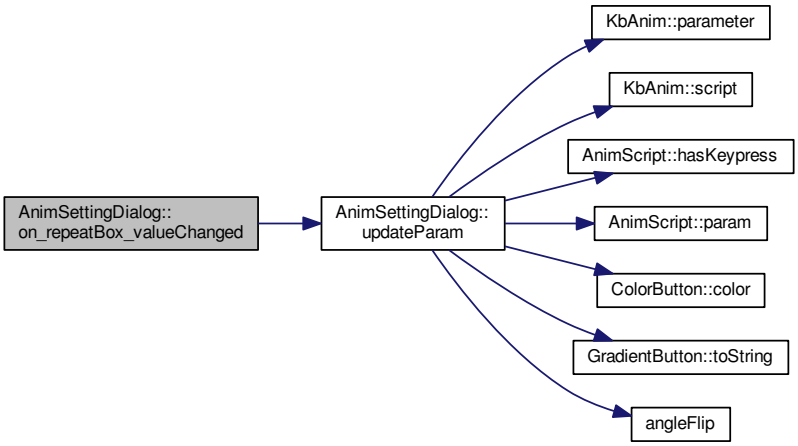
12.5.3.10 void AnimSettingDialog::on_repeatBox_valueChanged (double *arg1*) [private], [slot]

Definition at line 491 of file animsettingdialog.cpp.

References updateParam().

```
491                                                          {
492     updateParam("repeat");
493 }
```

Here is the call graph for this function:



12.5.3.11 void AnimSettingDialog::updateParam (QString *name*) [private], [slot]

Definition at line 401 of file animsettingdialog.cpp.

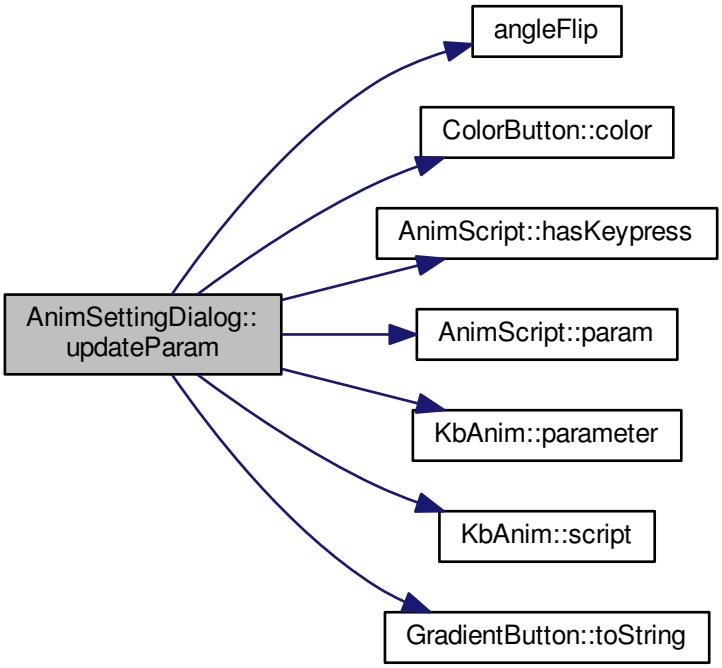
References _anim, AnimScript::Param::AGRADIENT, AnimScript::Param::ANGLE, angleFlip(), AnimScript::Param::ARGB, AnimScript::Param::BOOL, ColorButton::color(), AnimScript::Param::DOUBLE, AnimScript::Param::GRADIENT, AnimScript::hasKeypress(), hasRepeat, kpStopCheck, AnimScript::Param::LONG, AnimScript::param(), KbAnim::parameter(), AnimScript::Param::RGB, KbAnim::script(), settingWidgets, stopCheck, AnimScript::Param::STRING, GradientButton::toString(), and AnimScript::Param::type.

Referenced by angleDialChanged(), angleSpinnerChanged(), AnimSettingDialog(), newDuration(), on_delayBox_valueChanged(), on_kpDelayBox_valueChanged(), on_kpReleaseBox_stateChanged(), on_kpRepeatBox_valueChanged(), on_repeatBox_valueChanged(), and updateStops().

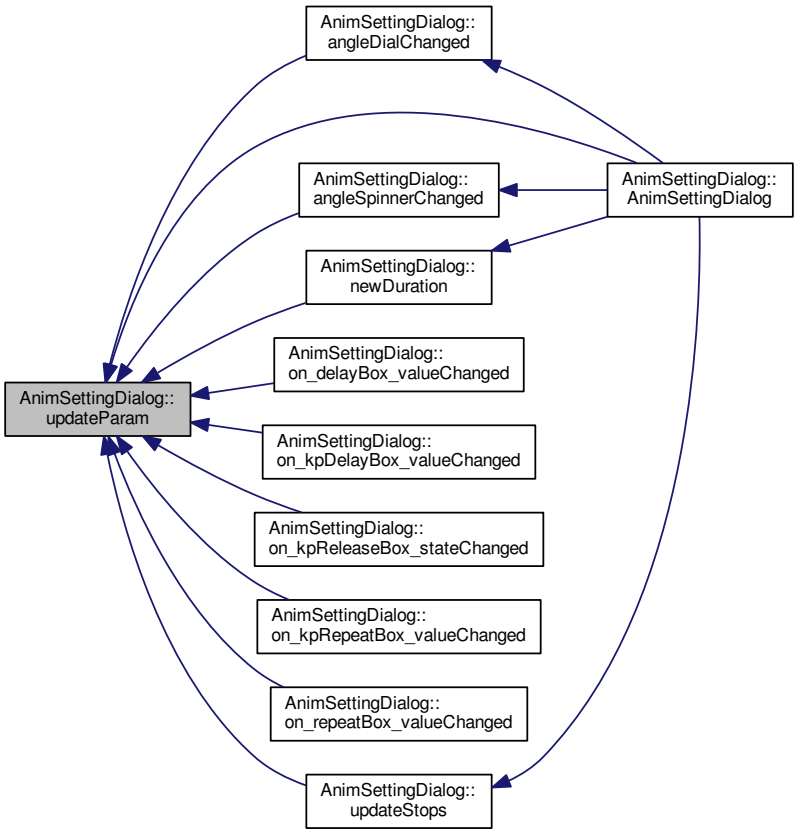
```
401                                                  {
402     if(!settingWidgets.contains(name))
403         return;
404     // stop and kpstop have defeat switches
405     if((name == "stop" && stopCheck->isChecked() == hasRepeat)
406             || (name == "kpstop" && kpStopCheck->isChecked() ==
    hasRepeat)){
407         _anim->parameter(name, -1);
408         return;
409     } else if(name == "kpmode"){
410         // kpmode uses a drop-down, and selection is inverted
411         QComboBox* widget = (QComboBox*)settingWidgets[name];
412         int selected = widget->currentIndex();
413         if(!_anim->script()->hasKeypress())
414             selected++;
415         _anim->parameter(name, selected);
416         return;
417     }
418     // Read value based on type
```

```
419     switch(_anim->script()->param(name).type){
420     case AnimScript::Param::BOOL:{
421         QCheckBox* widget = (QCheckBox*)settingWidgets[name];
422         _anim->parameter(name, (int)widget->isChecked());
423         break;
424     }
425     case AnimScript::Param::LONG:{
426         QSpinBox* widget = (QSpinBox*)settingWidgets[name];
427         _anim->parameter(name, widget->value());
428         break;
429     }
430     case AnimScript::Param::DOUBLE:{
431         QDoubleSpinBox* widget = (QDoubleSpinBox*)settingWidgets[
    name];
432         _anim->parameter(name, widget->value());
433         break;
434     }
435     case AnimScript::Param::RGB:{
436         ColorButton* widget = (ColorButton*)settingWidgets[
    name];
437         QColor color = widget->color();
438         char hex[7];
439         snprintf(hex, sizeof(hex), "%02x%02x%02x", color.red(), color.green(), color.blue());
440         _anim->parameter(name, QString(hex));
441         break;
442     }
443     case AnimScript::Param::ARGB:{
444         ColorButton* widget = (ColorButton*)settingWidgets[
    name];
445         QColor color = widget->color();
446         char hex[9];
447         snprintf(hex, sizeof(hex), "%02x%02x%02x%02x", color.alpha(), color.red(), color.green(), color.
    blue());
448         _anim->parameter(name, QString(hex));
449         break;
450     }
451     case AnimScript::Param::GRADIENT:
452     case AnimScript::Param::AGRADIENT:{
453         GradientButton* widget = (GradientButton*)
    settingWidgets[name];
454         _anim->parameter(name, widget->toString());
455         break;
456     }
457     case AnimScript::Param::ANGLE:{
458         QDial* widget = (QDial*)settingWidgets[name];
459         _anim->parameter(name, angleFlip(widget->value()));
460         break;
461     }
462     case AnimScript::Param::STRING:{
463         QLineEdit* widget = (QLineEdit*)settingWidgets[name];
464         _anim->parameter(name, widget->text());
465         break;
466     }
467     default:
468         break;
469     }
470 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.5.3.12 void AnimSettingDialog::updateStops ( ) [private], [slot]

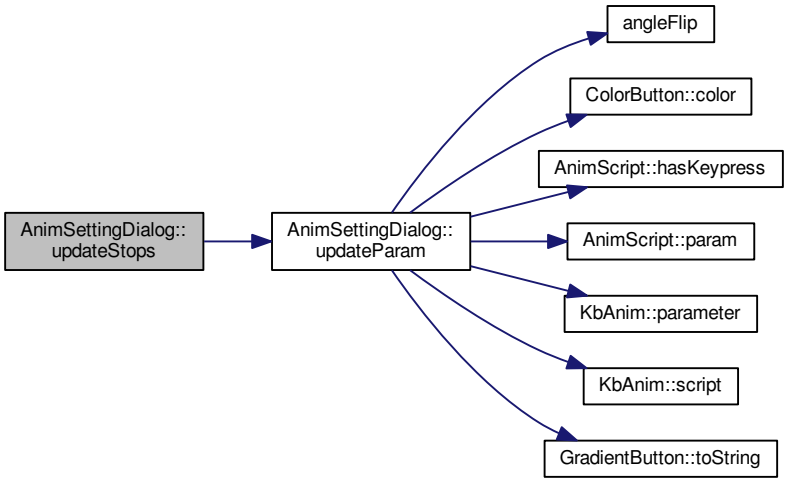
Definition at line 375 of file animsettingdialog.cpp.

References hasRepeat, kpStopCheck, settingWidgets, stopCheck, and updateParam().

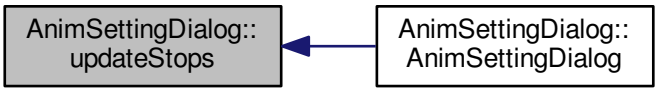
Referenced by AnimSettingDialog().

```
375                                  {
376     if(hasRepeat){
377         // When repeat is enabled, the check box is "repeat forever", so disable stop count if checked
378         settingWidgets.value("stop")->setDisabled(stopCheck->isChecked());
379         settingWidgets.value("kpstop")->setDisabled(kpStopCheck->isChecked());
380     } else {
381         // When repeat is disabled, the check box is "stop after", so disable stop count UNLESS checked
382         settingWidgets.value("stop")->setEnabled(stopCheck->isChecked());
383         settingWidgets.value("kpstop")->setEnabled(kpStopCheck->isChecked());
384     }
385     updateParam("stop");
386     updateParam("kpstop");
387 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.5.4 Field Documentation

12.5.4.1 KbAnim* AnimSettingDialog::_anim [private]

Definition at line 32 of file animsettingdialog.h.

Referenced by updateParam().

12.5.4.2 QSignalMapper AnimSettingDialog::angleDialMapper [private]

Definition at line 38 of file animsettingdialog.h.

Referenced by AnimSettingDialog().

12.5.4.3 QSignalMapper AnimSettingDialog::angleSpinnerMapper [private]

Definition at line 38 of file animsettingdialog.h.

Referenced by AnimSettingDialog().

12.5.4.4 QMap<QString, QSpinBox*> AnimSettingDialog::angleSpinners [private]

Definition at line 37 of file animsettingdialog.h.

Referenced by angleDialChanged(), angleSpinnerChanged(), and AnimSettingDialog().

12.5.4.5 bool AnimSettingDialog::hasRepeat [private]

Definition at line 30 of file animsettingdialog.h.

Referenced by AnimSettingDialog(), updateParam(), and updateStops().

12.5.4.6 QCheckBox * AnimSettingDialog::kpStopCheck [private]

Definition at line 29 of file animsettingdialog.h.

Referenced by AnimSettingDialog(), updateParam(), and updateStops().

12.5.4.7 double AnimSettingDialog::lastDuration [private]

Definition at line 33 of file animsettingdialog.h.

Referenced by AnimSettingDialog(), and newDuration().

12.5.4.8 QMap<QString, QWidget*> AnimSettingDialog::settingWidgets [private]

Definition at line 34 of file animsettingdialog.h.

Referenced by angleDialChanged(), angleSpinnerChanged(), AnimSettingDialog(), newDuration(), updateParam(), and updateStops().

12.5.4.9 QCheckBox* AnimSettingDialog::stopCheck [private]

Definition at line 29 of file animsettingdialog.h.

Referenced by AnimSettingDialog(), updateParam(), and updateStops().

12.5.4.10 Ui::AnimSettingDialog* AnimSettingDialog::ui [private]

Definition at line 28 of file animsettingdialog.h.

Referenced by AnimSettingDialog(), name(), and ~AnimSettingDialog().

12.5.4.11 QSignalMapper AnimSettingDialog::updateMapper [private]

Definition at line 35 of file animsettingdialog.h.

Referenced by AnimSettingDialog().

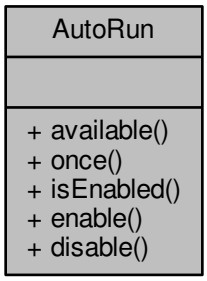
The documentation for this class was generated from the following files:

- src/ckb/animsettingdialog.h
- src/ckb/animsettingdialog.cpp

12.6 AutoRun Class Reference

`#include <src/ckb/autorun.h>`

Collaboration diagram for AutoRun:



Static Public Member Functions

- static bool available ()
- static bool once ()
- static bool isEnabled ()
- static void enable ()
- static void disable ()

12.6.1 Detailed Description

Definition at line 8 of file autorun.h.

12.6.2 Member Function Documentation

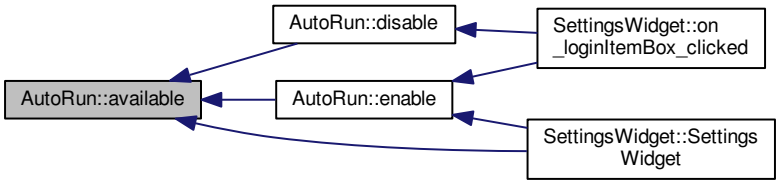
12.6.2.1 bool AutoRun::available ( ) [static]

Definition at line 20 of file autorun.cpp.

Referenced by disable(), enable(), and SettingsWidget::SettingsWidget().

```
20                      {
21     // Allow autostart if the program is located in a system path
22 #ifdef Q_OS_LINUX
23     return QDir::root().absoluteFilePath(QStandardPaths::findExecutable("ckb")) == qApp->
       applicationFilePath();
24 #elif defined(Q_OS_MACX)
25     return qApp->applicationFilePath().startsWith("/Applications/ckb.app", Qt::CaseInsensitive);
26 #endif
27 }
```

Here is the caller graph for this function:



12.6.2.2 void AutoRun::disable ( ) [static]

Definition at line 53 of file autorun.cpp.

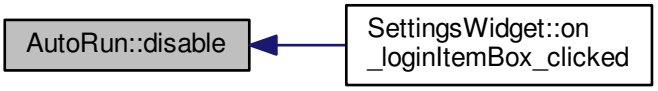
References available().

Referenced by SettingsWidget::on_loginItemBox_clicked().

```
53                     {
54     if(!available())
55         return;
56     // Remove file
57     QFile::remove(path.absoluteFilePath(file));
58 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.6.2.3 void AutoRun::enable ( ) [static]

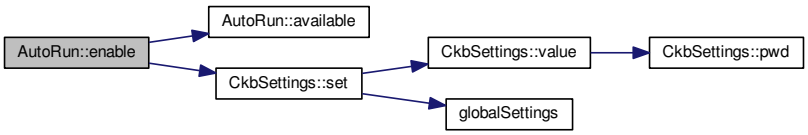
Definition at line 42 of file autorun.cpp.

References available(), and CkbSettings::set().

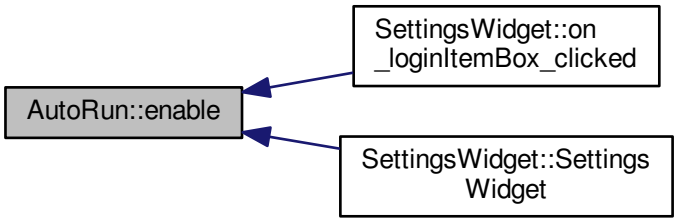
Referenced by SettingsWidget::on_loginItemBox_clicked(), and SettingsWidget::SettingsWidget().

```
42                      {
43     if(!available())
44         return;
45     // Copy file into place
46     if(!path.exists())
47         QDir::home().mkpath(path.absolutePath());
48     QFile::copy(internalFile, path.absoluteFilePath(file));
49     // Mark once() as done
50     CkbSettings::set(settingPath, true);
51 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.6.2.4 bool AutoRun::isEnabled ( ) [static]

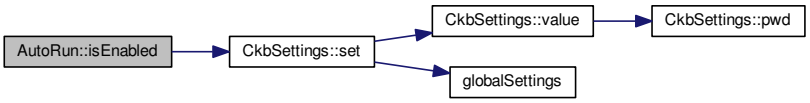
Definition at line 33 of file autorun.cpp.

References CkbSettings::set().

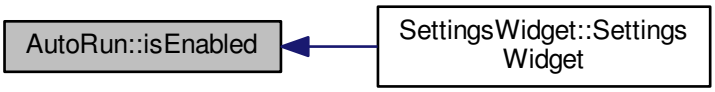
Referenced by SettingsWidget::SettingsWidget().

```
33                      {
34     // Check if the file exists. If not, autostart is disabled.
35     if(!path.exists() || !path.exists(file))
36         return false;
37     // If autostart is enabled, set the flag from once() (in case it hasn't been done yet)
38     CkbSettings::set(settingPath, true);
39     return true;
40 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.6.2.5 bool AutoRun::once ( ) [static]

Definition at line 29 of file autorun.cpp.

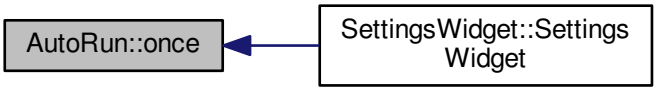
References CkbSettings::get().

Referenced by SettingsWidget::SettingsWidget().

```
29                  {
30      return CkbSettings::get(settingPath).toBool();
31  }
```

Here is the call graph for this function:

Here is the caller graph for this function:



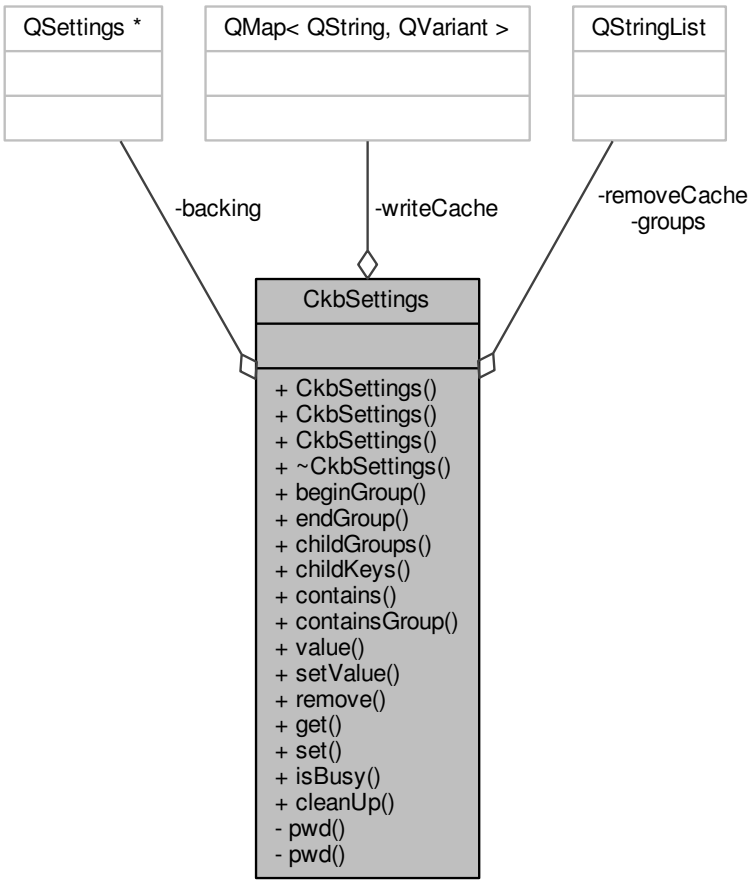
The documentation for this class was generated from the following files:

- src/ckb/autorun.h
- src/ckb/autorun.cpp

12.7 CkbSettings Class Reference

```
#include <src/ckb/ckbsettings.h>
```

Collaboration diagram for CkbSettings:



Public Member Functions

- CkbSettings ()
- CkbSettings (const QString &basePath, bool eraseExisting=false)
- CkbSettings (QSettings &settings)
- ~CkbSettings ()
- void beginGroup (const QString &prefix)
- void endGroup ()
- QStringList childGroups () const
- QStringList childKeys () const
- bool contains (const QString &key) const
- bool containsGroup (const QString &group)
- QVariant value (const QString &key, const QVariant &defaultValue=QVariant()) const
- void setValue (const QString &key, const QVariant &value)
- void remove (const QString &key)

Static Public Member Functions

- static QVariant get (const QString &key, const QVariant &defaultValue=QVariant())

- static void set (const QString &key, const QVariant &value)
- static bool isBusy ()
- static void cleanUp ()

Private Member Functions

- QString pwd () const
- QString pwd (const QString &key) const

Private Attributes

- QSettings * backing
- QStringList groups
- QStringList removeCache
- QMap< QString, QVariant > writeCache

12.7.1 Detailed Description

Definition at line 11 of file ckbsettings.h.

12.7.2 Constructor & Destructor Documentation

12.7.2.1 CkbSettings::CkbSettings ( )

Definition at line 61 of file ckbsettings.cpp.

```
61                          :
62     backing(globalSettings()) {
63 }
```

12.7.2.2 CkbSettings::CkbSettings (const QString & *basePath*, bool *eraseExisting* = `false`)

Definition at line 65 of file ckbsettings.cpp.

References beginGroup().

```
65                                                                  :
66     backing(globalSettings()) {
67     if(basePath.isEmpty()){
68         if(eraseExisting)
69             qDebug() << "CkbSettings created with basePath = \"\" and eraseExisting = true. This is a
       mistake.";
70         return;
71     }
72     if(eraseExisting)
73         remove(basePath);
74     beginGroup(basePath);
75 }
```

Here is the call graph for this function:

12.7.2.3 CkbSettings::CkbSettings (QSettings & *settings*)

Definition at line 77 of file ckbsettings.cpp.

```
77                                              :
78     backing(&settings) {
79 }
```

12.7.2.4 CkbSettings::~CkbSettings ( )

Definition at line 145 of file ckbsettings.cpp.

References backing, removeCache, and writeCache.

```
145                           {
146     if(removeCache.isEmpty() && writeCache.isEmpty())
147         return;
148     // Save the settings from the settings thread.
149     // They have to be saved from that thread specifically to avoid performance issues
150     CkbSettingsWriter* writer = new CkbSettingsWriter(
      backing, removeCache, writeCache);
151     writer->moveToThread(globalThread);
152     QObject::staticMetaObject.invokeMethod(writer, "run", Qt::QueuedConnection);
153 }
```

12.7.3 Member Function Documentation

12.7.3.1 void CkbSettings::beginGroup (const QString & *prefix*)

Definition at line 81 of file ckbsettings.cpp.

References groups.

Referenced by CkbSettings(), KbAnim::save(), and SGroup::SGroup().

```
81                                                  {
82     groups.append(prefix);
83 }
```

Here is the caller graph for this function:

12.7.3.2 QStringList CkbSettings::childGroups ( ) const

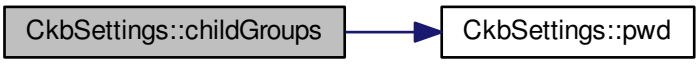
Definition at line 89 of file ckbsettings.cpp.

References backing, current, lockMutex, and pwd().

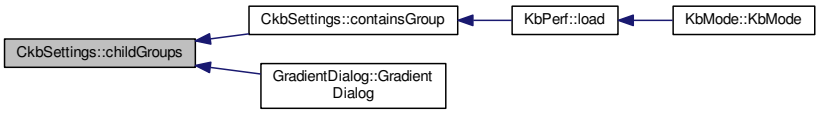
Referenced by containsGroup(), and GradientDialog::GradientDialog().

```
89                                              {
90     QString current = pwd();
91     lockMutex;
92     if(!current.isEmpty())
93         backing->beginGroup(current);
94     QStringList res = backing->childGroups();
95     if(!current.isEmpty())
96         backing->endGroup();
97     return res;
98 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.7.3.3 QStringList CkbSettings::childKeys ( ) const

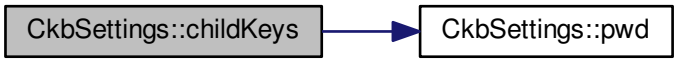
Definition at line 100 of file ckbsettings.cpp.

References backing, current, lockMutex, and pwd().

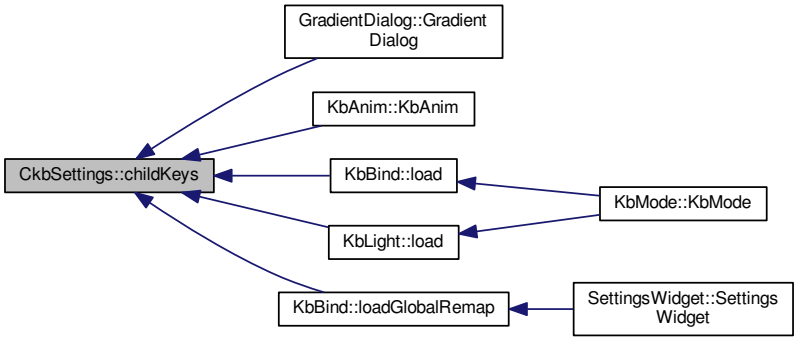
Referenced by GradientDialog::GradientDialog(), KbAnim::KbAnim(), KbBind::load(), KbLight::load(), and KbBind::loadGlobalRemap().

```
100                                         {
101     QString current = pwd();
102     lockMutex;
103     if(!current.isEmpty())
104         backing->beginGroup(current);
105     QStringList res = backing->childKeys();
106     if(!current.isEmpty())
107         backing->endGroup();
108     return res;
109 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.7.3.4 void CkbSettings::cleanUp ( ) [static]

Definition at line 46 of file ckbsettings.cpp.

References _globalSettings, cacheWritesInProgress(), and globalThread.

Referenced by MainWindow::cleanup().

```
46                          {
47     if(!_globalSettings)
48         return;
49     // Wait for all writers to finish
50     while(cacheWritesInProgress.load() > 0)
51         QThread::yieldCurrentThread();
52     // Stop thread and delete objects
53     globalThread->quit();
54     globalThread->wait();
55     delete globalThread;
56     delete _globalSettings;
57     globalThread = 0;
58     _globalSettings = 0;
59 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.5 bool CkbSettings::contains (const QString & *key*) const

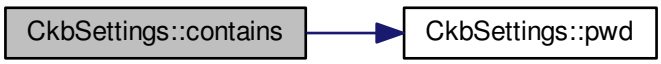
Definition at line 111 of file ckbsettings.cpp.

References backing, lockMutex, and pwd().

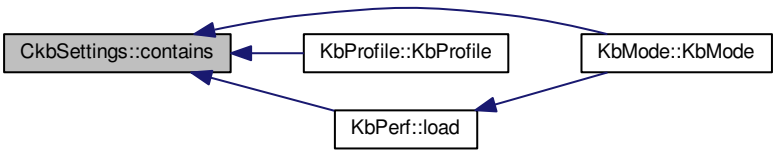
Referenced by KbMode::KbMode(), KbProfile::KbProfile(), and KbPerf::load().

```
111                                                 {
112     lockMutex;
113     return backing->contains(pwd(key));
114 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.7.3.6 bool CkbSettings::containsGroup (const QString & *group*)

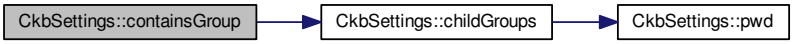
Definition at line 116 of file ckbsettings.cpp.

References childGroups().

Referenced by KbPerf::load().

```
116                                                 {
117     QStringList components = group.split("/");
118     if(components.length() > 1){
119         // Find sub-group
120         SGroup group(*this, components[0]);
121         return containsGroup(QStringList(components.mid(1)).join('/'));
122     }
123     return childGroups().contains(group);
124 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.7.3.7 void CkbSettings::endGroup ( )

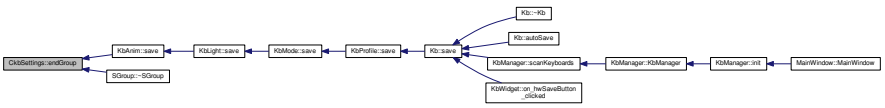
Definition at line 85 of file ckbsettings.cpp.

References groups.

Referenced by KbAnim::save(), and SGroup::∼SGroup().

```
85                           {
86     groups.removeLast();
87 }
```

Here is the caller graph for this function:



12.7.3.8 QVariant CkbSettings::get (const QString & *key*, const QVariant & *defaultValue* = `QVariant()`) [static]

Definition at line 155 of file ckbsettings.cpp.

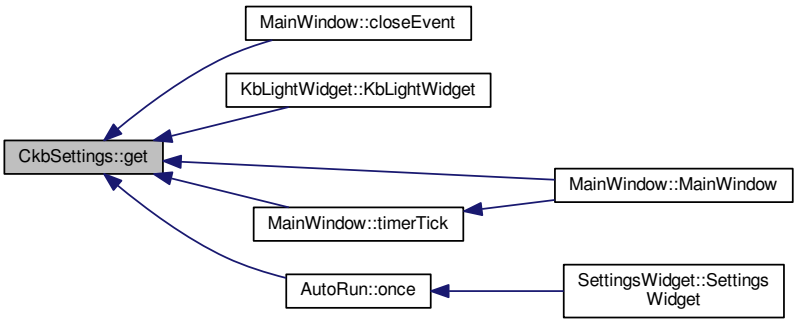
References globalCache, globalSettings(), lockMutexCache, and lockMutexStatic2.

Referenced by MainWindow::closeEvent(), KbLightWidget::KbLightWidget(), MainWindow::MainWindow(), AutoRun::once(), and MainWindow::timerTick().

```
155                                                                     {
156     // Store these settings in a memory cache
157     lockMutexCache;
158     if(globalCache.contains(key))
159         return globalCache.value(key);
160     // If it wasn't found in the memory cache, look for it in QSettings
161     lockMutexStatic2;
162     QSettings* settings = globalSettings();
163     return globalCache[key] = settings->value(key, defaultValue);
164 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.7.3.9 bool CkbSettings::isBusy ( ) [static]

Definition at line 42 of file ckbsettings.cpp.

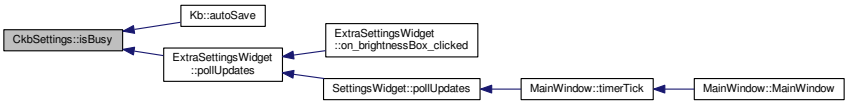
References cacheWritesInProgress().

Referenced by Kb::autoSave(), and ExtraSettingsWidget::pollUpdates().

```
42                         {
43     return cacheWritesInProgress.load() > 0;
44 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.7.3.10 QString CkbSettings::pwd ( ) const [inline], [private]

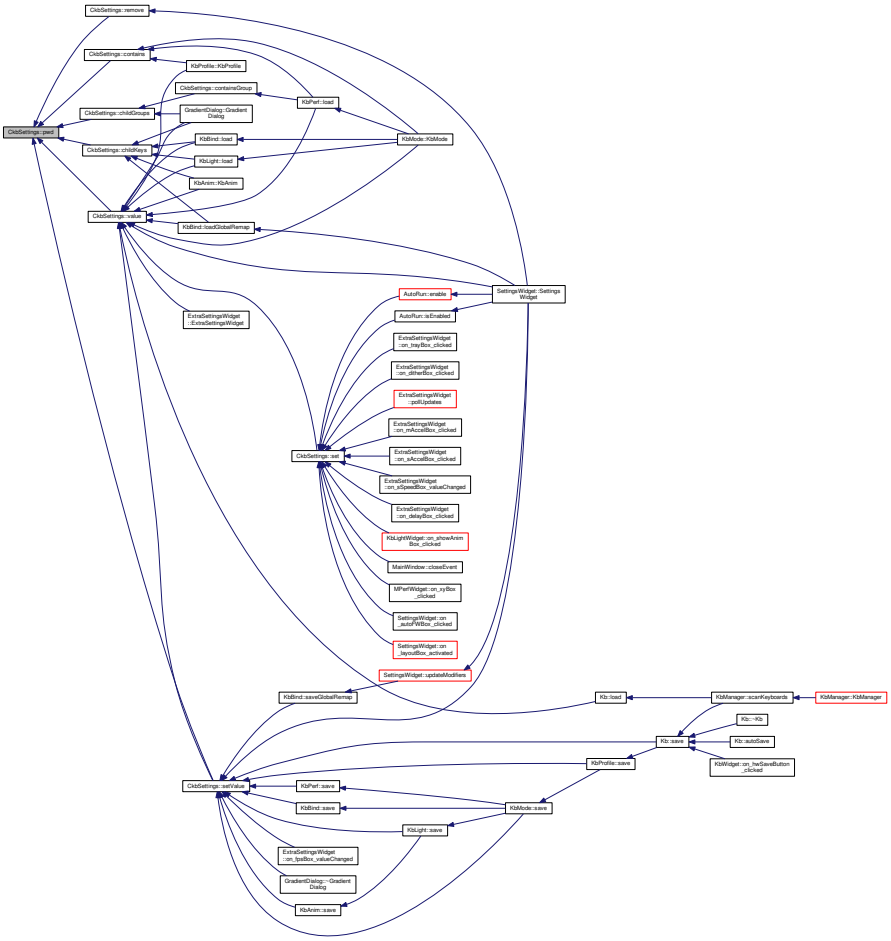
Definition at line 51 of file ckbsettings.h.

References groups.

Referenced by childGroups(), childKeys(), contains(), remove(), setValue(), and value().

```
51 { return groups.join("/"); }
```

Here is the caller graph for this function:



12.7.3.11 QString CkbSettings::pwd (const QString & *key*) const [inline], [private]

Definition at line 52 of file ckbsettings.h.

References groups, and pwd().

Referenced by pwd().

```
52 { return pwd() + (groups.isEmpty() ? "" : "/") + key; }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.7.3.12 void CkbSettings::remove (const QString & *key*)

Definition at line 141 of file ckbsettings.cpp.

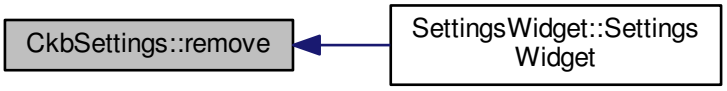
References pwd(), and removeCache.

Referenced by SettingsWidget::SettingsWidget().

```
141                                         {
142     removeCache.append(pwd(key));
143 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.7.3.13 void CkbSettings::set (const QString & *key*, const QVariant & *value*) [static]

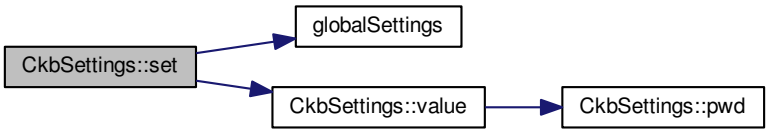
Definition at line 166 of file ckbsettings.cpp.

References globalCache, globalSettings(), lockMutexCache, lockMutexStatic, and value().

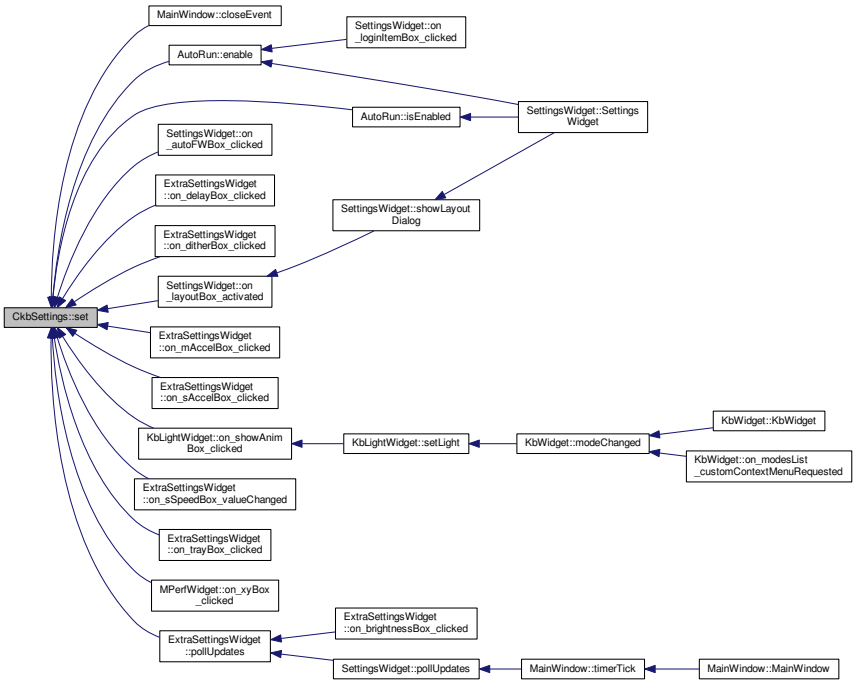
Referenced by MainWindow::closeEvent(), AutoRun::enable(), AutoRun::isEnabled(), SettingsWidget::on_autoFWBox_clicked(), ExtraSettingsWidget::on_delayBox_clicked(), ExtraSettingsWidget::on_ditherBox_clicked(), SettingsWidget::on_layoutBox_activated(), ExtraSettingsWidget::on_mAccelBox_clicked(), ExtraSettingsWidget::on_sAccelBox_clicked(), KbLightWidget::on_showAnimBox_clicked(), ExtraSettingsWidget::on_sSpeedBox_valueChanged(), ExtraSettingsWidget::on_trayBox_clicked(), MPerfWidget::on_xyBox_clicked(), and ExtraSettingsWidget::pollUpdates().

```
166                                                                 {
167     {
168         lockMutexCache;
169         if(globalCache.value(key) == value)
170             return;
171         globalCache[key] = value;
172     }
173     lockMutexStatic;
174     globalSettings()->setValue(key, value);
175 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.7.3.14 void CkbSettings::setValue (const QString & *key,* const QVariant & *value*)

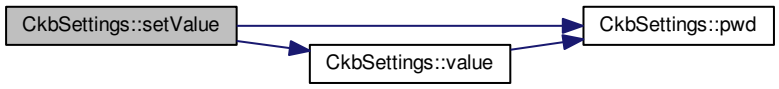
Definition at line 131 of file ckbsettings.cpp.

References globalCache, lockMutexCache, pwd(), value(), and writeCache.

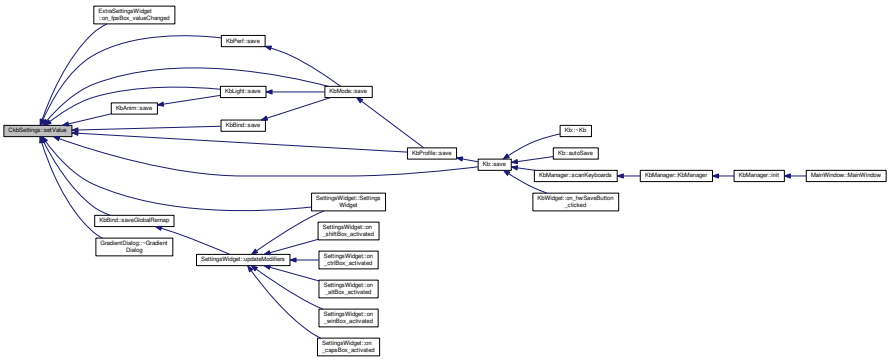
Referenced by ExtraSettingsWidget::on_fpsBox_valueChanged(), KbProfile::save(), KbPerf::save(), KbAnim::save(), KbBind::save(), KbMode::save(), KbLight::save(), Kb::save(), KbBind::saveGlobalRemap(), SettingsWidget::SettingsWidget(), and GradientDialog::~GradientDialog().

```
131                                                                    {
132     // Cache the write values, save them when the object is destroyed
133     QString realKey = pwd(key);
134     writeCache[realKey] = value;
135     // Update global cache if needed
136     lockMutexCache;
137     if(globalCache.contains(realKey))
138         globalCache[realKey] = value;
139 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.7.3.15 QVariant CkbSettings::value (const QString & *key,* const QVariant & *defaultValue* = `QVariant()`) const

Definition at line 126 of file ckbsettings.cpp.

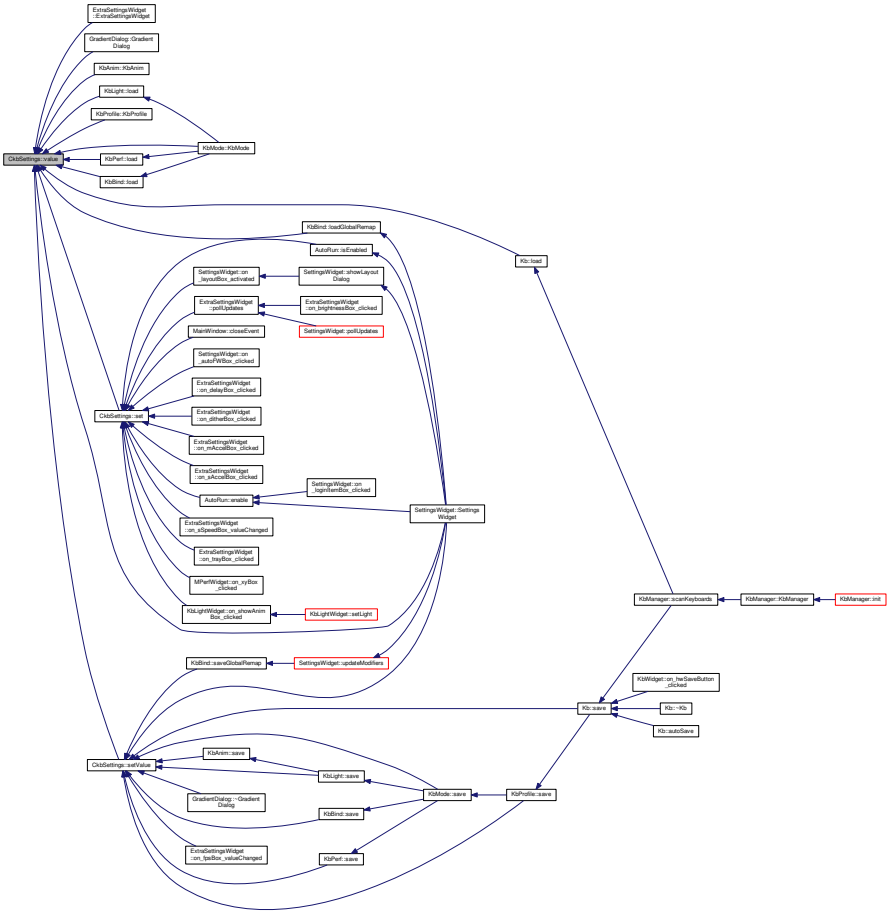
References backing, lockMutex, and pwd().

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), GradientDialog::GradientDialog(), KbAnim::KbAnim(), KbMode::KbMode(), KbProfile::KbProfile(), KbPerf::load(), KbBind::load(), KbLight::load(), Kb::load(), KbBind::loadGlobalRemap(), set(), SettingsWidget::SettingsWidget(), and setValue().

```
126                                                                    {
127     lockMutex;
128     return backing->value(pwd(key), defaultValue);
129 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.7.4 Field Documentation

12.7.4.1 QSettings* CkbSettings::backing [private]

Definition at line 46 of file ckbsettings.h.

Referenced by childGroups(), childKeys(), contains(), value(), and ~CkbSettings().

12.7.4.2 QStringList CkbSettings::groups [private]

Definition at line 47 of file ckbsettings.h.

Referenced by beginGroup(), endGroup(), and pwd().

12.7.4.3 QStringList CkbSettings::removeCache [private]

Definition at line 48 of file ckbsettings.h.

Referenced by remove(), and ~CkbSettings().

12.7.4.4 QMap<QString, QVariant> CkbSettings::writeCache [private]

Definition at line 49 of file ckbsettings.h.

Referenced by setValue(), and ~CkbSettings().

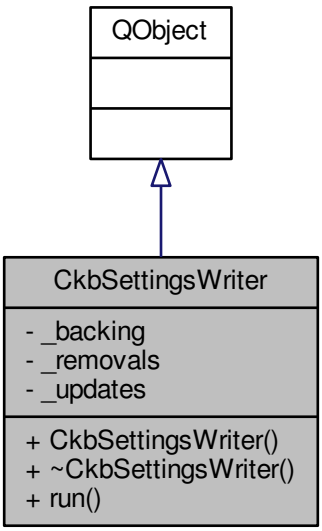
The documentation for this class was generated from the following files:

- src/ckb/ckbsettings.h
- src/ckb/ckbsettings.cpp

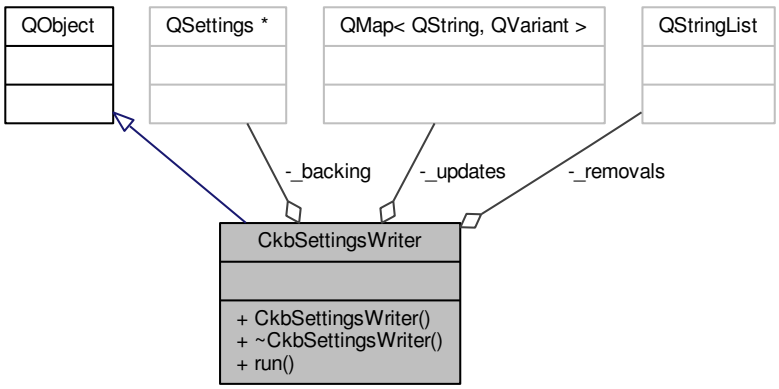
12.8 CkbSettingsWriter Class Reference

`#include <src/ckb/ckbsettingswriter.h>`

Inheritance diagram for CkbSettingsWriter:



Collaboration diagram for CkbSettingsWriter:



Public Member Functions

- CkbSettingsWriter (QSettings ∗backing, const QStringList &removals, const QMap< QString, QVariant > &updates)
- ∼CkbSettingsWriter ()
- Q_SLOT void run ()

Private Attributes

- QSettings ∗ _backing
- QStringList _removals
- QMap< QString, QVariant > _updates

12.8.1 Detailed Description

Definition at line 12 of file ckbsettingswriter.h.

12.8.2 Constructor & Destructor Documentation

12.8.2.1 CkbSettingsWriter::CkbSettingsWriter (QSettings ∗ *backing*, const QStringList & *removals*, const QMap< QString, QVariant > & *updates*)

Definition at line 12 of file ckbsettingswriter.cpp.

References cacheWritesInProgress.

```
12
                    :
13     _backing(backing), _removals(removals), _updates(updates) {
14     cacheWritesInProgress.ref();
15 }
```

12.8.2.2 CkbSettingsWriter::~CkbSettingsWriter ( )

Definition at line 17 of file ckbsettingswriter.cpp.

References cacheWritesInProgress.

```
17                                      {
18     cacheWritesInProgress.deref();
19 }
```

12.8.3 Member Function Documentation

12.8.3.1 void CkbSettingsWriter::run ( )

Definition at line 21 of file ckbsettingswriter.cpp.

References _backing, _removals, _updates, and lockMutexStatic.

```
21                                {
22     lockMutexStatic;
23     // Process key removals
24     foreach(const QString& rm, _removals){
25         _backing->remove(rm);
26     }
27     // Process writes
28     QMapIterator<QString, QVariant> i(_updates);
29     while(i.hasNext()){
30         i.next();
31         _backing->setValue(i.key(), i.value());
32         // Updating the global cache was done above
33     }
34     _backing->sync();
35     deleteLater();
36 }
```

12.8.4 Field Documentation

12.8.4.1 QSettings* CkbSettingsWriter::_backing [private]

Definition at line 21 of file ckbsettingswriter.h.

Referenced by run().

12.8.4.2 QStringList CkbSettingsWriter::_removals [private]

Definition at line 22 of file ckbsettingswriter.h.

Referenced by run().

12.8.4.3 QMap<QString, QVariant> CkbSettingsWriter::_updates [private]

Definition at line 23 of file ckbsettingswriter.h.

Referenced by run().

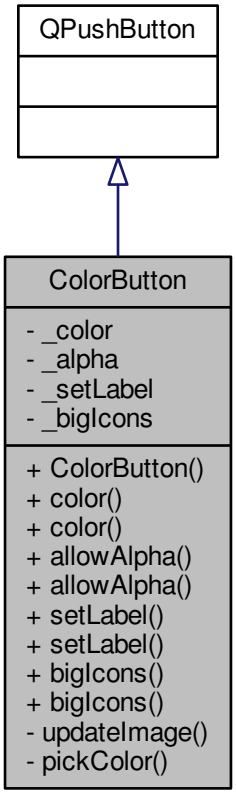
The documentation for this class was generated from the following files:

- src/ckb/ckbsettingswriter.h
- src/ckb/ckbsettingswriter.cpp

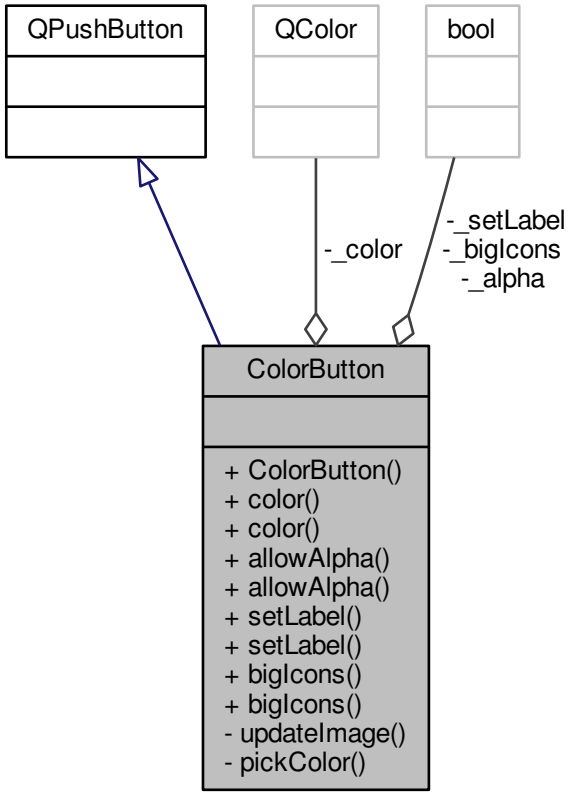
12.9 ColorButton Class Reference

`#include <src/ckb/colorbutton.h>`

Inheritance diagram for ColorButton:



Collaboration diagram for ColorButton:



Signals

- void colorChanged (QColor newColor)

Public Member Functions

- ColorButton (QWidget *parent=0, bool allowAlpha=false)
- const QColor & color () const
- void color (const QColor &newColor)
- bool allowAlpha () const
- void allowAlpha (bool newAllowAlpha)
- bool setLabel () const
- void setLabel (bool newSetLabel)
- bool bigIcons () const
- void bigIcons (bool newBigIcons)

Private Slots

- void pickColor ()

Private Member Functions

- void updateImage ()

Private Attributes

- QColor _color
- bool _alpha
- bool _setLabel
- bool _bigIcons

12.9.1 Detailed Description

Definition at line 6 of file colorbutton.h.

12.9.2 Constructor & Destructor Documentation

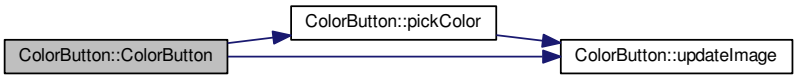
12.9.2.1 ColorButton::ColorButton (QWidget * *parent* = 0, bool *allowAlpha* = false) [explicit]

Definition at line 5 of file colorbutton.cpp.

References pickColor(), and updateImage().

```
5                                                       :
6     QPushButton(parent), _alpha(allowAlpha),
      _setLabel(true), _bigIcons(false)
7 {
8     setAutoDefault(false);
9     setDefault(false);
10     updateImage();
11     // Pick color on click (use queued connection so that any on_*_clicked() events can be processed first)
12     connect(this, SIGNAL(clicked()), this, SLOT(pickColor()), Qt::QueuedConnection);
13 }
```

Here is the call graph for this function:



12.9.3 Member Function Documentation

12.9.3.1 bool ColorButton::allowAlpha ( ) const [inline]

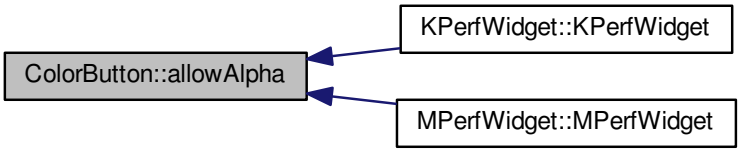
Definition at line 17 of file colorbutton.h.

References _alpha.

Referenced by KPerfWidget::KPerfWidget(), and MPerfWidget::MPerfWidget().

```
17 { return _alpha; }
```

Here is the caller graph for this function:



12.9.3.2 void ColorButton::allowAlpha (bool *newAllowAlpha*)

Definition at line 22 of file colorbutton.cpp.

References _alpha, and updateImage().

```
22                                              {
23     _alpha = newAllowAlpha;
24     updateImage();
25 }
```

Here is the call graph for this function:

12.9.3.3 bool ColorButton::bigIcons ( ) const [inline]

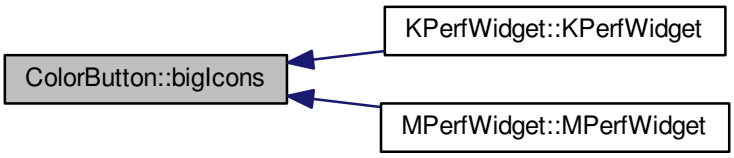
Definition at line 23 of file colorbutton.h.

References _bigIcons.

Referenced by KPerfWidget::KPerfWidget(), and MPerfWidget::MPerfWidget().

```
23 { return _bigIcons; }
```

Here is the caller graph for this function:



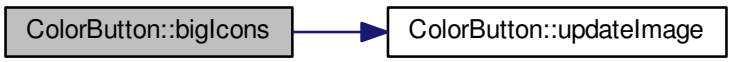
12.9.3.4 void ColorButton::bigIcons (bool *newBigIcons*)

Definition at line 27 of file colorbutton.cpp.

References _bigIcons, and updateImage().

```
27                                          {
28     _bigIcons = newBigIcons;
29     updateImage();
30 }
```

Here is the call graph for this function:



12.9.3.5 const QColor& ColorButton::color ( ) const [inline]

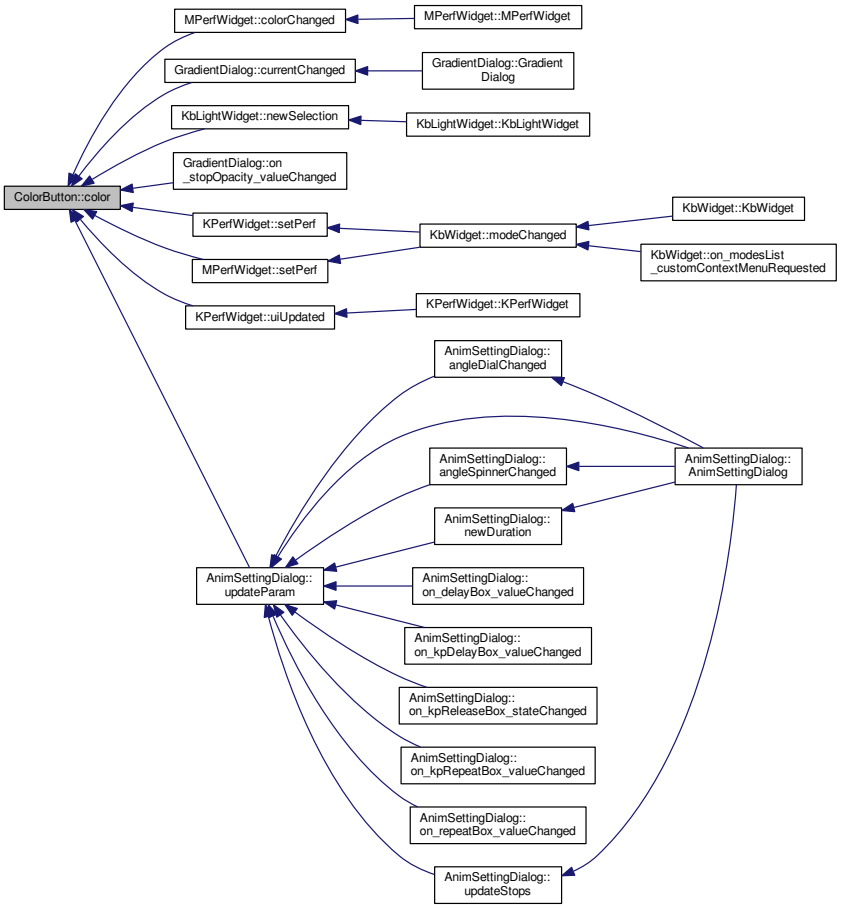
Definition at line 13 of file colorbutton.h.

References _color.

Referenced by MPerfWidget::colorChanged(), GradientDialog::currentChanged(), KbLightWidget::newSelection(), GradientDialog::on_stopOpacity_valueChanged(), KPerfWidget::setPerf(), MPerfWidget::setPerf(), KPerfWidget::uiUpdated(), and AnimSettingDialog::updateParam().

```
13 { return _color; }
```

Here is the caller graph for this function:



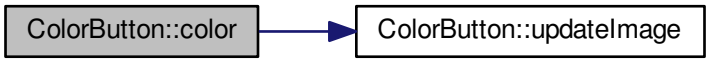
12.9.3.6 void ColorButton::color (const QColor & *newColor*)

Definition at line 15 of file colorbutton.cpp.

References _alpha, _color, and updateImage().

```
15                                          {
16     _color = newColor;
17     if(!_alpha)
18         _color.setAlpha(255);
19     updateImage();
20 }
```

Here is the call graph for this function:



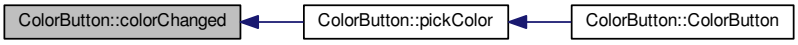
12.9.3.7 void ColorButton::colorChanged (QColor *newColor*) [signal]

Definition at line 132 of file moc_colorbutton.cpp.

Referenced by pickColor().

```
133 {
134     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
135     QMetaObject::activate(this, &staticMetaObject, 0, _a);
136 }
```

Here is the caller graph for this function:



12.9.3.8 void ColorButton::pickColor ( ) [private], [slot]

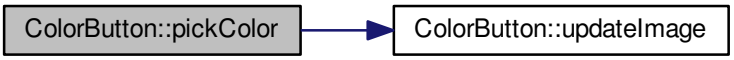
Definition at line 60 of file colorbutton.cpp.

References _alpha, _color, colorChanged(), and updateImage().

Referenced by ColorButton().

```
60                            {
61     QColor newColor = QColorDialog::getColor(_color, this, QString(),
      QColorDialog::ColorDialogOptions(_alpha ? QColorDialog::ShowAlphaChannel : 0));
62     if(newColor.isValid()){
63         _color = newColor;
64         updateImage();
65         emit colorChanged(_color);
66     }
67 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.9.3.9 bool ColorButton::setLabel ( ) const [inline]

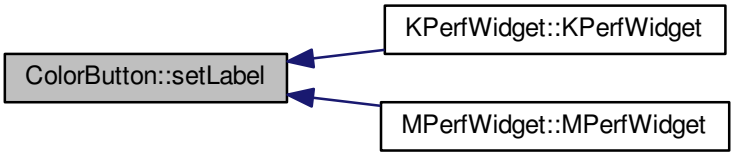
Definition at line 20 of file colorbutton.h.

References _setLabel.

Referenced by KPerfWidget::KPerfWidget(), and MPerfWidget::MPerfWidget().

```
20 { return _setLabel; }
```

Here is the caller graph for this function:



12.9.3.10 void ColorButton::setLabel (bool *newSetLabel*) [inline]

Definition at line 21 of file colorbutton.h.

References _setLabel.

```
21 { _setLabel = newSetLabel; }
```

12.9.3.11 void ColorButton::updateImage ( ) [private]

Definition at line 32 of file colorbutton.cpp.

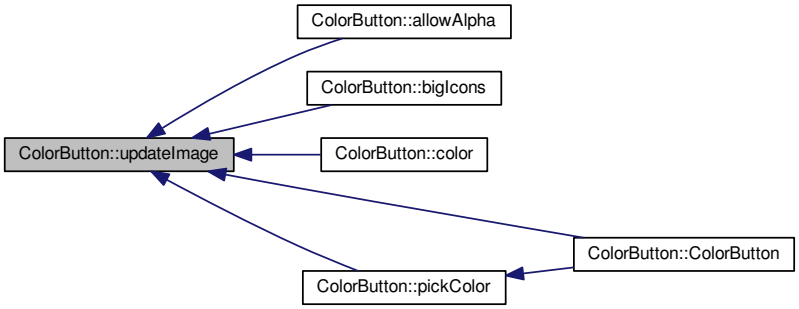
References _alpha, _bigIcons, _color, and _setLabel.

Referenced by allowAlpha(), bigIcons(), color(), ColorButton(), and pickColor().

```
32                              {
33     if(!_color.isValid()){
34         setIcon(QIcon());
35         if(_setLabel)
36             setText("Change color...");
37         return;
38     }
39     const int w = 24, h = _bigIcons ? 24 : 12;
40     QImage image(w, h, QImage::Format_RGB888);
41     QPainter painter(&image);
42     painter.setPen(Qt::NoPen);
43     painter.fillRect(0, 0, w, h, QColor(0, 0, 0));
44     if(_alpha && _color.alpha() != 255){
45         painter.fillRect(1, 1, w / 2 - 1, h / 2 - 1, QColor(255, 255, 255));
46         painter.fillRect(w / 2, 1, w / 2 - 1, h / 2 - 1, QColor(192, 192, 192));
47         painter.fillRect(1, h / 2, w / 2 - 1, h / 2 - 1, QColor(192, 192, 192));
48         painter.fillRect(w / 2, h / 2, w / 2 - 1, h / 2 - 1, QColor(255, 255, 255));
49     }
50     painter.fillRect(1, 1, w - 2, h - 2, _color);
51     setIcon(QIcon(QPixmap::fromImage(image)));
52     if(_setLabel){
53         QString text = QString(" (%1, %2, %3)").arg(_color.red()).arg(
       _color.green()).arg(_color.blue());
54         if(_alpha)
```

```
55             text += QString(", %4%").arg(QString::number(_color.alphaF() * 100., 'f', 0));
56         setText(text);
57     }
58 }
```

Here is the caller graph for this function:



12.9.4 Field Documentation

12.9.4.1 bool ColorButton::_alpha [private]

Definition at line 34 of file colorbutton.h.

Referenced by allowAlpha(), color(), pickColor(), and updateImage().

12.9.4.2 bool ColorButton::_bigIcons [private]

Definition at line 34 of file colorbutton.h.

Referenced by bigIcons(), and updateImage().

12.9.4.3 QColor ColorButton::_color [private]

Definition at line 33 of file colorbutton.h.

Referenced by color(), pickColor(), and updateImage().

12.9.4.4 bool ColorButton::_setLabel [private]

Definition at line 34 of file colorbutton.h.

Referenced by setLabel(), and updateImage().

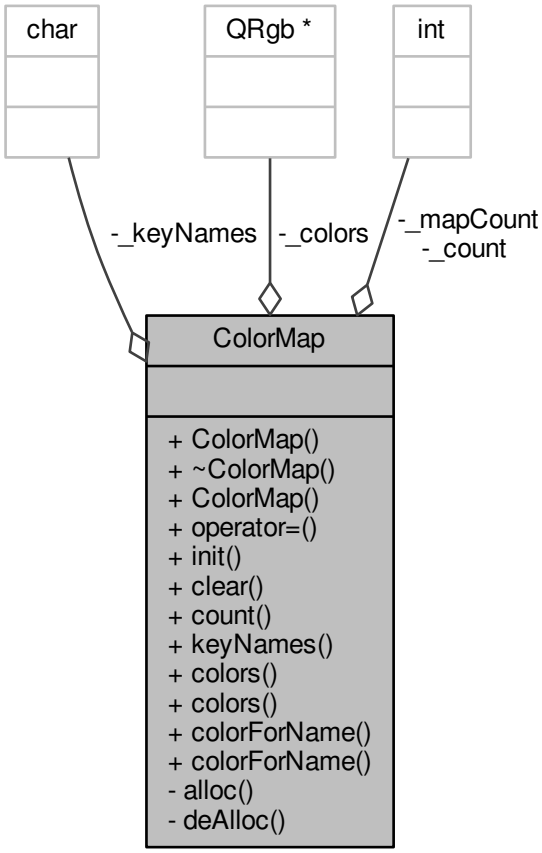
The documentation for this class was generated from the following files:

- src/ckb/colorbutton.h
- src/ckb/colorbutton.cpp
- src/ckb/release/moc_colorbutton.cpp

12.10 ColorMap Class Reference

`#include <src/ckb/colormap.h>`

Collaboration diagram for ColorMap:



Public Member Functions

- ColorMap ()
- ~ColorMap ()
- ColorMap (const ColorMap &rhs)
- const ColorMap & operator= (const ColorMap &rhs)
- void init (const KeyMap &map)
- void clear ()
- int count () const
- const char *const * keyNames () const
- QRgb * colors ()
- const QRgb * colors () const
- QRgb * colorForName (const char *name)
- const QRgb * colorForName (const char *name) const

Private Member Functions

- void alloc (int count)
- void deAlloc ()

Private Attributes

- const char ** _keyNames
- QRgb * _colors
- int _count
- int _mapCount

12.10.1 Detailed Description

Definition at line 15 of file colormap.h.

12.10.2 Constructor & Destructor Documentation

12.10.2.1 ColorMap::ColorMap ( )

Definition at line 3 of file colormap.cpp.

```
3                   :
4     _keyNames(0), _colors(0), _count(0), _mapCount(0)
5 {
6 }
```

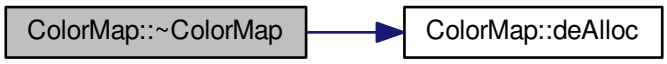
12.10.2.2 ColorMap::~ColorMap ( )

Definition at line 8 of file colormap.cpp.

References deAlloc().

```
8                   {
9     deAlloc();
10 }
```

Here is the call graph for this function:



12.10.2.3 ColorMap::ColorMap (const ColorMap & *rhs*)

Definition at line 12 of file colormap.cpp.

```
12                                  :
13     _keyNames(0), _colors(0), _count(0), _mapCount(0)
14 {
15     *this = rhs;
16 }
```

12.10.3 Member Function Documentation

12.10.3.1 void ColorMap::alloc (int *count*) [private]

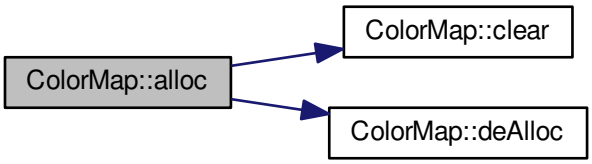
Definition at line 27 of file colormap.cpp.

References _colors, _count, _keyNames, _mapCount, clear(), and deAlloc().

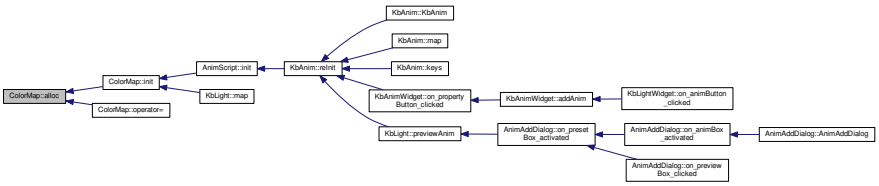
Referenced by init(), and operator=().

```
27                                {
28     if(newCount > _mapCount){
29         // ^ map never shrinks, only expands
30         deAlloc();
31         _mapCount = newCount;
32         _keyNames = new const char*[_mapCount];
33         _colors = new QRgb[_mapCount];
34     }
35     _count = newCount;
36     clear();
37 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.10.3.2 void ColorMap::clear ( )

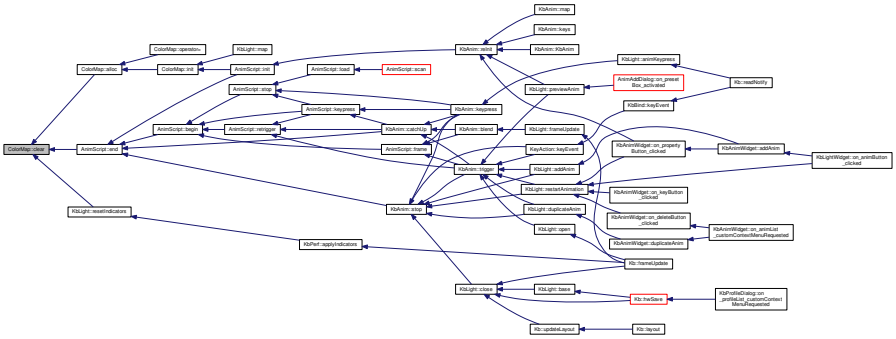
Definition at line 45 of file colormap.cpp.

References _colors, and _count.

Referenced by alloc(), AnimScript::end(), and KbLight::resetIndicators().

```
45                      {
46     memset(_colors, 0, _count * sizeof(QRgb));
47 }
```

Here is the caller graph for this function:



12.10.3.3 QRgb * ColorMap::colorForName (const char * *name*)

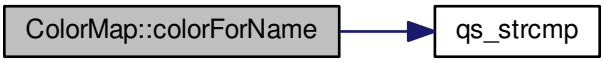
Definition at line 72 of file colormap.cpp.

References _colors, _count, _keyNames, and qs_strcmp().

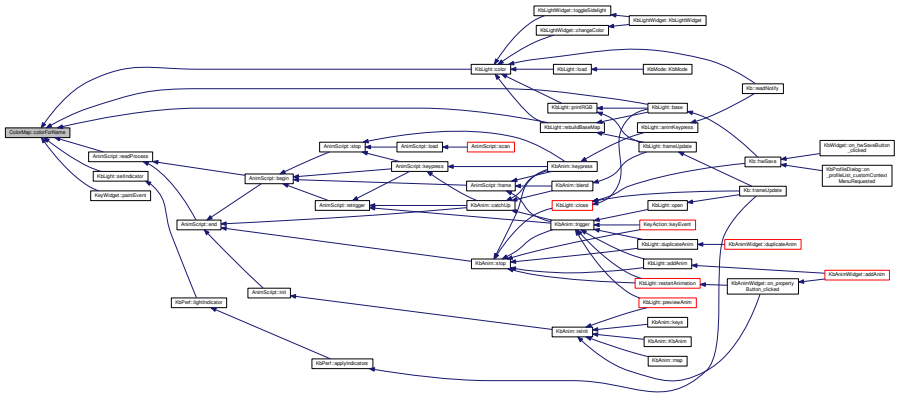
Referenced by KbLight::base(), KbLight::color(), KeyWidget::paintEvent(), AnimScript::readProcess(), KbLight::rebuildBaseMap(), and KbLight::setIndicator().

```
72                                          {
73     if(!_keyNames)
74         return 0;
75     const char** namePtr = (const char**)bsearch(&name, _keyNames,
      _count, sizeof(const char*), qs_strcmp);
76     if(!namePtr)
77         return 0;
78     ptrdiff_t position = namePtr - _keyNames;
79     return _colors + position;
80 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



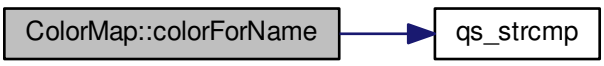
12.10.3.4 const QRgb * ColorMap::colorForName (const char * *name*) const

Definition at line 82 of file colormap.cpp.

References _colors, _count, _keyNames, and qs_strcmp().

```
82                                                          {
83     if(!_keyNames)
84         return 0;
85     const char** namePtr = (const char**)bsearch(&name, _keyNames,
       _count, sizeof(const char*), qs_strcmp);
86     if(!namePtr)
87         return 0;
88     ptrdiff_t position = namePtr - _keyNames;
89     return _colors + position;
90 }
```

Here is the call graph for this function:



12.10.3.5 QRgb* ColorMap::colors ( ) [inline]

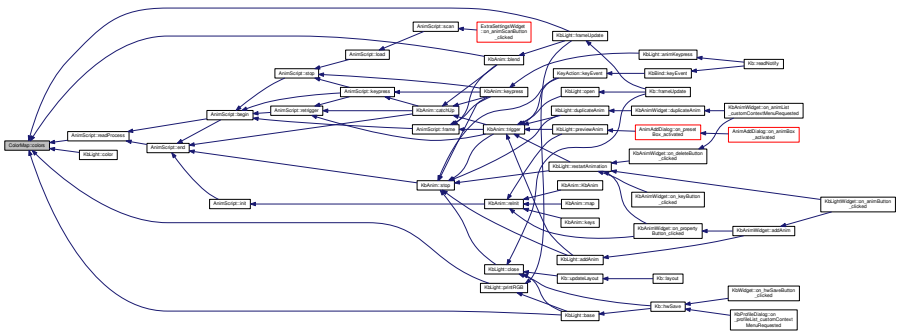
Definition at line 32 of file colormap.h.

References _colors.

Referenced by KbLight::base(), KbAnim::blend(), KbLight::color(), KbLight::frameUpdate(), KbLight::printRGB(), and AnimScript::readProcess().

```
32 { return _colors; }
```

Here is the caller graph for this function:



12.10.3.6 const QRgb* ColorMap::colors ( ) const [inline]

Definition at line 33 of file colormap.h.

References _colors.

```
33 { return _colors; }
```

12.10.3.7 int ColorMap::count ( ) const [inline]

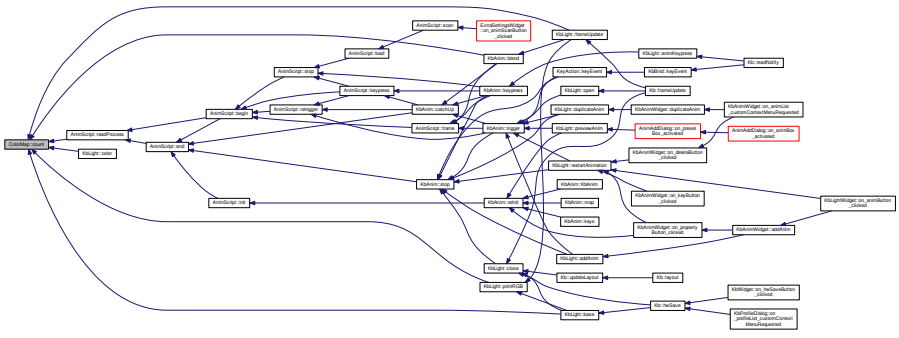
Definition at line 30 of file colormap.h.

References _count.

Referenced by KbLight::base(), KbAnim::blend(), KbLight::color(), KbLight::frameUpdate(), KbLight::printRGB(), and AnimScript::readProcess().

```
30 { return _count; }
```

Here is the caller graph for this function:



12.10.3.8 void ColorMap::deAlloc ( ) [private]

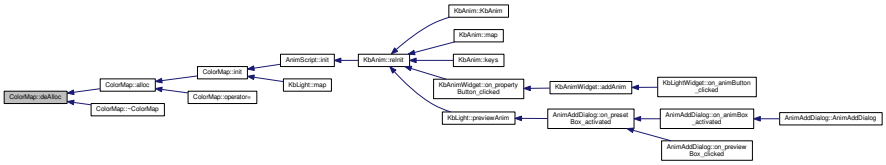
Definition at line 39 of file colormap.cpp.

References _colors, _count, _keyNames, and _mapCount.

Referenced by alloc(), and ~ColorMap().

```
39                      {
40     _count = _mapCount = 0;
41     if(_keyNames) delete[] _keyNames;
42     if(_colors) delete[] _colors;
43 }
```

Here is the caller graph for this function:



12.10.3.9 void ColorMap::init (const KeyMap & *map*)

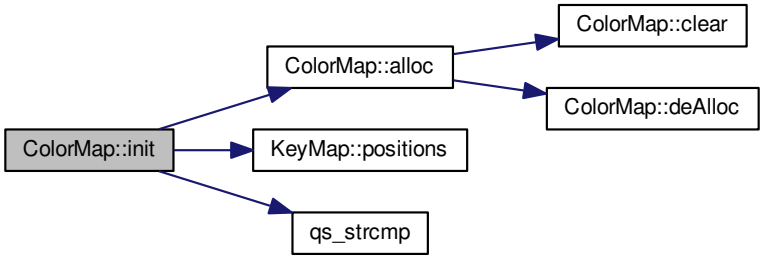
Definition at line 53 of file colormap.cpp.

References _count, _keyNames, alloc(), Key::hasLed, Key::name, KeyMap::positions(), and qs_strcmp().

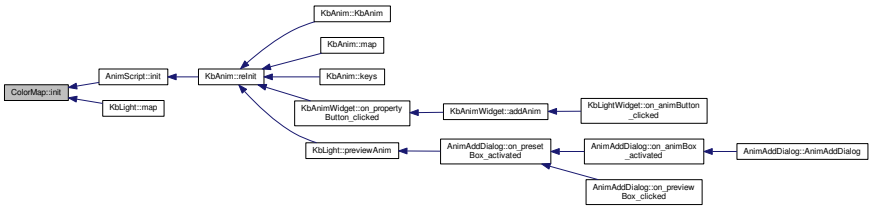
Referenced by AnimScript::init(), and KbLight::map().

```
53                                  {
54     QList<Key> newKeys = map.positions();
55     // There's no point including keys that don't have LEDs, so remove them now
56     QMutableListIterator<Key> i(newKeys);
57     while(i.hasNext()){
58         Key key = i.next();
59         if(!key.hasLed)
60             i.remove();
61     }
62     // Now that we know how many keys we'll have, check memory
63     alloc(newKeys.count());
64     // Copy key names
65     int keyPos = 0;
66     foreach(const Key& key, newKeys)
67         _keyNames[keyPos++] = key.name;      // as above, it's safe to copy these since the
       strings are constants
68     // Sort names for quick access
69     qsort(_keyNames, _count, sizeof(const char*), qs_strcmp);
70 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.10.3.10 const char* const* ColorMap::keyNames ( ) const [inline]

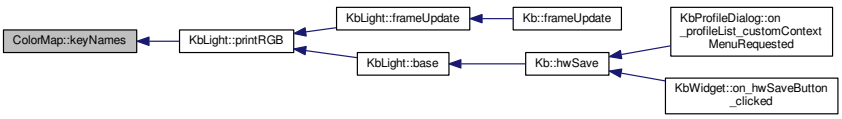
Definition at line 31 of file colormap.h.

References _keyNames.

Referenced by KbLight::printRGB().

```
31 { return _keyNames; }
```

Here is the caller graph for this function:



12.10.3.11 const ColorMap & ColorMap::operator= (const ColorMap & *rhs*)

Definition at line 18 of file colormap.cpp.

References _colors, _count, _keyNames, and alloc().

```
18                                                  {
19     alloc(rhs._count);
20     // Copy key names and colors
21     // (Note: it's safe to copy the const char*'s because key names are constants and will never move or be
       deleted)
22     memcpy(_keyNames, rhs._keyNames, sizeof(const char*) *
      _count);
23     memcpy(_colors, rhs._colors, sizeof(QRgb) * _count);
24     return rhs;
25 }
```

Here is the call graph for this function:

12.10.4 Field Documentation

12.10.4.1 QRgb* ColorMap::_colors [private]

Definition at line 44 of file colormap.h.

Referenced by alloc(), clear(), colorForName(), colors(), deAlloc(), and operator=().

12.10.4.2 int ColorMap::_count [private]

Definition at line 45 of file colormap.h.

Referenced by alloc(), clear(), colorForName(), count(), deAlloc(), init(), and operator=().

12.10.4.3 const char** ColorMap::_keyNames [private]

Definition at line 43 of file colormap.h.

Referenced by alloc(), colorForName(), deAlloc(), init(), keyNames(), and operator=().

12.10.4.4 int ColorMap::_mapCount [private]

Definition at line 45 of file colormap.h.

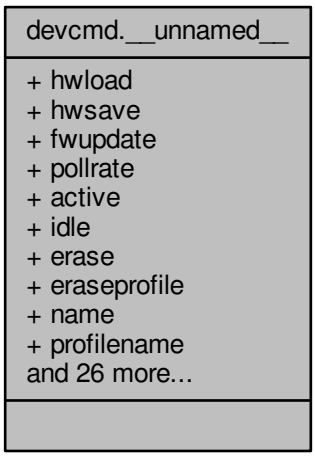
Referenced by alloc(), and deAlloc().

The documentation for this class was generated from the following files:

- src/ckb/colormap.h
- src/ckb/colormap.cpp

12.11 devcmd.__unnamed__ Struct Reference

Collaboration diagram for devcmd.__unnamed__:



Data Fields

- cmdhandler_io hwload
- cmdhandler_io hwsave
- cmdhandler_io fwupdate
- cmdhandler_io pollrate
- cmdhandler_io active
- cmdhandler_io idle
- cmdhandler erase
- cmdhandler eraseprofile
- cmdhandler name
- cmdhandler profilename
- cmdhandler id
- cmdhandler profileid
- cmdhandler rgb
- cmdhandler ioff
- cmdhandler ion
- cmdhandler iauto
- cmdhandler bind
- cmdhandler unbind
- cmdhandler rebind
- cmdhandler_mac macro
- cmdhandler_mac dpi
- cmdhandler dpisel
- cmdhandler lift
- cmdhandler snap
- cmdhandler notify
- cmdhandler inotify
- cmdhandler get

- cmdhandler restart
- int(∗ start)(usbdevice ∗kb, int makeactive)
- void(∗ setmodeindex)(usbdevice ∗kb, int index)
- void(∗ allocprofile)(usbdevice ∗kb)
- int(∗ loadprofile)(usbdevice ∗kb)
- void(∗ freeprofile)(usbdevice ∗kb)
- int(∗ updatergb)(usbdevice ∗kb, int force)
- void(∗ updateindicators)(usbdevice ∗kb, int force)
- int(∗ updatedpi)(usbdevice ∗kb, int force)

12.11.1 Detailed Description

Definition at line 78 of file command.h.

12.11.2 Field Documentation

12.11.2.1

12.11.2.2

12.11.2.3

12.11.2.4

12.11.2.5

12.11.2.6

12.11.2.7

12.11.2.8

12.11.2.9

12.11.2.10

12.11.2.11

12.11.2.12

12.11.2.13

12.11.2.14

12.11.2.15

12.11.2.16

12.11.2.17

12.11.2.18

12.11.2.19

12.11.2.20

12.11.2.21

12.11.2.22

12.11.2.23

12.11.2.24

12.11.2.25

12.11.2.26

12.11.2.27

12.11.2.28

12.11.2.29

12.11.2.30

12.11.2.31

12.11.2.32

12.11.2.33

12.11.2.34

12.11.2.35

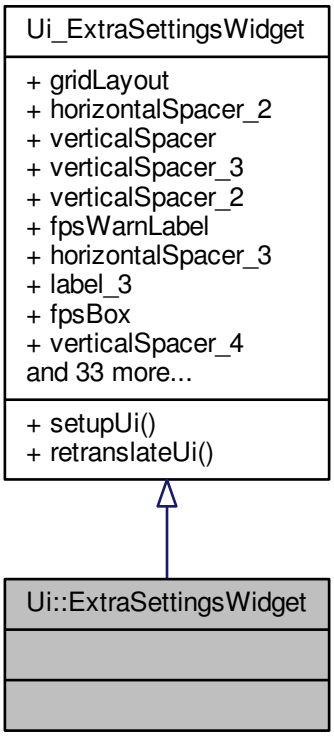
12.11.2.36

The documentation for this struct was generated from the following files:

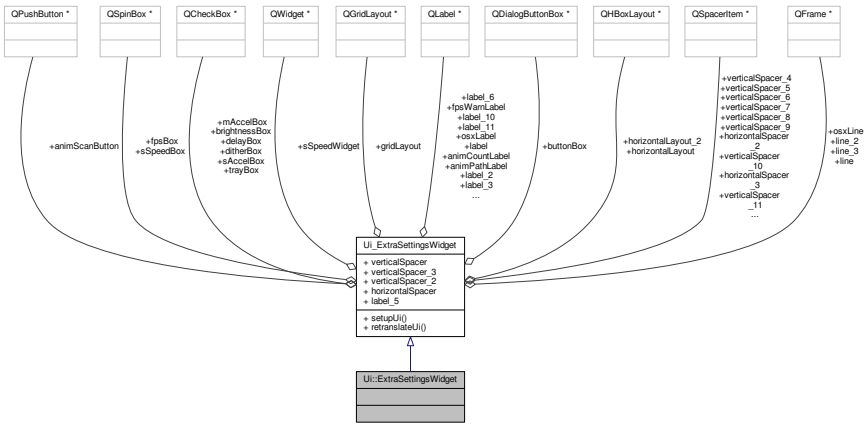
12.12 Ui::ExtraSettingsWidget Class Reference

`#include <src/ckb/ui_extrasettingswidget.h>`

Inheritance diagram for Ui::ExtraSettingsWidget:



Collaboration diagram for Ui::ExtraSettingsWidget:



Public Member Functions

- void setupUi (QDialog *ExtraSettingsWidget)
- void retranslateUi (QDialog *ExtraSettingsWidget)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer_2
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_3
- QSpacerItem * verticalSpacer_2
- QLabel * fpsWarnLabel
- QSpacerItem * horizontalSpacer_3
- QLabel * label_3
- QSpinBox * fpsBox
- QSpacerItem * verticalSpacer_4
- QSpacerItem * verticalSpacer_9
- QLabel * label_6
- QSpacerItem * verticalSpacer_6
- QSpacerItem * verticalSpacer_5
- QCheckBox * sAccelBox
- QSpacerItem * verticalSpacer_7
- QSpacerItem * verticalSpacer_8
- QSpacerItem * verticalSpacer_10
- QSpacerItem * verticalSpacer_11
- QSpacerItem * horizontalSpacer
- QFrame * line_2
- QHBoxLayout * horizontalLayout
- QLabel * animPathLabel
- QLabel * animCountLabel
- QPushButton * animScanButton
- QCheckBox * brightnessBox
- QCheckBox * trayBox
- QLabel * label
- QFrame * line
- QLabel * label_5
- QFrame * line_3
- QLabel * label_2
- QCheckBox * ditherBox
- QCheckBox * delayBox
- QLabel * osxLabel
- QFrame * osxLine
- QCheckBox * mAccelBox
- QWidget * sSpeedWidget
- QHBoxLayout * horizontalLayout_2
- QLabel * label_10
- QSpinBox * sSpeedBox
- QLabel * label_11
- QDialogButtonBox * buttonBox

12.12.1 Detailed Description

Definition at line 366 of file ui_extrasettingswidget.h.

12.12.2 Member Function Documentation

12.12.2.1 void Ui_ExtraSettingsWidget::retranslateUi (QDialog * *ExtraSettingsWidget*) [inline],[inherited]

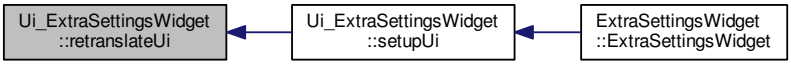
Definition at line 322 of file ui_extrasettingswidget.h.

References Ui_ExtraSettingsWidget::animCountLabel, Ui_ExtraSettingsWidget::animPathLabel, Ui_ExtraSettingsWidget::animScanButton, Ui_ExtraSettingsWidget::brightnessBox, Ui_ExtraSettingsWidget::delayBox, Ui_ExtraSettingsWidget::ditherBox, Ui_ExtraSettingsWidget::fpsWarnLabel, Ui_ExtraSettingsWidget::label, Ui_ExtraSettingsWidget::label_10, Ui_ExtraSettingsWidget::label_11, Ui_ExtraSettingsWidget::label_2, Ui_ExtraSettingsWidget::label_3, Ui_ExtraSettingsWidget::label_5, Ui_ExtraSettingsWidget::label_6, Ui_ExtraSettingsWidget::mAccelBox, Ui_ExtraSettingsWidget::osxLabel, Ui_ExtraSettingsWidget::sAccelBox, and Ui_ExtraSettingsWidget::trayBox.

Referenced by Ui_ExtraSettingsWidget::setupUi().

```
323     {
324         ExtraSettingsWidget->setWindowTitle(QApplication::translate("ExtraSettingsWidget", "Application
      Settings", Q_NULLPTR));
325         fpsWarnLabel->setText(QApplication::translate("ExtraSettingsWidget", "Warning: high
      frame rates may cause stability issues", Q_NULLPTR));
326         label_3->setText(QApplication::translate("ExtraSettingsWidget", "Frame rate (FPS):",
     Q_NULLPTR));
327         label_6->setText(QApplication::translate("ExtraSettingsWidget", "Location:", Q_NULLPTR));
328 #ifndef QT_NO_TOOLTIP
329         sAccelBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "Try this if you're
      having problems with the scroll wheel.", Q_NULLPTR));
330 #endif // QT_NO_TOOLTIP
331         sAccelBox->setText(QApplication::translate("ExtraSettingsWidget", "Disable scroll
     acceleration", Q_NULLPTR));
332         animPathLabel->setText(QApplication::translate("ExtraSettingsWidget", "
    /path/to/animations", Q_NULLPTR));
333         animCountLabel->setText(QApplication::translate("ExtraSettingsWidget", "0 animations
     found", Q_NULLPTR));
334         animScanButton->setText(QApplication::translate("ExtraSettingsWidget", "Re-scan",
     Q_NULLPTR));
335 #ifndef QT_NO_TOOLTIP
336         brightnessBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "By default,
      the same brightness level will be applied to all profiles and all devices. Enable this to store it with the
      lighting mode instead.", Q_NULLPTR));
337 #endif // QT_NO_TOOLTIP
338         brightnessBox->setText(QApplication::translate("ExtraSettingsWidget", "Set brightness
     per-mode", Q_NULLPTR));
339 #ifndef QT_NO_TOOLTIP
340         trayBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "The tray icon will not
     be displayed. The application will still run in the background; re-launch the app to see the GUI again.",
     Q_NULLPTR));
341 #endif // QT_NO_TOOLTIP
342         trayBox->setText(QApplication::translate("ExtraSettingsWidget", "Hide tray icon", Q_NULLPTR)
    );
343         label->setText(QApplication::translate("ExtraSettingsWidget", "Behavior", Q_NULLPTR));
344         label_5->setText(QApplication::translate("ExtraSettingsWidget", "Animation scripts",
     Q_NULLPTR));
345         label_2->setText(QApplication::translate("ExtraSettingsWidget", "Hardware", Q_NULLPTR));
346 #ifndef QT_NO_TOOLTIP
347         ditherBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "May improve
    appearance on some keyboards.", Q_NULLPTR));
348 #endif // QT_NO_TOOLTIP
349         ditherBox->setText(QApplication::translate("ExtraSettingsWidget", "Use spatial dithering
     to simulate extra color resolution", Q_NULLPTR));
350 #ifndef QT_NO_TOOLTIP
351         delayBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "When using macros with
      strings longer than 25 chars, some OS may lose characters (e.g. Mint 17.2). Select to prevent that bug.",
     Q_NULLPTR));
352 #endif // QT_NO_TOOLTIP
353         delayBox->setText(QApplication::translate("ExtraSettingsWidget", "Use delay for very long
     macros", Q_NULLPTR));
354         osxLabel->setText(QApplication::translate("ExtraSettingsWidget", "OS X tweaks", Q_NULLPTR))
    ;
355 #ifndef QT_NO_TOOLTIP
356         mAccelBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "Try this if you're
     having problems with mouse movement.", Q_NULLPTR));
357 #endif // QT_NO_TOOLTIP
358         mAccelBox->setText(QApplication::translate("ExtraSettingsWidget", "Disable mouse
     acceleration", Q_NULLPTR));
359         label_10->setText(QApplication::translate("ExtraSettingsWidget", "Scroll", Q_NULLPTR));
360         label_11->setText(QApplication::translate("ExtraSettingsWidget", "line(s) at a time",
     Q_NULLPTR));
361     } // retranslateUi
```

Here is the caller graph for this function:



12.12.2.2 void Ui_ExtraSettingsWidget::setupUi (QDialog * *ExtraSettingsWidget*) [inline],[inherited]

Definition at line 78 of file ui_extrasettingswidget.h.

References Ui_ExtraSettingsWidget::animCountLabel, Ui_ExtraSettingsWidget::animPathLabel, Ui_ExtraSettingsWidget::animScanButton, Ui_ExtraSettingsWidget::brightnessBox, Ui_ExtraSettingsWidget::buttonBox, Ui_ExtraSettingsWidget::delayBox, Ui_ExtraSettingsWidget::ditherBox, Ui_ExtraSettingsWidget::fpsBox, Ui_ExtraSettingsWidget::fpsWarnLabel, Ui_ExtraSettingsWidget::gridLayout, Ui_ExtraSettingsWidget::horizontalLayout, Ui_ExtraSettingsWidget::horizontalLayout_2, Ui_ExtraSettingsWidget::horizontalSpacer, Ui_ExtraSettingsWidget::horizontalSpacer_2, Ui_ExtraSettingsWidget::horizontalSpacer_3, Ui_ExtraSettingsWidget::label, Ui_ExtraSettingsWidget::label_10, Ui_ExtraSettingsWidget::label_11, Ui_ExtraSettingsWidget::label_2, Ui_ExtraSettingsWidget::label_3, Ui_ExtraSettingsWidget::label_5, Ui_ExtraSettingsWidget::label_6, Ui_ExtraSettingsWidget::line, Ui_ExtraSettingsWidget::line_2, Ui_ExtraSettingsWidget::line_3, Ui_ExtraSettingsWidget::mAccelBox, Ui_ExtraSettingsWidget::osxLabel, Ui_ExtraSettingsWidget::osxLine, Ui_ExtraSettingsWidget::retranslateUi(), Ui_ExtraSettingsWidget::sAccelBox, Ui_ExtraSettingsWidget::sSpeedBox, Ui_ExtraSettingsWidget::sSpeedWidget, Ui_ExtraSettingsWidget::trayBox, Ui_ExtraSettingsWidget::verticalSpacer, Ui_ExtraSettingsWidget::verticalSpacer_10, Ui_ExtraSettingsWidget::verticalSpacer_11, Ui_ExtraSettingsWidget::verticalSpacer_2, Ui_ExtraSettingsWidget::verticalSpacer_3, Ui_ExtraSettingsWidget::verticalSpacer_4, Ui_ExtraSettingsWidget::verticalSpacer_5, Ui_ExtraSettingsWidget::verticalSpacer_6, Ui_ExtraSettingsWidget::verticalSpacer_7, Ui_ExtraSettingsWidget::verticalSpacer_8, and Ui_ExtraSettingsWidget::verticalSpacer_9.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget().

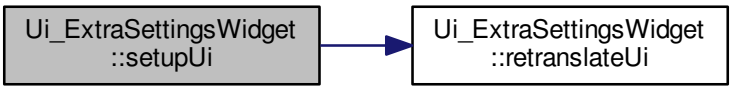
```
79     {
80         if (ExtraSettingsWidget->objectName().isEmpty())
81             ExtraSettingsWidget->setObjectName(QStringLiteral("ExtraSettingsWidget"));
82         ExtraSettingsWidget->resize(650, 515);
83         gridLayout = new QGridLayout(ExtraSettingsWidget);
84         gridLayout->setObjectName(QStringLiteral("gridLayout"));
85         horizontalSpacer_2 = new QSpacerItem(30, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
86
87         gridLayout->addItem(horizontalSpacer_2, 12, 2, 1, 1);
88
89         verticalSpacer = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);
90
91         gridLayout->addItem(verticalSpacer, 2, 0, 1, 1);
92
93         verticalSpacer_3 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
94
95         gridLayout->addItem(verticalSpacer_3, 3, 0, 1, 1);
96
97         verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
98
99         gridLayout->addItem(verticalSpacer_2, 19, 5, 1, 1);
100
101         fpsWarnLabel = new QLabel(ExtraSettingsWidget);
102         fpsWarnLabel->setObjectName(QStringLiteral("fpsWarnLabel"));
103         QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
104         sizePolicy.setHorizontalStretch(0);
105         sizePolicy.setVerticalStretch(0);
106         sizePolicy.setHeightForWidth(fpsWarnLabel->sizePolicy().hasHeightForWidth());
107         fpsWarnLabel->setSizePolicy(sizePolicy);
108
109         gridLayout->addWidget(fpsWarnLabel, 12, 5, 1, 1);
110
111         horizontalSpacer_3 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
```

```
    QSizePolicy::Minimum);
112
113         gridLayout->addItem(horizontalSpacer_3, 12, 4, 1, 1);
114
115         label_3 = new QLabel(ExtraSettingsWidget);
116         label_3->setObjectName(QStringLiteral("label_3"));
117
118         gridLayout->addWidget(label_3, 12, 1, 1, 1);
119
120         fpsBox = new QSpinBox(ExtraSettingsWidget);
121         fpsBox->setObjectName(QStringLiteral("fpsBox"));
122         fpsBox->setMinimum(5);
123         fpsBox->setMaximum(60);
124         fpsBox->setValue(30);
125
126         gridLayout->addWidget(fpsBox, 12, 3, 1, 1);
127
128         verticalSpacer_4 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
129
130         gridLayout->addItem(verticalSpacer_4, 7, 0, 1, 1);
131
132         verticalSpacer_9 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
133
134         gridLayout->addItem(verticalSpacer_9, 12, 0, 1, 1);
135
136         label_6 = new QLabel(ExtraSettingsWidget);
137         label_6->setObjectName(QStringLiteral("label_6"));
138
139         gridLayout->addWidget(label_6, 7, 1, 1, 1);
140
141         verticalSpacer_6 = new QSpacerItem(20, 10, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
142
143         gridLayout->addItem(verticalSpacer_6, 8, 1, 1, 1);
144
145         verticalSpacer_5 = new QSpacerItem(20, 10, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
146
147         gridLayout->addItem(verticalSpacer_5, 4, 1, 1, 1);
148
149         sAccelBox = new QCheckBox(ExtraSettingsWidget);
150         sAccelBox->setObjectName(QStringLiteral("sAccelBox"));
151
152         gridLayout->addWidget(sAccelBox, 18, 1, 1, 4);
153
154         verticalSpacer_7 = new QSpacerItem(20, 10, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
155
156         gridLayout->addItem(verticalSpacer_7, 14, 1, 1, 1);
157
158         verticalSpacer_8 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
159
160         gridLayout->addItem(verticalSpacer_8, 13, 0, 1, 1);
161
162         verticalSpacer_10 = new QSpacerItem(0, 28, QSizePolicy::Minimum,
    QSizePolicy::Fixed);
163
164         gridLayout->addItem(verticalSpacer_10, 17, 0, 1, 1);
165
166         verticalSpacer_11 = new QSpacerItem(0, 28, QSizePolicy::Minimum,
    QSizePolicy::Fixed);
167
168         gridLayout->addItem(verticalSpacer_11, 18, 0, 1, 1);
169
170         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
171
172         gridLayout->addItem(horizontalSpacer, 12, 6, 1, 1);
173
174         line_2 = new QFrame(ExtraSettingsWidget);
175         line_2->setObjectName(QStringLiteral("line_2"));
176         line_2->setFrameShape(QFrame::HLine);
177         line_2->setFrameShadow(QFrame::Sunken);
178
179         gridLayout->addWidget(line_2, 10, 0, 1, 7);
180
181         horizontalLayout = new QHBoxLayout();
182         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
183         animPathLabel = new QLabel(ExtraSettingsWidget);
184         animPathLabel->setObjectName(QStringLiteral("animPathLabel"));
185
186         horizontalLayout->addWidget(animPathLabel);
187
188         animCountLabel = new QLabel(ExtraSettingsWidget);
```

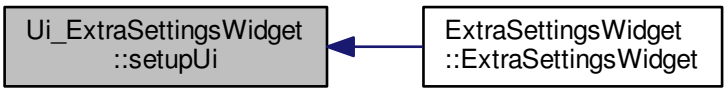
```
189         animCountLabel->setObjectName(QStringLiteral("animCountLabel"));
190         sizePolicy.setHeightForWidth(animCountLabel->sizePolicy().hasHeightForWidth());
191         animCountLabel->setSizePolicy(sizePolicy);
192         animCountLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
193 
194         horizontalLayout->addWidget(animCountLabel);
195 
196         animScanButton = new QPushButton(ExtraSettingsWidget);
197         animScanButton->setObjectName(QStringLiteral("animScanButton"));
198 
199         horizontalLayout->addWidget(animScanButton);
200 
201 
202         gridLayout->addLayout(horizontalLayout, 7, 3, 1, 4);
203 
204         brightnessBox = new QCheckBox(ExtraSettingsWidget);
205         brightnessBox->setObjectName(QStringLiteral("brightnessBox"));
206 
207         gridLayout->addWidget(brightnessBox, 3, 1, 1, 6);
208 
209         trayBox = new QCheckBox(ExtraSettingsWidget);
210         trayBox->setObjectName(QStringLiteral("trayBox"));
211 
212         gridLayout->addWidget(trayBox, 2, 1, 1, 6);
213 
214         label = new QLabel(ExtraSettingsWidget);
215         label->setObjectName(QStringLiteral("label"));
216         QFont font;
217         font.setBold(true);
218         font.setWeight(75);
219         label->setFont(font);
220 
221         gridLayout->addWidget(label, 0, 0, 1, 7);
222 
223         line = new QFrame(ExtraSettingsWidget);
224         line->setObjectName(QStringLiteral("line"));
225         line->setFrameShape(QFrame::HLine);
226         line->setFrameShadow(QFrame::Sunken);
227 
228         gridLayout->addWidget(line, 1, 0, 1, 7);
229 
230         label_5 = new QLabel(ExtraSettingsWidget);
231         label_5->setObjectName(QStringLiteral("label_5"));
232         label_5->setFont(font);
233 
234         gridLayout->addWidget(label_5, 5, 0, 1, 7);
235 
236         line_3 = new QFrame(ExtraSettingsWidget);
237         line_3->setObjectName(QStringLiteral("line_3"));
238         line_3->setFrameShape(QFrame::HLine);
239         line_3->setFrameShadow(QFrame::Sunken);
240 
241         gridLayout->addWidget(line_3, 6, 0, 1, 7);
242 
243         label_2 = new QLabel(ExtraSettingsWidget);
244         label_2->setObjectName(QStringLiteral("label_2"));
245         label_2->setFont(font);
246 
247         gridLayout->addWidget(label_2, 9, 0, 1, 7);
248 
249         ditherBox = new QCheckBox(ExtraSettingsWidget);
250         ditherBox->setObjectName(QStringLiteral("ditherBox"));
251 
252         gridLayout->addWidget(ditherBox, 13, 1, 1, 6);
253 
254         delayBox = new QCheckBox(ExtraSettingsWidget);
255         delayBox->setObjectName(QStringLiteral("delayBox"));
256 
257         gridLayout->addWidget(delayBox, 14, 1, 1, 6);
258 
259         osxLabel = new QLabel(ExtraSettingsWidget);
260         osxLabel->setObjectName(QStringLiteral("osxLabel"));
261         osxLabel->setFont(font);
262 
263         gridLayout->addWidget(osxLabel, 15, 0, 1, 7);
264 
265         osxLine = new QFrame(ExtraSettingsWidget);
266         osxLine->setObjectName(QStringLiteral("osxLine"));
267         osxLine->setFrameShape(QFrame::HLine);
268         osxLine->setFrameShadow(QFrame::Sunken);
269 
270         gridLayout->addWidget(osxLine, 16, 0, 1, 7);
271 
272         mAccelBox = new QCheckBox(ExtraSettingsWidget);
273         mAccelBox->setObjectName(QStringLiteral("mAccelBox"));
274 
275         gridLayout->addWidget(mAccelBox, 17, 1, 1, 6);
```

```
276
277         sSpeedWidget = new QWidget(ExtraSettingsWidget);
278         sSpeedWidget->setObjectName(QStringLiteral("sSpeedWidget"));
279         sizePolicy.setHeightForWidth(sSpeedWidget->sizePolicy().hasHeightForWidth());
280         sSpeedWidget->setSizePolicy(sizePolicy);
281         horizontalLayout_2 = new QHBoxLayout(sSpeedWidget);
282         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
283         horizontalLayout_2->setContentsMargins(0, 0, 0, 0);
284         label_10 = new QLabel(sSpeedWidget);
285         label_10->setObjectName(QStringLiteral("label_10"));
286
287         horizontalLayout_2->addWidget(label_10);
288
289         sSpeedBox = new QSpinBox(sSpeedWidget);
290         sSpeedBox->setObjectName(QStringLiteral("sSpeedBox"));
291         sSpeedBox->setMinimum(1);
292         sSpeedBox->setMaximum(10);
293         sSpeedBox->setValue(3);
294
295         horizontalLayout_2->addWidget(sSpeedBox);
296
297         label_11 = new QLabel(sSpeedWidget);
298         label_11->setObjectName(QStringLiteral("label_11"));
299         sizePolicy.setHeightForWidth(label_11->sizePolicy().hasHeightForWidth());
300         label_11->setSizePolicy(sizePolicy);
301
302         horizontalLayout_2->addWidget(label_11);
303
304
305         gridLayout->addWidget(sSpeedWidget, 18, 5, 1, 2);
306
307         buttonBox = new QDialogButtonBox(ExtraSettingsWidget);
308         buttonBox->setObjectName(QStringLiteral("buttonBox"));
309         buttonBox->setOrientation(Qt::Horizontal);
310         buttonBox->setStandardButtons(QDialogButtonBox::Ok);
311
312         gridLayout->addWidget(buttonBox, 20, 0, 1, 7);
313
314
315         retranslateUi(ExtraSettingsWidget);
316         QObject::connect(buttonBox, SIGNAL(accepted()), ExtraSettingsWidget, SLOT(accept()));
317         QObject::connect(buttonBox, SIGNAL(rejected()), ExtraSettingsWidget, SLOT(reject()));
318
319         QMetaObject::connectSlotsByName(ExtraSettingsWidget);
320     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.12.3 Field Documentation

12.12.3.1 QLabel* Ui_ExtraSettingsWidget::animCountLabel [inherited]

Definition at line 57 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::on_animScanButton_clicked(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.2 QLabel* Ui_ExtraSettingsWidget::animPathLabel [inherited]

Definition at line 56 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.3 QPushButton* Ui_ExtraSettingsWidget::animScanButton [inherited]

Definition at line 58 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.4 QCheckBox* Ui_ExtraSettingsWidget::brightnessBox [inherited]

Definition at line 59 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.5 QDialogButtonBox* Ui_ExtraSettingsWidget::buttonBox [inherited]

Definition at line 76 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.6 QCheckBox* Ui_ExtraSettingsWidget::delayBox [inherited]

Definition at line 67 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.7 QCheckBox* Ui_ExtraSettingsWidget::ditherBox [inherited]

Definition at line 66 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.8 QSpinBox* Ui_ExtraSettingsWidget::fpsBox [inherited]

Definition at line 42 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.9 QLabel* Ui_ExtraSettingsWidget::fpsWarnLabel [inherited]

Definition at line 39 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_fpsBox_valueChanged(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.10 QGridLayout* Ui_ExtraSettingsWidget::gridLayout [inherited]

Definition at line 34 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.11 QHBoxLayout* Ui_ExtraSettingsWidget::horizontalLayout [inherited]

Definition at line 55 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.12 QHBoxLayout* Ui_ExtraSettingsWidget::horizontalLayout_2 [inherited]

Definition at line 72 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.13 QSpacerItem* Ui_ExtraSettingsWidget::horizontalSpacer [inherited]

Definition at line 53 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.14 QSpacerItem* Ui_ExtraSettingsWidget::horizontalSpacer_2 [inherited]

Definition at line 35 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.15 QSpacerItem* Ui_ExtraSettingsWidget::horizontalSpacer_3 [inherited]

Definition at line 40 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.16 QLabel* Ui_ExtraSettingsWidget::label [inherited]

Definition at line 61 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.17 QLabel* Ui_ExtraSettingsWidget::label_10 [inherited]

Definition at line 73 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.18 QLabel* Ui_ExtraSettingsWidget::label_11 [inherited]

Definition at line 75 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.19 QLabel* Ui_ExtraSettingsWidget::label_2 [inherited]

Definition at line 65 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.20 QLabel* Ui_ExtraSettingsWidget::label_3 [inherited]

Definition at line 41 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.21 QLabel* Ui_ExtraSettingsWidget::label_5 [inherited]

Definition at line 63 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.22 QLabel* Ui_ExtraSettingsWidget::label_6 [inherited]

Definition at line 45 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.23 QFrame* Ui_ExtraSettingsWidget::line [inherited]

Definition at line 62 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.24 QFrame* Ui_ExtraSettingsWidget::line_2 [inherited]

Definition at line 54 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.25 QFrame* Ui_ExtraSettingsWidget::line_3 [inherited]

Definition at line 64 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.26 QCheckBox* Ui_ExtraSettingsWidget::mAccelBox [inherited]

Definition at line 70 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.27 QLabel* Ui_ExtraSettingsWidget::osxLabel [inherited]

Definition at line 68 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.28 QFrame* Ui_ExtraSettingsWidget::osxLine [inherited]

Definition at line 69 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.29 QCheckBox* Ui_ExtraSettingsWidget::sAccelBox [inherited]

Definition at line 48 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_sSpeedBox_valueChanged(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.30 QSpinBox* Ui_ExtraSettingsWidget::sSpeedBox [inherited]

Definition at line 74 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_sAccelBox_clicked(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.31 QWidget* Ui_ExtraSettingsWidget::sSpeedWidget [inherited]

Definition at line 71 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_sAccelBox_clicked(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.32 QCheckBox* Ui_ExtraSettingsWidget::trayBox [inherited]

Definition at line 60 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), Ui_ExtraSettingsWidget::retranslateUi(), and Ui_ExtraSettingsWidget::setupUi().

12.12.3.33 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer [inherited]

Definition at line 36 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.34 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_10 [inherited]

Definition at line 51 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.35 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_11 [inherited]

Definition at line 52 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.36 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_2 [inherited]

Definition at line 38 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.37 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_3 [inherited]

Definition at line 37 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.38 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_4 [inherited]

Definition at line 43 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.39 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_5 [inherited]

Definition at line 47 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.40 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_6 [inherited]

Definition at line 46 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.41 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_7 [inherited]

Definition at line 49 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.42 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_8 [inherited]

Definition at line 50 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

12.12.3.43 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_9 [inherited]

Definition at line 44 of file ui_extrasettingswidget.h.

Referenced by Ui_ExtraSettingsWidget::setupUi().

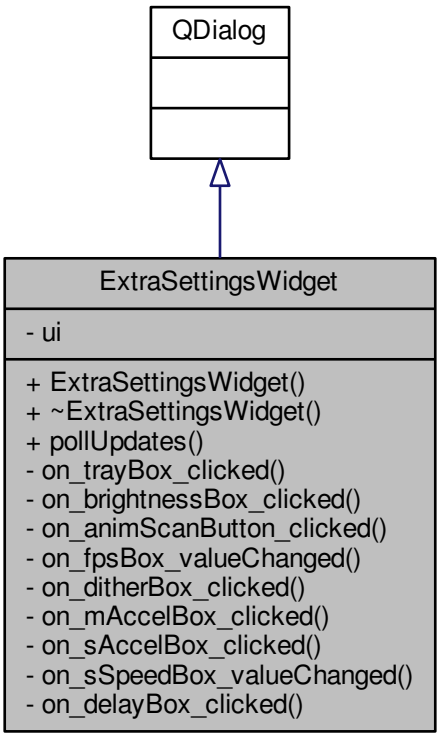
The documentation for this class was generated from the following file:

- src/ckb/ui_extrasettingswidget.h

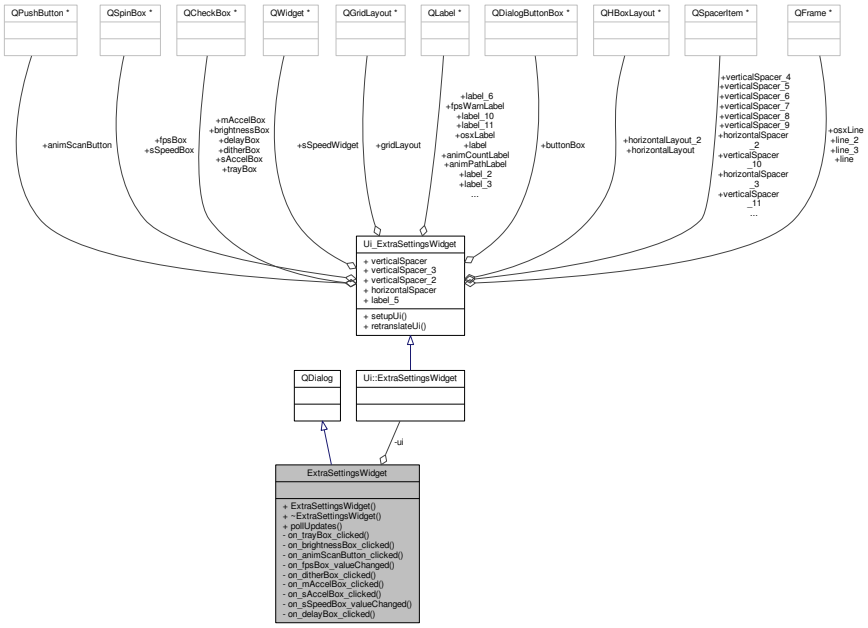
12.13 ExtraSettingsWidget Class Reference

`#include <src/ckb/extrasettingswidget.h>`

Inheritance diagram for ExtraSettingsWidget:



Collaboration diagram for ExtraSettingsWidget:



Public Member Functions

- ExtraSettingsWidget (QWidget *parent=0)
- ~ExtraSettingsWidget ()
- void pollUpdates ()

Private Slots

- void on_trayBox_clicked (bool checked)
- void on_brightnessBox_clicked (bool checked)
- void on_animScanButton_clicked ()
- void on_fpsBox_valueChanged (int arg1)
- void on_ditherBox_clicked (bool checked)
- void on_mAccelBox_clicked (bool checked)
- void on_sAccelBox_clicked (bool checked)
- void on_sSpeedBox_valueChanged (int arg1)
- void on_delayBox_clicked (bool checked)

Private Attributes

- Ui::ExtraSettingsWidget * ui

12.13.1 Detailed Description

Definition at line 10 of file extrasettingswidget.h.

12.13.2 Constructor & Destructor Documentation

12.13.2.1 ExtraSettingsWidget::ExtraSettingsWidget (QWidget * *parent* = 0) [explicit]

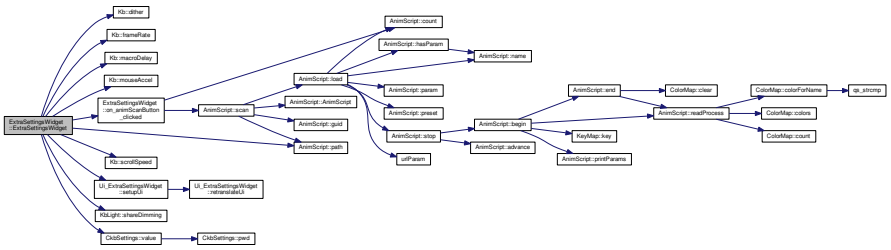
Read Macro Delay setting, update UI and Kb-internal flag

Definition at line 10 of file extrasettingswidget.cpp.

References Ui_ExtraSettingsWidget::animPathLabel, Ui_ExtraSettingsWidget::brightnessBox, Ui_ExtraSettingsWidget::delayBox, Kb::dither(), Ui_ExtraSettingsWidget::ditherBox, Ui_ExtraSettingsWidget::fpsBox, Ui_ExtraSettingsWidget::fpsWarnLabel, Kb::frameRate(), lastSharedDimming, Ui_ExtraSettingsWidget::mAccelBox, Kb::macroDelay(), KbLight::MAX_DIM, Kb::mouseAccel(), on_animScanButton_clicked(), Ui_ExtraSettingsWidget::osxLabel, Ui_ExtraSettingsWidget::osxLine, AnimScript::path(), Ui_ExtraSettingsWidget::sAccelBox, Kb::scrollSpeed(), Ui_ExtraSettingsWidget::setupUi(), KbLight::shareDimming(), Ui_ExtraSettingsWidget::sSpeedBox, Ui_ExtraSettingsWidget::sSpeedWidget, Ui_ExtraSettingsWidget::trayBox, ui, and CkbSettings::value().

```
10                                                      :
11     QDialog(parent),
12     ui(new Ui::ExtraSettingsWidget)
13 {
14     ui->setupUi(this);
15     CkbSettings settings("Program");
16
17     // Read frame rate from settings
18     int rate = settings.value("framerate").toInt();
19     if(rate <= 0 || rate > 60)
20         rate = 30;
21     ui->fpsBox->setValue(rate);
22     Kb::frameRate(rate);
23     ui->fpsWarnLabel->setVisible(rate > 30);
24
25     // Read global brightness setting (default = on, 100% brightness)
26     int dimming = settings.value("GlobalBrightness").toInt();
27     if(dimming < -1 || dimming > KbLight::MAX_DIM)
28         dimming = 0;
29     lastSharedDimming = dimming;
30     KbLight::shareDimming(dimming);
31     // Set checkbox value (-1 = don't share)
32     ui->brightnessBox->setChecked(dimming == -1);
33
34     // Read dither
35     bool dither = settings.value("Dither").toBool();
36     Kb::dither(dither);
37     ui->ditherBox->setChecked(dither);
38
39 #ifdef Q_OS_MACX
40     // Read OSX settings
41     bool noAccel = settings.value("DisableMouseAccel").toBool();
42     Kb::mouseAccel(!noAccel);
43     ui->mAccelBox->setChecked(noAccel);
44     bool noScrollAccel = settings.value("DisableScrollAccel").toBool();
45     int scrollSpeed = settings.value("ScrollSpeed", 3).toInt();
46     ui->sAccelBox->setChecked(noScrollAccel);
47     ui->sSpeedBox->setValue(scrollSpeed);
48     Kb::scrollSpeed(noScrollAccel ? scrollSpeed : 0);
49     if(!noScrollAccel)
50         ui->sSpeedWidget->hide();
51 #else
52     // Hide all OSX options on Linux
53     ui->osxLabel->hide();
54     ui->osxLine->hide();
55     ui->mAccelBox->hide();
56     ui->sAccelBox->hide();
57     ui->sSpeedWidget->hide();
58 #endif
59
60     // Read tray icon setting
61     ui->trayBox->setChecked(settings.value("SuppressTrayIcon").toBool());
62
63     // Update animation info
64     ui->animPathLabel->setText(AnimScript::path());
65     on_animScanButton_clicked();
66
67     bool macroDelay = settings.value("MacroDelay").toBool();
68     Kb::macroDelay(macroDelay);
69     ui->delayBox->setChecked(macroDelay);
70 }
```

Here is the call graph for this function:



12.13.2.2 ExtraSettingsWidget::~ExtraSettingsWidget ( )

Definition at line 73 of file extrasettingswidget.cpp.

References ui.

```
73                                          {
74     delete ui;
75 }
```

12.13.3 Member Function Documentation

12.13.3.1 void ExtraSettingsWidget::on_animScanButton_clicked ( ) [private], [slot]

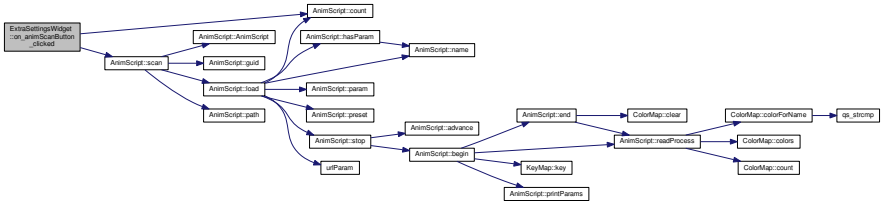
Definition at line 87 of file extrasettingswidget.cpp.

References Ui_ExtraSettingsWidget::animCountLabel, AnimScript::count(), AnimScript::scan(), and ui.

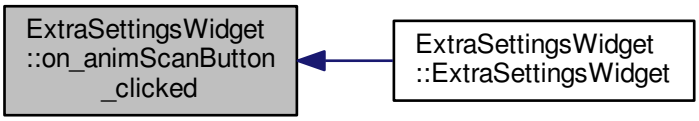
Referenced by ExtraSettingsWidget().

```
87                                                  {
88     AnimScript::scan();
89     int count = AnimScript::count();
90     if(count == 0)
91         ui->animCountLabel->setText("No animations found");
92     else if(count == 1)
93         ui->animCountLabel->setText("1 animation found");
94     else
95         ui->animCountLabel->setText(QString("%1 animations found").arg(count));
96 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



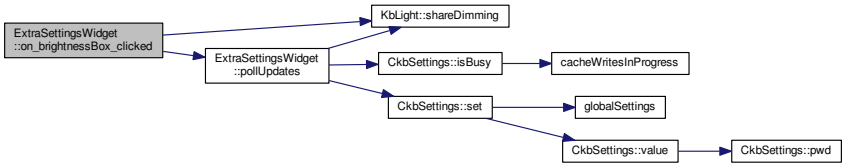
12.13.3.2 void ExtraSettingsWidget::on_brightnessBox_clicked (bool *checked*) [private], [slot]

Definition at line 82 of file extrasettingswidget.cpp.

References pollUpdates(), and KbLight::shareDimming().

```
82                                                          {
83     KbLight::shareDimming(checked ? -1 : 0);
84     pollUpdates();
85 }
```

Here is the call graph for this function:



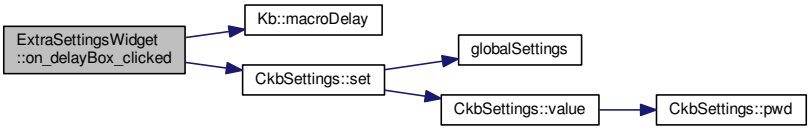
12.13.3.3 void ExtraSettingsWidget::on_delayBox_clicked (bool *checked*) [private], [slot]

Definition at line 143 of file extrasettingswidget.cpp.

References Kb::macroDelay(), and CkbSettings::set().

```
143                                                         {
144     CkbSettings::set("Program/MacroDelay", checked);
145     Kb::macroDelay(checked);
146 }
```

Here is the call graph for this function:



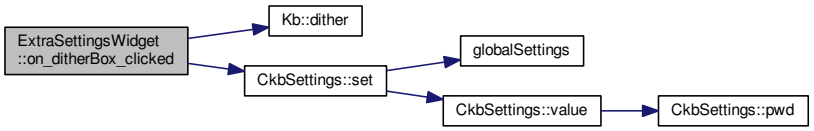
12.13.3.4 void ExtraSettingsWidget::on_ditherBox_clicked (bool *checked*) [private], [slot]

Definition at line 110 of file extrasettingswidget.cpp.

References Kb::dither(), and CkbSettings::set().

```
110                                                     {
111     CkbSettings::set("Program/Dither", checked);
112     Kb::dither(checked);
113 }
```

Here is the call graph for this function:



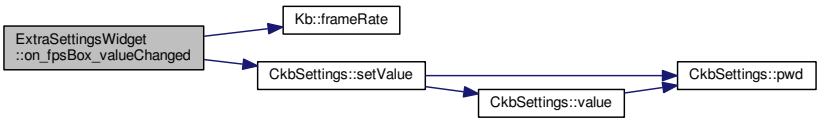
12.13.3.5 void ExtraSettingsWidget::on_fpsBox_valueChanged (int *arg1*) [private], [slot]

Definition at line 98 of file extrasettingswidget.cpp.

References Ui_ExtraSettingsWidget::fpsWarnLabel, Kb::frameRate(), CkbSettings::setValue(), and ui.

```
98                                                      {
99     // Set FPS
100     CkbSettings settings("Program");
101     settings.setValue("framerate", arg1);
102     Kb::frameRate(arg1);
103     // Show warning label if FPS is above 30
104     if(arg1 > 30)
105         ui->fpsWarnLabel->show();
106     else
107         ui->fpsWarnLabel->hide();
108 }
```

Here is the call graph for this function:



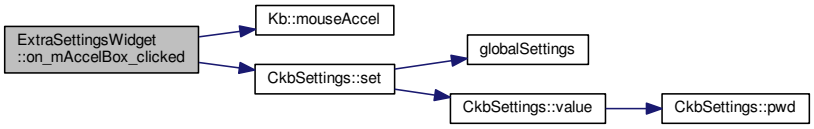
12.13.3.6 void ExtraSettingsWidget::on_mAccelBox_clicked (bool *checked*) [private], [slot]

Definition at line 124 of file extrasettingswidget.cpp.

References Kb::mouseAccel(), and CkbSettings::set().

```
124                                                     {
125     CkbSettings::set("Program/DisableMouseAccel", checked);
126     Kb::mouseAccel(!checked);
127 }
```

Here is the call graph for this function:



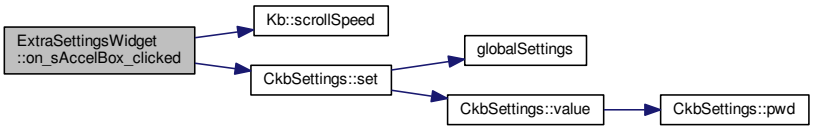
12.13.3.7 void ExtraSettingsWidget::on_sAccelBox_clicked (bool *checked*) [private], [slot]

Definition at line 129 of file extrasettingswidget.cpp.

References Kb::scrollSpeed(), CkbSettings::set(), Ui_ExtraSettingsWidget::sSpeedBox, Ui_ExtraSettingsWidget::sSpeedWidget, and ui.

```
129                                                         {
130     CkbSettings::set("Program/DisableScrollAccel", checked);
131     Kb::scrollSpeed(checked ? ui->sSpeedBox->value() : 0);
132     if(checked)
133         ui->sSpeedWidget->show();
134     else
135         ui->sSpeedWidget->hide();
136 }
```

Here is the call graph for this function:



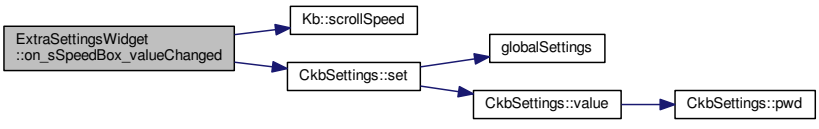
12.13.3.8 void ExtraSettingsWidget::on_sSpeedBox_valueChanged (int *arg1*) [private], [slot]

Definition at line 138 of file extrasettingswidget.cpp.

References Ui_ExtraSettingsWidget::sAccelBox, Kb::scrollSpeed(), CkbSettings::set(), and ui.

```
138                                                         {
139     CkbSettings::set("Program/ScrollSpeed", arg1);
140     Kb::scrollSpeed(ui->sAccelBox->isChecked() ? arg1 : 0);
141 }
```

Here is the call graph for this function:



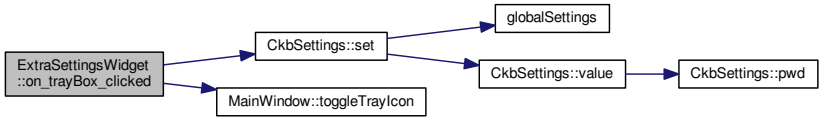
12.13.3.9 void ExtraSettingsWidget::on_trayBox_clicked (bool *checked*) [private], [slot]

Definition at line 77 of file extrasettingswidget.cpp.

References MainWindow::mainWindow, CkbSettings::set(), and MainWindow::toggleTrayIcon().

```
77                                                  {
78     CkbSettings::set("Program/SuppressTrayIcon", checked);
79     MainWindow::mainWindow->toggleTrayIcon(!checked);
80 }
```

Here is the call graph for this function:



12.13.3.10 void ExtraSettingsWidget::pollUpdates ( )

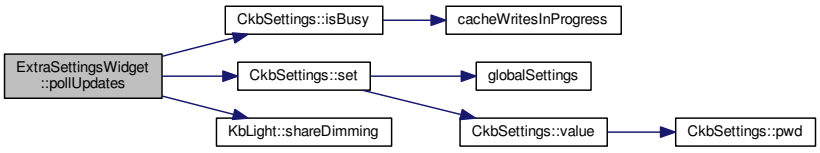
Definition at line 115 of file extrasettingswidget.cpp.

References CkbSettings::isBusy(), lastSharedDimming, CkbSettings::set(), and KbLight::shareDimming().

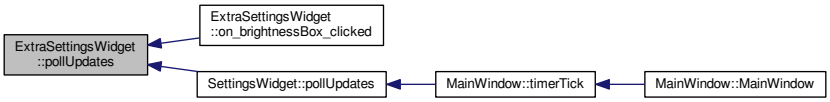
Referenced by on_brightnessBox_clicked(), and SettingsWidget::pollUpdates().

```
115                                     {
116     // Check for changes to shared brightness setting
117     int dimming = KbLight::shareDimming();
118     if(dimming != lastSharedDimming && !CkbSettings::isBusy()){
119         CkbSettings::set("Program/GlobalBrightness", dimming);
120         lastSharedDimming = dimming;
121     }
122 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.13.4 Field Documentation

12.13.4.1 Ui::ExtraSettingsWidget* ExtraSettingsWidget::ui [private]

Definition at line 33 of file extrasettingswidget.h.

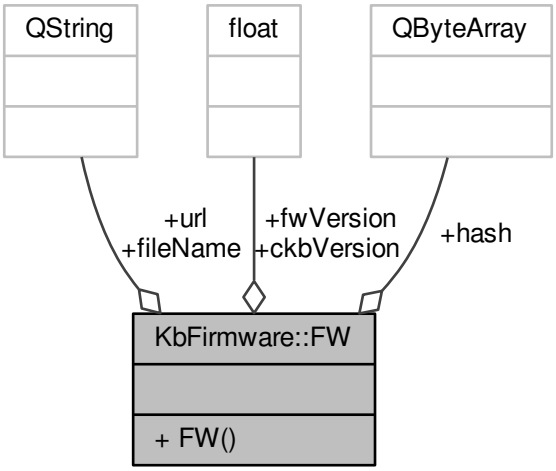
Referenced by ExtraSettingsWidget(), on_animScanButton_clicked(), on_fpsBox_valueChanged(), on_sAccelBox_clicked(), on_sSpeedBox_valueChanged(), and ~ExtraSettingsWidget().

The documentation for this class was generated from the following files:

- src/ckb/extrasettingswidget.h
- src/ckb/extrasettingswidget.cpp

12.14 KbFirmware::FW Struct Reference

Collaboration diagram for KbFirmware::FW:



Public Member Functions

- FW ()

Data Fields

- QString url
- QString fileName
- QByteArray hash
- float fwVersion
- float ckbVersion

12.14.1 Detailed Description

Definition at line 34 of file kbfirmware.h.

12.14.2 Constructor & Destructor Documentation

12.14.2.1 KbFirmware::FW::FW ( )

Definition at line 12 of file kbfirmware.cpp.

```
12 : fwVersion(0.f), ckbVersion(0.f) {}
```

12.14.3 Field Documentation

12.14.3.1 float KbFirmware::FW::ckbVersion

Definition at line 37 of file kbfirmware.h.

Referenced by KbFirmware::_latestForBoard(), and KbFirmware::processDownload().

12.14.3.2 QString KbFirmware::FW::fileName

Definition at line 35 of file kbfirmware.h.

Referenced by KbFirmware::_fileForBoard(), and KbFirmware::processDownload().

12.14.3.3 float KbFirmware::FW::fwVersion

Definition at line 37 of file kbfirmware.h.

Referenced by KbFirmware::_latestForBoard(), and KbFirmware::processDownload().

12.14.3.4 QByteArray KbFirmware::FW::hash

Definition at line 36 of file kbfirmware.h.

Referenced by KbFirmware::_fileForBoard(), KbFirmware::_latestForBoard(), and KbFirmware::processDownload().

12.14.3.5 QString KbFirmware::FW::url

Definition at line 35 of file kbfirmware.h.

Referenced by KbFirmware::_fileForBoard(), and KbFirmware::processDownload().

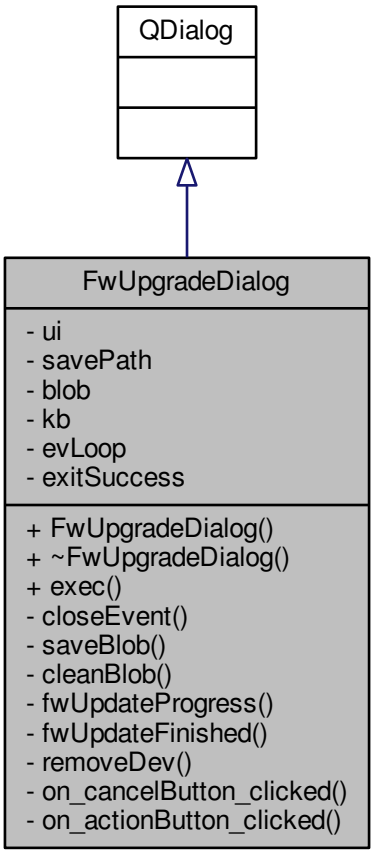
The documentation for this struct was generated from the following files:

- src/ckb/kbfirmware.h
- src/ckb/kbfirmware.cpp

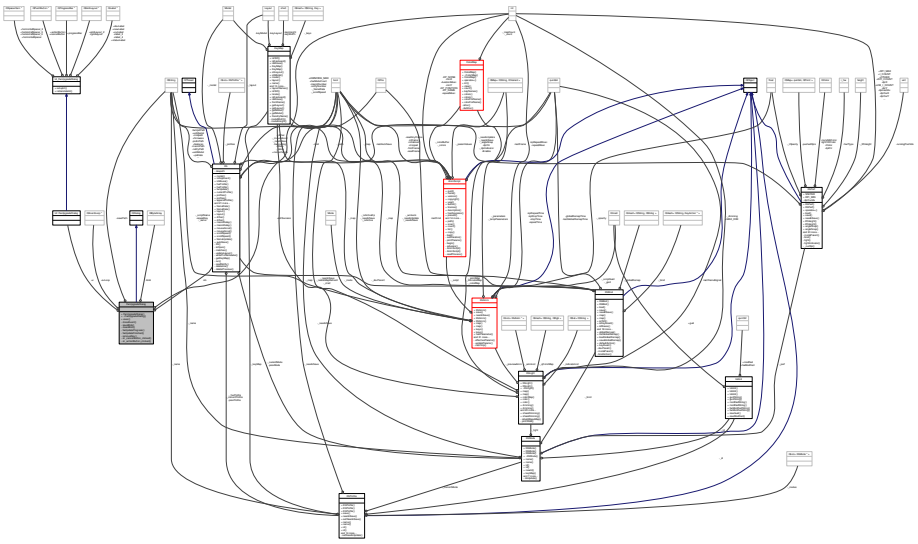
12.15 FwUpgradeDialog Class Reference

`#include <src/ckb/fwupgradedialog.h>`

Inheritance diagram for FwUpgradeDialog:



Collaboration diagram for FwUpgradeDialog:



Public Member Functions

- FwUpgradeDialog (QWidget *parent, float newV, const QByteArray &fwBlob, Kb *device)
- ~FwUpgradeDialog ()
- int exec ()

Private Slots

- void fwUpdateProgress (int current, int total)
- void fwUpdateFinished (bool succeeded)
- void removeDev ()
- void on_cancelButton_clicked ()
- void on_actionButton_clicked ()

Private Member Functions

- void closeEvent (QCloseEvent *event)
- const QString & saveBlob ()
- void cleanBlob ()

Private Attributes

- Ui::FwUpgradeDialog * ui
- QString savePath
- QByteArray blob
- Kb * kb
- QEventLoop * evLoop
- bool exitSuccess

12.15.1 Detailed Description

Definition at line 13 of file fwupgradedialog.h.

12.15.2 Constructor & Destructor Documentation

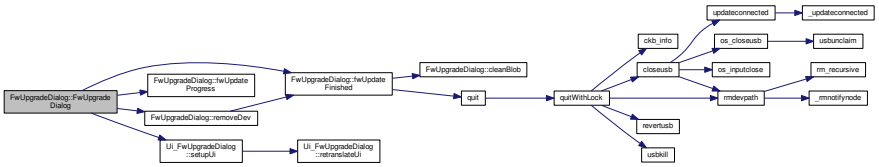
12.15.2.1 FwUpgradeDialog::FwUpgradeDialog (QWidget * *parent,* float *newV,* const QByteArray & *fwBlob,* Kb * *device*)

Definition at line 31 of file fwupgradedialog.cpp.

References Ui_FwUpgradeDialog::curLabel, Ui_FwUpgradeDialog::devLabel, DIALOG_HEIGHT_MIN, DIALOG_WIDTH, Kb::firmware, fwUpdateFinished(), fwUpdateProgress(), kb, Ui_FwUpgradeDialog::newLabel, removeDev(), Ui_FwUpgradeDialog::setupUi(), ui, and Kb::usbModel.

```
31                                                                                                    :
32     QDialog(parent),
33     ui(new Ui::FwUpgradeDialog),
34     blob(fwBlob), kb(device), evLoop(0), exitSuccess(true)
35 {
36     ui->setupUi(this);
37     ui->curLabel->setText(kb->firmware);
38     ui->newLabel->setText(QString::number(newV, 'f', 2));
39     ui->devLabel->setText(kb->usbModel);
40
41     connect(device, SIGNAL(destroyed()), this, SLOT(removeDev()));
42     connect(device, SIGNAL(fwUpdateProgress(int,int)), this, SLOT(
       fwUpdateProgress(int,int)));
43     connect(device, SIGNAL(fwUpdateFinished(bool)), this, SLOT(
       fwUpdateFinished(bool)));
44
45     setFixedSize(DIALOG_WIDTH, DIALOG_HEIGHT_MIN);
46 }
```

Here is the call graph for this function:



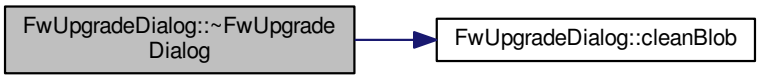
12.15.2.2 FwUpgradeDialog::~FwUpgradeDialog ( )

Definition at line 48 of file fwupgradedialog.cpp.

References cleanBlob(), and ui.

```
48                                      {
49      cleanBlob();
50      delete ui;
51  }
```

Here is the call graph for this function:



12.15.3 Member Function Documentation

12.15.3.1 void FwUpgradeDialog::cleanBlob ( ) [private]

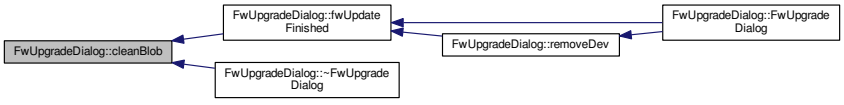
Definition at line 77 of file fwupgradedialog.cpp.

References savePath.

Referenced by fwUpdateFinished(), and ~FwUpgradeDialog().

```
77                                      {
78      if(savePath.isEmpty())
79          return;
80      QFile(savePath).remove();
81      savePath = "";
82  }
```

Here is the caller graph for this function:



12.15.3.2 void FwUpgradeDialog::closeEvent (QCloseEvent * *event*) [private]

Definition at line 53 of file fwupgradedialog.cpp.

```
53                                                {
54     event->ignore();
55 }
```

12.15.3.3 int FwUpgradeDialog::exec ( )

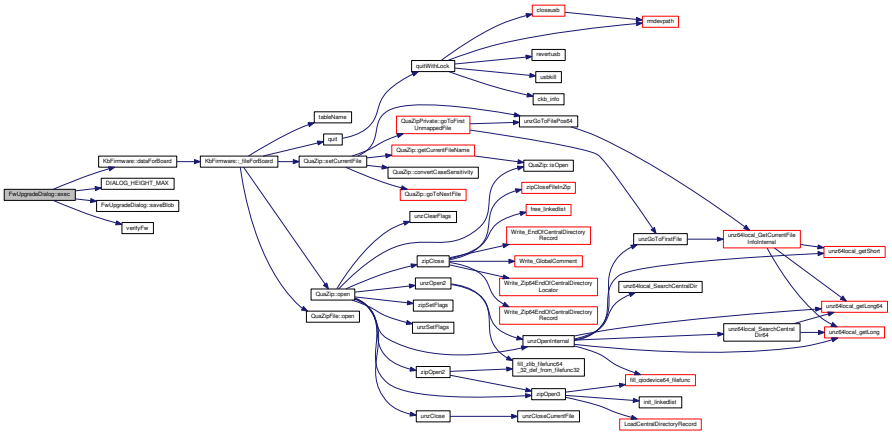
Definition at line 107 of file fwupgradedialog.cpp.

References Ui_FwUpgradeDialog::actionButton, blob, Ui_FwUpgradeDialog::cancelButton, KbFirmware::dataForBoard(), DIALOG_HEIGHT_MAX(), DIALOG_WIDTH, evLoop, exitSuccess, Kb::features, kb, Ui_FwUpgradeDialog::newLabel, Ui_FwUpgradeDialog::progressBar, saveBlob(), Ui_FwUpgradeDialog::statusLabel, ui, and verifyFw().

Referenced by KbWidget::on_fwUpdButton_clicked().

```
107                         {
108     QString features = kb->features;
109     if(!blob.isEmpty()){
110         // If a blob was already specified, check its version and validity
111         float newV = verifyFw(blob, features);
112         if(newV == 0.f){
113             QMessageBox::warning(parentWidget(), "Error", "<center>Not a valid firmware for this
    device.</center>");
114             return QDialog::Rejected;
115         }
116         ui->newLabel->setText(QString::number(newV, 'f', 2));
117     } else {
118         // Download a new blob file
119         ui->progressBar->show();
120         ui->cancelButton->setEnabled(false);
121         ui->actionButton->setEnabled(false);
122         show();
123         // This can take a while
124         blob = KbFirmware::dataForBoard(features);
125         // Check validity
126         float newV = verifyFw(blob, features);
127         if(newV == 0.f){
128             hide();
129             QMessageBox::warning(parentWidget(), "Error", "<center>There was a problem with the downloaded
    file.<br />Please try again later.</center>");
130             return QDialog::Rejected;
131         }
132     }
133     // Save temporary file
134     if(saveBlob().isEmpty()){
135         hide();
136         QMessageBox::warning(parentWidget(), "Error", "<center>Unable to save temporary file.</center>");
137         return QDialog::Rejected;
138     }
139     // Set up UI
140     ui->progressBar->setValue(0);
141     ui->progressBar->setMaximum(1);
142     ui->progressBar->setTextVisible(false);
143     ui->statusLabel->setText("Ready to install new firmware.<br /><br /><b>Disclaimer:</b> ckb
    is not endorsed by Corsair. This is <i>unlikely</i> to brick your device, but I accept no responsibility if
    it does. If you're paranoid, update from Windows.");
144     ui->cancelButton->setEnabled(true);
145     ui->actionButton->setEnabled(true);
146     setFixedSize(DIALOG_WIDTH, DIALOG_HEIGHT_MAX);
147     show();
148     // Run modal event loop
149     evLoop = new QEventLoop(this);
150     evLoop->exec();
151     delete evLoop;
152     hide();
153     return exitSuccess ? QDialog::Accepted : QDialog::Rejected;
154 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.15.3.4 void FwUpgradeDialog::fwUpdateFinished (bool *succeeded*) [private], [slot]

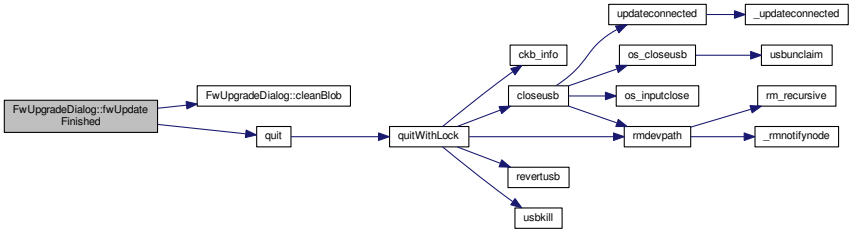
Definition at line 170 of file fwupgradedialog.cpp.

References Ui_FwUpgradeDialog::actionButton, cleanBlob(), evLoop, Ui_FwUpgradeDialog::progressBar, quit(), Ui_FwUpgradeDialog::statusLabel, and ui.

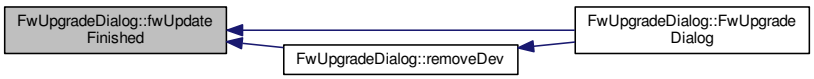
Referenced by FwUpgradeDialog(), and removeDev().

```
170                                                 {
171     cleanBlob();
172     if(succeeded)
173         ui->statusLabel->setText("Update successful!");
174     else
175         ui->statusLabel->setText("Update failed.");
176     ui->actionButton->setText("OK");
177     ui->actionButton->setEnabled(true);
178     ui->progressBar->setMaximum(1);
179     ui->progressBar->setValue(1);
180     // Exit after 10s
181     if(evLoop)
182         QTimer::singleShot(10000, evLoop, SLOT(quit()));
183 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.15.3.5 void FwUpgradeDialog::fwUpdateProgress (int *current*, int *total*) [private], [slot]

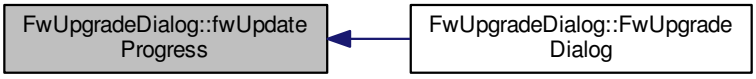
Definition at line 163 of file fwupgradedialog.cpp.

References Ui_FwUpgradeDialog::progressBar, and ui.

Referenced by FwUpgradeDialog().

```
163                                                         {
164     if(current > 0 && total > 0){
165         ui->progressBar->setMaximum(total);
166         ui->progressBar->setValue(current);
167     }
168 }
```

Here is the caller graph for this function:



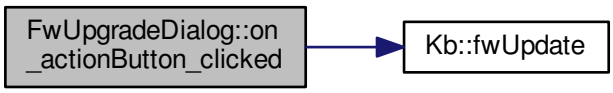
12.15.3.6 void FwUpgradeDialog::on_actionButton_clicked ( ) [private], [slot]

Definition at line 191 of file fwupgradedialog.cpp.

References Ui_FwUpgradeDialog::actionButton, Ui_FwUpgradeDialog::cancelButton, DIALOG_HEIGHT_MIN, DIALOG_WIDTH, evLoop, Kb::fwUpdate(), kb, Ui_FwUpgradeDialog::progressBar, savePath, Ui_FwUpgradeDialog::statusLabel, and ui.

```
191                                             {
192     if(!savePath.isEmpty() && kb){
193         // Start upgrade
194         setFixedSize(DIALOG_WIDTH, DIALOG_HEIGHT_MIN);
195         ui->progressBar->show();
196         ui->progressBar->setValue(0);
197         ui->progressBar->setMaximum(0);
198         ui->progressBar->setTextVisible(true);
199         ui->cancelButton->hide();
200         ui->actionButton->setEnabled(false);
201         ui->actionButton->setText("Please wait");
202         ui->statusLabel->setText("Installing firmware...");
203         kb->fwUpdate(savePath);
204     } else {
205         // Finished, close dialog.
206         if(evLoop)
207             evLoop->quit();
208     }
209 }
```

Here is the call graph for this function:



12.15.3.7 void FwUpgradeDialog::on_cancelButton_clicked ( ) [private], [slot]

Definition at line 185 of file fwupgradedialog.cpp.

References evLoop, and exitSuccess.

```
185                                             {
186     exitSuccess = false;
187     if(evLoop)
188         evLoop->quit();
189 }
```

12.15.3.8 void FwUpgradeDialog::removeDev ( ) [private], [slot]

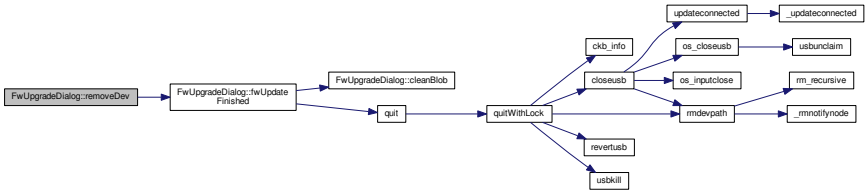
Definition at line 156 of file fwupgradedialog.cpp.

References fwUpdateFinished(), kb, and savePath.

Referenced by FwUpgradeDialog().

```
156                                 {
157     kb = 0;
158     // Assume success if upgrade in progress
159     if(!savePath.isEmpty())
160         fwUpdateFinished(true);
161 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.15.3.9 const QString & FwUpgradeDialog::saveBlob ( ) [private]

Definition at line 57 of file fwupgradedialog.cpp.

References blob, and savePath.

Referenced by exec().

```
57                                          {
58     if(!savePath.isEmpty())
59         return savePath;
60     QDir tmp = QDir::temp();
61     qint64 pid = QCoreApplication::applicationPid();
62     QString path = tmp.absoluteFilePath(QString("ckb-%1-fwblob.bin").arg(pid));
63     QFile output(path);
64     if(!output.open(QIODevice::WriteOnly)){
65         return savePath;
66     }
67     if(!output.write(blob)){
68         output.close();
69         tmp.remove(path);
70         return savePath;
71     }
72     output.close();
73     savePath = path;
74     return savePath;
75 }
```

Here is the caller graph for this function:

12.15.4 Field Documentation

12.15.4.1 QByteArray FwUpgradeDialog::blob [private]

Definition at line 41 of file fwupgradedialog.h.

Referenced by exec(), and saveBlob().

12.15.4.2 QEventLoop* FwUpgradeDialog::evLoop [private]

Definition at line 45 of file fwupgradedialog.h.

Referenced by exec(), fwUpdateFinished(), on_actionButton_clicked(), and on_cancelButton_clicked().

12.15.4.3 bool FwUpgradeDialog::exitSuccess [private]

Definition at line 46 of file fwupgradedialog.h.

Referenced by exec(), and on_cancelButton_clicked().

12.15.4.4 Kb* FwUpgradeDialog::kb [private]

Definition at line 42 of file fwupgradedialog.h.

Referenced by exec(), FwUpgradeDialog(), on_actionButton_clicked(), and removeDev().

12.15.4.5 QString FwUpgradeDialog::savePath [private]

Definition at line 37 of file fwupgradedialog.h.

Referenced by cleanBlob(), on_actionButton_clicked(), removeDev(), and saveBlob().

12.15.4.6 Ui::FwUpgradeDialog* FwUpgradeDialog::ui [private]

Definition at line 32 of file fwupgradedialog.h.

Referenced by exec(), fwUpdateFinished(), fwUpdateProgress(), FwUpgradeDialog(), on_actionButton_clicked(), and ~FwUpgradeDialog().

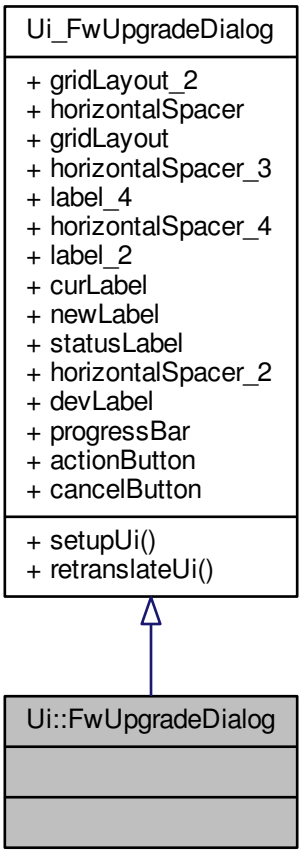
The documentation for this class was generated from the following files:

- src/ckb/fwupgradedialog.h
- src/ckb/fwupgradedialog.cpp

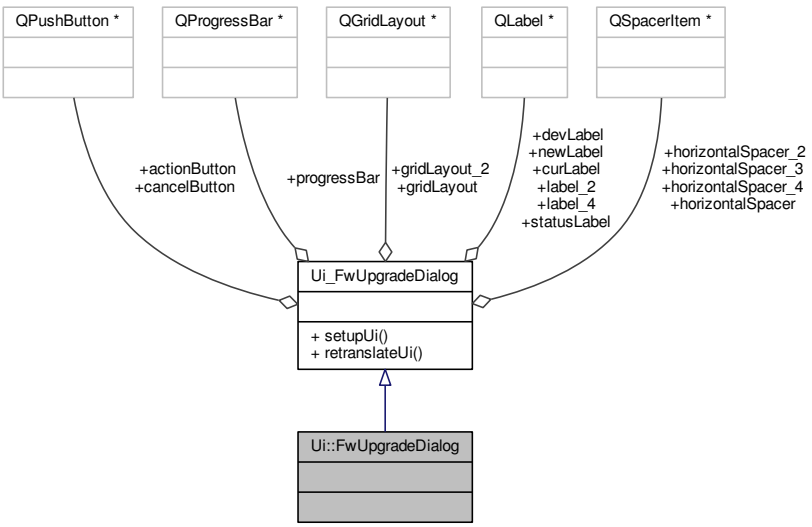
12.16 Ui::FwUpgradeDialog Class Reference

`#include <src/ckb/ui_fwupgradedialog.h>`

Inheritance diagram for Ui::FwUpgradeDialog:



Collaboration diagram for Ui::FwUpgradeDialog:



Public Member Functions

- void setupUi (QDialog *FwUpgradeDialog)
- void retranslateUi (QDialog *FwUpgradeDialog)

Data Fields

- QGridLayout * gridLayout_2
- QSpacerItem * horizontalSpacer
- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer_3
- QLabel * label_4
- QSpacerItem * horizontalSpacer_4
- QLabel * label_2
- QLabel * curLabel
- QLabel * newLabel
- QLabel * statusLabel
- QSpacerItem * horizontalSpacer_2
- QLabel * devLabel
- QProgressBar * progressBar
- QPushButton * actionButton
- QPushButton * cancelButton

12.16.1 Detailed Description

Definition at line 171 of file ui_fwupgradedialog.h.

12.16.2 Member Function Documentation

12.16.2.1 void Ui_FwUpgradeDialog::retranslateUi (QDialog * *FwUpgradeDialog*) [inline],[inherited]

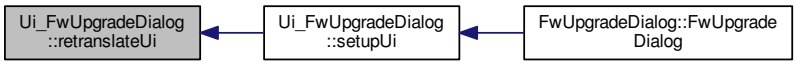
Definition at line 155 of file ui_fwupgradedialog.h.

References Ui_FwUpgradeDialog::actionButton, Ui_FwUpgradeDialog::cancelButton, Ui_FwUpgradeDialog::curLabel, Ui_FwUpgradeDialog::devLabel, Ui_FwUpgradeDialog::label_2, Ui_FwUpgradeDialog::label_4, Ui_FwUpgradeDialog::newLabel, and Ui_FwUpgradeDialog::statusLabel.

Referenced by Ui_FwUpgradeDialog::setupUi().

```
156     {
157         FwUpgradeDialog->setWindowTitle(QApplication::translate("FwUpgradeDialog", "Firmware update",
    Q_NULLPTR));
158         label_4->setText(QApplication::translate("FwUpgradeDialog", "New:", Q_NULLPTR));
159         label_2->setText(QApplication::translate("FwUpgradeDialog", "Current:", Q_NULLPTR));
160         curLabel->setText(QApplication::translate("FwUpgradeDialog", "0.00", Q_NULLPTR));
161         newLabel->setText(QApplication::translate("FwUpgradeDialog", "0.00", Q_NULLPTR));
162         statusLabel->setText(QApplication::translate("FwUpgradeDialog", "Downloading new
     firmware, please wait...", Q_NULLPTR));
163         devLabel->setText(QApplication::translate("FwUpgradeDialog", "Device", Q_NULLPTR));
164         actionButton->setText(QApplication::translate("FwUpgradeDialog", "Start", Q_NULLPTR));
165         cancelButton->setText(QApplication::translate("FwUpgradeDialog", "Cancel", Q_NULLPTR));
166     } // retranslateUi
```

Here is the caller graph for this function:



12.16.2.2 void Ui_FwUpgradeDialog::setupUi (QDialog * *FwUpgradeDialog*) [inline],[inherited]

Definition at line 45 of file ui_fwupgradedialog.h.

References Ui_FwUpgradeDialog::actionButton, Ui_FwUpgradeDialog::cancelButton, Ui_FwUpgradeDialog::curLabel, Ui_FwUpgradeDialog::devLabel, Ui_FwUpgradeDialog::gridLayout, Ui_FwUpgradeDialog::gridLayout_2, Ui_FwUpgradeDialog::horizontalSpacer, Ui_FwUpgradeDialog::horizontalSpacer_2, Ui_FwUpgradeDialog::horizontalSpacer_3, Ui_FwUpgradeDialog::horizontalSpacer_4, Ui_FwUpgradeDialog::label_2, Ui_FwUpgradeDialog::label_4, Ui_FwUpgradeDialog::newLabel, Ui_FwUpgradeDialog::progressBar, Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgradeDialog::statusLabel.

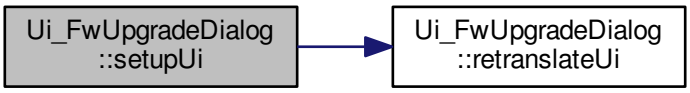
Referenced by FwUpgradeDialog::FwUpgradeDialog().

```
46     {
47         if (FwUpgradeDialog->objectName().isEmpty())
48             FwUpgradeDialog->setObjectName(QStringLiteral("FwUpgradeDialog"));
49         FwUpgradeDialog->resize(420, 240);
50         QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
51         sizePolicy.setHorizontalStretch(0);
52         sizePolicy.setVerticalStretch(0);
53         sizePolicy.setHeightForWidth(FwUpgradeDialog->sizePolicy().hasHeightForWidth());
54         FwUpgradeDialog->setSizePolicy(sizePolicy);
55         gridLayout_2 = new QGridLayout(FwUpgradeDialog);
56         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
57         horizontalSpacer = new QSpacerItem(127, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
58
59         gridLayout_2->addItem(horizontalSpacer, 1, 0, 1, 1);
60
61         gridLayout = new QGridLayout();
62         gridLayout->setObjectName(QStringLiteral("gridLayout"));
63         horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
```

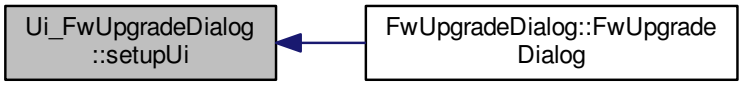
```
64
65          gridLayout->addItem(horizontalSpacer_3, 1, 0, 1, 1);
66
67          label_4 = new QLabel(FwUpgradeDialog);
68          label_4->setObjectName(QStringLiteral("label_4"));
69          QFont font;
70          font.setBold(true);
71          font.setWeight(75);
72          label_4->setFont(font);
73
74          gridLayout->addWidget(label_4, 1, 4, 1, 1);
75
76          horizontalSpacer_4 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
      QSizePolicy::Minimum);
77
78          gridLayout->addItem(horizontalSpacer_4, 1, 6, 1, 1);
79
80          label_2 = new QLabel(FwUpgradeDialog);
81          label_2->setObjectName(QStringLiteral("label_2"));
82          label_2->setFont(font);
83
84          gridLayout->addWidget(label_2, 1, 1, 1, 1);
85
86          curLabel = new QLabel(FwUpgradeDialog);
87          curLabel->setObjectName(QStringLiteral("curLabel"));
88
89          gridLayout->addWidget(curLabel, 1, 2, 1, 1);
90
91          newLabel = new QLabel(FwUpgradeDialog);
92          newLabel->setObjectName(QStringLiteral("newLabel"));
93
94          gridLayout->addWidget(newLabel, 1, 5, 1, 1);
95
96          statusLabel = new QLabel(FwUpgradeDialog);
97          statusLabel->setObjectName(QStringLiteral("statusLabel"));
98          QSizePolicy sizePolicy1(QSizePolicy::Preferred, QSizePolicy::Expanding);
99          sizePolicy1.setHorizontalStretch(0);
100          sizePolicy1.setVerticalStretch(0);
101          sizePolicy1.setHeightForWidth(statusLabel->sizePolicy().hasHeightForWidth());
102          statusLabel->setSizePolicy(sizePolicy1);
103          statusLabel->setAlignment(Qt::AlignCenter);
104          statusLabel->setWordWrap(true);
105
106          gridLayout->addWidget(statusLabel, 2, 0, 1, 7);
107
108          horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
      QSizePolicy::Minimum);
109
110          gridLayout->addItem(horizontalSpacer_2, 1, 3, 1, 1);
111
112          devLabel = new QLabel(FwUpgradeDialog);
113          devLabel->setObjectName(QStringLiteral("devLabel"));
114          QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Minimum);
115          sizePolicy2.setHorizontalStretch(0);
116          sizePolicy2.setVerticalStretch(0);
117          sizePolicy2.setHeightForWidth(devLabel->sizePolicy().hasHeightForWidth());
118          devLabel->setSizePolicy(sizePolicy2);
119          devLabel->setFont(font);
120          devLabel->setAlignment(Qt::AlignCenter);
121
122          gridLayout->addWidget(devLabel, 0, 0, 1, 7);
123
124          progressBar = new QProgressBar(FwUpgradeDialog);
125          progressBar->setObjectName(QStringLiteral("progressBar"));
126          progressBar->setMaximum(0);
127          progressBar->setValue(0);
128
129          gridLayout->addWidget(progressBar, 3, 0, 1, 7);
130
131
132          gridLayout_2->addLayout(gridLayout, 0, 0, 1, 3);
133
134          actionButton = new QPushButton(FwUpgradeDialog);
135          actionButton->setObjectName(QStringLiteral("actionButton"));
136          actionButton->setEnabled(false);
137
138          gridLayout_2->addWidget(actionButton, 1, 2, 1, 1);
139
140          cancelButton = new QPushButton(FwUpgradeDialog);
141          cancelButton->setObjectName(QStringLiteral("cancelButton"));
142          cancelButton->setEnabled(false);
143
144          gridLayout_2->addWidget(cancelButton, 1, 1, 1, 1);
145
146
147          retranslateUi(FwUpgradeDialog);
148
```

```
149         actionButton->setDefault(true);
150
151
152         QMetaObject::connectSlotsByName(FwUpgradeDialog);
153     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.16.3 Field Documentation

12.16.3.1 QPushButton* Ui_FwUpgradeDialog::actionButton [inherited]

Definition at line 42 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::fwUpdateFinished(), FwUpgradeDialog::on_actionButton_clicked(), Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgradeDialog::setupUi().

12.16.3.2 QPushButton* Ui_FwUpgradeDialog::cancelButton [inherited]

Definition at line 43 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::on_actionButton_clicked(), Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgradeDialog::setupUi().

12.16.3.3 QLabel* Ui_FwUpgradeDialog::curLabel [inherited]

Definition at line 36 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::FwUpgradeDialog(), Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgradeDialog::setupUi().

12.16.3.4 QLabel* Ui_FwUpgradeDialog::devLabel [inherited]

Definition at line 40 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::FwUpgradeDialog(), Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgrade-Dialog::setupUi().

12.16.3.5 QGridLayout* Ui_FwUpgradeDialog::gridLayout [inherited]

Definition at line 31 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.16.3.6 QGridLayout* Ui_FwUpgradeDialog::gridLayout_2 [inherited]

Definition at line 29 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.16.3.7 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer [inherited]

Definition at line 30 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.16.3.8 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_2 [inherited]

Definition at line 39 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.16.3.9 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_3 [inherited]

Definition at line 32 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.16.3.10 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_4 [inherited]

Definition at line 34 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::setupUi().

12.16.3.11 QLabel* Ui_FwUpgradeDialog::label_2 [inherited]

Definition at line 35 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgradeDialog::setupUi().

12.16.3.12 QLabel* Ui_FwUpgradeDialog::label_4 [inherited]

Definition at line 33 of file ui_fwupgradedialog.h.

Referenced by Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgradeDialog::setupUi().

12.16.3.13 QLabel* Ui_FwUpgradeDialog::newLabel [inherited]

Definition at line 37 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::FwUpgradeDialog(), Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgradeDialog::setupUi().

12.16.3.14 QProgressBar* Ui_FwUpgradeDialog::progressBar [inherited]

Definition at line 41 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::fwUpdateFinished(), FwUpgradeDialog::fwUpdateProgress(), FwUpgradeDialog::on_actionButton_clicked(), and Ui_FwUpgradeDialog::setupUi().

12.16.3.15 QLabel* Ui_FwUpgradeDialog::statusLabel [inherited]

Definition at line 38 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::fwUpdateFinished(), FwUpgradeDialog::on_actionButton_clicked(), Ui_FwUpgradeDialog::retranslateUi(), and Ui_FwUpgradeDialog::setupUi().

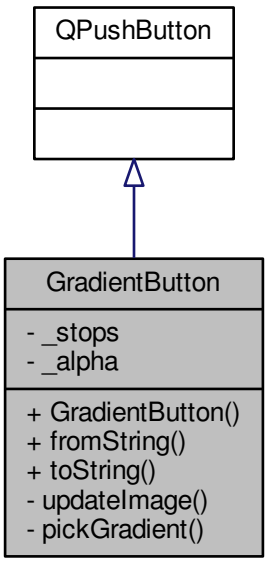
The documentation for this class was generated from the following file:

- src/ckb/ui_fwupgradedialog.h

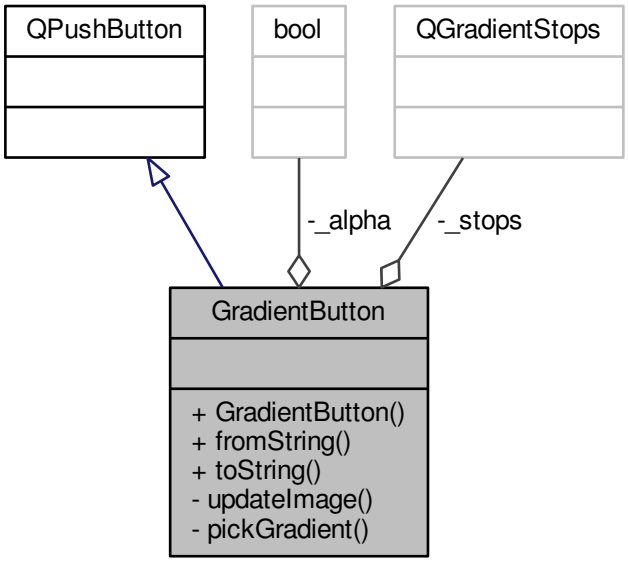
12.17 GradientButton Class Reference

`#include <src/ckb/gradientbutton.h>`

Inheritance diagram for GradientButton:



Collaboration diagram for GradientButton:



Signals

- void gradientChanged ()

Public Member Functions

- GradientButton (QWidget *parent=0, bool allowAlpha=false)
- void fromString (const QString &string)
- QString toString () const

Private Slots

- void pickGradient ()

Private Member Functions

- void updateImage ()

Private Attributes

- QGradientStops _stops
- bool _alpha

12.17.1 Detailed Description

Definition at line 6 of file gradientbutton.h.

12.17.2 Constructor & Destructor Documentation

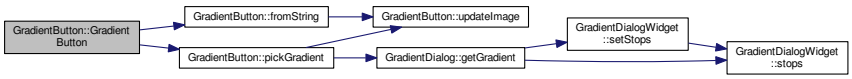
12.17.2.1 GradientButton::GradientButton (QWidget * *parent* = 0, bool *allowAlpha* = false) [explicit]

Definition at line 7 of file gradientbutton.cpp.

References fromString(), and pickGradient().

```
7                                                                   :
8     QPushButton(parent), _alpha(allowAlpha)
9 {
10     connect(this, SIGNAL(clicked()), this, SLOT(pickGradient()));
11     setAutoDefault(false);
12     setDefault(false);
13     fromString("");
14     setText("");
15 }
```

Here is the call graph for this function:



12.17.3 Member Function Documentation

12.17.3.1 void GradientButton::fromString (const QString & *string*)

Definition at line 38 of file gradientbutton.cpp.

References _alpha, _stops, and updateImage().

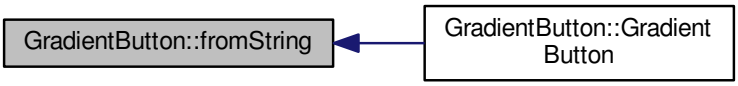
Referenced by GradientButton().

```
38                                                  {
39     // Clear existing stops
40     _stops.clear();
41     // Parse string with sscanf
42     QByteArray cString = string.toLatin1();
43     const char* data = cString.data();
44     char pos = -1;
45     uchar a, r, g, b;
46     while(1){
47         int scanned = 0;
48         char newpos;
49         if(sscanf(data, "%hhd:%2hhx%2hhx%2hhx%2hhx%n", &newpos, &a, &r, &g, &b, &scanned) != 5)
50             break;
51         data += scanned;
52         // Don't allow stops out-of-order or past 100
53         if(newpos <= pos || newpos > 100)
54             break;
55         pos = newpos;
56         if(!_alpha)
57             a = 255;
58         _stops.append(QGradientStop(pos / 100., QColor(r, g, b, a)));
59     }
60     if(_stops.count() == 0){
61         // If nothing was read, try a single ARGB constant.
62         if(sscanf(data, "%2hhx%2hhx%2hhx%2hhx", &a, &r, &g, &b) == 4){
63             _stops.append(QGradientStop(0., QColor(r, g, b, a)));
64             _stops.append(QGradientStop(1., QColor(r, g, b, 0.)));
65         }
66     }
67     // If that still didn't work, fill with white
68     if(_stops.count() == 0){
69         _stops.append(QGradientStop(0., QColor(255, 255, 255)));
70         _stops.append(QGradientStop(1., QColor(255, 255, 255)));
71     }
72     // Make sure there are stops at 0 and at 100
73     if(_stops[0].first != 0.)
74         _stops.prepend(QGradientStop(0., _stops[0].second));
```

```
75     if(_stops.last().first != 1.)
76         _stops.prepend(QGradientStop(1., _stops.last().second));
77     updateImage();
78 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.17.3.2 void GradientButton::gradientChanged ( ) [signal]

Definition at line 132 of file moc_gradientbutton.cpp.

Referenced by pickGradient().

```
133 {
134     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
135 }
```

Here is the caller graph for this function:

12.17.3.3 void GradientButton::pickGradient ( ) [private], [slot]

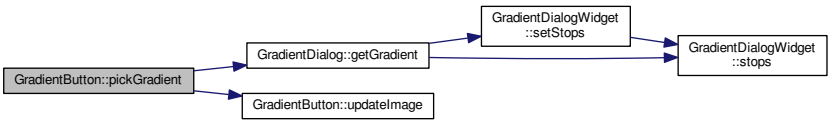
Definition at line 90 of file gradientbutton.cpp.

References _stops, GradientDialog::getGradient(), gradientChanged(), and updateImage().

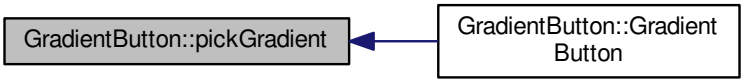
Referenced by GradientButton().

```
90                                  {
91     GradientDialog dialog(this);
92     _stops = dialog.getGradient(_stops);
93     updateImage();
94     emit gradientChanged();
95 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.17.3.4 QString GradientButton::toString ( ) const

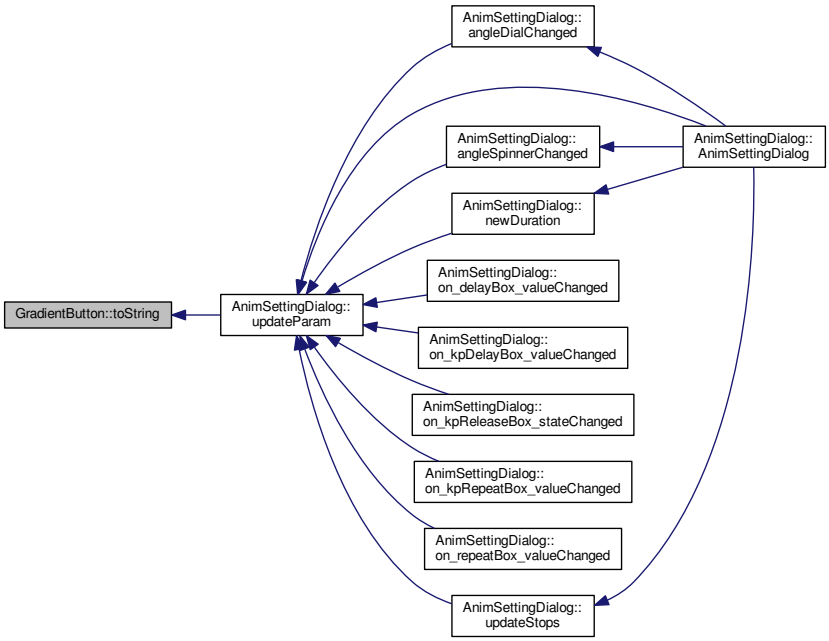
Definition at line 80 of file gradientbutton.cpp.

References _stops.

Referenced by AnimSettingDialog::updateParam().

```
80                                      {
81     QStringList result;
82     foreach(const QGradientStop& stop, _stops){
83         QString string;
84         const QColor& color = stop.second;
85         result << string.sprintf("%d:%02x%02x%02x%02x", (int)round(stop.first * 100.f), color.alpha(),
       color.red(), color.green(), color.blue());
86     }
87     return result.join(" ");
88 }
```

Here is the caller graph for this function:



12.17.3.5 void GradientButton::updateImage ( ) [private]

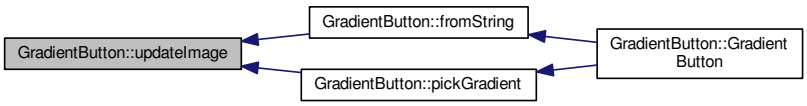
Definition at line 17 of file gradientbutton.cpp.

References _alpha, _stops, and x.

Referenced by fromString(), and pickGradient().

```
17                                {
18     const int w = 130, h = 16;
19     QImage image(w, h, QImage::Format_RGB888);
20     QPainter painter(&image);
21     painter.setPen(Qt::NoPen);
22     painter.fillRect(0, 0, w, h, QColor(0, 0, 0));
23     if(_alpha){
24         for(int x = 1; x < w - 1; x += h){
25             painter.fillRect(x, 1, h / 2, h / 2 - 1, QColor(255, 255, 255));
26             painter.fillRect(x + h / 2, 1, h / 2, h / 2 - 1, QColor(192, 192, 192));
27             painter.fillRect(x, h / 2, h / 2, h / 2 - 1, QColor(192, 192, 192));
28             painter.fillRect(x + h / 2, h / 2, h / 2, h / 2 - 1, QColor(255, 255, 255));
29         }
30     }
31     QLinearGradient gradient(1., 0., w - 1, 0.);
32     gradient.setStops(_stops);
33     painter.fillRect(1, 1, w - 2, h - 2, QBrush(gradient));
34     setIconSize(QSize(w, h));
35     setIcon(QIcon(QPixmap::fromImage(image)));
36 }
```

Here is the caller graph for this function:



12.17.4 Field Documentation

12.17.4.1 bool GradientButton::_alpha [private]

Definition at line 23 of file gradientbutton.h.

Referenced by fromString(), and updateImage().

12.17.4.2 QGradientStops GradientButton::_stops [private]

Definition at line 22 of file gradientbutton.h.

Referenced by fromString(), pickGradient(), toString(), and updateImage().

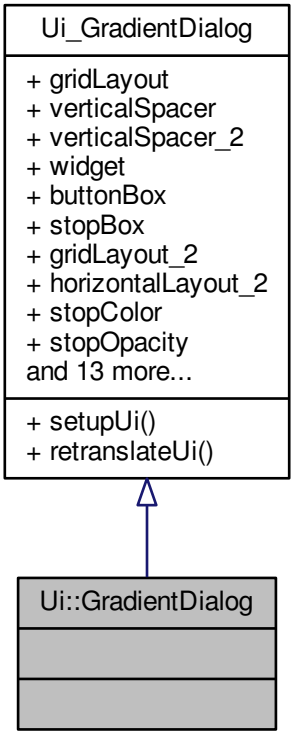
The documentation for this class was generated from the following files:

- src/ckb/gradientbutton.h
- src/ckb/gradientbutton.cpp
- src/ckb/release/moc_gradientbutton.cpp

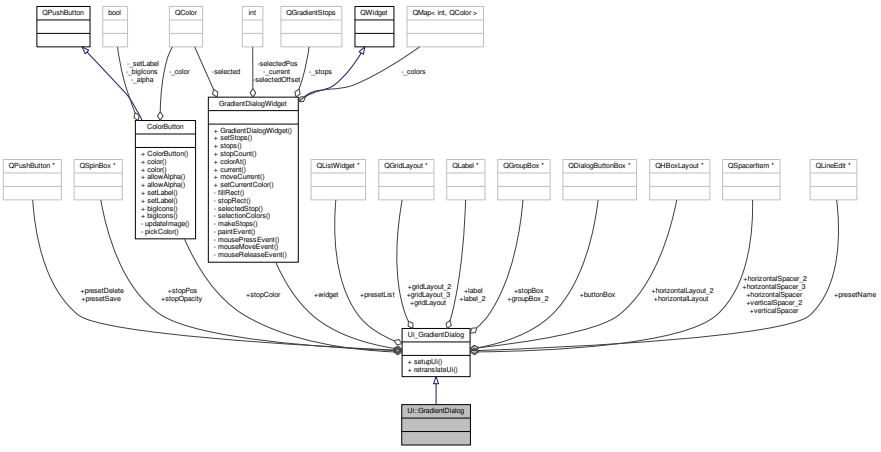
12.18 Ui::GradientDialog Class Reference

`#include <src/ckb/ui_gradientdialog.h>`

Inheritance diagram for Ui::GradientDialog:



Collaboration diagram for Ui::GradientDialog:



Public Member Functions

- void setupUi (QDialog ∗GradientDialog)
- void retranslateUi (QDialog ∗GradientDialog)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_2
- GradientDialogWidget * widget
- QDialogButtonBox * buttonBox
- QGroupBox * stopBox
- QGridLayout * gridLayout_2
- QHBoxLayout * horizontalLayout_2
- ColorButton * stopColor
- QSpinBox * stopOpacity
- QSpacerItem * horizontalSpacer_2
- QLabel * label
- QHBoxLayout * horizontalLayout
- QSpinBox * stopPos
- QSpacerItem * horizontalSpacer
- QLabel * label_2
- QSpacerItem * horizontalSpacer_3
- QGroupBox * groupBox_2
- QGridLayout * gridLayout_3
- QListWidget * presetList
- QLineEdit * presetName
- QPushButton * presetSave
- QPushButton * presetDelete

12.18.1 Detailed Description

Definition at line 225 of file ui_gradientdialog.h.

12.18.2 Member Function Documentation

12.18.2.1 void Ui_GradientDialog::retranslateUi (QDialog * *GradientDialog*) [inline], [inherited]

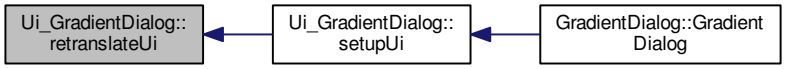
Definition at line 207 of file ui_gradientdialog.h.

References Ui_GradientDialog::groupBox_2, Ui_GradientDialog::label, Ui_GradientDialog::label_2, Ui_GradientDialog::presetDelete, Ui_GradientDialog::presetName, Ui_GradientDialog::presetSave, Ui_GradientDialog::stopBox, Ui_GradientDialog::stopColor, Ui_GradientDialog::stopOpacity, and Ui_GradientDialog::stopPos.

Referenced by Ui_GradientDialog::setupUi().

```
208     {
209         GradientDialog->setWindowTitle(QApplication::translate("GradientDialog", "Pick Gradient", Q_NULLPTR
    ));
210         stopBox->setTitle(QApplication::translate("GradientDialog", "Point X of Y", Q_NULLPTR));
211         stopColor->setText(QApplication::translate("GradientDialog", "Pick Color...", Q_NULLPTR));
212         stopOpacity->setSuffix(QApplication::translate("GradientDialog", "%", Q_NULLPTR));
213         label->setText(QApplication::translate("GradientDialog", "Position:", Q_NULLPTR));
214         stopPos->setSuffix(QApplication::translate("GradientDialog", "%", Q_NULLPTR));
215         label_2->setText(QApplication::translate("GradientDialog", "Color:", Q_NULLPTR));
216         groupBox_2->setTitle(QApplication::translate("GradientDialog", "Presets", Q_NULLPTR));
217         presetName->setPlaceholderText(QApplication::translate("GradientDialog", "Name",
    Q_NULLPTR));
218         presetSave->setText(QApplication::translate("GradientDialog", "Save", Q_NULLPTR));
219         presetDelete->setText(QApplication::translate("GradientDialog", "Delete", Q_NULLPTR));
220     } // retranslateUi
```

Here is the caller graph for this function:



12.18.2.2 void Ui_GradientDialog::setupUi (QDialog * *GradientDialog*) [inline],[inherited]

Definition at line 60 of file ui_gradientdialog.h.

References Ui_GradientDialog::buttonBox, Ui_GradientDialog::gridLayout, Ui_GradientDialog::gridLayout_2, Ui_GradientDialog::gridLayout_3, Ui_GradientDialog::groupBox_2, Ui_GradientDialog::horizontalLayout, Ui_GradientDialog::horizontalLayout_2, Ui_GradientDialog::horizontalSpacer, Ui_GradientDialog::horizontalSpacer_2, Ui_GradientDialog::horizontalSpacer_3, Ui_GradientDialog::label, Ui_GradientDialog::label_2, Ui_GradientDialog::presetDelete, Ui_GradientDialog::presetList, Ui_GradientDialog::presetName, Ui_GradientDialog::presetSave, Ui_GradientDialog::retranslateUi(), Ui_GradientDialog::stopBox, Ui_GradientDialog::stopColor, Ui_GradientDialog::stopOpacity, Ui_GradientDialog::stopPos, Ui_GradientDialog::verticalSpacer, Ui_GradientDialog::verticalSpacer_2, and Ui_GradientDialog::widget.

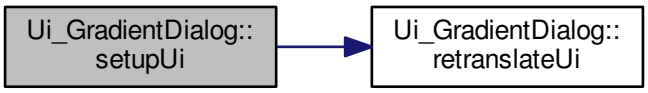
Referenced by GradientDialog::GradientDialog().

```
61     {
62         if (GradientDialog->objectName().isEmpty())
63             GradientDialog->setObjectName(QStringLiteral("GradientDialog"));
64         GradientDialog->resize(400, 440);
65         GradientDialog->setMinimumSize(QSize(400, 440));
66         GradientDialog->setMaximumSize(QSize(400, 440));
67         GradientDialog->setFocusPolicy(Qt::ClickFocus);
68         gridLayout = new QGridLayout(GradientDialog);
69         gridLayout->setObjectName(QStringLiteral("gridLayout"));
70         verticalSpacer = new QSpacerItem(0, 0, QSizePolicy::Minimum, QSizePolicy::Expanding);
71 
72         gridLayout->addItem(verticalSpacer, 1, 0, 1, 1);
73 
74         verticalSpacer_2 = new QSpacerItem(0, 15, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
75 
76         gridLayout->addItem(verticalSpacer_2, 3, 0, 1, 1);
77 
78         widget = new GradientDialogWidget(GradientDialog);
79         widget->setObjectName(QStringLiteral("widget"));
80         QSizePolicy sizePolicy(QSizePolicy::Preferred, QSizePolicy::Fixed);
81         sizePolicy.setHorizontalStretch(0);
82         sizePolicy.setVerticalStretch(0);
83         sizePolicy.setHeightForWidth(widget->sizePolicy().hasHeightForWidth());
84         widget->setSizePolicy(sizePolicy);
85         widget->setMinimumSize(QSize(0, 74));
86         widget->setMaximumSize(QSize(16777215, 74));
87 
88         gridLayout->addWidget(widget, 2, 0, 1, 1);
89 
90         buttonBox = new QDialogButtonBox(GradientDialog);
91         buttonBox->setObjectName(QStringLiteral("buttonBox"));
92         buttonBox->setOrientation(Qt::Horizontal);
93         buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
94 
95         gridLayout->addWidget(buttonBox, 5, 0, 1, 1);
96 
97         stopBox = new QGroupBox(GradientDialog);
98         stopBox->setObjectName(QStringLiteral("stopBox"));
99         sizePolicy.setHeightForWidth(stopBox->sizePolicy().hasHeightForWidth());
100         stopBox->setSizePolicy(sizePolicy);
101         gridLayout_2 = new QGridLayout(stopBox);
102         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
103         horizontalLayout_2 = new QHBoxLayout();
104         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
105         stopColor = new ColorButton(stopBox);
106         stopColor->setObjectName(QStringLiteral("stopColor"));
107 
```

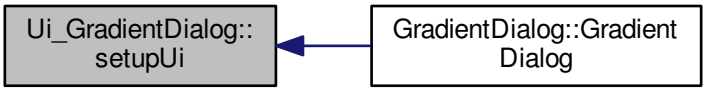
```
108         horizontalLayout_2->addWidget(stopColor);
109 
110         stopOpacity = new QSpinBox(stopBox);
111         stopOpacity->setObjectName(QStringLiteral("stopOpacity"));
112         stopOpacity->setMaximum(100);
113 
114         horizontalLayout_2->addWidget(stopOpacity);
115 
116         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
117 
118         horizontalLayout_2->addItem(horizontalSpacer_2);
119 
120 
121         gridLayout_2->addLayout(horizontalLayout_2, 1, 2, 1, 1);
122 
123         label = new QLabel(stopBox);
124         label->setObjectName(QStringLiteral("label"));
125 
126         gridLayout_2->addWidget(label, 0, 0, 1, 1);
127 
128         horizontalLayout = new QHBoxLayout();
129         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
130         stopPos = new QSpinBox(stopBox);
131         stopPos->setObjectName(QStringLiteral("stopPos"));
132         stopPos->setMaximum(100);
133 
134         horizontalLayout->addWidget(stopPos);
135 
136         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
137 
138         horizontalLayout->addItem(horizontalSpacer);
139 
140 
141         gridLayout_2->addLayout(horizontalLayout, 0, 2, 1, 1);
142 
143         label_2 = new QLabel(stopBox);
144         label_2->setObjectName(QStringLiteral("label_2"));
145 
146         gridLayout_2->addWidget(label_2, 1, 0, 1, 1);
147 
148         horizontalSpacer_3 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
149 
150         gridLayout_2->addItem(horizontalSpacer_3, 0, 1, 1, 1);
151 
152 
153         gridLayout->addWidget(stopBox, 4, 0, 1, 1);
154 
155         groupBox_2 = new QGroupBox(GradientDialog);
156         groupBox_2->setObjectName(QStringLiteral("groupBox_2"));
157         sizePolicy.setHeightForWidth(groupBox_2->sizePolicy().hasHeightForWidth());
158         groupBox_2->setSizePolicy(sizePolicy);
159         gridLayout_3 = new QGridLayout(groupBox_2);
160         gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
161         presetList = new QListWidget(groupBox_2);
162         presetList->setObjectName(QStringLiteral("presetList"));
163         QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Preferred);
164         sizePolicy1.setHorizontalStretch(0);
165         sizePolicy1.setVerticalStretch(0);
166         sizePolicy1.setHeightForWidth(presetList->sizePolicy().hasHeightForWidth());
167         presetList->setSizePolicy(sizePolicy1);
168         presetList->setFrameShadow(QFrame::Plain);
169         presetList->setHorizontalScrollBarPolicy(Qt::ScrollBarAlwaysOn);
170         presetList->setIconSize(QSize(64, 64));
171         presetList->setHorizontalScrollMode(QAbstractItemView::ScrollPerPixel);
172         presetList->setFlow(QListView::TopToBottom);
173         presetList->setViewMode(QListView::IconMode);
174         presetList->setUniformItemSizes(true);
175 
176         gridLayout_3->addWidget(presetList, 0, 0, 3, 1);
177 
178         presetName = new QLineEdit(groupBox_2);
179         presetName->setObjectName(QStringLiteral("presetName"));
180         presetName->setMaxLength(30);
181 
182         gridLayout_3->addWidget(presetName, 0, 1, 1, 1);
183 
184         presetSave = new QPushButton(groupBox_2);
185         presetSave->setObjectName(QStringLiteral("presetSave"));
186         presetSave->setAutoDefault(false);
187 
188         gridLayout_3->addWidget(presetSave, 1, 1, 1, 1);
189 
190         presetDelete = new QPushButton(groupBox_2);
191         presetDelete->setObjectName(QStringLiteral("presetDelete"));
```

```
192         presetDelete->setAutoDefault(false);
193
194         gridLayout_3->addWidget(presetDelete, 2, 1, 1, 1);
195
196
197         gridLayout->addWidget(groupBox_2, 0, 0, 1, 1);
198
199
200         retranslateUi(GradientDialog);
201         QObject::connect(buttonBox, SIGNAL(accepted()), GradientDialog, SLOT(accept()));
202         QObject::connect(buttonBox, SIGNAL(rejected()), GradientDialog, SLOT(reject()));
203
204         QMetaObject::connectSlotsByName(GradientDialog);
205     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.18.3 Field Documentation

12.18.3.1 QDialogButtonBox* Ui_GradientDialog::buttonBox [inherited]

Definition at line 40 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.2 QGridLayout* Ui_GradientDialog::gridLayout [inherited]

Definition at line 36 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.3 QGridLayout* Ui_GradientDialog::gridLayout_2 [inherited]

Definition at line 42 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.4 QGridLayout* Ui_GradientDialog::gridLayout_3 [inherited]

Definition at line 54 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.5 QGroupBox* Ui_GradientDialog::groupBox_2 [inherited]

Definition at line 53 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::retranslateUi(), and Ui_GradientDialog::setupUi().

12.18.3.6 QHBoxLayout* Ui_GradientDialog::horizontalLayout [inherited]

Definition at line 48 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.7 QHBoxLayout* Ui_GradientDialog::horizontalLayout_2 [inherited]

Definition at line 43 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.8 QSpacerItem* Ui_GradientDialog::horizontalSpacer [inherited]

Definition at line 50 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.9 QSpacerItem* Ui_GradientDialog::horizontalSpacer_2 [inherited]

Definition at line 46 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.10 QSpacerItem* Ui_GradientDialog::horizontalSpacer_3 [inherited]

Definition at line 52 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.11 QLabel* Ui_GradientDialog::label [inherited]

Definition at line 47 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::retranslateUi(), and Ui_GradientDialog::setupUi().

12.18.3.12 QLabel* Ui_GradientDialog::label_2 [inherited]

Definition at line 51 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::retranslateUi(), and Ui_GradientDialog::setupUi().

12.18.3.13 QPushButton* Ui_GradientDialog::presetDelete [inherited]

Definition at line 58 of file ui_gradientdialog.h.

Referenced by GradientDialog::getGradient(), GradientDialog::on_presetDelete_clicked(), GradientDialog::on_presetSave_clicked(), Ui_GradientDialog::retranslateUi(), GradientDialog::setPreset(), and Ui_GradientDialog::setupUi().

12.18.3.14 QListWidget* Ui_GradientDialog::presetList [inherited]

Definition at line 55 of file ui_gradientdialog.h.

Referenced by GradientDialog::setPreset(), Ui_GradientDialog::setupUi(), and GradientDialog::updatePresets().

12.18.3.15 QLineEdit* Ui_GradientDialog::presetName [inherited]

Definition at line 56 of file ui_gradientdialog.h.

Referenced by GradientDialog::on_presetSave_clicked(), Ui_GradientDialog::retranslateUi(), GradientDialog::setPreset(), and Ui_GradientDialog::setupUi().

12.18.3.16 QPushButton* Ui_GradientDialog::presetSave [inherited]

Definition at line 57 of file ui_gradientdialog.h.

Referenced by GradientDialog::getGradient(), GradientDialog::on_presetDelete_clicked(), GradientDialog::on_presetSave_clicked(), Ui_GradientDialog::retranslateUi(), GradientDialog::setPreset(), and Ui_GradientDialog::setupUi().

12.18.3.17 QGroupBox* Ui_GradientDialog::stopBox [inherited]

Definition at line 41 of file ui_gradientdialog.h.

Referenced by GradientDialog::currentChanged(), Ui_GradientDialog::retranslateUi(), and Ui_GradientDialog::setupUi().

12.18.3.18 ColorButton* Ui_GradientDialog::stopColor [inherited]

Definition at line 44 of file ui_gradientdialog.h.

Referenced by GradientDialog::currentChanged(), GradientDialog::GradientDialog(), GradientDialog::on_stopOpacity_valueChanged(), Ui_GradientDialog::retranslateUi(), and Ui_GradientDialog::setupUi().

12.18.3.19 QSpinBox* Ui_GradientDialog::stopOpacity [inherited]

Definition at line 45 of file ui_gradientdialog.h.

Referenced by GradientDialog::colorChanged(), GradientDialog::currentChanged(), Ui_GradientDialog::retranslateUi(), and Ui_GradientDialog::setupUi().

12.18.3.20 QSpinBox* Ui_GradientDialog::stopPos [inherited]

Definition at line 49 of file ui_gradientdialog.h.

Referenced by GradientDialog::currentChanged(), GradientDialog::on_stopPos_valueChanged(), Ui_GradientDialog::retranslateUi(), and Ui_GradientDialog::setupUi().

12.18.3.21 QSpacerItem* Ui_GradientDialog::verticalSpacer [inherited]

Definition at line 37 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.22 QSpacerItem* Ui_GradientDialog::verticalSpacer_2 [inherited]

Definition at line 38 of file ui_gradientdialog.h.

Referenced by Ui_GradientDialog::setupUi().

12.18.3.23 GradientDialogWidget* Ui_GradientDialog::widget [inherited]

Definition at line 39 of file ui_gradientdialog.h.

Referenced by GradientDialog::colorChanged(), GradientDialog::currentChanged(), GradientDialog::getGradient(), GradientDialog::GradientDialog(), GradientDialog::on_presetSave_clicked(), GradientDialog::on_stopPos_valueChanged(), GradientDialog::setPreset(), and Ui_GradientDialog::setupUi().

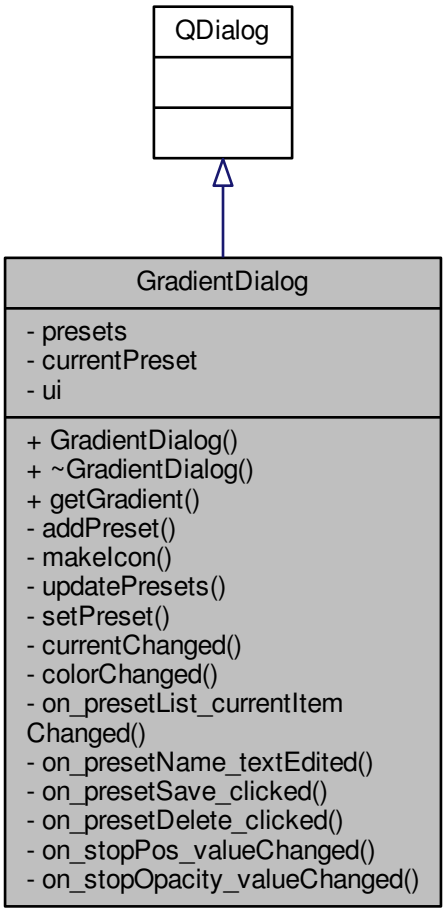
The documentation for this class was generated from the following file:

- src/ckb/ui_gradientdialog.h

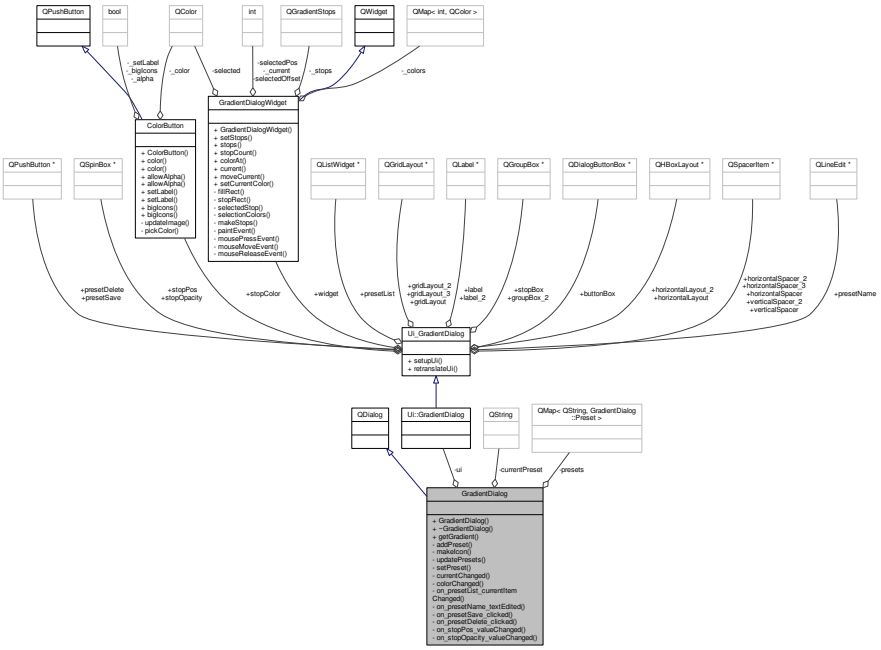
12.19 GradientDialog Class Reference

`#include <src/ckb/gradientdialog.h>`

Inheritance diagram for GradientDialog:



Collaboration diagram for GradientDialog:



Data Structures

- struct Preset

Public Member Functions

- GradientDialog (QWidget *parent=0)
- ~GradientDialog ()
- QGradientStops getGradient (const QGradientStops &prevGradient)

Private Slots

- void currentChanged (QColor color, bool spontaneous, int position)
- void colorChanged (QColor color)
- void on_presetList_currentItemChanged (QListWidgetItem *current, QListWidgetItem *previous)
- void on_presetName_textEdited (const QString &arg1)
- void on_presetSave_clicked ()
- void on_presetDelete_clicked ()
- void on_stopPos_valueChanged (int arg1)
- void on_stopOpacity_valueChanged (int arg1)

Private Member Functions

- void addPreset (const Preset &preset)
- QIcon makeIcon (const Preset &preset)
- void updatePresets ()
- void setPreset (const QString &newPreset)

Private Attributes

- QMap< QString, Preset > presets
- QString currentPreset
- Ui::GradientDialog * ui

12.19.1 Detailed Description

Definition at line 12 of file gradientdialog.h.

12.19.2 Constructor & Destructor Documentation

12.19.2.1 GradientDialog::GradientDialog (QWidget * *parent* = 0) [explicit]

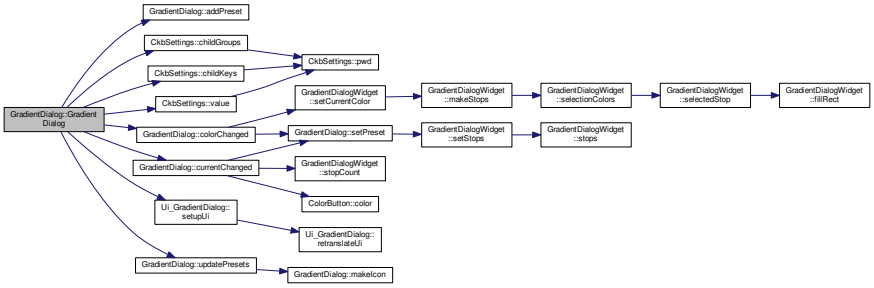
Definition at line 11 of file gradientdialog.cpp.

References addPreset(), CkbSettings::childGroups(), CkbSettings::childKeys(), colorChanged(), currentChanged(), GradientDialog::Preset::gradient, prefsPath, presets, Ui_GradientDialog::setupUi(), Ui_GradientDialog::stopColor, ui, updatePresets(), CkbSettings::value(), and Ui_GradientDialog::widget.

```
11                                                  :
12     QDialog(parent),
13     ui(new Ui::GradientDialog)
14 {
15     ui->setupUi(this);
16     connect(ui->widget, SIGNAL(currentChanged(QColor,bool,int)), this, SLOT(
       currentChanged(QColor,bool,int)));
17     connect(ui->stopColor, SIGNAL(colorChanged(QColor)), this, SLOT(
       colorChanged(QColor)));
18
19     // Add built-in presets
20     Preset blackAndWhite("B & W", true);
21     blackAndWhite.gradient.append(QGradientStop(0., QColor(0, 0, 0)));
22     blackAndWhite.gradient.append(QGradientStop(1., QColor(255, 255, 255)));
23     Preset fade("Fade", true);
24     fade.gradient.append(QGradientStop(0., QColor(255, 255, 255)));
25     fade.gradient.append(QGradientStop(1., QColor(255, 255, 255, 0)));
26     Preset rainbow("Rainbow", true);
27     rainbow.gradient.append(QGradientStop(0.00, QColor(255, 0, 0)));
28     rainbow.gradient.append(QGradientStop(0.17, QColor(255, 255, 0)));
29     rainbow.gradient.append(QGradientStop(0.33, QColor(0, 255, 0)));
30     rainbow.gradient.append(QGradientStop(0.50, QColor(0, 255, 255)));
31     rainbow.gradient.append(QGradientStop(0.67, QColor(0, 0, 255)));
32     rainbow.gradient.append(QGradientStop(0.83, QColor(255, 0, 255)));
33     rainbow.gradient.append(QGradientStop(1.00, QColor(255, 0, 0)));
34     addPreset(blackAndWhite);
35     addPreset(fade);
36     addPreset(rainbow);
37
38     // Load stored presets
39     CkbSettings settings(prefsPath);
40     foreach(const QString& name, settings.childGroups()){
41         QString pName = name.toLower();
42         if(presets.contains(pName))
43             continue;
44         SGroup group(settings, name);
45         // Create keys in a map to ensure correct order and no duplicates
46         QMap<int, QColor> colors;
47         foreach(const QString& position, settings.childKeys()){
48             int pos = position.toInt();
49             if(pos < 0 || pos > 100)
50                 continue;
51             colors[pos] = settings.value(position).value<QColor>();
52         }
53         if(colors.count() < 2)
54             continue;
55         Preset preset(name);
56         QMapIterator<int, QColor> i(colors);
57         while(i.hasNext()){
58             i.next();
59             preset.gradient.append(QGradientStop(i.key() / 100., i.value()));
60         }
61         presets[pName] = preset;
62     }
63
```

```
64     updatePresets();
65 }
```

Here is the call graph for this function:



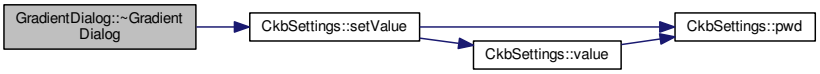
12.19.2.2 GradientDialog::~GradientDialog ( )

Definition at line 77 of file gradientdialog.cpp.

References GradientDialog::Preset::builtIn, GradientDialog::Preset::gradient, GradientDialog::Preset::name, prefsPath, presets, CkbSettings::setValue(), and ui.

```
77                                {
78     // Save presets
79     CkbSettings settings(prefsPath, true);
80     QMapIterator<QString, Preset> i(presets);
81     while(i.hasNext()){
82         Preset preset = i.next().value();
83         if(!preset.builtIn){
84             SGroup group(settings, preset.name);
85             foreach(const QGradientStop& stop, preset.gradient)
86                 settings.setValue(QString::number((int)(stop.first * 100.)), stop.second);
87         }
88     }
89     delete ui;
90 }
```

Here is the call graph for this function:



12.19.3 Member Function Documentation

12.19.3.1 void GradientDialog::addPreset (const Preset & *preset*) [inline], [private]

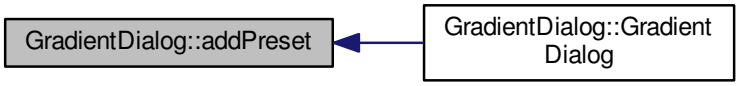
Definition at line 34 of file gradientdialog.h.

References GradientDialog::Preset::name, and presets.

Referenced by GradientDialog().

```
34 { presets[preset.name.toLower()] = preset; }
```

Here is the caller graph for this function:



12.19.3.2 void GradientDialog::colorChanged (QColor *color*) [private],[slot]

Definition at line 234 of file gradientdialog.cpp.

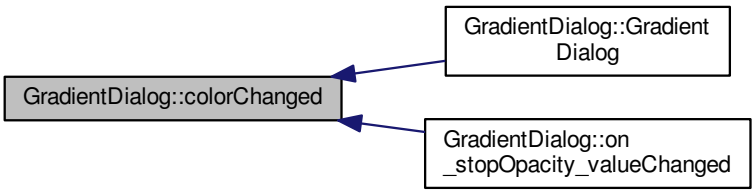
References GradientDialogWidget::setCurrentColor(), setPreset(), Ui_GradientDialog::stopOpacity, ui, and Ui_GradientDialog::widget.

Referenced by GradientDialog(), and on_stopOpacity_valueChanged().

```
234                                             {
235     color.setAlphaF(ui->stopOpacity->value() / 100.f);
236     ui->widget->setCurrentColor(color);
237     setPreset("");
238 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.19.3.3 void GradientDialog::currentChanged (QColor *color,* bool *spontaneous,* int *position*) [private],[slot]

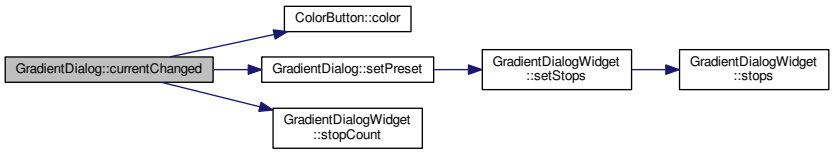
Definition at line 128 of file gradientdialog.cpp.

References ColorButton::color(), setPreset(), Ui_GradientDialog::stopBox, Ui_GradientDialog::stopColor, GradientDialogWidget::stopCount(), Ui_GradientDialog::stopOpacity, Ui_GradientDialog::stopPos, ui, and Ui_GradientDialog::widget.

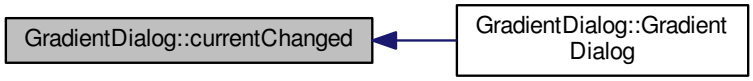
Referenced by GradientDialog().

```
128                                                                                 {
129     int pCount = ui->widget->stopCount();
130     if(pCount == 1)
131         ui->stopBox->setTitle("1 point");
132     else
133         ui->stopBox->setTitle(QString("%1 points").arg(pCount));
134     if(!color.isValid()){
135         ui->stopBox->setEnabled(false);
136         ui->stopPos->setValue(0);
137         ui->stopColor->color(QColor(0, 0, 0));
138         ui->stopOpacity->setValue(0);
139     } else {
140         ui->stopBox->setEnabled(true);
141         ui->stopPos->setValue(position);
142         ui->stopColor->color(color);
143         ui->stopOpacity->setValue(round(color.alphaF() * 100.f));
144     }
145     // Un-set current preset
146     if(spontaneous)
147         setPreset("");
148     setFocus();
149 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.19.3.4 QGradientStops GradientDialog::getGradient (const QGradientStops & *prevGradient*)

Definition at line 67 of file gradientdialog.cpp.

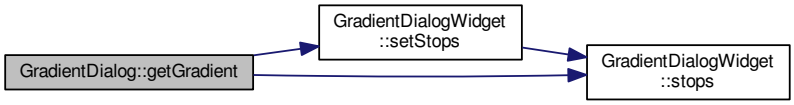
References Ui_GradientDialog::presetDelete, Ui_GradientDialog::presetSave, GradientDialogWidget::setStops(), GradientDialogWidget::stops(), ui, and Ui_GradientDialog::widget.

Referenced by GradientButton::pickGradient().

```
67                                                                                  {
68     ui->presetDelete->setEnabled(false);
69     ui->presetSave->setEnabled(true);
70     ui->widget->setStops(prevGradient);
```

```
71     exec();
72     if(result() != QDialog::Accepted)
73         return prevGradient;
74     return ui->widget->stops();
75 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.19.3.5 QIcon GradientDialog::makeIcon (const Preset & *preset*) [private]

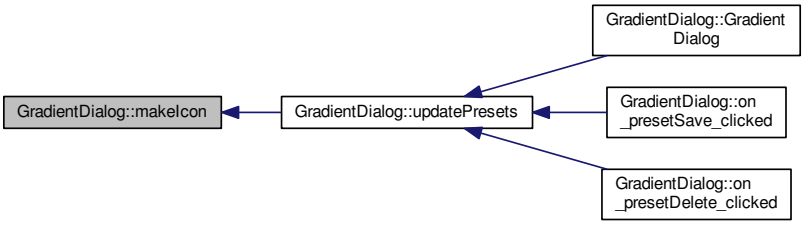
Definition at line 92 of file gradientdialog.cpp.

References GradientDialog::Preset::gradient, x, and y.

Referenced by updatePresets().

```
92                                                  {
93     // Paint gradient into a square
94     int w = 60, h = 60;
95     QImage image(w, h, QImage::Format_RGB888);
96     QPainter painter(&image);
97     // Draw background
98     for(int x = 0; x < w; x += 30){
99         for(int y = 0; y < h; y += 30){
100             painter.fillRect(x, y, 15, 15, QColor(255, 255, 255));
101             painter.fillRect(x + 15, y, 15, 15, QColor(192, 192, 192));
102             painter.fillRect(x, y + 15, 15, 15, QColor(192, 192, 192));
103             painter.fillRect(x + 15, y + 15, 15, 15, QColor(255, 255, 255));
104         }
105     }
106     // Draw gradient
107     painter.setPen(QColor(0, 0, 0));
108     QLinearGradient gradient(1., 1., w - 1., h - 1.);
109     gradient.setStops(preset.gradient);
110     painter.setBrush(gradient);
111     painter.drawRect(0, 0, w - 1, h - 1);
112     return QPixmap::fromImage(image);
113 }
```

Here is the caller graph for this function:



12.19.3.6 void GradientDialog::on_presetDelete_clicked ( ) [private], [slot]

Definition at line 211 of file gradientdialog.cpp.

References GradientDialog::Preset::builtIn, current, currentPreset, GradientDialog::Preset::name, Ui_GradientDialog::presetDelete, presets, Ui_GradientDialog::presetSave, ui, and updatePresets().

```
211                                          {
212     Preset current = presets.value(currentPreset);
213     if(current.name == "" || current.builtIn)
214         return;
215     if(QMessageBox::warning(this, "Warning", QString("Delete preset \"%1\"?").arg(current.name),
      QMessageBox::StandardButtons(QMessageBox::Yes | QMessageBox::No)) != QMessageBox::Yes){
216         setFocus();
217         return;
218     }
219     presets.remove(currentPreset);
220     currentPreset = "";
221     ui->presetDelete->setEnabled(false);
222     ui->presetSave->setEnabled(true);
223     updatePresets();
224     setFocus();
225 }
```

Here is the call graph for this function:

12.19.3.7 void GradientDialog::on_presetList_currentItemChanged (QListWidgetItem * *current*, QListWidgetItem * *previous*) [private], [slot]

Definition at line 174 of file gradientdialog.cpp.

References setPreset().

```
174                                                                                                 {
175     setPreset(current ? current->text().toLower() : "");
176 }
```

Here is the call graph for this function:

12.19.3.8 void GradientDialog::on_presetName_textEdited (const QString & *arg1*) [private],[slot]

Definition at line 178 of file gradientdialog.cpp.

References currentPreset, presets, and setPreset().

```
178                                                                 {
179     if(currentPreset != "" && arg1.trimmed() != presets[
      currentPreset].name)
180         setPreset("");
181 }
```

Here is the call graph for this function:

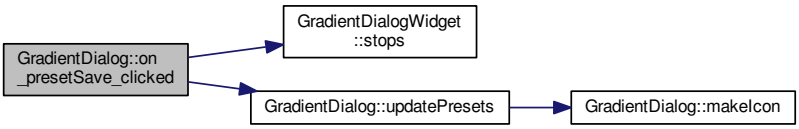
12.19.3.9 void GradientDialog::on_presetSave_clicked ( ) [private],[slot]

Definition at line 183 of file gradientdialog.cpp.

References GradientDialog::Preset::builtIn, currentPreset, GradientDialog::Preset::name, Ui_GradientDialog-::presetDelete, Ui_GradientDialog::presetName, presets, Ui_GradientDialog::presetSave, GradientDialogWidget-::stops(), ui, updatePresets(), and Ui_GradientDialog::widget.

```
183                                         {
184     if(currentPreset != "")
185         return;
186     QString name = ui->presetName->text().trimmed();
187     if(name == "")
188         ui->presetName->setText(name = "Custom");
189     QString pName = name.toLower();
190     // Make sure not to overwrite a built-in preset
191     Preset previous = presets[pName];
192     if(previous.builtIn){
193         QMessageBox::warning(this, "Error", "Can't overwrite a built-in preset. Please choose a different
       name.");
194         setFocus();
195         return;
196     } else if(previous.name != ""){
197         // Warn when overwriting an existing preset
198         if(QMessageBox::warning(this, "Warning", QString("Preset \"%1\" already exists. Replace?").arg(name
      ), QMessageBox::StandardButtons(QMessageBox::Save | QMessageBox::Cancel)) != QMessageBox::Save){
199             setFocus();
200             return;
201         }
202     }
203     presets[pName] = Preset(name, ui->widget->stops());
204     currentPreset = pName;
205     ui->presetDelete->setEnabled(true);
206     ui->presetSave->setEnabled(false);
207     updatePresets();
208     setFocus();
209 }
```

Here is the call graph for this function:



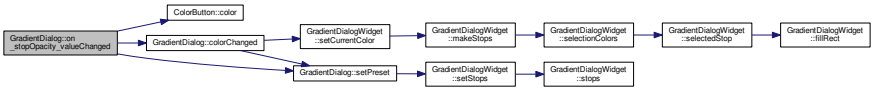
12.19.3.10 void GradientDialog::on_stopOpacity_valueChanged (int *arg1*) [private], [slot]

Definition at line 240 of file gradientdialog.cpp.

References ColorButton::color(), colorChanged(), setPreset(), Ui_GradientDialog::stopColor, and ui.

```
240                                                 {
241     colorChanged(ui->stopColor->color());
242     setPreset("");
243 }
```

Here is the call graph for this function:



12.19.3.11 void GradientDialog::on_stopPos_valueChanged (int *arg1*) [private], [slot]

Definition at line 227 of file gradientdialog.cpp.

References GradientDialogWidget::moveCurrent(), setPreset(), Ui_GradientDialog::stopPos, ui, and Ui_GradientDialog::widget.

```
227                                                 {
228     int res = ui->widget->moveCurrent(arg1);
229     if(res != arg1)
230         ui->stopPos->setValue(res);
231     setPreset("");
232 }
```

Here is the call graph for this function:

12.19.3.12 void GradientDialog::setPreset (const QString & *newPreset*) [private]

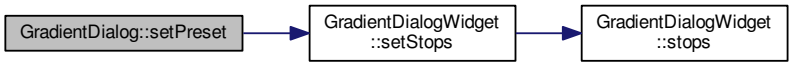
Definition at line 151 of file gradientdialog.cpp.

References GradientDialog::Preset::builtIn, current, currentPreset, GradientDialog::Preset::gradient, GradientDialog::Preset::name, Ui_GradientDialog::presetDelete, Ui_GradientDialog::presetList, Ui_GradientDialog::presetName, presets, Ui_GradientDialog::presetSave, GradientDialogWidget::setStops(), ui, and Ui_GradientDialog::widget.

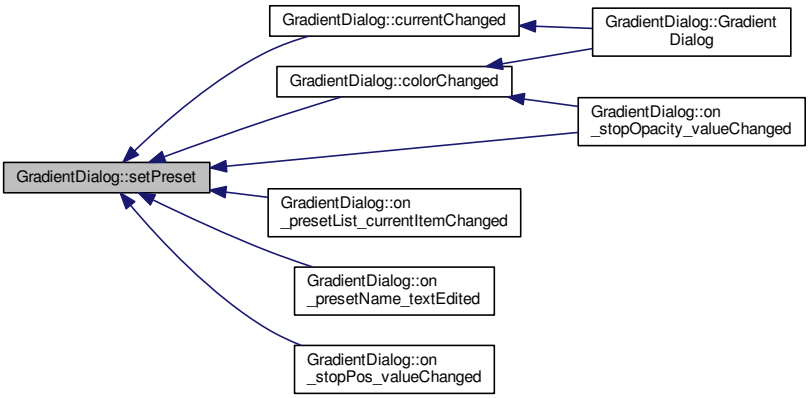
Referenced by colorChanged(), currentChanged(), on_presetList_currentItemChanged(), on_presetName_textEdited(), on_stopOpacity_valueChanged(), and on_stopPos_valueChanged().

```
151                                                 {
152     if(currentPreset == newPreset)
153         return;
154     if(newPreset == ""){
155         ui->presetList->clearSelection();
156         ui->presetList->setCurrentItem(0);
157         Preset current = presets.value(currentPreset);
158         QString curName = ui->presetName->text().trimmed();
159         if(curName == "" || (curName == current.name && current.builtIn))
160             ui->presetName->setText("Custom");
161         ui->presetDelete->setEnabled(false);
162         ui->presetSave->setEnabled(true);
163     } else {
164         Preset current = presets.value(newPreset);
165         ui->presetName->setText(current.name);
166         ui->presetDelete->setEnabled(!current.builtIn);
167         ui->presetSave->setEnabled(false);
168         ui->widget->setStops(current.gradient);
169     }
170     currentPreset = newPreset;
171     setFocus();
172 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.19.3.13 void GradientDialog::updatePresets ( ) [private]

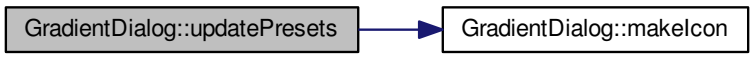
Definition at line 115 of file gradientdialog.cpp.

References currentPreset, makeIcon(), GradientDialog::Preset::name, Ui_GradientDialog::presetList, presets, and ui.

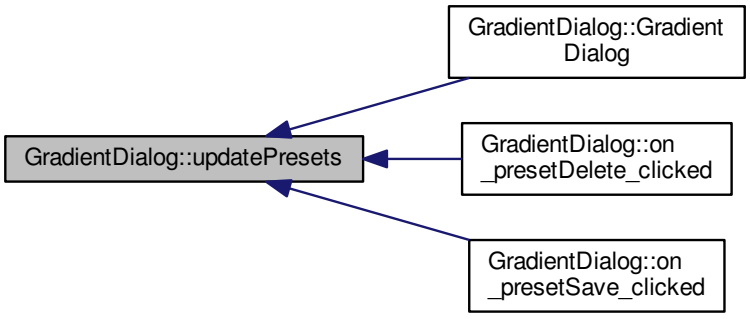
Referenced by GradientDialog(), on_presetDelete_clicked(), and on_presetSave_clicked().

```
115                                {
116     ui->presetList->clear();
117     QMapIterator<QString, Preset> i(presets);
118     while(i.hasNext()){
119         i.next();
120         const Preset& preset = i.value();
121         QListWidgetItem* item = new QListWidgetItem(makeIcon(preset), preset.name,
    ui->presetList);
122         if(currentPreset == i.key())
123             item->setSelected(true);
124         ui->presetList->addItem(item);
125     }
126 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.19.4 Field Documentation

12.19.4.1 QString GradientDialog::currentPreset [private]

Definition at line 32 of file gradientdialog.h.

Referenced by on_presetDelete_clicked(), on_presetName_textEdited(), on_presetSave_clicked(), setPreset(), and updatePresets().

12.19.4.2 QMap<QString, Preset> GradientDialog::presets [private]

Definition at line 31 of file gradientdialog.h.

Referenced by addPreset(), GradientDialog(), on_presetDelete_clicked(), on_presetName_textEdited(), on_presetSave_clicked(), setPreset(), updatePresets(), and ~GradientDialog().

12.19.4.3 Ui::GradientDialog* GradientDialog::ui [private]

Definition at line 39 of file gradientdialog.h.

Referenced by colorChanged(), currentChanged(), getGradient(), GradientDialog(), on_presetDelete_clicked(), on_presetSave_clicked(), on_stopOpacity_valueChanged(), on_stopPos_valueChanged(), setPreset(), updatePresets(), and ~GradientDialog().

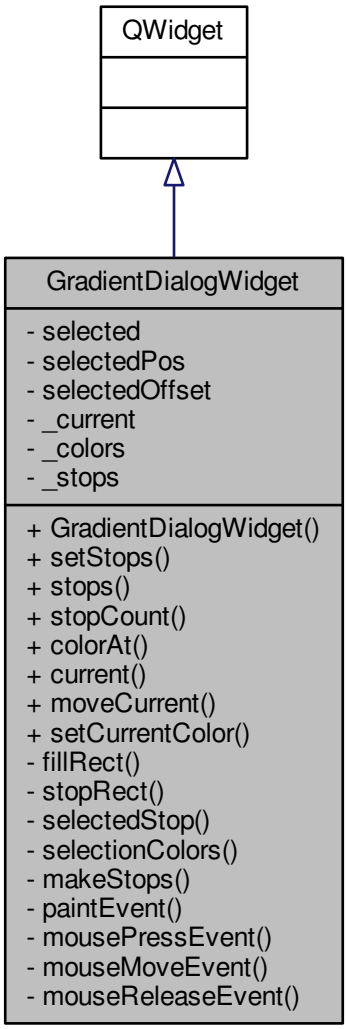
The documentation for this class was generated from the following files:

- src/ckb/gradientdialog.h
- src/ckb/gradientdialog.cpp

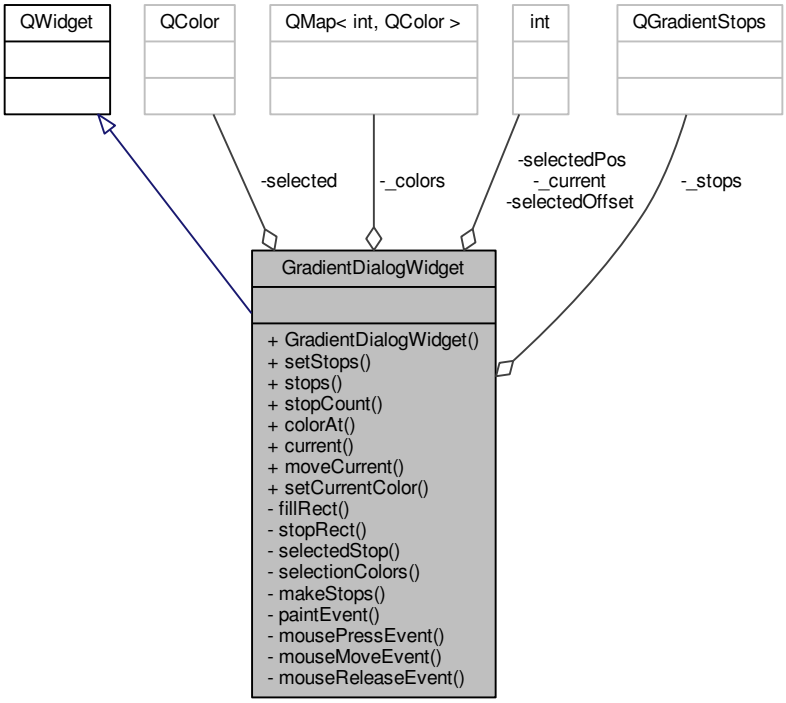
12.20 GradientDialogWidget Class Reference

`#include <src/ckb/gradientdialogwidget.h>`

Inheritance diagram for GradientDialogWidget:



Collaboration diagram for GradientDialogWidget:



Signals

- void currentChanged (QColor color, bool spontaneous, int position)

Public Member Functions

- GradientDialogWidget (QWidget ∗parent=0)
- void setStops (const QGradientStops &stops)
- QGradientStops stops ()
- int stopCount ()
- QColor colorAt (int position)
- int current ()
- int moveCurrent (int to)
- void setCurrentColor (const QColor &color)

Private Member Functions

- QRect fillRect ()
- QRect stopRect (int pos)
- int selectedStop ()
- QMap< int, QColor > selectionColors ()
- void makeStops ()
- void paintEvent (QPaintEvent ∗)
- void mousePressEvent (QMouseEvent ∗event)
- void mouseMoveEvent (QMouseEvent ∗event)
- void mouseReleaseEvent (QMouseEvent ∗event)

Private Attributes

- QColor selected
- int selectedPos
- int selectedOffset
- int _current
- QMap< int, QColor > _colors
- QGradientStops _stops

12.20.1 Detailed Description

Definition at line 8 of file gradientdialogwidget.h.

12.20.2 Constructor & Destructor Documentation

12.20.2.1 GradientDialogWidget::GradientDialogWidget (QWidget * *parent* = 0) [explicit]

Definition at line 6 of file gradientdialogwidget.cpp.

```
6                                                                   :
7     QWidget(parent), selectedPos(-1), _current(-1)
8 {
9     setMouseTracking(true);
10 }
```

12.20.3 Member Function Documentation

12.20.3.1 QColor GradientDialogWidget::colorAt (int *position*)

Definition at line 65 of file gradientdialogwidget.cpp.

References _stops.

Referenced by mousePressEvent().

```
65                                                {
66     // Find which stops the position is between
67     qreal pos = position / 100.;
68     QVectorIterator<QGradientStop> i(_stops);
69     QGradientStop previous = i.next();
70     while(i.hasNext()){
71         QGradientStop next = i.next();
72         if(next.first >= pos){
73             // Get color by linear interpolation. Premultiply the alpha value so that it returns the
       expected color
74             // (i.e. stops with zero opacity won't contribute to color)
75             QColor c1 = next.second, c2 = previous.second;
76             qreal distance = next.first - previous.first;
77             qreal dx = (pos - previous.first) / distance;
78             qreal a1 = c1.alphaF(), a2 = c2.alphaF();
79             qreal a3 = a1 * dx + a2 * (1.f - dx);
80             if(a3 == 0.){
81                 c2.setAlpha(0);
82                 return c2;
83             }
84             qreal r = (c1.redF() * a1 * dx + c2.redF() * a2 * (1.f - dx)) / a3;
85             qreal g = (c1.greenF() * a1 * dx + c2.greenF() * a2 * (1.f - dx)) / a3;
86             qreal b = (c1.blueF() * a1 * dx + c2.blueF() * a2 * (1.f - dx)) / a3;
87             return QColor::fromRgbF(r, g, b, a3);
88         }
89         previous = next;
90     }
91     return QColor();
92 }
```

Here is the caller graph for this function:

12.20.3.2 int GradientDialogWidget::current ( ) [inline]

Definition at line 20 of file gradientdialogwidget.h.

References _current.

```
20 { return _current; }
```

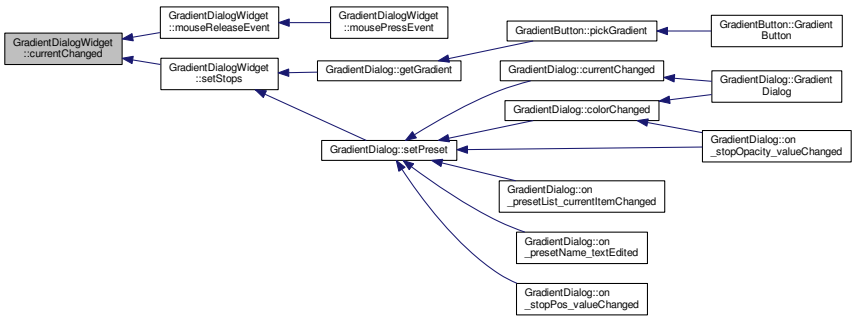
12.20.3.3 void GradientDialogWidget::currentChanged (QColor *color,* bool *spontaneous,* int *position*) [signal]

Definition at line 126 of file moc_gradientdialogwidget.cpp.

Referenced by mouseReleaseEvent(), and setStops().

```
127 {
128     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)), const_cast<void*>(
      reinterpret_cast<const void*>(&_t2)), const_cast<void*>(reinterpret_cast<const void*>(&_t3)) };
129     QMetaObject::activate(this, &staticMetaObject, 0, _a);
130 }
```

Here is the caller graph for this function:



12.20.3.4 QRect GradientDialogWidget::fillRect ( ) [private]

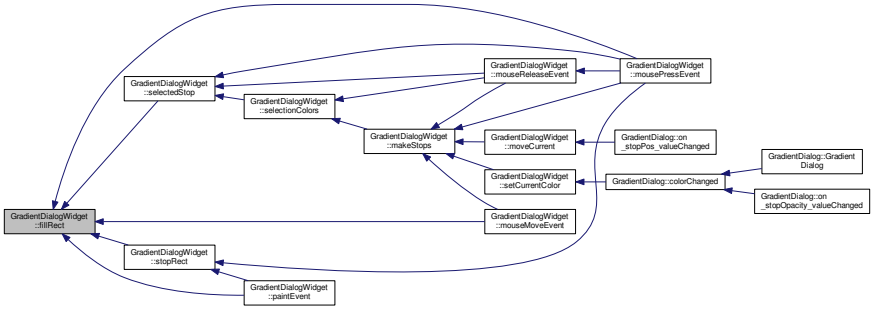
Definition at line 138 of file gradientdialogwidget.cpp.

References width, x, and y.

Referenced by mouseMoveEvent(), mousePressEvent(), paintEvent(), selectedStop(), and stopRect().

```
138                                     {
139     int x = 8, y = 1;
140     int w = (width() - x * 2) / 16 * 16, h = (height() - 24) / 16 * 16;
141     return QRect(x, y, w, h);
142 }
```

Here is the caller graph for this function:



12.20.3.5 void GradientDialogWidget::makeStops ( ) [private]

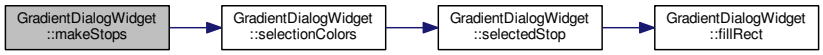
Definition at line 30 of file gradientdialogwidget.cpp.

References _stops, and selectionColors().

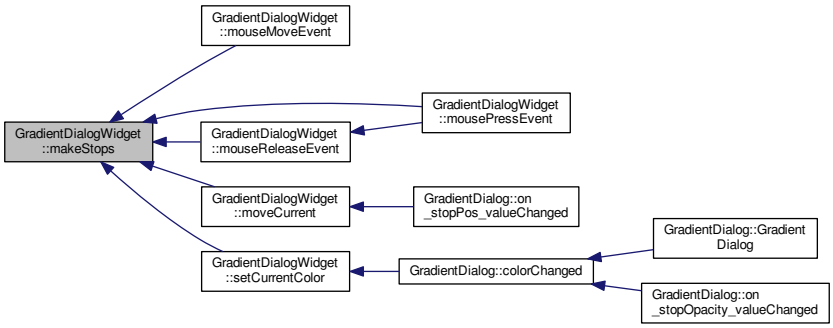
Referenced by mouseMoveEvent(), mousePressEvent(), mouseReleaseEvent(), moveCurrent(), and setCurrentColor().

```
30                                     {
31     _stops.clear();
32     QMap<int, QColor> colors = selectionColors();
33     // If there's only a single color, put it at the beginning and end
34     if(colors.count() == 1){
35 #if QT_VERSION >= QT_VERSION_CHECK(5, 2, 0)
36         QColor color = colors.first();
37 #else
38         QColor color = colors.value(colors.keys().first());
39 #endif
40         _stops.append(QGradientStop(0., color));
41         _stops.append(QGradientStop(1., color));
42         update();
43         return;
44     }
45     // Add colors at 0 and 100 if needed
46 #if QT_VERSION >= QT_VERSION_CHECK(5, 2, 0)
47     if(!colors.contains(0))
48         colors[0] = colors.first();
49     if(!colors.contains(100))
50         colors[100] = colors.last();
51 #else
52     if(!colors.contains(0))
53         colors[0] = colors.value(colors.keys().first());
54     if(!colors.contains(100))
55         colors[100] = colors.value(colors.keys().last());
56 #endif
57     QMapIterator<int, QColor> i(colors);
58     while(i.hasNext()){
59         i.next();
60         _stops.append(QGradientStop(i.key() / 100., i.value()));
61     }
62     update();
63 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



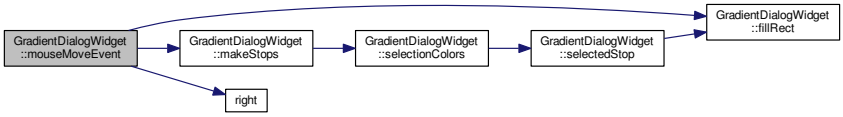
12.20.3.6 void GradientDialogWidget::mouseMoveEvent (QMouseEvent * *event*) [private]

Definition at line 255 of file gradientdialogwidget.cpp.

References _colors, fillRect(), left, makeStops(), right(), selected, selectedOffset, selectedPos, and top.

```
255                                                     {
256     if(!selected.isValid()){
257         if(event->y() >= height() - 24)
258             setCursor(QCursor(Qt::PointingHandCursor));
259         else
260             setCursor(QCursor(Qt::ArrowCursor));
261         return;
262     }
263     // Move selected point (if any)
264     setCursor(QCursor(Qt::ClosedHandCursor));
265     selectedPos = event->x() + selectedOffset;
266     // Allow the point to be deleted as long as there is at least 1 other point
267     bool last = (_colors.count() == 0);
268     // Hug the left/right edges
269     QRect rect = fillRect();
270     int left = rect.left(), right = rect.right();
271     if(selectedPos < left && (last || selectedPos >= left - 30))
272         selectedPos = left;
273     else if(selectedPos > right && (last || selectedPos <=
    right + 30))
274         selectedPos = right;
275     // Remove point if it's too far above/below the widget
276     int top = -30, bottom = height() + 30;
277     if(!last && (event->y() < top || event->y() > bottom))
278         selectedPos = -1;
279     makeStops();
280 }
```

Here is the call graph for this function:



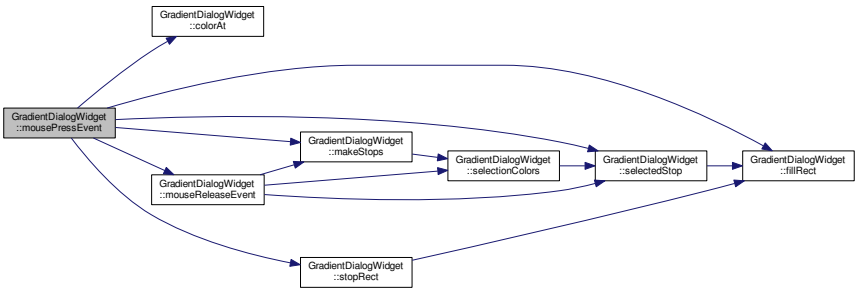
12.20.3.7 void GradientDialogWidget::mousePressEvent (QMouseEvent * *event*) [private]

Definition at line 222 of file gradientdialogwidget.cpp.

References _colors, colorAt(), fillRect(), makeStops(), mouseReleaseEvent(), selected, selectedOffset, selectedPos, selectedStop(), stopRect(), x, and y.

```
222                                                     {
223     int x = event->x(), y = event->y();
224     if(y < height() - 24)
225         return;
226     QMapIterator<int, QColor> i(_colors);
227     while(i.hasNext()){
228         i.next();
229         // If a point was selected, remove it from the color map and set it as the selected point
230         QRect stop = stopRect(i.key());
231         if(x >= stop.left() - 1 && x <= stop.right() + 1){
232             selected = i.value();
233             selectedPos = stop.x() + stop.width() / 2;
234             selectedOffset = selectedPos - x;
235             _colors.remove(i.key());
236             // On right click, delete the point
237             if(event->button() == Qt::RightButton && _colors.count() > 1){
238                 selectedPos = -1;
239                 mouseReleaseEvent(event);
240             } else
241                 update();
242             return;
243         }
244     }
245     // If nothing was selected, create a new point
246     QRect fill = fillRect();
247     if(x > fill.left() && x < fill.right() && event->button() != Qt::RightButton){
248         selectedPos = x;
249         selectedOffset = 0;
250         selected = colorAt(selectedStop());
251         makeStops();
252     }
253 }
```

Here is the call graph for this function:



12.20.3.8 void GradientDialogWidget::mouseReleaseEvent (QMouseEvent * *event*) [private]

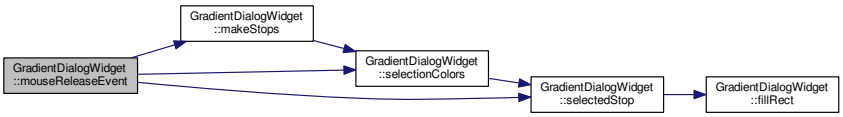
Definition at line 282 of file gradientdialogwidget.cpp.

References _colors, _current, currentChanged(), makeStops(), selected, selectedPos, selectedStop(), and selectionColors().

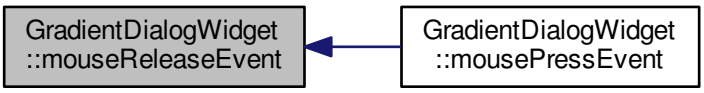
Referenced by mousePressEvent().

```
282                                                         {
283     if(selected.isValid()){
284         // Rejoin selection with gradient
285         _current = selectedStop();
286         _colors = selectionColors();
287         emit currentChanged(_colors.value(_current), true,
      _current);
288         selectedPos = -1;
289         selected = QColor();
290         makeStops();
291     }
292     if(event->y() >= height() - 24)
293         setCursor(QCursor(Qt::PointingHandCursor));
294     else
295         setCursor(QCursor(Qt::ArrowCursor));
296 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.20.3.9 int GradientDialogWidget::moveCurrent (int *to*)

Definition at line 94 of file gradientdialogwidget.cpp.

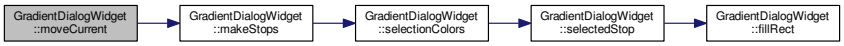
References _colors, _current, makeStops(), and selected.

Referenced by GradientDialog::on_stopPos_valueChanged().

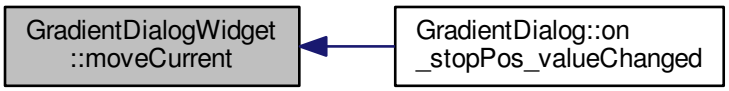
```
94                                                  {
95     if(_current < 0 || to == _current || selected.isValid())
96         return _current;
97     // If there's a point in the way, skip past it by continuing in the current direction
98     if(_current < to){
99         while(_colors.contains(to)){
100             to++;
101             if(to > 100)
```

```
102                 return _current;
103             }
104         } else {
105             while(_colors.contains(to)){
106                 to--;
107                 if(to < 0)
108                     return _current;
109             }
110         }
111         _colors[to] = _colors.take(_current);
112         _current = to;
113         makeStops();
114         return to;
115 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.20.3.10 void GradientDialogWidget::paintEvent (QPaintEvent *) [private]

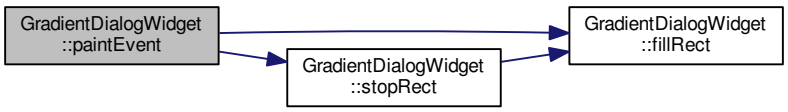
Definition at line 172 of file gradientdialogwidget.cpp.

References _colors, _current, _stops, fillRect(), selected, selectedPos, stopRect(), x, and y.

```
172                                             {
173     QPainter painter(this);
174     QRect fill = fillRect();
175     int x = fill.x(), y = fill.y(), w = fill.width(), h = fill.height();
176 
177     // Draw border around gradient
178     painter.setPen(palette().color(QPalette::Dark));
179     painter.drawLine(x - 1, y - 1, x + w, y - 1);
180     painter.drawLine(x - 1, y - 1, x - 1, y + h);
181     painter.setPen(palette().color(QPalette::Light));
182     painter.drawLine(x - 1, y + h, x + w, y + h);
183     painter.drawLine(x + w, y - 1, x + w, y + h);
184     // Draw background grid
185     for(int i = 0; i < w; i += 16){
186         for(int iy = 0; iy < h; iy += 16){
187             if(i % 32 != iy % 32)
188                 painter.fillRect(x + i, y + iy, 16, 16, QColor(192, 192, 192));
189             else
190                 painter.fillRect(x + i, y + iy, 16, 16, QColor(255, 255, 255));
191         }
192     }
193     // Draw gradient
194     painter.setRenderHint(QPainter::Antialiasing);
195     QLinearGradient gradient(x, 0, x + w, 0);
196     gradient.setStops(_stops);
197     painter.fillRect(fill, QBrush(gradient));
198 
199     // Draw stops
```

```
200     QMapIterator<int, QColor> i(_colors);
201     painter.setPen(palette().color(QPalette::Shadow));
202     while(i.hasNext()){
203         i.next();
204         painter.setBrush(QBrush(i.value()));
205         int index = i.key();
206         if(index == _current){
207             // Highlight currently-edited stop
208             painter.setPen(QPen(palette().color(QPalette::Highlight), 2));
209             painter.drawRoundedRect(stopRect(index), 4, 4);
210             painter.setPen(palette().color(QPalette::Shadow));
211         } else
212             painter.drawRoundedRect(stopRect(index), 4, 4);
213     }
214     // Draw selection (if any)
215     if(selected.isValid() && selectedPos >= x && selectedPos <= x + w){
216         painter.setPen(QPen(palette().color(QPalette::Highlight), 2.5));
217         painter.setBrush(selected);
218         painter.drawRoundedRect(selectedPos - 6, height() - 18 - 2, 12, 18, 4, 4);
219     }
220 }
```

Here is the call graph for this function:



12.20.3.11 int GradientDialogWidget::selectedStop ( ) [private]

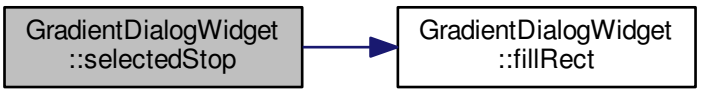
Definition at line 152 of file gradientdialogwidget.cpp.

References fillRect(), and selectedPos.

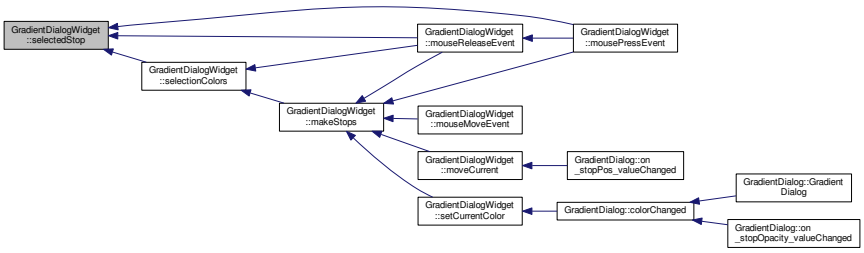
Referenced by mousePressEvent(), mouseReleaseEvent(), and selectionColors().

```
152                                     {
153     QRect rect = fillRect();
154     int res = round((selectedPos - rect.x()) * 100. / rect.width());
155     if(res < 0 || res > 100)
156         return -1;
157     return res;
158 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.20.3.12 QMap< int, QColor > GradientDialogWidget::selectionColors ( ) [private]

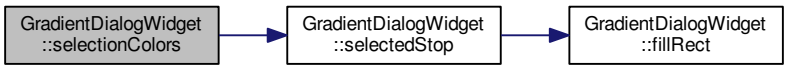
Definition at line 160 of file gradientdialogwidget.cpp.

References _colors, selected, and selectedStop().

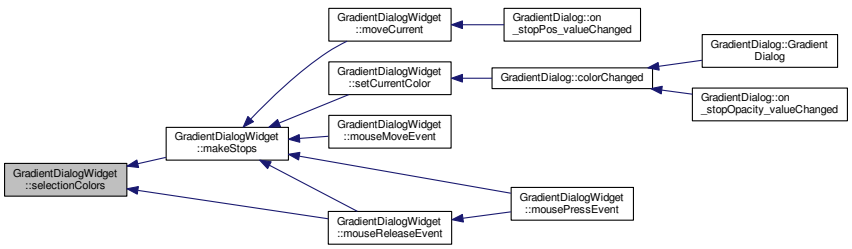
Referenced by makeStops(), and mouseReleaseEvent().

```
160                                                     {
161     if(!selected.isValid())
162         return _colors;
163     // Determine selected stop position
164     int selPos = selectedStop();
165     // Re-add if in range
166     QMap<int, QColor> res = _colors;
167     if(selPos >= 0 && selPos <= 100)
168         res[selPos] = selected;
169     return res;
170 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.20.3.13 void GradientDialogWidget::setCurrentColor (const QColor & *color*)

Definition at line 117 of file gradientdialogwidget.cpp.

References _colors, _current, makeStops(), and selected.

Referenced by GradientDialog::colorChanged().

```
117                                                          {
118     if(_current < 0 || selected.isValid())
119         return;
120     QRgb rgb = _colors.value(_current).rgb();
121     _colors[_current] = color;
122     // If any points follow with the same color but different opacity, change them to match
123     QMutableMapIterator<int, QColor> i(_colors);
124     while(i.hasNext()){
125         i.next();
126         if(i.key() <= _current)
127             continue;
128         QColor& value = i.value();
129         if(value.rgb() != rgb)
130             break;
131         int alpha = value.alpha();
132         value = color;
133         value.setAlpha(alpha);
134     }
135     makeStops();
136 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.20.3.14 void GradientDialogWidget::setStops (const QGradientStops & *stops*)

Definition at line 12 of file gradientdialogwidget.cpp.

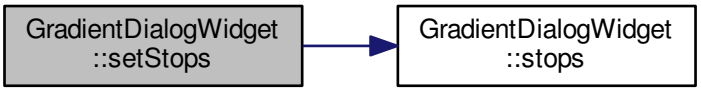
References _colors, _current, _stops, currentChanged(), and stops().

Referenced by GradientDialog::getGradient(), and GradientDialog::setPreset().

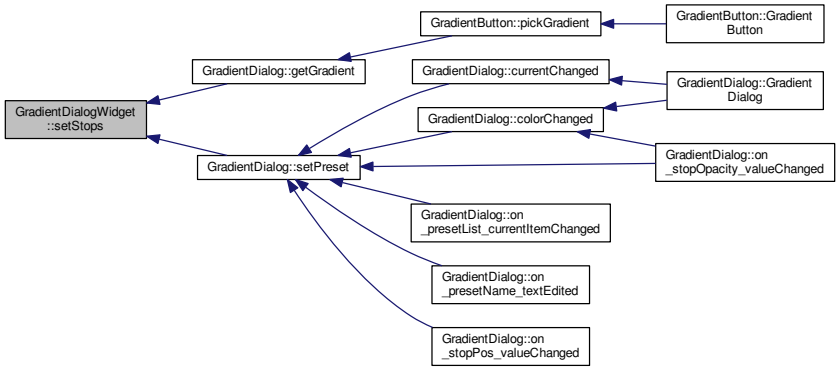
```
12                                                          {
13     _stops = stops;
14     _colors.clear();
15     foreach(const QGradientStop& stop, stops){
16         double pos = stop.first;
17         if(pos < 0. || pos > 1.)
18             continue;
19         _colors[round(pos * 100.)] = stop.second;
20     }
21     _current = 0;
```

```
22 #if QT_VERSION >= QT_VERSION_CHECK(5, 2, 0)
23     emit currentChanged(_colors.first(), false, 0);
24 #else
25     emit currentChanged(_colors.value(_colors.keys().first()), false, 0);
26 #endif
27     update();
28 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.20.3.15 int GradientDialogWidget::stopCount ( ) [inline]

Definition at line 16 of file gradientdialogwidget.h.

References _stops.

Referenced by GradientDialog::currentChanged().

```
16 { return _stops.count(); }
```

Here is the caller graph for this function:

12.20.3.16 QRect GradientDialogWidget::stopRect (int *pos*) [private]

Definition at line 144 of file gradientdialogwidget.cpp.

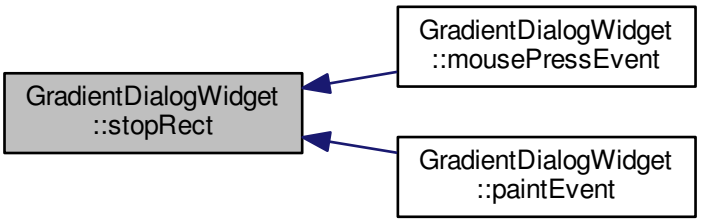
References fillRect().

Referenced by mousePressEvent(), and paintEvent().

```
144                                             {
145     QRect fill = fillRect();
146     int sx = round(pos / 100. * fill.width()) + fill.x() - 6;
147     int sw = 12, sh = 18;
148     int sy = height() - sh - 2;
149     return QRect(sx, sy, sw, sh);
150 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.20.3.17 QGradientStops GradientDialogWidget::stops ( ) [inline]

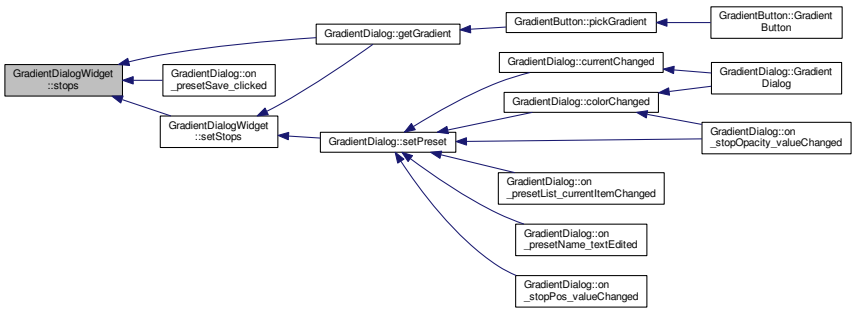
Definition at line 15 of file gradientdialogwidget.h.

References _stops.

Referenced by GradientDialog::getGradient(), GradientDialog::on_presetSave_clicked(), and setStops().

```
15 { return _stops; }
```

Here is the caller graph for this function:



12.20.4 Field Documentation

12.20.4.1 QMap<int, QColor> GradientDialogWidget::_colors [private]

Definition at line 31 of file gradientdialogwidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), mouseReleaseEvent(), moveCurrent(), paintEvent(), selectionColors(), setCurrentColor(), and setStops().

12.20.4.2 int GradientDialogWidget::_current [private]

Definition at line 30 of file gradientdialogwidget.h.

Referenced by current(), mouseReleaseEvent(), moveCurrent(), paintEvent(), setCurrentColor(), and setStops().

12.20.4.3 QGradientStops GradientDialogWidget::_stops [private]

Definition at line 32 of file gradientdialogwidget.h.

Referenced by colorAt(), makeStops(), paintEvent(), setStops(), stopCount(), and stops().

12.20.4.4 QColor GradientDialogWidget::selected [private]

Definition at line 28 of file gradientdialogwidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), mouseReleaseEvent(), moveCurrent(), paintEvent(), selectionColors(), and setCurrentColor().

12.20.4.5 int GradientDialogWidget::selectedOffset [private]

Definition at line 29 of file gradientdialogwidget.h.

Referenced by mouseMoveEvent(), and mousePressEvent().

12.20.4.6 int GradientDialogWidget::selectedPos [private]

Definition at line 29 of file gradientdialogwidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), mouseReleaseEvent(), paintEvent(), and selectedStop().

The documentation for this class was generated from the following files:

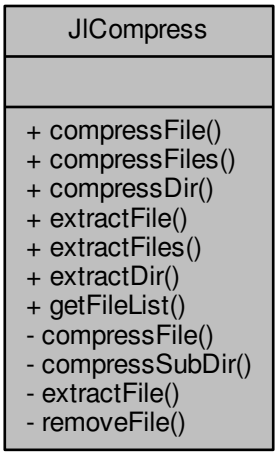
- src/ckb/gradientdialogwidget.h
- src/ckb/gradientdialogwidget.cpp
- src/ckb/release/moc_gradientdialogwidget.cpp

12.21 JICompress Class Reference

Utility class for typical operations.

`#include <src/ckb/quazip/JlCompress.h>`

Collaboration diagram for JICompress:



Static Public Member Functions

- static bool compressFile (QString fileCompressed, QString file)

  Compress a single file.
- static bool compressFiles (QString fileCompressed, QStringList files)

  Compress a list of files.
- static bool compressDir (QString fileCompressed, QString dir=QString(), bool recursive=true)

  Compress a whole directory.
- static QString extractFile (QString fileCompressed, QString fileName, QString fileDest=QString())

  Extract a single file.
- static QStringList extractFiles (QString fileCompressed, QStringList files, QString dir=QString())

  Extract a list of files.
- static QStringList extractDir (QString fileCompressed, QString dir=QString())

  Extract a whole archive.
- static QStringList getFileList (QString fileCompressed)

  Get the file list.

Static Private Member Functions

- static bool compressFile (QuaZip *zip, QString fileName, QString fileDest)

  Compress a single file.
- static bool compressSubDir (QuaZip *parentZip, QString dir, QString parentDir, bool recursive=true)

  Compress a subdirectory.
- static bool extractFile (QuaZip *zip, QString fileName, QString fileDest)

  Extract a single file.
- static bool removeFile (QStringList listFile)

  Remove some files.

12.21.1 Detailed Description

This class contains a number of useful static functions to perform simple operations, such as mass ZIP packing or extraction.

Definition at line 42 of file JlCompress.h.

12.21.2 Member Function Documentation

12.21.2.1 bool JlCompress::compressDir (QString *fileCompressed*, QString *dir* = `QString()`, bool *recursive* = `true`) [static]

OK Comprime la cartella dir nel file fileCompressed, se recursive e true allora comprime anche le sotto cartelle.

Parameters

fileCompressed	The name of the archive.
dir	The directory to compress.
recursive	Whether to pack the subdirectories as well, or just regular files.

Returns

true if success, false otherwise.

Se la funzione fallisce restituisce false e cancella il file che si e tentato di creare.

La funzione fallisce se:

- non si riesce ad aprire l'oggetto zip;
- la compressione di un file fallisce;
- non si riesce a chiudere l'oggetto zip;

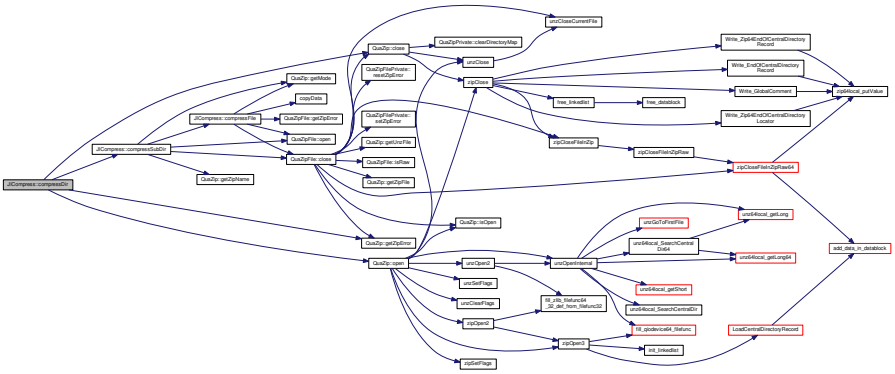
Definition at line 338 of file JlCompress.cpp.

References QuaZip::close(), compressSubDir(), QuaZip::getZipError(), QuaZip::mdCreate, and QuaZip::open().

```
338                                                                         {
339     // Creo lo zip
340     QuaZip zip(fileCompressed);
341     QDir().mkpath(QFileInfo(fileCompressed).absolutePath());
342     if(!zip.open(QuaZip::mdCreate)) {
343         QFile::remove(fileCompressed);
344         return false;
345     }
346
347     // Aggiungo i file e le sotto cartelle
348     if (!compressSubDir(&zip,dir,dir,recursive)) {
349         QFile::remove(fileCompressed);
350         return false;
```

```
351     }
352
353     // Chiudo il file zip
354     zip.close();
355     if(zip.getZipError()!=0) {
356         QFile::remove(fileCompressed);
357         return false;
358     }
359
360     return true;
361 }
```

Here is the call graph for this function:



12.21.2.2 bool JICompress::compressFile (QuaZip * *zip,* QString *fileName,* QString *fileDest*) [static], [private]

OK Comprime il file fileName, nell'oggetto zip, con il nome fileDest.

Parameters

zip	Opened zip to compress the file to.
fileName	The full path to the source file.
fileDest	The full name of the file inside the archive.

Returns

true if success, false otherwise.

La funzione fallisce se:

- zip==NULL;
- l'oggetto zip e stato aperto in una modalita non compatibile con l'aggiunta di file;
- non e possibile aprire il file d'origine;
- non e possibile creare il file all'interno dell'oggetto zip;
- si e rilevato un errore nella copia dei dati;
- non e stato possibile chiudere il file all'interno dell'oggetto zip;

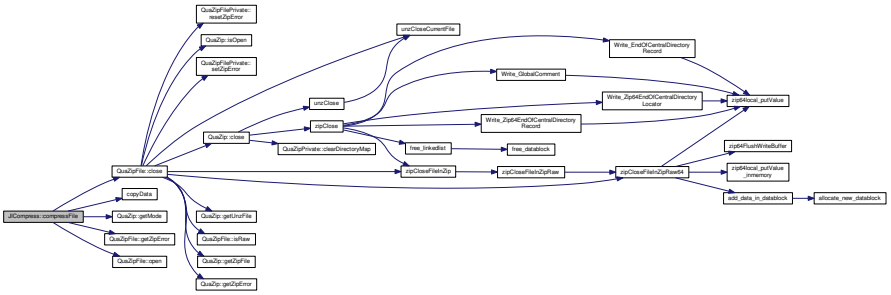
Definition at line 53 of file JICompress.cpp.

References QuaZipFile::close(), copyData(), QuaZip::getMode(), QuaZipFile::getZipError(), QuaZip::mdAdd, QuaZip::mdAppend, QuaZip::mdCreate, QuaZipFile::open(), and UNZ_OK.

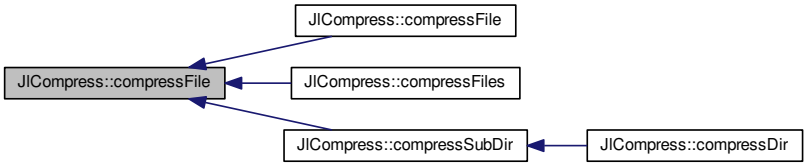
Referenced by compressFile(), compressFiles(), and compressSubDir().

```
53                                                                                  {
54     // zip: oggetto dove aggiungere il file
55     // fileName: nome del file reale
56     // fileDest: nome del file all'interno del file compresso
57
58     // Controllo l'apertura dello zip
59     if (!zip) return false;
60     if (zip->getMode()!=QuaZip::mdCreate &&
61         zip->getMode()!=QuaZip::mdAppend &&
62         zip->getMode()!=QuaZip::mdAdd) return false;
63
64     // Apro il file originale
65     QFile inFile;
66     inFile.setFileName(fileName);
67     if(!inFile.open(QIODevice::ReadOnly)) return false;
68
69     // Apro il file risulato
70     QuaZipFile outFile(zip);
71     if(!outFile.open(QIODevice::WriteOnly, QuaZipNewInfo(fileDest, inFile.fileName()))) return
       false;
72
73     // Copio i dati
74     if (!copyData(inFile, outFile) || outFile.getZipError()!=UNZ_OK) {
75         return false;
76     }
77
78     // Chiudo i file
79     outFile.close();
80     if (outFile.getZipError()!=UNZ_OK) return false;
81     inFile.close();
82
83     return true;
84 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.21.2.3 bool JICompress::compressFile (QString *fileCompressed,* QString *file*) [static]

OK Comprime il file fileName nel file fileCompressed.

Parameters

fileCompressed	The name of the archive.
file	The file to compress.

Returns

true if success, false otherwise.

Se la funzione fallisce restituisce false e cancella il file che si e tentato di creare.

La funzione fallisce se:

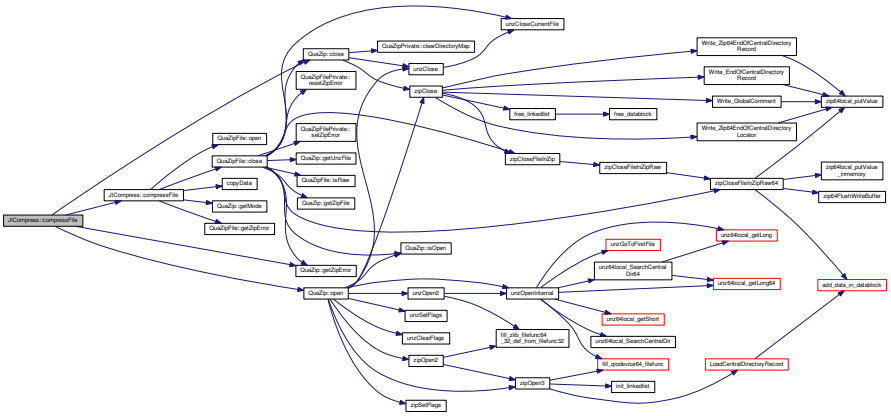
- non si riesce ad aprire l'oggetto zip;
- la compressione del file fallisce;
- non si riesce a chiudere l'oggetto zip;

Definition at line 263 of file JICompress.cpp.

References QuaZip::close(), compressFile(), QuaZip::getZipError(), QuaZip::mdCreate, and QuaZip::open().

```
263                                                                 {
264     // Creo lo zip
265     QuaZip zip(fileCompressed);
266     QDir().mkpath(QFileInfo(fileCompressed).absolutePath());
267     if(!zip.open(QuaZip::mdCreate)) {
268         QFile::remove(fileCompressed);
269         return false;
270     }
271
272     // Aggiungo il file
273     if (!compressFile(&zip,file,QFileInfo(file).fileName())) {
274         QFile::remove(fileCompressed);
275         return false;
276     }
277
278     // Chiudo il file zip
279     zip.close();
280     if(zip.getZipError()!=0) {
281         QFile::remove(fileCompressed);
282         return false;
283     }
284
285     return true;
286 }
```

Here is the call graph for this function:



12.21.2.4 bool JlCompress::compressFiles (QString *fileCompressed*, QStringList *files*) [static]

OK Comprime i file specificati in files nel file fileCompressed.

Parameters

fileCompressed	The name of the archive.
files	The file list to compress.

Returns

true if success, false otherwise.

Se la funzione fallisce restituisce false e cancella il file che si e tentato di creare.

La funzione fallisce se:

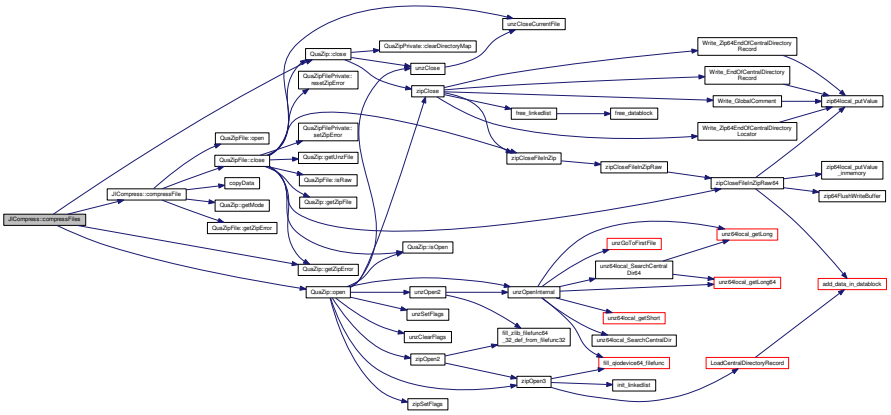
- non si riesce ad aprire l'oggetto zip;
- la compressione di un file fallisce;
- non si riesce a chiudere l'oggetto zip;

Definition at line 298 of file JICompress.cpp.

References QuaZip::close(), compressFile(), QuaZip::getZipError(), QuaZip::mdCreate, and QuaZip::open().

```
298                                                                 {
299     // Creo lo zip
300     QuaZip zip(fileCompressed);
301     QDir().mkpath(QFileInfo(fileCompressed).absolutePath());
302     if(!zip.open(QuaZip::mdCreate)) {
303         QFile::remove(fileCompressed);
304         return false;
305     }
306
307     // Comprimo i file
308     QFileInfo info;
309     Q_FOREACH (QString file, files) {
310         info.setFile(file);
311         if (!info.exists() || !compressFile(&zip,file,info.fileName())) {
312             QFile::remove(fileCompressed);
313             return false;
314         }
315     }
316
317     // Chiudo il file zip
318     zip.close();
319     if(zip.getZipError()!=0) {
320         QFile::remove(fileCompressed);
321         return false;
322     }
323
324     return true;
325 }
```

Here is the call graph for this function:



12.21.2.5 bool JICompress::compressSubDir (QuaZip * *zip,* QString *dir,* QString *origDir,* bool *recursive* = `true`) [static], [private]

OK Comprime la cartella dir nel file fileCompressed, se recursive e true allora comprime anche le sotto cartelle.

Parameters

parentZip	Opened zip containing the parent directory.
dir	The full path to the directory to pack.
parentDir	The full path to the directory corresponding to the root of the ZIP.
recursive	Whether to pack sub-directories as well or only files.

Returns

true if success, false otherwise.

I nomi dei file preceduti dal path creato togliendo il pat della cartella origDir al path della cartella dir. Se la funzione fallisce restituisce false e cancella il file che si e tentato di creare.

La funzione fallisce se:

- zip==NULL;
- l'oggetto zip e stato aperto in una modalita non compatibile con l'aggiunta di file;
- la cartella dir non esiste;
- la compressione di una sotto cartella fallisce (1);
- la compressione di un file fallisce; (1) La funzione si richiama in maniera ricorsiva per comprimere le sotto cartelle dunque gli errori di compressione di una sotto cartella sono gli stessi di questa funzione.

Definition at line 103 of file JICompress.cpp.

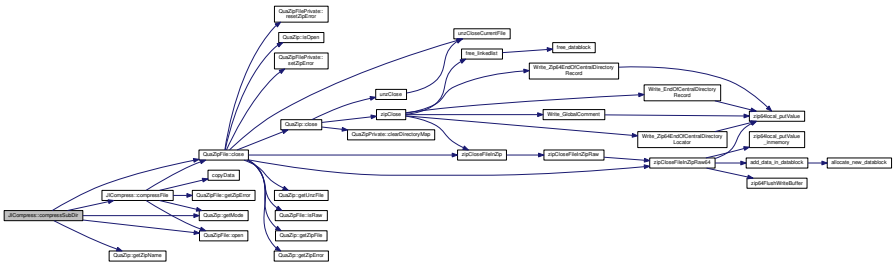
References QuaZipFile::close(), compressFile(), QuaZip::getMode(), QuaZip::getZipName(), QuaZip::mdAdd, QuaZip::mdAppend, QuaZip::mdCreate, and QuaZipFile::open().

Referenced by compressDir().

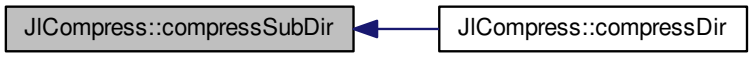
```
103                                                                                                 {
104     // zip: oggetto dove aggiungere il file
105     // dir: cartella reale corrente
106     // origDir: cartella reale originale
107     // (path(dir)-path(origDir)) = path interno all'oggetto zip
108
109     // Controllo l'apertura dello zip
110     if (!zip) return false;
111     if (zip->getMode()!=QuaZip::mdCreate &&
112         zip->getMode()!=QuaZip::mdAppend &&
113         zip->getMode()!=QuaZip::mdAdd) return false;
114
115     // Controllo la cartella
116     QDir directory(dir);
117     if (!directory.exists()) return false;
118
119     QDir origDirectory(origDir);
120     if (dir != origDir) {
121         QuaZipFile dirZipFile(zip);
122         if (!dirZipFile.open(QIODevice::WriteOnly,
123             QuaZipNewInfo(origDirectory.relativeFilePath(dir) + "/", dir), 0, 0, 0)) {
124                 return false;
125         }
126         dirZipFile.close();
127     }
128
129
130     // Se comprimo anche le sotto cartelle
131     if (recursive) {
132         // Per ogni sotto cartella
133         QFileInfoList files = directory.entryInfoList(QDir::AllDirs|QDir::NoDotAndDotDot);
134         Q_FOREACH (QFileInfo file, files) {
135             // Comprimo la sotto cartella
136             if(!compressSubDir(zip,file.absoluteFilePath(),origDir,recursive)) return false;
137         }
138     }
139
140     // Per ogni file nella cartella
141     QFileInfoList files = directory.entryInfoList(QDir::Files);
142     Q_FOREACH (QFileInfo file, files) {
143         // Se non e un file o e il file compresso che sto creando
```

```
144         if(!file.isFile()||file.absoluteFilePath()==zip->getZipName()) continue;
145
146         // Creo il nome relativo da usare all'interno del file compresso
147         QString filename = origDirectory.relativeFilePath(file.absoluteFilePath());
148
149         // Comprimo il file
150         if (!compressFile(zip,file.absoluteFilePath(),filename)) return false;
151     }
152
153     return true;
154 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.21.2.6 QStringList JICompress::extractDir (QString *fileCompressed*, QString *dir* = QString()) [static]

OK Estrae il file fileCompressed nella cartella dir.

Parameters

fileCompressed	The name of the archive.
dir	The directory to extract to, the current directory if left empty.

Returns

The list of the full paths of the files extracted, empty on failure.

Se dir = "" allora il file viene estratto nella cartella corrente. Se la funzione fallisce cancella i file che si e tentato di estrarre. Restituisce i nomi assoluti dei file estratti.

La funzione fallisce se:

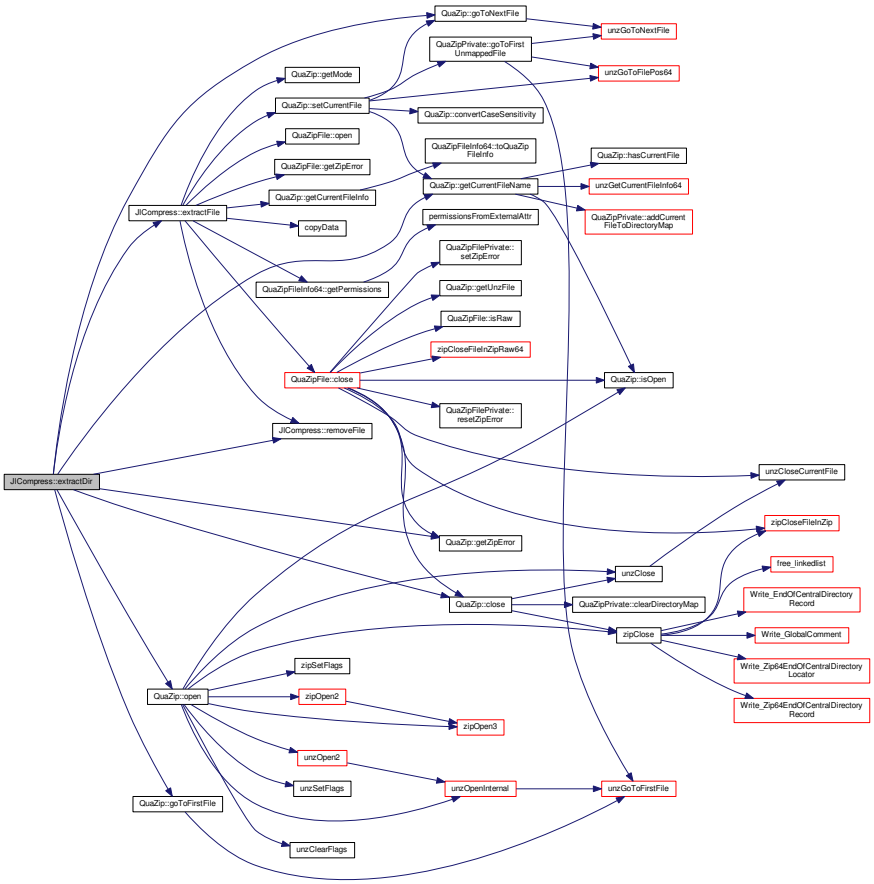
- non si riesce ad aprire l'oggetto zip;
- la compressione di un file fallisce;
- non si riesce a chiudere l'oggetto zip;

Definition at line 451 of file JICompress.cpp.

References QuaZip::close(), extractFile(), QuaZip::getCurrentFileName(), QuaZip::getZipError(), QuaZip::goToFirstFile(), QuaZip::goToNextFile(), QuaZip::mdUnzip, QuaZip::open(), and removeFile().

```
451                                                                 {
452     // Apro lo zip
453     QuaZip zip(fileCompressed);
454     if(!zip.open(QuaZip::mdUnzip)) {
455         return QStringList();
456     }
457
458     QDir directory(dir);
459     QStringList extracted;
460     if (!zip.goToFirstFile()) {
461         return QStringList();
462     }
463     do {
464         QString name = zip.getCurrentFileName();
465         QString absFilePath = directory.absoluteFilePath(name);
466         if (!extractFile(&zip, "", absFilePath)) {
467             removeFile(extracted);
468             return QStringList();
469         }
470         extracted.append(absFilePath);
471     } while (zip.goToNextFile());
472
473     // Chiudo il file zip
474     zip.close();
475     if(zip.getZipError()!=0) {
476         removeFile(extracted);
477         return QStringList();
478     }
479
480     return extracted;
481 }
```

Here is the call graph for this function:



12.21.2.7 bool JICompress::extractFile (QuaZip * *zip*, QString *fileName*, QString *fileDest*) [static],[private]

OK Estrae il file fileName, contenuto nell'oggetto zip, con il nome fileDest.

Parameters

zip	The opened zip archive to extract from.
fileName	The full name of the file to extract.
fileDest	The full path to the destination file.

Returns

true if success, false otherwise.

Se la funzione fallisce restituisce false e cancella il file che si e tentato di estrarre.

La funzione fallisce se:

- zip==NULL;
- l'oggetto zip e stato aperto in una modalita non compatibile con l'estrazione di file;
- non e possibile aprire il file all'interno dell'oggetto zip;
- non e possibile creare il file estratto;
- si e rilevato un errore nella copia dei dati (1);
- non e stato possibile chiudere il file all'interno dell'oggetto zip (1);

(1): prima di uscire dalla funzione cancella il file estratto.

Definition at line 170 of file JICompress.cpp.

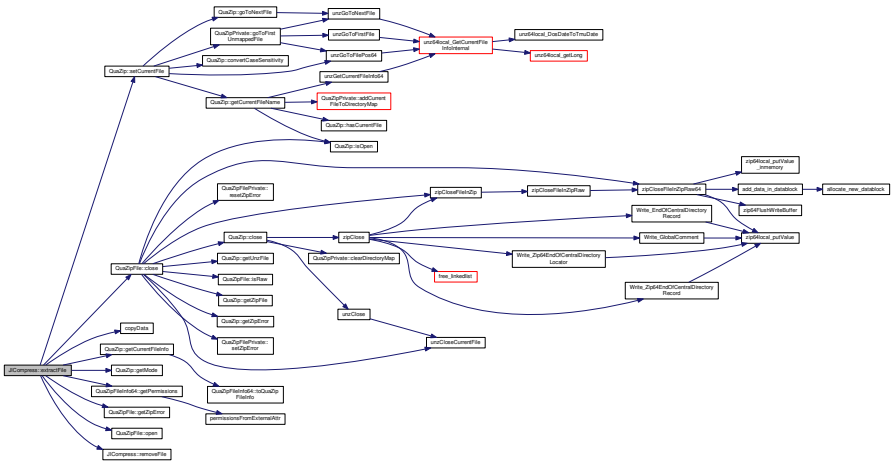
References QuaZipFile::close(), copyData(), QuaZip::getCurrentFileInfo(), QuaZip::getMode(), QuaZipFileInfo64::getPermissions(), QuaZipFile::getZipError(), QuaZip::mdUnzip, QuaZipFile::open(), removeFile(), QuaZip::setCurrentFile(), and UNZ_OK.

Referenced by extractDir(), extractFile(), and extractFiles().

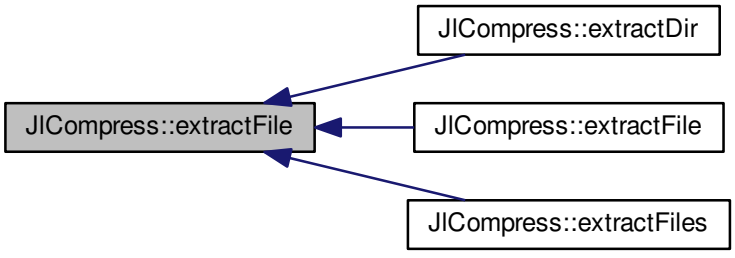
```
170                                                                                 {
171     // zip: oggetto dove aggiungere il file
172     // filename: nome del file reale
173     // fileincompress: nome del file all'interno del file compresso
174
175     // Controllo l'apertura dello zip
176     if (!zip) return false;
177     if (zip->getMode()!=QuaZip::mdUnzip) return false;
178
179     // Apro il file compresso
180     if (!fileName.isEmpty())
181         zip->setCurrentFile(fileName);
182     QuaZipFile inFile(zip);
183     if(!inFile.open(QIODevice::ReadOnly) || inFile.getZipError()!=UNZ_OK) return false;
184
185     // Controllo esistenza cartella file risultato
186     QDir curDir;
187     if (fileDest.endsWith('/')) {
188         if (!curDir.mkpath(fileDest)) {
189             return false;
190         }
191     } else {
192         if (!curDir.mkpath(QFileInfo(fileDest).absolutePath())) {
193             return false;
194         }
195     }
196
197     QuaZipFileInfo64 info;
198     if (!zip->getCurrentFileInfo(&info))
199         return false;
200
201     QFile::Permissions srcPerm = info.getPermissions();
202     if (fileDest.endsWith('/') && QFileInfo(fileDest).isDir()) {
203         if (srcPerm != 0) {
```

```
204             QFile(fileDest).setPermissions(srcPerm);
205         }
206         return true;
207     }
208
209     // Apro il file risultato
210     QFile outFile;
211     outFile.setFileName(fileDest);
212     if(!outFile.open(QIODevice::WriteOnly)) return false;
213
214     // Copio i dati
215     if (!copyData(inFile, outFile) || inFile.getZipError()!=UNZ_OK) {
216         outFile.close();
217         removeFile(QStringList(fileDest));
218         return false;
219     }
220     outFile.close();
221
222     // Chiudo i file
223     inFile.close();
224     if (inFile.getZipError()!=UNZ_OK) {
225         removeFile(QStringList(fileDest));
226         return false;
227     }
228
229     if (srcPerm != 0) {
230         outFile.setPermissions(srcPerm);
231     }
232     return true;
233 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.21.2.8 QString JICompress::extractFile (QString *fileCompressed*, QString *fileName*, QString *fileDest* = `QString()`) [static]

OK Estrae il file fileName, contenuto nel file fileCompressed, con il nome fileDest.

Parameters

fileCompressed	The name of the archive.
fileName	The file to extract.
fileDest	The destination file, assumed to be identical to *file* if left empty.

Returns

The list of the full paths of the files extracted, empty on failure.

Se fileDest = "" allora il file viene estratto con lo stesso nome con cui e stato compresso. Se la funzione fallisce cancella il file che si e tentato di estrarre. Restituisce il nome assoluto del file estratto.

La funzione fallisce se:

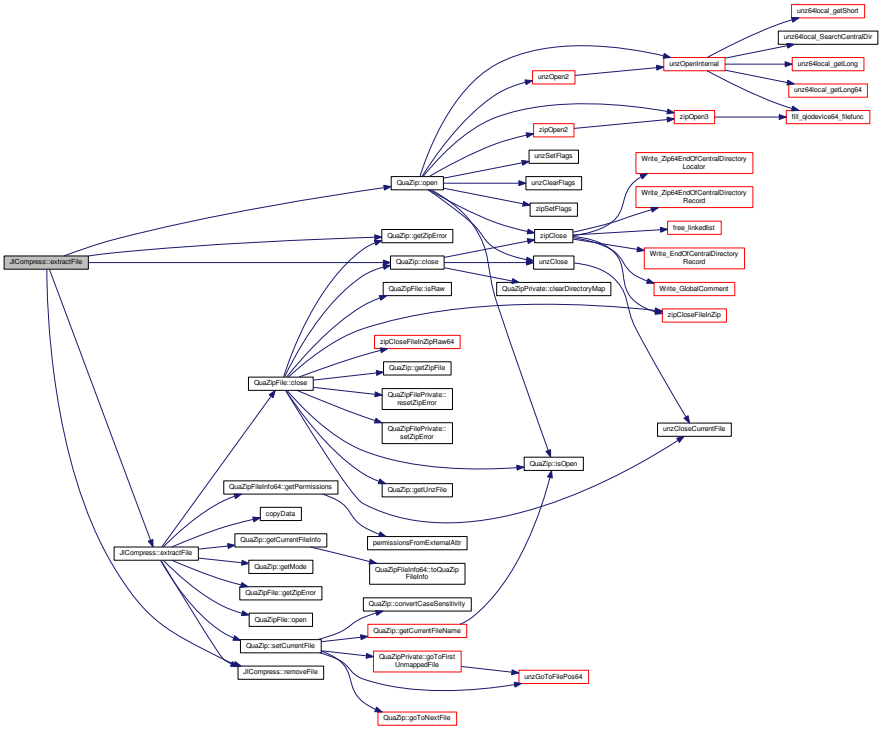
- non si riesce ad aprire l'oggetto zip;
- l'estrazione del file fallisce;
- non si riesce a chiudere l'oggetto zip;

Definition at line 377 of file JICompress.cpp.

References QuaZip::close(), extractFile(), QuaZip::getZipError(), QuaZip::mdUnzip, QuaZip::open(), and removeFile().

```
377                                                                                                {
378     // Apro lo zip
379     QuaZip zip(fileCompressed);
380     if(!zip.open(QuaZip::mdUnzip)) {
381         return QString();
382     }
383
384     // Estraggo il file
385     if (fileDest.isEmpty())
386         fileDest = fileName;
387     if (!extractFile(&zip,fileName,fileDest)) {
388         return QString();
389     }
390
391     // Chiudo il file zip
392     zip.close();
393     if(zip.getZipError()!=0) {
394         removeFile(QStringList(fileDest));
395         return QString();
396     }
397     return QFileInfo(fileDest).absoluteFilePath();
398 }
```

Here is the call graph for this function:



12.21.2.9 QStringList JICompress::extractFiles (QString *fileCompressed,* QStringList *files,* QString *dir* = `QString()`) `[static]`

OK Estrae i file specificati in files, contenuti nel file fileCompressed, nella cartella dir.

Parameters

fileCompressed	The name of the archive.
files	The file list to extract.
dir	The directory to put the files to, the current directory if left empty.

Returns

The list of the full paths of the files extracted, empty on failure.

La struttura a cartelle del file compresso viene rispettata. Se dir = "" allora il file viene estratto nella cartella corrente. Se la funzione fallisce cancella i file che si e tentato di estrarre. Restituisce i nomi assoluti dei file estratti.

La funzione fallisce se:

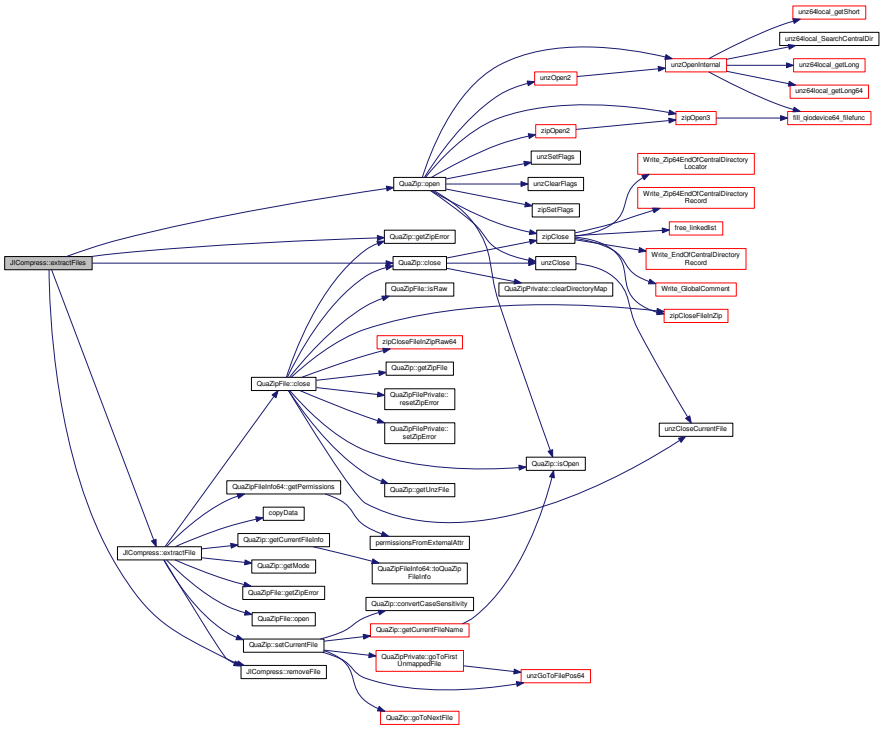
- non si riesce ad aprire l'oggetto zip;
- l'estrazione di un file fallisce;
- non si riesce a chiudere l'oggetto zip;

Definition at line 412 of file JICompress.cpp.

References QuaZip::close(), extractFile(), QuaZip::getZipError(), QuaZip::mdUnzip, QuaZip::open(), and removeFile().

```
412                                                                                                 {
413     // Creo lo zip
414     QuaZip zip(fileCompressed);
415     if(!zip.open(QuaZip::mdUnzip)) {
416         return QStringList();
417     }
418
419     // Estraggo i file
420     QStringList extracted;
421     for (int i=0; i<files.count(); i++) {
422         QString absPath = QDir(dir).absoluteFilePath(files.at(i));
423         if (!extractFile(&zip, files.at(i), absPath)) {
424             removeFile(extracted);
425             return QStringList();
426         }
427         extracted.append(absPath);
428     }
429
430     // Chiudo il file zip
431     zip.close();
432     if(zip.getZipError()!=0) {
433         removeFile(extracted);
434         return QStringList();
435     }
436
437     return extracted;
438 }
```

Here is the call graph for this function:



12.21.2.10 QStringList JlCompress::getFileList (QString *fileCompressed*) [static]

OK Restituisce la lista dei file resenti nel file compresso fileCompressed.

Returns

The list of the files in the archive, or, more precisely, the list of the entries, including both files and directories if they are present separately.

Se la funzione fallisce, restituisce un elenco vuoto.

La funzione fallisce se:

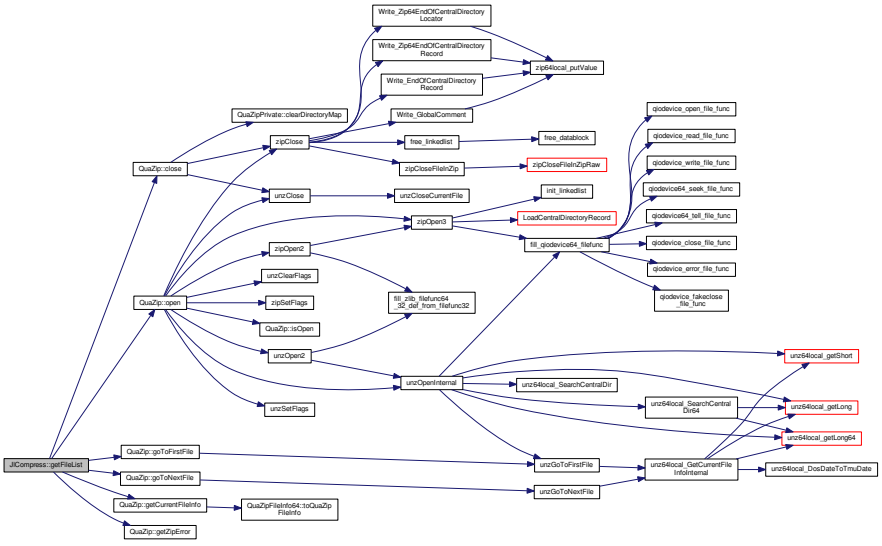
- non si riesce ad aprire l'oggetto zip;
- la richiesta di informazioni di un file fallisce;
- non si riesce a chiudere l'oggetto zip;

Definition at line 492 of file JICompress.cpp.

References QuaZip::close(), QuaZip::getCurrentFileInfo(), QuaZip::getZipError(), QuaZip::goToFirstFile(), QuaZip::goToNextFile(), QuaZip::mdUnzip, QuaZipFileInfo64::name, and QuaZip::open().

```
492                                                     {
493     // Apro lo zip
494     QuaZip* zip = new QuaZip(QFileInfo(fileCompressed).absoluteFilePath());
495     if(!zip->open(QuaZip::mdUnzip)) {
496         delete zip;
497         return QStringList();
498     }
499
500     // Estraggo i nomi dei file
501     QStringList lst;
502     QuaZipFileInfo64 info;
503     for(bool more=zip->goToFirstFile(); more; more=zip->
      goToNextFile()) {
504       if(!zip->getCurrentFileInfo(&info)) {
505           delete zip;
506           return QStringList();
507       }
508       lst << info.name;
509       //info.name.toLocal8Bit().constData()
510     }
511
512     // Chiudo il file zip
513     zip->close();
514     if(zip->getZipError()!=0) {
515         delete zip;
516         return QStringList();
517     }
518     delete zip;
519
520     return lst;
521 }
```

Here is the call graph for this function:



12.21.2.11 bool JlCompress::removeFile (QStringList *listFile*) [static],[private]

Rimuove i file il cui nome e specificato all'interno di listFile.

Parameters

listFile	The list of files to remove.

Returns

true if success, false otherwise.

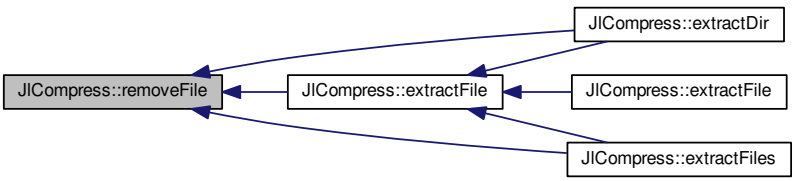
Restituisce true se tutti i file sono stati cancellati correttamente, attenzione perche puo restituire false anche se alcuni file non esistevano e si e tentato di cancellarli.

Definition at line 241 of file JlCompress.cpp.

Referenced by extractDir(), extractFile(), and extractFiles().

```
241                                                 {
242     bool ret = true;
243     // Per ogni file
244     for (int i=0; i<listFile.count(); i++) {
245         // Lo elimino
246         ret = ret && QFile::remove(listFile.at(i));
247     }
248     return ret;
249 }
```

Here is the caller graph for this function:



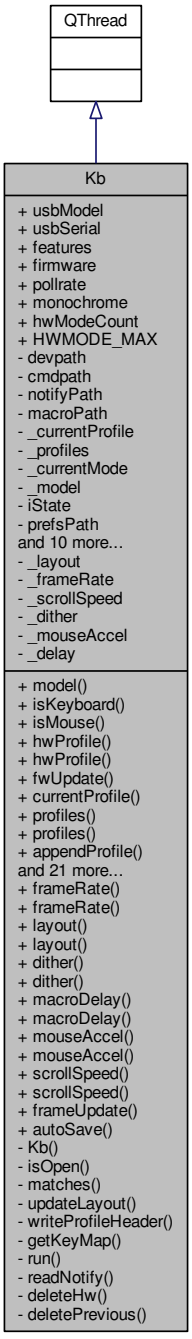
The documentation for this class was generated from the following files:

- src/ckb/quazip/JlCompress.h
- src/ckb/quazip/JlCompress.cpp

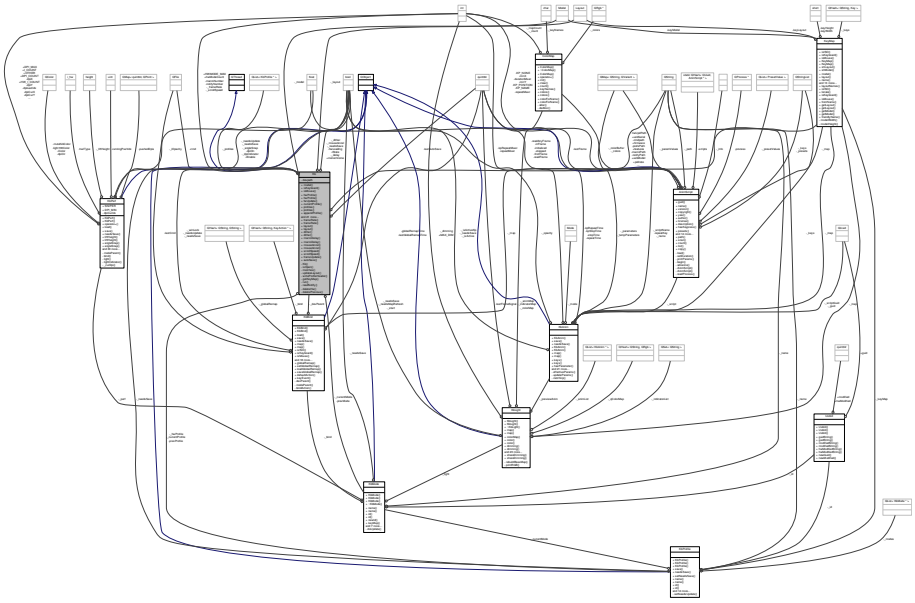
12.22 Kb Class Reference

`#include <src/ckb/kb.h>`

Inheritance diagram for Kb:



Collaboration diagram for Kb:



Public Slots

- void frameUpdate ()
- void autoSave ()

Signals

- void infoUpdated ()
- void profileAdded ()
- void profileRenamed ()
- void modeRenamed ()
- void profileChanged ()
- void modeChanged (bool spontaneous)
- void fwUpdateProgress (int current, int total)
- void fwUpdateFinished (bool succeeded)

Public Member Functions

- KeyMap::Model model () const
- bool isKeyboard () const
- bool isMouse () const
- KbProfile * hwProfile ()
- void hwProfile (KbProfile *newHwProfile)
- void fwUpdate (const QString &path)
- KbProfile * currentProfile ()
- const QList< KbProfile * > & profiles () const
- void profiles (const QList< KbProfile * > &newProfiles)
- void appendProfile (KbProfile *newProfile)
- int indexOf (KbProfile *profile)
- KbProfile * find (const QUuid &id)
- KbMode * currentMode ()

- KbLight * currentLight ()
- KbBind * currentBind ()
- KbPerf * currentPerf ()
- void setCurrentProfile (KbProfile *profile, bool spontaneous=true)
- void setCurrentMode (KbProfile *profile, KbMode *mode, bool spontaneous=true)
- void setCurrentMode (KbProfile *profile, int index, bool spontaneous=true)
- void setCurrentMode (KbMode *mode, bool spontaneous=true)
- KbProfile * newProfile ()
- KbProfile * newProfile (KbProfile *other)
- KbMode * newMode ()
- KbMode * newMode (KbMode *other)
- void load ()
- void save ()
- bool needsSave () const
- void hwSave ()
- int getMacroNumber ()

  For usage with macro definions, these two params must only be readable. So there are no setters.
- QString getMacroPath ()

  getMacroPath returns the macroPath (e.g. /dev/input/ckb1/notify), which we have saved in the constructor. For usage with macro definions, this param must only be readable. So there is no setter.
- ~Kb ()

Static Public Member Functions

- static int frameRate ()
- static void frameRate (int newFrameRate)
- static KeyMap::Layout layout ()
- static void layout (KeyMap::Layout newLayout)
- static bool dither ()
- static void dither (bool newDither)
- static bool macroDelay ()
- static void macroDelay (bool flag)

  Kb::macroDelay handles the UI-Element macroBox. Sends a command to the keyboard to switch on or off the delay function on very large macros.
- static bool mouseAccel ()
- static void mouseAccel (bool newAccel)
- static int scrollSpeed ()
- static void scrollSpeed (int newSpeed)

Data Fields

- QString usbModel
- QString usbSerial
- QString features
- QString firmware
- QString pollrate
- bool monochrome
- int hwModeCount

Static Public Attributes

- static const int HWMODE_MAX = 3

Private Slots

- void readNotify (QString line)
- void deleteHw ()
- void deletePrevious ()

Private Member Functions

- Kb (QObject *parent, const QString &path)
- bool isOpen () const
- bool matches (const QString &path, const QString &serial)
- void updateLayout ()
- void writeProfileHeader ()
- KeyMap getKeyMap ()
- void run ()

Private Attributes

- QString devpath

  pathVars devpath is the device root path (e.g. /dev/device/ckb1), cmdpath leads to the daemon input pipe for daemon commands, notifyPath is the standard input monitor for general purpose, macroPath added for a second thread to read macro input.
- QString cmdpath
- QString notifyPath
- QString macroPath
- KbProfile * _currentProfile
- QList< KbProfile * > _profiles
- KbMode * _currentMode
- KeyMap::Model _model
- bool iState [KbPerf::HW_I_COUNT]
- QString prefsPath
- quint64 lastAutoSave
- QString fwUpdPath
- KbProfile * _hwProfile
- KbProfile * prevProfile
- KbMode * prevMode
- QFile cmd
- int notifyNumber

  notifyNumber is the trailing number in the device path.
- int macroNumber
- bool _needsSave
- bool hwLoading [HWMODE_MAX+1]

Static Private Attributes

- static KeyMap::Layout _layout = KeyMap::NO_LAYOUT
- static int _frameRate = 30
- static int _scrollSpeed = 0
- static bool _dither = false
- static bool _mouseAccel = true
- static bool _delay = false

Friends

- class KbManager

12.22.1 Detailed Description

Definition at line 11 of file kb.h.

12.22.2 Constructor & Destructor Documentation

12.22.2.1 Kb::~Kb ( )

<

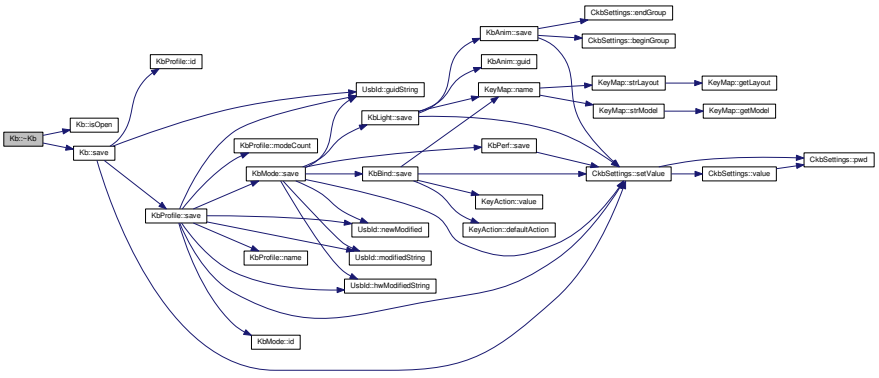
Todo I don't think, that notifypaths is used somewhere. So why do we have it? If we do not need it, searching for an ununsed notify channel can easy be refactored to a private member function.

Definition at line 141 of file kb.cpp.

References activeDevices, isOpen(), macroPath, notifyNumber, notifyPaths, and save().

```
141         {
142     // Save settings first
143     save();
144 
145     // remove the notify channel from the list of notifyPaths.
148     notifyPaths.remove(macroPath);
149 
150     // Kill notification thread and remove node
151     activeDevices.remove(this);
152     if(!isOpen()){
153         terminate();
154         wait(1000);
155         return;
156     }
157     if(notifyNumber > 0)
158         cmd.write(QString("idle\nnotifyoff %1\n").arg(notifyNumber).toLatin1());
159     cmd.flush();
160     terminate();
161     wait(1000);
162     cmd.close();
163 }
```

Here is the call graph for this function:



12.22.2.2 Kb::Kb (QObject * *parent*, const QString & *path*) [private]

<

Todo Is adding notify2 to the notifypaths neccessary?

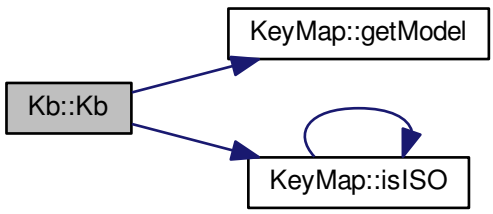
Definition at line 19 of file kb.cpp.

References _delay, _dither, _frameRate, _layout, _mouseAccel, _scrollSpeed, activeDevices, cmdpath, features, firmware, KeyMap::getModel(), hwLoading, hwModeCount, infoUpdated(), KeyMap::isISO(), iState, KeyMap::K95, macroNumber, macroPath, monochrome, KeyMap::NO_MODEL, notifyNumber, notifyPath, notifyPathMutex, notifyPaths, pollrate, prefsPath, usbModel, and usbSerial.

```
19                                      :
20     QThread(parent), features("N/A"), firmware("N/A"),
      pollrate("N/A"), monochrome(false),
21     devpath(path), cmdpath(path + "/cmd"), notifyPath(path + "/notify1"),
      macroPath(path + "/notify2"),
22     _currentProfile(0), _currentMode(0), _model(
      KeyMap::NO_MODEL),
23     lastAutoSave(QDateTime::currentMSecsSinceEpoch()),
24     _hwProfile(0), prevProfile(0), prevMode(0),
25     cmd(cmdpath), notifyNumber(1), macroNumber(2),
      _needsSave(false)
26 {
27     memset(iState, 0, sizeof(iState));
28     memset(hwLoading, 0, sizeof(hwLoading));
29
30     // Get the features, model, serial number, FW version (if available), and poll rate (if available) from
       /dev nodes
31     QFile ftpath(path + "/features"), mpath(path + "/model"), spath(path + "/serial"), fwpath(path + "
      /fwversion"), ppath(path + "/pollrate");
32     if(ftpath.open(QIODevice::ReadOnly)){
33         features = ftpath.read(1000);
34         features = features.trimmed();
35         ftpath.close();
36         // Read model from features (first word: vendor, second word: product)
37         QStringList list = features.split(" ");
38         if(list.length() < 2)
39             return;
40         _model = KeyMap::getModel(list[1]);
41         if(_model == KeyMap::NO_MODEL)
42             return;
43     } else
44         // Bail if features aren't readable
45         return;
46     if(features.contains("monochrome"))
47         monochrome = true;
48     if(mpath.open(QIODevice::ReadOnly)){
49         usbModel = mpath.read(100);
50         usbModel = usbModel.remove("Corsair").remove("Gaming").remove("Keyboard").remove("
      Mouse").remove("Bootloader").trimmed();
51         mpath.close();
52     }
53     if(usbModel == "")
54         usbModel = "Keyboard";
55     if(spath.open(QIODevice::ReadOnly)){
56         usbSerial = spath.read(100);
57         usbSerial = usbSerial.trimmed().toUpper();
58         spath.close();
59     }
60     if(usbSerial == "")
61         usbSerial = "Unknown-" + usbModel;
62     if(features.contains("fwversion") && fwpath.open(QIODevice::ReadOnly)){
63         firmware = fwpath.read(100);
64         firmware = QString::number(firmware.trimmed().toInt() / 100., 'f', 2);
65         fwpath.close();
66     }
67     if(features.contains("pollrate") && ppath.open(QIODevice::ReadOnly)){
68         pollrate = ppath.read(100);
69         pollrate = pollrate.trimmed();
70         ppath.close();
71     }
72
73     prefsPath = "Devices/" + usbSerial;
74
75     hwModeCount = (_model == KeyMap::K95) ? 3 : 1;
76     // Open cmd in non-blocking mode so that it doesn't lock up if nothing is reading
77     // (e.g. if the daemon crashed and didn't clean up the node)
78     int fd = open(cmdpath.toLatin1().constData(), O_WRONLY | O_NONBLOCK);
79     if(!cmd.open(fd, QIODevice::WriteOnly, QFileDevice::AutoCloseHandle))
80         return;
```

```
81
82      // Find an available notification node (if none is found, take notify1)
83      {
84          QMutexLocker locker(&notifyPathMutex);
85          for(int i = 1; i < 10; i++){
86              QString notify = QString(path + "/notify%1").arg(i);
87              if(!QFile::exists(notify) && !notifyPaths.contains(notify)){
88                  notifyNumber = i;
89                  notifyPath = notify;
90                  break;
91              }
92          }
93          notifyPaths.insert(notifyPath);
94      }
95      cmd.write(QString("notifyon %1\n").arg(notifyNumber).toLatin1());
96      cmd.flush();
97
98      // Again, find an available notification node for macro definition
99      // (if none is found, take notify2)
100      {
101          QMutexLocker locker(&notifyPathMutex);
102          for(int i = 1; i < 10; i++){
103              QString notify = QString(path + "/notify%1").arg(i);
104              if(!QFile::exists(notify) && !notifyPaths.contains(notify)){
105                  macroNumber = i;
106                  macroPath = notify;
107                  break;
108              }
109          }
110          notifyPaths.insert(notifyPath);
111      }
112      // Activate device, apply settings, and ask for hardware profile
113      cmd.write(QString("fps %1\n").arg(_frameRate).toLatin1());
114      cmd.write(QString("dither %1\n").arg(static_cast<int>(_dither)).toLatin1());
115      cmd.write(QString("\ndelay %1\n").arg(_delay? "on" : "off").toLatin1());
116  #ifdef Q_OS_MACX
117      // Write ANSI/ISO flag to daemon (OSX only)
118      cmd.write("layout ");
119      cmd.write(KeyMap::isISO(_layout) ? "iso" : "ansi");
120      // Also OSX only: scroll speed and mouse acceleration
121      cmd.write(QString("accel %1\n").arg(QString(_mouseAccel ? "on" : "off")).toLatin1());
122      cmd.write(QString("scrollspeed %1\n").arg(_scrollSpeed).toLatin1());
123  #endif
124      cmd.write(QString("\nactive\n@%1 get :hwprofileid").arg(notifyNumber).toLatin1());
125      hwLoading[0] = true;
126      for(int i = 0; i < hwModeCount; i++){
127          cmd.write(QString(" mode %1 get :hwid").arg(i + 1).toLatin1());
128          hwLoading[i + 1] = true;
129      }
130      // Ask for current indicator and key state
131      cmd.write(" get :i :keys\n");
132      cmd.flush();
133
134      emit infoUpdated();
135      activeDevices.insert(this);
136
137      // Start a separate thread to read from the notification node
138      start();
139  }
```

Here is the call graph for this function:



12.22.3 Member Function Documentation

12.22.3.1 void Kb::appendProfile (KbProfile * *newProfile*) [inline]

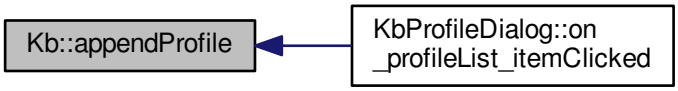
Definition at line 60 of file kb.h.

References _needsSave, and _profiles.

Referenced by KbProfileDialog::on_profileList_itemClicked().

```
60 { _needsSave = true; _profiles.append(newProfile); }
```

Here is the caller graph for this function:



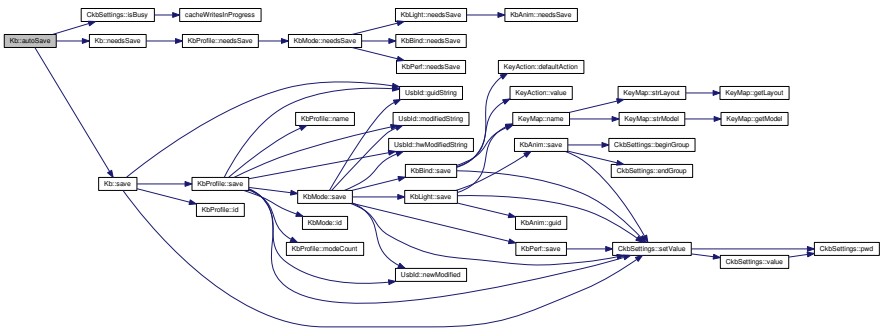
12.22.3.2 void Kb::autoSave ( ) [slot]

Definition at line 289 of file kb.cpp.

References CkbSettings::isBusy(), lastAutoSave, needsSave(), and save().

```
289                 {
290     quint64 now = QDateTime::currentMSecsSinceEpoch();
291     if(needsSave() && now >= lastAutoSave + 15 * 1000 && !
    CkbSettings::isBusy()){
292         save();
293         lastAutoSave = now;
294     }
295 }
```

Here is the call graph for this function:



12.22.3.3 KbBind* Kb::currentBind ( ) [inline]

Definition at line 67 of file kb.h.

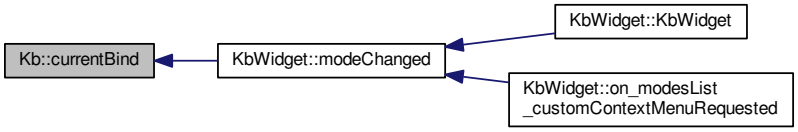
References _currentMode, and KbMode::bind().

Referenced by KbWidget::modeChanged().

```
67 { return !_currentMode ? 0 : _currentMode->bind(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.22.3.4 KbLight* Kb::currentLight ( ) [inline]

Definition at line 66 of file kb.h.

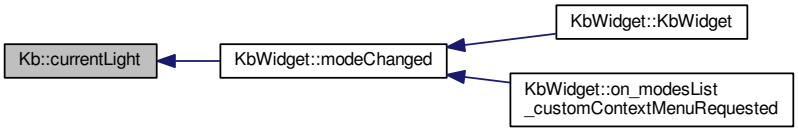
References _currentMode, and KbMode::light().

Referenced by KbWidget::modeChanged().

```
66 { return !_currentMode ? 0 : _currentMode->light(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.22.3.5 KbMode* Kb::currentMode ( ) [inline]

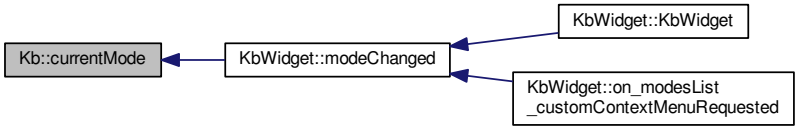
Definition at line 65 of file kb.h.

References _currentMode.

Referenced by KbWidget::modeChanged().

```
65 { return _currentMode; }
```

Here is the caller graph for this function:



12.22.3.6 KbPerf* Kb::currentPerf ( ) [inline]

Definition at line 68 of file kb.h.

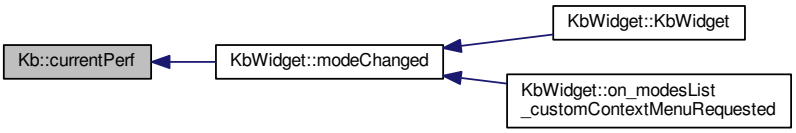
References _currentMode, and KbMode::perf().

Referenced by KbWidget::modeChanged().

```
68 { return !_currentMode ? 0 : _currentMode->perf(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.22.3.7 KbProfile* Kb::currentProfile ( ) [inline]

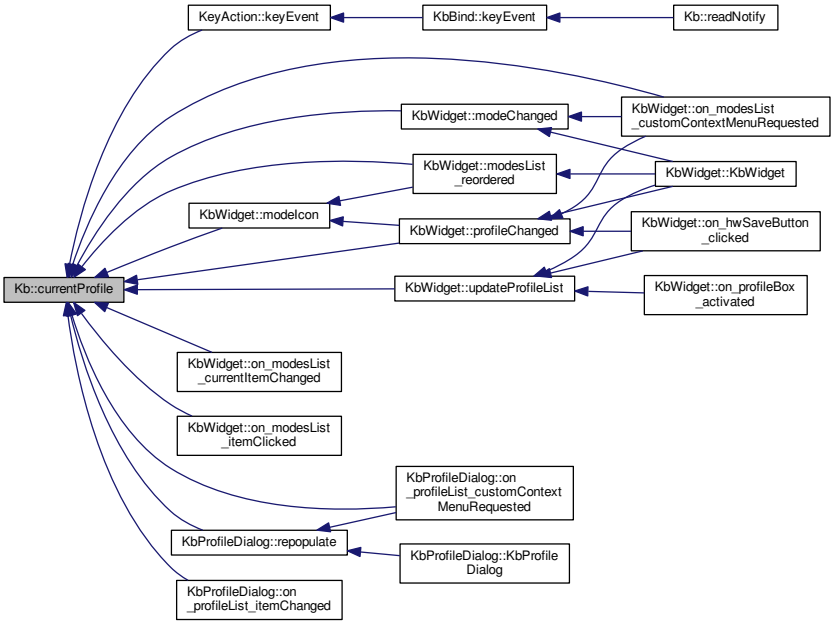
Definition at line 56 of file kb.h.

References _currentProfile.

Referenced by KeyAction::keyEvent(), KbWidget::modeChanged(), KbWidget::modeIcon(), KbWidget::modesList_reordered(), KbWidget::on_modesList_currentItemChanged(), KbWidget::on_modesList_customContextMenuRequested(), KbWidget::on_modesList_itemClicked(), KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::on_profileList_itemChanged(), KbWidget::profileChanged(), KbProfileDialog::repopulate(), and KbWidget::updateProfileList().

```
56 { return _currentProfile; }
```

Here is the caller graph for this function:



12.22.3.8 void Kb::deleteHw ( ) [private], [slot]

Definition at line 441 of file kb.cpp.

References _hwProfile.

Referenced by hwProfile().

```
441                 {
442     disconnect(_hwProfile, SIGNAL(destroyed()), this, SLOT(deleteHw()));
443     _hwProfile = 0;
444 }
```

Here is the caller graph for this function:

12.22.3.9 void Kb::deletePrevious ( ) [private], [slot]

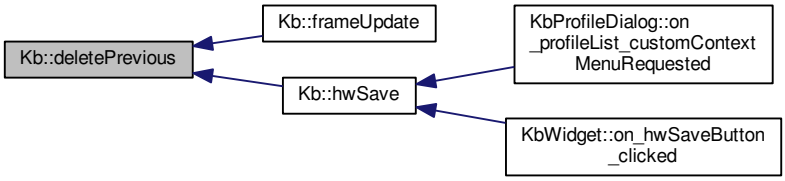
Definition at line 426 of file kb.cpp.

References prevMode.

Referenced by frameUpdate(), and hwSave().

```
426                     {
427     disconnect(prevMode, SIGNAL(destroyed()), this, SLOT(deletePrevious()));
428     prevMode = 0;
429 }
```

Here is the caller graph for this function:



12.22.3.10 static bool Kb::dither ( ) [inline], [static]

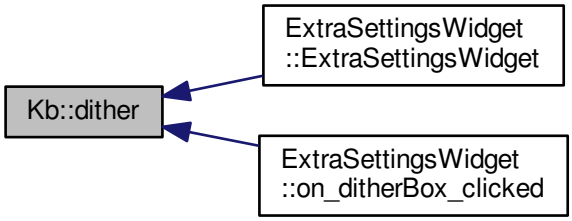
Definition at line 33 of file kb.h.

References _dither.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and ExtraSettingsWidget::on_ditherBox_clicked().

```
33 { return _dither; }
```

Here is the caller graph for this function:



12.22.3.11 void Kb::dither (bool *newDither*) [static]

Definition at line 204 of file kb.cpp.

References _dither, activeDevices, and cmd.

```
204                                {
205     if(newDither == _dither)
206         return;
207     _dither = newDither;
208     // Update all devices
209     foreach(Kb* kb, activeDevices){
210         kb->cmd.write(QString("dither %1\n").arg(static_cast<int>(newDither)).toLatin1());
211         kb->cmd.flush();
212     }
213 }
```

12.22.3.12 KbProfile* Kb::find (const QUuid & *id*) [inline]

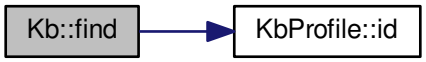
Definition at line 62 of file kb.h.

References _profiles, UsbId::guid, and KbProfile::id().

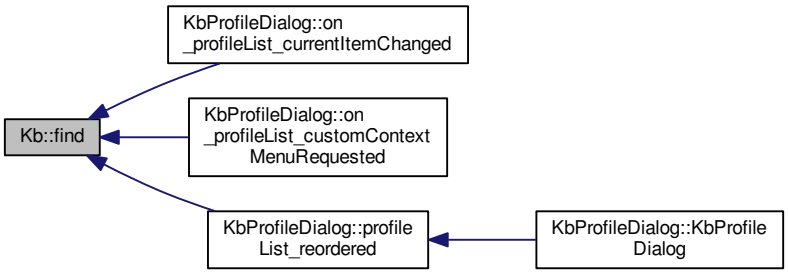
Referenced by KbProfileDialog::on_profileList_currentItemChanged(), KbProfileDialog::on_profileList_customContextMenuRequested(), and KbProfileDialog::profileList_reordered().

```
62 { foreach(KbProfile* profile, _profiles) { if(profile->id().
      guid == id) return profile; } return 0; }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.22.3.13 static int Kb::frameRate ( ) [inline], [static]

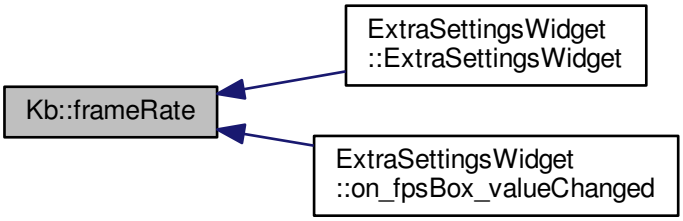
Definition at line 27 of file kb.h.

References _frameRate.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and ExtraSettingsWidget::on_fpsBox_valueChanged().

```
27 { return _frameRate; }
```

Here is the caller graph for this function:



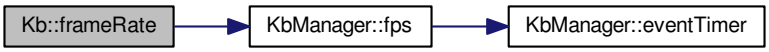
12.22.3.14 void Kb::frameRate (int *newFrameRate*) [static]

Definition at line 165 of file kb.cpp.

References _frameRate, activeDevices, cmd, and KbManager::fps().

```
165                                {
166     KbManager::fps(newFrameRate);
167     // If the rate has changed, send to all devices
168     if(newFrameRate == _frameRate)
169         return;
170     _frameRate = newFrameRate;
171     foreach(Kb* kb, activeDevices){
172         kb->cmd.write(QString("fps %1\n").arg(newFrameRate).toLatin1());
173         kb->cmd.flush();
174     }
175 }
```

Here is the call graph for this function:



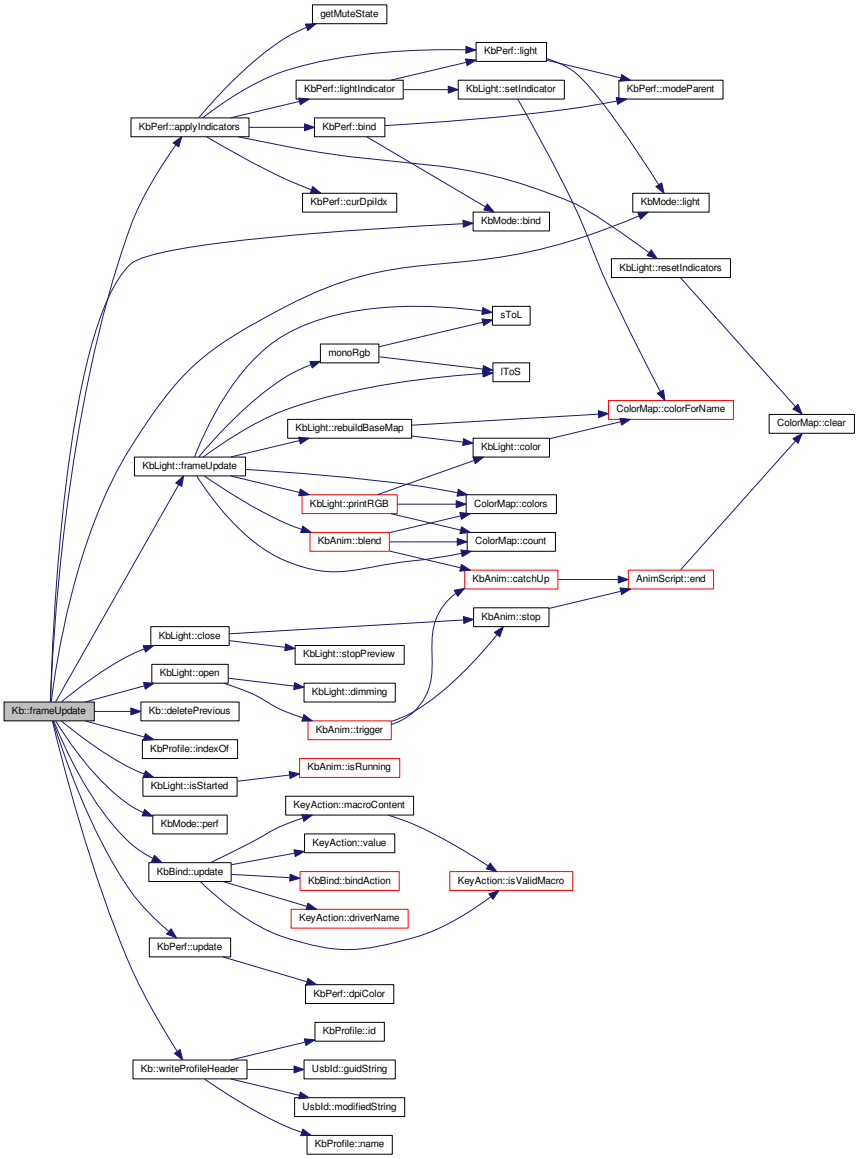
12.22.3.15 void Kb::frameUpdate ( ) [slot]

Definition at line 375 of file kb.cpp.

References _currentMode, _currentProfile, KbPerf::applyIndicators(), KbMode::bind(), KbLight::close(), deletePrevious(), KbLight::frameUpdate(), KbProfile::indexOf(), KbLight::isStarted(), iState, KbMode::light(), monochrome, notifyNumber, KbLight::open(), KbMode::perf(), prevMode, prevProfile, KbBind::update(), KbPerf::update(), and writeProfileHeader().

```
375                     {
376     // Advance animation frame
377     if(!_currentMode)
378         return;
379     KbLight* light = _currentMode->light();
380     KbBind* bind = _currentMode->bind();
381     KbPerf* perf = _currentMode->perf();
382     if(!light->isStarted()){
383         // Don't do anything until the animations are started
384         light->open();
385         return;
386     }
387
388     // Stop animations on the previously active mode (if any)
389     bool changed = false;
390     if(prevMode != _currentMode){
391         if(prevMode){
392             prevMode->light()->close();
393             disconnect(prevMode, SIGNAL(destroyed()), this, SLOT(
    deletePrevious()));
394         }
395         prevMode = _currentMode;
396         connect(prevMode, SIGNAL(destroyed()), this, SLOT(deletePrevious()));
397         changed = true;
398     }
399
400     // If the profile has changed, update it
401     if(prevProfile != _currentProfile){
402         writeProfileHeader();
403         cmd.write(" ");
404         prevProfile = _currentProfile;
405     }
406
407     // Update current mode
408     int index = _currentProfile->indexOf(_currentMode);
409     // ckb-daemon only has 6 modes: 3 hardware, 3 non-hardware. Beyond mode six, switch back to four.
410     // e.g. 1, 2, 3, 4, 5, 6, 4, 5, 6, 4, 5, 6 ...
411     if(index >= 6)
412         index = 3 + index % 3;
413
414     // Send lighting/binding to driver
415     cmd.write(QString("mode %1 switch ").arg(index + 1).toLatin1());
416     perf->applyIndicators(index, iState);
417     light->frameUpdate(cmd, monochrome);
418     cmd.write(QString("\n@%1 ").arg(notifyNumber).toLatin1());
419     bind->update(cmd, changed);
420     cmd.write(" ");
421     perf->update(cmd, notifyNumber, changed);
422     cmd.write("\n");
423     cmd.flush();
424 }
```

Here is the call graph for this function:



12.22.3.16 void Kb::fwUpdate (const QString & *path*)

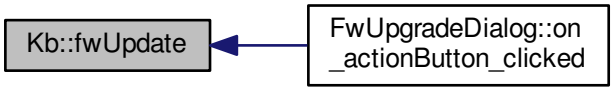
Definition at line 365 of file kb.cpp.

References fwUpdPath, and notifyNumber.

Referenced by FwUpgradeDialog::on_actionButton_clicked().

```
365                                     {
366     fwUpdPath = path;
367     // Write the active command to ensure it's not ignored
368     cmd.write("active");
369     cmd.write(QString(" @%1 ").arg(notifyNumber).toLatin1());
370     cmd.write("fwupdate ");
371     cmd.write(path.toLatin1());
372     cmd.write("\n");
373 }
```

Here is the caller graph for this function:



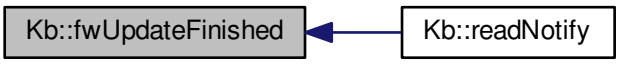
12.22.3.17 void Kb::fwUpdateFinished (bool *succeeded*) [signal]

Definition at line 277 of file moc_kb.cpp.

Referenced by readNotify().

```
278 {
279     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
280     QMetaObject::activate(this, &staticMetaObject, 7, _a);
281 }
```

Here is the caller graph for this function:



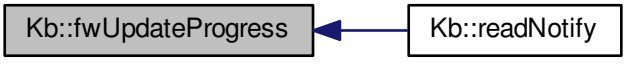
12.22.3.18 void Kb::fwUpdateProgress (int *current*, int *total*) [signal]

Definition at line 270 of file moc_kb.cpp.

Referenced by readNotify().

```
271 {
272     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)), const_cast<void*>(
      reinterpret_cast<const void*>(&_t2)) };
273     QMetaObject::activate(this, &staticMetaObject, 6, _a);
274 }
```

Here is the caller graph for this function:



12.22.3.19 KeyMap Kb::getKeyMap ( ) [private]

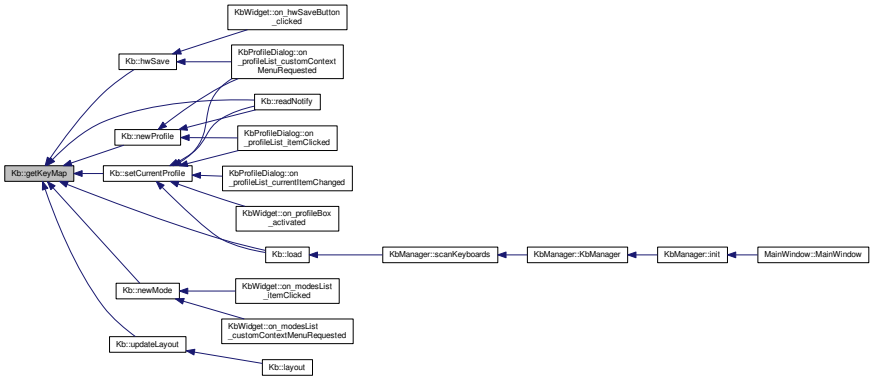
Definition at line 756 of file kb.cpp.

References _layout.

Referenced by hwSave(), load(), newMode(), newProfile(), readNotify(), setCurrentProfile(), and updateLayout().

```
756                     {
757     return KeyMap(_model, _layout);
758 }
```

Here is the caller graph for this function:



12.22.3.20 int Kb::getMacroNumber ( ) [inline]

getMacroNumber returns the macroNumber, which we have saved in the constructor. For usage with macro definions, this param must only be readable. So there is no setter.

Returns

The Number is returned as int.

Definition at line 97 of file kb.h.

References macroNumber.

Referenced by KbBind::getMacroNumber().

```
97 { return macroNumber; }
```

Here is the caller graph for this function:

12.22.3.21 QString Kb::getMacroPath ( ) [inline]

Returns

The absolute path as String

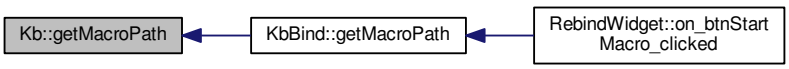
Definition at line 106 of file kb.h.

References macroPath.

Referenced by KbBind::getMacroPath().

```
106 { return macroPath; }
```

Here is the caller graph for this function:



12.22.3.22 KbProfile* Kb::hwProfile ( ) [inline]

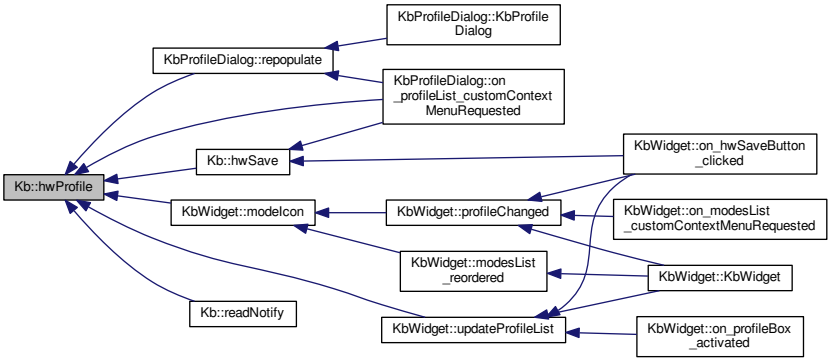
Definition at line 46 of file kb.h.

References _hwProfile.

Referenced by hwSave(), KbWidget::modeIcon(), KbProfileDialog::on_profileList_customContextMenuRequested(), readNotify(), KbProfileDialog::repopulate(), and KbWidget::updateProfileList().

```
46 { return _hwProfile; }
```

Here is the caller graph for this function:



12.22.3.23 void Kb::hwProfile (KbProfile * *newHwProfile*)

Definition at line 431 of file kb.cpp.

References _hwProfile, and deleteHw().

```
431                                         {
432     if(_hwProfile == newHwProfile)
433         return;
434     if(_hwProfile)
435         disconnect(_hwProfile, SIGNAL(destroyed()), this, SLOT(
      deleteHw()));
436     _hwProfile = newHwProfile;
437     if(_hwProfile)
438         connect(_hwProfile, SIGNAL(destroyed()), this, SLOT(deleteHw()));
439 }
```

Here is the call graph for this function:

12.22.3.24 void Kb::hwSave ( )

Definition at line 297 of file kb.cpp.

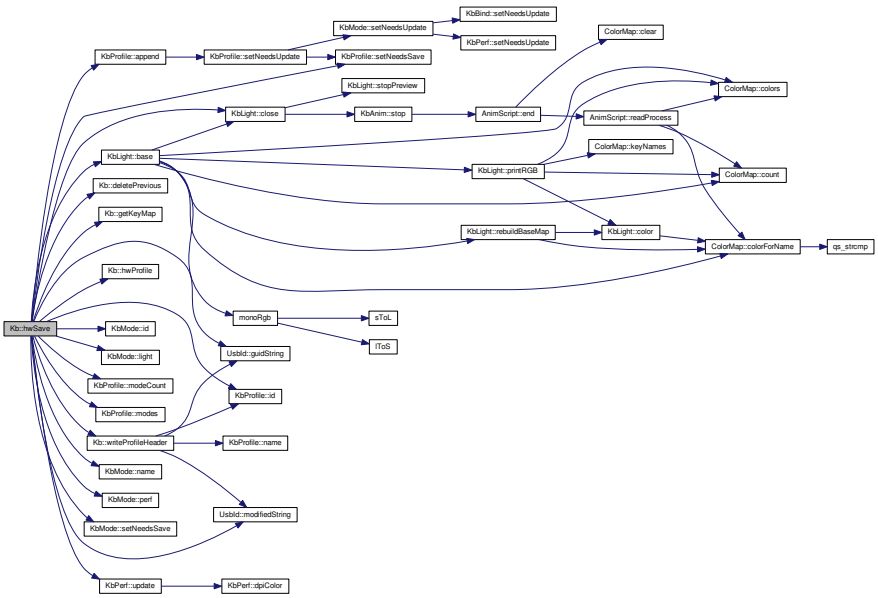
References _currentMode, _currentProfile, _hwProfile, KbProfile::append(), KbLight::base(), KbLight::close(), deletePrevious(), getKeyMap(), UsbId::guidString(), hwModeCount, UsbId::hwModified, hwProfile(), KbProfile::id(), KbMode::id(), KbMode::light(), KbProfile::modeCount(), KbProfile::modes(), UsbId::modified, UsbId::modifiedString(), monochrome, KbMode::name(), KbMode::perf(), prevMode, KbProfile::setNeedsSave(), KbMode::setNeedsSave(), KbPerf::update(), and writeProfileHeader().

Referenced by KbWidget::on_hwSaveButton_clicked(), and KbProfileDialog::on_profileList_customContextMenuRequested().

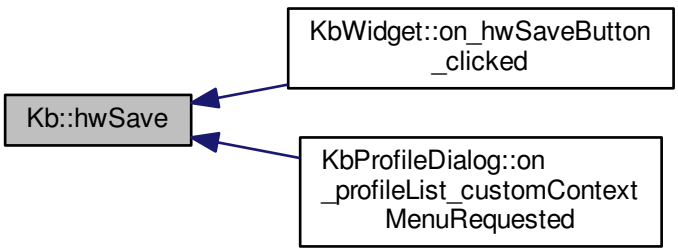
```
297                 {
298     if(!_currentProfile)
299         return;
300     // Close active lighting (if any)
301     if(prevMode){
302         prevMode->light()->close();
303         deletePrevious();
304     }
305     hwProfile(_currentProfile);
306     _hwProfile->id().hwModified = _hwProfile->id().
      modified;
307     _hwProfile->setNeedsSave();
308     // Re-send the current profile from scratch to ensure consistency
309     writeProfileHeader();
310     // Make sure there are enough modes
311     while(_currentProfile->modeCount() < hwModeCount)
312         _currentProfile->append(new KbMode(this,
      getKeyMap()));
313     // Write only the base colors of each mode, no animations
314     for(int i = 0; i < hwModeCount; i++){
315         KbMode* mode = _currentProfile->modes()[i];
316         cmd.write(QString("\nmode %1").arg(i + 1).toLatin1());
317         KbLight* light = mode->light();
318         KbPerf* perf = mode->perf();
319         if(mode == _currentMode)
320             cmd.write(" switch");
321         // Write the mode name and ID
322         cmd.write(" name ");
323         cmd.write(QUrl::toPercentEncoding(mode->name()));
324         cmd.write(" id ");
325         cmd.write(mode->id().guidString().toLatin1());
326         cmd.write(" ");
327         cmd.write(mode->id().modifiedString().toLatin1());
328         cmd.write(" ");
329         // Write lighting and performance
330         light->base(cmd, true, monochrome);
```

```
331         cmd.write(" ");
332         perf->update(cmd, true, false);
333         // Update mode ID
334         mode->id().hwModified = mode->id().modified;
335         mode->setNeedsSave();
336     }
337     cmd.write("\n");
338
339     // Save the profile to memory
340     cmd.write("hwsave\n");
341     cmd.flush();
342 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.22.3.25 int Kb::indexOf (KbProfile * *profile*) [inline]

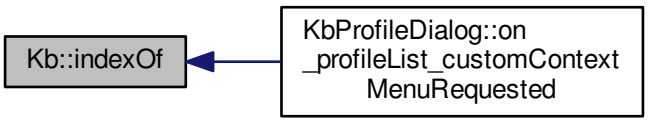
Definition at line 61 of file kb.h.

References _profiles.

Referenced by KbProfileDialog::on_profileList_customContextMenuRequested().

```
61 { return _profiles.indexOf(profile); }
```

Here is the caller graph for this function:



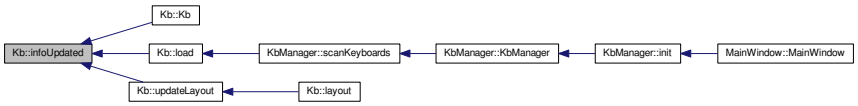
12.22.3.26 void Kb::infoUpdated ( ) [signal]

Definition at line 233 of file moc_kb.cpp.

Referenced by Kb(), load(), and updateLayout().

```
234 {
235     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
236 }
```

Here is the caller graph for this function:



12.22.3.27 bool Kb::isKeyboard ( ) const [inline]

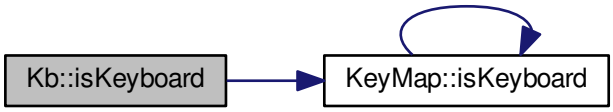
Definition at line 23 of file kb.h.

References KeyMap::isKeyboard().

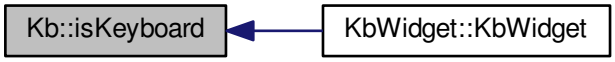
Referenced by KbWidget::KbWidget().

```
23 { return KeyMap::isKeyboard(_model); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.22.3.28 bool Kb::isMouse ( ) const [inline]

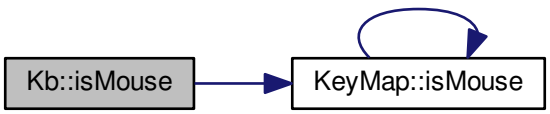
Definition at line 24 of file kb.h.

References KeyMap::isMouse().

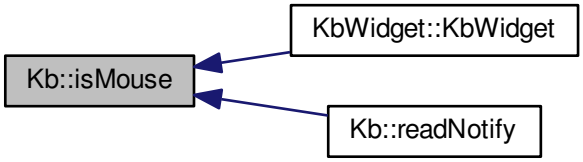
Referenced by KbWidget::KbWidget(), and readNotify().

```
24 { return KeyMap::isMouse(_model); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



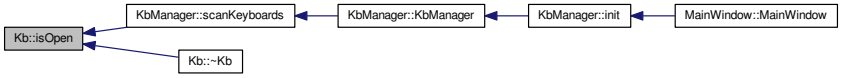
12.22.3.29 bool Kb::isOpen ( ) const [inline], [private]

Definition at line 147 of file kb.h.

Referenced by KbManager::scanKeyboards(), and ~Kb().

```
147 { return cmd.isOpen(); }
```

Here is the caller graph for this function:



12.22.3.30 static KeyMap::Layout Kb::layout ( ) [inline], [static]

Definition at line 30 of file kb.h.

References _layout.

Referenced by LayoutDialog::LayoutDialog(), SettingsWidget::on_layoutBox_activated(), and SettingsWidget::~SettingsWidget().

```
30 { return _layout; }
```

Here is the caller graph for this function:

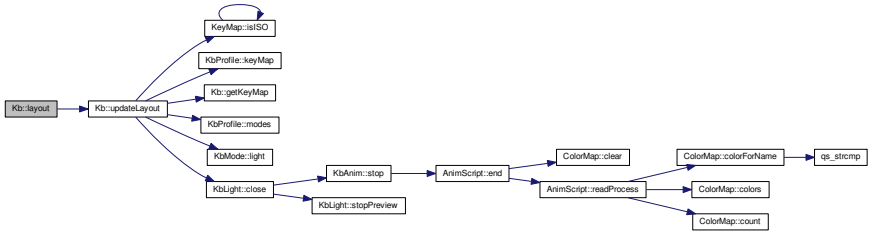
12.22.3.31 void Kb::layout (KeyMap::Layout *newLayout*) [static]

Definition at line 177 of file kb.cpp.

References _layout, activeDevices, KeyMap::NO_LAYOUT, and updateLayout().

```
177                                     {
178     if(newLayout == KeyMap::NO_LAYOUT || newLayout == _layout)
179         return;
180     _layout = newLayout;
181     // Update all devices
182     foreach(Kb* kb, activeDevices)
183         kb->updateLayout();
184 }
```

Here is the call graph for this function:



12.22.3.32 void Kb::load ( )

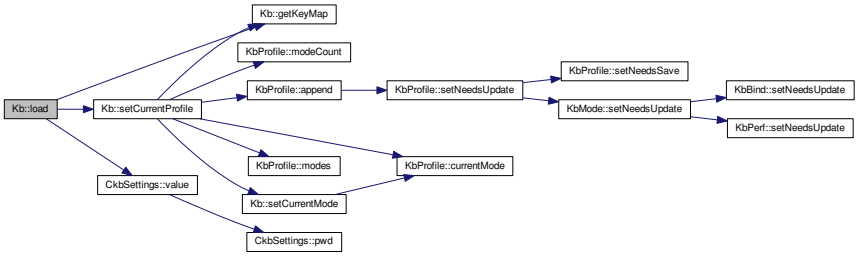
Definition at line 241 of file kb.cpp.

References _needsSave, _profiles, current, getKeyMap(), infoUpdated(), prefsPath, profileAdded(), setCurrentProfile(), and CkbSettings::value().

Referenced by KbManager::scanKeyboards().

```
241             {
242     if(prefsPath.isEmpty())
243         return;
244     _needsSave = false;
245     CkbSettings settings(prefsPath);
246     // Read profiles
247     KbProfile* newCurrentProfile = 0;
248     QString current = settings.value("CurrentProfile").toString().trimmed().toUpper();
249     foreach(QString guid, settings.value("Profiles").toString().split(" ")){
250         guid = guid.trimmed().toUpper();
251         if(guid != ""){
252             KbProfile* profile = new KbProfile(this, getKeyMap(), settings, guid
    );
253             _profiles.append(profile);
254             if(guid == current || !newCurrentProfile)
255                 newCurrentProfile = profile;
256         }
257     }
258     if(newCurrentProfile)
259         setCurrentProfile(newCurrentProfile);
260     else {
261         // If nothing was loaded, load the demo profile
262         QSettings demoSettings(":/txt/demoprofile.conf", QSettings::IniFormat, this);
263         CkbSettings cSettings(demoSettings);
264         KbProfile* demo = new KbProfile(this, getKeyMap(), cSettings, "
    {BA7FC152-2D51-4C26-A7A6-A036CC93D924}");
265         _profiles.append(demo);
266         setCurrentProfile(demo);
267     }
268
269     emit infoUpdated();
270     emit profileAdded();
271 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.22.3.33 static bool Kb::macroDelay ( ) [inline], [static]

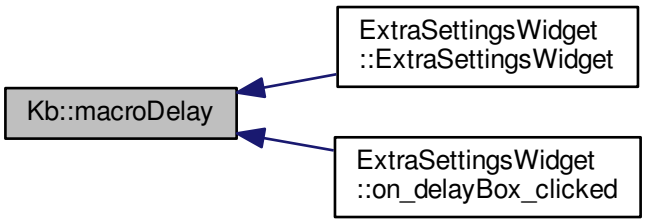
Definition at line 36 of file kb.h.

References _delay.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and ExtraSettingsWidget::on_delayBox_clicked().

```
36 { return _delay; }
```

Here is the caller graph for this function:



12.22.3.34 void Kb::macroDelay (bool *flag*) [static]

Parameters

flag	true: Switch on delay function, else switch off

Definition at line 787 of file kb.cpp.

References _delay, activeDevices, and cmd.

```
787                             {
788     _delay = flag;
789
790     foreach(Kb* kb, activeDevices){
791         kb->cmd.write(QString("\ndelay %1\n").arg(flag? "on" : "off").toLatin1());
792     }
793 }
```

12.22.3.35 bool Kb::matches (const QString & *path,* const QString & *serial*) [inline], [private]

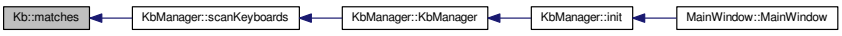
Definition at line 157 of file kb.h.

References devpath, and usbSerial.

Referenced by KbManager::scanKeyboards().

```
157 { return path.trimmed() == devpath.trimmed() && usbSerial == serial.trimmed().toUpper(); }
```

Here is the caller graph for this function:



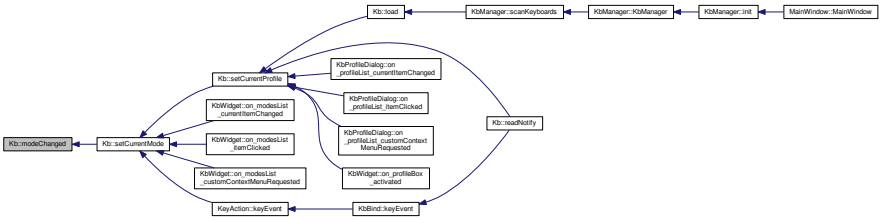
12.22.3.36 void Kb::modeChanged (bool *spontaneous*) [signal]

Definition at line 263 of file moc_kb.cpp.

Referenced by setCurrentMode().

```
264 {
265     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
266     QMetaObject::activate(this, &staticMetaObject, 5, _a);
267 }
```

Here is the caller graph for this function:



12.22.3.37 KeyMap::Model Kb::model ( ) const [inline]

Definition at line 22 of file kb.h.

References _model.

```
22 { return _model; }
```

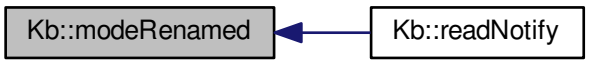
12.22.3.38 void Kb::modeRenamed ( ) [signal]

Definition at line 251 of file moc_kb.cpp.

Referenced by readNotify().

```
252 {
253     QMetaObject::activate(this, &staticMetaObject, 3, Q_NULLPTR);
254 }
```

Here is the caller graph for this function:



12.22.3.39 static bool Kb::mouseAccel ( ) [inline], [static]

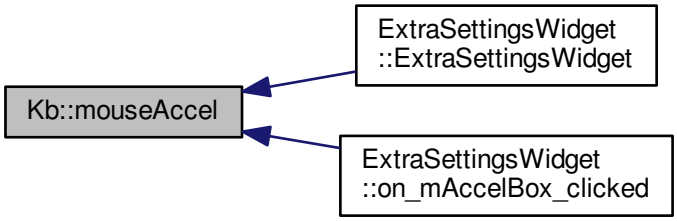
Definition at line 39 of file kb.h.

References _mouseAccel.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and ExtraSettingsWidget::on_mAccelBox_clicked().

```
39 { return _mouseAccel; }
```

Here is the caller graph for this function:



12.22.3.40 void Kb::mouseAccel (bool *newAccel*) [static]

Definition at line 215 of file kb.cpp.

References _mouseAccel, activeDevices, and cmd.

```
215                                 {
216     if(newAccel == _mouseAccel)
217         return;
218     _mouseAccel = newAccel;
219 #ifdef Q_OS_MACX
220     // Update all devices
221     foreach(Kb* kb, activeDevices){
222         kb->cmd.write(QString("accel %1\n").arg(QString(newAccel ? "on" : "off")).toLatin1());
223         kb->cmd.flush();
224     }
225 #endif
226 }
```

12.22.3.41 bool Kb::needsSave ( ) const

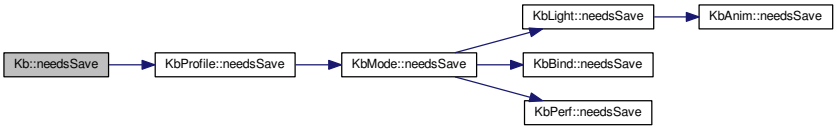
Definition at line 344 of file kb.cpp.

References _needsSave, _profiles, and KbProfile::needsSave().

Referenced by autoSave().

```
344                             {
345     if(_needsSave)
346         return true;
347     foreach(const KbProfile* profile, _profiles){
348         if(profile->needsSave())
349             return true;
350     }
351     return false;
352 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.22.3.42 KbMode* Kb::newMode ( ) [inline]

Definition at line 79 of file kb.h.

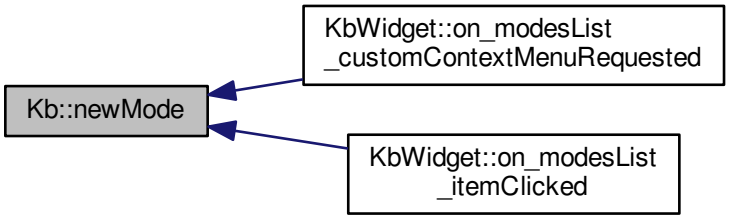
References getKeyMap().

Referenced by KbWidget::on_modesList_customContextMenuRequested(), and KbWidget::on_modesList_itemClicked().

```
79 { return new KbMode(this, getKeyMap()); }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.22.3.43 KbMode* Kb::newMode (KbMode * *other*) [inline]

Definition at line 80 of file kb.h.

References getKeyMap().

```
80 { return new KbMode(this, getKeyMap(), *other); }
```

Here is the call graph for this function:

12.22.3.44 KbProfile* Kb::newProfile ( ) [inline]

Definition at line 77 of file kb.h.

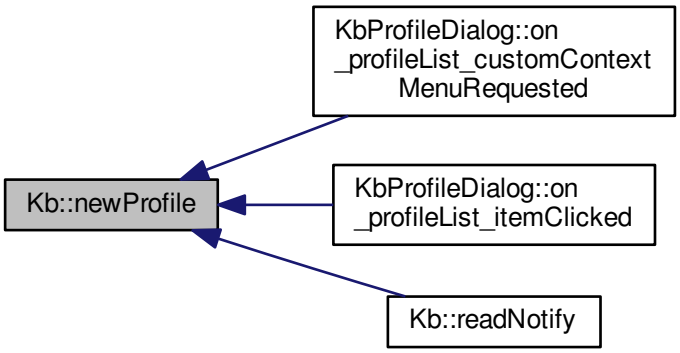
References getKeyMap().

Referenced by KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::on_profileList_itemClicked(), and readNotify().

```
77 { return new KbProfile(this, getKeyMap()); }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.22.3.45 KbProfile* Kb::newProfile (KbProfile * *other*) [inline]

Definition at line 78 of file kb.h.

References getKeyMap().

```
78 { return new KbProfile(this, getKeyMap(), *other); }
```

Here is the call graph for this function:

12.22.3.46 void Kb::profileAdded ( ) [signal]

Definition at line 239 of file moc_kb.cpp.

Referenced by load(), and readNotify().

```
240 {
241     QMetaObject::activate(this, &staticMetaObject, 1, Q_NULLPTR);
242 }
```

Here is the caller graph for this function:

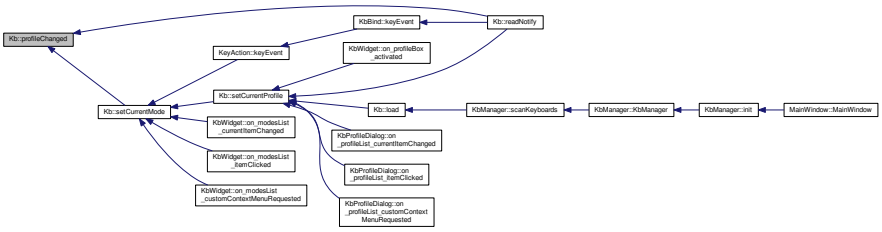
12.22.3.47 void Kb::profileChanged ( ) [signal]

Definition at line 257 of file moc_kb.cpp.

Referenced by readNotify(), and setCurrentMode().

```
258 {
259     QMetaObject::activate(this, &staticMetaObject, 4, Q_NULLPTR);
260 }
```

Here is the caller graph for this function:



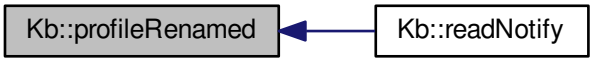
12.22.3.48 void Kb::profileRenamed ( ) [signal]

Definition at line 245 of file moc_kb.cpp.

Referenced by readNotify().

```
246 {
247     QMetaObject::activate(this, &staticMetaObject, 2, Q_NULLPTR);
248 }
```

Here is the caller graph for this function:



12.22.3.49 const QList<KbProfile*>& Kb::profiles ( ) const [inline]

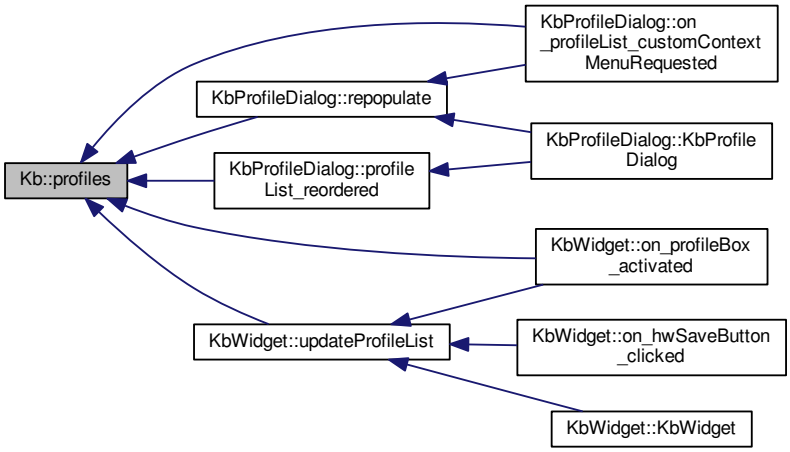
Definition at line 58 of file kb.h.

References _profiles.

Referenced by KbWidget::on_profileBox_activated(), KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::profileList_reordered(), KbProfileDialog::repopulate(), and KbWidget::updateProfileList().

```
58 { return _profiles; }
```

Here is the caller graph for this function:



12.22.3.50 void Kb::profiles (const QList< KbProfile * > & *newProfiles*) [inline]

Definition at line 59 of file kb.h.

References _needsSave, and _profiles.

```
59 { _needsSave = true; _profiles = newProfiles; }
```

12.22.3.51 void Kb::readNotify (QString *line*) [private], [slot]

Definition at line 471 of file kb.cpp.

References _currentMode, _currentProfile, _hwProfile, _needsSave, _profiles, KbPerf::angleSnap(), KbLight::animKeypress(), KbProfile::append(), KbMode::bind(), KbLight::color(), KbPerf::curDpiIdx(), KbPerf::dpi(), KbPerf::DPI_COUNT, KbPerf::dpiColor(), KbPerf::dpiEnabled(), fwUpdateFinished(), fwUpdateProgress(), fwUpdPath, getKeyMap(), UsbId::guid, hwLoading, HWMODE_MAX, hwModeCount, UsbId::hwModifiedString(), hwProfile(), KbProfile::id(), KbMode::id(), KbProfile::indexOf(), isMouse(), iState, KbBind::keyEvent(), KbPerf::liftHeight(), KbMode::light(), KbProfile::modeCount(), modeRenamed(), KbProfile::modes(), UsbId::modifiedString(), KbProfile::move(), KbProfile::name(), KbMode::name(), newProfile(), notifyNumber, KbMode::perf(), profileAdded(), profileChanged(), profileRenamed(), setCurrentProfile(), KbProfile::setNeedsSave(), KbMode::setNeedsSave(), x, and y.

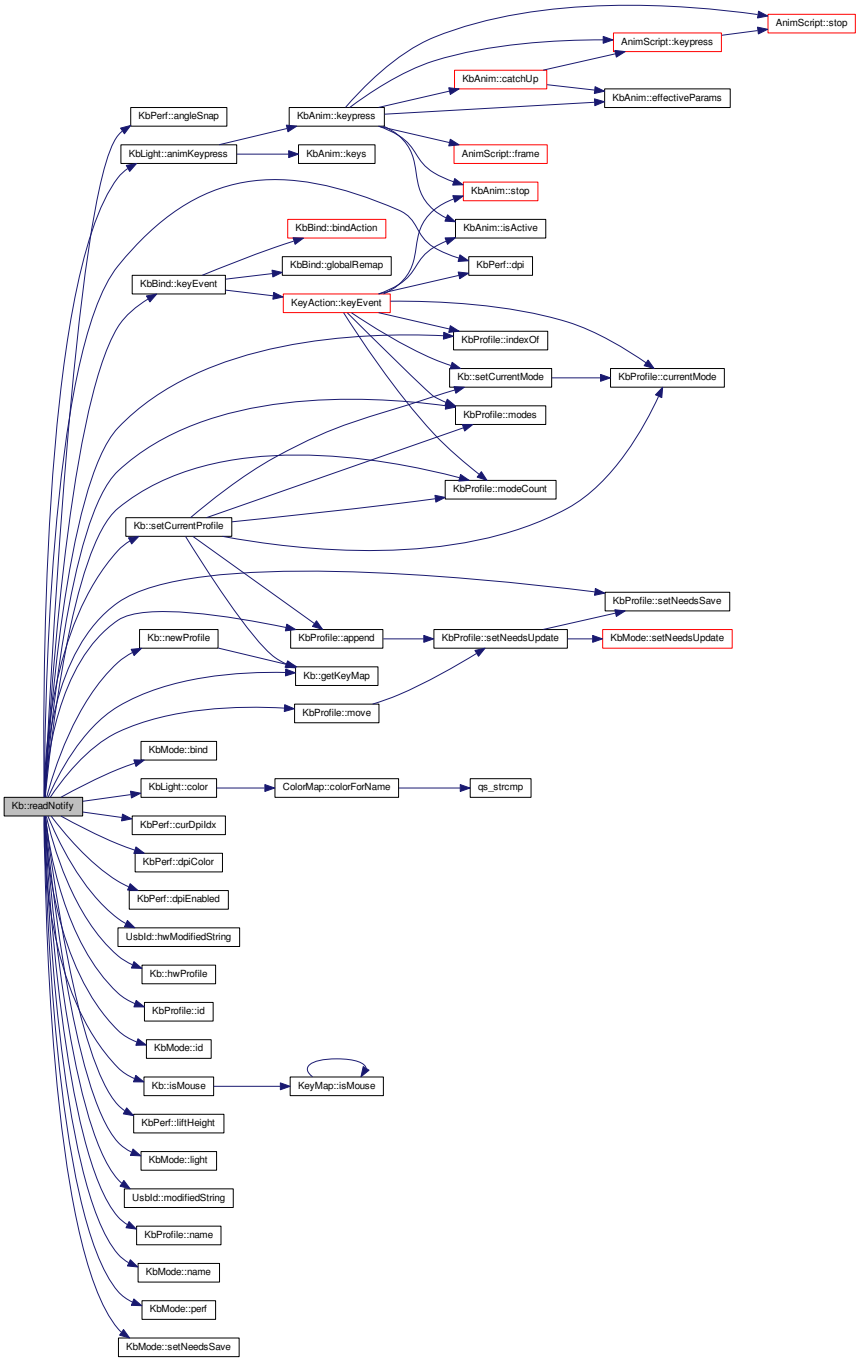
```
471                                {
472     QStringList components = line.trimmed().split(" ");
473     if(components.count() < 2)
474         return;
475     if(components[0] == "key"){
476         // Key event
477         QString key = components[1];
478         if(key.length() < 2)
479             return;
480         QString keyName = key.mid(1);
481         bool keyPressed = (key[0] == '+');
482         KbMode* mode = _currentMode;
483         if(mode){
484             mode->light()->animKeypress(keyName, keyPressed);
485             mode->bind()->keyEvent(keyName, keyPressed);
486         }
487     } else if(components[0] == "i"){
488         // Indicator event
489         QString i = components[1];
490         if(i.length() < 2)
491             return;
492         QString iName = i.mid(1);
493         bool on = (i[0] == '+');
494         if(iName == "num")
495             iState[0] = on;
496         else if(iName == "caps")
497             iState[1] = on;
498         else if(iName == "scroll")
499             iState[2] = on;
500     } else if(components[0] == "hwprofileid"){
501         // Hardware profile ID
502         if(components.count() < 3)
503             return;
504         // Find the hardware profile in the list of profiles
505         QString guid = components[1];
506         QString modified = components[2];
507         KbProfile* newProfile = 0;
508         foreach(KbProfile* profile, _profiles){
509             if(profile->id().guid == guid){
510                 newProfile = profile;
511                 break;
512             }
513         }
514         // If it wasn't found, create it
515         if(!newProfile){
516             newProfile = new KbProfile(this, getKeyMap(), guid, modified);
517             hwLoading[0] = true;
518             cmd.write(QString("@%1 get :hwprofilename\n").arg(notifyNumber).toLatin1());
519             cmd.flush();
520         } else {
521             // If it's been updated, fetch its name
522             if(newProfile->id().hwModifiedString() != modified){
523                 newProfile->id().modifiedString(modified);
524                 newProfile->id().hwModifiedString(modified);
525                 newProfile->setNeedsSave();
```

```
526                 if(hwLoading[0]){
527                     cmd.write(QString("@%1 get :hwprofilename\n").arg(
    notifyNumber).toLatin1());
528                     cmd.flush();
529                 }
530             } else {
531                 hwLoading[0] = false;
532             }
533         }
534         hwProfile(newProfile);
535         emit profileAdded();
536         if(_hwProfile == _currentProfile)
537             emit profileChanged();
538     } else if(components[0] == "hwprofilename"){
539         // Hardware profile name
540         QString name = QUrl::fromPercentEncoding(components[1].toUtf8());
541         if(!_hwProfile || !hwLoading[0])
542             return;
543         QString oldName = _hwProfile->name();
544         if(!(oldName.length() >= name.length() && oldName.left(name.length()) == name)){
545             // Don't change the name if it's a truncated version of what we already have
546             _hwProfile->name(name);
547             emit profileRenamed();
548         }
549     } else if(components[0] == "mode"){
550         // Mode-specific data
551         if(components.count() < 4)
552             return;
553         int mode = components[1].toInt() - 1;
554         if(components[2] == "hwid"){
555             if(components.count() < 5 || mode >= HWMODE_MAX || !
    _hwProfile)
556                 return;
557             // Hardware mode ID
558             QString guid = components[3];
559             QString modified = components[4];
560             // Look for this mode in the hardware profile
561             KbMode* hwMode = 0;
562             bool isUpdated = false;
563             foreach(KbMode* kbMode, _hwProfile->modes()){
564                 if(kbMode->id().guid == guid){
565                     hwMode = kbMode;
566                     if(kbMode->id().hwModifiedString() != modified){
567                         // Update modification time
568                         hwMode->id().modifiedString(modified);
569                         hwMode->id().hwModifiedString(modified);
570                         hwMode->setNeedsSave();
571                         isUpdated = true;
572                     } else {
573                         hwLoading[mode + 1] = false;
574                     }
575                     break;
576                 }
577             }
578             // If it wasn't found, add it
579             if(!hwMode){
580                 isUpdated = true;
581                 hwMode = new KbMode(this, getKeyMap(), guid, modified);
582                 _hwProfile->append(hwMode);
583                 // If the hardware profile now contains enough modes to be added to the list, do so
584                 if(!_profiles.contains(_hwProfile) &&
    _hwProfile->modeCount() >= hwModeCount){
585                     _profiles.append(_hwProfile);
586                     _needsSave = true;
587                     emit profileAdded();
588                     if(!_currentProfile)
589                         setCurrentProfile(_hwProfile);
590                 }
591             }
592             if(hwLoading[mode + 1] && isUpdated){
593                 // If the mode isn't in the right place, move it
594                 int index = _hwProfile->indexOf(hwMode);
595                 if(mode < _hwProfile->modeCount() && index != mode)
596                     _hwProfile->move(index, mode);
597                 // Fetch the updated data
598                 cmd.write(QString("@%1 mode %2 get :hwname :hwrgb").arg(
    notifyNumber).arg(mode + 1).toLatin1());
599                 if(isMouse())
600                     cmd.write(" :hwdpi :hwdpisel :hwlift :hwsnap");
601                 cmd.write("\n");
602                 cmd.flush();
603             }
604         } else if(components[2] == "hwname"){
605             // Mode name - update list
606             if(!_hwProfile || _hwProfile->modeCount() <= mode || mode >=
    HWMODE_MAX || !hwLoading[mode + 1])
607                 return;
```

```
608             KbMode* hwMode = _hwProfile->modes()[mode];
609             QString name = QUrl::fromPercentEncoding(components[3].toUtf8());
610             QString oldName = hwMode->name();
611             if(!(oldName.length() >= name.length() && oldName.left(name.length()) == name)){
612                 // Don't change the name if it's a truncated version of what we already have
613                 hwMode->name(name);
614                 if(_hwProfile == _currentProfile)
615                     emit modeRenamed();
616             }
617         } else if(components[2] == "hwrgb"){
618             // RGB - set mode lighting
619             if(!_hwProfile || _hwProfile->modeCount() <= mode || mode >=
    HWMODE_MAX || !hwLoading[mode + 1])
620                 return;
621             KbMode* kbmode = _hwProfile->modes()[mode];
622             KbLight* light = kbmode->light();
623             // Scan the input for colors
624             QColor lightColor = QColor();
625             for(int i = 3; i < components.count(); i++){
626                 QString comp = components[i];
627                 if(comp.indexOf(":") < 0){
628                     // No ":" - single hex constant
629                     bool ok;
630                     int rgb = comp.toInt(&ok, 16);
631                     if(ok)
632                         light->color(QColor::fromRgb((QRgb)rgb));
633                 } else {
634                     // List of keys ("a,b:xxxxxx"). Parse color first
635                     QStringList set = comp.split(":");
636                     bool ok;
637                     int rgb = set[1].toInt(&ok, 16);
638                     if(ok){
639                         QColor color = QColor::fromRgb((QRgb)rgb);
640                         // Parse keys
641                         QStringList keys = set[0].split(",");
642                         foreach(QString key, keys){
643                             if(key == "light")
644                                 // Extrapolate the Light key to the M-keys and Lock key, since those will
    be set to black on hwsave
645                                 lightColor = color;
646                             if(key.startsWith("dpi") && key.length() > 3){
647                                 // DPI levels go to the KbPerf object instead of KbLight
648                                 bool ok = false;
649                                 int index = key.mid(3).toInt(&ok);
650                                 if(ok)
651                                     kbmode->perf()->dpiColor(index, color);
652                                 continue;
653                             }
654                             light->color(key, color);
655                         }
656                     }
657                 }
658             }
659             if(lightColor.isValid()){
660                 light->color("mr", lightColor);
661                 light->color("m1", lightColor);
662                 light->color("m2", lightColor);
663                 light->color("m3", lightColor);
664                 light->color("lock", lightColor);
665             }
666         } else if(components[2] == "hwdpi"){
667             // DPI settings
668             if(!_hwProfile || _hwProfile->modeCount() <= mode || mode >=
    HWMODE_MAX || !hwLoading[mode + 1])
669                 return;
670             KbPerf* perf = _hwProfile->modes()[mode]->perf();
671             // Read the rest of the line as stage:x,y
672             foreach(QString comp, components.mid(3)){
673                 QStringList dpi = comp.split(':');
674                 if(dpi.length() != 2)
675                     continue;
676                 QStringList xy = dpi[1].split(',');
677                 int x, y;
678                 bool off = false;
679                 if(xy.length() < 2){
680                     // If the right side only has one parameter, set both X and Y
681                     if(xy[0] == "off")
682                         off = true;
683                     else
684                         x = y = xy[0].toInt();
685                 } else {
686                     x = xy[0].toInt();
687                     y = xy[1].toInt();
688                 }
689                 // Set DPI for this stage
690                 int index = dpi[0].toInt();
691                 if(off){
```

```
692                     perf->dpiEnabled(index, false);
693                     // If all DPIs have been disabled, turn them back on
694                     bool allOff = true;
695                     for(int i = 1; i < KbPerf::DPI_COUNT; i++){
696                         if(perf->dpiEnabled(i)){
697                             allOff = false;
698                             break;
699                         }
700                     }
701                     if(allOff){
702                         for(int i = 1; i < KbPerf::DPI_COUNT; i++)
703                             perf->dpiEnabled(i, true);
704                     }
705                 } else {
706                     perf->dpiEnabled(index, true);
707                     perf->dpi(index, QPoint(x, y));
708                 }
709             }
710         } else if(components[2] == "hwdpisel"){
711             // Hardware DPI selection (0...5)
712             if(!_hwProfile || _hwProfile->modeCount() <= mode || mode >=
    HWMODE_MAX || !hwLoading[mode + 1])
713                 return;
714             KbPerf* perf = _hwProfile->modes()[mode]->perf();
715             int idx = components[3].toInt();
716             if(idx < 1)
717                 idx = 1;
718             if(idx >= KbPerf::DPI_COUNT)
719                 idx = KbPerf::DPI_COUNT - 1;
720             perf->curDpiIdx(idx);
721         } else if(components[2] == "hwlift"){
722             // Mouse lift height (1...5)
723             if(!_hwProfile || _hwProfile->modeCount() <= mode || mode >=
    HWMODE_MAX || !hwLoading[mode + 1])
724                 return;
725             KbPerf* perf = _hwProfile->modes()[mode]->perf();
726             perf->liftHeight((KbPerf::height)components[3].toInt());
727         } else if(components[3] == "hwsnap"){
728             // Mouse angle snapping ("on" or "off")
729             if(!_hwProfile || _hwProfile->modeCount() <= mode || mode >=
    HWMODE_MAX || !hwLoading[mode + 1])
730                 return;
731             KbPerf* perf = _hwProfile->modes()[mode]->perf();
732             perf->angleSnap(components[3] == "on");
733         }
734     } else if(components[0] == "fwupdate"){
735         // Firmware update progress
736         if(components.count() < 3)
737             return;
738         // Make sure path is the same
739         if(components[1] != fwUpdPath)
740             return;
741         QString res = components[2];
742         if(res == "invalid" || res == "fail")
743             emit fwUpdateFinished(false);
744         else if(res == "ok")
745             emit fwUpdateFinished(true);
746         else {
747             // "xx/yy" indicates progress
748             if(!res.contains("/"))
749                 return;
750             QStringList numbers = res.split("/");
751             emit fwUpdateProgress(numbers[0].toInt(), numbers[1].toInt());
752         }
753     }
754 }
```

Here is the call graph for this function:



12.22.3.52 void Kb::run ( ) [private]

Definition at line 446 of file kb.cpp.

References notifyPath, notifyPathMutex, and notifyPaths.

```
446             {
447     QFile notify(notifyPath);
448     // Wait a small amount of time for the node to open (100ms)
```

```
449     QThread::usleep(100000);
450     if(!notify.open(QIODevice::ReadOnly)){
451         // If it's still not open, try again before giving up (1s at a time, 10s total)
452         QThread::usleep(900000);
453         for(int i = 1; i < 10; i++){
454             if(notify.open(QIODevice::ReadOnly))
455                 break;
456             QThread::sleep(1);
457         }
458         if(!notify.isOpen())
459             return;
460     }
461     // Read data from notification node
462     QByteArray line;
463     while(notify.isOpen() && (line = notify.readLine()).length() > 0){
464         QString text = QString::fromUtf8(line);
465         metaObject()->invokeMethod(this, "readNotify", Qt::QueuedConnection, Q_ARG(QString, text));
466     }
467     QMutexLocker locker(&notifyPathMutex);
468     notifyPaths.remove(notifyPath);
469 }
```

12.22.3.53 void Kb::save ( )

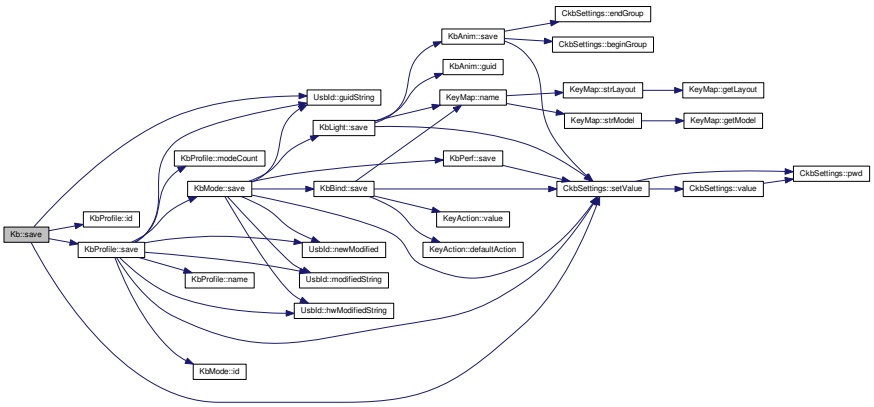
Definition at line 273 of file kb.cpp.

References _currentProfile, _needsSave, _profiles, UsbId::guidString(), KbProfile::id(), prefsPath, KbProfile::save(), and CkbSettings::setValue().

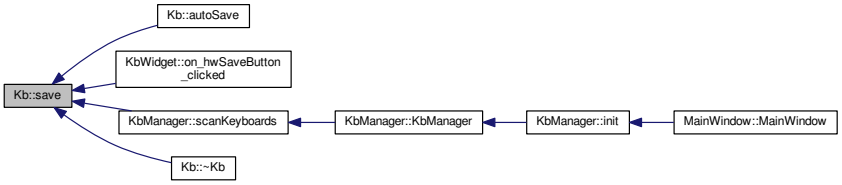
Referenced by autoSave(), KbWidget::on_hwSaveButton_clicked(), KbManager::scanKeyboards(), and ~Kb().

```
273             {
274     if(prefsPath.isEmpty())
275         return;
276     _needsSave = false;
277     CkbSettings settings(prefsPath, true);
278     QString guids, currentGuid;
279     foreach(KbProfile* profile, _profiles){
280         guids.append(" " + profile->id().guidString());
281         if(profile == _currentProfile)
282             currentGuid = profile->id().guidString();
283         profile->save(settings);
284     }
285     settings.setValue("CurrentProfile", currentGuid);
286     settings.setValue("Profiles", guids.trimmed());
287 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.22.3.54 static int Kb::scrollSpeed ( ) [inline],[static]

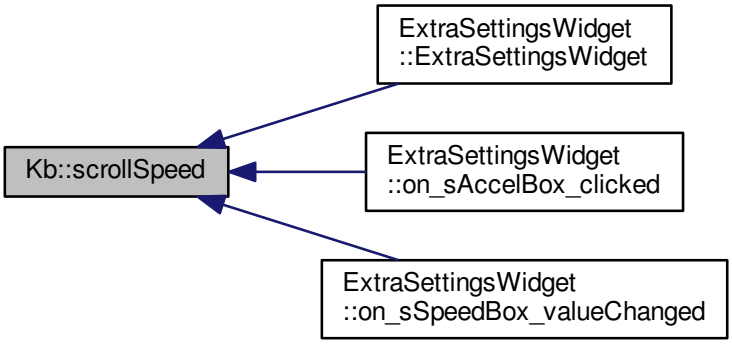
Definition at line 42 of file kb.h.

References _scrollSpeed.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_sAccelBox_clicked(), and ExtraSettingsWidget::on_sSpeedBox_valueChanged().

```
42 { return _scrollSpeed; }
```

Here is the caller graph for this function:



12.22.3.55 void Kb::scrollSpeed (int *newSpeed*) [static]

Definition at line 228 of file kb.cpp.

References _scrollSpeed, activeDevices, and cmd.

```
228                                {
229     if(newSpeed == _scrollSpeed)
230         return;
231     _scrollSpeed = newSpeed;
232 #ifdef Q_OS_MACX
233     // Update all devices
234     foreach(Kb* kb, activeDevices){
235         kb->cmd.write(QString("scrollspeed %1\n").arg(newSpeed).toLatin1());
```

```
236         kb->cmd.flush();
237     }
238 #endif
239 }
```

12.22.3.56 void Kb::setCurrentMode (KbProfile * *profile*, KbMode * *mode*, bool *spontaneous* = true)

Definition at line 769 of file kb.cpp.

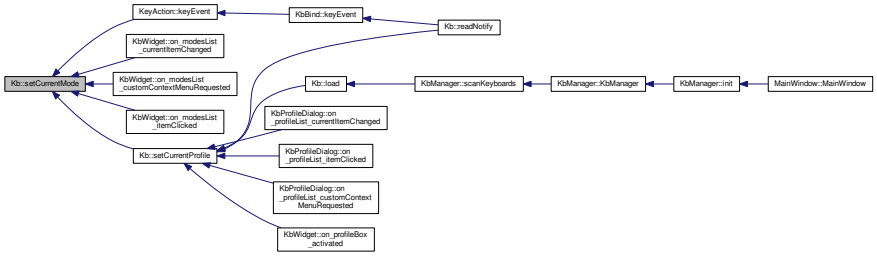
References _currentMode, _currentProfile, _needsSave, KbProfile::currentMode(), modeChanged(), and profileChanged().

Referenced by KeyAction::keyEvent(), KbWidget::on_modesList_currentItemChanged(), KbWidget::on_modesList_customContextMenuRequested(), KbWidget::on_modesList_itemClicked(), and setCurrentProfile().

```
769                                                                 {
770     if(_currentProfile != profile){
771         _currentProfile = profile;
772         _needsSave = true;
773         emit profileChanged();
774     }
775     if(_currentMode != mode || _currentProfile->
    currentMode() != mode){
776         _currentProfile->currentMode(_currentMode = mode);
777         _needsSave = true;
778         emit modeChanged(spontaneous);
779     }
780 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.22.3.57 void Kb::setCurrentMode (KbProfile * *profile*, int *index*, bool *spontaneous* = true) [inline]

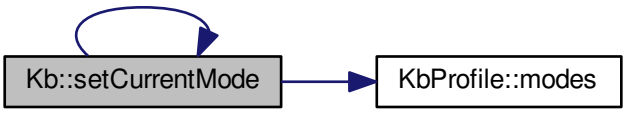
Definition at line 73 of file kb.h.

References KbProfile::modes(), and setCurrentMode().

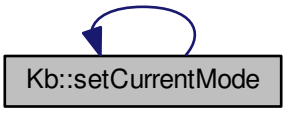
Referenced by setCurrentMode().

```
73 { setCurrentMode(profile, profile->modes()[index], spontaneous); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.22.3.58 void Kb::setCurrentMode (KbMode * *mode*, bool *spontaneous* = true) [inline]

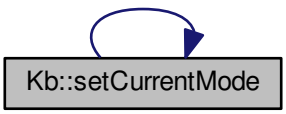
Definition at line 74 of file kb.h.

References _currentProfile, and setCurrentMode().

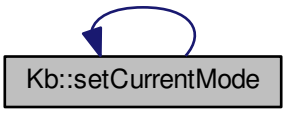
Referenced by setCurrentMode().

```
74 { setCurrentMode(_currentProfile, mode, spontaneous); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.22.3.59 void Kb::setCurrentProfile (KbProfile * *profile*, bool *spontaneous* = true)

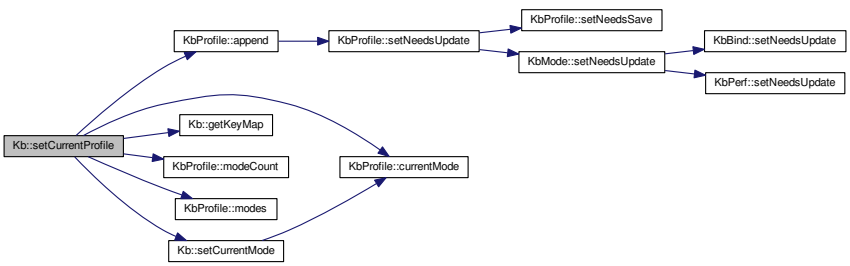
Definition at line 760 of file kb.cpp.

References KbProfile::append(), KbProfile::currentMode(), getKeyMap(), hwModeCount, KbProfile::modeCount(), KbProfile::modes(), and setCurrentMode().

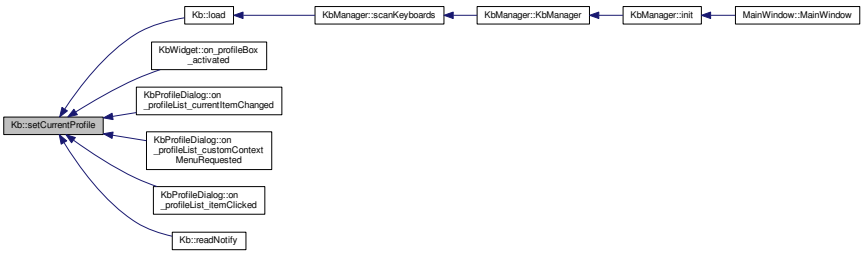
Referenced by load(), KbWidget::on_profileBox_activated(), KbProfileDialog::on_profileList_currentItemChanged(), KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::on_profileList_itemClicked(), and readNotify().

```
760                                                                 {
761     while(profile->modeCount() < hwModeCount)
762         profile->append(new KbMode(this, getKeyMap()));
763     KbMode* mode = profile->currentMode();
764     if(!mode)
765         profile->currentMode(mode = profile->modes().first());
766     setCurrentMode(profile, mode, spontaneous);
767 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.22.3.60 void Kb::updateLayout ( ) [private]

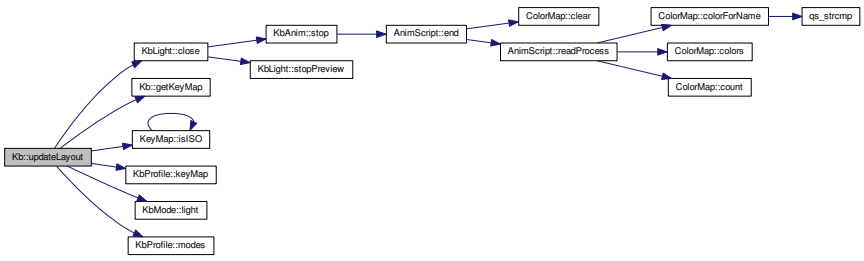
Definition at line 186 of file kb.cpp.

References _currentProfile, _hwProfile, _layout, _profiles, KbLight::close(), getKeyMap(), infoUpdated(), KeyMap::isISO(), KbProfile::keyMap(), KbMode::light(), and KbProfile::modes().

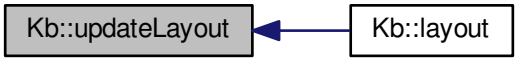
Referenced by layout().

```
186                     {
187 #ifdef Q_OS_MACX
188     // Write ANSI/ISO flag to daemon (OSX only)
189     cmd.write("layout ");
190     cmd.write(KeyMap::isISO(_layout) ? "iso" : "ansi");
191     cmd.write("\n");
192     cmd.flush();
193 #endif
194     foreach(KbProfile* profile, _profiles)
195         profile->keyMap(getKeyMap());
196     if(_hwProfile && !_profiles.contains(_hwProfile))
197         _hwProfile->keyMap(getKeyMap());
198     // Stop all animations as they'll need to be restarted
199     foreach(KbMode* mode, _currentProfile->modes())
200         mode->light()->close();
201     emit infoUpdated();
202 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.22.3.61 void Kb::writeProfileHeader ( ) [private]

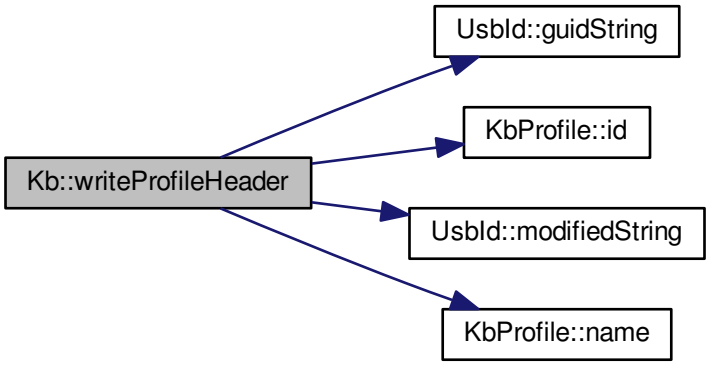
Definition at line 354 of file kb.cpp.

References _currentProfile, UsbId::guidString(), KbProfile::id(), UsbId::modifiedString(), and KbProfile::name().

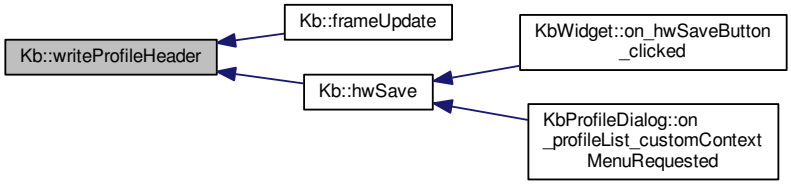
Referenced by frameUpdate(), and hwSave().

```
354                             {
355     cmd.write("eraseprofile");
356     // Write the profile name and ID
357     cmd.write(" profilename ");
358     cmd.write(QUrl::toPercentEncoding(_currentProfile->name()));
359     cmd.write(" profileid ");
360     cmd.write(_currentProfile->id().guidString().toLatin1());
361     cmd.write(" ");
362     cmd.write(_currentProfile->id().modifiedString().toLatin1());
363 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.22.4 Friends And Related Function Documentation

12.22.4.1 friend class KbManager [friend]

Definition at line 142 of file kb.h.

12.22.5 Field Documentation

12.22.5.1 KbMode* Kb::_currentMode [private]

Definition at line 169 of file kb.h.

Referenced by currentBind(), currentLight(), currentMode(), currentPerf(), frameUpdate(), hwSave(), readNotify(), and setCurrentMode().

12.22.5.2 KbProfile* Kb::_currentProfile [private]

Definition at line 167 of file kb.h.

Referenced by currentProfile(), frameUpdate(), hwSave(), readNotify(), save(), setCurrentMode(), updateLayout(), and writeProfileHeader().

12.22.5.3 bool Kb::_delay = false [static], [private]

Definition at line 198 of file kb.h.

Referenced by Kb(), and macroDelay().

12.22.5.4 bool Kb::_dither = false [static], [private]

Definition at line 165 of file kb.h.

Referenced by dither(), and Kb().

12.22.5.5 int Kb::_frameRate = 30 [static], [private]

Definition at line 164 of file kb.h.

Referenced by frameRate(), and Kb().

12.22.5.6 KbProfile* Kb::_hwProfile [private]

Definition at line 183 of file kb.h.

Referenced by deleteHw(), hwProfile(), hwSave(), readNotify(), and updateLayout().

12.22.5.7 KeyMap::Layout Kb::_layout = KeyMap::NO_LAYOUT [static], [private]

Definition at line 161 of file kb.h.

Referenced by getKeyMap(), Kb(), layout(), and updateLayout().

12.22.5.8 KeyMap::Model Kb::_model [private]

Definition at line 171 of file kb.h.

Referenced by model().

12.22.5.9 bool Kb::_mouseAccel = true [static], [private]

Definition at line 165 of file kb.h.

Referenced by Kb(), and mouseAccel().

12.22.5.10 bool Kb::_needsSave [private]

Definition at line 201 of file kb.h.

Referenced by appendProfile(), load(), needsSave(), profiles(), readNotify(), save(), and setCurrentMode().

12.22.5.11 QList<KbProfile*> Kb::_profiles [private]

Definition at line 168 of file kb.h.

Referenced by appendProfile(), find(), indexOf(), load(), needsSave(), profiles(), readNotify(), save(), and updateLayout().

12.22.5.12 int Kb::_scrollSpeed = 0 [static], [private]

Definition at line 164 of file kb.h.

Referenced by Kb(), and scrollSpeed().

12.22.5.13 QFile Kb::cmd [private]

Definition at line 191 of file kb.h.

Referenced by dither(), frameRate(), macroDelay(), mouseAccel(), and scrollSpeed().

12.22.5.14 QString Kb::cmdpath [private]

Definition at line 155 of file kb.h.

Referenced by Kb().

12.22.5.15 QString Kb::devpath [private]

Definition at line 155 of file kb.h.

Referenced by matches().

12.22.5.16 QString Kb::features

Definition at line 18 of file kb.h.

Referenced by MainWindow::checkFwUpdates(), FwUpgradeDialog::exec(), Kb(), KbWidget::KbWidget(), KbWidget::on_fwUpdButton_clicked(), and KbWidget::updateFwButton().

12.22.5.17 QString Kb::firmware

Definition at line 18 of file kb.h.

Referenced by MainWindow::checkFwUpdates(), KbWidget::devUpdate(), FwUpgradeDialog::FwUpgradeDialog(), Kb(), KbWidget::on_fwUpdButton_clicked(), and KbWidget::updateFwButton().

12.22.5.18 QString Kb::fwUpdPath [private]

Definition at line 181 of file kb.h.

Referenced by fwUpdate(), and readNotify().

12.22.5.19 bool Kb::hwLoading[HWMODE_MAX+1] [private]

Definition at line 205 of file kb.h.

Referenced by Kb(), and readNotify().

12.22.5.20 const int Kb::HWMODE_MAX = 3 [static]

Definition at line 50 of file kb.h.

Referenced by KbPerf::applyIndicators(), and readNotify().

12.22.5.21 int Kb::hwModeCount

Definition at line 49 of file kb.h.

Referenced by hwSave(), Kb(), KbWidget::modeIcon(), KbWidget::on_modesList_customContextMenuRequested(), readNotify(), and setCurrentProfile().

12.22.5.22 bool Kb::iState[KbPerf::HW_I_COUNT] [private]

Definition at line 174 of file kb.h.

Referenced by frameUpdate(), Kb(), and readNotify().

12.22.5.23 quint64 Kb::lastAutoSave [private]

Definition at line 178 of file kb.h.

Referenced by autoSave().

12.22.5.24 int Kb::macroNumber [private]

Definition at line 196 of file kb.h.

Referenced by getMacroNumber(), and Kb().

12.22.5.25 QString Kb::macroPath [private]

Definition at line 155 of file kb.h.

Referenced by getMacroPath(), Kb(), and ~Kb().

12.22.5.26 bool Kb::monochrome

Definition at line 19 of file kb.h.

Referenced by frameUpdate(), hwSave(), Kb(), and KbWidget::KbWidget().

12.22.5.27 int Kb::notifyNumber [private]

Definition at line 194 of file kb.h.

Referenced by frameUpdate(), fwUpdate(), Kb(), readNotify(), and ~Kb().

12.22.5.28 QString Kb::notifyPath [private]

Definition at line 155 of file kb.h.

Referenced by Kb(), and run().

12.22.5.29 QString Kb::pollrate

Definition at line 18 of file kb.h.

Referenced by KbWidget::devUpdate(), and Kb().

12.22.5.30 QString Kb::prefsPath [private]

Definition at line 177 of file kb.h.

Referenced by Kb(), load(), and save().

12.22.5.31 KbMode* Kb::prevMode [private]

Definition at line 186 of file kb.h.

Referenced by deletePrevious(), frameUpdate(), and hwSave().

12.22.5.32 KbProfile* Kb::prevProfile [private]

Definition at line 185 of file kb.h.

Referenced by frameUpdate().

12.22.5.33 QString Kb::usbModel

Definition at line 16 of file kb.h.

Referenced by FwUpgradeDialog::FwUpgradeDialog(), Kb(), KbWidget::name(), and MainWindow::showFwUpdateNotification().

12.22.5.34 QString Kb::usbSerial

Definition at line 16 of file kb.h.

Referenced by KbWidget::devUpdate(), Kb(), and matches().

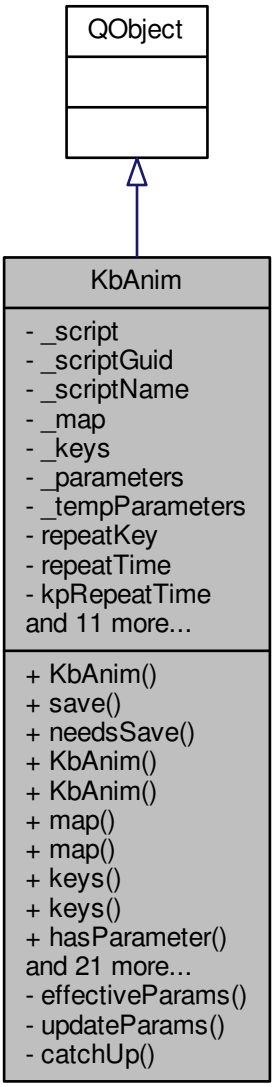
The documentation for this class was generated from the following files:

- src/ckb/kb.h
- src/ckb/kb.cpp
- src/ckb/release/moc_kb.cpp

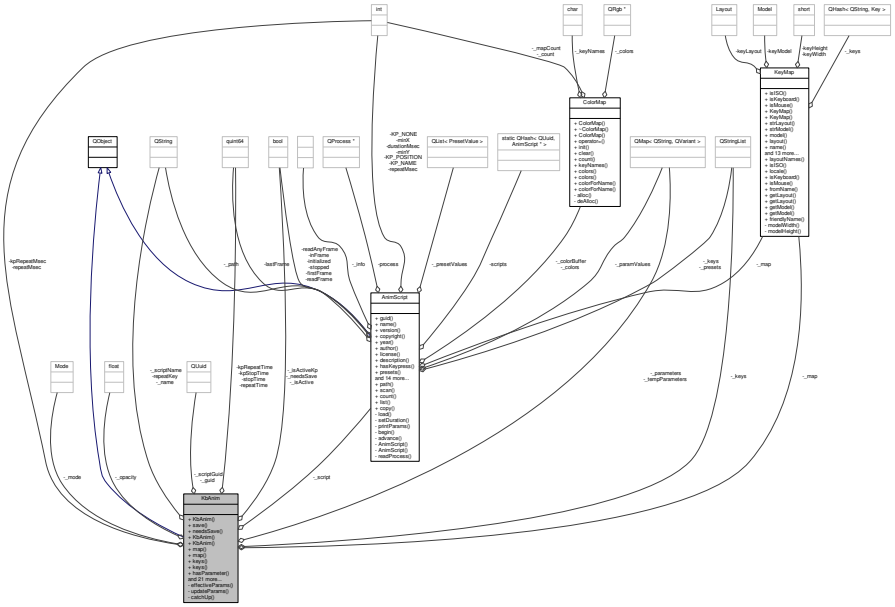
12.23 KbAnim Class Reference

`#include <src/ckb/kbanim.h>`

Inheritance diagram for KbAnim:



Collaboration diagram for KbAnim:



Public Types

- enum Mode {
  Normal, Add, Subtract, Multiply,
  Divide }

Public Member Functions

- KbAnim (QObject *parent, const KeyMap &map, const QUuid id, CkbSettings &settings)
- void save (CkbSettings &settings)
- bool needsSave () const
- KbAnim (QObject *parent, const KeyMap &map, const QString &name, const QStringList &keys, const AnimScript *script)
- KbAnim (QObject *parent, const KeyMap &map, const KbAnim &other)
- const KeyMap & map ()
- void map (const KeyMap &newMap)
- const QStringList & keys ()
- void keys (const QStringList &newKeys)
- bool hasParameter (const QString &name) const
- QVariant parameter (const QString &name) const
- void parameter (const QString &name, const QVariant &value)
- void commitParams ()
- void resetParams ()
- void reInit ()
- void trigger (quint64 timestamp, bool ignoreParameter=false)
- void keypress (const QString &key, bool pressed, quint64 timestamp)
- void stop ()
- bool isActive () const
- bool isRunning () const
- void blend (ColorMap &animMap, quint64 timestamp)
- const QUuid & guid () const

- void newId ()
- const QString & name () const
- void name (const QString &newName)
- float opacity () const
- void opacity (float newOpacity)
- Mode mode () const
- void mode (Mode newMode)
- const AnimScript * script () const
- const QString & scriptName () const

Private Member Functions

- QMap< QString, QVariant > effectiveParams ()
- void updateParams ()
- void catchUp (quint64 timestamp)

Private Attributes

- AnimScript * _script
- QUuid _scriptGuid
- QString _scriptName
- KeyMap _map
- QStringList _keys
- QMap< QString, QVariant > _parameters
- QMap< QString, QVariant > _tempParameters
- QString repeatKey
- quint64 repeatTime
- quint64 kpRepeatTime
- quint64 stopTime
- quint64 kpStopTime
- int repeatMsec
- int kpRepeatMsec
- QUuid _guid
- QString _name
- float _opacity
- Mode _mode
- bool _isActive
- bool _isActiveKp
- bool _needsSave

12.23.1 Detailed Description

Definition at line 11 of file kbanim.h.

12.23.2 Member Enumeration Documentation

12.23.2.1 enum KbAnim::Mode

Enumerator

Normal

Add

Subtract

Multiply

Divide

Definition at line 17 of file kbanim.h.

```
17              {
18         Normal,
19         Add,
20         Subtract,
21         Multiply,
22         Divide
23     };
```

12.23.3 Constructor & Destructor Documentation

12.23.3.1 KbAnim::KbAnim (QObject * *parent,* const KeyMap & *map,* const QUuid *id,* CkbSettings & *settings*)

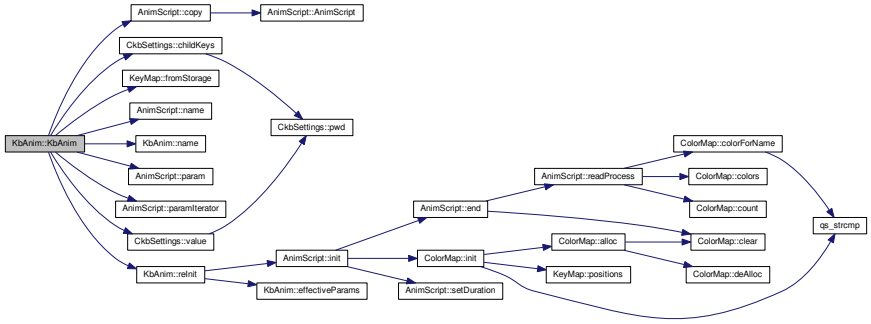
Definition at line 8 of file kbanim.cpp.

References _guid, _keys, _map, _mode, _name, _opacity, _parameters, _script, _scriptGuid, _scriptName, CkbSettings::childKeys(), AnimScript::copy(), AnimScript::Param::defaultValue, KeyMap::fromStorage(), AnimScript::Param::INVALID, AnimScript::Param::LABEL, AnimScript::Param::name, AnimScript::name(), name(), Normal, AnimScript::param(), AnimScript::paramIterator(), reInit(), AnimScript::Param::type, and CkbSettings::value().

```
8                                                                                                   :
9      QObject(parent), _script(0), _map(map),
10      repeatTime(0), kpRepeatTime(0), stopTime(0),
       kpStopTime(0), repeatMsec(0), kpRepeatMsec(0),
11      _guid(id), _isActive(false), _isActiveKp(false),
       _needsSave(false)
12 {
13     SGroup group(settings, _guid.toString().toUpper());
14     _keys = settings.value("Keys").toStringList();
15     // Convert key list from storage names if needed
16     if(!settings.value("UseRealNames").toBool()){
17         QMutableListIterator<QString> i(_keys);
18         while(i.hasNext()){
19             i.next();
20             QString& key = i.value();
21             key = _map.fromStorage(key);
22         }
23     }
24     _name = settings.value("Name").toString().trimmed();
25     _opacity = settings.value("Opacity").toString().toDouble();
26     if(_opacity < 0.)
27         _opacity = 0.;
28     else if(_opacity > 1.)
29         _opacity = 1.;
30     bool modeOk = false;
31     _mode = (Mode)metaObject()->enumerator(metaObject()->indexOfEnumerator("Mode")).keysToValue(
       settings.value("BlendMode").toString().toLatin1(), &modeOk);
32     if(!modeOk)
33         _mode = Normal;
34     _scriptName = settings.value("ScriptName").toString().trimmed();
35     _scriptGuid = settings.value("ScriptGuid").toString();
36     {
37         SGroup group(settings, "Parameters");
38         foreach(const QString& param, settings.childKeys())
39             _parameters[param.toLower()] = settings.value(param);
40     }
41
42     if(!_scriptGuid.isNull()){
43         _script = AnimScript::copy(this, _scriptGuid);
44         if(_script){
45             // Remove nonexistant parameters
46             foreach(const QString& name, _parameters.keys()){
47                 AnimScript::Param param = _script->param(name);
48                 if(param.type == AnimScript::Param::INVALID || param.
       type == AnimScript::Param::LABEL)
49                     _parameters.remove(name);
50             }
51             // Add defaults for unset parameters
52             QListIterator<AnimScript::Param> i = _script->paramIterator();
53             while(i.hasNext()){
54                 AnimScript::Param param = i.next();
55                 if(!_parameters.contains(param.name) && param.
       type != AnimScript::Param::LABEL)
```

```
56                      _parameters[param.name] = param.defaultValue;
57              }
58              _scriptName = _script->name();
59              reInit();
60          }
61      }
62  }
```

Here is the call graph for this function:



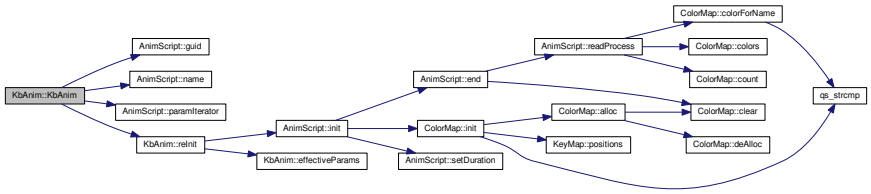
12.23.3.2 KbAnim::KbAnim (QObject * *parent,* const KeyMap & *map,* const QString & *name,* const QStringList & *keys,* const AnimScript * *script*)

Definition at line 84 of file kbanim.cpp.

References _parameters, _script, _scriptGuid, _scriptName, AnimScript::Param::defaultValue, AnimScript::guid(), AnimScript::Param::LABEL, AnimScript::Param::name, AnimScript::name(), AnimScript::paramIterator(), reInit(), and AnimScript::Param::type.

```
84
                    :
85      QObject(parent),
86      _script(AnimScript::copy(this, script->guid())),
        _map(map), _keys(keys),
87      repeatTime(0), kpRepeatTime(0), stopTime(0),
        kpStopTime(0), repeatMsec(0), kpRepeatMsec(0),
88      _guid(QUuid::createUuid()), _name(name), _opacity(1.),
        _mode(Normal), _isActive(false), _isActiveKp(false),
        _needsSave(true)
89  {
90      if(_script){
91          // Set default parameters
92          QListIterator<AnimScript::Param> i = _script->paramIterator();
93          while(i.hasNext()){
94              AnimScript::Param param = i.next();
95              if(param.type != AnimScript::Param::LABEL)
96                  _parameters[param.name] = param.defaultValue;
97          }
98          _scriptGuid = script->guid();
99          _scriptName = script->name();
100         reInit();
101     }
102 }
```

Here is the call graph for this function:



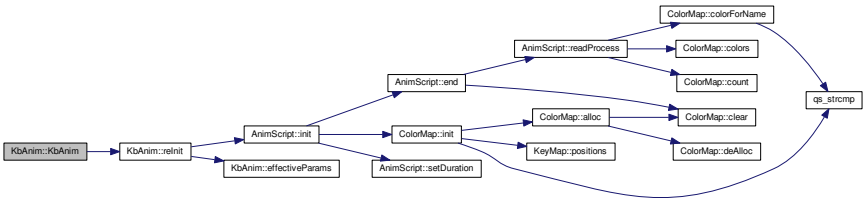
12.23.3.3 KbAnim::KbAnim (QObject * *parent,* const KeyMap & *map,* const KbAnim & *other*)

Definition at line 104 of file kbanim.cpp.

References reInit().

```
104                                                                    :
105     QObject(parent),
106     _script(AnimScript::copy(this, other.script()->
      guid())), _scriptGuid(_script->guid()), _scriptName(
      _script->name()),
107     _map(map), _keys(other._keys), _parameters(other.
      _parameters),
108     repeatTime(0), kpRepeatTime(0), stopTime(0),
      kpStopTime(0), repeatMsec(0), kpRepeatMsec(0),
109     _guid(other._guid), _name(other._name), _opacity(other.
      _opacity), _mode(other._mode), _isActive(false),
      _isActiveKp(false), _needsSave(true)
110 {
111     reInit();
112 }
```

Here is the call graph for this function:



12.23.4 Member Function Documentation

12.23.4.1 void KbAnim::blend (ColorMap & *animMap,* quint64 *timestamp*)

Definition at line 365 of file kbanim.cpp.

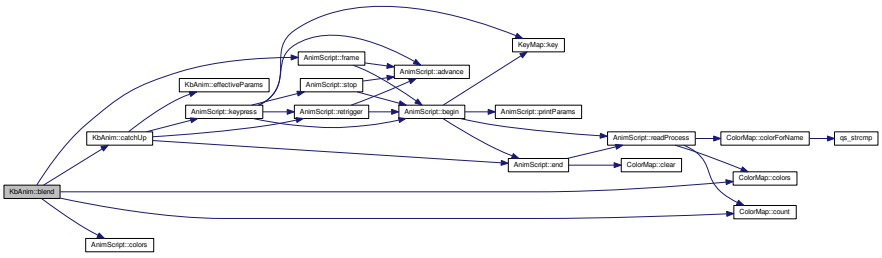
References _mode, _opacity, _script, catchUp(), ColorMap::colors(), AnimScript::colors(), ColorMap::count(), AnimScript::frame(), and functions.

Referenced by KbLight::frameUpdate().

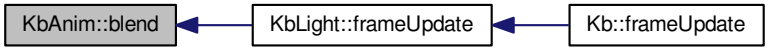
```
365                                                    {
366     if(!_script)
367         return;
368
369     // Fetch the next frame from the script
370     catchUp(timestamp);
```

```
371     _script->frame(timestamp);
372
373     // Blend the script's map with the current map
374     int blendMode = (int)_mode;
375     blendFunc blend = functions[blendMode];
376     float fOpacity = _opacity / 255.f;  // save some math by pre-dividing the 255 for qAlpha
377
378     const ColorMap& scriptMap = _script->colors();
379     int count = animMap.count();
380     if(scriptMap.count() != count){
381         qDebug() << "Script map didn't match base map (" << count << " vs " << scriptMap.
      count() << "). This should never happen.";
382         return;
383     }
384     QRgb* background = animMap.colors();
385     const QRgb* foreground = scriptMap.colors();
386     for(int i = 0; i < count; i++){
387         // Mix the colors in with the color map according to blend mode and alpha
388         QRgb& bg = background[i];
389         QRgb fg = foreground[i];
390         int alpha = qAlpha(fg);
391         if(alpha == 0)
392             continue;
393         if(blendMode == 0){
394             // Blend: normal
395             // This is the most common use case and it requires much less arithmetic
396             if(alpha == 255){
397                 bg = fg;
398             } else {
399                 float r = qRed(bg), g = qGreen(bg), b = qBlue(bg);
400                 float a = alpha * fOpacity;
401                 r = r * (1.f - a) + qRed(fg) * a;
402                 g = g * (1.f - a) + qGreen(fg) * a;
403                 b = b * (1.f - a) + qBlue(fg) * a;
404                 bg = qRgb(round(r), round(g), round(b));
405             }
406         } else {
407             // Use blend function
408             float r = qRed(bg) / 255.f, g = qGreen(bg) / 255.f, b = qBlue(bg) / 255.f;
409             float a = alpha * fOpacity;
410             r = r * (1.f - a) + blend(r, qRed(fg) / 255.f) * a;
411             g = g * (1.f - a) + blend(g, qGreen(fg) / 255.f) * a;
412             b = b * (1.f - a) + blend(b, qBlue(fg) / 255.f) * a;
413             bg = qRgb(round(r * 255.f), round(g * 255.f), round(b * 255.f));
414         }
415     }
416 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.23.4.2 void KbAnim::catchUp (quint64 *timestamp*) [private]

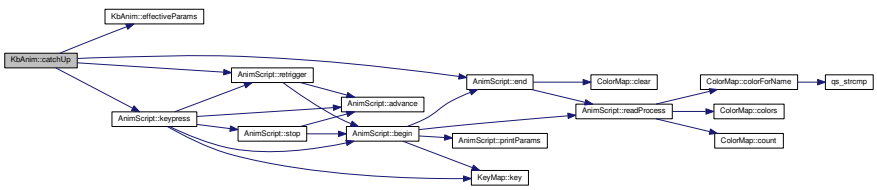
Definition at line 166 of file kbanim.cpp.

References _isActive, _isActiveKp, _script, effectiveParams(), AnimScript::end(), AnimScript::keypress(), kpRepeatMsec, kpRepeatTime, kpStopTime, repeatKey, repeatMsec, repeatTime, AnimScript::retrigger(), and stopTime.

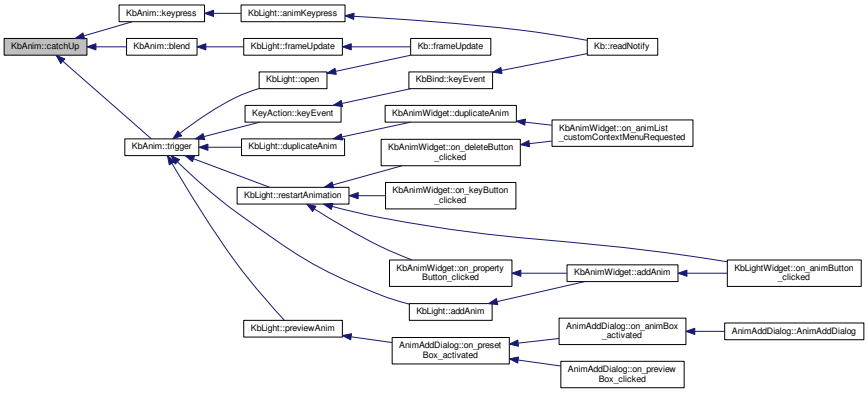
Referenced by blend(), keypress(), and trigger().

```
166                                     {
167     QMap<QString, QVariant> parameters = effectiveParams();
168     // Stop the animation if its time has run out
169     if(stopTime != 0 && timestamp >= stopTime){
170         repeatMsec = repeatTime = 0;
171         if(!parameters.contains("repeat")){
172             // If repeats aren't allowed, stop the animation entirely
173             _script->end();
174             _isActive = false;
175             return;
176         } else
177             // Otherwise, simply stop repeating
178             stopTime = 0;
179     }
180     if(kpStopTime != 0 && timestamp >= kpStopTime){
181         kpRepeatMsec = kpRepeatTime = 0;
182         if(!parameters.contains("kprepeat")){
183             _script->end();
184             _isActiveKp = false;
185             return;
186         } else
187             kpStopTime = 0;
188     }
189
190     // Restart (or start, if there was a delay) the animation if its repeat time is up
191     while(repeatTime > 0 && timestamp >= repeatTime){
192         _script->retrigger(repeatTime);
193         if(repeatMsec <= 0){
194             repeatTime = 0;
195             break;
196         }
197         repeatTime += repeatMsec;
198     }
199     while(kpRepeatTime > 0 && timestamp >= kpRepeatTime){
200         _script->keypress(repeatKey, 1, kpRepeatTime);
201         if(kpRepeatMsec <= 0){
202             kpRepeatTime = 0;
203             break;
204         }
205         kpRepeatTime += kpRepeatMsec;
206     }
207 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.23.4.3 void KbAnim::commitParams ( )

Definition at line 121 of file kbanim.cpp.

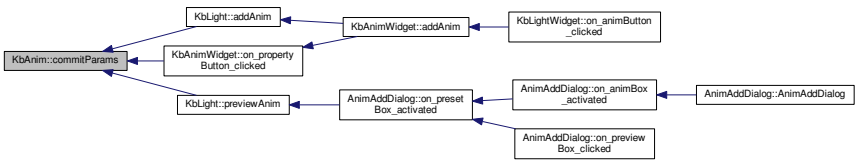
References _needsSave, _parameters, _tempParameters, and effectiveParams().

Referenced by KbLight::addAnim(), KbAnimWidget::on_propertyButton_clicked(), and KbLight::previewAnim().

```
121                          {
122     _needsSave = true;
123     _parameters = effectiveParams();
124     _tempParameters.clear();
125 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.23.4.4 QMap< QString, QVariant > KbAnim::effectiveParams ( ) [private]

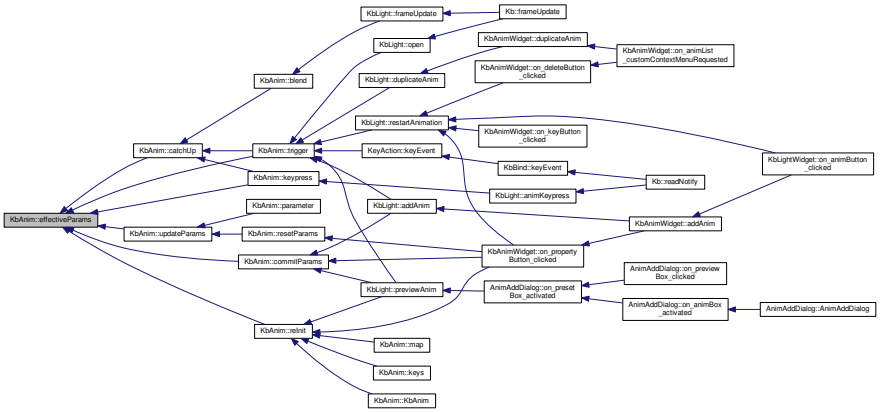
Definition at line 138 of file kbanim.cpp.

References _parameters, and _tempParameters.

Referenced by catchUp(), commitParams(), keypress(), reInit(), trigger(), and updateParams().

```
138                                                {
139     QMap<QString, QVariant> res = _parameters;
140     // Apply all uncommited parameters
141     QMapIterator<QString, QVariant> i(_tempParameters);
142     while(i.hasNext()){
143         i.next();
144         res[i.key()] = i .value();
145     }
146     return res;
147 }
```

Here is the caller graph for this function:



12.23.4.5 const QUuid& KbAnim::guid ( ) const [inline]

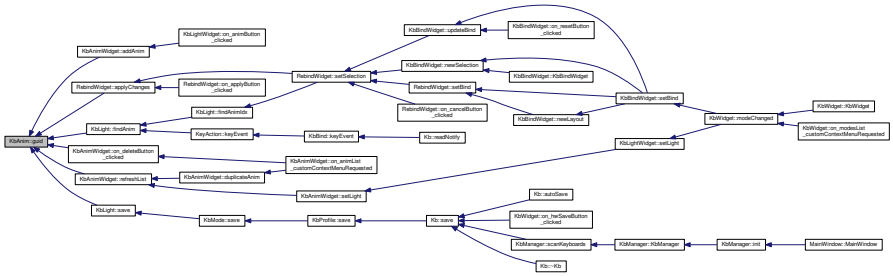
Definition at line 71 of file kbanim.h.

References _guid.

Referenced by KbAnimWidget::addAnim(), RebindWidget::applyChanges(), KbLight::findAnim(), KbAnimWidget::on_deleteButton_clicked(), KbAnimWidget::refreshList(), and KbLight::save().

```
71 { return _guid; }
```

Here is the caller graph for this function:



12.23.4.6 bool KbAnim::hasParameter (const QString & *name*) const [inline]

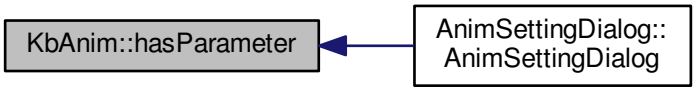
Definition at line 44 of file kbanim.h.

References _parameters.

Referenced by AnimSettingDialog::AnimSettingDialog().

```
44 { return _parameters.contains(name); }
```

Here is the caller graph for this function:



12.23.4.7 bool KbAnim::isActive ( ) const [inline]

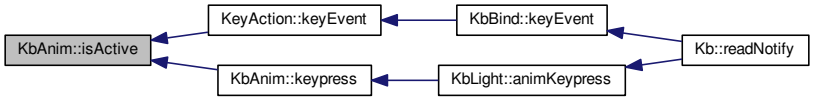
Definition at line 63 of file kbanim.h.

References _isActive, and _isActiveKp.

Referenced by KeyAction::keyEvent(), and keypress().

```
63 { return _isActive || _isActiveKp; }
```

Here is the caller graph for this function:



12.23.4.8 bool KbAnim::isRunning ( ) const

Definition at line 325 of file kbanim.cpp.

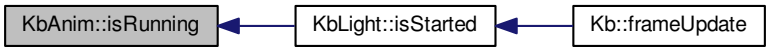
References _script, and AnimScript::hasFrame().

Referenced by KbLight::isStarted().

```
325                             {
326     if(!_script)
327         return true;    // If the script wasn't loaded, pretend it's running anyway so it won't lock up
328     return _script->hasFrame();
329 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.23.4.9 void KbAnim::keypress (const QString & *key,* bool *pressed,* quint64 *timestamp*)

Definition at line 250 of file kbanim.cpp.

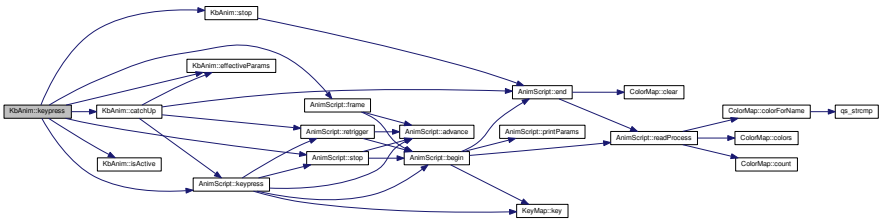
References _isActive, _isActiveKp, _script, catchUp(), effectiveParams(), AnimScript::frame(), isActive(), AnimScript::keypress(), kpRepeatMsec, kpRepeatTime, kpStopTime, repeatKey, repeatMsec, repeatTime, stop(), AnimScript::stop(), and stopTime.

Referenced by KbLight::animKeypress().

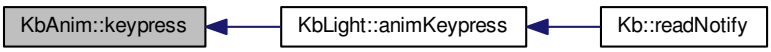
```
250                                                                     {
251     if(!_script)
252         return;
253     QMap<QString, QVariant> parameters = effectiveParams();
254     if(pressed && parameters.value("kpmodestop").toBool()){
255         // If stop on key press is enabled, stop mode-wide animation
256         catchUp(timestamp);
257         _script->stop(timestamp);
258         stopTime = repeatTime = repeatMsec = 0;
259         _isActive = false;
260     } else {
261         if(!parameters.value("kptrigger").toBool())
262             return;
263         catchUp(timestamp);
264     }
265
266     if(pressed){
267         // Key pressed
268         _isActiveKp = true;
269         if(parameters.value("kpmode", 0).toInt() == 2 && isActive())
270             // If mode is start once and a key has already been pressed, do nothing
271             return;
272         int delay = round(parameters.value("kpdelay").toDouble() * 1000.);
273         if(delay > 0){
274             // If delay is enabled, wait to trigger the event
275             timestamp += delay;
276             kpRepeatTime = timestamp;
277         } else
278             _script->keypress(key, pressed, timestamp);
279
280         int repeat = round(parameters.value("kprepeat").toDouble() * 1000.);
281         if(repeat <= 0){
282             // If no repeat allowed, calculate stop time in seconds
283             kpRepeatMsec = -1;
284             double stop = parameters.value("kpstop").toDouble();
285             if(stop <= 0.)
```

```
286                 kpStopTime = 0;
287             else
288                 kpStopTime = timestamp + round(stop * 1000.);
289         } else {
290             // If repeat is allowed, calculate stop time in repetitions
291             kpRepeatMsec = repeat;
292             if(delay <= 0)
293                 kpRepeatTime = timestamp + repeat;
294             int stop = parameters.value("kpstop").toInt();
295             if(stop < 0)
296                 kpStopTime = 0;
297             else
298                 kpStopTime = timestamp + repeat * (1 + stop);
299         }
300         repeatKey = key;
301     } else {
302         // Key released
303         _isActiveKp = false;
304         _script->keypress(key, pressed, timestamp);
305         if(parameters.value("kprelease").toBool())
306             // Stop repeating keypress if "Stop on key release" is enabled
307             kpStopTime = timestamp;
308     }
309     _script->frame(timestamp);
310 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.23.4.10 const QStringList& KbAnim::keys ( ) [inline]

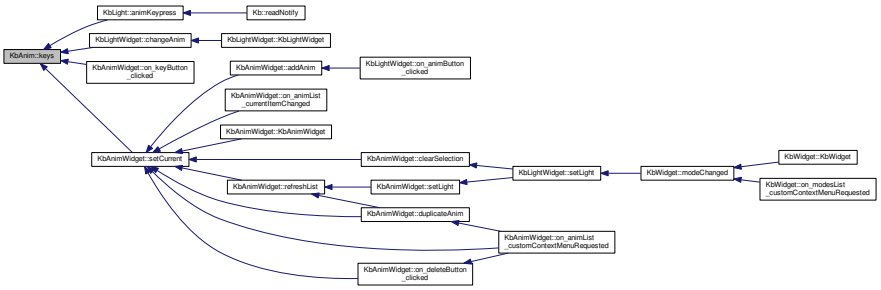
Definition at line 40 of file kbanim.h.

References _keys.

Referenced by KbLight::animKeypress(), KbLightWidget::changeAnim(), KbAnimWidget::on_keyButton_clicked(), and KbAnimWidget::setCurrent().

```
40 { return _keys; }
```

Here is the caller graph for this function:



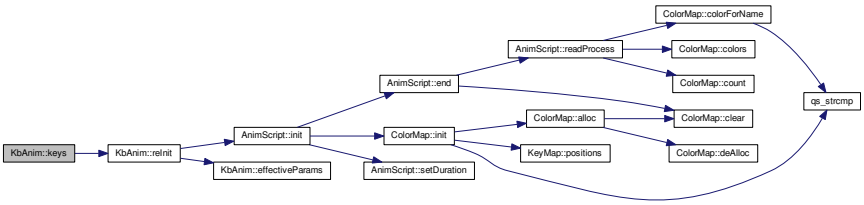
12.23.4.11 void KbAnim::keys (const QStringList & *newKeys*)

Definition at line 161 of file kbanim.cpp.

References _keys, and reInit().

```
161                                          {
162     _keys = newKeys;
163     reInit();
164 }
```

Here is the call graph for this function:



12.23.4.12 const KeyMap& KbAnim::map ( ) [inline]

Definition at line 37 of file kbanim.h.

References _map.

Referenced by KbLight::map().

```
37 { return _map; }
```

Here is the caller graph for this function:

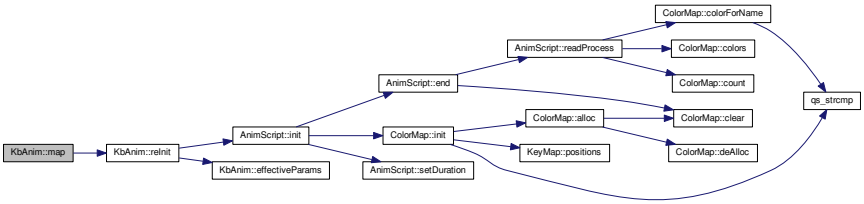
12.23.4.13 void KbAnim::map (const KeyMap & *newMap*)

Definition at line 156 of file kbanim.cpp.

References _map, and reInit().

```
156                                     {
157     _map = newMap;
158     reInit();
159 }
```

Here is the call graph for this function:



12.23.4.14 Mode KbAnim::mode ( ) const [inline]

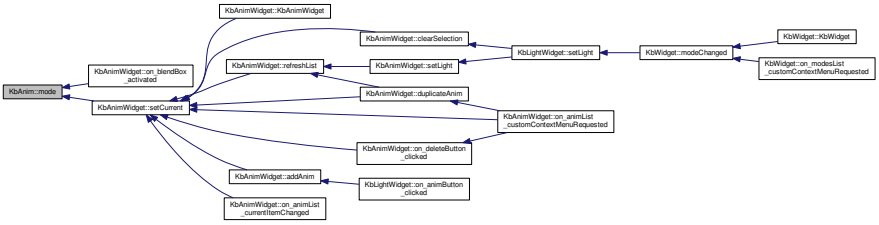
Definition at line 77 of file kbanim.h.

References _mode.

Referenced by KbAnimWidget::on_blendBox_activated(), and KbAnimWidget::setCurrent().

```
77 { return _mode; }
```

Here is the caller graph for this function:



12.23.4.15 void KbAnim::mode (Mode *newMode*) [inline]

Definition at line 78 of file kbanim.h.

References _mode, and _needsSave.

```
78 { _needsSave = true; _mode = newMode; }
```

12.23.4.16 const QString& KbAnim::name ( ) const [inline]

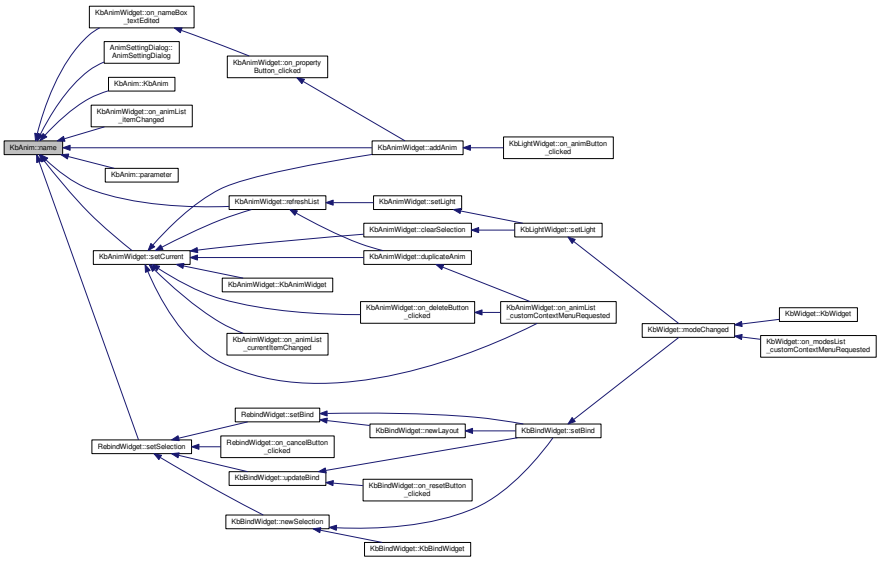
Definition at line 73 of file kbanim.h.

References _name.

Referenced by KbAnimWidget::addAnim(), AnimSettingDialog::AnimSettingDialog(), KbAnim(), KbAnimWidget::on_animList_itemChanged(), KbAnimWidget::on_nameBox_textEdited(), parameter(), KbAnimWidget::refreshList(), KbAnimWidget::setCurrent(), and RebindWidget::setSelection().

```
73 { return _name; }
```

Here is the caller graph for this function:



12.23.4.17 void KbAnim::name (const QString & *newName*) [inline]

Definition at line 74 of file kbanim.h.

References _name, and _needsSave.

```
74 { _needsSave = true; _name = newName; }
```

12.23.4.18 bool KbAnim::needsSave ( ) const [inline]

Definition at line 29 of file kbanim.h.

References _needsSave.

Referenced by KbLight::needsSave().

```
29 { return _needsSave; }
```

Here is the caller graph for this function:

12.23.4.19 void KbAnim::newId ( ) [inline]

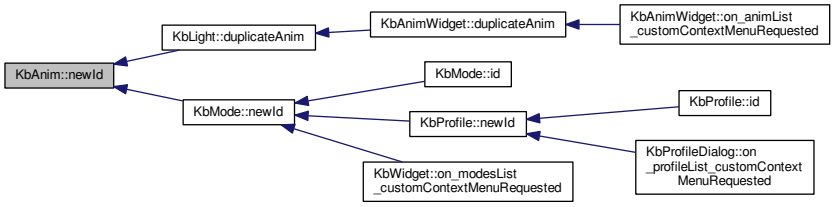
Definition at line 72 of file kbanim.h.

References _guid, and _needsSave.

Referenced by KbLight::duplicateAnim(), and KbMode::newId().

```
72 { _needsSave = true; _guid = QUuid::createUuid(); }
```

Here is the caller graph for this function:



12.23.4.20 float KbAnim::opacity ( ) const [inline]

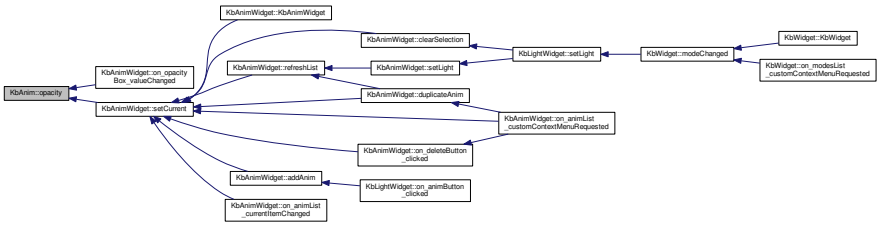
Definition at line 75 of file kbanim.h.

References _opacity.

Referenced by KbAnimWidget::on_opacityBox_valueChanged(), and KbAnimWidget::setCurrent().

```
75 { return _opacity; }
```

Here is the caller graph for this function:



12.23.4.21 void KbAnim::opacity (float *newOpacity*) [inline]

Definition at line 76 of file kbanim.h.

References _needsSave, and _opacity.

```
76 { _needsSave = true; _opacity = newOpacity; }
```

12.23.4.22 QVariant KbAnim::parameter (const QString & *name*) const [inline]

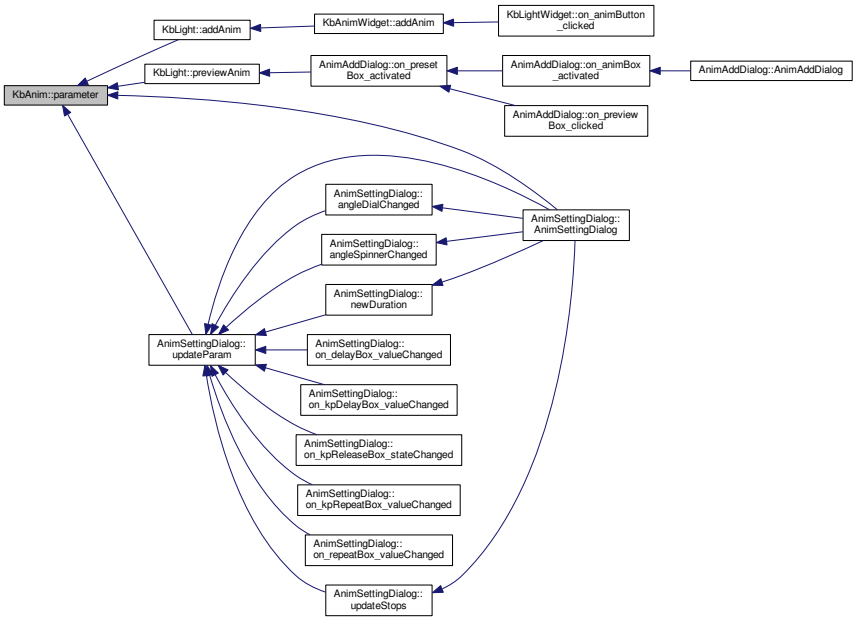
Definition at line 45 of file kbanim.h.

References _parameters.

Referenced by KbLight::addAnim(), AnimSettingDialog::AnimSettingDialog(), KbLight::previewAnim(), and AnimSettingDialog::updateParam().

```
45 { return _parameters.value(name); }
```

Here is the caller graph for this function:



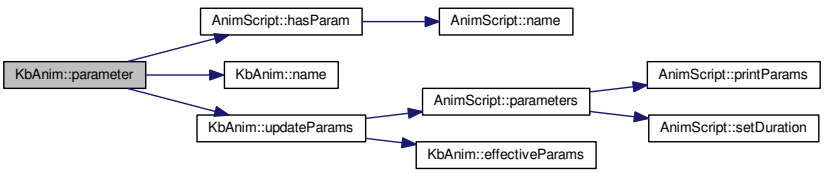
12.23.4.23 void KbAnim::parameter (const QString & *name,* const QVariant & *value*)

Definition at line 114 of file kbanim.cpp.

References _script, _tempParameters, AnimScript::hasParam(), name(), and updateParams().

```
114                                                                 {
115     if(!_script->hasParam(name))
116         return;
117     _tempParameters[name] = value;
118     updateParams();
119 }
```

Here is the call graph for this function:



12.23.4.24 void KbAnim::relnit ( )

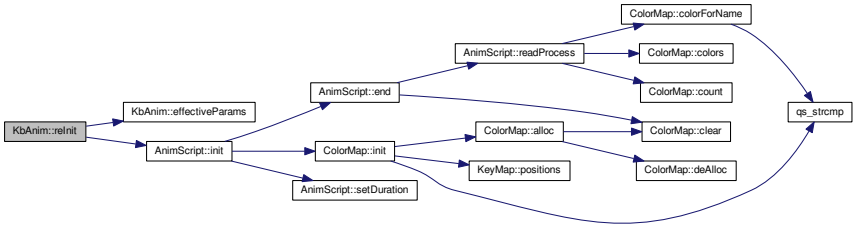
Definition at line 149 of file kbanim.cpp.

References _isActive, _isActiveKp, _keys, _map, _script, effectiveParams(), AnimScript::init(), and repeatKey.

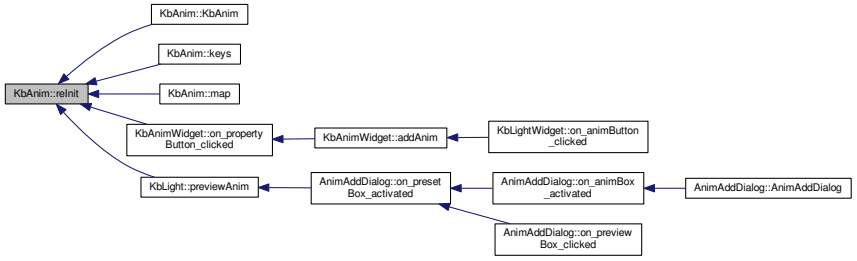
Referenced by KbAnim(), keys(), map(), KbAnimWidget::on_propertyButton_clicked(), and KbLight::previewAnim().

```
149                     {
150     if(_script)
151         _script->init(_map, _keys, effectiveParams());
152     repeatKey = "";
153     _isActive = _isActiveKp = false;
154 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.23.4.25 void KbAnim::resetParams ( )

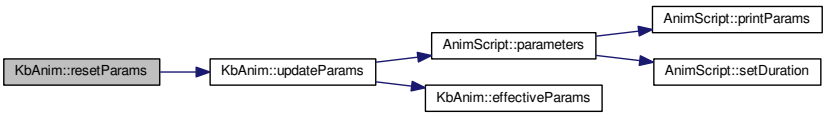
Definition at line 127 of file kbanim.cpp.

References _tempParameters, and updateParams().

Referenced by KbAnimWidget::on_propertyButton_clicked().

```
127                       {
128     _tempParameters.clear();
129     updateParams();
130 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.23.4.26 void KbAnim::save (CkbSettings & *settings*)

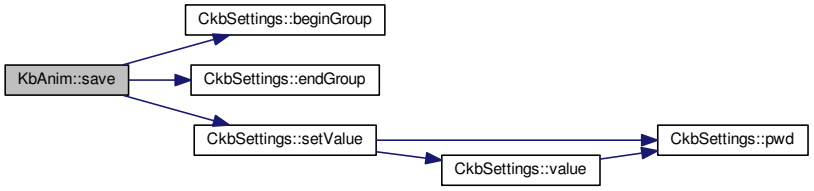
Definition at line 64 of file kbanim.cpp.

References _guid, _keys, _mode, _name, _needsSave, _opacity, _parameters, _scriptGuid, _scriptName, CkbSettings::beginGroup(), CkbSettings::endGroup(), and CkbSettings::setValue().

Referenced by KbLight::save().

```
64                                      {
65     _needsSave = false;
66     settings.beginGroup(_guid.toString().toUpper());
67     settings.setValue("UseRealNames", true);
68     settings.setValue("Keys", _keys);
69     settings.setValue("Name", _name);
70     settings.setValue("Opacity", QString::number(_opacity));
71     settings.setValue("BlendMode", metaObject()->enumerator(metaObject()->indexOfEnumerator("Mode")
       ).valueToKey(_mode));
72     settings.setValue("ScriptName", _scriptName);
73     settings.setValue("ScriptGuid", _scriptGuid.toString().toUpper());
74     settings.beginGroup("Parameters");
75     QMapIterator<QString, QVariant> i(_parameters);
76     while(i.hasNext()){
77         i.next();
78         settings.setValue(i.key(), i.value());
79     }
80     settings.endGroup();
81     settings.endGroup();
82 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.23.4.27 const AnimScript* KbAnim::script ( ) const [inline]

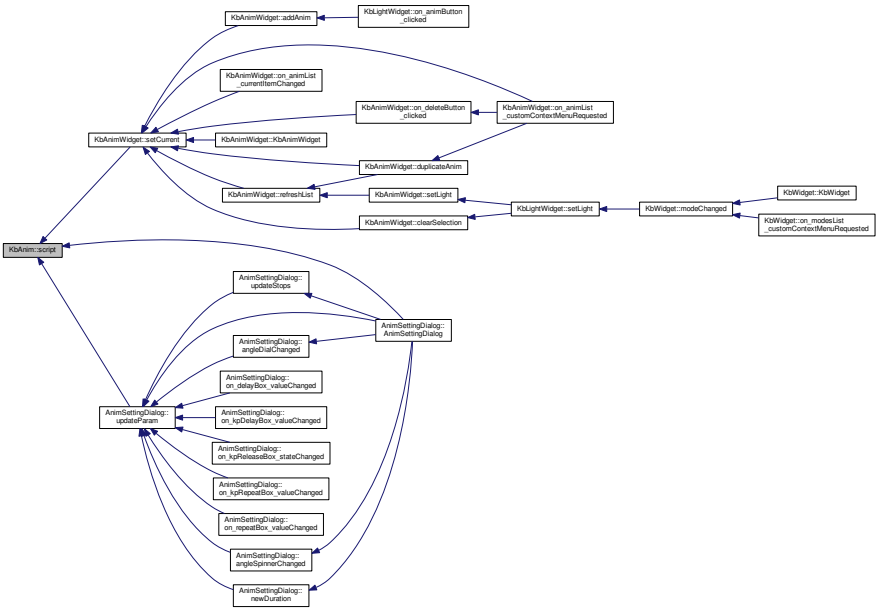
Definition at line 81 of file kbanim.h.

References _script.

Referenced by AnimSettingDialog::AnimSettingDialog(), KbAnimWidget::setCurrent(), and AnimSettingDialog::updateParam().

```
81 { return _script; }
```

Here is the caller graph for this function:



12.23.4.28 const QString& KbAnim::scriptName ( ) const [inline]

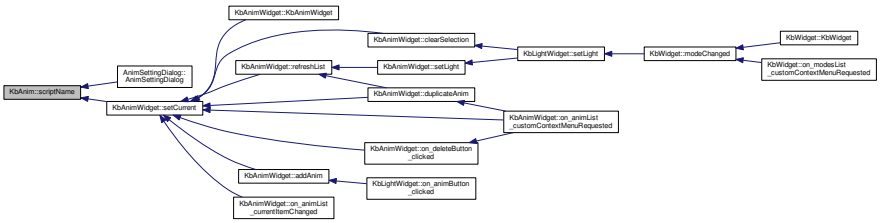
Definition at line 82 of file kbanim.h.

References _scriptName.

Referenced by AnimSettingDialog::AnimSettingDialog(), and KbAnimWidget::setCurrent().

```
82 { return _scriptName; }
```

Here is the caller graph for this function:



12.23.4.29 void KbAnim::stop ( )

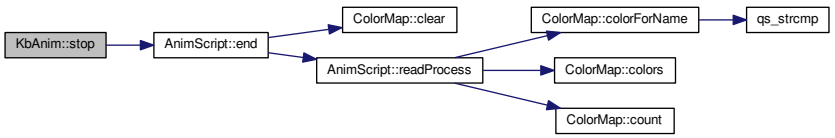
Definition at line 312 of file kbanim.cpp.

References _isActive, _isActiveKp, _script, AnimScript::end(), kpRepeatMsec, kpRepeatTime, kpStopTime, repeatKey, repeatMsec, repeatTime, and stopTime.

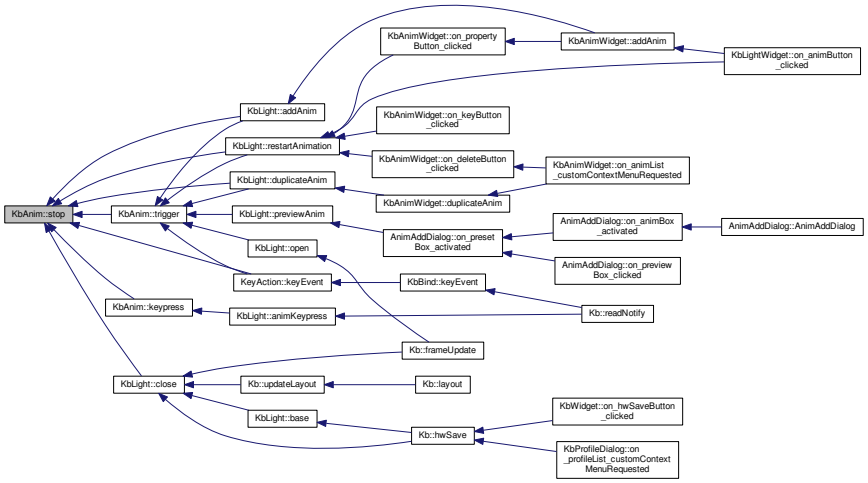
Referenced by KbLight::addAnim(), KbLight::close(), KbLight::duplicateAnim(), KeyAction::keyEvent(), keypress(), KbLight::restartAnimation(), and trigger().

```
312                 {
313     if(_script)
314         _script->end();
315     repeatTime = 0;
316     kpRepeatTime = 0;
317     repeatMsec = 0;
318     kpRepeatMsec = 0;
319     stopTime = 0;
320     kpStopTime = 0;
321     repeatKey = "";
322     _isActive = _isActiveKp = false;
323 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.23.4.30 void KbAnim::trigger (quint64 *timestamp*, bool *ignoreParameter* = `false`)

Definition at line 209 of file kbanim.cpp.

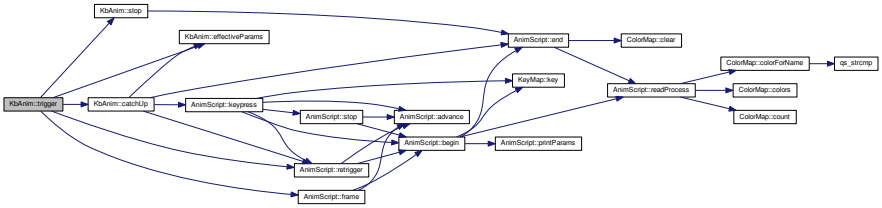
References _isActive, _script, catchUp(), effectiveParams(), AnimScript::frame(), repeatMsec, repeatTime, AnimScript::retrigger(), stop(), and stopTime.

Referenced by KbLight::addAnim(), KbLight::duplicateAnim(), KeyAction::keyEvent(), KbLight::open(), KbLight::previewAnim(), and KbLight::restartAnimation().

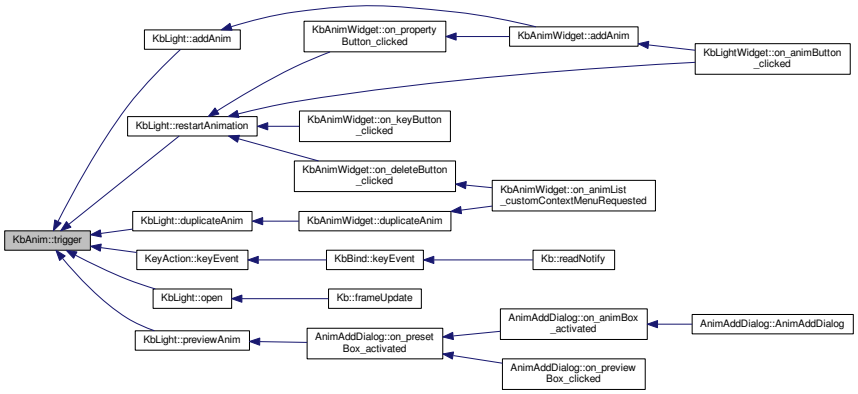
```
209                                                 {
210     if(!_script)
211         return;
212     QMap<QString, QVariant> parameters = effectiveParams();
213 
214     catchUp(timestamp);
215     if(parameters.value("trigger").toBool() || ignoreParameter){
216         _isActive = true;
217         int delay = round(parameters.value("delay").toDouble() * 1000.);
218         if(delay > 0){
219             // If delay is enabled, wait to trigger the event
220             timestamp += delay;
221             repeatTime = timestamp;
222         } else
223             _script->retrigger(timestamp, true);
224 
225         int repeat = round(parameters.value("repeat").toDouble() * 1000.);
226         if(repeat <= 0){
227             // If no repeat allowed, calculate stop time in seconds
228             repeatMsec = -1;
229             double stop = parameters.value("stop").toDouble();
230             if(stop <= 0)
231                 stopTime = 0;
232             else
233                 stopTime = timestamp + round(stop * 1000.);
234         } else {
235             // If repeat is allowed, calculate stop time in repetitions
236             repeatMsec = repeat;
237             if(delay <= 0)
238                 repeatTime = timestamp + repeat;
239             int stop = parameters.value("stop").toInt();
240             if(stop < 0)
241                 stopTime = 0;
242             else
243                 stopTime = timestamp + repeat * (1 + stop);
244         }
245     }
246     // Ask the script for a frame even if we didn't do anything here. This way ckb knows the script is
    responding.
247     _script->frame(timestamp);
```

```
248 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.23.4.31 void KbAnim::updateParams ( ) [private]

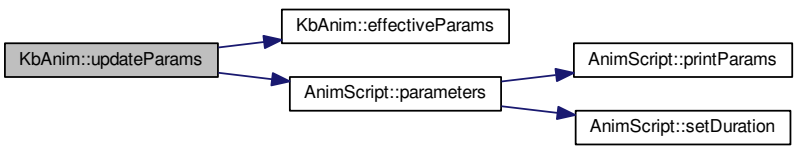
Definition at line 132 of file kbanim.cpp.

References _script, effectiveParams(), AnimScript::parameters(), and repeatKey.

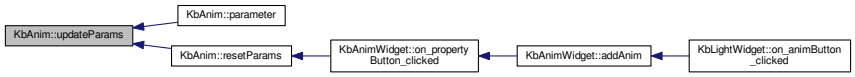
Referenced by parameter(), and resetParams().

```
132                         {
133     if(_script)
134         _script->parameters(effectiveParams());
135     repeatKey = "";
136 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.23.5 Field Documentation

12.23.5.1 QUuid KbAnim::_guid [private]

Definition at line 110 of file kbanim.h.

Referenced by guid(), KbAnim(), newId(), and save().

12.23.5.2 bool KbAnim::_isActive [private]

Definition at line 114 of file kbanim.h.

Referenced by catchUp(), isActive(), keypress(), reInit(), stop(), and trigger().

12.23.5.3 bool KbAnim::_isActiveKp [private]

Definition at line 114 of file kbanim.h.

Referenced by catchUp(), isActive(), keypress(), reInit(), and stop().

12.23.5.4 QStringList KbAnim::_keys [private]

Definition at line 92 of file kbanim.h.

Referenced by KbAnim(), keys(), reInit(), and save().

12.23.5.5 KeyMap KbAnim::_map [private]

Definition at line 91 of file kbanim.h.

Referenced by KbAnim(), map(), and reInit().

12.23.5.6 Mode KbAnim::_mode [private]

Definition at line 113 of file kbanim.h.

Referenced by blend(), KbAnim(), mode(), and save().

12.23.5.7 QString KbAnim::_name [private]

Definition at line 111 of file kbanim.h.

Referenced by KbAnim(), name(), and save().

12.23.5.8 bool KbAnim::_needsSave [private]

Definition at line 115 of file kbanim.h.

Referenced by commitParams(), mode(), name(), needsSave(), newId(), opacity(), and save().

12.23.5.9 float KbAnim::_opacity [private]

Definition at line 112 of file kbanim.h.

Referenced by blend(), KbAnim(), opacity(), and save().

12.23.5.10 QMap<QString, QVariant> KbAnim::_parameters [private]

Definition at line 94 of file kbanim.h.

Referenced by commitParams(), effectiveParams(), hasParameter(), KbAnim(), parameter(), and save().

12.23.5.11 AnimScript* KbAnim::_script [private]

Definition at line 86 of file kbanim.h.

Referenced by blend(), catchUp(), isRunning(), KbAnim(), keypress(), parameter(), reInit(), script(), stop(), trigger(), and updateParams().

12.23.5.12 QUuid KbAnim::_scriptGuid [private]

Definition at line 88 of file kbanim.h.

Referenced by KbAnim(), and save().

12.23.5.13 QString KbAnim::_scriptName [private]

Definition at line 89 of file kbanim.h.

Referenced by KbAnim(), save(), and scriptName().

12.23.5.14 QMap<QString, QVariant> KbAnim::_tempParameters [private]

Definition at line 96 of file kbanim.h.

Referenced by commitParams(), effectiveParams(), parameter(), and resetParams().

12.23.5.15 int KbAnim::kpRepeatMsec [private]

Definition at line 106 of file kbanim.h.

Referenced by catchUp(), keypress(), and stop().

12.23.5.16 quint64 KbAnim::kpRepeatTime [private]

Definition at line 105 of file kbanim.h.

Referenced by catchUp(), keypress(), and stop().

12.23.5.17 quint64 KbAnim::kpStopTime [private]

Definition at line 105 of file kbanim.h.

Referenced by catchUp(), keypress(), and stop().

12.23.5.18 QString KbAnim::repeatKey [private]

Definition at line 104 of file kbanim.h.

Referenced by catchUp(), keypress(), reInit(), stop(), and updateParams().

12.23.5.19 int KbAnim::repeatMsec [private]

Definition at line 106 of file kbanim.h.

Referenced by catchUp(), keypress(), stop(), and trigger().

12.23.5.20 quint64 KbAnim::repeatTime [private]

Definition at line 105 of file kbanim.h.

Referenced by catchUp(), keypress(), stop(), and trigger().

12.23.5.21 quint64 KbAnim::stopTime [private]

Definition at line 105 of file kbanim.h.

Referenced by catchUp(), keypress(), stop(), and trigger().

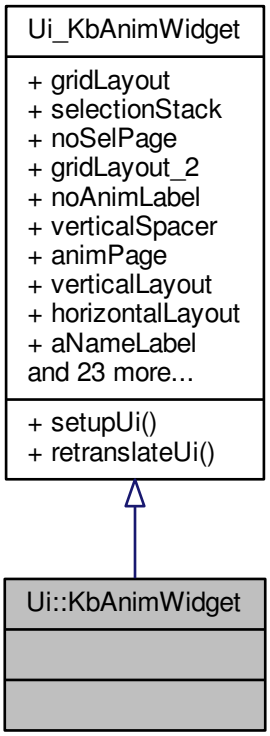
The documentation for this class was generated from the following files:

- src/ckb/kbanim.h
- src/ckb/kbanim.cpp

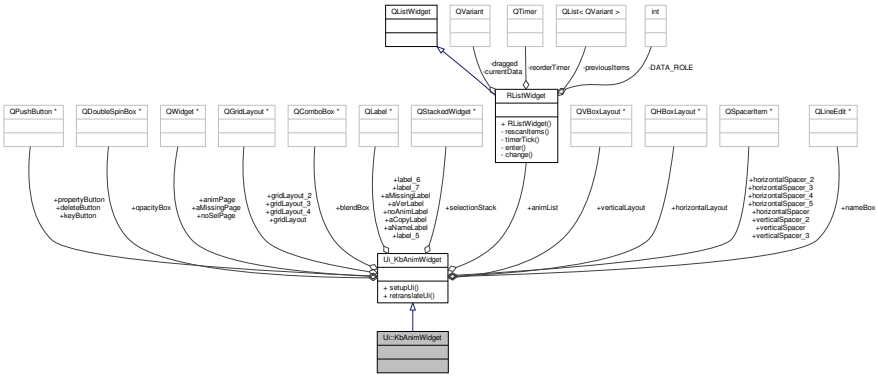
12.24 Ui::KbAnimWidget Class Reference

`#include <src/ckb/ui_kbanimwidget.h>`

Inheritance diagram for Ui::KbAnimWidget:



Collaboration diagram for Ui::KbAnimWidget:



Public Member Functions

- void setupUi (QWidget *KbAnimWidget)
- void retranslateUi (QWidget *KbAnimWidget)

Data Fields

- QGridLayout * gridLayout
- QStackedWidget * selectionStack
- QWidget * noSelPage
- QGridLayout * gridLayout_2
- QLabel * noAnimLabel
- QSpacerItem * verticalSpacer
- QWidget * animPage
- QVBoxLayout * verticalLayout
- QHBoxLayout * horizontalLayout
- QLabel * aNameLabel
- QLabel * aVerLabel
- QSpacerItem * horizontalSpacer
- QLabel * aCopyLabel
- QSpacerItem * verticalSpacer_3
- QGridLayout * gridLayout_3
- QLineEdit * nameBox
- QDoubleSpinBox * opacityBox
- QComboBox * blendBox
- QLabel * label_6
- QSpacerItem * horizontalSpacer_4
- QSpacerItem * horizontalSpacer_2
- QLabel * label_5
- QSpacerItem * horizontalSpacer_3
- QLabel * label_7
- QPushButton * keyButton
- QPushButton * deleteButton
- QPushButton * propertyButton
- QSpacerItem * horizontalSpacer_5
- QSpacerItem * verticalSpacer_2
- QWidget * aMissingPage
- QGridLayout * gridLayout_4
- QLabel * aMissingLabel
- RListWidget * animList

12.24.1 Detailed Description

Definition at line 269 of file ui_kbanimwidget.h.

12.24.2 Member Function Documentation

12.24.2.1 void Ui_KbAnimWidget::retranslateUi (QWidget * *KbAnimWidget*) [inline], [inherited]

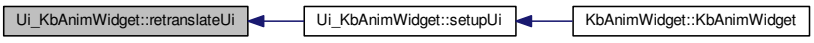
Definition at line 241 of file ui_kbanimwidget.h.

References Ui_KbAnimWidget::aCopyLabel, Ui_KbAnimWidget::aMissingLabel, Ui_KbAnimWidget::aNameLabel, Ui_KbAnimWidget::aVerLabel, Ui_KbAnimWidget::blendBox, Ui_KbAnimWidget::deleteButton, Ui_KbAnimWidget::keyButton, Ui_KbAnimWidget::label_5, Ui_KbAnimWidget::label_6, Ui_KbAnimWidget::label_7, Ui_KbAnimWidget::noAnimLabel, Ui_KbAnimWidget::opacityBox, and Ui_KbAnimWidget::propertyButton.

Referenced by Ui_KbAnimWidget::setupUi().

```
242     {
243         KbAnimWidget->setWindowTitle(QApplication::translate("KbAnimWidget", "Form", Q_NULLPTR));
244         noAnimLabel->setText(QApplication::translate("KbAnimWidget", "No animations in this mode
    ", Q_NULLPTR));
245         aNameLabel->setText(QApplication::translate("KbAnimWidget", "Animation name", Q_NULLPTR))
    ;
246         aVerLabel->setText(QApplication::translate("KbAnimWidget", "v0.0", Q_NULLPTR));
247         aCopyLabel->setText(QApplication::translate("KbAnimWidget", "Copyright \302\251",
    Q_NULLPTR));
248         opacityBox->setSuffix(QApplication::translate("KbAnimWidget", "%", Q_NULLPTR));
249         blendBox->clear();
250         blendBox->insertItems(0, QStringList()
251          << QApplication::translate("KbAnimWidget", "Normal", Q_NULLPTR)
252          << QApplication::translate("KbAnimWidget", "Add", Q_NULLPTR)
253          << QApplication::translate("KbAnimWidget", "Subtract", Q_NULLPTR)
254          << QApplication::translate("KbAnimWidget", "Multiply", Q_NULLPTR)
255          << QApplication::translate("KbAnimWidget", "Divide", Q_NULLPTR)
256         );
257         label_6->setText(QApplication::translate("KbAnimWidget", "Blend mode:", Q_NULLPTR));
258         label_5->setText(QApplication::translate("KbAnimWidget", "Opacity:", Q_NULLPTR));
259         label_7->setText(QApplication::translate("KbAnimWidget", "Name:", Q_NULLPTR));
260         keyButton->setText(QApplication::translate("KbAnimWidget", "Set keys", Q_NULLPTR));
261         deleteButton->setText(QApplication::translate("KbAnimWidget", "Delete animation",
    Q_NULLPTR));
262         propertyButton->setText(QApplication::translate("KbAnimWidget", "Edit properties",
    Q_NULLPTR));
263         aMissingLabel->setText(QApplication::translate("KbAnimWidget", "Mising animation",
    Q_NULLPTR));
264     } // retranslateUi
```

Here is the caller graph for this function:



12.24.2.2 void Ui_KbAnimWidget::setupUi (QWidget * *KbAnimWidget*) [inline],[inherited]

Definition at line 69 of file ui_kbanimwidget.h.

References Ui_KbAnimWidget::aCopyLabel, Ui_KbAnimWidget::aMissingLabel, Ui_KbAnimWidget::aMissingPage, Ui_KbAnimWidget::aNameLabel, Ui_KbAnimWidget::animList, Ui_KbAnimWidget::animPage, Ui_KbAnimWidget::aVerLabel, Ui_KbAnimWidget::blendBox, Ui_KbAnimWidget::deleteButton, Ui_KbAnimWidget::gridLayout, Ui_KbAnimWidget::gridLayout_2, Ui_KbAnimWidget::gridLayout_3, Ui_KbAnimWidget::gridLayout_4, Ui_KbAnimWidget::horizontalLayout, Ui_KbAnimWidget::horizontalSpacer, Ui_KbAnimWidget::horizontalSpacer_2, Ui_KbAnimWidget::horizontalSpacer_3, Ui_KbAnimWidget::horizontalSpacer_4, Ui_KbAnimWidget::horizontalSpacer_5, Ui_KbAnimWidget::keyButton, Ui_KbAnimWidget::label_5, Ui_KbAnimWidget::label_6, Ui_KbAnimWidget::label_7, Ui_KbAnimWidget::nameBox, Ui_KbAnimWidget::noAnimLabel, Ui_KbAnimWidget::noSelPage, Ui_KbAnimWidget::opacityBox, Ui_KbAnimWidget::propertyButton, Ui_KbAnimWidget::retranslateUi(), Ui_KbAnimWidget::selectionStack, Ui_KbAnimWidget::verticalLayout, Ui_KbAnimWidget::verticalSpacer, Ui_KbAnimWidget::verticalSpacer_2, and Ui_KbAnimWidget::verticalSpacer_3.

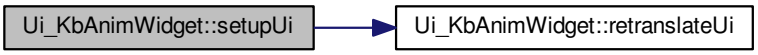
Referenced by KbAnimWidget::KbAnimWidget().

```
70     {
71         if (KbAnimWidget->objectName().isEmpty())
72             KbAnimWidget->setObjectName(QStringLiteral("KbAnimWidget"));
73         KbAnimWidget->resize(613, 300);
74         gridLayout = new QGridLayout(KbAnimWidget);
75         gridLayout->setObjectName(QStringLiteral("gridLayout"));
76         gridLayout->setContentsMargins(0, 0, 0, 0);
77         selectionStack = new QStackedWidget(KbAnimWidget);
78         selectionStack->setObjectName(QStringLiteral("selectionStack"));
79         noSelPage = new QWidget();
80         noSelPage->setObjectName(QStringLiteral("noSelPage"));
81         gridLayout_2 = new QGridLayout(noSelPage);
82         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
83         gridLayout_2->setContentsMargins(6, 6, 6, 6);
84         noAnimLabel = new QLabel(noSelPage);
```

```
85          noAnimLabel->setObjectName(QStringLiteral("noAnimLabel"));
86
87          gridLayout_2->addWidget(noAnimLabel, 0, 0, 1, 1);
88
89          verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
90
91          gridLayout_2->addItem(verticalSpacer, 1, 0, 1, 1);
92
93          selectionStack->addWidget(noSelPage);
94          animPage = new QWidget();
95          animPage->setObjectName(QStringLiteral("animPage"));
96          verticalLayout = new QVBoxLayout(animPage);
97          verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
98          verticalLayout->setContentsMargins(6, 0, 0, 0);
99          horizontalLayout = new QHBoxLayout();
100          horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
101          aNameLabel = new QLabel(animPage);
102          aNameLabel->setObjectName(QStringLiteral("aNameLabel"));
103          QFont font;
104          font.setBold(true);
105          font.setWeight(75);
106          aNameLabel->setFont(font);
107
108          horizontalLayout->addWidget(aNameLabel);
109
110          aVerLabel = new QLabel(animPage);
111          aVerLabel->setObjectName(QStringLiteral("aVerLabel"));
112
113          horizontalLayout->addWidget(aVerLabel);
114
115          horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
116
117          horizontalLayout->addItem(horizontalSpacer);
118
119          aCopyLabel = new QLabel(animPage);
120          aCopyLabel->setObjectName(QStringLiteral("aCopyLabel"));
121
122          horizontalLayout->addWidget(aCopyLabel);
123
124
125          verticalLayout->addLayout(horizontalLayout);
126
127          verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
128
129          verticalLayout->addItem(verticalSpacer_3);
130
131          gridLayout_3 = new QGridLayout();
132          gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
133          nameBox = new QLineEdit(animPage);
134          nameBox->setObjectName(QStringLiteral("nameBox"));
135          QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
136          sizePolicy.setHorizontalStretch(0);
137          sizePolicy.setVerticalStretch(0);
138          sizePolicy.setHeightForWidth(nameBox->sizePolicy().hasHeightForWidth());
139          nameBox->setSizePolicy(sizePolicy);
140          nameBox->setMinimumSize(QSize(150, 0));
141          nameBox->setMaximumSize(QSize(150, 16777215));
142
143          gridLayout_3->addWidget(nameBox, 0, 3, 1, 2);
144
145          opacityBox = new QDoubleSpinBox(animPage);
146          opacityBox->setObjectName(QStringLiteral("opacityBox"));
147          opacityBox->setDecimals(1);
148          opacityBox->setValue(100);
149
150          gridLayout_3->addWidget(opacityBox, 1, 3, 1, 1);
151
152          blendBox = new QComboBox(animPage);
153          blendBox->setObjectName(QStringLiteral("blendBox"));
154
155          gridLayout_3->addWidget(blendBox, 2, 3, 1, 2);
156
157          label_6 = new QLabel(animPage);
158          label_6->setObjectName(QStringLiteral("label_6"));
159
160          gridLayout_3->addWidget(label_6, 2, 1, 1, 1);
161
162          horizontalSpacer_4 = new QSpacerItem(0, 0, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
163
164          gridLayout_3->addItem(horizontalSpacer_4, 0, 0, 1, 1);
165
166          horizontalSpacer_2 = new QSpacerItem(30, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
```

```
167
168         gridLayout_3->addItem(horizontalSpacer_2, 0, 2, 1, 1);
169
170         label_5 = new QLabel(animPage);
171         label_5->setObjectName(QStringLiteral("label_5"));
172
173         gridLayout_3->addWidget(label_5, 1, 1, 1, 1);
174
175         horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
176
177         gridLayout_3->addItem(horizontalSpacer_3, 0, 5, 1, 1);
178
179         label_7 = new QLabel(animPage);
180         label_7->setObjectName(QStringLiteral("label_7"));
181
182         gridLayout_3->addWidget(label_7, 0, 1, 1, 1);
183
184         keyButton = new QPushButton(animPage);
185         keyButton->setObjectName(QStringLiteral("keyButton"));
186
187         gridLayout_3->addWidget(keyButton, 1, 6, 1, 1);
188
189         deleteButton = new QPushButton(animPage);
190         deleteButton->setObjectName(QStringLiteral("deleteButton"));
191
192         gridLayout_3->addWidget(deleteButton, 2, 6, 1, 1);
193
194         propertyButton = new QPushButton(animPage);
195         propertyButton->setObjectName(QStringLiteral("propertyButton"));
196
197         gridLayout_3->addWidget(propertyButton, 0, 6, 1, 1);
198
199         horizontalSpacer_5 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
200
201         gridLayout_3->addItem(horizontalSpacer_5, 1, 4, 1, 1);
202
203
204         verticalLayout->addLayout(gridLayout_3);
205
206         verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
207
208         verticalLayout->addItem(verticalSpacer_2);
209
210         selectionStack->addWidget(animPage);
211         aMissingPage = new QWidget();
212         aMissingPage->setObjectName(QStringLiteral("aMissingPage"));
213         gridLayout_4 = new QGridLayout(aMissingPage);
214         gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
215         aMissingLabel = new QLabel(aMissingPage);
216         aMissingLabel->setObjectName(QStringLiteral("aMissingLabel"));
217         aMissingLabel->setFont(font);
218
219         gridLayout_4->addWidget(aMissingLabel, 0, 0, 1, 1);
220
221         selectionStack->addWidget(aMissingPage);
222
223         gridLayout->addWidget(selectionStack, 0, 2, 2, 1);
224
225         animList = new RListWidget(KbAnimWidget);
226         animList->setObjectName(QStringLiteral("animList"));
227         animList->setMaximumSize(QSize(130, 16777215));
228         animList->setContextMenuPolicy(Qt::CustomContextMenu);
229         animList->setFrameShadow(QFrame::Plain);
230         animList->setDragDropMode(QAbstractItemView::InternalMove);
231         animList->setMovement(QListView::Snap);
232
233         gridLayout->addWidget(animList, 0, 0, 2, 1);
234
235
236         retranslateUi(KbAnimWidget);
237
238         QMetaObject::connectSlotsByName(KbAnimWidget);
239     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.24.3 Field Documentation

12.24.3.1 QLabel* Ui_KbAnimWidget::aCopyLabel [inherited]

Definition at line 47 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.2 QLabel* Ui_KbAnimWidget::aMissingLabel [inherited]

Definition at line 66 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.3 QWidget* Ui_KbAnimWidget::aMissingPage [inherited]

Definition at line 64 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.4 QLabel* Ui_KbAnimWidget::aNameLabel [inherited]

Definition at line 44 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.5 RListWidget* Ui_KbAnimWidget::animList [inherited]

Definition at line 67 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::addAnim(), KbAnimWidget::clearSelection(), KbAnimWidget::duplicateAnim(), KbAnimWidget::KbAnimWidget(), KbAnimWidget::on_animList_customContextMenuRequested(), KbAnimWidget::on_deleteButton_clicked(), KbAnimWidget::on_nameBox_textEdited(), KbAnimWidget::refreshList(), KbAnimWidget::reorderAnims(), and Ui_KbAnimWidget::setupUi().

12.24.3.6 QWidget* Ui_KbAnimWidget::animPage [inherited]

Definition at line 41 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.7 QLabel* Ui_KbAnimWidget::aVerLabel [inherited]

Definition at line 45 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.8 QComboBox* Ui_KbAnimWidget::blendBox [inherited]

Definition at line 52 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.9 QPushButton* Ui_KbAnimWidget::deleteButton [inherited]

Definition at line 60 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), and Ui_KbAnimWidget::setupUi().

12.24.3.10 QGridLayout* Ui_KbAnimWidget::gridLayout [inherited]

Definition at line 35 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.11 QGridLayout* Ui_KbAnimWidget::gridLayout_2 [inherited]

Definition at line 38 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.12 QGridLayout* Ui_KbAnimWidget::gridLayout_3 [inherited]

Definition at line 49 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.13 QGridLayout* Ui_KbAnimWidget::gridLayout_4 [inherited]

Definition at line 65 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.14 QHBoxLayout* Ui_KbAnimWidget::horizontalLayout [inherited]

Definition at line 43 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.15 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer [inherited]

Definition at line 46 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.16 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_2 [inherited]

Definition at line 55 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.17 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_3 [inherited]

Definition at line 57 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.18 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_4 [inherited]

Definition at line 54 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.19 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_5 [inherited]

Definition at line 62 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.20 QPushButton* Ui_KbAnimWidget::keyButton [inherited]

Definition at line 59 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), KbAnimWidget::setSelectedKeys(), and Ui_KbAnimWidget::setupUi().

12.24.3.21 QLabel* Ui_KbAnimWidget::label_5 [inherited]

Definition at line 56 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), and Ui_KbAnimWidget::setupUi().

12.24.3.22 QLabel* Ui_KbAnimWidget::label_6 [inherited]

Definition at line 53 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), and Ui_KbAnimWidget::setupUi().

12.24.3.23 QLabel* Ui_KbAnimWidget::label_7 [inherited]

Definition at line 58 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), and Ui_KbAnimWidget::setupUi().

12.24.3.24 QLineEdit* Ui_KbAnimWidget::nameBox [inherited]

Definition at line 50 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::on_animList_itemChanged(), KbAnimWidget::on_propertyButton_clicked(), KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.25 QLabel* Ui_KbAnimWidget::noAnimLabel [inherited]

Definition at line 39 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::addAnim(), KbAnimWidget::duplicateAnim(), KbAnimWidget::on_deleteButton_clicked(), KbAnimWidget::refreshList(), Ui_KbAnimWidget::retranslateUi(), and Ui_KbAnimWidget::setupUi().

12.24.3.26 QWidget* Ui_KbAnimWidget::noSelPage [inherited]

Definition at line 37 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.27 QDoubleSpinBox* Ui_KbAnimWidget::opacityBox [inherited]

Definition at line 51 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.28 QPushButton* Ui_KbAnimWidget::propertyButton [inherited]

Definition at line 61 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::retranslateUi(), and Ui_KbAnimWidget::setupUi().

12.24.3.29 QStackedWidget* Ui_KbAnimWidget::selectionStack [inherited]

Definition at line 36 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::setCurrent(), and Ui_KbAnimWidget::setupUi().

12.24.3.30 QVBoxLayout* Ui_KbAnimWidget::verticalLayout [inherited]

Definition at line 42 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.31 QSpacerItem* Ui_KbAnimWidget::verticalSpacer [inherited]

Definition at line 40 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.32 QSpacerItem* Ui_KbAnimWidget::verticalSpacer_2 [inherited]

Definition at line 63 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

12.24.3.33 QSpacerItem* Ui_KbAnimWidget::verticalSpacer_3 [inherited]

Definition at line 48 of file ui_kbanimwidget.h.

Referenced by Ui_KbAnimWidget::setupUi().

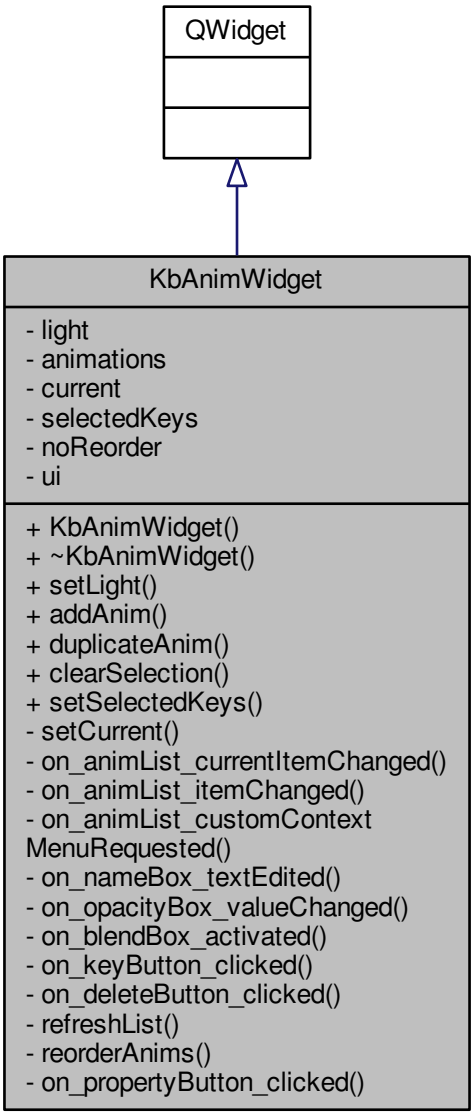
The documentation for this class was generated from the following file:

- src/ckb/ui_kbanimwidget.h

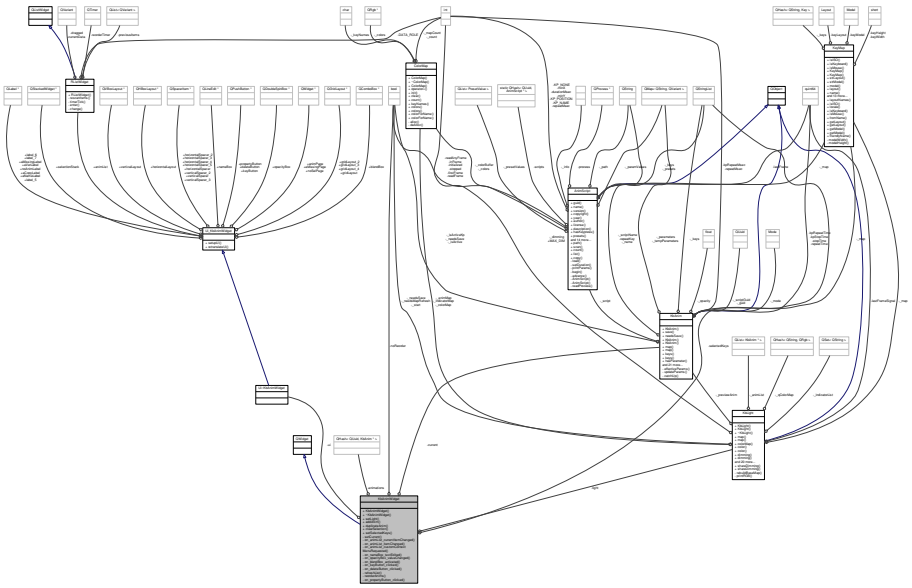
12.25 KbAnimWidget Class Reference

`#include <src/ckb/kbanimwidget.h>`

Inheritance diagram for KbAnimWidget:



Collaboration diagram for KbAnimWidget:



Signals

- void animChanged (KbAnim ∗selection)
- void didUpdateSelection (QStringList keys)

Public Member Functions

- KbAnimWidget (QWidget ∗parent=0)
- ∼KbAnimWidget ()
- void setLight (KbLight ∗newLight)
- void addAnim (const AnimScript ∗base, const QStringList &keyList, const QString &name, const QMap< QString, QVariant > &preset)
- void duplicateAnim (KbAnim ∗old)
- void clearSelection ()
- void setSelectedKeys (const QStringList &keys)

Private Slots

- void on_animList_currentItemChanged (QListWidgetItem ∗current, QListWidgetItem ∗previous)
- void on_animList_itemChanged (QListWidgetItem ∗item)
- void on_animList_customContextMenuRequested (const QPoint &pos)
- void on_nameBox_textEdited (const QString &arg1)
- void on_opacityBox_valueChanged (double arg1)
- void on_blendBox_activated (int index)
- void on_keyButton_clicked ()
- void on_deleteButton_clicked ()
- void refreshList ()
- void reorderAnims ()
- void on_propertyButton_clicked ()

Private Member Functions

- void setCurrent (KbAnim *newCurrent)

Private Attributes

- KbLight * light
- QHash< QUuid, KbAnim * > animations
- KbAnim * current
- QStringList selectedKeys
- bool noReorder
- Ui::KbAnimWidget * ui

12.25.1 Detailed Description

Definition at line 15 of file kbanimwidget.h.

12.25.2 Constructor & Destructor Documentation

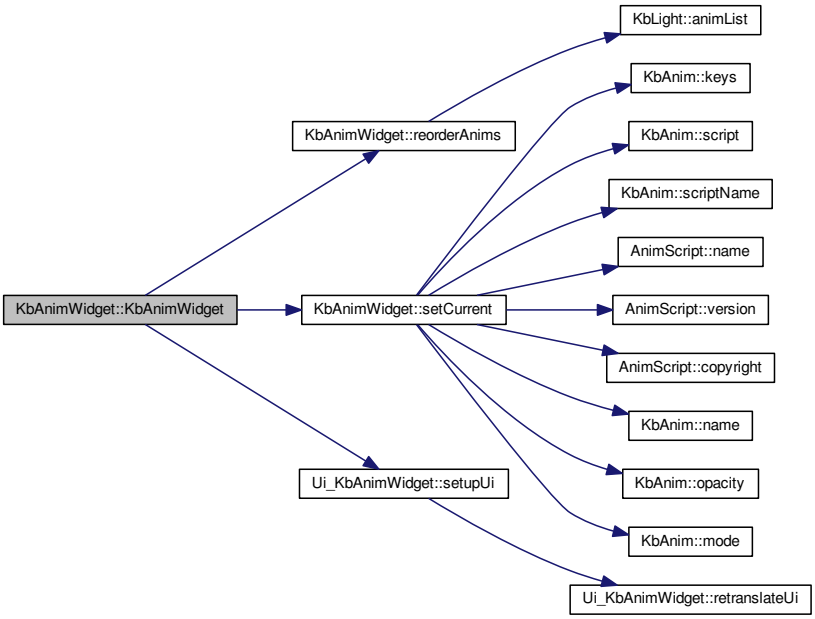
12.25.2.1 KbAnimWidget::KbAnimWidget (QWidget * *parent* = 0) [explicit]

Definition at line 7 of file kbanimwidget.cpp.

References Ui_KbAnimWidget::animList, reorderAnims(), setCurrent(), Ui_KbAnimWidget::setupUi(), and ui.

```
7                                          :
8     QWidget(parent), light(0), current(0), noReorder(false),
9     ui(new Ui::KbAnimWidget)
10 {
11     ui->setupUi(this);
12     ui->animList->setVisible(false);
13     setCurrent(0);
14     connect(ui->animList, SIGNAL(orderChanged()), this, SLOT(
      reorderAnims()));
15 }
```

Here is the call graph for this function:



12.25.2.2 KbAnimWidget::~KbAnimWidget ( )

Definition at line 17 of file kbanimwidget.cpp.

References ui.

```
17                              {
18     delete ui;
19 }
```

12.25.3 Member Function Documentation

12.25.3.1 void KbAnimWidget::addAnim (const AnimScript * *base*, const QStringList & *keyList*, const QString & *name*, const QMap< QString, QVariant > & *preset*)

Definition at line 82 of file kbanimwidget.cpp.

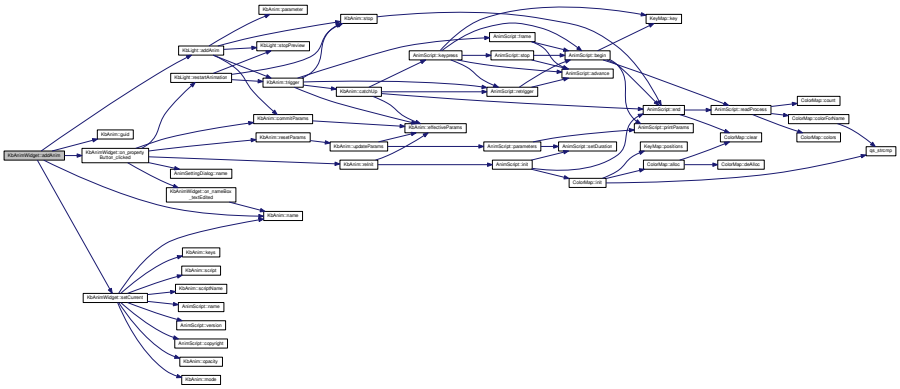
References KbLight::addAnim(), animations, Ui_KbAnimWidget::animList, KbAnim::guid(), light, KbAnim::name(), Ui_KbAnimWidget::noAnimLabel, noReorder, on_propertyButton_clicked(), setCurrent(), and ui.

Referenced by KbLightWidget::on_animButton_clicked().

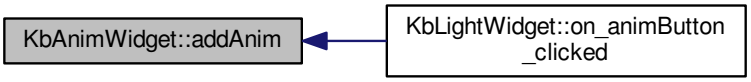
```
82
                                    {
83     if(!light)
84         return;
85     noReorder = true;
86     KbAnim* animation = light->addAnim(base, keyList, name, preset);
87     QListWidgetItem* item = new QListWidgetItem(animation->name(), ui->
       animList);
88     item->setData(Qt::UserRole, animation->guid());
89     item->setFlags(item->flags() | Qt::ItemIsEditable);
90     animations[animation->guid()] = animation;
91     ui->animList->addItem(item);
92     ui->animList->setCurrentItem(item);
```

```
93      ui->animList->setVisible(true);
94      ui->noAnimLabel->setVisible(false);
95
96      setCurrent(animation);
97      noReorder = false;
98
99      // Activate settings dialog
100      on_propertyButton_clicked();
101 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



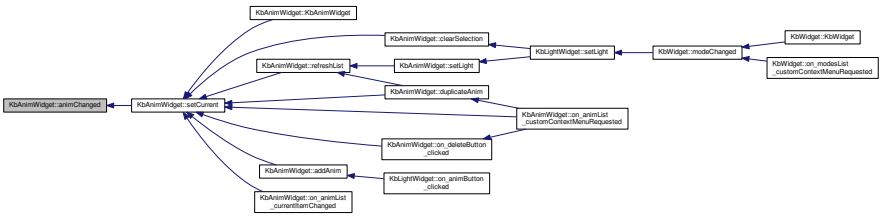
12.25.3.2 void KbAnimWidget::animChanged (KbAnim * *selection*) [signal]

Definition at line 213 of file moc_kbanimwidget.cpp.

Referenced by setCurrent().

```
214 {
215     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
216     QMetaObject::activate(this, &staticMetaObject, 0, _a);
217 }
```

Here is the caller graph for this function:



12.25.3.3 void KbAnimWidget::clearSelection ( )

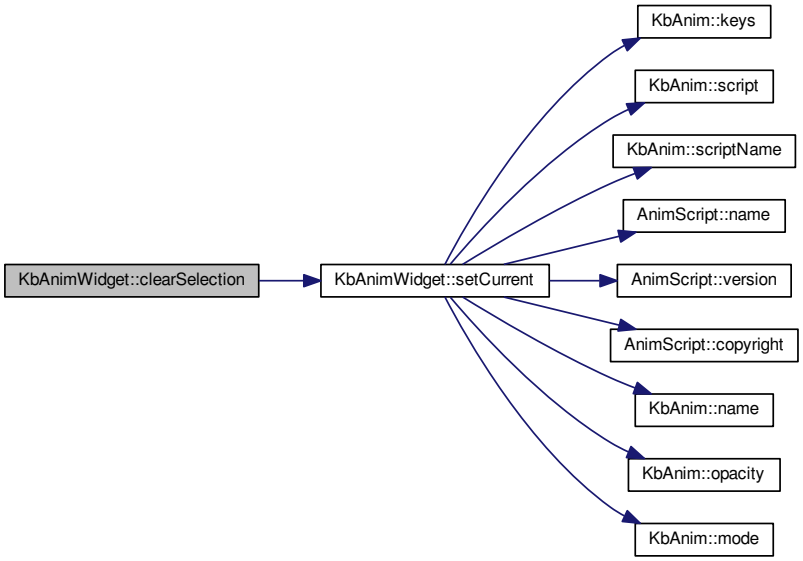
Definition at line 77 of file kbanimwidget.cpp.

References Ui_KbAnimWidget::animList, setCurrent(), and ui.

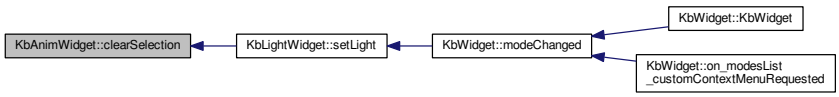
Referenced by KbLightWidget::setLight().

```
77                                  {
78     ui->animList->setCurrentItem(0);
79     setCurrent(0);
80 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



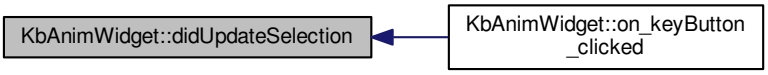
12.25.3.4 void KbAnimWidget::didUpdateSelection (QStringList *keys*) [signal]

Definition at line 220 of file moc_kbanimwidget.cpp.

Referenced by on_keyButton_clicked().

```
221 {
222     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
223     QMetaObject::activate(this, &staticMetaObject, 1, _a);
224 }
```

Here is the caller graph for this function:



12.25.3.5 void KbAnimWidget::duplicateAnim (KbAnim * *old*)

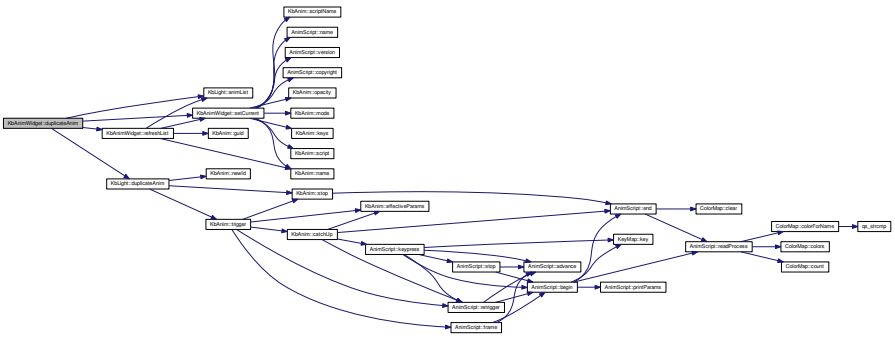
Definition at line 103 of file kbanimwidget.cpp.

References KbLight::animList(), Ui_KbAnimWidget::animList, KbLight::duplicateAnim(), light, Ui_KbAnimWidget::noAnimLabel, noReorder, refreshList(), setCurrent(), and ui.

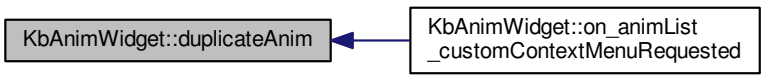
Referenced by on_animList_customContextMenuRequested().

```
103                                          {
104     if(!light)
105         return;
106     noReorder = true;
107     KbAnim* animation = light->duplicateAnim(old);
108     // Refresh the list. insertItem doesn't seem to place the item in the correct position on its own...
109     refreshList();
110     ui->animList->setCurrentRow(light->animList().indexOf(animation));
111     ui->animList->setVisible(true);
112     ui->noAnimLabel->setVisible(false);
113 
114     setCurrent(animation);
115     noReorder = false;
116 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



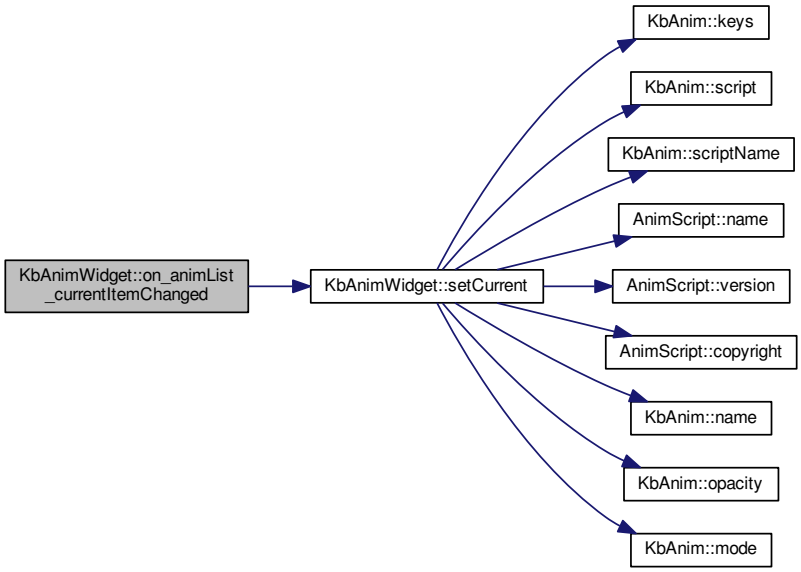
12.25.3.6 void KbAnimWidget::on_animList_currentItemChanged (QListWidgetItem * *current*, QListWidgetItem * *previous*) [private], [slot]

Definition at line 151 of file kbanimwidget.cpp.

References animations, and setCurrent().

```
151                                                                                                  {
152     if(!current)
153         setCurrent(0);
154     else
155         setCurrent(animations[current->data(Qt::UserRole).toUuid()]);
156 }
```

Here is the call graph for this function:



12.25.3.7 void KbAnimWidget::on_animList_customContextMenuRequested (const QPoint & *pos*) [private], [slot]

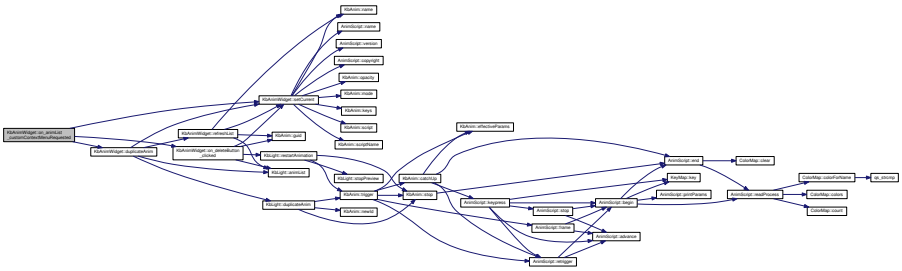
Definition at line 169 of file kbanimwidget.cpp.

References animations, Ui_KbAnimWidget::animList, current, duplicateAnim(), on_deleteButton_clicked(), setCurrent(), and ui.

```
169                                                                                                  {
170     QListWidgetItem* item = ui->animList->itemAt(pos);
171     if(!item)
172         return;
173     setCurrent(animations[item->data(Qt::UserRole).toUuid()]);
174
175     QMenu menu(this);
176     QAction* rename = new QAction("Rename...", this);
177     QAction* duplicate = new QAction("Duplicate", this);
178     QAction* del = new QAction("Delete", this);
179     menu.addAction(rename);
180     menu.addAction(duplicate);
181     menu.addAction(del);
182     QAction* result = menu.exec(QCursor::pos());
183     if(result == rename)
184         ui->animList->editItem(item);
```

```
185     else if(result == duplicate)
186         duplicateAnim(current);
187     else if(result == del)
188         on_deleteButton_clicked();
189 }
```

Here is the call graph for this function:



12.25.3.8 void KbAnimWidget::on_animList_itemChanged (QListWidgetItem * *item*) [private],[slot]

Definition at line 158 of file kbanimwidget.cpp.

References anim, animations, current, KbAnim::name(), Ui_KbAnimWidget::nameBox, noReorder, and ui.

```
158                                                                 {
159     if(item){
160         KbAnim* anim = animations[item->data(Qt::UserRole).toUuid()];
161         if(anim){
162             anim->name(item->text().trimmed());
163             if(anim == current && !noReorder)
164                 ui->nameBox->setText(anim->name());
165         }
166     }
167 }
```

Here is the call graph for this function:

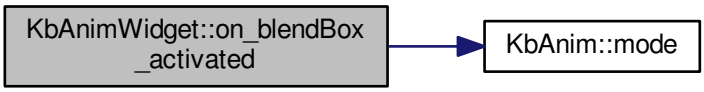
12.25.3.9 void KbAnimWidget::on_blendBox_activated (int *index*) [private],[slot]

Definition at line 205 of file kbanimwidget.cpp.

References current, and KbAnim::mode().

```
205                                                 {
206     if(current)
207         current->mode((KbAnim::Mode)index);
208 }
```

Here is the call graph for this function:



12.25.3.10 void KbAnimWidget::on_deleteButton_clicked ( ) [private], [slot]

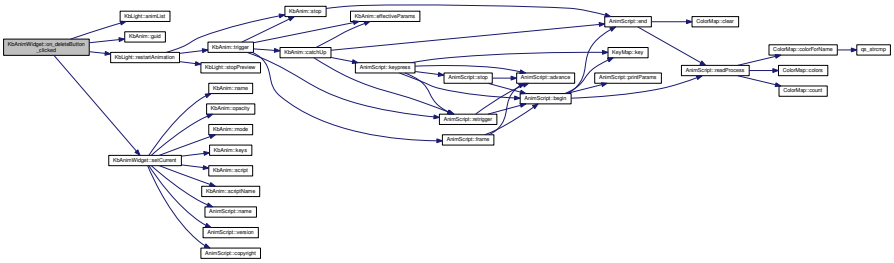
Definition at line 226 of file kbanimwidget.cpp.

References animations, KbLight::animList(), Ui_KbAnimWidget::animList, current, KbAnim::guid(), light, Ui_KbAnimWidget::noAnimLabel, KbLight::restartAnimation(), setCurrent(), and ui.

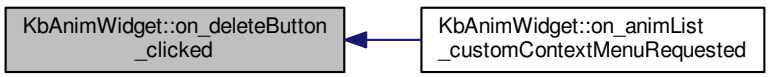
Referenced by on_animList_customContextMenuRequested().

```
226                                          {
227     if(current){
228         animations.remove(current->guid());
229         QList<KbAnim*> animList = light->animList();
230         animList.removeAll(current);
231         light->animList(animList);
232         current->deleteLater();
233         setCurrent(0);
234         delete ui->animList->currentItem();
235         if(animations.count() == 0){
236             ui->animList->setVisible(false);
237             ui->noAnimLabel->setVisible(true);
238         }
239     }
240     light->restartAnimation();
241 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



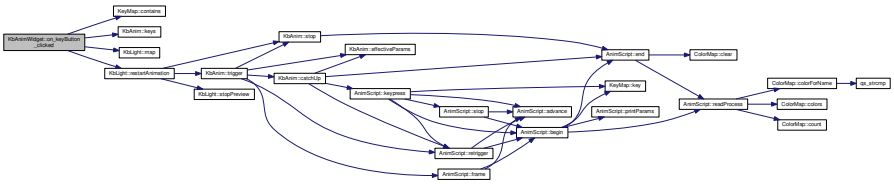
12.25.3.11 void KbAnimWidget::on_keyButton_clicked ( ) [private], [slot]

Definition at line 210 of file kbanimwidget.cpp.

References KeyMap::contains(), current, didUpdateSelection(), KbAnim::keys(), light, KbLight::map(), KbLight::restartAnimation(), and selectedKeys.

```
210                                         {
211     if(current){
212         QStringList keys = selectedKeys;
213         // If any keys were selected previously that aren't in the keymap now, leave them in
214         // This is important for layout compatibility - e.g. being able to select both bslash_iso and
        bslash, because no single layout contains both
215         const KeyMap& map = light->map();
216         foreach(const QString& key, current->keys()){
217             if(!map.contains(key))
218                 keys << key;
219         }
220         current->keys(keys);
221         emit didUpdateSelection(selectedKeys);
222     }
223     light->restartAnimation();
224 }
```

Here is the call graph for this function:



12.25.3.12 void KbAnimWidget::on_nameBox_textEdited (const QString & *arg1*) [private], [slot]

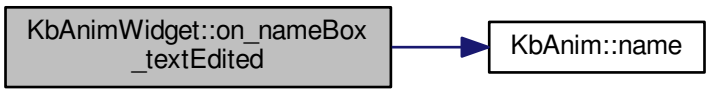
Definition at line 191 of file kbanimwidget.cpp.

References Ui_KbAnimWidget::animList, current, KbAnim::name(), noReorder, and ui.

Referenced by on_propertyButton_clicked().

```
191                                                     {
192     if(current){
193         noReorder = true;
194         current->name(arg1.trimmed());
195         ui->animList->currentItem()->setText(current->name());
196         noReorder = false;
197     }
198 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

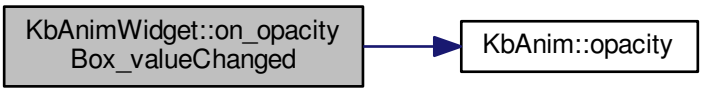
12.25.3.13 void KbAnimWidget::on_opacityBox_valueChanged (double *arg1*) [private], [slot]

Definition at line 200 of file kbanimwidget.cpp.

References current, and KbAnim::opacity().

```
200                                                     {
201     if(current)
202         current->opacity(arg1 / 100.);
203 }
```

Here is the call graph for this function:



12.25.3.14 void KbAnimWidget::on_propertyButton_clicked ( ) [private], [slot]

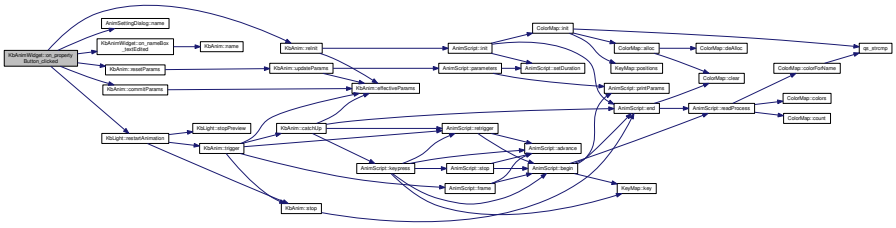
Definition at line 243 of file kbanimwidget.cpp.

References KbAnim::commitParams(), current, light, AnimSettingDialog::name(), Ui_KbAnimWidget::nameBox, on_nameBox_textEdited(), KbAnim::reInit(), KbAnim::resetParams(), KbLight::restartAnimation(), and ui.

Referenced by addAnim().

```
243                                         {
244     if(!current)
245         return;
246     // Present animation property popup
247     AnimSettingDialog dialog(this, current);
248     dialog.exec();
249     if(dialog.result() != QDialog::Accepted){
250         current->resetParams();
251         return;
252     }
253     // Apply settings and restart all animations
254     current->commitParams();
255     current->reInit();
256     light->restartAnimation();
257     // Update name
258     ui->nameBox->setText(dialog.name());
259     on_nameBox_textEdited(dialog.name());
260 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.25.3.15 void KbAnimWidget::refreshList ( ) [private], [slot]

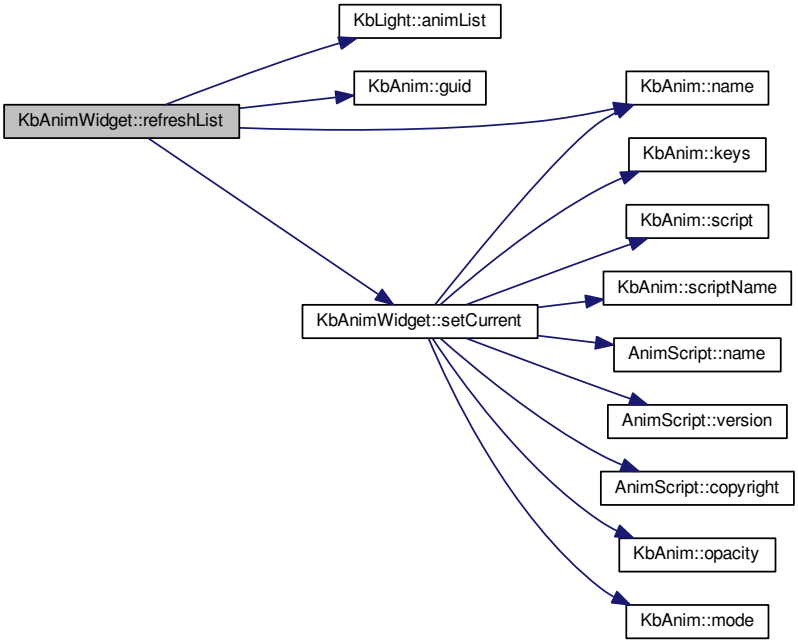
Definition at line 32 of file kbanimwidget.cpp.

References anim, animations, KbLight::animList(), Ui_KbAnimWidget::animList, KbAnim::guid(), light, KbAnim::name(), Ui_KbAnimWidget::noAnimLabel, noReorder, setCurrent(), and ui.

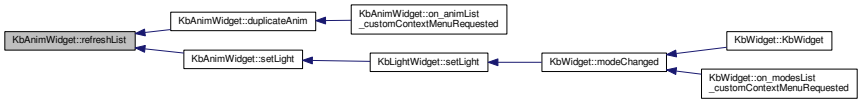
Referenced by duplicateAnim(), and setLight().

```
32                                {
33     noReorder = true;
34     setCurrent(0);
35     ui->animList->clear();
36     animations.clear();
37     // Add the animations from the new lighting mode
38     if(!light){
39         ui->animList->setVisible(false);
40         ui->noAnimLabel->setVisible(true);
41         return;
42     }
43     QList<KbAnim*> newAnimations = light->animList();
44     if(newAnimations.count() == 0){
45         ui->animList->setVisible(false);
46         ui->noAnimLabel->setVisible(true);
47         return;
48     }
49     ui->animList->setVisible(true);
50     foreach(KbAnim* anim, newAnimations){
51         QListWidgetItem* item = new QListWidgetItem(anim->name(), ui->
       animList);
52         item->setData(Qt::UserRole, anim->guid());
53         item->setFlags(item->flags() | Qt::ItemIsEditable);
54         animations[anim->guid()] = anim;
55         ui->animList->addItem(item);
56     }
57     ui->noAnimLabel->setVisible(false);
58     noReorder = false;
59 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.25.3.16 void KbAnimWidget::reorderAnims ( ) [private], [slot]

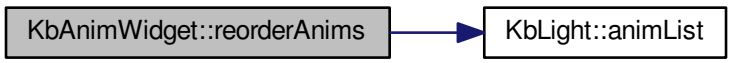
Definition at line 61 of file kbanimwidget.cpp.

References anim, animations, KbLight::animList(), Ui_KbAnimWidget::animList, light, noReorder, and ui.

Referenced by KbAnimWidget().

```
61                                {
62     if(light && !noReorder){
63         // Clear and rebuild the list of animations in case the animation moved
64         int count = ui->animList->count();
65         QList<KbAnim*> animList;
66         for(int i = 0; i < count; i++){
67             QListWidgetItem* item = ui->animList->item(i);
68             KbAnim* anim = animations[item->data(Qt::UserRole).toUuid()];
69             if(anim && !animList.contains(anim))
70                 animList.append(anim);
71             item->setFlags(item->flags() | Qt::ItemIsEditable);
72         }
73         light->animList(animList);
74     }
75 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.25.3.17 void KbAnimWidget::setCurrent (KbAnim * *newCurrent*) [private]

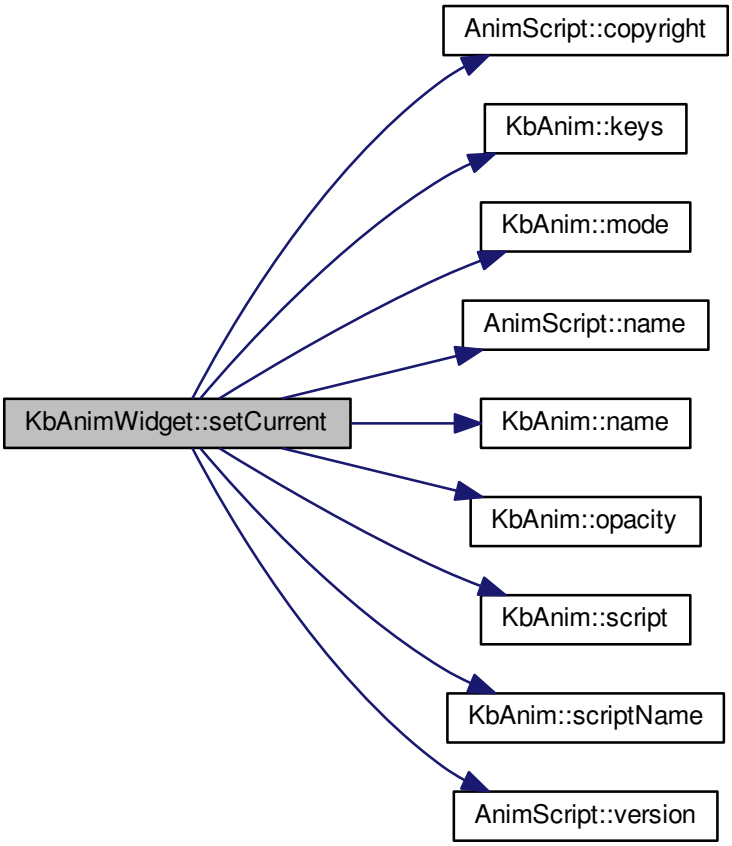
Definition at line 118 of file kbanimwidget.cpp.

References Ui_KbAnimWidget::aCopyLabel, Ui_KbAnimWidget::aMissingLabel, Ui_KbAnimWidget::aNameLabel, animChanged(), Ui_KbAnimWidget::aVerLabel, Ui_KbAnimWidget::blendBox, AnimScript::copyright(), current, KbAnim::keys(), KbAnim::mode(), AnimScript::name(), KbAnim::name(), Ui_KbAnimWidget::nameBox, KbAnim::opacity(), Ui_KbAnimWidget::opacityBox, KbAnim::script(), KbAnim::scriptName(), selectedKeys, Ui_KbAnimWidget::selectionStack, ui, and AnimScript::version().

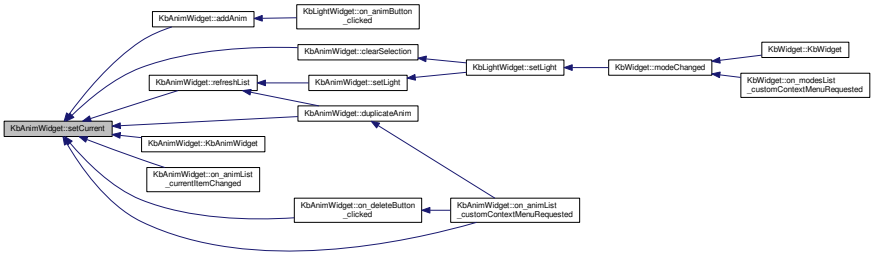
Referenced by addAnim(), clearSelection(), duplicateAnim(), KbAnimWidget(), on_animList_currentItemChanged(), on_animList_customContextMenuRequested(), on_deleteButton_clicked(), and refreshList().

```
118                                                 {
119     if(newCurrent != current)
120         emit animChanged(current = newCurrent);
121     if(!current){
122         selectedKeys.clear();
123         ui->selectionStack->setCurrentIndex(0);
124         return;
125     }
126     selectedKeys = current->keys();
127     const AnimScript* script = current->script();
128     if(!script){
129         ui->selectionStack->setCurrentIndex(2);
130         ui->aMissingLabel->setText("The \"" + current->
      scriptName() + "\" script could not be loaded. Please check your animation directory.");
131         return;
132     }
133     ui->selectionStack->setCurrentIndex(1);
134     ui->aNameLabel->setText(script->name());
135     ui->aVerLabel->setText("v" + script->version());
136     ui->aCopyLabel->setText(script->copyright());
137
138     ui->nameBox->setText(current->name());
139     ui->opacityBox->setValue(current->opacity() * 100.);
140     ui->blendBox->setCurrentIndex((int)current->mode());
141 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.25.3.18 void KbAnimWidget::setLight (KbLight * *newLight*)

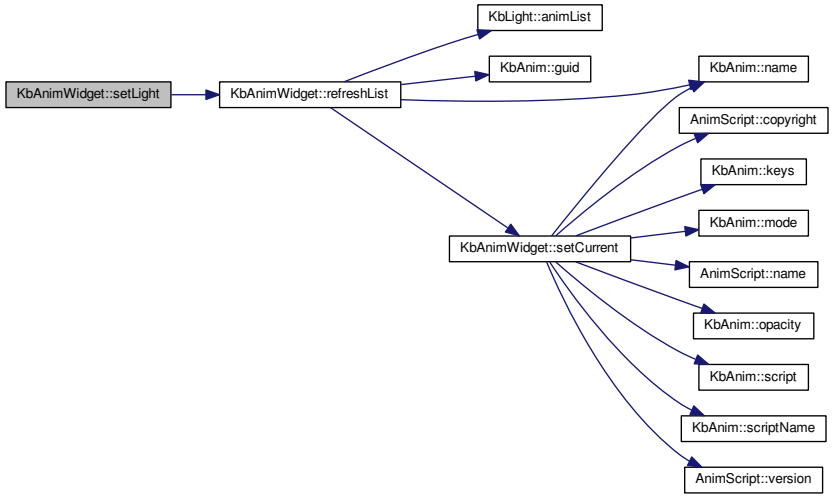
Definition at line 21 of file kbanimwidget.cpp.

References light, and refreshList().

Referenced by KbLightWidget::setLight().

```
21                                          {
22     if(light != newLight){
23         if(light)
24             disconnect(light, SIGNAL(didLoad()), this, SLOT(refreshList()));
25         if(newLight)
26             connect(newLight, SIGNAL(didLoad()), this, SLOT(refreshList()));
27         light = newLight;
28     }
29     refreshList();
30 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.25.3.19 void KbAnimWidget::setSelectedKeys (const QStringList & *keys*)

Definition at line 143 of file kbanimwidget.cpp.

References Ui_KbAnimWidget::keyButton, selectedKeys, and ui.

Referenced by KbLightWidget::newSelection().

```
143                                                     {
144     selectedKeys = keys;
145     if(keys.count() == 0)
146         ui->keyButton->setVisible(false);
147     else
148         ui->keyButton->setVisible(true);
149 }
```

Here is the caller graph for this function:

12.25.4 Field Documentation

12.25.4.1 QHash<QUuid, KbAnim*> KbAnimWidget::animations [private]

Definition at line 53 of file kbanimwidget.h.

Referenced by addAnim(), on_animList_currentItemChanged(), on_animList_customContextMenuRequested(), on_animList_itemChanged(), on_deleteButton_clicked(), refreshList(), and reorderAnims().

12.25.4.2 KbAnim* KbAnimWidget::current [private]

Definition at line 55 of file kbanimwidget.h.

Referenced by on_animList_customContextMenuRequested(), on_animList_itemChanged(), on_blendBox_activated(), on_deleteButton_clicked(), on_keyButton_clicked(), on_nameBox_textEdited(), on_opacityBox_valueChanged(), on_propertyButton_clicked(), and setCurrent().

12.25.4.3 KbLight* KbAnimWidget::light [private]

Definition at line 52 of file kbanimwidget.h.

Referenced by addAnim(), duplicateAnim(), on_deleteButton_clicked(), on_keyButton_clicked(), on_propertyButton_clicked(), refreshList(), reorderAnims(), and setLight().

12.25.4.4 bool KbAnimWidget::noReorder [private]

Definition at line 58 of file kbanimwidget.h.

Referenced by addAnim(), duplicateAnim(), on_animList_itemChanged(), on_nameBox_textEdited(), refreshList(), and reorderAnims().

12.25.4.5 QStringList KbAnimWidget::selectedKeys [private]

Definition at line 57 of file kbanimwidget.h.

Referenced by on_keyButton_clicked(), setCurrent(), and setSelectedKeys().

12.25.4.6 Ui::KbAnimWidget* KbAnimWidget::ui [private]

Definition at line 60 of file kbanimwidget.h.

Referenced by addAnim(), clearSelection(), duplicateAnim(), KbAnimWidget(), on_animList_customContextMenuRequested(), on_animList_itemChanged(), on_deleteButton_clicked(), on_nameBox_textEdited(), on_propertyButton_clicked(), refreshList(), reorderAnims(), setCurrent(), setSelectedKeys(), and ~KbAnimWidget().

The documentation for this class was generated from the following files:

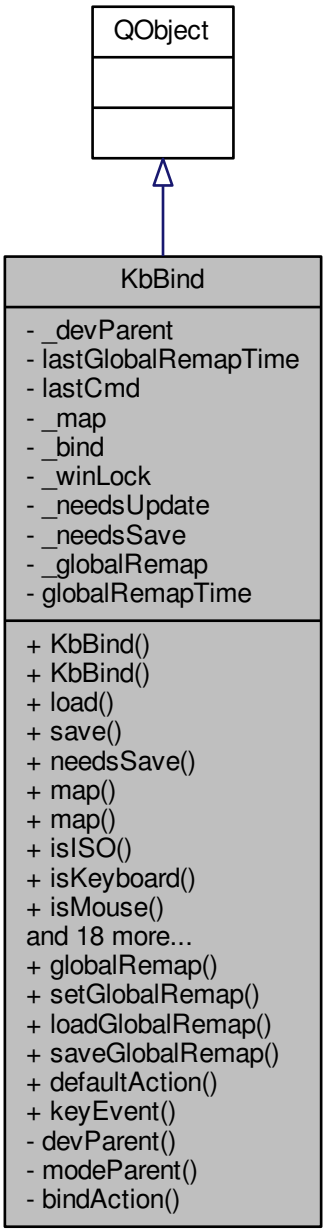
- src/ckb/kbanimwidget.h

- src/ckb/kbanimwidget.cpp
- src/ckb/release/moc_kbanimwidget.cpp

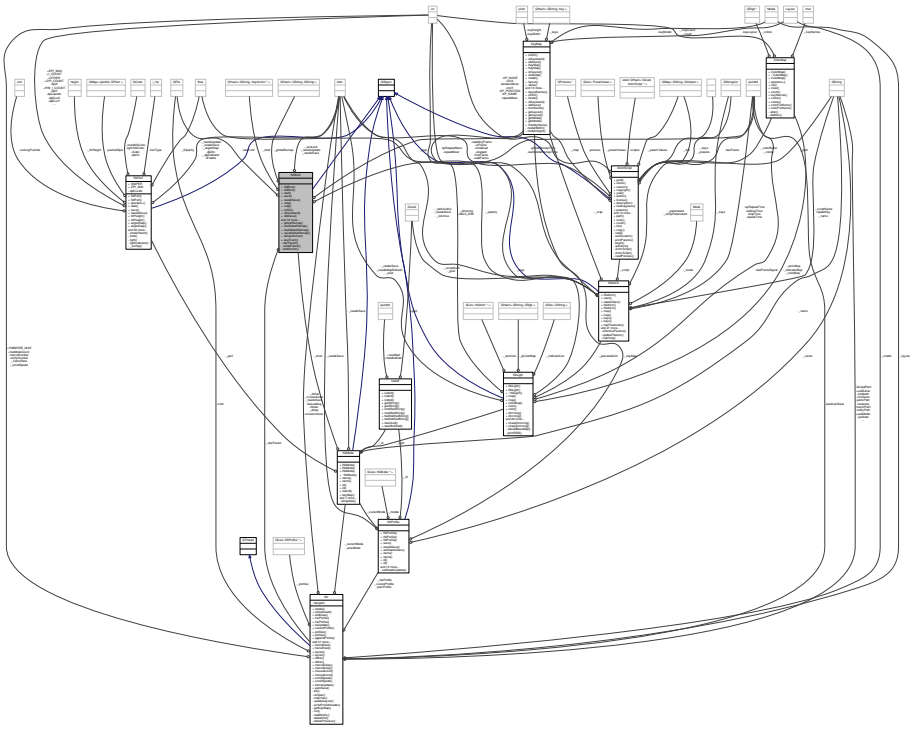
12.26 KbBind Class Reference

`#include <src/ckb/kbbind.h>`

Inheritance diagram for KbBind:



Collaboration diagram for KbBind:



Public Slots

- void keyEvent (const QString &key, bool down)

Signals

- void didLoad ()
- void layoutChanged ()
- void updated ()

Public Member Functions

- KbBind (KbMode *modeParent, Kb *devParent, const KeyMap &keyMap)
- KbBind (KbMode *modeParent, Kb *devParent, const KeyMap &keyMap, const KbBind &other)

  KbBind.
- void load (CkbSettings &settings)
- void save (CkbSettings &settings)
- bool needsSave () const
- const KeyMap & map ()
- void map (const KeyMap &map)
- bool isISO () const
- bool isKeyboard () const
- bool isMouse () const
- KbPerf * perf ()
- KbLight * light ()
- QString action (const QString &key)
- QString friendlyName (const QString &key)

- QString friendlyActionName (const QString &key)
- void setAction (const QString &key, const QString &action)
- void setAction (const QStringList &keys, const QString &action)
- void resetAction (const QString &key)
- void resetAction (const QStringList &keys)
- void noAction (const QString &key)
- void noAction (const QStringList &keys)
- bool winLock ()
- void winLock (bool newWinLock)
- void update (QFile &cmd, bool force=false)
- void setNeedsUpdate ()
- int getMacroNumber ()

  KbBind::getMacroNumber.
- QString getMacroPath ()

  KbBind::getMacroPath.
- void handleNotificationChannel (bool start)

  handleNotificationChannel sends commands to ckb-daemon for (de-) activating the notify channel. Send a notify cmd to the keyboard to set or clear notification for reading macro definition. The file handle for the cmd pipe is stored in lastCmd.

Static Public Member Functions

- static QString globalRemap (const QString &key)
- static void setGlobalRemap (const QHash< QString, QString > keyToActual)
- static void loadGlobalRemap ()
- static void saveGlobalRemap ()
- static QString defaultAction (const QString &key)

Private Member Functions

- Kb * devParent () const
- KbMode * modeParent () const
- KeyAction * bindAction (const QString &key)

Private Attributes

- Kb * _devParent
- quint64 lastGlobalRemapTime
- QFile * lastCmd

  lastCmd is a cache-hack. Because the QFile ist opened in Kb, and we need it in the macro processing functions, we cache the value her in lastCmd.
- KeyMap _map
- QHash< QString, KeyAction * > _bind
- bool _winLock
- bool _needsUpdate
- bool _needsSave

Static Private Attributes

- static QHash< QString, QString > _globalRemap
- static quint64 globalRemapTime = 0

Friends

- class KeyAction

12.26.1 Detailed Description

Definition at line 20 of file kbbind.h.

12.26.2 Constructor & Destructor Documentation

12.26.2.1 KbBind::KbBind (KbMode * *modeParent*, Kb * *devParent*, const KeyMap & *keyMap*) [explicit]

Definition at line 12 of file kbbind.cpp.

```
12                                                                          :
13     QObject(modeParent), _devParent(parentBoard),
       lastGlobalRemapTime(globalRemapTime), _map(keyMap),
14     _winLock(false), _needsUpdate(true), _needsSave(true) {
15 }
```

12.26.2.2 KbBind::KbBind (KbMode * *modeParent*, Kb * *parentBoard*, const KeyMap & *keyMap*, const KbBind & *other*)

KbBind::KbBind // copy all existing Key bindings.

Parameters

modeParent	
devParent	
keyMap	
other	This is the KbBind object to copy from Use this constructor to copy an existing Binding
modeParent	
parentBoard	
keyMap	
other	

Create a new Hash table and copy all entries

clear the destination list (there are the original KeyActions as references, so do not delete them)

and move the KeyActions we just created

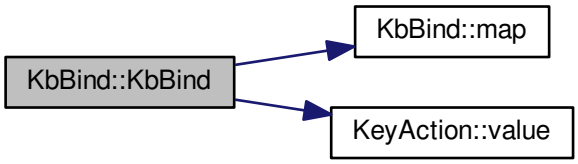
Definition at line 24 of file kbbind.cpp.

References _bind, KeyAction, map(), and KeyAction::value().

```
24                                                                                  :
25     QObject(modeParent), _devParent(parentBoard),
       lastGlobalRemapTime(globalRemapTime), _bind(other.
       _bind),
26     _winLock(false), _needsUpdate(true), _needsSave(true) {
27     map(keyMap);
28
30     QHash<QString, KeyAction*> newBind;
31     foreach(QString key, _bind.keys()) {
32         KeyAction* act = _bind.value(key);
33         if(act) {
34             newBind[key] = new KeyAction(act->value(), this);
35         }
36     }
37
39     _bind.clear();
40     foreach(QString key, newBind.keys()) {
41         KeyAction* act = newBind.value(key);
42         if(act) {
44             _bind[key] = new KeyAction(act->value(), this);
45         }
46     }
```

```
47      newBind.clear();        // here we *must not* delete the KeyActions, because they are referenced by _bind
        now
48 }
```

Here is the call graph for this function:



12.26.3 Member Function Documentation

12.26.3.1 QString KbBind::action (const QString & *key*)

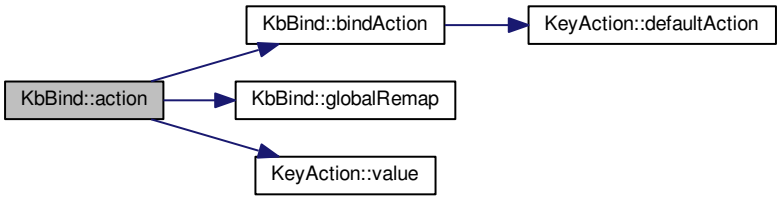
Definition at line 140 of file kbbind.cpp.

References bindAction(), globalRemap(), and KeyAction::value().

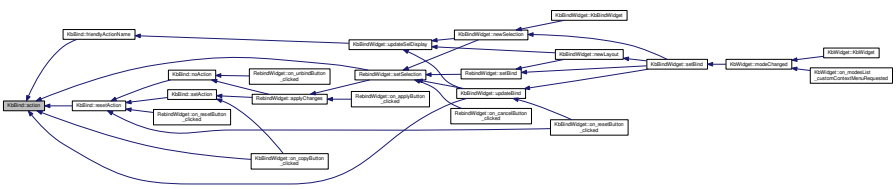
Referenced by friendlyActionName(), KbBindWidget::on_copyButton_clicked(), resetAction(), RebindWidget::setSelection(), and KbBindWidget::updateBind().

```
140                                             {
141     QString rKey = globalRemap(key);
142     return bindAction(rKey)->value();
143 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.26.3.2 KeyAction* KbBind::bindAction (const QString & *key*) [inline], [private]

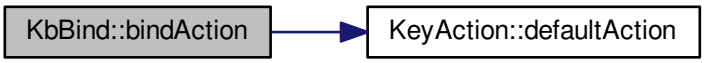
Definition at line 117 of file kbbind.h.

References _bind, KeyAction::defaultAction(), and KeyAction.

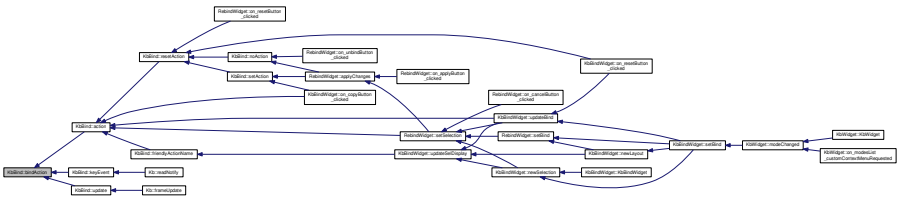
Referenced by action(), keyEvent(), and update().

```
117 { if(!_bind.contains(key)) return _bind[key] = new KeyAction(
      KeyAction::defaultAction(key), this); return _bind[
      key]; }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.26.3.3 QString KbBind::defaultAction (const QString & *key*) [static]

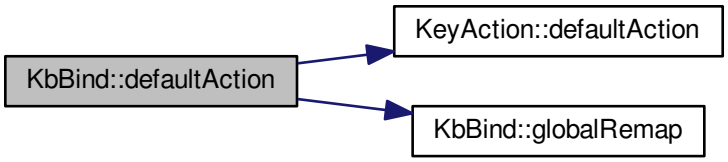
Definition at line 145 of file kbbind.cpp.

References KeyAction::defaultAction(), and globalRemap().

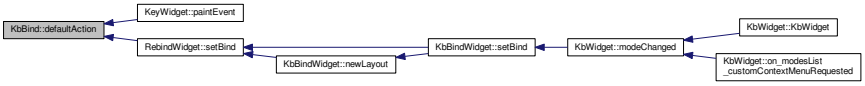
Referenced by KeyWidget::paintEvent(), and RebindWidget::setBind().

```
145                                                 {
146     QString rKey = globalRemap(key);
147     return KeyAction::defaultAction(rKey);
148 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.26.3.4 Kb* KbBind::devParent ( ) const [inline], [private]

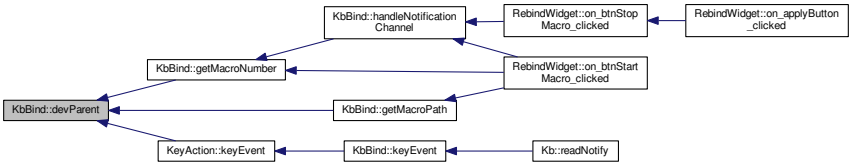
Definition at line 114 of file kbbind.h.

References _devParent.

Referenced by getMacroNumber(), getMacroPath(), and KeyAction::keyEvent().

```
114 { return _devParent; }
```

Here is the caller graph for this function:



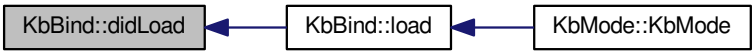
12.26.3.5 void KbBind::didLoad ( ) [signal]

Definition at line 155 of file moc_kbbind.cpp.

Referenced by load().

```
156 {
157     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
158 }
```

Here is the caller graph for this function:



12.26.3.6 QString KbBind::friendlyActionName (const QString & *key*)

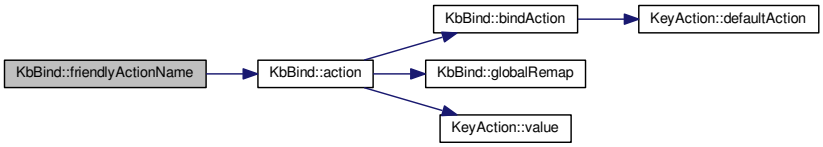
Definition at line 157 of file kbbind.cpp.

References _map, action(), and KeyAction.

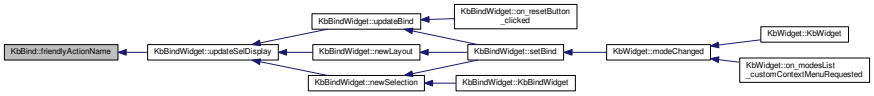
Referenced by KbBindWidget::updateSelDisplay().

```
157                                                  {
158     QString act = action(key);
159     return KeyAction(act).friendlyName(_map);
160 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



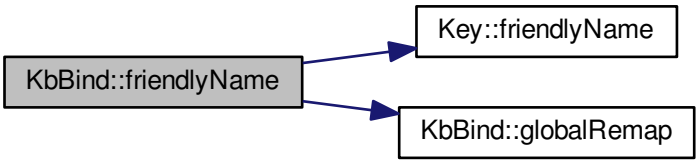
12.26.3.7 QString KbBind::friendlyName (const QString & *key*)

Definition at line 150 of file kbbind.cpp.

References _map, Key::friendlyName(), and globalRemap().

```
150                                                  {
151     const Key& pos = _map[globalRemap(key)];
152     if(!pos)
153         return "(Unknown)";
154     return pos.friendlyName();
155 }
```

Here is the call graph for this function:



12.26.3.8 int KbBind::getMacroNumber ( )

Returns

number of notification channel. Use it in combination with notifyon/off-Statement

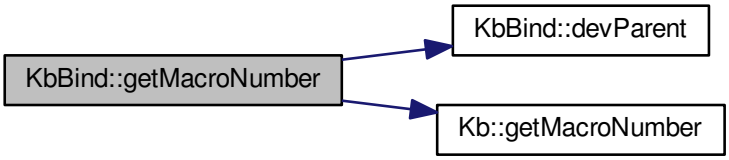
Definition at line 257 of file kbbind.cpp.

References devParent(), and Kb::getMacroNumber().

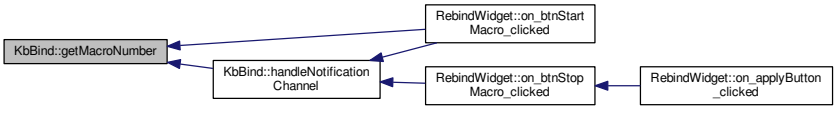
Referenced by handleNotificationChannel(), and RebindWidget::on_btnStartMacro_clicked().

```
257                             {
258     return devParent()->getMacroNumber();
259 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.26.3.9 QString KbBind::getMacroPath ( )

Returns

Filepath of macro notification pipe. If not set, returns initial value ""

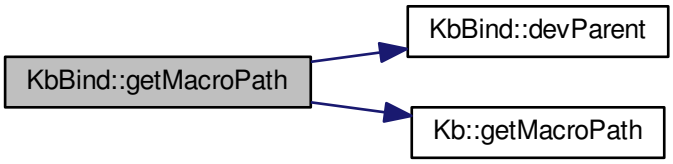
Definition at line 265 of file kbbind.cpp.

References devParent(), and Kb::getMacroPath().

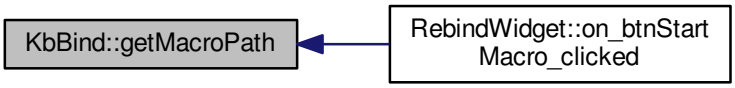
Referenced by RebindWidget::on_btnStartMacro_clicked().

```
265                                {
266     return devParent()->getMacroPath();
267 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.26.3.10 QString KbBind::globalRemap (const QString & *key*) [static]

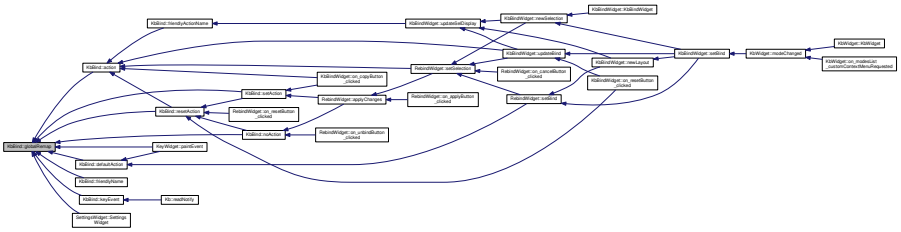
Definition at line 98 of file kbbind.cpp.

References _globalRemap.

Referenced by action(), defaultAction(), friendlyName(), keyEvent(), noAction(), KeyWidget::paintEvent(), resetAction(), setAction(), and SettingsWidget::SettingsWidget().

```
98                                                {
99     if(!_globalRemap.contains(key))
100         return key;
101     return _globalRemap.value(key);
102 }
```

Here is the caller graph for this function:



12.26.3.11 void KbBind::handleNotificationChannel (bool *start*)

Parameters

start	is boolean. If true, notification channel is opened for all keys, otherwise channel ist closed.
start	If true, notification channel is opened for all keys, otherwise channel ist closed.

Definition at line 275 of file kbbind.cpp.

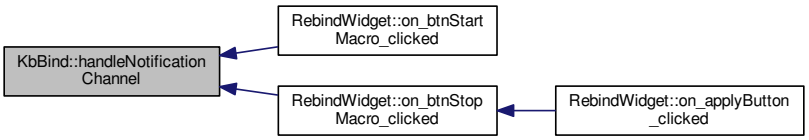
References getMacroNumber(), and lastCmd.

Referenced by RebindWidget::on_btnStartMacro_clicked(), and RebindWidget::on_btnStopMacro_clicked().

```
275                                                 {
276     if (getMacroNumber() > 0 && lastCmd) {
277         if (start) {
278             lastCmd->write (QString("\nnotifyon %1\n@%1 notify all:on\n").arg(
      getMacroNumber()).toLatin1());
279         } else {
280             lastCmd->write (QString("\n@%1 notify all:off\nnotifyoff %1\n").arg(
      getMacroNumber()).toLatin1());
281         }
282         lastCmd->flush();
283     } else qDebug() << QString("No cmd or valid handle for notification found, macroNumber = %1, lastCmd =
       %2")
284                        .arg(getMacroNumber()).arg(lastCmd? "set" : "unset");
285 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.26.3.12 bool KbBind::isISO ( ) const [inline]

Definition at line 43 of file kbbind.h.

References _map, and KeyMap::isISO().

```
43 { return _map.isISO(); }
```

Here is the call graph for this function:

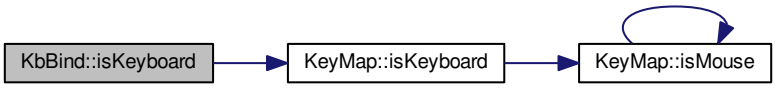
12.26.3.13 bool KbBind::isKeyboard ( ) const [inline]

Definition at line 44 of file kbbind.h.

References _map, and KeyMap::isKeyboard().

```
44 { return _map.isKeyboard(); }
```

Here is the call graph for this function:



12.26.3.14 bool KbBind::isMouse ( ) const [inline]

Definition at line 45 of file kbbind.h.

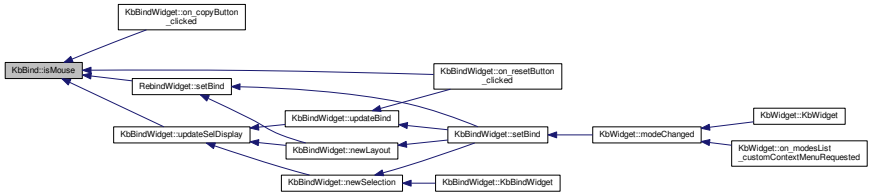
References _map, and KeyMap::isMouse().

Referenced by KbBindWidget::on_copyButton_clicked(), KbBindWidget::on_resetButton_clicked(), RebindWidget::setBind(), and KbBindWidget::updateSelDisplay().

```
45 { return _map.isMouse(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.26.3.15 void KbBind::keyEvent (const QString & *key*, bool *down*) [slot]

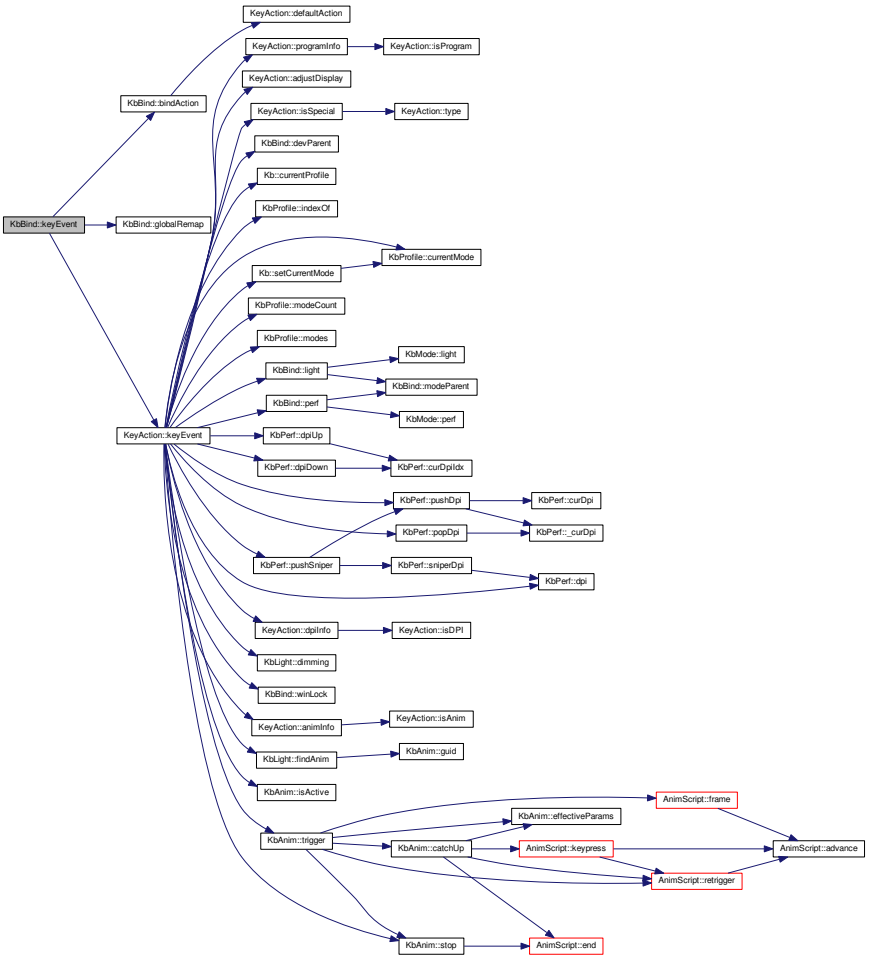
Definition at line 287 of file kbbind.cpp.

References bindAction(), globalRemap(), and KeyAction::keyEvent().

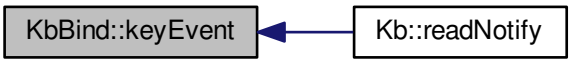
Referenced by Kb::readNotify().

```
287                                                 {
288     QString rKey = globalRemap(key);
289     KeyAction* act = bindAction(rKey);
290     if(act)
291         act->keyEvent(this, down);
292 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



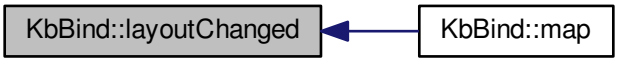
12.26.3.16 void KbBind::layoutChanged ( ) [signal]

Definition at line 161 of file moc_kbbind.cpp.

Referenced by map().

```
162 {
163     QMetaObject::activate(this, &staticMetaObject, 1, Q_NULLPTR);
164 }
```

Here is the caller graph for this function:



12.26.3.17 KbLight * KbBind::light ( )

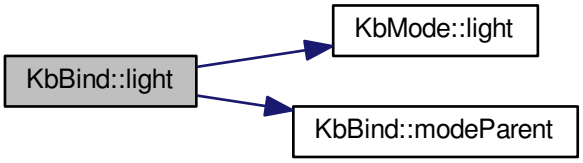
Definition at line 54 of file kbbind.cpp.

References KbMode::light(), and modeParent().

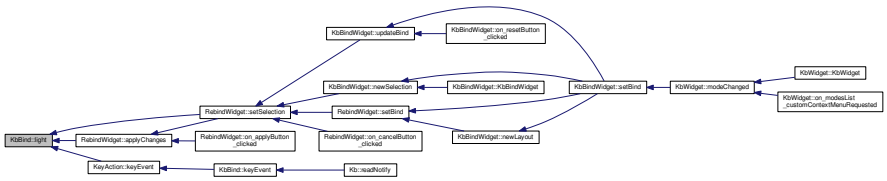
Referenced by RebindWidget::applyChanges(), KeyAction::keyEvent(), and RebindWidget::setSelection().

```
54                          {
55     return modeParent()->light();
56 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.26.3.18 void KbBind::load (CkbSettings & *settings*)

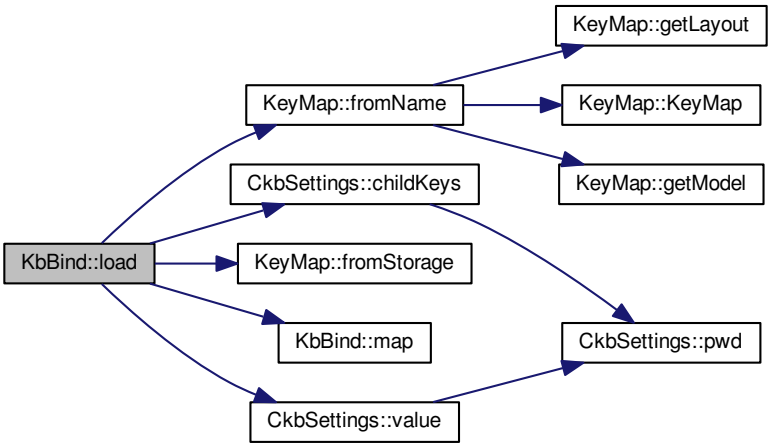
Definition at line 58 of file kbbind.cpp.

References _bind, _map, _needsSave, _winLock, CkbSettings::childKeys(), didLoad(), KeyMap::fromName(), KeyMap::fromStorage(), KeyAction, map(), and CkbSettings::value().

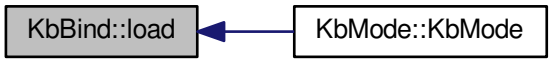
Referenced by KbMode::KbMode().

```
58                                      {
59     _needsSave = false;
60     SGroup group(settings, "Binding");
61     KeyMap currentMap = _map;
62     _map = KeyMap::fromName(settings.value("KeyMap").toString());
63     // Load key settings
64     bool useReal = settings.value("UseRealNames").toBool();
65     _bind.clear();
66     {
67         SGroup group(settings, "Keys");
68         foreach(QString key, settings.childKeys()){
69             QString name = key.toLower();
70             if(!useReal)
71                 name = _map.fromStorage(name);
72             QString bind = settings.value(key).toString();
73             _bind[name] = new KeyAction(bind, this);
74         }
75     }
76     _winLock = settings.value("WinLock").toBool();
77     emit didLoad();
78     map(currentMap);
79 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.26.3.19 void KbBind::loadGlobalRemap ( ) [static]

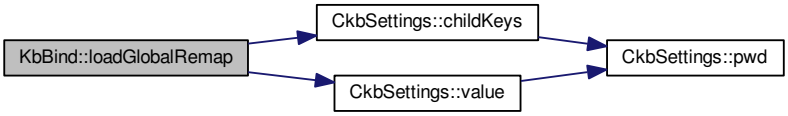
Definition at line 116 of file kbbind.cpp.

References _globalRemap, CkbSettings::childKeys(), globalRemapTime, and CkbSettings::value().

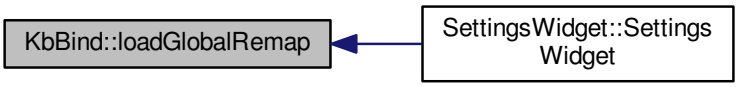
Referenced by SettingsWidget::SettingsWidget().

```
116                             {
117     _globalRemap.clear();
118     CkbSettings settings("Program/GlobalRemap");
119     foreach(const QString& key, settings.childKeys())
120         _globalRemap[key] = settings.value(key).toString();
121     globalRemapTime = QDateTime::currentMSecsSinceEpoch();
122 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.26.3.20 const KeyMap& KbBind::map ( ) [inline]

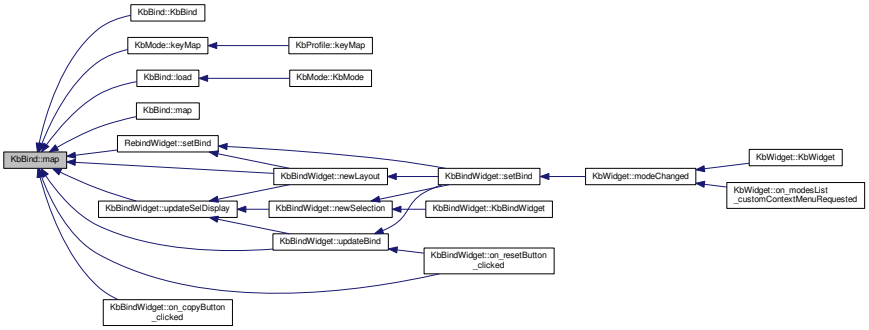
Definition at line 41 of file kbbind.h.

References _map.

Referenced by KbBind(), KbMode::keyMap(), load(), map(), KbBindWidget::newLayout(), KbBindWidget::on_copyButton_clicked(), KbBindWidget::on_resetButton_clicked(), RebindWidget::setBind(), KbBindWidget::updateBind(), and KbBindWidget::updateSelDisplay().

```
41 { return _map; }
```

Here is the caller graph for this function:



12.26.3.21 void KbBind::map (const KeyMap & *map*)

Definition at line 133 of file kbbind.cpp.

References _map, _needsSave, _needsUpdate, layoutChanged(), and map().

```
133                                 {
134     _map = map;
135     _needsUpdate = true;
136     _needsSave = true;
137     emit layoutChanged();
138 }
```

Here is the call graph for this function:

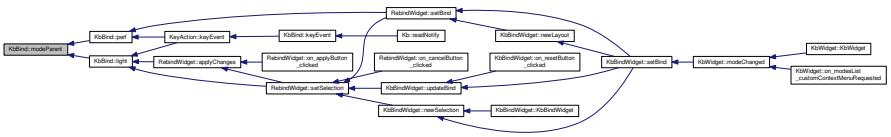
12.26.3.22 KbMode* KbBind::modeParent ( ) const [inline], [private]

Definition at line 115 of file kbbind.h.

Referenced by light(), and perf().

```
115 { return (KbMode*)parent(); }
```

Here is the caller graph for this function:



12.26.3.23 bool KbBind::needsSave ( ) const [inline]

Definition at line 38 of file kbbind.h.

References _needsSave.

Referenced by KbMode::needsSave().

```
38 { return _needsSave; }
```

Here is the caller graph for this function:

12.26.3.24 void KbBind::noAction (const QString & *key*)

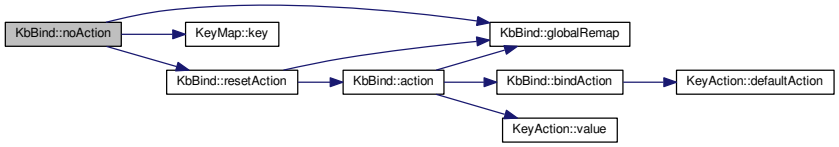
Definition at line 172 of file kbbind.cpp.

References _bind, _map, globalRemap(), KeyMap::key(), KeyAction, and resetAction().

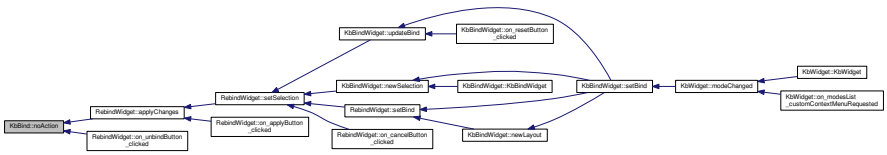
Referenced by RebindWidget::applyChanges(), and RebindWidget::on_unbindButton_clicked().

```
172                                         {
173     resetAction(key);
174     QString rKey = globalRemap(key);
175     if(!_map.key(rKey))
176         return;
177     _bind[rKey] = new KeyAction(this);
178 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.26.3.25 void KbBind::noAction (const QStringList & *keys*) [inline]

Definition at line 75 of file kbbind.h.

References noAction().

Referenced by noAction().

```
75 { foreach(const QString& key, keys) noAction(key); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.26 KbPerf * KbBind::perf ( )

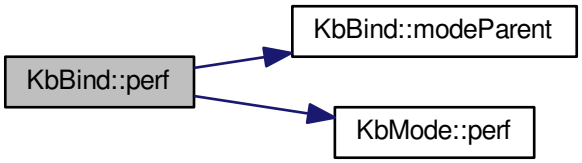
Definition at line 50 of file kbbind.cpp.

References modeParent(), and KbMode::perf().

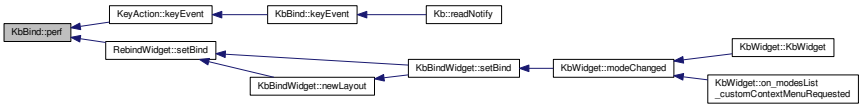
Referenced by KeyAction::keyEvent(), and RebindWidget::setBind().

```
50                     {
51     return modeParent()->perf();
52 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.26.3.27 void KbBind::resetAction (const QString & *key*)

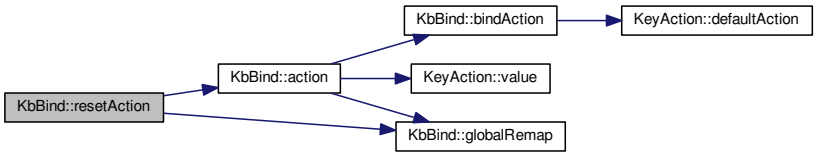
Definition at line 162 of file kbbind.cpp.

References _bind, _needsSave, _needsUpdate, action(), and globalRemap().

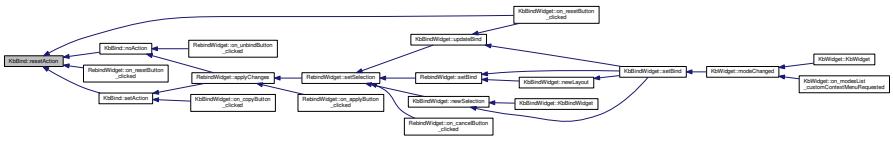
Referenced by noAction(), KbBindWidget::on_resetButton_clicked(), RebindWidget::on_resetButton_clicked(), and setAction().

```
162                                          {
163     QString rKey = globalRemap(key);
164     // Clean up existing action (if any)
165     KeyAction* action = _bind.value(rKey);
166     delete action;
167     _bind.remove(rKey);
168     _needsUpdate = true;
169     _needsSave = true;
170 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.26.3.28 void KbBind::resetAction (const QStringList & *keys*) [inline]

Definition at line 72 of file kbbind.h.

References resetAction().

Referenced by resetAction().

```
72 { foreach(const QString& key, keys) resetAction(key); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.29 void KbBind::save (CkbSettings & *settings*)

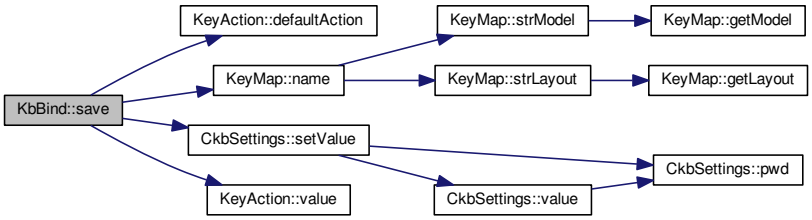
Definition at line 81 of file kbbind.cpp.

References _bind, _map, _needsSave, _winLock, KeyAction::defaultAction(), KeyMap::name(), CkbSettings::setValue(), and KeyAction::value().

Referenced by KbMode::save().

```
81                                      {
82     _needsSave = false;
83     SGroup group(settings, "Binding");
84     settings.setValue("KeyMap", _map.name());
85     // Save key settings
86     settings.setValue("UseRealNames", true);
87     {
88         SGroup group(settings, "Keys");
89         foreach(QString key, _bind.keys()){
90             KeyAction* act = _bind.value(key);
91             if(act && act->value() != KeyAction::defaultAction(key))
92                 settings.setValue(key, act->value());
93         }
94     }
95     settings.setValue("WinLock", _winLock);
96 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.26.3.30 void KbBind::saveGlobalRemap ( ) [static]

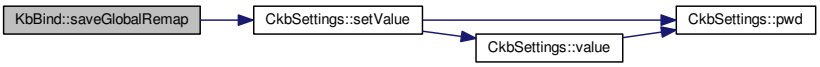
Definition at line 124 of file kbbind.cpp.

References _globalRemap, and CkbSettings::setValue().

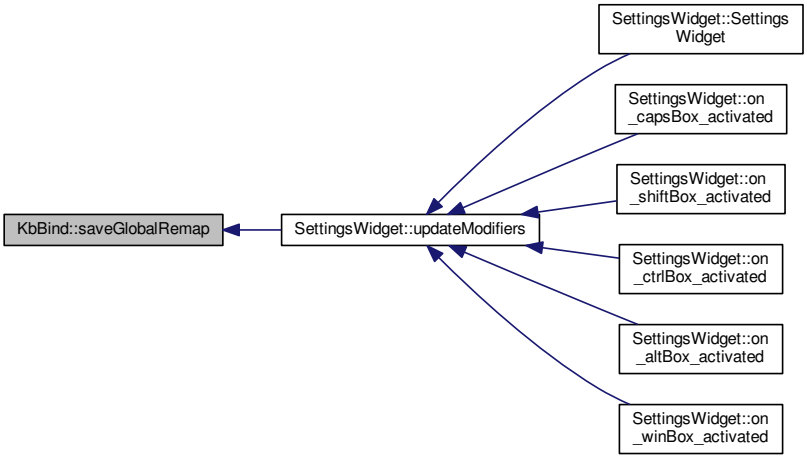
Referenced by SettingsWidget::updateModifiers().

```
124                             {
125     CkbSettings settings("Program/GlobalRemap", true);
126     QHashIterator<QString, QString> i(_globalRemap);
127     while(i.hasNext()){
128         i.next();
129         settings.setValue(i.key(), i.value());
130     }
131 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.26.3.31 void KbBind::setAction (const QString & *key*, const QString & *action*)

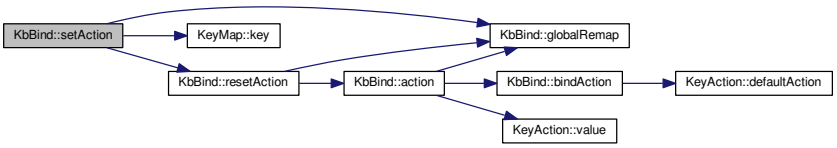
Definition at line 180 of file kbbind.cpp.

References _bind, _map, globalRemap(), KeyMap::key(), KeyAction, and resetAction().

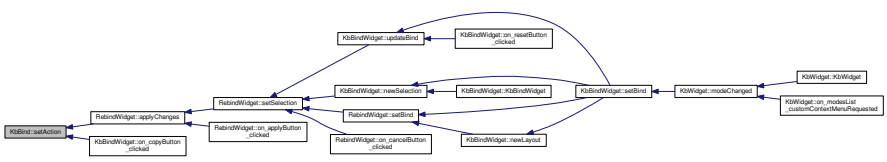
Referenced by RebindWidget::applyChanges(), and KbBindWidget::on_copyButton_clicked().

```
180                                                                 {
181     resetAction(key);
182     QString rKey = globalRemap(key);
183     if(!_map.key(rKey))
184         return;
185     _bind[rKey] = new KeyAction(action, this);
186 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.26.3.32 void KbBind::setAction (const QStringList & *keys*, const QString & *action*) [inline]

Definition at line 69 of file kbbind.h.

References setAction().

Referenced by setAction().

```
69 { foreach(const QString& key, keys) setAction(key, action); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.26.3.33 void KbBind::setGlobalRemap (const QHash< QString, QString > *keyToActual*) [static]

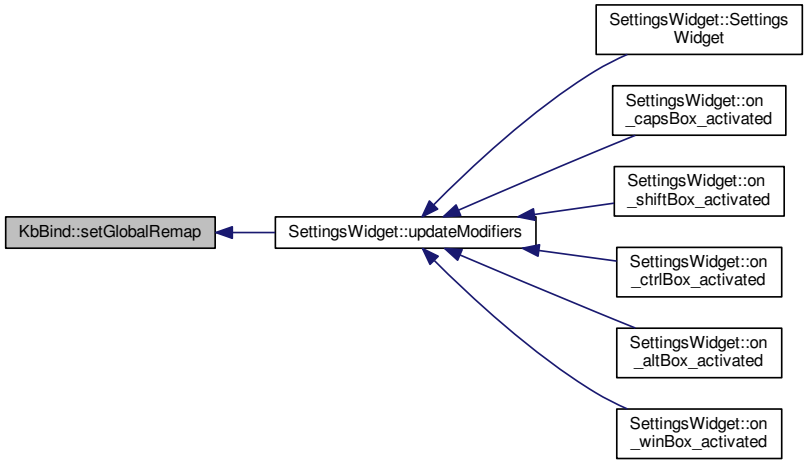
Definition at line 104 of file kbbind.cpp.

References _globalRemap, and globalRemapTime.

Referenced by SettingsWidget::updateModifiers().

```
104                                                                    {
105     _globalRemap.clear();
106     // Ignore any keys with the standard binding
107     QHashIterator<QString, QString> i(keyToActual);
108     while(i.hasNext()){
109         i.next();
110         if(i.key() != i.value())
111             _globalRemap[i.key()] = i.value();
112     }
113     globalRemapTime = QDateTime::currentMSecsSinceEpoch();
114 }
```

Here is the caller graph for this function:



12.26.3.34 void KbBind::setNeedsUpdate ( ) [inline]

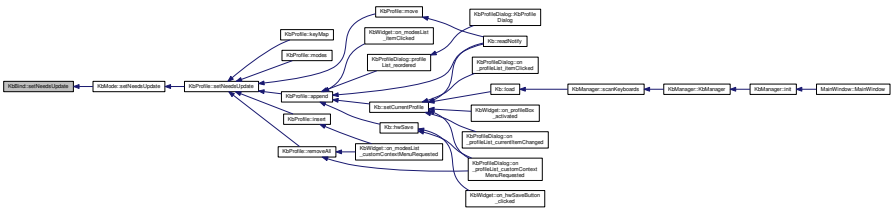
Definition at line 84 of file kbbind.h.

References _needsUpdate.

Referenced by KbMode::setNeedsUpdate().

```
84 { _needsUpdate = true; }
```

Here is the caller graph for this function:



12.26.3.35 void KbBind::update (QFile & *cmd,* bool *force* = false)

Definition at line 188 of file kbbind.cpp.

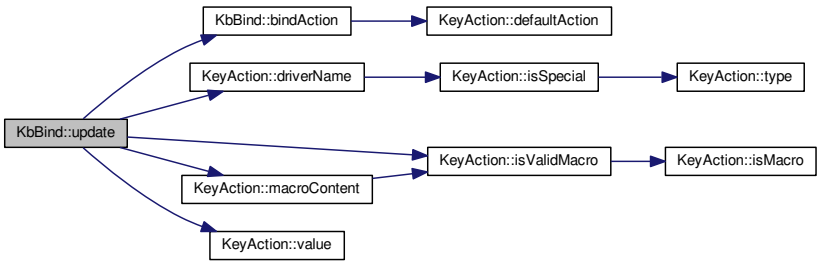
References _bind, _globalRemap, _needsUpdate, _winLock, bindAction(), KeyAction::driverName(), globalRemapTime, KeyAction::isValidMacro(), lastCmd, lastGlobalRemapTime, KeyAction::macroContent(), updated(), and KeyAction::value().

Referenced by Kb::frameUpdate().

```
188                                     {
189     if(!force && !_needsUpdate && lastGlobalRemapTime ==
      globalRemapTime)
190         return;
```

```
191     lastGlobalRemapTime = globalRemapTime;
192     emit updated();
193     _needsUpdate = false;
194     // Reset all keys and enable notifications for all
195     cmd.write("rebind all notify all");
196     // Make sure modifier keys are included as they may be remapped globally
197     QHash<QString, KeyAction*> bind(_bind);
198     if(!_bind.contains("caps")) bind["caps"] = 0;
199     if(!_bind.contains("lshift")) bind["lshift"] = 0;
200     if(!_bind.contains("rshift")) bind["rshift"] = 0;
201     if(!_bind.contains("lctrl")) bind["lctrl"] = 0;
202     if(!_bind.contains("rctrl")) bind["rctrl"] = 0;
203     if(!_bind.contains("lwin")) bind["lwin"] = 0;
204     if(!_bind.contains("rwin")) bind["rwin"] = 0;
205     if(!_bind.contains("lalt")) bind["lalt"] = 0;
206     if(!_bind.contains("ralt")) bind["ralt"] = 0;
207     if(!_bind.contains("fn")) bind["fn"] = 0;
208     QHashIterator<QString, KeyAction*> i(bind);
209
210     // Initialize String buffer for macro Key definitions (G-keys)
211     // "macro clear" is neccessary, if an older definition is unbound.
212     QString macros = "\nmacro clear\n";
213
214     // Write out rebound keys and collect infos for macro definitions
215     while(i.hasNext()){
216         i.next();
217         QString key = i.key();
218         KeyAction* act = i.value();
219         if(_globalRemap.contains(key))
220             act = bindAction(_globalRemap.value(key));
221         if(!act)
222             continue;
223         QString value = act->driverName();
224         if(value.isEmpty()){
225             // If the key is unbound or is a special action, unbind it
226             cmd.write(" unbind ");
227             cmd.write(key.toLatin1());
228             // if a macro definiton for the key is given,
229             // add the converted string to key-buffer "macro"
230             if (act->isValidMacro()) {
231                 if (act->macroContent().length() > 0) {
232                     macros.append("macro " + key.toLatin1() + ":" + act->
    macroContent().toLatin1() + "\n");
233                 }
234             }
235         } else {
236             // Otherwise, write the binding
237             cmd.write(" bind ");
238             cmd.write(key.toLatin1());
239             cmd.write(":");
240             cmd.write(value.toLatin1());
241         }
242     }
243     // If win lock is enabled, unbind windows keys
244     if(_winLock)
245         cmd.write(" unbind lwin rwin");
246
247     // At last, send Macro definitions if available.
248     // If no definitions are made, clear macro will be sent only to reset all macros,
249     cmd.write(macros.toLatin1());
250     lastCmd = &cmd;
251 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

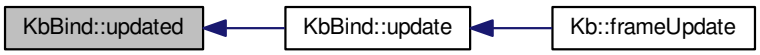
12.26.3.36 void KbBind::updated ( ) [signal]

Definition at line 167 of file moc_kbbind.cpp.

Referenced by update().

```
168 {
169     QMetaObject::activate(this, &staticMetaObject, 2, Q_NULLPTR);
170 }
```

Here is the caller graph for this function:



12.26.3.37 bool KbBind::winLock ( ) [inline]

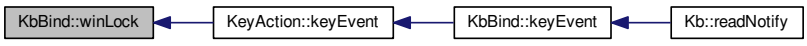
Definition at line 78 of file kbbind.h.

References _winLock.

Referenced by KeyAction::keyEvent().

```
78 { return _winLock; }
```

Here is the caller graph for this function:



12.26.3.38 void KbBind::winLock (bool *newWinLock*) [inline]

Definition at line 79 of file kbbind.h.

References _needsUpdate, and _winLock.

```
79 { _winLock = newWinLock; _needsUpdate = true; }
```

12.26.4 Friends And Related Function Documentation

12.26.4.1 friend class KeyAction [friend]

Definition at line 136 of file kbbind.h.

Referenced by bindAction(), friendlyActionName(), KbBind(), load(), noAction(), and setAction().

12.26.5 Field Documentation

12.26.5.1 QHash<QString, KeyAction*> KbBind::_bind [private]

Definition at line 131 of file kbbind.h.

Referenced by bindAction(), KbBind(), load(), noAction(), resetAction(), save(), setAction(), and update().

12.26.5.2 Kb* KbBind::_devParent [private]

Definition at line 113 of file kbbind.h.

Referenced by devParent().

12.26.5.3 QHash< QString, QString > KbBind::_globalRemap [static], [private]

Definition at line 119 of file kbbind.h.

Referenced by globalRemap(), loadGlobalRemap(), saveGlobalRemap(), setGlobalRemap(), and update().

12.26.5.4 KeyMap KbBind::_map [private]

Definition at line 129 of file kbbind.h.

Referenced by friendlyActionName(), friendlyName(), isISO(), isKeyboard(), isMouse(), load(), map(), noAction(), save(), and setAction().

12.26.5.5 bool KbBind::_needsSave [private]

Definition at line 135 of file kbbind.h.

Referenced by load(), map(), needsSave(), resetAction(), and save().

12.26.5.6 bool KbBind::_needsUpdate [private]

Definition at line 134 of file kbbind.h.

Referenced by map(), resetAction(), setNeedsUpdate(), update(), and winLock().

12.26.5.7 bool KbBind::_winLock [private]

Definition at line 133 of file kbbind.h.

Referenced by load(), save(), update(), and winLock().

12.26.5.8 quint64 KbBind::globalRemapTime = 0 [static], [private]

Definition at line 120 of file kbbind.h.

Referenced by loadGlobalRemap(), setGlobalRemap(), and update().

12.26.5.9 QFile* KbBind::lastCmd [private]

Definition at line 127 of file kbbind.h.

Referenced by handleNotificationChannel(), and update().

12.26.5.10 quint64 KbBind::lastGlobalRemapTime [private]

Definition at line 121 of file kbbind.h.

Referenced by update().

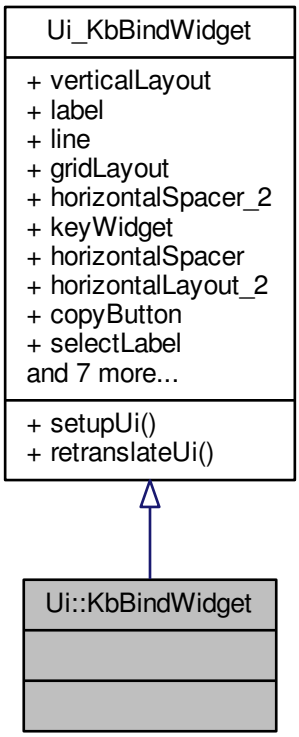
The documentation for this class was generated from the following files:

- src/ckb/kbbind.h
- src/ckb/kbbind.cpp
- src/ckb/release/moc_kbbind.cpp

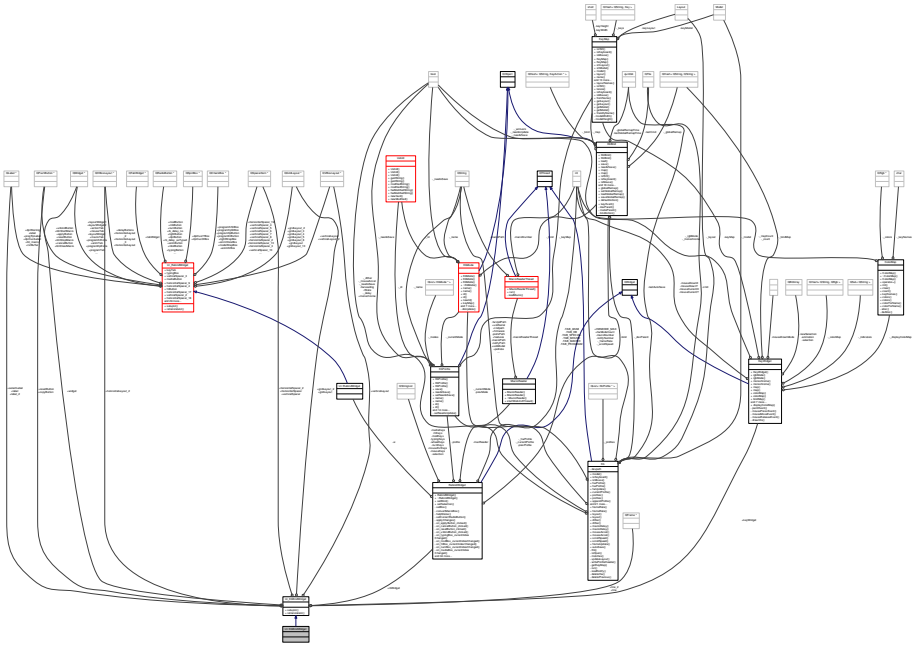
12.27 Ui::KbBindWidget Class Reference

`#include <src/ckb/ui_kbbindwidget.h>`

Inheritance diagram for Ui::KbBindWidget:



Collaboration diagram for Ui::KbBindWidget:



Public Member Functions

- void setupUi (QWidget *KbBindWidget)
- void retranslateUi (QWidget *KbBindWidget)

Data Fields

- QVBoxLayout * verticalLayout
- QLabel * label
- QFrame * line
- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer_2
- KeyWidget * keyWidget
- QSpacerItem * horizontalSpacer
- QHBoxLayout * horizontalLayout_2
- QPushButton * copyButton
- QLabel * selectLabel
- QPushButton * resetButton
- QSpacerItem * verticalSpacer
- QLabel * label_2
- QFrame * line_2
- QWidget * widget
- QGridLayout * gridLayout_2
- RebindWidget * rbWidget

12.27.1 Detailed Description

Definition at line 206 of file ui_kbbindwidget.h.

12.27.2 Member Function Documentation

12.27.2.1 void Ui_KbBindWidget::retranslateUi (QWidget * *KbBindWidget*) [inline], [inherited]

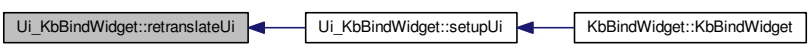
Definition at line 193 of file ui_kbbindwidget.h.

References Ui_KbBindWidget::copyButton, Ui_KbBindWidget::label, Ui_KbBindWidget::label_2, Ui_KbBindWidget::resetButton, and Ui_KbBindWidget::selectLabel.

Referenced by Ui_KbBindWidget::setupUi().

```
194     {
195         KbBindWidget->setWindowTitle(QApplication::translate("KbBindWidget", "Form", Q_NULLPTR));
196         label->setText(QApplication::translate("KbBindWidget", "Keys", Q_NULLPTR));
197         copyButton->setText(QApplication::translate("KbBindWidget", "Copy to mode...", Q_NULLPTR)
    );
198         selectLabel->setText(QApplication::translate("KbBindWidget", "Click to select keys",
    Q_NULLPTR));
199         resetButton->setText(QApplication::translate("KbBindWidget", "Reset", Q_NULLPTR));
200         label_2->setText(QApplication::translate("KbBindWidget", "Binding", Q_NULLPTR));
201     } // retranslateUi
```

Here is the caller graph for this function:



12.27.2.2 void Ui_KbBindWidget::setupUi (QWidget * *KbBindWidget*) [inline],[inherited]

Definition at line 51 of file ui_kbbindwidget.h.

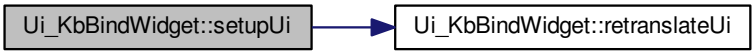
References Ui_KbBindWidget::copyButton, Ui_KbBindWidget::gridLayout, Ui_KbBindWidget::gridLayout_2, Ui_KbBindWidget::horizontalLayout_2, Ui_KbBindWidget::horizontalSpacer, Ui_KbBindWidget::horizontalSpacer_2, Ui_KbBindWidget::keyWidget, Ui_KbBindWidget::label, Ui_KbBindWidget::label_2, Ui_KbBindWidget::line, Ui_KbBindWidget::line_2, Ui_KbBindWidget::rbWidget, Ui_KbBindWidget::resetButton, Ui_KbBindWidget::retranslateUi(), Ui_KbBindWidget::selectLabel, Ui_KbBindWidget::verticalLayout, Ui_KbBindWidget::verticalSpacer, and Ui_KbBindWidget::widget.

Referenced by KbBindWidget::KbBindWidget().

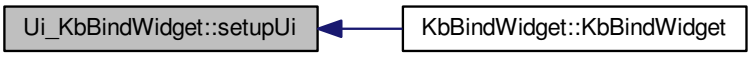
```
52     {
53         if (KbBindWidget->objectName().isEmpty())
54             KbBindWidget->setObjectName(QStringLiteral("KbBindWidget"));
55         KbBindWidget->resize(581, 473);
56         verticalLayout = new QVBoxLayout(KbBindWidget);
57         verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
58         verticalLayout->setContentsMargins(0, 0, 0, -1);
59         label = new QLabel(KbBindWidget);
60         label->setObjectName(QStringLiteral("label"));
61         QFont font;
62         font.setBold(true);
63         font.setWeight(75);
64         label->setFont(font);
65 
66         verticalLayout->addWidget(label);
67 
68         line = new QFrame(KbBindWidget);
69         line->setObjectName(QStringLiteral("line"));
70         line->setFrameShape(QFrame::HLine);
71         line->setFrameShadow(QFrame::Sunken);
72 
73         verticalLayout->addWidget(line);
74 
75         gridLayout = new QGridLayout();
76         gridLayout->setObjectName(QStringLiteral("gridLayout"));
77         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
78 
79         gridLayout->addItem(horizontalSpacer_2, 0, 4, 1, 1);
80 
81         keyWidget = new KeyWidget(KbBindWidget);
82         keyWidget->setObjectName(QStringLiteral("keyWidget"));
83         QSizePolicy sizePolicy(QSizePolicy::Preferred, QSizePolicy::Preferred);
84         sizePolicy.setHorizontalStretch(0);
85         sizePolicy.setVerticalStretch(0);
86         sizePolicy.setHeightForWidth(keyWidget->sizePolicy().hasHeightForWidth());
87         keyWidget->setSizePolicy(sizePolicy);
88 
89         gridLayout->addWidget(keyWidget, 0, 1, 1, 3);
90 
91         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
92 
93         gridLayout->addItem(horizontalSpacer, 0, 0, 1, 1);
94 
95         horizontalLayout_2 = new QHBoxLayout();
96         horizontalLayout_2->setSpacing(0);
97         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
98         copyButton = new QPushButton(KbBindWidget);
99         copyButton->setObjectName(QStringLiteral("copyButton"));
100         QSizePolicy sizePolicy1(QSizePolicy::Fixed, QSizePolicy::Fixed);
101         sizePolicy1.setHorizontalStretch(0);
102         sizePolicy1.setVerticalStretch(0);
103         sizePolicy1.setHeightForWidth(copyButton->sizePolicy().hasHeightForWidth());
104         copyButton->setSizePolicy(sizePolicy1);
105         copyButton->setMinimumSize(QSize(140, 0));
106         copyButton->setMaximumSize(QSize(140, 16777215));
107 
108         horizontalLayout_2->addWidget(copyButton);
109 
110         selectLabel = new QLabel(KbBindWidget);
111         selectLabel->setObjectName(QStringLiteral("selectLabel"));
112         QSizePolicy sizePolicy2(QSizePolicy::Expanding, QSizePolicy::Preferred);
113         sizePolicy2.setHorizontalStretch(0);
114         sizePolicy2.setVerticalStretch(0);
115         sizePolicy2.setHeightForWidth(selectLabel->sizePolicy().hasHeightForWidth());
116         selectLabel->setSizePolicy(sizePolicy2);
117         selectLabel->setAlignment(Qt::AlignCenter);
118 
119         horizontalLayout_2->addWidget(selectLabel);
```

```
120
121         resetButton = new QPushButton(KbBindWidget);
122         resetButton->setObjectName(QStringLiteral("resetButton"));
123         QSizePolicy sizePolicy3(QSizePolicy::Expanding, QSizePolicy::Fixed);
124         sizePolicy3.setHorizontalStretch(0);
125         sizePolicy3.setVerticalStretch(0);
126         sizePolicy3.setHeightForWidth(resetButton->sizePolicy().hasHeightForWidth());
127         resetButton->setSizePolicy(sizePolicy3);
128         resetButton->setMinimumSize(QSize(140, 0));
129         resetButton->setMaximumSize(QSize(140, 16777215));
130
131         horizontalLayout_2->addWidget(resetButton);
132
133
134         gridLayout->addLayout(horizontalLayout_2, 1, 1, 1, 3);
135
136
137         verticalLayout->addLayout(gridLayout);
138
139         verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
140
141         verticalLayout->addItem(verticalSpacer);
142
143         label_2 = new QLabel(KbBindWidget);
144         label_2->setObjectName(QStringLiteral("label_2"));
145         label_2->setFont(font);
146
147         verticalLayout->addWidget(label_2);
148
149         line_2 = new QFrame(KbBindWidget);
150         line_2->setObjectName(QStringLiteral("line_2"));
151         line_2->setFrameShape(QFrame::HLine);
152         line_2->setFrameShadow(QFrame::Sunken);
153
154         verticalLayout->addWidget(line_2);
155
156         widget = new QWidget(KbBindWidget);
157         widget->setObjectName(QStringLiteral("widget"));
158         QSizePolicy sizePolicy4(QSizePolicy::Preferred, QSizePolicy::Fixed);
159         sizePolicy4.setHorizontalStretch(0);
160         sizePolicy4.setVerticalStretch(0);
161         sizePolicy4.setHeightForWidth(widget->sizePolicy().hasHeightForWidth());
162         widget->setSizePolicy(sizePolicy4);
163         widget->setMinimumSize(QSize(0, 280));
164         widget->setMaximumSize(QSize(16777215, 280));
165         gridLayout_2 = new QGridLayout(widget);
166         gridLayout_2->setSpacing(0);
167         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
168         gridLayout_2->setContentsMargins(0, 0, 0, 0);
169         rbWidget = new RebindWidget(widget);
170         rbWidget->setObjectName(QStringLiteral("rbWidget"));
171         QSizePolicy sizePolicy5(QSizePolicy::Expanding, QSizePolicy::Expanding);
172         sizePolicy5.setHorizontalStretch(0);
173         sizePolicy5.setVerticalStretch(0);
174         sizePolicy5.setHeightForWidth(rbWidget->sizePolicy().hasHeightForWidth());
175         rbWidget->setSizePolicy(sizePolicy5);
176
177         gridLayout_2->addWidget(rbWidget, 0, 0, 1, 1);
178
179
180         verticalLayout->addWidget(widget);
181
182         label->raise();
183         line->raise();
184         label_2->raise();
185         line_2->raise();
186         widget->raise();
187
188         retranslateUi(KbBindWidget);
189
190         QMetaObject::connectSlotsByName(KbBindWidget);
191     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.27.3 Field Documentation

12.27.3.1 QPushButton* Ui_KbBindWidget::copyButton [inherited]

Definition at line 41 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::retranslateUi(), and Ui_KbBindWidget::setupUi().

12.27.3.2 QGridLayout* Ui_KbBindWidget::gridLayout [inherited]

Definition at line 36 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.3 QGridLayout* Ui_KbBindWidget::gridLayout_2 [inherited]

Definition at line 48 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.4 QHBoxLayout* Ui_KbBindWidget::horizontalLayout_2 [inherited]

Definition at line 40 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.5 QSpacerItem* Ui_KbBindWidget::horizontalSpacer [inherited]

Definition at line 39 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.6 QSpacerItem* Ui_KbBindWidget::horizontalSpacer_2 [inherited]

Definition at line 37 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.7 KeyWidget* Ui_KbBindWidget::keyWidget [inherited]

Definition at line 38 of file ui_kbbindwidget.h.

Referenced by KbBindWidget::KbBindWidget(), KbBindWidget::newLayout(), KbBindWidget::setBind(), Ui_KbBindWidget::setupUi(), and KbBindWidget::updateBind().

12.27.3.8 QLabel* Ui_KbBindWidget::label [inherited]

Definition at line 34 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::retranslateUi(), and Ui_KbBindWidget::setupUi().

12.27.3.9 QLabel* Ui_KbBindWidget::label_2 [inherited]

Definition at line 45 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::retranslateUi(), and Ui_KbBindWidget::setupUi().

12.27.3.10 QFrame* Ui_KbBindWidget::line [inherited]

Definition at line 35 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.11 QFrame* Ui_KbBindWidget::line_2 [inherited]

Definition at line 46 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.12 RebindWidget* Ui_KbBindWidget::rbWidget [inherited]

Definition at line 49 of file ui_kbbindwidget.h.

Referenced by KbBindWidget::newLayout(), KbBindWidget::newSelection(), KbBindWidget::setBind(), Ui_KbBindWidget::setupUi(), and KbBindWidget::updateBind().

12.27.3.13 QPushButton* Ui_KbBindWidget::resetButton [inherited]

Definition at line 43 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::retranslateUi(), and Ui_KbBindWidget::setupUi().

12.27.3.14 QLabel* Ui_KbBindWidget::selectLabel [inherited]

Definition at line 42 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::retranslateUi(), Ui_KbBindWidget::setupUi(), and KbBindWidget::updateSelDisplay().

12.27.3.15 QVBoxLayout* Ui_KbBindWidget::verticalLayout [inherited]

Definition at line 33 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.16 QSpacerItem* Ui_KbBindWidget::verticalSpacer [inherited]

Definition at line 44 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

12.27.3.17 QWidget* Ui_KbBindWidget::widget [inherited]

Definition at line 47 of file ui_kbbindwidget.h.

Referenced by Ui_KbBindWidget::setupUi().

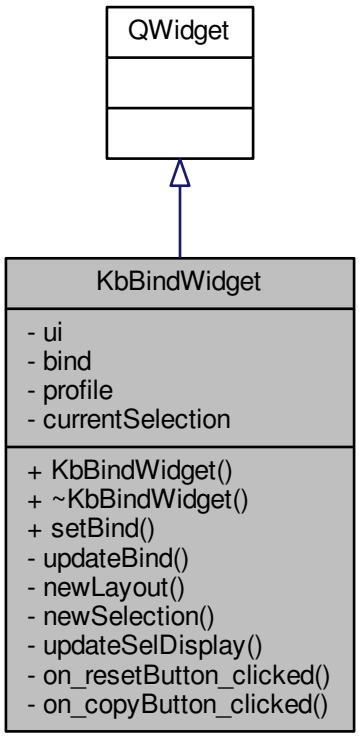
The documentation for this class was generated from the following file:

- src/ckb/ui_kbbindwidget.h

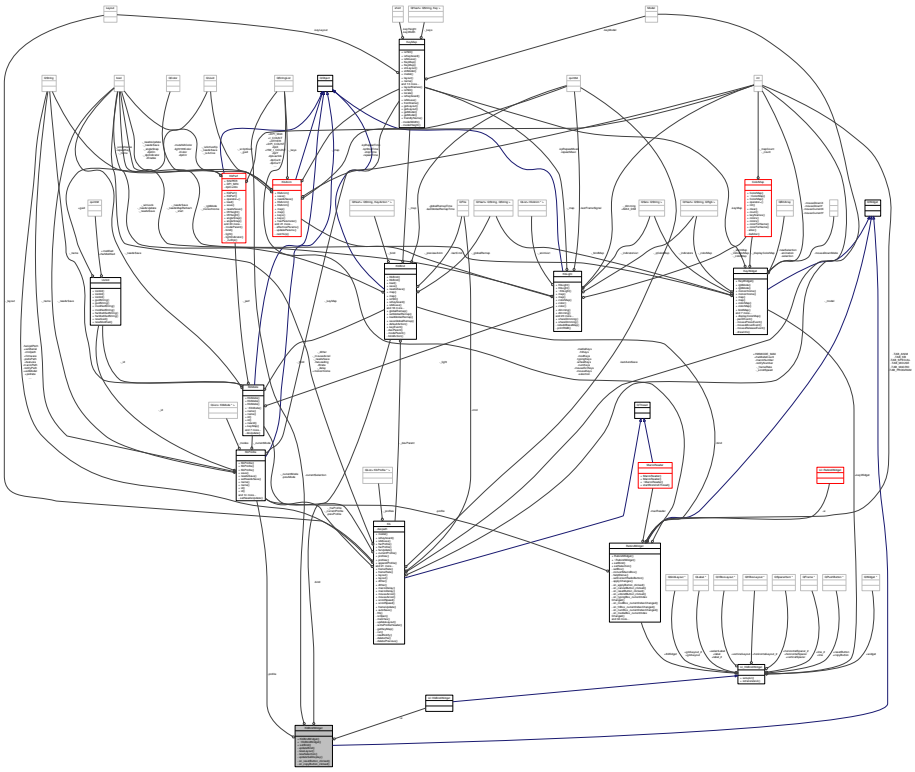
12.28 KbBindWidget Class Reference

`#include <src/ckb/kbbindwidget.h>`

Inheritance diagram for KbBindWidget:



Collaboration diagram for KbBindWidget:



Public Member Functions

- KbBindWidget (QWidget ∗parent=0)
- ∼KbBindWidget ()
- void setBind (KbBind ∗newBind, KbProfile ∗newProfile)

Private Slots

- void updateBind ()
- void newLayout ()
- void newSelection (QStringList selection)
- void updateSelDisplay ()
- void on_resetButton_clicked ()
- void on_copyButton_clicked ()

Private Attributes

- Ui::KbBindWidget ∗ ui
- KbBind ∗ bind
- KbProfile ∗ profile
- QStringList currentSelection

12.28.1 Detailed Description

Definition at line 12 of file kbbindwidget.h.

12.28.2 Constructor & Destructor Documentation

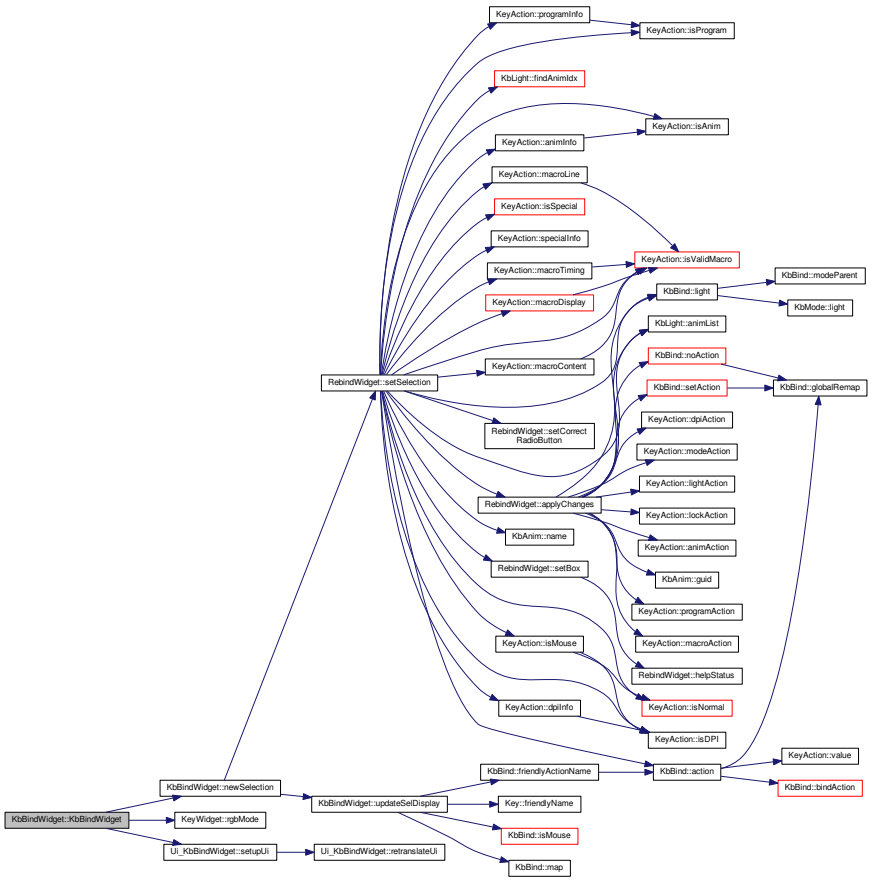
12.28.2.1 KbBindWidget::KbBindWidget (QWidget * *parent* = 0) [explicit]

Definition at line 7 of file kbbindwidget.cpp.

References Ui_KbBindWidget::keyWidget, newSelection(), KeyWidget::rgbMode(), Ui_KbBindWidget::setupUi(), and ui.

```
7                                          :
8     QWidget(parent),
9     ui(new Ui::KbBindWidget), bind(0), profile(0)
10 {
11     ui->setupUi(this);
12     ui->keyWidget->rgbMode(false);
13     connect(ui->keyWidget, SIGNAL(selectionChanged(QStringList)), this, SLOT(
       newSelection(QStringList)));
14 }
```

Here is the call graph for this function:



12.28.2.2 KbBindWidget::~KbBindWidget ( )

Definition at line 16 of file kbbindwidget.cpp.

References ui.

```
16                                {
17     delete ui;
18 }
```

12.28.3 Member Function Documentation

12.28.3.1 void KbBindWidget::newLayout ( ) [private],[slot]

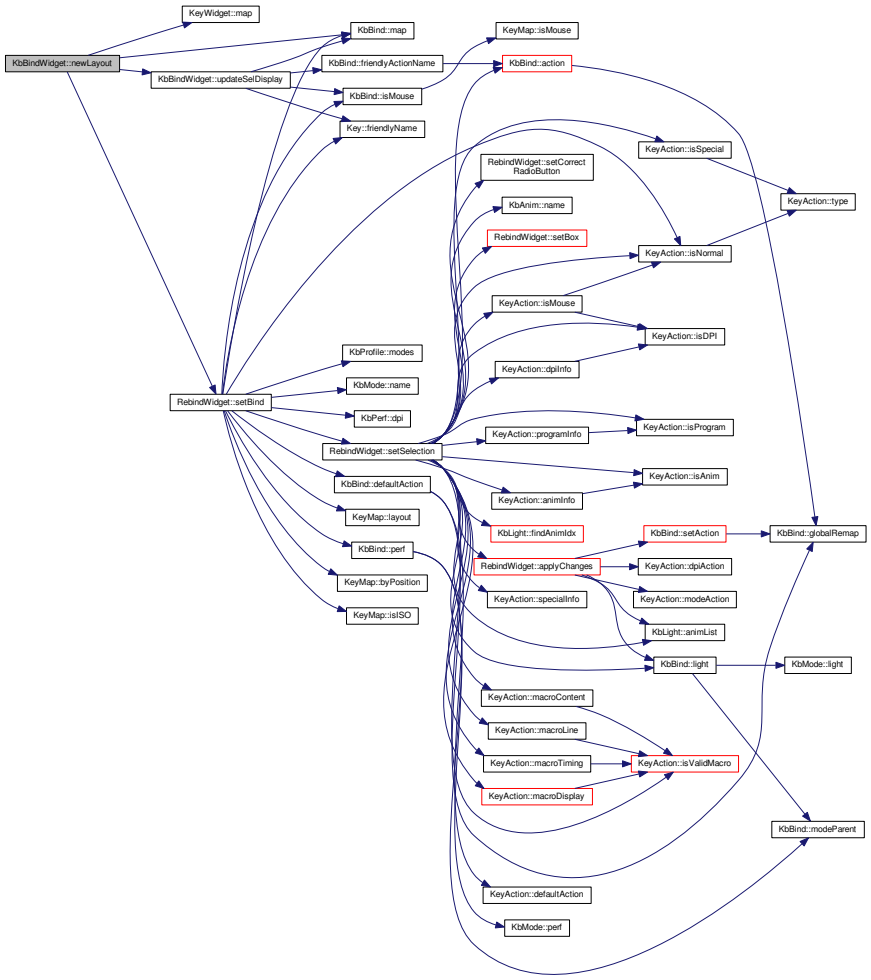
Definition at line 50 of file kbbindwidget.cpp.

References bind, Ui_KbBindWidget::keyWidget, KeyWidget::map(), KbBind::map(), profile, Ui_KbBindWidget::rbWidget, RebindWidget::setBind(), ui, and updateSelDisplay().

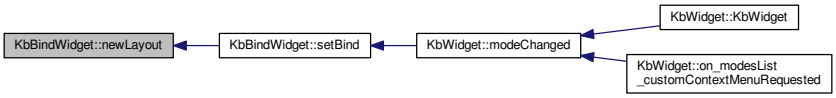
Referenced by setBind().

```
50                              {
51     ui->keyWidget->map(bind->map());
52     ui->rbWidget->setBind(bind, profile);
53     updateSelDisplay();
54 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.28.3.2 void KbBindWidget::newSelection (QStringList *selection*) [private], [slot]

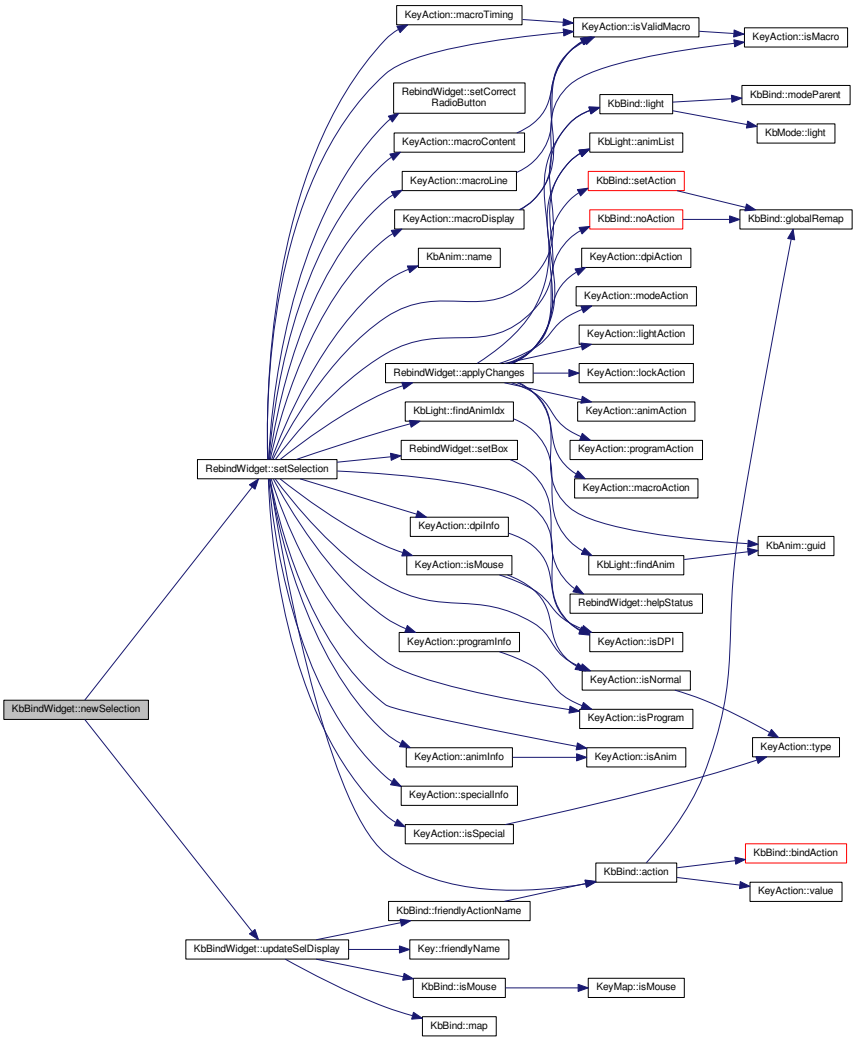
Definition at line 56 of file kbbindwidget.cpp.

References currentSelection, Ui_KbBindWidget::rbWidget, RebindWidget::setSelection(), ui, and updateSelDisplay().

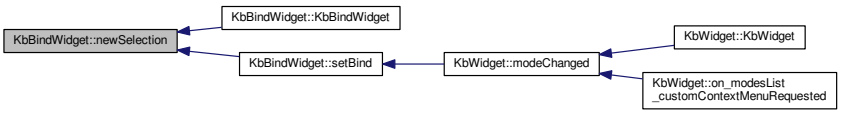
Referenced by KbBindWidget(), and setBind().

```
56                                                  {
57     currentSelection = selection;
58     ui->rbWidget->setSelection(selection, true);
59     updateSelDisplay();
60 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



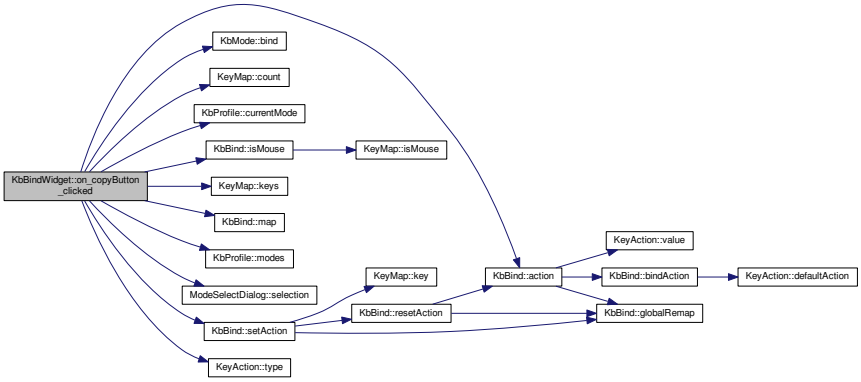
12.28.3.3 void KbBindWidget::on_copyButton_clicked ( ) [private], [slot]

Definition at line 103 of file kbbindwidget.cpp.

References KbBind::action(), bind, KbMode::bind(), KeyMap::count(), KbProfile::currentMode(), currentSelection, KbBind::isMouse(), KeyMap::keys(), KbBind::map(), KbProfile::modes(), profile, ModeSelectDialog::selection(), KbBind::setAction(), and KeyAction::type().

```
103                                     {
104     QStringList selection = currentSelection;
105     const KeyMap& map = bind->map();
106     int count = selection.count();
107     QString type = bind->isMouse() ? "button" : "key";
108     QString text = tr("%1 %2").arg(count).arg(type) + (count == 1 ? "" : "s");
109     if(count == 0){
110         // Copy all keys if none selected
111         selection = map.keys();
112         text = tr("all %1s").arg(type);
113     }
114     text = "Copy binding for " + text + " to:";
115     // Display popup
116     ModeSelectDialog dialog(this, profile->currentMode(),
    profile->modes(), text);
117     if(dialog.exec() != QDialog::Accepted)
118         return;
119     // Copy selected keys to selected modes
120     QList<KbMode*> selectedModes = dialog.selection();
121     foreach(KbMode* mode, selectedModes){
122         KbBind* modeBind = mode->bind();
123         foreach(const QString& key, selection){
124             modeBind->setAction(key, bind->action(key));
125         }
126     }
127 }
```

Here is the call graph for this function:



12.28.3.4 void KbBindWidget::on_resetButton_clicked ( ) [private], [slot]

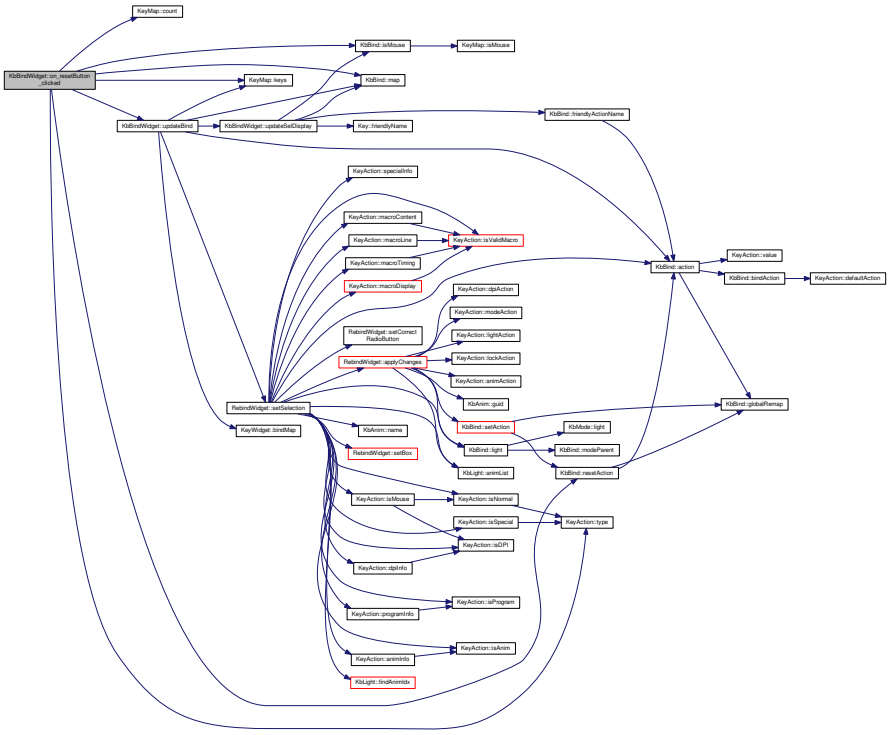
Definition at line 82 of file kbbindwidget.cpp.

References bind, KeyMap::count(), currentSelection, KbBind::isMouse(), KeyMap::keys(), KbBind::map(), KbBind::resetAction(), KeyAction::type(), and updateBind().

```
82                                     {
83     QStringList selection = currentSelection;
84     const KeyMap& map = bind->map();
85     if(selection.isEmpty())
86         // Reset all keys if none selected
87         selection = map.keys();
88     uint count = selection.count();
89     QString type = bind->isMouse() ? "button" : "key";
90     QString text;
91     if(count == map.count())
92         text = "<center>Reset all %1s to default?</center>";
93     else if(count == 1)
94         text = "<center>Reset this %1 to default?</center>";
95     else
96         text = tr("<center>Reset %1 %2s to default?</center>").arg(count);
97     if(QMessageBox(QMessageBox::NoIcon, "Confirm action", text.arg(type), QMessageBox::Yes |
    QMessageBox::No, this).exec() != QMessageBox::Yes)
98         return;
99     bind->resetAction(selection);
```

```
100     updateBind();
101 }
```

Here is the call graph for this function:



12.28.3.5 void KbBindWidget::setBind (KbBind * *newBind*, KbProfile * *newProfile*)

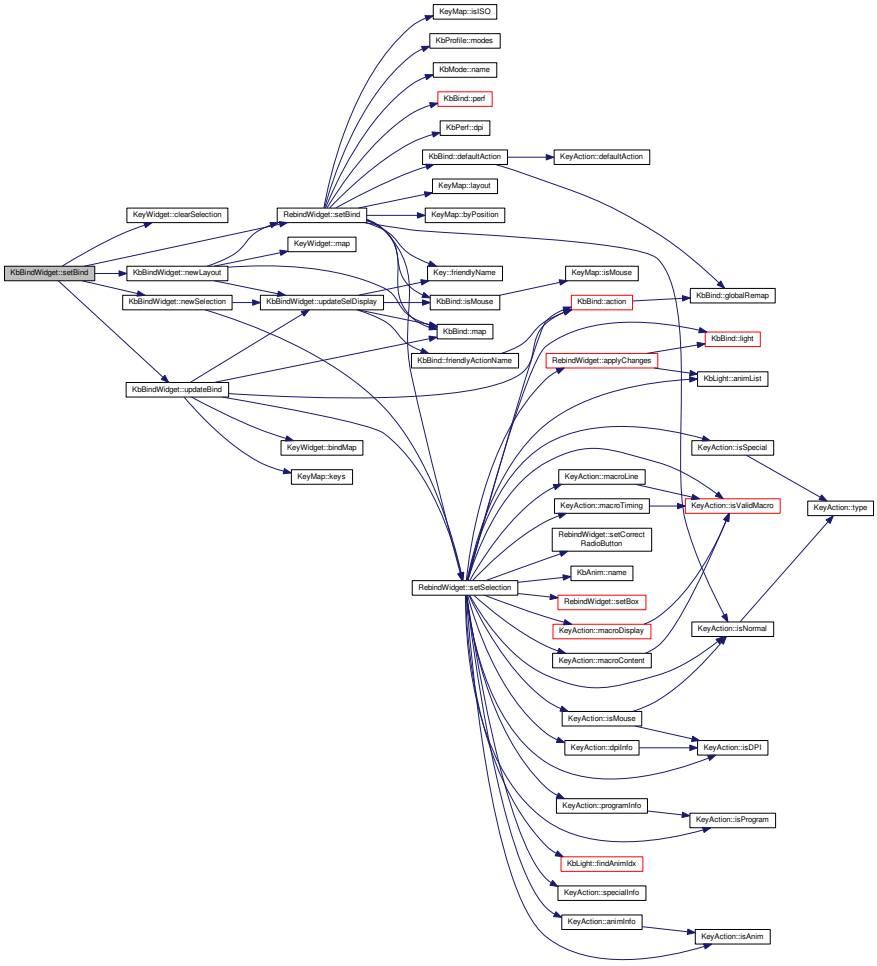
Definition at line 20 of file kbbindwidget.cpp.

References bind, KeyWidget::clearSelection(), Ui_KbBindWidget::keyWidget, newLayout(), newSelection(), profile, Ui_KbBindWidget::rbWidget, RebindWidget::setBind(), ui, and updateBind().

Referenced by KbWidget::modeChanged().

```
20                                                      {
21     ui->keyWidget->clearSelection();
22     ui->rbWidget->setBind(newBind, newProfile);
23     newSelection(QStringList());
24     if(bind == newBind)
25         return;
26     if(bind){
27         disconnect(bind, SIGNAL(layoutChanged()), this, SLOT(newLayout()));
28         disconnect(bind, SIGNAL(updated()), this, SLOT(updateBind()));
29     }
30     connect(newBind, SIGNAL(layoutChanged()), this, SLOT(newLayout()));
31     connect(newBind, SIGNAL(updated()), this, SLOT(updateBind()));
32     bind = newBind;
33     profile = newProfile;
34     newLayout();
35     ui->rbWidget->setBind(bind, profile);
36     updateBind();
37 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.28.3.6 void KbBindWidget::updateBind ( ) [private],[slot]

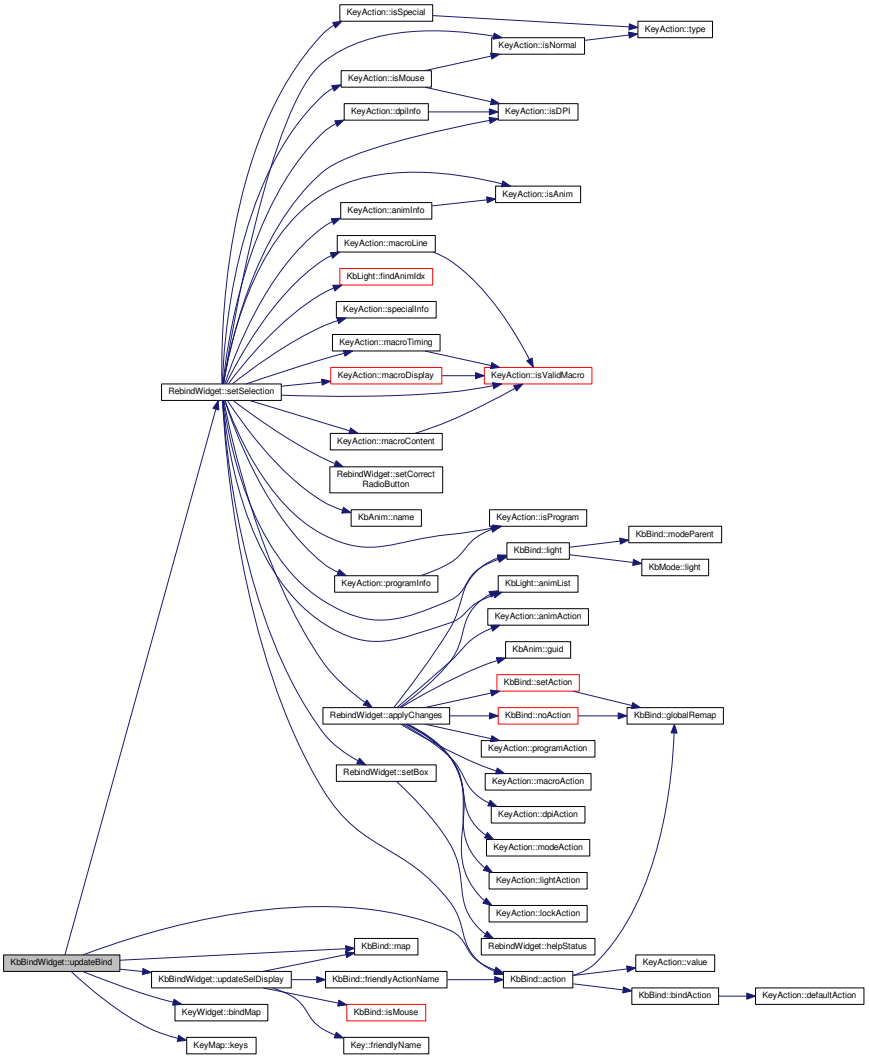
Definition at line 39 of file kbbindwidget.cpp.

References KbBind::action(), bind, KeyWidget::bindMap(), currentSelection, KeyMap::keys(), Ui_KbBindWidget::keyWidget, KbBind::map(), Ui_KbBindWidget::rbWidget, RebindWidget::setSelection(), ui, and updateSelDisplay().

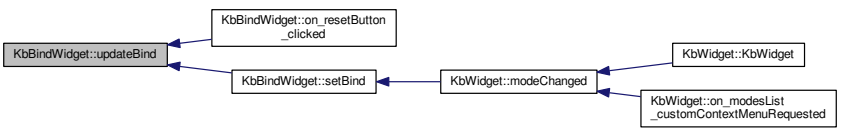
Referenced by on_resetButton_clicked(), and setBind().

```
39                          {
40     const KeyMap& map = bind->map();
41     // Build the action list based on the keymap
42     QHash<QString, QString> actions;
43     foreach(const QString& key, map.keys())
44         actions[key] = bind->action(key);
45     ui->keyWidget->bindMap(actions);
46     ui->rbWidget->setSelection(currentSelection);
47     updateSelDisplay();
48 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.28.3.7 void KbBindWidget::updateSelDisplay ( ) [private], [slot]

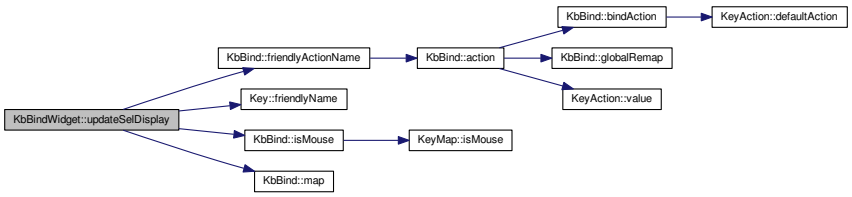
Definition at line 62 of file kbbindwidget.cpp.

References bind, currentSelection, KbBind::friendlyActionName(), Key::friendlyName(), KbBind::isMouse(), KbBind::map(), Ui_KbBindWidget::selectLabel, and ui.

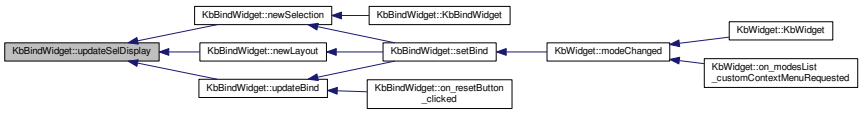
Referenced by newLayout(), newSelection(), and updateBind().

```
62                                      {
63     int count = currentSelection.count();
64     if(count == 0){
65         // No keys selected
66         ui->selectLabel->setText("Click to select");
67         return;
68     }
69     if(count == 1){
70         // Single key selected: show key name and binding
71         QString key = currentSelection[0];
72         const Key& pos = bind->map()[key];
73         if(!pos)
74             ui->selectLabel->setText("(Unknown)");
75         else
76             ui->selectLabel->setText(pos.friendlyName(false).split("\n")[0] + " →
      " + bind->friendlyActionName(key).split("\n")[0]);
77         return;
78     }
79     ui->selectLabel->setText(QString("%1 %2 selected").arg(count).arg(
      bind->isMouse() ? "buttons" : "keys"));
80 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.28.4 Field Documentation

12.28.4.1 KbBind* KbBindWidget::bind [private]

Definition at line 34 of file kbbindwidget.h.

Referenced by newLayout(), on_copyButton_clicked(), on_resetButton_clicked(), setBind(), updateBind(), and updateSelDisplay().

12.28.4.2 QStringList KbBindWidget::currentSelection [private]

Definition at line 36 of file kbbindwidget.h.

Referenced by newSelection(), on_copyButton_clicked(), on_resetButton_clicked(), updateBind(), and updateSelDisplay().

12.28.4.3 KbProfile* KbBindWidget::profile [private]

Definition at line 35 of file kbbindwidget.h.

Referenced by newLayout(), on_copyButton_clicked(), and setBind().

12.28.4.4 Ui::KbBindWidget* KbBindWidget::ui [private]

Definition at line 32 of file kbbindwidget.h.

Referenced by KbBindWidget(), newLayout(), newSelection(), setBind(), updateBind(), updateSelDisplay(), and ~KbBindWidget().

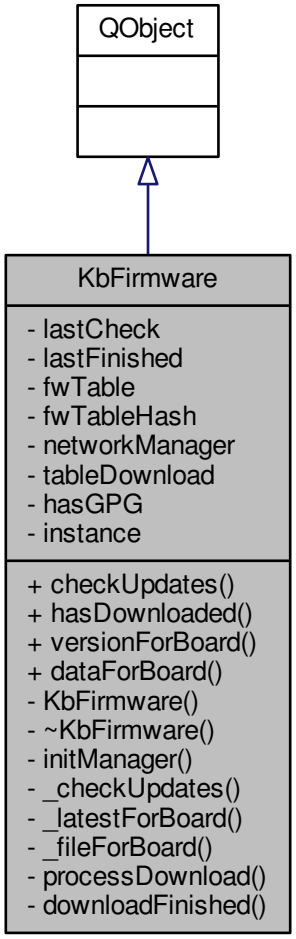
The documentation for this class was generated from the following files:

- src/ckb/kbbindwidget.h
- src/ckb/kbbindwidget.cpp

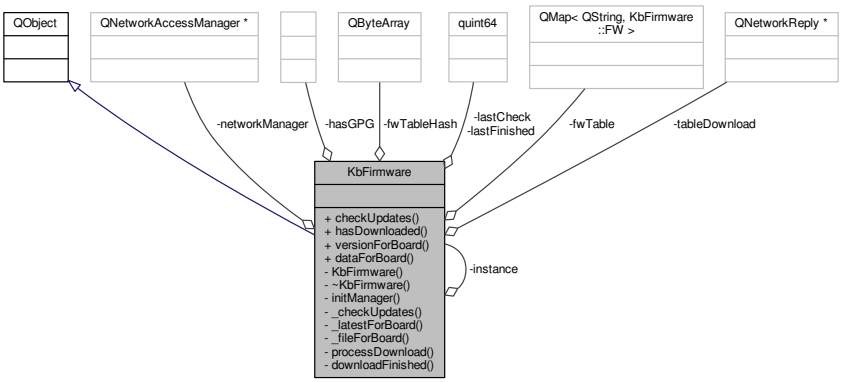
12.29 KbFirmware Class Reference

`#include <src/ckb/kbfirmware.h>`

Inheritance diagram for KbFirmware:



Collaboration diagram for KbFirmware:



Data Structures

- struct FW

Signals

- void downloaded ()

Static Public Member Functions

- static bool checkUpdates ()
- static bool hasDownloaded ()
- static float versionForBoard (const QString &features, bool waitForComplete=false)
- static QByteArray dataForBoard (const QString &features)

Private Types

- enum { UNKNOWN = -1, NO, YES }

Private Slots

- void processDownload (QNetworkReply *reply)
- void downloadFinished ()

Private Member Functions

- KbFirmware ()
- ~KbFirmware ()
- void initManager ()
- bool _checkUpdates ()
- float _latestForBoard (const QString &features, bool waitForComplete)
- QByteArray _fileForBoard (const QString &features)

Private Attributes

- quint64 lastCheck
- quint64 lastFinished
- QMap< QString, FW > fwTable
- QByteArray fwTableHash
- QNetworkAccessManager * networkManager
- QNetworkReply * tableDownload
- enum KbFirmware:: { ... } hasGPG

Static Private Attributes

- static KbFirmware instance

12.29.1 Detailed Description

Definition at line 10 of file kbfirmware.h.

12.29.2 Member Enumeration Documentation

12.29.2.1 anonymous enum [private]

Enumerator

UNKNOWN

NO

YES

Definition at line 53 of file kbfirmware.h.

```
53 { UNKNOWN = -1, NO, YES } hasGPG :2;
```

12.29.3 Constructor & Destructor Documentation

12.29.3.1 KbFirmware::KbFirmware ( ) [private]

Definition at line 14 of file kbfirmware.cpp.

```
14                          :
15     lastCheck(0), lastFinished(0), networkManager(0),
       tableDownload(0), hasGPG(UNKNOWN)
16 {
17 }
```

12.29.3.2 KbFirmware::~KbFirmware ( ) [private]

Definition at line 19 of file kbfirmware.cpp.

```
19                          {
20     //delete networkManager;
21     // ^ This can cause a crash (QT bug?)
22 }
```

12.29.4 Member Function Documentation

12.29.4.1 bool KbFirmware::_checkUpdates ( ) [private]

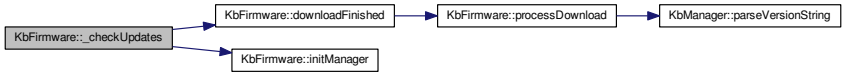
Definition at line 30 of file kbfirmware.cpp.

References AUTO_CHECK_TIME, downloadFinished(), initManager(), lastCheck, networkManager, and tableDownload.

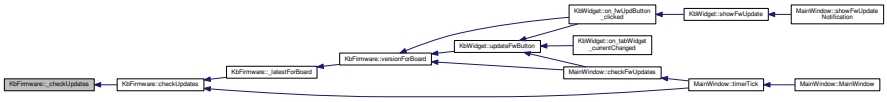
Referenced by checkUpdates().

```
30                                {
31     initManager();
32     quint64 now = QDateTime::currentMSecsSinceEpoch();
33     if(now < lastCheck + AUTO_CHECK_TIME)
34         return false;
35     // First location is for debugging only.
36     // tableDownload =
       networkManager->get(QNetworkRequest(QUrl("https://raw.githubusercontent.com/frickler24/ckb-next/issues-26-Firmware-Inc
37     // This one is the production one.
38     tableDownload = networkManager->get(QNetworkRequest(QUrl("
       https://raw.githubusercontent.com/mattanger/ckb-next/master/FIRMWARE")));
39     connect(tableDownload, SIGNAL(finished()), this, SLOT(
       downloadFinished()));
40     lastCheck = now;
41     return true;
42 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.29.4.2 QByteArray KbFirmware::_fileForBoard (const QString & *features*) [private]

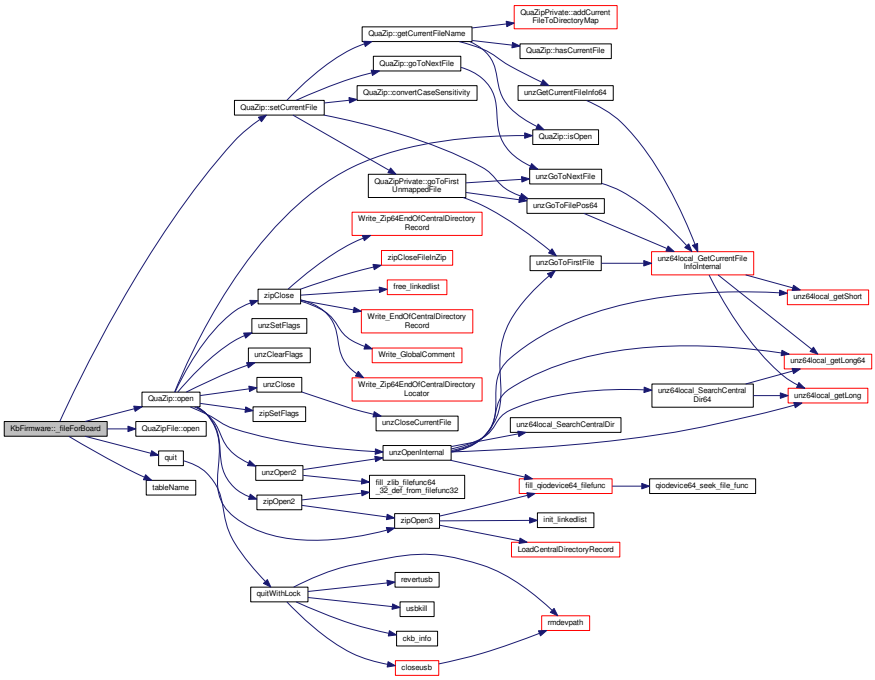
Definition at line 183 of file kbfirmware.cpp.

References QuaZip::csInsensitive, KbFirmware::FW::fileName, fwTable, KbFirmware::FW::hash, QuaZip::mdUnzip, networkManager, QuaZip::open(), QuaZipFile::open(), quit(), QuaZip::setCurrentFile(), tableName(), and KbFirmware::FW::url.

Referenced by dataForBoard().

```
183                                                     {
184     QString name = tableName(features);
185     FW info = fwTable.value(name);
186     if(info.hash.isEmpty())
187         return "";
188     // Download zip from URL. Wait for it to finish.
189     QNetworkReply* reply = networkManager->get(QNetworkRequest(QUrl(info.url)));
190     QEventLoop loop(this);
191     connect(reply, SIGNAL(finished()), &loop, SLOT(quit()));
192     loop.exec();
193     // Download finished, process data
194     if(reply->error() != QNetworkReply::NoError)
195         return "";
196     QByteArray zipData = reply->readAll();
197     QBuffer buffer(&zipData);
198     // Open zip archive
199     QuaZip zip(&buffer);
200     if(!zip.open(QuaZip::mdUnzip))
201         return "";
202     // Find the desired file
203     if(!zip.setCurrentFile(info.fileName, QuaZip::csInsensitive))
204         return "";
205     QuaZipFile binFile(&zip);
206     if(!binFile.open(QIODevice::ReadOnly))
207         return "";
208     QByteArray binary = binFile.readAll();
209     // Check the hash
210     if(QCryptographicHash::hash(binary, QCryptographicHash::Sha256) != info.hash)
211         return "";
212     return binary;
213 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.29.4.3 float KbFirmware::_latestForBoard (const QString & *features,* bool *waitForComplete*) [private]

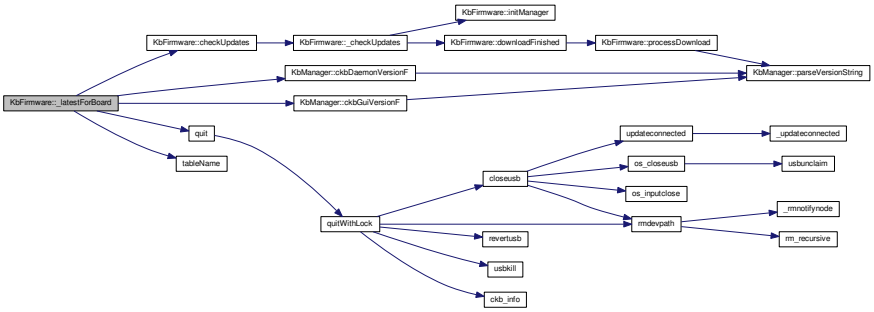
Definition at line 165 of file kbfirmware.cpp.

References checkUpdates(), KbManager::ckbDaemonVersionF(), KbManager::ckbGuiVersionF(), KbFirmware::FW::ckbVersion, downloaded(), fwTable, KbFirmware::FW::fwVersion, KbFirmware::FW::hash, quit(), tableDownload, and tableName().

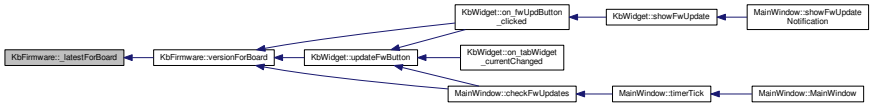
Referenced by versionForBoard().

```
165                                                                                 {
166     if((tableDownload || checkUpdates()) && waitForComplete){
167         // If waiting is desired, enter an event loop and stay here until the download is finished
168         QEventLoop loop(this);
169         connect(this, SIGNAL(downloaded()), &loop, SLOT(quit()));
170         loop.exec();
171     }
172     // Find this board
173     QString name = tableName(features);
174     FW info = fwTable.value(name);
175     if(info.hash.isEmpty())
176         return 0.f;
177     // Don't return the new version if the current ckb doesn't support it
178     if(info.ckbVersion > KbManager::ckbGuiVersionF() || info.ckbVersion >
    KbManager::ckbDaemonVersionF())
179         return -1.f;
180     return info.fwVersion;
181 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.29.4.4 static bool KbFirmware::checkUpdates ( ) [inline], [static]

Definition at line 15 of file kbfirmware.h.

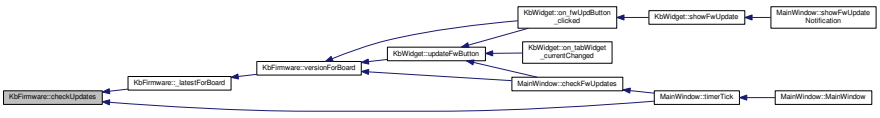
References _checkUpdates(), and instance.

Referenced by _latestForBoard(), and MainWindow::timerTick().

```
15 { return instance._checkUpdates(); }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.29.4.5 static QByteArray KbFirmware::dataForBoard (const QString & *features*) [inline], [static]

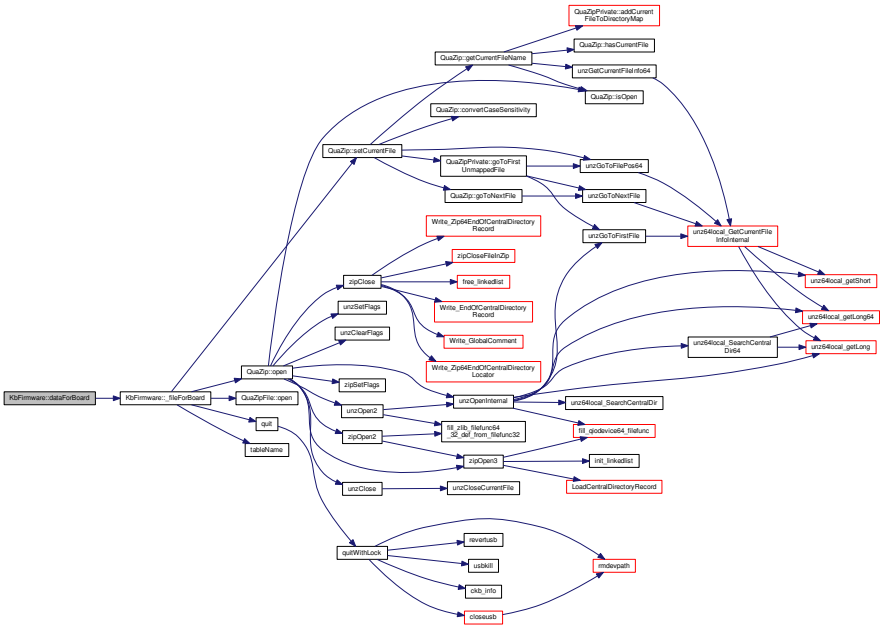
Definition at line 25 of file kbfirmware.h.

References _fileForBoard(), and instance.

Referenced by FwUpgradeDialog::exec().

```
25 { return instance._fileForBoard(features); }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.29.4.6 void KbFirmware::downloaded ( ) [signal]

Definition at line 148 of file moc_kbfirmware.cpp.

Referenced by _latestForBoard(), and downloadFinished().

```
149 {
150     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
151 }
```

Here is the caller graph for this function:

12.29.4.7 void KbFirmware::downloadFinished ( ) [private], [slot]

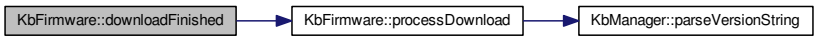
Definition at line 144 of file kbfirmware.cpp.

References downloaded(), processDownload(), and tableDownload.

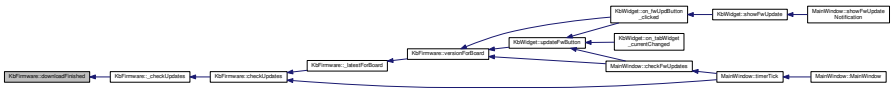
Referenced by _checkUpdates().

```
144                                {
145     if(!tableDownload)
146         return;
147     processDownload(tableDownload);
148     tableDownload->deleteLater();
149     tableDownload = 0;
150     emit downloaded();
151 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.29.4.8 static bool KbFirmware::hasDownloaded ( ) [inline], [static]

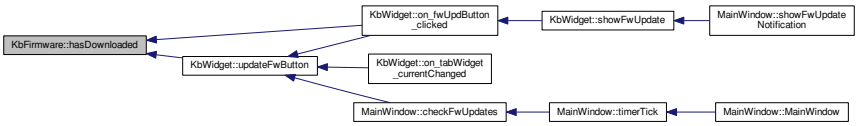
Definition at line 18 of file kbfirmware.h.

References instance, and lastFinished.

Referenced by KbWidget::on_fwUpdButton_clicked(), and KbWidget::updateFwButton().

```
18 { return instance.lastFinished != 0; }
```

Here is the caller graph for this function:



12.29.4.9 void KbFirmware::initManager ( ) [private]

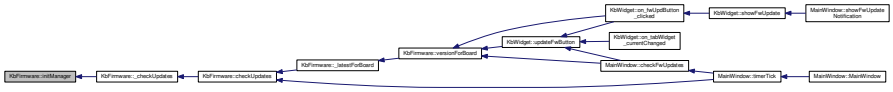
Definition at line 24 of file kbfirmware.cpp.

References networkManager.

Referenced by _checkUpdates().

```
24                                  {
25     if(networkManager)
26         return;
27     networkManager = new QNetworkAccessManager();
28 }
```

Here is the caller graph for this function:



12.29.4.10 void KbFirmware::processDownload (QNetworkReply * *reply*) [private],[slot]

Definition at line 44 of file kbfirmware.cpp.

References KbFirmware::FW::ckbVersion, KbFirmware::FW::fileName, fwTable, fwTableHash, KbFirmware::FW::fwVersion, hasGPG, KbFirmware::FW::hash, lastCheck, lastFinished, NO, KbManager::parseVersionString(), UNKNOWN, KbFirmware::FW::url, and YES.

Referenced by downloadFinished().

```
44                                                  {
45     if(reply->error() != QNetworkReply::NoError)
46         return;
47     // Update last check
48     lastCheck = lastFinished = QDateTime::currentMSecsSinceEpoch();
49     QByteArray data = reply->readAll();
50     // Don't do anything if this is the same as the last version downloaded
51     QByteArray hash = QCryptographicHash::hash(data, QCryptographicHash::Sha256);
52     if(hash == fwTableHash)
53         return;
54     fwTableHash = hash;
55     if(hasGPG == UNKNOWN){
56         // Check for a GPG installation
57         QProcess gpg;
58         gpg.start("gpg", QStringList("--version"));
59         gpg.waitForFinished();
60         if(gpg.error() == QProcess::FailedToStart)
61             // No GPG install
62             hasGPG = NO;
63         else {
64             QString output = QString::fromUtf8(gpg.readAll());
65             // Must support RSA keys and SHA256
66             if(output.contains("RSA", Qt::CaseInsensitive) && output.contains("SHA256", Qt::CaseInsensitive
    ))
67                 hasGPG = YES;
68             else
69                 hasGPG = NO;
70         }
71         if(!hasGPG)
72             qDebug() << "No GPG detected, signature verification disabled";
73     }
74     if(hasGPG){
75         // If GPG is available, check the signature on the file before proceeding.
76         QDir tmp = QDir::temp();
77         // Save file to a temporary path. Include PID to avoid conflicts
78         qint64 pid = QCoreApplication::applicationPid();
79         QString fwPath = tmp.absoluteFilePath(QString("ckb-%1-firmware").arg(pid));
80         QFile firmware(fwPath);
81         if(!firmware.open(QIODevice::WriteOnly)
82                 || firmware.write(data) != data.length()){
83             qDebug() << "Failed to write firmware file to temporary location, aborting firmware check";
84             return;
85         }
86         firmware.close();
87         // Write GPG key
88         QString keyPath = tmp.absoluteFilePath(QString("ckb-%1-key.gpg").arg(pid));
89         if(!QFile::copy(":/bin/ckb-next-key.gpg", keyPath)){
90             firmware.remove();
91             qDebug() << "Failed to write GPG key to temporary location, aborting firmware check";
92             return;
93         }
94         // Check signature
```

```
95          QProcess gpg;
96          gpg.start("gpg", QStringList("--no-default-keyring") << "--keyring" << keyPath << "--verify" <<
    fwPath);
97          gpg.waitForFinished();
98          // Clean up temp files
99          tmp.remove(fwPath);
100          tmp.remove(keyPath);
101          if(gpg.error() != QProcess::UnknownError || gpg.exitCode() != 0){
102              qDebug() << "GPG couldn't verify firmware signature:";
103              qDebug() << gpg.readAllStandardOutput();
104              qDebug() << gpg.readAllStandardError();
105              return;
106          }
107          // Signature good, proceed to update database
108      }
109      fwTable.clear();
110      QStringList lines = QString::fromUtf8(data).split("\n");
111      bool scan = false;
112      foreach(QString line, lines){
113          // Collapse whitespace
114          line.replace(QRegExp("\\s+"), " ").remove(QRegExp("^\\s")).remove(QRegExp("\\s$"));
115          // Skip empty or commented-out lines
116          if(line.length() == 0 || line.at(0) == '#')
117              continue;
118          // Don't read anything until the entries begin and don't read anything after they end
119          if(!scan){
120              if(line == "!BEGIN FW ENTRIES")
121                  scan = true;
122              else
123                  continue;
124          }
125          if(line == "!END FW ENTRIES")
126              break;
127          QStringList components = line.split(" ");
128          if(components.length() != 7)
129              continue;
130          // "VENDOR-PRODUCT"
131          QString device = components[0].toUpper() + "-" + components[1].toUpper();
132          FW fw;
133          fw.fwVersion = components[2].toFloat();                              // Firmware blob version
134          fw.url = QUrl::fromPercentEncoding(components[3].toLatin1());        // URL to zip file
135          fw.ckbVersion = KbManager::parseVersionString(components[4]);        //
     Minimum ckb version
136          fw.fileName = QUrl::fromPercentEncoding(components[5].toLatin1());   // Name of file inside zip
137          fw.hash = QByteArray::fromHex(components[6].toLatin1());             // SHA256 of file inside zip
138          // Update entry
139          fwTable[device] = fw;
140      }
141      qDebug() << "Downloaded new firmware list." << fwTable.count() << "entries found.";
142  }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.29.4.11 static float KbFirmware::versionForBoard (const QString & *features*, bool *waitForComplete* = `false`) [inline], [static]

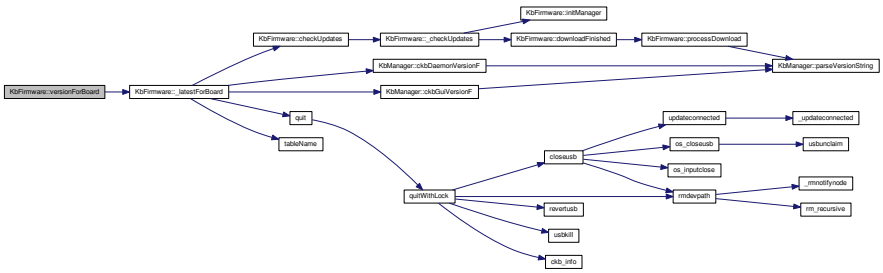
Definition at line 22 of file kbfirmware.h.

References _latestForBoard(), and instance.

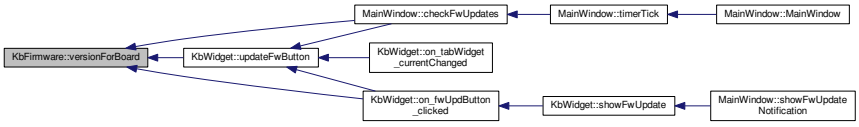
Referenced by MainWindow::checkFwUpdates(), KbWidget::on_fwUpdButton_clicked(), and KbWidget::updateFwButton().

```
22 { return instance._latestForBoard(features, waitForComplete); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.29.5 Field Documentation

12.29.5.1 QMap<QString, FW> KbFirmware::fwTable [private]

Definition at line 41 of file kbfirmware.h.

Referenced by _fileForBoard(), _latestForBoard(), and processDownload().

12.29.5.2 QByteArray KbFirmware::fwTableHash [private]

Definition at line 43 of file kbfirmware.h.

Referenced by processDownload().

12.29.5.3 enum { ... } KbFirmware::hasGPG [private]

Referenced by processDownload().

12.29.5.4 KbFirmware KbFirmware::instance [static], [private]

Definition at line 59 of file kbfirmware.h.

Referenced by checkUpdates(), dataForBoard(), hasDownloaded(), and versionForBoard().

12.29.5.5 quint64 KbFirmware::lastCheck [private]

Definition at line 32 of file kbfirmware.h.

Referenced by _checkUpdates(), and processDownload().

12.29.5.6 quint64 KbFirmware::lastFinished [private]

Definition at line 32 of file kbfirmware.h.

Referenced by hasDownloaded(), and processDownload().

12.29.5.7 QNetworkAccessManager* KbFirmware::networkManager [private]

Definition at line 47 of file kbfirmware.h.

Referenced by _checkUpdates(), _fileForBoard(), and initManager().

12.29.5.8 QNetworkReply* KbFirmware::tableDownload [private]

Definition at line 50 of file kbfirmware.h.

Referenced by _checkUpdates(), _latestForBoard(), and downloadFinished().

The documentation for this class was generated from the following files:

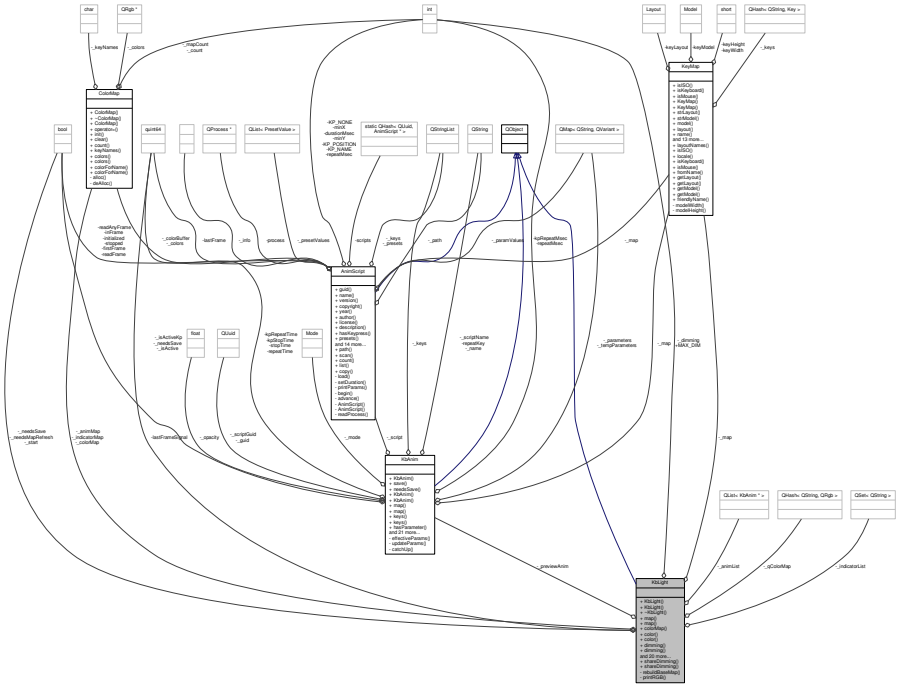
- src/ckb/kbfirmware.h
- src/ckb/kbfirmware.cpp
- src/ckb/release/moc_kbfirmware.cpp

12.30 KbLight Class Reference

`#include <src/ckb/kblight.h>`

Inheritance diagram for KbLight:

Collaboration diagram for KbLight:



Public Types

- typedef QList< KbAnim * > AnimList

Signals

- void didLoad ()
- void updated ()
- void frameDisplayed (const ColorMap &animatedColors, const QSet< QString > &indicatorList)

Public Member Functions

- KbLight (KbMode *parent, const KeyMap &keyMap)
- KbLight (KbMode *parent, const KeyMap &keyMap, const KbLight &other)
- ~KbLight ()
- const KeyMap & map ()
- void map (const KeyMap &map)
- const QColorMap & colorMap ()
- void color (const QString &key, const QColor &newColor)
- void color (const QColor &newColor)
- int dimming ()
- void dimming (int newDimming)
- KbAnim * addAnim (const AnimScript *base, const QStringList &keys, const QString &name, const QMap< QString, QVariant > &preset)
- KbAnim * duplicateAnim (KbAnim *oldAnim)
- const AnimList & animList ()
- void animList (const AnimList &newAnimList)
- KbAnim * findAnim (const QUuid &guid) const

- int findAnimIdx (const QUuid &guid) const
- void previewAnim (const AnimScript *base, const QStringList &keys, const QMap< QString, QVariant > &preset)
- void stopPreview ()
- void restartAnimation ()
- void animKeypress (const QString &key, bool down)
- void open ()
- bool isStarted ()
- void close ()
- void resetIndicators ()
- void setIndicator (const char *name, QRgb argb)
- void frameUpdate (QFile &cmd, bool monochrome=false)
- void base (QFile &cmd, bool ignoreDim=false, bool monochrome=false)
- void load (CkbSettings &settings)
- void save (CkbSettings &settings)
- bool needsSave () const

Static Public Member Functions

- static int shareDimming ()
- static void shareDimming (int newShareDimming)

Static Public Attributes

- static const int MAX_DIM = 3

Private Member Functions

- void rebuildBaseMap ()
- void printRGB (QFile &cmd, const ColorMap &animMap)

Private Attributes

- AnimList _animList
- KbAnim * _previewAnim
- KeyMap _map
- QColorMap _qColorMap
- ColorMap _colorMap
- ColorMap _animMap
- ColorMap _indicatorMap
- QSet< QString > _indicatorList
- quint64 lastFrameSignal
- int _dimming
- bool _start
- bool _needsSave
- bool _needsMapRefresh

12.30.1 Detailed Description

Definition at line 17 of file kblight.h.

12.30.2 Member Typedef Documentation

12.30.2.1 typedef QList<KbAnim*> KbLight::AnimList

Definition at line 46 of file kblight.h.

12.30.3 Constructor & Destructor Documentation

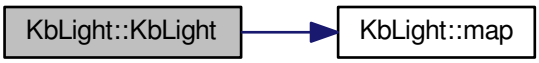
12.30.3.1 KbLight::KbLight (KbMode * *parent*, const KeyMap & *keyMap*)

Definition at line 10 of file kblight.cpp.

References map().

```
10                                                      :
11     QObject(parent), _previewAnim(0), lastFrameSignal(0),
       _dimming(0), _start(false), _needsSave(true),
       _needsMapRefresh(true)
12 {
13     map(keyMap);
14 }
```

Here is the call graph for this function:



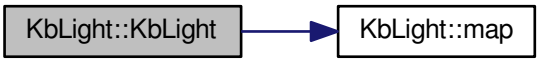
12.30.3.2 KbLight::KbLight (KbMode * *parent*, const KeyMap & *keyMap*, const KbLight & *other*)

Definition at line 16 of file kblight.cpp.

References _animList, and map().

```
16                                                                                  :
17     QObject(parent), _previewAnim(0), _map(other._map),
       _qColorMap(other._qColorMap), lastFrameSignal(0),
       _dimming(other._dimming), _start(false), _needsSave(true),
       _needsMapRefresh(true)
18 {
19     map(keyMap);
20     // Duplicate animations
21     foreach(KbAnim* animation, other._animList)
22         _animList.append(new KbAnim(this, keyMap, *animation));
23 }
```

Here is the call graph for this function:



12.30.3.3 KbLight::~KbLight ( )

Definition at line 45 of file kblight.cpp.

References activeLights.

```
45                  {
46      activeLights.remove(this);
47  }
```

12.30.4 Member Function Documentation

12.30.4.1 KbAnim * KbLight::addAnim (const AnimScript * *base*, const QStringList & *keys*, const QString & *name*, const QMap< QString, QVariant > & *preset*)

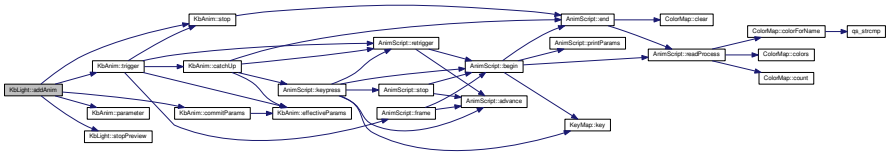
Definition at line 100 of file kblight.cpp.

References _animList, _map, _needsSave, _start, anim, KbAnim::commitParams(), KbAnim::parameter(), KbAnim::stop(), stopPreview(), and KbAnim::trigger().

Referenced by KbAnimWidget::addAnim().

```
100
                                {
101     // Stop and restart all existing animations
102     stopPreview();
103     quint64 timestamp = QDateTime::currentMSecsSinceEpoch();
104     foreach(KbAnim* anim, _animList){
105         anim->stop();
106         anim->trigger(timestamp);
107     }
108     // Load the new animation and set preset parameters
109     KbAnim* anim = new KbAnim(this, _map, name, keys, base);
110     QMapIterator<QString, QVariant> i(preset);
111     while(i.hasNext()){
112         i.next();
113         anim->parameter(i.key(), i.value());
114     }
115     anim->commitParams();
116     // Add the animation and start it
117     _animList.append(anim);
118     anim->trigger(timestamp);
119     _start = true;
120     _needsSave = true;
121     return anim;
122 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.30.4.2 void KbLight::animKeypress (const QString & *key*, bool *down*)

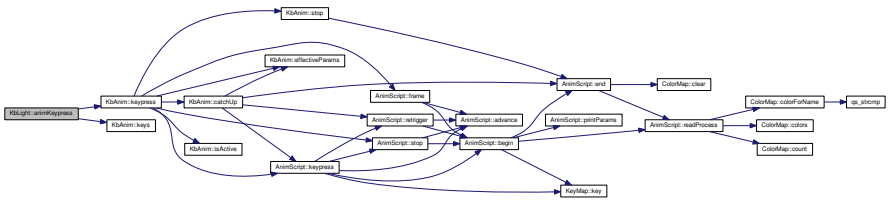
Definition at line 189 of file kblight.cpp.

References _animList, _previewAnim, anim, KbAnim::keypress(), and KbAnim::keys().

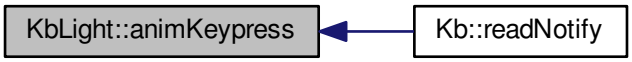
Referenced by Kb::readNotify().

```
189                                                                 {
190     foreach(KbAnim* anim, _animList){
191         if(anim->keys().contains(key))
192             anim->keypress(key, down, QDateTime::currentMSecsSinceEpoch());
193     }
194     if(_previewAnim){
195         if(_previewAnim->keys().contains(key))
196             _previewAnim->keypress(key, down, QDateTime::currentMSecsSinceEpoch());
197     }
198 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.30.4.3 const AnimList& KbLight::animList ( ) [inline]

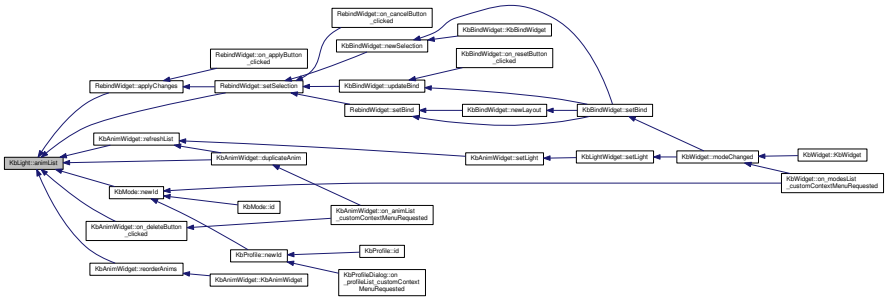
Definition at line 49 of file kblight.h.

References _animList.

Referenced by RebindWidget::applyChanges(), KbAnimWidget::duplicateAnim(), KbMode::newId(), KbAnimWidget::on_deleteButton_clicked(), KbAnimWidget::refreshList(), KbAnimWidget::reorderAnims(), and RebindWidget::setSelection().

```
49 { return _animList; }
```

Here is the caller graph for this function:



12.30.4.4 void KbLight::animList (const AnimList & *newAnimList*) [inline]

Definition at line 50 of file kblight.h.

References _animList, and _needsSave.

```
50 { _needsSave = true; _animList = newAnimList; }
```

12.30.4.5 void KbLight::base (QFile & *cmd*, bool *ignoreDim* = false, bool *monochrome* = false)

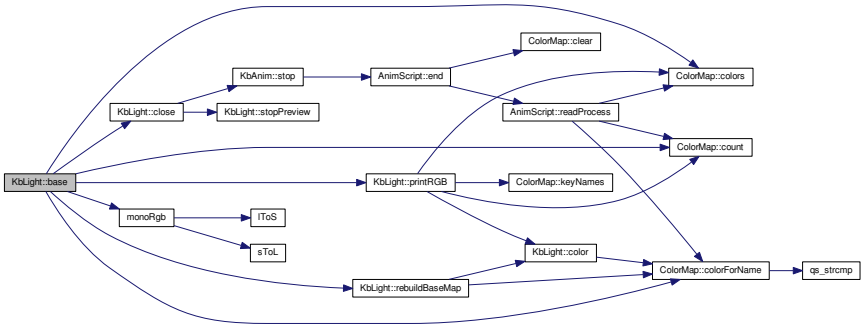
Definition at line 371 of file kblight.cpp.

References _animMap, _colorMap, _dimming, close(), ColorMap::colorForName(), ColorMap::colors(), ColorMap::count(), MAX_DIM, monoRgb(), printRGB(), and rebuildBaseMap().

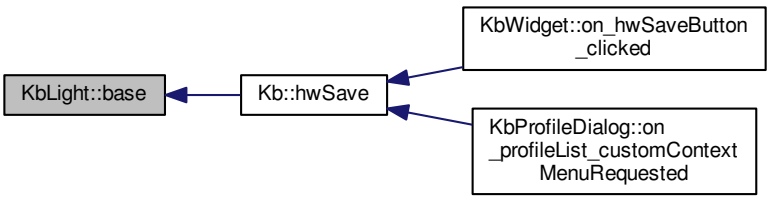
Referenced by Kb::hwSave().

```
371                                                    {
372     close();
373     if(_dimming == MAX_DIM && !ignoreDim){
374         cmd.write(QString().sprintf("rgb 000000").toLatin1());
375         return;
376     }
377     // Set just the background color, ignoring any animation
378     rebuildBaseMap();
379     _animMap = _colorMap;
380     // If monochrome is active, create grayscale
381     if(monochrome){
382         int count = _animMap.count();
383         QRgb* colors = _animMap.colors();
384         for(int i = 0; i < count; i++){
385             QRgb& rgb = colors[i];
386             rgb = monoRgb(qRed(rgb), qGreen(rgb), qBlue(rgb));
387         }
388     }
389     // Set a few indicators to black as the hardware handles them differently
390     QRgb* mr = _animMap.colorForName("mr"), *m1 = _animMap.
      colorForName("m1"), *m2 = _animMap.colorForName("m2"), *m3 =
      _animMap.colorForName("m3"), *lock = _animMap.
      colorForName("lock");
391     if(mr) *mr = 0;
392     if(m1) *m1 = 0;
393     if(m2) *m2 = 0;
394     if(m3) *m3 = 0;
395     if(lock) *lock = 0;
396     // Send to driver
397     cmd.write("rgb");
398     printRGB(cmd, _animMap);
399 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.30.4.6 void KbLight::close ( )

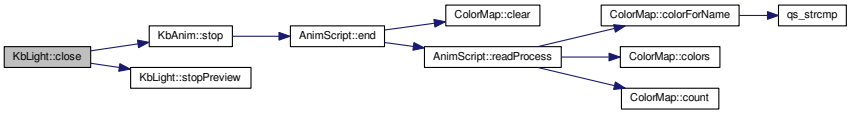
Definition at line 215 of file kblight.cpp.

References _animList, _start, activeLights, anim, KbAnim::stop(), and stopPreview().

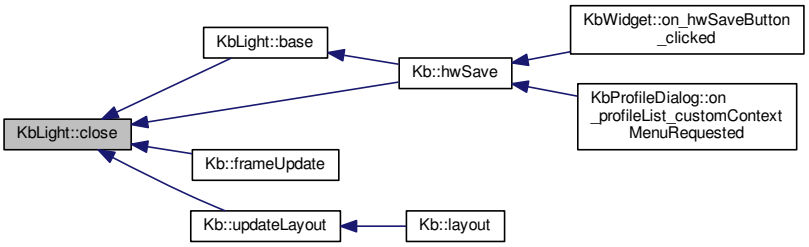
Referenced by base(), Kb::frameUpdate(), Kb::hwSave(), and Kb::updateLayout().

```
215                     {
216     activeLights.remove(this);
217     foreach(KbAnim* anim, _animList)
218         anim->stop();
219     stopPreview();
220     _start = false;
221 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.30.4.7 void KbLight::color (const QString & *key*, const QColor & *newColor*)

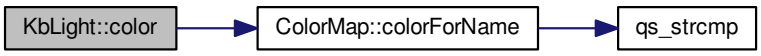
Definition at line 49 of file kblight.cpp.

References _colorMap, _needsMapRefresh, _needsSave, _qColorMap, and ColorMap::colorForName().

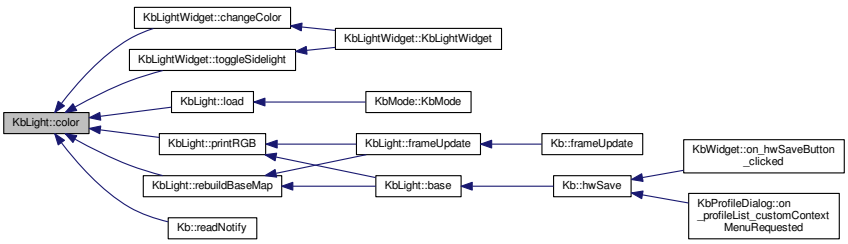
Referenced by KbLightWidget::changeColor(), load(), printRGB(), Kb::readNotify(), rebuildBaseMap(), and KbLightWidget::toggleSidelight().

```
49                                                          {
50     QRgb newRgb = newColor.rgb();
51     _qColorMap[key] = newRgb;
52     _needsSave = true;
53     if(!_needsMapRefresh){
54         // Update flat map if we're not scheduled to rebuild it
55         QByteArray rawName = key.toLatin1();
56         QRgb* rawRgb = _colorMap.colorForName(rawName.data());
57         if(rawRgb)
58             *rawRgb = newRgb;
59     }
60 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



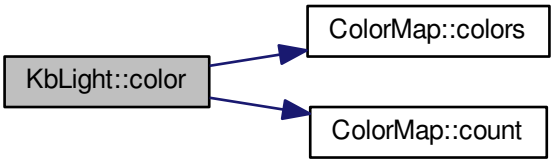
12.30.4.8 void KbLight::color (const QColor & *newColor*)

Definition at line 62 of file kblight.cpp.

References _colorMap, _needsMapRefresh, _needsSave, _qColorMap, ColorMap::colors(), and ColorMap::count().

```
62                                          {
63     QRgb newRgb = newColor.rgb();
64     QMutableColorMapIterator i(_qColorMap);
65     while(i.hasNext()){
66         i.next();
67         i.value() = newRgb;
68     }
69     _needsSave = true;
70     // Reset flat map
71     _needsMapRefresh = false;
72     int mapCount = _colorMap.count();
73     QRgb* flat = _colorMap.colors();
74     for(int i = 0; i < mapCount; i++)
75         flat[i] = mapCount;
76 }
```

Here is the call graph for this function:



12.30.4.9 const QColorMap& KbLight::colorMap ( ) [inline]

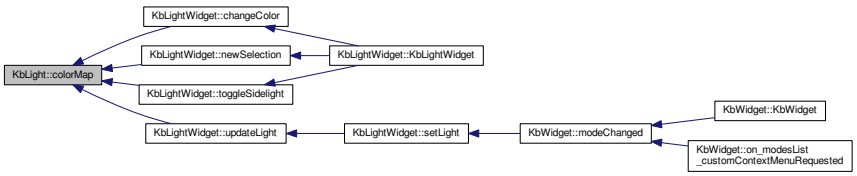
Definition at line 31 of file kblight.h.

References _qColorMap.

Referenced by KbLightWidget::changeColor(), KbLightWidget::newSelection(), KbLightWidget::toggleSidelight(), and KbLightWidget::updateLight().

```
31 { return _qColorMap; }
```

Here is the caller graph for this function:



12.30.4.10 void KbLight::didLoad ( ) [signal]

Definition at line 162 of file moc_kblight.cpp.

Referenced by load().

```
163 {
164     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
165 }
```

Here is the caller graph for this function:

12.30.4.11 int KbLight::dimming ( ) [inline]

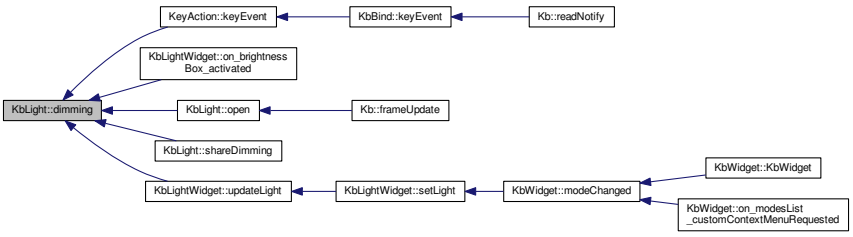
Definition at line 39 of file kblight.h.

References _dimming.

Referenced by KeyAction::keyEvent(), KbLightWidget::on_brightnessBox_activated(), open(), shareDimming(), and KbLightWidget::updateLight().

```
39 { return _dimming; }
```

Here is the caller graph for this function:



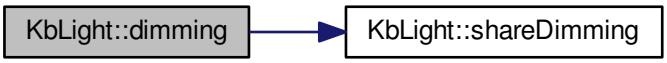
12.30.4.12 void KbLight::dimming (int *newDimming*)

Definition at line 92 of file kblight.cpp.

References _dimming, _needsSave, _shareDimming, shareDimming(), and updated().

```
92                                  {
93     if(_shareDimming != -1)
94         shareDimming(newDimming);
95     _needsSave = true;
96     _dimming = newDimming;
97     emit updated();
98 }
```

Here is the call graph for this function:



12.30.4.13 KbAnim * KbLight::duplicateAnim (KbAnim * *oldAnim*)

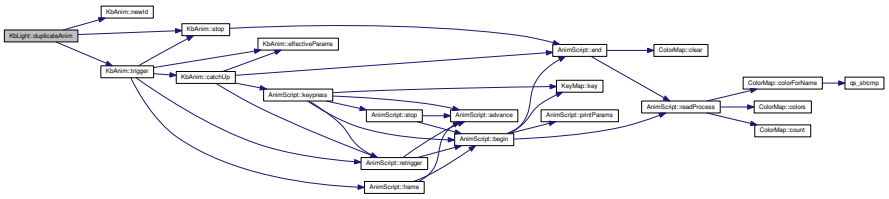
Definition at line 148 of file kblight.cpp.

References _animList, _map, _needsSave, _start, anim, KbAnim::newId(), KbAnim::stop(), and KbAnim::trigger().

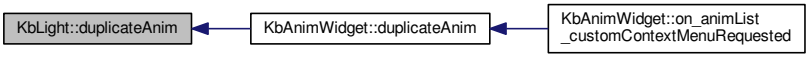
Referenced by KbAnimWidget::duplicateAnim().

```
148                                          {
149     // Stop and restart all existing animations
150     quint64 timestamp = QDateTime::currentMSecsSinceEpoch();
151     foreach(KbAnim* anim, _animList){
152         anim->stop();
153         anim->trigger(timestamp);
154     }
155     // Same as addAnim, just duplicate the existing one
156     KbAnim* anim = new KbAnim(this, _map, *oldAnim);
157     anim->newId();
158     int index = _animList.indexOf(oldAnim);
159     if(index < 0)
160         _animList.append(anim);
161     else
162         _animList.insert(index + 1, anim);
163     anim->trigger(timestamp);
164     _start = true;
165     _needsSave = true;
166     return anim;
167 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.30.4.14 KbAnim* KbLight::findAnim (const QUuid & *guid*) const [inline]

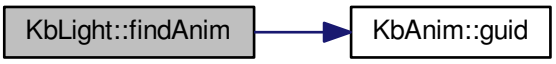
Definition at line 51 of file kblight.h.

References _animList, anim, and KbAnim::guid().

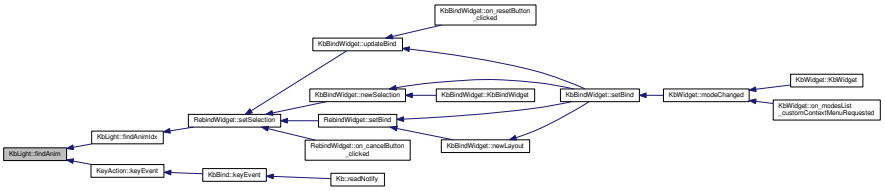
Referenced by findAnimIdx(), and KeyAction::keyEvent().

```
51 { foreach(KbAnim* anim, _animList) { if(anim->guid() == guid) return anim; } return
       0; }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.30.4.15 int KbLight::findAnimIdx (const QUuid & *guid*) const [inline]

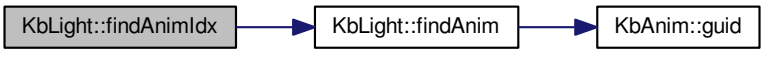
Definition at line 52 of file kblight.h.

References _animList, and findAnim().

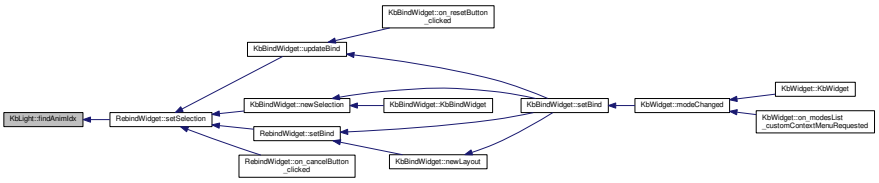
Referenced by RebindWidget::setSelection().

```
52 { return _animList.indexOf(findAnim(guid)); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.30.4.16 void KbLight::frameDisplayed (const ColorMap & *animatedColors,* const QSet< QString > & *indicatorList*) [signal]

Definition at line 174 of file moc_kblight.cpp.

Referenced by frameUpdate().

```
175 {
176     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)), const_cast<void*>(
    reinterpret_cast<const void*>(&_t2)) };
177     QMetaObject::activate(this, &staticMetaObject, 2, _a);
178 }
```

Here is the caller graph for this function:

12.30.4.17 void KbLight::frameUpdate (QFile & *cmd,* bool *monochrome* = false)

Definition at line 296 of file kblight.cpp.

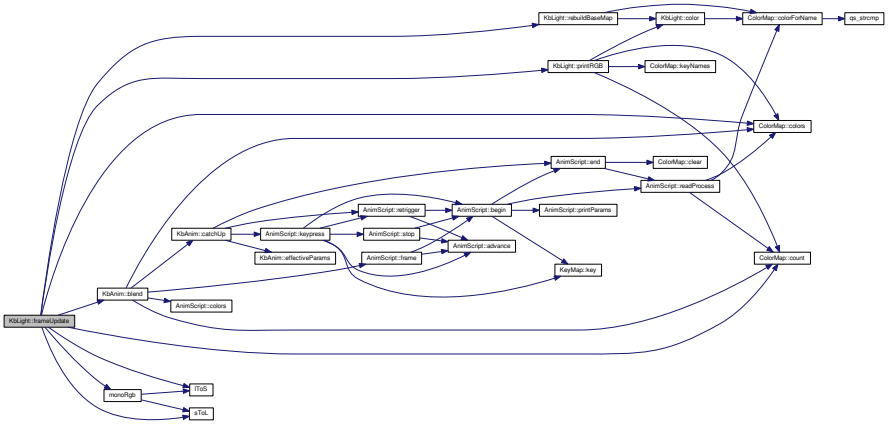
References _animList, _animMap, _colorMap, _dimming, _indicatorList, _indicatorMap, _previewAnim, anim, KbAnim::blend(), ColorMap::colors(), ColorMap::count(), frameDisplayed(), lastFrameSignal, IToS(), monoRgb(), printRGB(), rebuildBaseMap(), and sToL().

Referenced by Kb::frameUpdate().

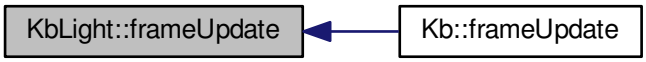
```
296                                                 {
297     rebuildBaseMap();
298     _animMap = _colorMap;
299     // Advance animations
300     quint64 timestamp = QDateTime::currentMSecsSinceEpoch();
301     foreach(KbAnim* anim, _animList)
302         anim->blend(_animMap, timestamp);
303     if(_previewAnim)
304         _previewAnim->blend(_animMap, timestamp);
305 
306     int count = _animMap.count();
307     QRgb* colors = _animMap.colors();
308     // Apply active indicators and/or perform monochrome conversion
309     if(monochrome || !_indicatorList.isEmpty()){
310         QRgb* indicators = _indicatorMap.colors();
311         for(int i = 0; i < count; i++){
312             QRgb& rgb = colors[i];
313             float r = qRed(rgb);
314             float g = qGreen(rgb);
```

```
315             float b = qBlue(rgb);
316             // Apply indicators
317             QRgb rgb2 = indicators[i];
318             if(qAlpha(rgb2) != 0){
319                 float r2 = qRed(rgb2);
320                 float g2 = qGreen(rgb2);
321                 float b2 = qBlue(rgb2);
322                 float a2 = qAlpha(rgb2) / 255.f;
323                 r = round(r2 * a2 + r * (1.f - a2));
324                 g = round(g2 * a2 + g * (1.f - a2));
325                 b = round(b2 * a2 + b * (1.f - a2));
326             }
327             // If monochrome mode is active, average the channels to get a grayscale image
328             if(monochrome)
329                 rgb = monoRgb(r, g, b);
330             else
331                 rgb = qRgb(r, g, b);
332         }
333     }
334
335     // Emit signals for the animation (only do this every 50ms - it can cause a lot of CPU usage)
336     if(timestamp >= lastFrameSignal + 50){
337         emit frameDisplayed(_animMap, _indicatorList);
338         lastFrameSignal = timestamp;
339     }
340
341     // If brightness is at 0%, turn off lighting entirely
342     if(_dimming == 3){
343         cmd.write("rgb 000000");
344         return;
345     }
346
347     float light = (3 - _dimming) / 3.f;
348     // Apply global dimming
349     if(light != 1.f || monochrome){
350         for(int i = 0; i < count; i++){
351             QRgb& rgb = colors[i];
352             // Like the monochrome conversion, this should be done in a linear colorspace
353             float r = sToL(qRed(rgb));
354             float g = sToL(qGreen(rgb));
355             float b = sToL(qBlue(rgb));
356             r *= light;
357             g *= light;
358             b *= light;
359             r = round(lToS(r));
360             g = round(lToS(g));
361             b = round(lToS(b));
362             rgb = qRgb(r, g, b);
363         }
364     }
365
366     // Apply light
367     cmd.write("rgb");
368     printRGB(cmd, _animMap);
369 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.30.4.18 bool KbLight::isStarted ( )

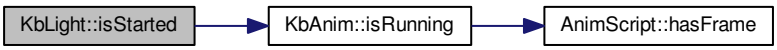
Definition at line 169 of file kblight.cpp.

References _animList, _start, and KbAnim::isRunning().

Referenced by Kb::frameUpdate().

```
169                         {
170     if(!_start)
171         return false;
172     foreach(KbAnim* animation, _animList){
173         if(!animation->isRunning())
174             return false;
175     }
176     return true;
177 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.30.4.19 void KbLight::load (CkbSettings & *settings*)

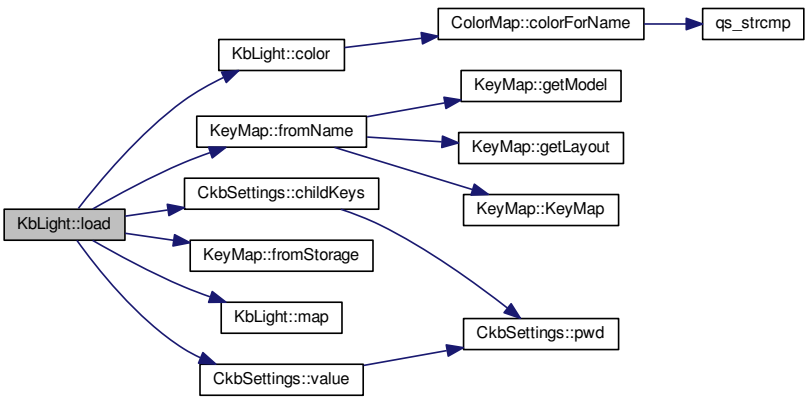
Definition at line 401 of file kblight.cpp.

References _animList, _dimming, _map, _needsMapRefresh, _needsSave, _qColorMap, anim, CkbSettings::childKeys(), color(), didLoad(), KeyMap::fromName(), KeyMap::fromStorage(), map(), MAX_DIM, and CkbSettings::value().

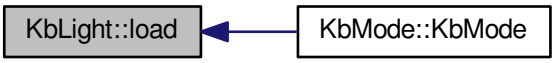
Referenced by KbMode::KbMode().

```
401                                     {
402     // Load light settings
403     _needsSave = false;
404     SGroup group(settings, "Lighting");
405     KeyMap currentMap = _map;
406     _map = KeyMap::fromName(settings.value("KeyMap").toString());
407     _dimming = settings.value("Brightness").toUInt();
408     if(_dimming > MAX_DIM)
409         _dimming = MAX_DIM;
410     // Load RGB settings
411     bool useReal = settings.value("UseRealNames").toBool();
412     {
413         SGroup group(settings, "Keys");
414         foreach(QString key, settings.childKeys()){
415             QString name = key.toLower();
416             if(!useReal)
417                 name = _map.fromStorage(name);
418             QColor color = settings.value(key).toString();
419             if(!color.isValid())
420                 color = QColor(255, 255, 255);
421             _qColorMap[name] = color.rgb();
422         }
423         _needsMapRefresh = true;
424     }
425     // Load animations
426     foreach(KbAnim* anim, _animList)
427         anim->deleteLater();
428     _animList.clear();
429     {
430         SGroup group(settings, "Animations");
431         foreach(QString anim, settings.value("List").toStringList()){
432             QUuid id = anim;
433             _animList.append(new KbAnim(this, _map, id, settings));
434         }
435     }
436     emit didLoad();
437     map(currentMap);
438 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.30.4.20 const KeyMap& KbLight::map ( ) [inline]

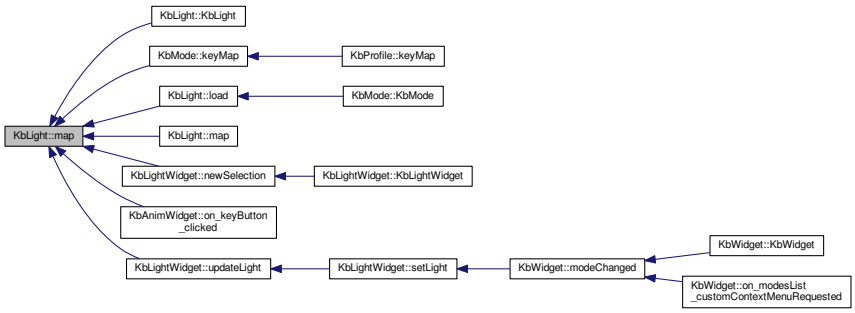
Definition at line 28 of file kblight.h.

References _map.

Referenced by KbLight(), KbMode::keyMap(), load(), map(), KbLightWidget::newSelection(), KbAnimWidget::on_keyButton_clicked(), and KbLightWidget::updateLight().

```
28 { return _map; }
```

Here is the caller graph for this function:



12.30.4.21 void KbLight::map (const KeyMap & *map*)

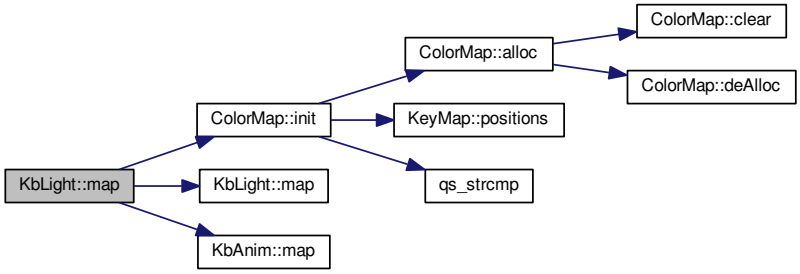
Definition at line 25 of file kblight.cpp.

References _animList, _animMap, _colorMap, _indicatorMap, _map, _needsMapRefresh, _needsSave, _qColorMap, anim, ColorMap::init(), map(), KbAnim::map(), and updated().

```
25                                  {
26     // If any of the keys are missing from the color map, set them to white
27     QHashIterator<QString, Key> i(map);
28     while(i.hasNext()){
29         i.next();
30         const QString& key = i.key();
31         if(!_qColorMap.contains(key))
32             _qColorMap[key] = 0xFFFFFFFF;
33     }
34     // Set the new map
35     _map = map;
36     foreach(KbAnim* anim, _animList)
37         anim->map(map);
38     _colorMap.init(_map);
```

```
39     _animMap.init(_map);
40     _indicatorMap.init(_map);
41     _needsSave = _needsMapRefresh = true;
42     emit updated();
43 }
```

Here is the call graph for this function:



12.30.4.22 bool KbLight::needsSave ( ) const

Definition at line 467 of file kblight.cpp.

References _animList, _needsSave, anim, and KbAnim::needsSave().

Referenced by KbMode::needsSave().

```
467                                {
468     if(_needsSave)
469         return true;
470     foreach(KbAnim* anim, _animList){
471         if(anim->needsSave())
472             return true;
473     }
474     return false;
475 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.30.4.23 void KbLight::open ( )

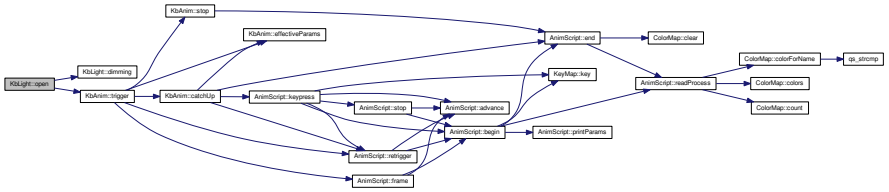
Definition at line 200 of file kblight.cpp.

References _animList, _dimming, _previewAnim, _shareDimming, _start, activeLights, anim, dimming(), and KbAnim::trigger().

Referenced by Kb::frameUpdate().

```
200                 {
201     // Apply shared dimming if needed
202     if(_shareDimming != -1 && _shareDimming !=
    _dimming)
203         dimming(_shareDimming);
204     activeLights.insert(this);
205     if(_start)
206         return;
207     quint64 timestamp = QDateTime::currentMSecsSinceEpoch();
208     foreach(KbAnim* anim, _animList)
209         anim->trigger(timestamp);
210     if(_previewAnim)
211         _previewAnim->trigger(timestamp);
212     _start = true;
213 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.30.4.24 void KbLight::previewAnim (const AnimScript * *base*, const QStringList & *keys*, const QMap< QString, QVariant > & *preset*)

Definition at line 124 of file kblight.cpp.

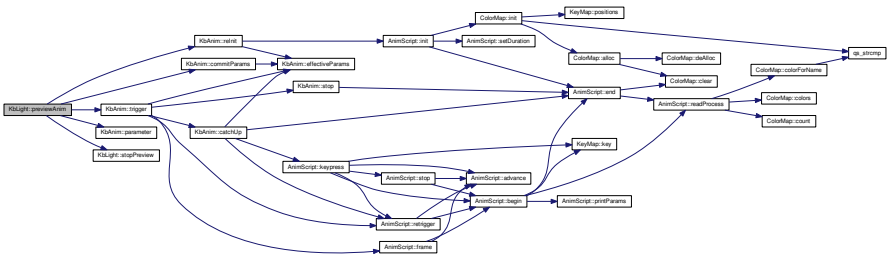
References _map, _previewAnim, _start, anim, KbAnim::commitParams(), KbAnim::parameter(), KbAnim::reInit(), stopPreview(), and KbAnim::trigger().

Referenced by AnimAddDialog::on_presetBox_activated().

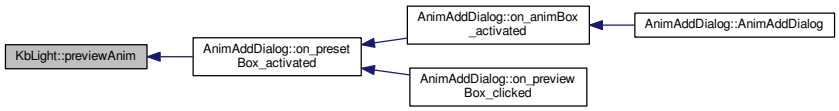
```
124
          {
125     if(_previewAnim)
126         stopPreview();
127     quint64 timestamp = QDateTime::currentMSecsSinceEpoch();
128     // Load the new animation and set preset parameters
```

```
129     KbAnim* anim = new KbAnim(this, _map, "", keys, base);
130     QMapIterator<QString, QVariant> i(preset);
131     while(i.hasNext()){
132         i.next();
133         anim->parameter(i.key(), i.value());
134     }
135     anim->commitParams();
136     anim->reInit();
137     // Add the animation and start it
138     _previewAnim = anim;
139     anim->trigger(timestamp);
140     _start = true;
141 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.30.4.25 void KbLight::printRGB (QFile & *cmd*, const ColorMap & *animMap*) [private]

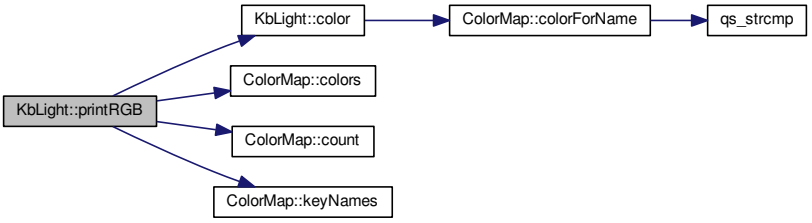
Definition at line 223 of file kblight.cpp.

References color(), ColorMap::colors(), ColorMap::count(), and ColorMap::keyNames().

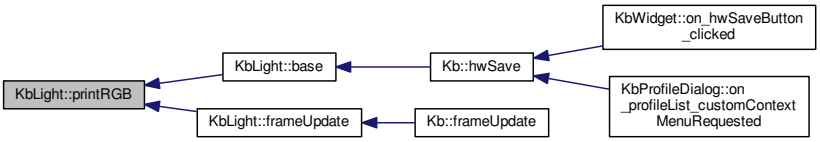
Referenced by base(), and frameUpdate().

```
223                                                     {
224     int count = animMap.count();
225     const char* const* names = animMap.keyNames();
226     const QRgb* colors = animMap.colors();
227     // Print each color and the corresponding RGB value
228     for(int i = 0; i < count; i++){
229         cmd.write(" ");
230         cmd.write(names[i]);
231         char output[8];
232         QRgb color = colors[i];
233         snprintf(output, sizeof(output), ":%02x%02x%02x", qRed(color), qGreen(color), qBlue(color));
234         cmd.write(output);
235     }
236 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.30.4.26 void KbLight::rebuildBaseMap ( ) [private]

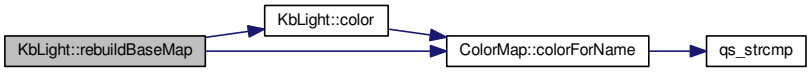
Definition at line 238 of file kblight.cpp.

References _colorMap, _needsMapRefresh, _qColorMap, color(), and ColorMap::colorForName().

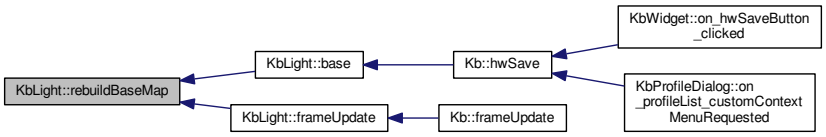
Referenced by base(), and frameUpdate().

```
238                             {
239     if(!_needsMapRefresh)
240         return;
241     _needsMapRefresh = false;
242     // Copy RGB values from QColorMap to ColorMap
243     QColorMapIterator i(_qColorMap);
244     while(i.hasNext()){
245         i.next();
246         QByteArray rawName = i.key().toLatin1();
247         QRgb color = i.value();
248         QRgb* rawColor = _colorMap.colorForName(rawName.data());
249         if(rawColor)
250             *rawColor = color;
251     }
252 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.30.4.27 void KbLight::resetIndicators ( )

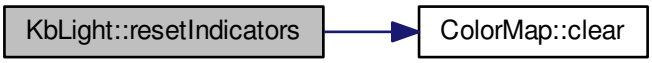
Definition at line 254 of file kblight.cpp.

References _indicatorList, _indicatorMap, and ColorMap::clear().

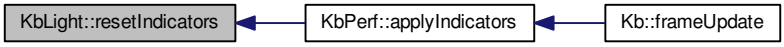
Referenced by KbPerf::applyIndicators().

```
254                              {
255     _indicatorMap.clear();
256     _indicatorList.clear();
257 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.30.4.28 void KbLight::restartAnimation ( )

Definition at line 179 of file kblight.cpp.

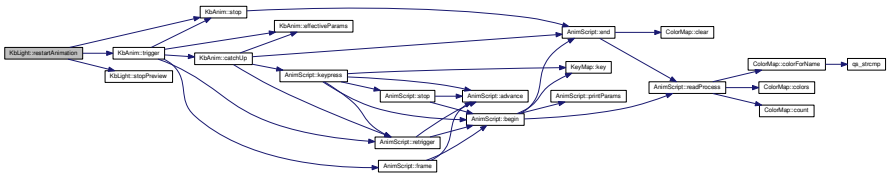
References _animList, _start, anim, KbAnim::stop(), stopPreview(), and KbAnim::trigger().

Referenced by KbLightWidget::on_animButton_clicked(), KbAnimWidget::on_deleteButton_clicked(), KbAnimWidget::on_keyButton_clicked(), and KbAnimWidget::on_propertyButton_clicked().

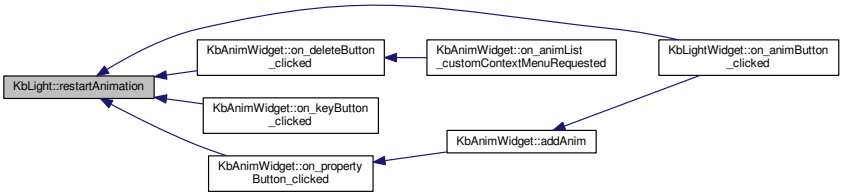
```
179                                {
180     quint64 timestamp = QDateTime::currentMSecsSinceEpoch();
```

```
181     foreach(KbAnim* anim, _animList){
182         anim->stop();
183         anim->trigger(timestamp);
184     }
185     stopPreview();
186     _start = true;
187 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.30.4.29 void KbLight::save (CkbSettings & *settings*)

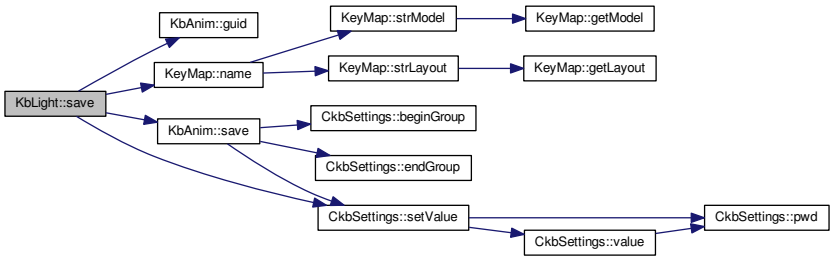
Definition at line 440 of file kblight.cpp.

References _animList, _dimming, _map, _needsSave, _qColorMap, anim, KbAnim::guid(), KeyMap::name(), KbAnim::save(), and CkbSettings::setValue().

Referenced by KbMode::save().

```
440                                     {
441     _needsSave = false;
442     SGroup group(settings, "Lighting");
443     settings.setValue("KeyMap", _map.name());
444     settings.setValue("Brightness", _dimming);
445     settings.setValue("UseRealNames", true);
446     {
447         // Save RGB settings
448         SGroup group(settings, "Keys");
449         QMutableColorMapIterator i(_qColorMap);
450         while(i.hasNext()){
451             i.next();
452             settings.setValue(i.key(), QColor(i.value()).name());
453         }
454     }
455     {
456         // Save animations
457         SGroup group(settings, "Animations");
458         QStringList aList;
459         foreach(KbAnim* anim, _animList){
460             aList << anim->guid().toString().toUpper();
461             anim->save(settings);
462         }
463         settings.setValue("List", aList);
464     }
465 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.30.4.30 void KbLight::setIndicator (const char * *name*, QRgb *argb*)

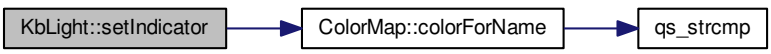
Definition at line 259 of file kblight.cpp.

References _indicatorList, _indicatorMap, and ColorMap::colorForName().

Referenced by KbPerf::lightIndicator().

```
259                                                 {
260     QRgb* dest = _indicatorMap.colorForName(name);
261     if(dest){
262         *dest = argb;
263         _indicatorList.insert(name);
264     }
265 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.30.4.31 int KbLight::shareDimming ( ) [static]

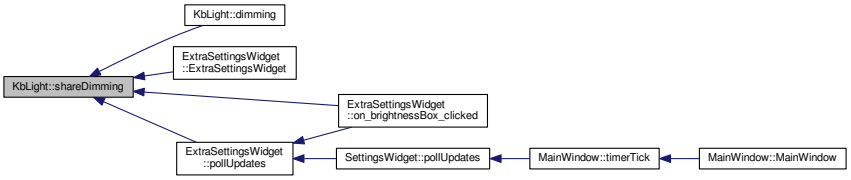
Definition at line 78 of file kblight.cpp.

References _shareDimming.

Referenced by dimming(), ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_brightnessBox_clicked(), and ExtraSettingsWidget::pollUpdates().

```
78                          {
79     return _shareDimming;
80 }
```

Here is the caller graph for this function:



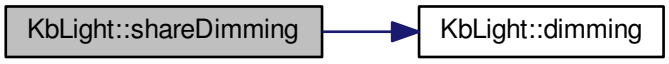
12.30.4.32 void KbLight::shareDimming (int *newShareDimming*) [static]

Definition at line 82 of file kblight.cpp.

References _shareDimming, activeLights, and dimming().

```
82                                          {
83     if(_shareDimming == newShareDimming)
84         return;
85     _shareDimming = newShareDimming;
86     if(newShareDimming != -1){
87         foreach(KbLight* light, activeLights)
88             light->dimming(newShareDimming);
89     }
90 }
```

Here is the call graph for this function:



12.30.4.33 void KbLight::stopPreview ( )

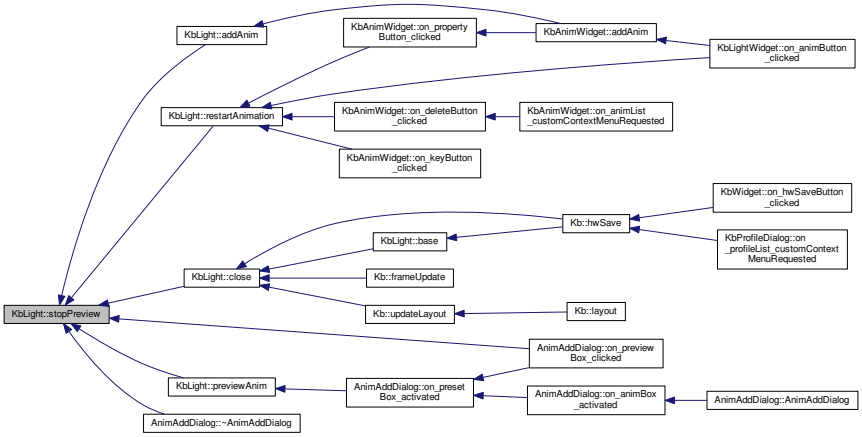
Definition at line 143 of file kblight.cpp.

References _previewAnim.

Referenced by addAnim(), close(), AnimAddDialog::on_previewBox_clicked(), previewAnim(), restartAnimation(), and AnimAddDialog::~AnimAddDialog().

```
143                         {
144     delete _previewAnim;
145     _previewAnim = 0;
146 }
```

Here is the caller graph for this function:



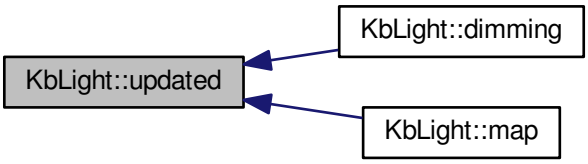
12.30.4.34 void KbLight::updated ( ) [signal]

Definition at line 168 of file moc_kblight.cpp.

Referenced by dimming(), and map().

```
169 {
170     QMetaObject::activate(this, &staticMetaObject, 1, Q_NULLPTR);
171 }
```

Here is the caller graph for this function:



12.30.5 Field Documentation

12.30.5.1 AnimList KbLight::_animList [private]

Definition at line 89 of file kblight.h.

Referenced by addAnim(), animKeypress(), animList(), close(), duplicateAnim(), findAnim(), findAnimIdx(), frameUpdate(), isStarted(), KbLight(), load(), map(), needsSave(), open(), restartAnimation(), and save().

12.30.5.2 ColorMap KbLight::_animMap [private]

Definition at line 93 of file kblight.h.

Referenced by base(), frameUpdate(), and map().

12.30.5.3 ColorMap KbLight::_colorMap [private]

Definition at line 93 of file kblight.h.

Referenced by base(), color(), frameUpdate(), map(), and rebuildBaseMap().

12.30.5.4 int KbLight::_dimming [private]

Definition at line 96 of file kblight.h.

Referenced by base(), dimming(), frameUpdate(), load(), open(), and save().

12.30.5.5 QSet<QString> KbLight::_indicatorList [private]

Definition at line 94 of file kblight.h.

Referenced by frameUpdate(), resetIndicators(), and setIndicator().

12.30.5.6 ColorMap KbLight::_indicatorMap [private]

Definition at line 93 of file kblight.h.

Referenced by frameUpdate(), map(), resetIndicators(), and setIndicator().

12.30.5.7 KeyMap KbLight::_map [private]

Definition at line 91 of file kblight.h.

Referenced by addAnim(), duplicateAnim(), load(), map(), previewAnim(), and save().

12.30.5.8 bool KbLight::_needsMapRefresh [private]

Definition at line 98 of file kblight.h.

Referenced by color(), load(), map(), and rebuildBaseMap().

12.30.5.9 bool KbLight::_needsSave [private]

Definition at line 98 of file kblight.h.

Referenced by addAnim(), animList(), color(), dimming(), duplicateAnim(), load(), map(), needsSave(), and save().

12.30.5.10 KbAnim* KbLight::_previewAnim [private]

Definition at line 90 of file kblight.h.

Referenced by animKeypress(), frameUpdate(), open(), previewAnim(), and stopPreview().

12.30.5.11 QColorMap KbLight::_qColorMap [private]

Definition at line 92 of file kblight.h.

Referenced by color(), colorMap(), load(), map(), rebuildBaseMap(), and save().

12.30.5.12 bool KbLight::_start [private]

Definition at line 97 of file kblight.h.

Referenced by addAnim(), close(), duplicateAnim(), isStarted(), open(), previewAnim(), and restartAnimation().

12.30.5.13 quint64 KbLight::lastFrameSignal [private]

Definition at line 95 of file kblight.h.

Referenced by frameUpdate().

12.30.5.14 const int KbLight::MAX_DIM = 3 [static]

Definition at line 38 of file kblight.h.

Referenced by base(), ExtraSettingsWidget::ExtraSettingsWidget(), KeyAction::keyEvent(), and load().

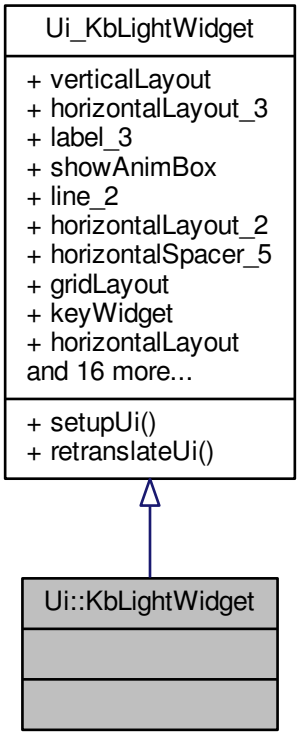
The documentation for this class was generated from the following files:

- src/ckb/kblight.h
- src/ckb/kblight.cpp
- src/ckb/release/moc_kblight.cpp

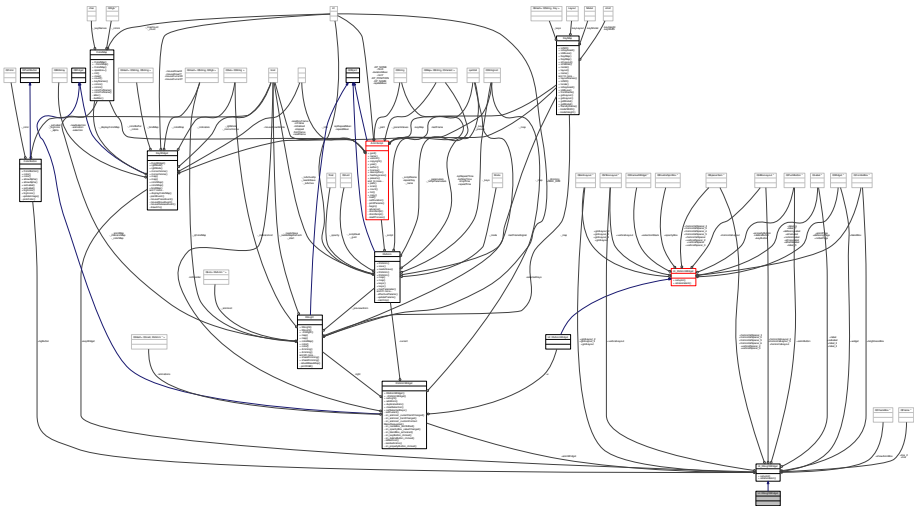
12.31 Ui::KbLightWidget Class Reference

`#include <src/ckb/ui_kblightwidget.h>`

Inheritance diagram for Ui::KbLightWidget:



Collaboration diagram for Ui::KbLightWidget:



Public Member Functions

- void setupUi (QWidget *KbLightWidget)

- void retranslateUi (QWidget *KbLightWidget)

Data Fields

- QVBoxLayout * verticalLayout
- QHBoxLayout * horizontalLayout_3
- QLabel * label_3
- QCheckBox * showAnimBox
- QFrame * line_2
- QHBoxLayout * horizontalLayout_2
- QSpacerItem * horizontalSpacer_5
- QGridLayout * gridLayout
- KeyWidget * keyWidget
- QHBoxLayout * horizontalLayout
- ColorButton * bgButton
- QLabel * selLabel
- QPushButton * animButton
- QSpacerItem * horizontalSpacer_6
- QSpacerItem * verticalSpacer_2
- QGridLayout * gridLayout_2
- QComboBox * brightnessBox
- QLabel * label
- QSpacerItem * horizontalSpacer_3
- QSpacerItem * horizontalSpacer_4
- QSpacerItem * verticalSpacer_3
- QLabel * label_2
- QFrame * line
- QWidget * widget
- QGridLayout * gridLayout_4
- KbAnimWidget * animWidget

12.31.1 Detailed Description

Definition at line 263 of file ui_kblightwidget.h.

12.31.2 Member Function Documentation

12.31.2.1 void Ui_KbLightWidget::retranslateUi (QWidget * *KbLightWidget*) [inline],[inherited]

Definition at line 238 of file ui_kblightwidget.h.

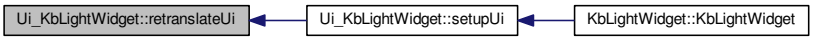
References Ui_KbLightWidget::animButton, Ui_KbLightWidget::bgButton, Ui_KbLightWidget::brightnessBox, Ui_KbLightWidget::label, Ui_KbLightWidget::label_2, Ui_KbLightWidget::label_3, Ui_KbLightWidget::selLabel, and Ui_KbLightWidget::showAnimBox.

Referenced by Ui_KbLightWidget::setupUi().

```
239     {
240         KbLightWidget->setWindowTitle(QApplication::translate("KbLightWidget", "Form", Q_NULLPTR));
241         label_3->setText(QApplication::translate("KbLightWidget", "Colors", Q_NULLPTR));
242 #ifndef QT_NO_TOOLTIP
243         showAnimBox->setToolTip(QApplication::translate("KbLightWidget", "If enabled, the same
       colors will be displayed here as on the keyboard. If disabled, the base colors will be shown.", Q_NULLPTR));
244 #endif // QT_NO_TOOLTIP
245         showAnimBox->setText(QApplication::translate("KbLightWidget", "Show animated", Q_NULLPTR
     ));
246         bgButton->setText(QApplication::translate("KbLightWidget", "Change color...", Q_NULLPTR));
247         selLabel->setText(QApplication::translate("KbLightWidget", "Click to select", Q_NULLPTR));
248         animButton->setText(QApplication::translate("KbLightWidget", "New animation...",
```

```
    Q_NULLPTR));
249         brightnessBox->clear();
250         brightnessBox->insertItems(0, QStringList()
251          << QApplication::translate("KbLightWidget", "100%", Q_NULLPTR)
252          << QApplication::translate("KbLightWidget", "67%", Q_NULLPTR)
253          << QApplication::translate("KbLightWidget", "33%", Q_NULLPTR)
254          << QApplication::translate("KbLightWidget", "Off", Q_NULLPTR)
255         );
256         label->setText(QApplication::translate("KbLightWidget", "\342\230\274", Q_NULLPTR));
257         label_2->setText(QApplication::translate("KbLightWidget", "Animations", Q_NULLPTR));
258     } // retranslateUi
```

Here is the caller graph for this function:



12.31.2.2 void Ui_KbLightWidget::setupUi (QWidget * *KbLightWidget*) [inline], [inherited]

Definition at line 63 of file ui_kblightwidget.h.

References Ui_KbLightWidget::animButton, Ui_KbLightWidget::animWidget, Ui_KbLightWidget::bgButton, Ui_KbLightWidget::brightnessBox, Ui_KbLightWidget::gridLayout, Ui_KbLightWidget::gridLayout_2, Ui_KbLightWidget::gridLayout_4, Ui_KbLightWidget::horizontalLayout, Ui_KbLightWidget::horizontalLayout_2, Ui_KbLightWidget::horizontalLayout_3, Ui_KbLightWidget::horizontalSpacer_3, Ui_KbLightWidget::horizontalSpacer_4, Ui_KbLightWidget::horizontalSpacer_5, Ui_KbLightWidget::horizontalSpacer_6, Ui_KbLightWidget::keyWidget, Ui_KbLightWidget::label, Ui_KbLightWidget::label_2, Ui_KbLightWidget::label_3, Ui_KbLightWidget::line, Ui_KbLightWidget::line_2, Ui_KbLightWidget::retranslateUi(), Ui_KbLightWidget::selLabel, Ui_KbLightWidget::showAnimBox, Ui_KbLightWidget::verticalLayout, Ui_KbLightWidget::verticalSpacer_2, Ui_KbLightWidget::verticalSpacer_3, and Ui_KbLightWidget::widget.

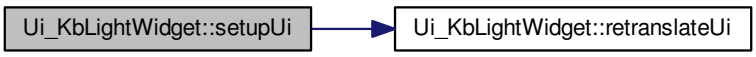
Referenced by KbLightWidget::KbLightWidget().

```
64     {
65         if (KbLightWidget->objectName().isEmpty())
66             KbLightWidget->setObjectName(QStringLiteral("KbLightWidget"));
67         KbLightWidget->resize(632, 540);
68         KbLightWidget->setFocusPolicy(Qt::ClickFocus);
69         verticalLayout = new QVBoxLayout(KbLightWidget);
70         verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
71         verticalLayout->setContentsMargins(0, 0, 0, -1);
72         horizontalLayout_3 = new QHBoxLayout();
73         horizontalLayout_3->setObjectName(QStringLiteral("horizontalLayout_3"));
74         label_3 = new QLabel(KbLightWidget);
75         label_3->setObjectName(QStringLiteral("label_3"));
76         QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
77         sizePolicy.setHorizontalStretch(0);
78         sizePolicy.setVerticalStretch(0);
79         sizePolicy.setHeightForWidth(label_3->sizePolicy().hasHeightForWidth());
80         label_3->setSizePolicy(sizePolicy);
81         QFont font;
82         font.setBold(true);
83         font.setWeight(75);
84         label_3->setFont(font);
85
86         horizontalLayout_3->addWidget(label_3);
87
88         showAnimBox = new QCheckBox(KbLightWidget);
89         showAnimBox->setObjectName(QStringLiteral("showAnimBox"));
90         showAnimBox->setChecked(true);
91
92         horizontalLayout_3->addWidget(showAnimBox);
93
94
95         verticalLayout->addLayout(horizontalLayout_3);
96
97         line_2 = new QFrame(KbLightWidget);
98         line_2->setObjectName(QStringLiteral("line_2"));
99         line_2->setFrameShape(QFrame::HLine);
```

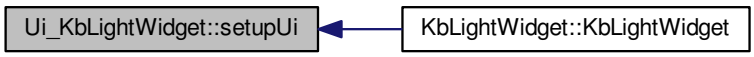
```
100         line_2->setFrameShadow(QFrame::Sunken);
101 
102         verticalLayout->addWidget(line_2);
103 
104         horizontalLayout_2 = new QHBoxLayout();
105         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
106         horizontalSpacer_5 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
107 
108         horizontalLayout_2->addItem(horizontalSpacer_5);
109 
110         gridLayout = new QGridLayout();
111         gridLayout->setObjectName(QStringLiteral("gridLayout"));
112         keyWidget = new KeyWidget(KbLightWidget);
113         keyWidget->setObjectName(QStringLiteral("keyWidget"));
114         QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Expanding);
115         sizePolicy1.setHorizontalStretch(0);
116         sizePolicy1.setVerticalStretch(0);
117         sizePolicy1.setHeightForWidth(keyWidget->sizePolicy().hasHeightForWidth());
118         keyWidget->setSizePolicy(sizePolicy1);
119         keyWidget->setMinimumSize(QSize(100, 100));
120         keyWidget->setFocusPolicy(Qt::ClickFocus);
121 
122         gridLayout->addWidget(keyWidget, 0, 0, 1, 3);
123 
124         horizontalLayout = new QHBoxLayout();
125         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
126         bgButton = new ColorButton(KbLightWidget);
127         bgButton->setObjectName(QStringLiteral("bgButton"));
128         QSizePolicy sizePolicy2(QSizePolicy::Fixed, QSizePolicy::Fixed);
129         sizePolicy2.setHorizontalStretch(0);
130         sizePolicy2.setVerticalStretch(0);
131         sizePolicy2.setHeightForWidth(bgButton->sizePolicy().hasHeightForWidth());
132         bgButton->setSizePolicy(sizePolicy2);
133         bgButton->setMinimumSize(QSize(140, 0));
134         bgButton->setMaximumSize(QSize(140, 16777215));
135 
136         horizontalLayout->addWidget(bgButton);
137 
138         selLabel = new QLabel(KbLightWidget);
139         selLabel->setObjectName(QStringLiteral("selLabel"));
140         sizePolicy.setHeightForWidth(selLabel->sizePolicy().hasHeightForWidth());
141         selLabel->setSizePolicy(sizePolicy);
142         selLabel->setAlignment(Qt::AlignCenter);
143 
144         horizontalLayout->addWidget(selLabel);
145 
146         animButton = new QPushButton(KbLightWidget);
147         animButton->setObjectName(QStringLiteral("animButton"));
148         sizePolicy2.setHeightForWidth(animButton->sizePolicy().hasHeightForWidth());
149         animButton->setSizePolicy(sizePolicy2);
150         animButton->setMinimumSize(QSize(140, 0));
151         animButton->setMaximumSize(QSize(140, 16777215));
152 
153         horizontalLayout->addWidget(animButton);
154 
155 
156         gridLayout->addLayout(horizontalLayout, 1, 0, 1, 3);
157 
158 
159         horizontalLayout_2->addLayout(gridLayout);
160 
161         horizontalSpacer_6 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
162 
163         horizontalLayout_2->addItem(horizontalSpacer_6);
164 
165 
166         verticalLayout->addLayout(horizontalLayout_2);
167 
168         verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
169 
170         verticalLayout->addItem(verticalSpacer_2);
171 
172         gridLayout_2 = new QGridLayout();
173         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
174         brightnessBox = new QComboBox(KbLightWidget);
175         brightnessBox->setObjectName(QStringLiteral("brightnessBox"));
176         sizePolicy2.setHeightForWidth(brightnessBox->sizePolicy().hasHeightForWidth());
177         brightnessBox->setSizePolicy(sizePolicy2);
178 
179         gridLayout_2->addWidget(brightnessBox, 1, 3, 1, 1);
180 
181         label = new QLabel(KbLightWidget);
182         label->setObjectName(QStringLiteral("label"));
183         QFont font1;
```

```
184         font1.setPointSize(20);
185         label->setFont(font1);
186         label->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
187 
188         gridLayout_2->addWidget(label, 1, 2, 1, 1);
189 
190         horizontalSpacer_3 = new QSpacerItem(0, 0, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
191 
192         gridLayout_2->addItem(horizontalSpacer_3, 0, 4, 1, 1);
193 
194         horizontalSpacer_4 = new QSpacerItem(0, 0, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
195 
196         gridLayout_2->addItem(horizontalSpacer_4, 0, 2, 1, 1);
197 
198 
199         verticalLayout->addLayout(gridLayout_2);
200 
201         verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
202 
203         verticalLayout->addItem(verticalSpacer_3);
204 
205         label_2 = new QLabel(KbLightWidget);
206         label_2->setObjectName(QStringLiteral("label_2"));
207         label_2->setFont(font);
208 
209         verticalLayout->addWidget(label_2);
210 
211         line = new QFrame(KbLightWidget);
212         line->setObjectName(QStringLiteral("line"));
213         line->setFrameShape(QFrame::HLine);
214         line->setFrameShadow(QFrame::Sunken);
215 
216         verticalLayout->addWidget(line);
217 
218         widget = new QWidget(KbLightWidget);
219         widget->setObjectName(QStringLiteral("widget"));
220         widget->setMinimumSize(QSize(0, 170));
221         gridLayout_4 = new QGridLayout(widget);
222         gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
223         gridLayout_4->setContentsMargins(-1, 0, -1, 0);
224         animWidget = new KbAnimWidget(widget);
225         animWidget->setObjectName(QStringLiteral("animWidget"));
226 
227         gridLayout_4->addWidget(animWidget, 0, 0, 1, 1);
228 
229 
230         verticalLayout->addWidget(widget);
231 
232 
233         retranslateUi(KbLightWidget);
234 
235         QMetaObject::connectSlotsByName(KbLightWidget);
236     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.31.3 Field Documentation

12.31.3.1 QPushButton* Ui_KbLightWidget::animButton [inherited]

Definition at line 48 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), Ui_KbLightWidget::retranslateUi(), and Ui_KbLightWidget::setup-Ui().

12.31.3.2 KbAnimWidget* Ui_KbLightWidget::animWidget [inherited]

Definition at line 61 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), KbLightWidget::newSelection(), KbLightWidget::on_animButton_-clicked(), KbLightWidget::setLight(), and Ui_KbLightWidget::setupUi().

12.31.3.3 ColorButton* Ui_KbLightWidget::bgButton [inherited]

Definition at line 46 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), KbLightWidget::newSelection(), Ui_KbLightWidget::retranslate-Ui(), and Ui_KbLightWidget::setupUi().

12.31.3.4 QComboBox* Ui_KbLightWidget::brightnessBox [inherited]

Definition at line 52 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::retranslateUi(), Ui_KbLightWidget::setupUi(), and KbLightWidget::updateLight().

12.31.3.5 QGridLayout* Ui_KbLightWidget::gridLayout [inherited]

Definition at line 43 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.6 QGridLayout* Ui_KbLightWidget::gridLayout_2 [inherited]

Definition at line 51 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.7 QGridLayout* Ui_KbLightWidget::gridLayout_4 [inherited]

Definition at line 60 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.8 QHBoxLayout* Ui_KbLightWidget::horizontalLayout [inherited]

Definition at line 45 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.9 QHBoxLayout* Ui_KbLightWidget::horizontalLayout_2 [inherited]

Definition at line 41 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.10 QHBoxLayout* Ui_KbLightWidget::horizontalLayout_3 [inherited]

Definition at line 37 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.11 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_3 [inherited]

Definition at line 54 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.12 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_4 [inherited]

Definition at line 55 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.13 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_5 [inherited]

Definition at line 42 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.14 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_6 [inherited]

Definition at line 49 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.15 KeyWidget* Ui_KbLightWidget::keyWidget [inherited]

Definition at line 44 of file ui_kblightwidget.h.

Referenced by KbLightWidget::changeAnim(), KbLightWidget::changeAnimKeys(), KbLightWidget::changeColor(), KbLightWidget::KbLightWidget(), KbLightWidget::on_animButton_clicked(), KbLightWidget::on_bgButton_clicked(), KbLightWidget::on_showAnimBox_clicked(), KbLightWidget::setLight(), KbLightWidget::setMonochrome(), Ui_KbLightWidget::setupUi(), KbLightWidget::toggleSidelight(), and KbLightWidget::updateLight().

12.31.3.16 QLabel* Ui_KbLightWidget::label [inherited]

Definition at line 53 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::retranslateUi(), and Ui_KbLightWidget::setupUi().

12.31.3.17 QLabel* Ui_KbLightWidget::label_2 [inherited]

Definition at line 57 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::retranslateUi(), and Ui_KbLightWidget::setupUi().

12.31.3.18 QLabel* Ui_KbLightWidget::label_3 [inherited]

Definition at line 38 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::retranslateUi(), and Ui_KbLightWidget::setupUi().

12.31.3.19 QFrame* Ui_KbLightWidget::line [inherited]

Definition at line 58 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.20 QFrame* Ui_KbLightWidget::line_2 [inherited]

Definition at line 40 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.21 QLabel* Ui_KbLightWidget::selLabel [inherited]

Definition at line 47 of file ui_kblightwidget.h.

Referenced by KbLightWidget::newSelection(), Ui_KbLightWidget::retranslateUi(), and Ui_KbLightWidget::setupUi().

12.31.3.22 QCheckBox* Ui_KbLightWidget::showAnimBox [inherited]

Definition at line 39 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), Ui_KbLightWidget::retranslateUi(), KbLightWidget::setLight(), and Ui_KbLightWidget::setupUi().

12.31.3.23 QVBoxLayout* Ui_KbLightWidget::verticalLayout [inherited]

Definition at line 36 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.24 QSpacerItem* Ui_KbLightWidget::verticalSpacer_2 [inherited]

Definition at line 50 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.25 QSpacerItem* Ui_KbLightWidget::verticalSpacer_3 [inherited]

Definition at line 56 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

12.31.3.26 QWidget* Ui_KbLightWidget::widget [inherited]

Definition at line 59 of file ui_kblightwidget.h.

Referenced by Ui_KbLightWidget::setupUi().

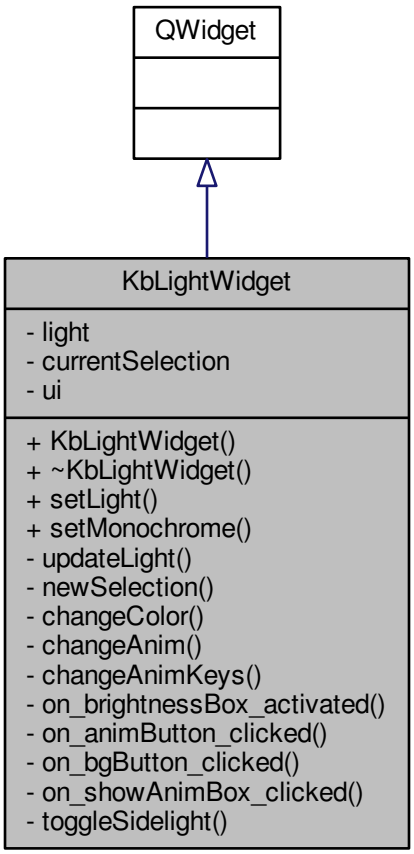
The documentation for this class was generated from the following file:

- src/ckb/ui_kblightwidget.h

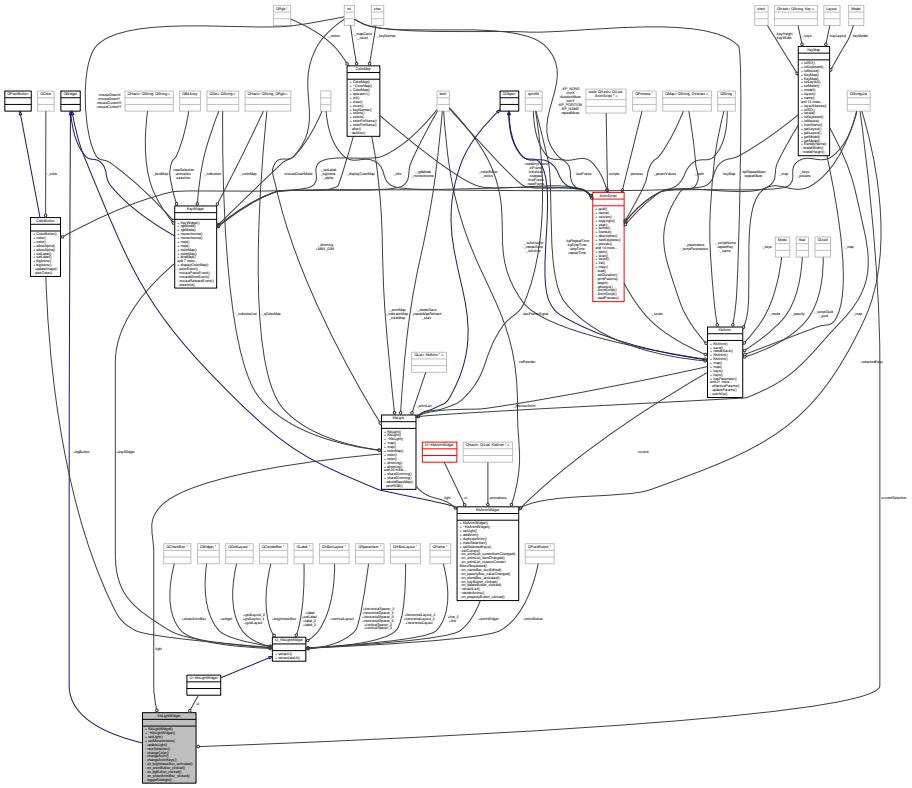
12.32 KbLightWidget Class Reference

`#include <src/ckb/kblightwidget.h>`

Inheritance diagram for KbLightWidget:



Collaboration diagram for KbLightWidget:



Public Member Functions

- KbLightWidget (QWidget *parent=0)
- ~KbLightWidget ()
- void setLight (KbLight *newLight)
- void setMonochrome ()

Private Slots

- void updateLight ()
- void newSelection (QStringList selection)
- void changeColor (QColor newColor)
- void changeAnim (KbAnim *newAnim)
- void changeAnimKeys (QStringList keys)
- void on_brightnessBox_activated (int index)
- void on_animButton_clicked ()
- void on_bgButton_clicked ()
- void on_showAnimBox_clicked (bool checked)
- void toggleSidelight ()

Private Attributes

- KbLight * light
- QStringList currentSelection
- Ui::KbLightWidget * ui

12.32.1 Detailed Description

Definition at line 15 of file kblightwidget.h.

12.32.2 Constructor & Destructor Documentation

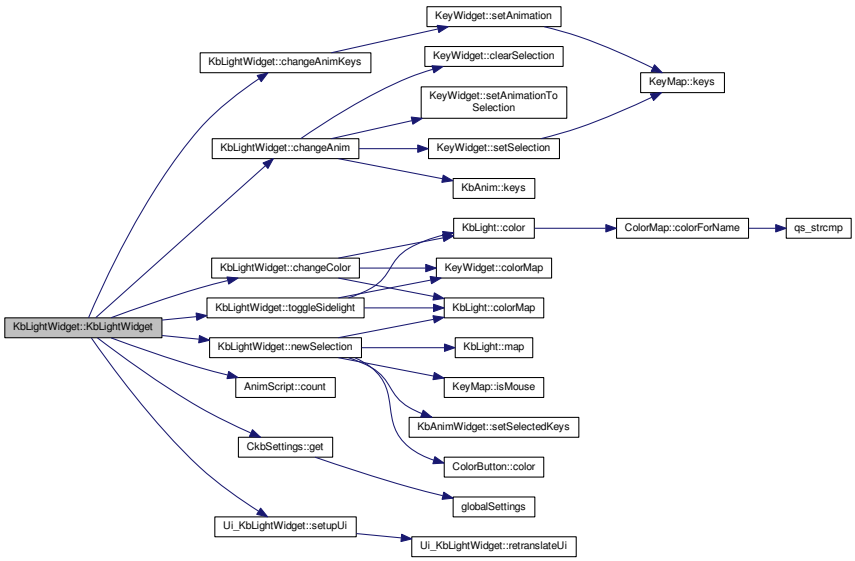
12.32.2.1 KbLightWidget::KbLightWidget (QWidget * *parent* = 0) [explicit]

Definition at line 6 of file kblightwidget.cpp.

References Ui_KbLightWidget::animButton, Ui_KbLightWidget::animWidget, Ui_KbLightWidget::bgButton, changeAnim(), changeAnimKeys(), changeColor(), AnimScript::count(), CkbSettings::get(), Ui_KbLightWidget::keyWidget, newSelection(), Ui_KbLightWidget::setupUi(), Ui_KbLightWidget::showAnimBox, toggleSidelight(), and ui.

```
6                                                :
7     QWidget(parent), light(0),
8     ui(new Ui::KbLightWidget)
9 {
10     ui->setupUi(this);
11     if(AnimScript::count() == 0)
12         ui->animButton->setVisible(false);
13
14     connect(ui->bgButton, SIGNAL(colorChanged(QColor)), this, SLOT(
      changeColor(QColor)));
15     connect(ui->keyWidget, SIGNAL(selectionChanged(QStringList)), this, SLOT(
      newSelection(QStringList)));
16     connect(ui->keyWidget, SIGNAL(sidelightToggled()), this, SLOT(
      toggleSidelight())); // click on a toggle button, like sidelight
17     connect(ui->animWidget, SIGNAL(animChanged(KbAnim*)), this, SLOT(
      changeAnim(KbAnim*)));
18     connect(ui->animWidget, SIGNAL(didUpdateSelection(QStringList)), this, SLOT(
      changeAnimKeys(QStringList)));
19
20     // Restore "show animated" setting
21     ui->showAnimBox->setChecked(!CkbSettings::get("UI/Light/ShowBaseOnly").
      toBool());
22 }
```

Here is the call graph for this function:



12.32.2.2 KbLightWidget::~KbLightWidget ( )

Definition at line 24 of file kblightwidget.cpp.

References ui.

```
24                                {
25     delete ui;
26 }
```

12.32.3 Member Function Documentation

12.32.3.1 void KbLightWidget::changeAnim (KbAnim * *newAnim*) [private], [slot]

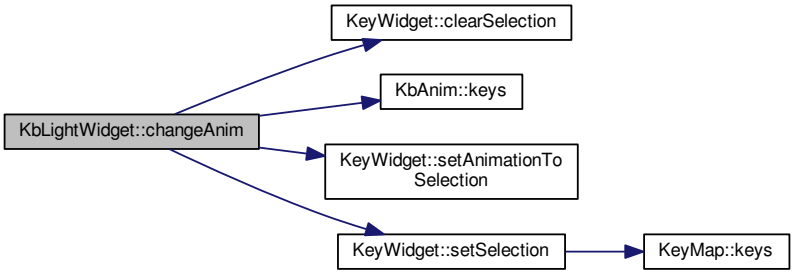
Definition at line 121 of file kblightwidget.cpp.

References KeyWidget::clearSelection(), KbAnim::keys(), Ui_KbLightWidget::keyWidget, KeyWidget::setAnimationToSelection(), KeyWidget::setSelection(), and ui.

Referenced by KbLightWidget().

```
121                                              {
122     if(newAnim)
123         ui->keyWidget->setSelection(newAnim->keys());
124     else
125         ui->keyWidget->clearSelection();
126     ui->keyWidget->setAnimationToSelection();
127 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.32.3.2 void KbLightWidget::changeAnimKeys (QStringList *keys*) [private], [slot]

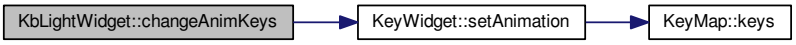
Definition at line 129 of file kblightwidget.cpp.

References Ui_KbLightWidget::keyWidget, KeyWidget::setAnimation(), and ui.

Referenced by KbLightWidget().

```
129                                                 {
130     ui->keyWidget->setAnimation(keys);
131 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.32.3.3 void KbLightWidget::changeColor (QColor *newColor*) [private], [slot]

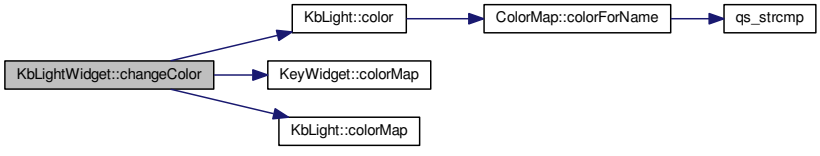
Definition at line 99 of file kblightwidget.cpp.

References KbLight::color(), KeyWidget::colorMap(), KbLight::colorMap(), currentSelection, Ui_KbLightWidget::keyWidget, light, and ui.

Referenced by KbLightWidget().

```
99                                                  {
100     if(light){
101         foreach(QString key, currentSelection)
102             light->color(key, newColor);
103         ui->keyWidget->colorMap(light->colorMap());
104     }
105 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.32.3.4 void KbLightWidget::newSelection (QStringList *selection*) [private], [slot]

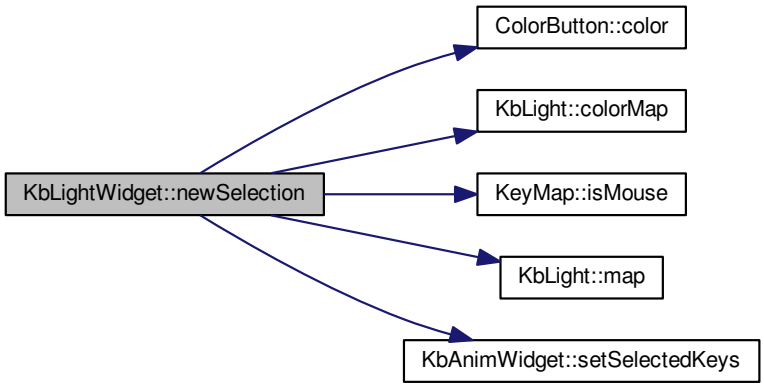
Definition at line 72 of file kblightwidget.cpp.

References Ui_KbLightWidget::animWidget, Ui_KbLightWidget::bgButton, ColorButton::color(), KbLight::colorMap(), currentSelection, KeyMap::isMouse(), light, KbLight::map(), Ui_KbLightWidget::selLabel, KbAnimWidget::setSelectedKeys(), and ui.

Referenced by KbLightWidget().

```
72                                                  {
73     // Determine selected color (invalid color if no selection or if they're not all the same)
74     QColor selectedColor;
75     const QColorMap& colorMap = light->colorMap();
76     foreach(const QString& key, selection){
77         QColor color = colorMap.value(key);
78         if(!selectedColor.isValid())
79             selectedColor = color;
80         else if(color != selectedColor){
81             selectedColor = QColor();
82             break;
83         }
84     }
85
86     currentSelection = selection;
87     ui->animWidget->setSelectedKeys(selection);
88     ui->bgButton->color(selectedColor);
89     int count = selection.count();
90     if(count == 0){
91         ui->selLabel->setText("Click to select");
92         return;
93     } else if(count == 1)
94         ui->selLabel->setText(tr("1 %1 selected").arg(light->map().
      isMouse() ? "zone" : "key"));
95     else
96         ui->selLabel->setText(tr("%1 %2 selected").arg(count).arg(
      light->map().isMouse() ? "zones" : "keys"));
97 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

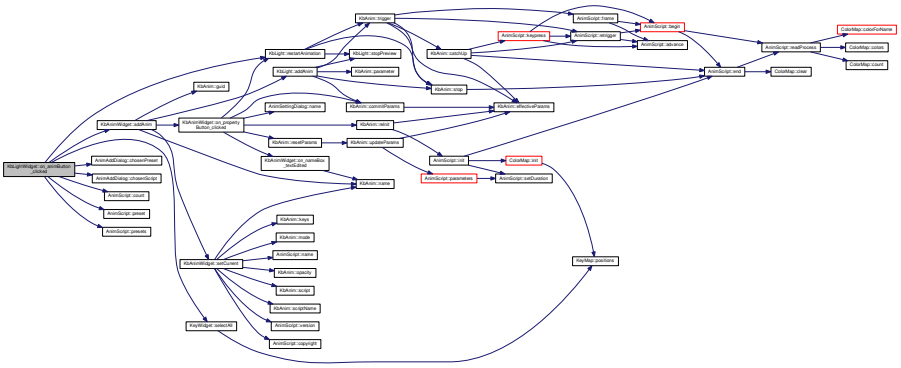
12.32.3.5 void KbLightWidget::on_animButton_clicked ( ) [private],[slot]

Definition at line 143 of file kblightwidget.cpp.

References KbAnimWidget::addAnim(), Ui_KbLightWidget::animWidget, AnimAddDialog::chosenPreset(), AnimAddDialog::chosenScript(), AnimScript::count(), currentSelection, Ui_KbLightWidget::keyWidget, light, AnimScript::preset(), AnimScript::presets(), KbLight::restartAnimation(), KeyWidget::selectAll(), and ui.

```
143                                         {
144     if(AnimScript::count() == 0)
145         return;
146     if(currentSelection.isEmpty())
147         ui->keyWidget->selectAll();
148     AnimAddDialog dialog(this, light, currentSelection);
149     dialog.exec();
150     if(dialog.result() != QDialog::Accepted)
151         return;
152     const AnimScript* script = dialog.chosenScript();
153     int presetId = dialog.chosenPreset();
154     ui->animWidget->addAnim(script, currentSelection, script->
      presets()[presetId], script->preset(presetId));
155     light->restartAnimation();
156 }
```

Here is the call graph for this function:



12.32.3.6 void KbLightWidget::on_bgButton_clicked ( ) [private], [slot]

Definition at line 138 of file kblightwidget.cpp.

References currentSelection, Ui_KbLightWidget::keyWidget, KeyWidget::selectAll(), and ui.

```
138                                         {
139     if(currentSelection.isEmpty())
140         ui->keyWidget->selectAll();
141 }
```

Here is the call graph for this function:

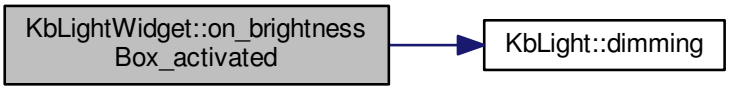
12.32.3.7 void KbLightWidget::on_brightnessBox_activated (int *index*) [private], [slot]

Definition at line 133 of file kblightwidget.cpp.

References KbLight::dimming(), and light.

```
133                                                     {
134     if(light)
135         light->dimming(index);
136 }
```

Here is the call graph for this function:



12.32.3.8 void KbLightWidget::on_showAnimBox_clicked (bool *checked*) [private],[slot]

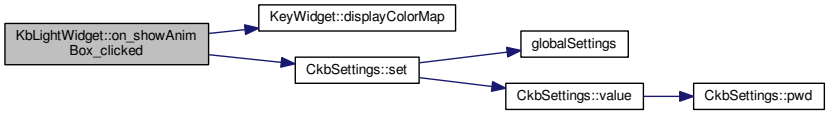
Definition at line 52 of file kblightwidget.cpp.

References KeyWidget::displayColorMap(), Ui_KbLightWidget::keyWidget, light, CkbSettings::set(), and ui.

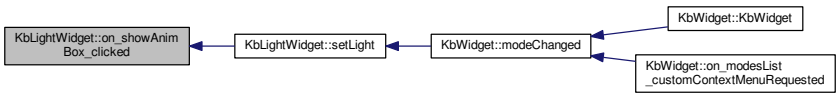
Referenced by setLight().

```
52                                                  {
53     // FIXME: set globally if there's more than one KbLightWidget active
54     // Connect/disconnect animation slot
55     if(checked){
56         if(light)
57             connect(light, SIGNAL(frameDisplayed(const ColorMap&,const QSet<QString>&)),
       ui->keyWidget, SLOT(displayColorMap(const ColorMap&,const QSet<QString>&)));
58     } else {
59         if(light)
60             disconnect(light, SIGNAL(frameDisplayed(const ColorMap&,const QSet<QString>&)),
       ui->keyWidget, SLOT(displayColorMap(const ColorMap&,const QSet<QString>&)));
61         ui->keyWidget->displayColorMap(ColorMap());
62     }
63     CkbSettings::set("UI/Light/ShowBaseOnly", !checked);
64 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.32.3.9 void KbLightWidget::setLight (KbLight * *newLight*)

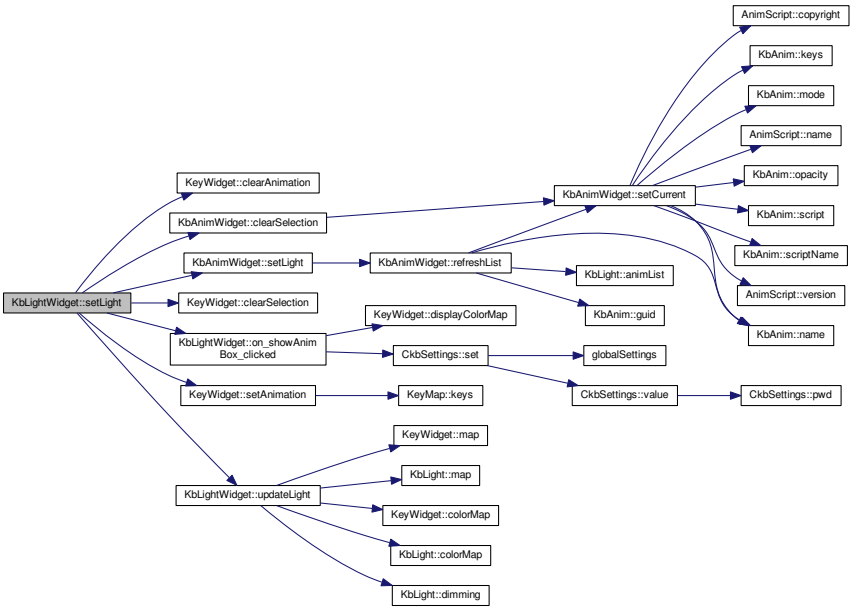
Definition at line 28 of file kblightwidget.cpp.

References Ui_KbLightWidget::animWidget, KeyWidget::clearAnimation(), KbAnimWidget::clearSelection(), KeyWidget::clearSelection(), Ui_KbLightWidget::keyWidget, light, on_showAnimBox_clicked(), KeyWidget::setAnimation(), KbAnimWidget::setLight(), Ui_KbLightWidget::showAnimBox, ui, and updateLight().

Referenced by KbWidget::modeChanged().

```
28                                          {
29     ui->keyWidget->clearSelection();
30     ui->keyWidget->clearAnimation();
31     ui->animWidget->clearSelection();
32     if(light == newLight)
33         return;
34     if(light){
35         disconnect(light, SIGNAL(updated()), this, SLOT(updateLight()));
36         // Disabled animated colors for previous light
37         on_showAnimBox_clicked(false);
38     }
39     connect(newLight, SIGNAL(updated()), this, SLOT(updateLight()));
40     light = newLight;
41     updateLight();
42     ui->keyWidget->setAnimation(QStringList());
43     ui->animWidget->setLight(newLight);
44     if(ui->showAnimBox->isChecked())
45         on_showAnimBox_clicked(true);
46 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.32.3.10 void KbLightWidget::setMonochrome ( )

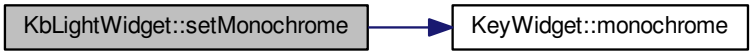
Definition at line 48 of file kblightwidget.cpp.

References Ui_KbLightWidget::keyWidget, KeyWidget::monochrome(), and ui.

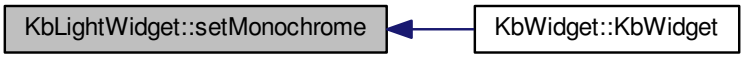
Referenced by KbWidget::KbWidget().

```
48                                  {
49     ui->keyWidget->monochrome(true);
50 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.32.3.11 void KbLightWidget::toggleSidelight ( ) [private], [slot]

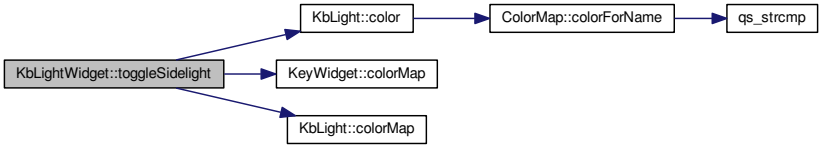
Definition at line 107 of file kblightwidget.cpp.

References KbLight::color(), KeyWidget::colorMap(), KbLight::colorMap(), Ui_KbLightWidget::keyWidget, light, and ui.

Referenced by KbLightWidget().

```
107                                     {
108     if(light){
109         if (light->colorMap()["lsidel"] == 0xFF000000){
110                 light->color("lsidel",QRgb(0xFFFFFFFF));
111                 light->color("rsidel",QRgb(0xFFFFFFFF));
112         } else {
113                 light->color("lsidel", QRgb(0xFF000000));
114                 light->color("rsidel", QRgb(0xFF000000));
115         }
116         ui->keyWidget->colorMap(light->colorMap());
117     }
118 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.32.3.12 void KbLightWidget::updateLight ( ) [private], [slot]

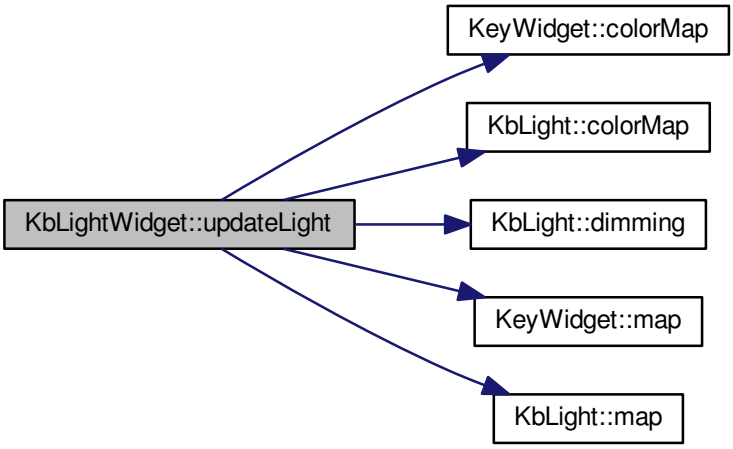
Definition at line 66 of file kblightwidget.cpp.

References Ui_KbLightWidget::brightnessBox, KeyWidget::colorMap(), KbLight::colorMap(), KbLight::dimming(), Ui_KbLightWidget::keyWidget, light, KeyWidget::map(), KbLight::map(), and ui.

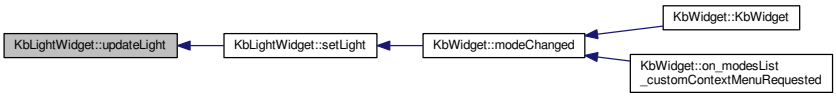
Referenced by setLight().

```
66                              {
67     ui->keyWidget->map(light->map());
68     ui->keyWidget->colorMap(light->colorMap());
69     ui->brightnessBox->setCurrentIndex(light->dimming());
70 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.32.4 Field Documentation

12.32.4.1 QStringList KbLightWidget::currentSelection [private]

Definition at line 44 of file kblightwidget.h.

Referenced by changeColor(), newSelection(), on_animButton_clicked(), and on_bgButton_clicked().

12.32.4.2 KbLight* KbLightWidget::light [private]

Definition at line 43 of file kblightwidget.h.

Referenced by changeColor(), newSelection(), on_animButton_clicked(), on_brightnessBox_activated(), on_showAnimBox_clicked(), setLight(), toggleSidelight(), and updateLight().

12.32.4.3 Ui::KbLightWidget* KbLightWidget::ui [private]

Definition at line 46 of file kblightwidget.h.

Referenced by changeAnim(), changeAnimKeys(), changeColor(), KbLightWidget(), newSelection(), on_animButton_clicked(), on_bgButton_clicked(), on_showAnimBox_clicked(), setLight(), setMonochrome(), toggleSidelight(), updateLight(), and ~KbLightWidget().

The documentation for this class was generated from the following files:

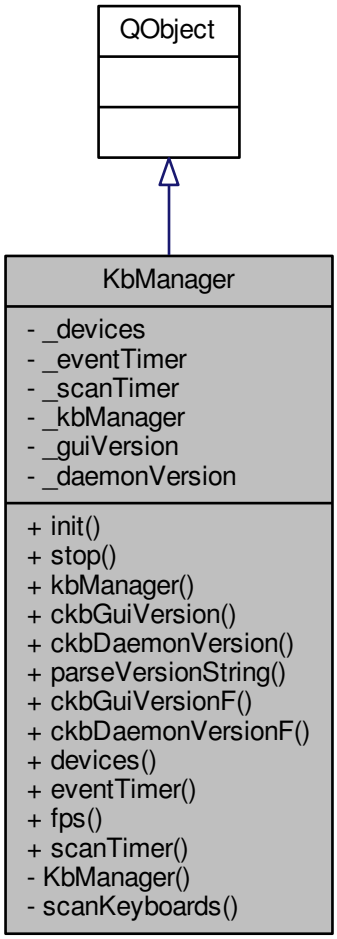
- src/ckb/kblightwidget.h

- src/ckb/kblightwidget.cpp

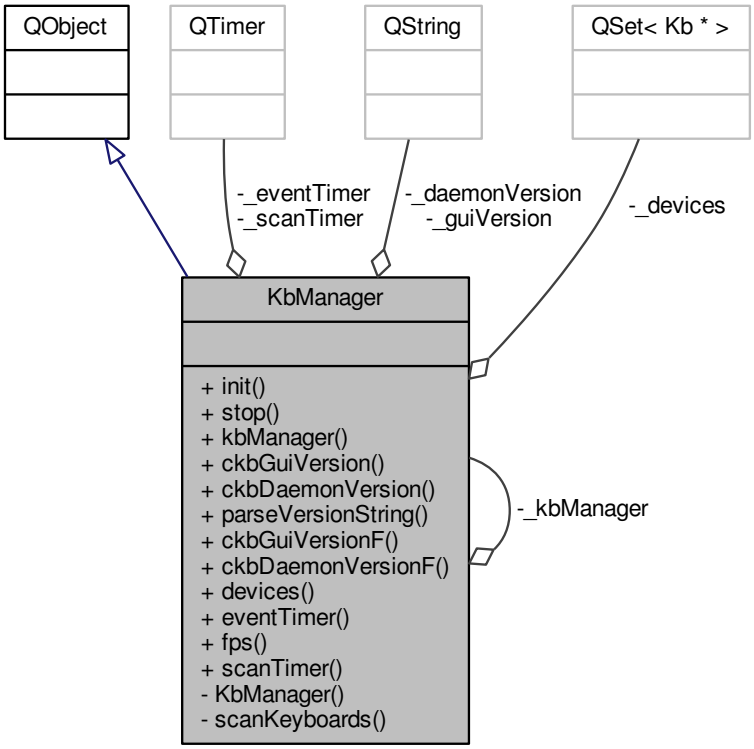
12.33 KbManager Class Reference

`#include <src/ckb/kbmanager.h>`

Inheritance diagram for KbManager:



Collaboration diagram for KbManager:



Signals

- void kbConnected (Kb ∗device)
- void kbDisconnected (Kb ∗device)
- void versionUpdated ()

Static Public Member Functions

- static void init (QString guiVersion)
- static void stop ()
- static KbManager ∗ kbManager ()
- static QString ckbGuiVersion ()
- static QString ckbDaemonVersion ()
- static float parseVersionString (QString version)
- static float ckbGuiVersionF ()
- static float ckbDaemonVersionF ()
- static const QSet< Kb ∗ > devices ()
- static QTimer ∗ eventTimer ()
- static void fps (int framerate)
- static QTimer ∗ scanTimer ()

Private Slots

- void scanKeyboards ()

Private Member Functions

- KbManager (QObject *parent=0)

Private Attributes

- QSet< Kb * > _devices
- QTimer * _eventTimer
- QTimer * _scanTimer

Static Private Attributes

- static KbManager * _kbManager = 0
- static QString _guiVersion
- static QString _daemonVersion = "<unavailable>"

12.33.1 Detailed Description

Definition at line 14 of file kbmanager.h.

12.33.2 Constructor & Destructor Documentation

12.33.2.1 KbManager::KbManager (QObject * *parent* = 0) [explicit], [private]

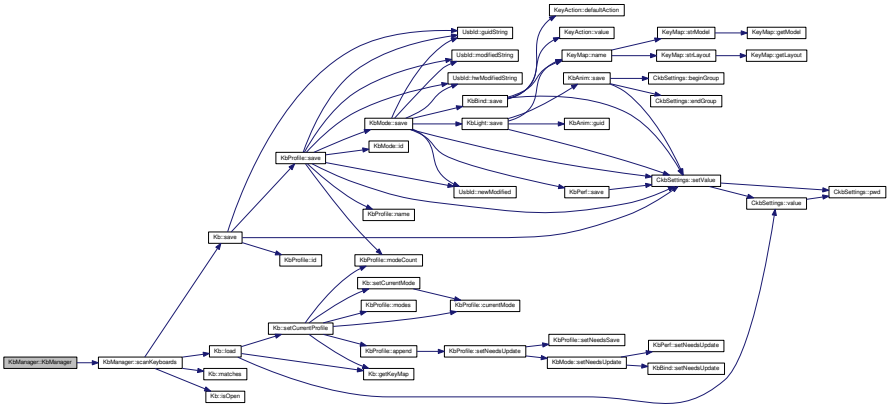
Definition at line 26 of file kbmanager.cpp.

References _eventTimer, _scanTimer, and scanKeyboards().

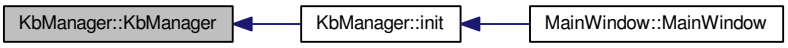
Referenced by init().

```
26                                      : QObject(parent){
27     // Set up the timers
28     _eventTimer = new QTimer(this);
29     _eventTimer->setTimerType(Qt::PreciseTimer);
30     _scanTimer = new QTimer(this);
31     _scanTimer->start(100);
32     connect(_scanTimer, SIGNAL(timeout()), this, SLOT(scanKeyboards()));
33 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.33.3 Member Function Documentation

12.33.3.1 static QString KbManager::ckbDaemonVersion ( ) [inline], [static]

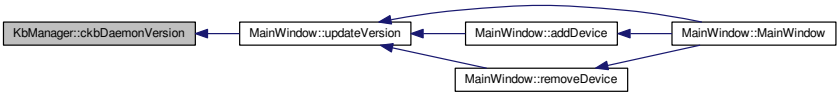
Definition at line 27 of file kbmanager.h.

References _daemonVersion.

Referenced by MainWindow::updateVersion().

```
27 { return _daemonVersion; }
```

Here is the caller graph for this function:



12.33.3.2 static float KbManager::ckbDaemonVersionF ( ) [inline], [static]

Definition at line 31 of file kbmanager.h.

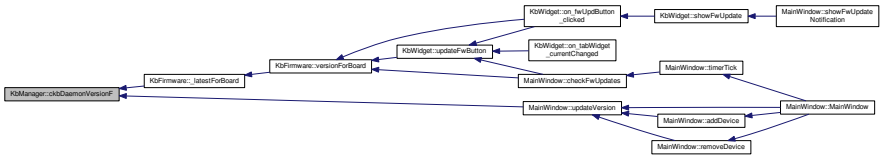
References _daemonVersion, DAEMON_UNAVAILABLE_STR, and parseVersionString().

Referenced by KbFirmware::_latestForBoard(), and MainWindow::updateVersion().

```
31 { return _daemonVersion == DAEMON_UNAVAILABLE_STR ? INFINITY :
      parseVersionString(_daemonVersion); }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.33.3.3 static QString KbManager::ckbGuiVersion ( ) [inline], [static]

Definition at line 26 of file kbmanager.h.

References _guiVersion.

```
26 { return _guiVersion; }
```

12.33.3.4 static float KbManager::ckbGuiVersionF ( ) [inline], [static]

Definition at line 30 of file kbmanager.h.

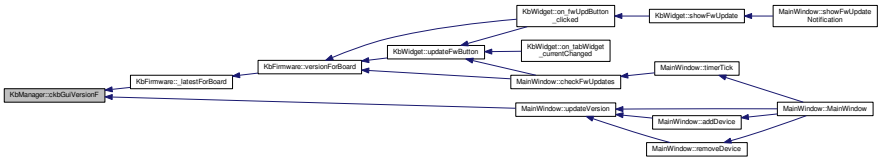
References _guiVersion, and parseVersionString().

Referenced by KbFirmware::_latestForBoard(), and MainWindow::updateVersion().

```
30 { return parseVersionString(_guiVersion); }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.33.3.5 static const QSet<Kb*> KbManager::devices ( ) [inline], [static]

Definition at line 34 of file kbmanager.h.

References _devices, and _kbManager.

```
34 { return _kbManager ? _kbManager->_devices : QSet<Kb*>(); }
```

12.33.3.6 static QTimer* KbManager::eventTimer ( ) [inline], [static]

Definition at line 38 of file kbmanager.h.

References _eventTimer, and _kbManager.

Referenced by fps().

```
38 { return _kbManager ? _kbManager->_eventTimer : 0; }
```

Here is the caller graph for this function:

12.33.3.7 void KbManager::fps (int *framerate*) [static]

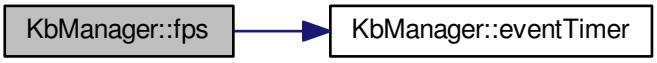
Definition at line 35 of file kbmanager.cpp.

References eventTimer().

Referenced by Kb::frameRate().

```
35                                {
36     QTimer* timer = eventTimer();
37     if(!timer)
38         return;
39     if(timer->isActive())
40         timer->setInterval(1000 / framerate);
41     else
42         timer->start(1000 / framerate);
43 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.33.3.8 void KbManager::init (QString *guiVersion*) [static]

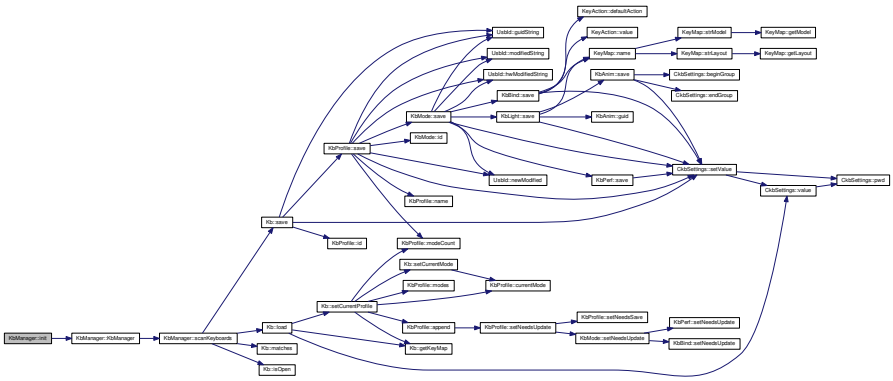
Definition at line 12 of file kbmanager.cpp.

References _guiVersion, _kbManager, and KbManager().

Referenced by MainWindow::MainWindow().

```
12                                          {
13     _guiVersion = guiVersion;
14     if(_kbManager)
15         return;
16     _kbManager = new KbManager();
17 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

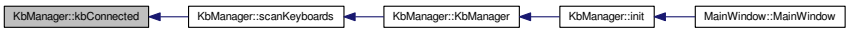
12.33.3.9 void KbManager::kbConnected (Kb * *device*) [signal]

Definition at line 174 of file moc_kbmanager.cpp.

Referenced by scanKeyboards().

```
175 {
176     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
177     QMetaObject::activate(this, &staticMetaObject, 0, _a);
178 }
```

Here is the caller graph for this function:



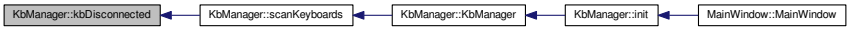
12.33.3.10 void KbManager::kbDisconnected (Kb * *device*) [signal]

Definition at line 181 of file moc_kbmanager.cpp.

Referenced by scanKeyboards().

```
182 {
183     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
184     QMetaObject::activate(this, &staticMetaObject, 1, _a);
185 }
```

Here is the caller graph for this function:



12.33.3.11 static KbManager* KbManager::kbManager ( ) [inline], [static]

Definition at line 23 of file kbmanager.h.

References _kbManager.

Referenced by MainWindow::MainWindow().

```
23 { return _kbManager; }
```

Here is the caller graph for this function:

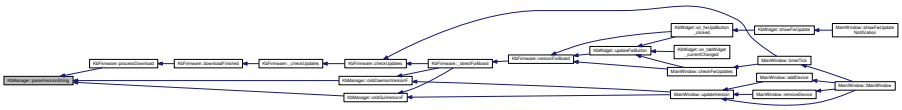
12.33.3.12 float KbManager::parseVersionString (QString *version*) [static]

Definition at line 45 of file kbmanager.cpp.

Referenced by ckbDaemonVersionF(), ckbGuiVersionF(), and KbFirmware::processDownload().

```
45                                                  {
46     // Remove extraneous info (anything after a +, anything non-numeric)
47     QStringList dots = version.replace(QRegExp("\\+.+"), "").replace(QRegExp("[^\\d\\.]"), "").split(".");
48     float base = 1.f;
49     float res = 0.f;
50     // A number like "1.2.3" will result in 1.0203
51     // NB: will fail if a point version goes over 99 or if using more than two dots. floats can only
       reliably encode 7 decimal digits.
52     foreach(const QString& dot, dots){
53         res += dot.toFloat() * base;
54         base /= 100.f;
55     }
56     return res;
57 }
```

Here is the caller graph for this function:



12.33.3.13 void KbManager::scanKeyboards ( ) [private], [slot]

Definition at line 59 of file kbmanager.cpp.

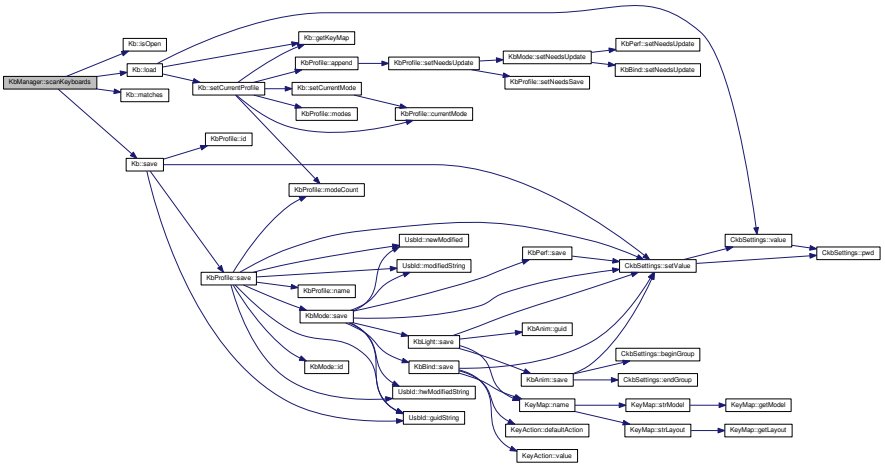
References _daemonVersion, _devices, _eventTimer, _scanTimer, DAEMON_UNAVAILABLE_STR, devpath, Kb::isOpen(), kbConnected(), kbDisconnected(), Kb::load(), Kb::matches(), Kb::save(), and versionUpdated().

Referenced by KbManager().

```
59                                {
60     QString rootdev = devpath.arg(0);
61     QFile connected(rootdev + "/connected");
62     if(!connected.open(QIODevice::ReadOnly)){
63         // No root controller - remove all keyboards
64         foreach(Kb* kb, _devices){
65             emit kbDisconnected(kb);
66             kb->save();
67             delete kb;
68         }
69         _devices.clear();
70         if(_daemonVersion != DAEMON_UNAVAILABLE_STR){
```

```
71              _daemonVersion = DAEMON_UNAVAILABLE_STR;
72              emit versionUpdated();
73          }
74          return;
75      }
76      // Check daemon version
77      QFile version(rootdev + "/version");
78      QString vString;
79      if(version.open(QIODevice::ReadOnly)){
80          vString = QString::fromUtf8(version.readLine()).trimmed();
81          version.close();
82      } else
83          vString = DAEMON_UNAVAILABLE_STR;
84      if(_daemonVersion != vString){
85          _daemonVersion = vString;
86          emit versionUpdated();
87      }
88
89      // Scan connected devices
90      QList<QStringList> lines;
91      while(1){
92          QString line = connected.readLine().trimmed();
93          if(line.isEmpty())
94              break;
95          QStringList components = line.split(" ");
96          if(components.length() < 2)             // "<path> <serial> <name>" (we're only interested in the
    first two)
97              continue;
98          lines.append(components);
99      }
100      connected.close();
101
102      // Remove any active devices not in the list
103      QMutableSetIterator<Kb*> i(_devices);
104      while(i.hasNext()){
105          Kb* kb = i.next();
106          bool matched = false;
107          foreach(const QStringList& line, lines){
108              if(kb->matches(line[0], line[1])){
109                  matched = true;
110                  break;
111              }
112          }
113          if(matched)
114              continue;
115          // Device not found, remove
116          i.remove();
117          emit kbDisconnected(kb);
118          kb->save();
119          delete kb;
120      }
121
122      // Add any new devices found in the list
123      foreach(const QStringList& line, lines){
124          bool matched = false;
125          foreach(Kb* kb, _devices){
126              if(kb->matches(line[0], line[1])){
127                  matched = true;
128                  break;
129              }
130          }
131          if(matched)
132              continue;
133          // Device not found, create new
134          Kb* kb = new Kb(this, line[0]);
135          if(!kb->isOpen()){
136              delete kb;
137              continue;
138          }
139          _devices.insert(kb);
140          // Load preferences and send signal
141          emit kbConnected(kb);
142          kb->load();
143          connect(_eventTimer, SIGNAL(timeout()), kb, SLOT(frameUpdate()));
144          connect(_scanTimer, SIGNAL(timeout()), kb, SLOT(autoSave()));
145      }
146  }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.33.3.14 static QTimer* KbManager::scanTimer ( ) [inline], [static]

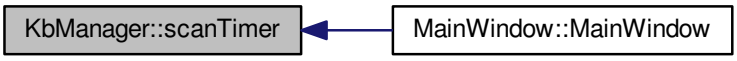
Definition at line 43 of file kbmanager.h.

References _kbManager, and _scanTimer.

Referenced by MainWindow::MainWindow().

```
43 { return _kbManager ? _kbManager->_scanTimer : 0; }
```

Here is the caller graph for this function:



12.33.3.15 void KbManager::stop ( ) [static]

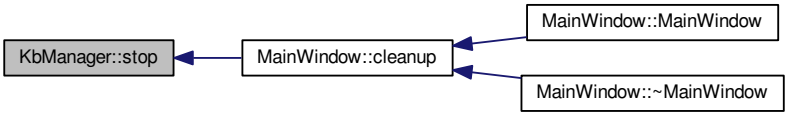
Definition at line 19 of file kbmanager.cpp.

References _kbManager.

Referenced by MainWindow::cleanup().

```
19                      {
20     if(!_kbManager)
21         return;
22     delete _kbManager;
23     _kbManager = 0;
24 }
```

Here is the caller graph for this function:



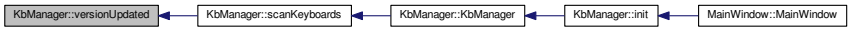
12.33.3.16 void KbManager::versionUpdated ( ) [signal]

Definition at line 188 of file moc_kbmanager.cpp.

Referenced by scanKeyboards().

```
189 {
190     QMetaObject::activate(this, &staticMetaObject, 2, Q_NULLPTR);
191 }
```

Here is the caller graph for this function:



12.33.4 Field Documentation

12.33.4.1 QString KbManager::_daemonVersion = "<unavailable>" [static], [private]

Definition at line 59 of file kbmanager.h.

Referenced by ckbDaemonVersion(), ckbDaemonVersionF(), and scanKeyboards().

12.33.4.2 QSet<Kb*> KbManager::_devices [private]

Definition at line 63 of file kbmanager.h.

Referenced by devices(), and scanKeyboards().

12.33.4.3 QTimer* KbManager::_eventTimer [private]

Definition at line 64 of file kbmanager.h.

Referenced by eventTimer(), KbManager(), and scanKeyboards().

12.33.4.4 QString KbManager::_guiVersion [static], [private]

Definition at line 59 of file kbmanager.h.

Referenced by ckbGuiVersion(), ckbGuiVersionF(), and init().

12.33.4.5 KbManager * KbManager::_kbManager = 0 [static], [private]

Definition at line 58 of file kbmanager.h.

Referenced by devices(), eventTimer(), init(), kbManager(), scanTimer(), and stop().

12.33.4.6 QTimer * KbManager::_scanTimer [private]

Definition at line 64 of file kbmanager.h.

Referenced by KbManager(), scanKeyboards(), and scanTimer().

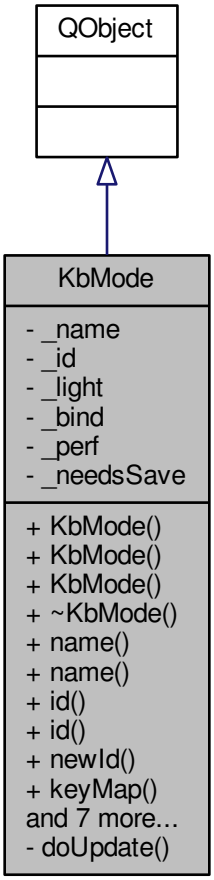
The documentation for this class was generated from the following files:

- src/ckb/kbmanager.h
- src/ckb/kbmanager.cpp
- src/ckb/release/moc_kbmanager.cpp

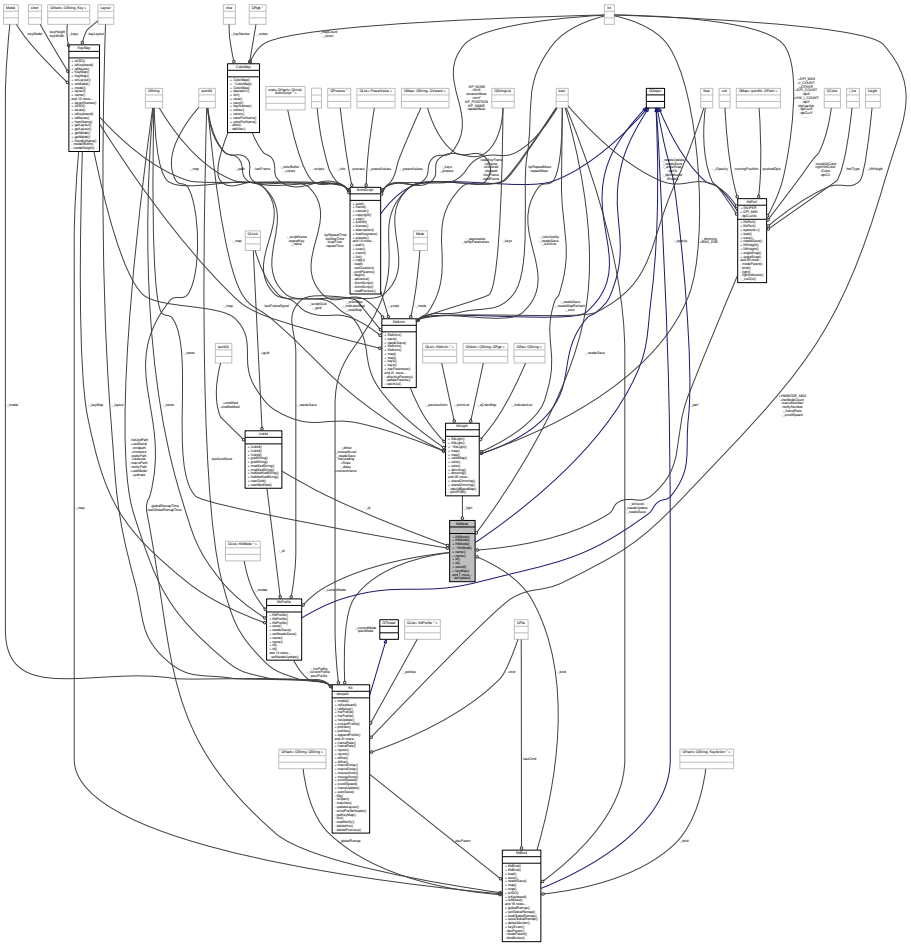
12.34 KbMode Class Reference

`#include <src/ckb/kbmode.h>`

Inheritance diagram for KbMode:



Collaboration diagram for KbMode:



Signals

- void updated ()

Public Member Functions

- KbMode (Kb *parent, const KeyMap &keyMap, const QString &guid="", const QString &modified="")
- KbMode (Kb *parent, const KeyMap &keyMap, CkbSettings &settings)
- KbMode (Kb *parent, const KeyMap &keyMap, const KbMode &other)

  KbMode::KbMode.
- ~KbMode ()

  KbMode::~KbMode Destructor may be used for Debugging (issue #38 with SIGSEGV). Insert qDebug-statement.
- const QString & name () const
- void name (const QString &newName)
- UsbId & id ()
- void id (const UsbId &newId)
- void newId ()
- void keyMap (const KeyMap &keyMap)
- KbLight * light ()
- KbBind * bind ()
- KbPerf * perf ()

- void save (CkbSettings &settings)
- bool needsSave () const
- void setNeedsSave ()
- void setNeedsUpdate ()

Private Slots

- void doUpdate ()

Private Attributes

- QString _name
- UsbId _id
- KbLight * _light
- KbBind * _bind
- KbPerf * _perf
- bool _needsSave

12.34.1 Detailed Description

Definition at line 36 of file kbmode.h.

12.34.2 Constructor & Destructor Documentation

12.34.2.1 KbMode::KbMode (Kb * *parent*, const KeyMap & *keyMap*, const QString & *guid* = "", const QString & *modified* = "")

Definition at line 4 of file kbmode.cpp.

References _id, _light, doUpdate(), UsbId::guid, and updated().

```
4                                                                                                    :
5     QObject(parent),
6     _name("Unnamed"), _id(guid, modified),
7     _light(new KbLight(this, keyMap)), _bind(new KbBind(this, parent, keyMap)),
      _perf(new KbPerf(this)),
8     _needsSave(true)
9 {
10     connect(_light, SIGNAL(updated()), this, SLOT(doUpdate()));
11     if(_id.guid.isNull())
12         _id.guid = QUuid::createUuid();
13 }
```

Here is the call graph for this function:

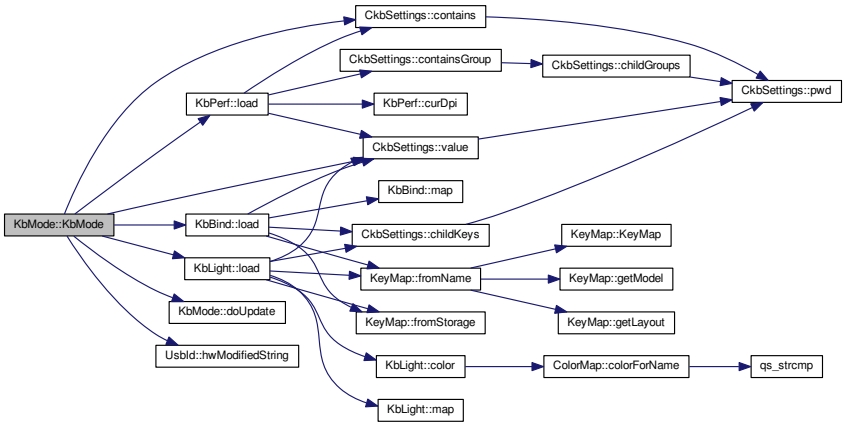
12.34.2.2 KbMode::KbMode (Kb * *parent*, const KeyMap & *keyMap*, CkbSettings & *settings*)

Definition at line 30 of file kbmode.cpp.

References _bind, _id, _light, _name, _perf, CkbSettings::contains(), doUpdate(), UsbId::guid, UsbId::hwModified, UsbId::hwModifiedString(), KbPerf::load(), KbBind::load(), KbLight::load(), UsbId::modified, updated(), and CkbSettings::value().

```
30                                                                    :
31     QObject(parent),
32     _name(settings.value("Name").toString().trimmed()),
33     _id(settings.value("GUID").toString().trimmed(), settings.value("Modified").toString().
       trimmed()),
34     _light(new KbLight(this, keyMap)), _bind(new KbBind(this, parent, keyMap)),
       _perf(new KbPerf(this)),
35     _needsSave(false)
36 {
37     if(settings.contains("HwModified"))
38         _id.hwModifiedString(settings.value("HwModified").toString());
39     else
40         _id.hwModified = _id.modified;
41
42     connect(_light, SIGNAL(updated()), this, SLOT(doUpdate()));
43     if(_id.guid.isNull())
44         _id.guid = QUuid::createUuid();
45     if(_name == "")
46         _name = "Unnamed";
47     _light->load(settings);
48     _bind->load(settings);
49     _perf->load(settings);
50 }
```

Here is the call graph for this function:



12.34.2.3 KbMode::KbMode (Kb * *parent*, const KeyMap & *keyMap*, const KbMode & *other*)

Parameters

parent	Kb as parent (append to the Keyboard list
keyMap	Map to copy from
other	Mode to copy from Constructor to copy an existing Keyboard-Mode KbMode &other

Definition at line 21 of file kbmode.cpp.

References _light, doUpdate(), and updated().

```
21                                                                    :
22     QObject(parent),
```

```
23     _name(other._name), _id(other._id),
24     _light(new KbLight(this, keyMap, *other._light)), _bind(new
       KbBind(this, parent, keyMap, *other._bind)), _perf(new KbPerf(this, *other.
       _perf)),
25     _needsSave(true)
26 {
27     connect(_light, SIGNAL(updated()), this, SLOT(doUpdate()));
28 }
```

Here is the call graph for this function:

12.34.2.4 KbMode::~KbMode ( )

Definition at line 89 of file kbmode.cpp.

```
89                 {
90 }
```

12.34.3 Member Function Documentation

12.34.3.1 KbBind* KbMode::bind ( ) [inline]

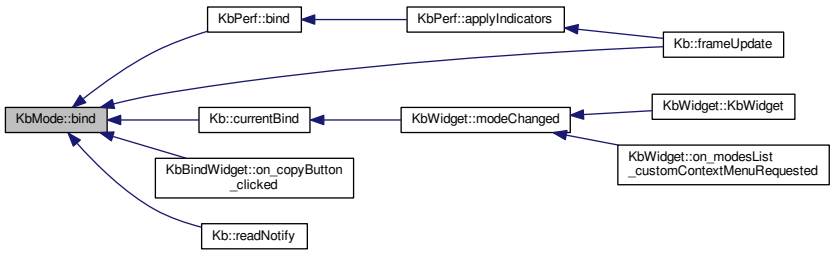
Definition at line 61 of file kbmode.h.

References _bind.

Referenced by KbPerf::bind(), Kb::currentBind(), Kb::frameUpdate(), KbBindWidget::on_copyButton_clicked(), and Kb::readNotify().

```
61 { return _bind; }
```

Here is the caller graph for this function:



12.34.3.2 void KbMode::doUpdate ( ) [private], [slot]

Definition at line 82 of file kbmode.cpp.

References updated().

Referenced by KbMode().

```
82                      {
83     emit updated();
84 }
```

Here is the caller graph for this function:

12.34.3.3 UsbId& KbMode::id ( ) [inline]

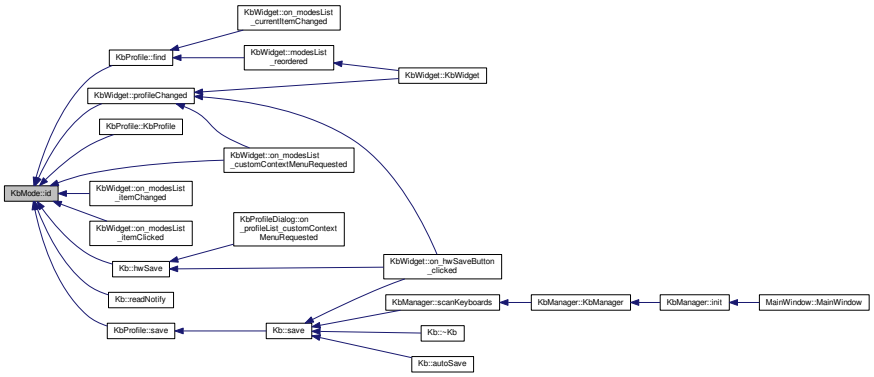
Definition at line 52 of file kbmode.h.

References _id.

Referenced by KbProfile::find(), Kb::hwSave(), KbProfile::KbProfile(), KbWidget::on_modesList_customContextMenuRequested(), KbWidget::on_modesList_itemChanged(), KbWidget::on_modesList_itemClicked(), KbWidget::profileChanged(), Kb::readNotify(), and KbProfile::save().

```
52 { return _id; }
```

Here is the caller graph for this function:



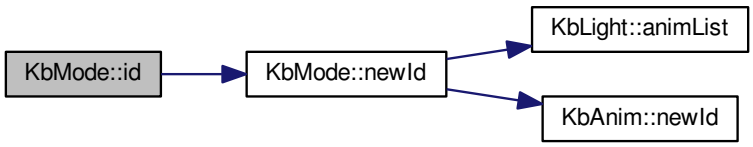
12.34.3.4 void KbMode::id (const UsbId & *newId*) [inline]

Definition at line 53 of file kbmode.h.

References _id, _needsSave, and newId().

```
53 { _needsSave = true; _id = newId; }
```

Here is the call graph for this function:



12.34.3.5 void KbMode::keyMap (const KeyMap & *keyMap*)

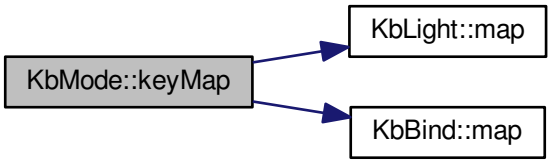
Definition at line 60 of file kbmode.cpp.

References _bind, _light, _needsSave, KbLight::map(), and KbBind::map().

Referenced by KbProfile::keyMap().

```
60                                          {
61     _needsSave = true;
62     _light->map(keyMap);
63     _bind->map(keyMap);
64 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.34.3.6 KbLight* KbMode::light ( ) [inline]

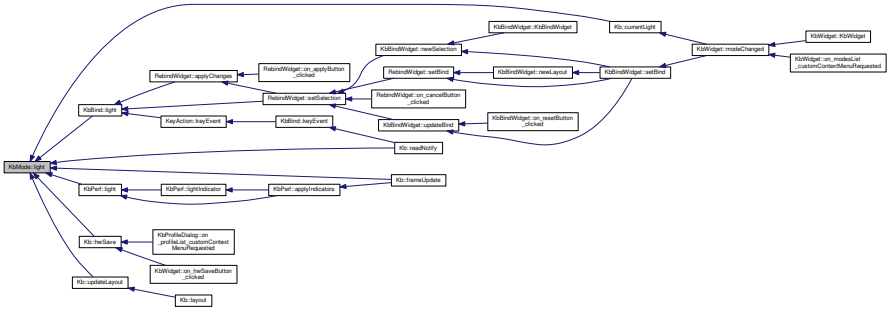
Definition at line 60 of file kbmode.h.

References _light.

Referenced by Kb::currentLight(), Kb::frameUpdate(), Kb::hwSave(), KbBind::light(), KbPerf::light(), Kb::readNotify(), and Kb::updateLayout().

```
60 { return _light; }
```

Here is the caller graph for this function:



12.34.3.7 const QString& KbMode::name ( ) const [inline]

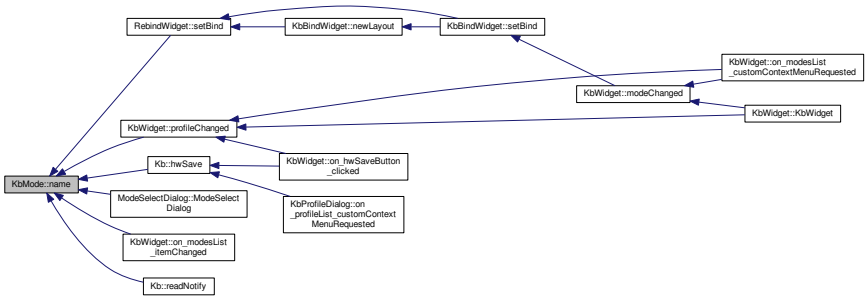
Definition at line 50 of file kbmode.h.

References _name.

Referenced by Kb::hwSave(), ModeSelectDialog::ModeSelectDialog(), KbWidget::on_modesList_itemChanged(), KbWidget::profileChanged(), Kb::readNotify(), and RebindWidget::setBind().

```
50 { return _name; }
```

Here is the caller graph for this function:



12.34.3.8 void KbMode::name (const QString & *newName*) [inline]

Definition at line 51 of file kbmode.h.

References _name, and _needsSave.

```
51 { _needsSave = true; _name = newName.trimmed(); if(_name == "")
      _name = "Unnamed"; }
```

12.34.3.9 bool KbMode::needsSave ( ) const

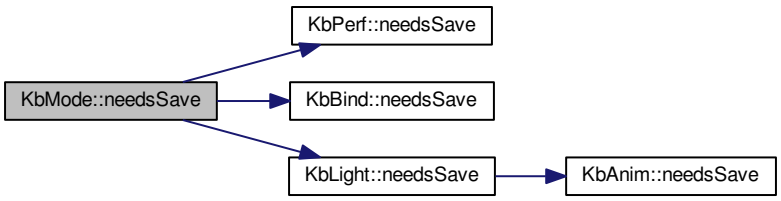
Definition at line 78 of file kbmode.cpp.

References _bind, _light, _needsSave, _perf, KbPerf::needsSave(), KbBind::needsSave(), and KbLight::needsSave().

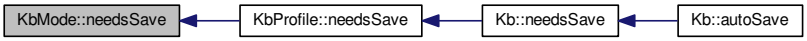
Referenced by KbProfile::needsSave().

```
78                              {
79     return _needsSave || _light->needsSave() || _bind->
      needsSave() || _perf->needsSave();
80 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.34.3.10 void KbMode::newId ( )

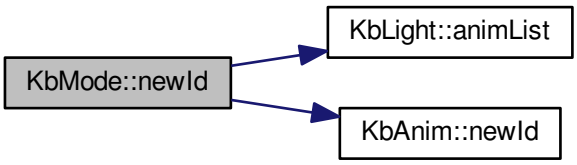
Definition at line 52 of file kbmode.cpp.

References _id, _light, _needsSave, anim, KbLight::animList(), and KbAnim::newId().

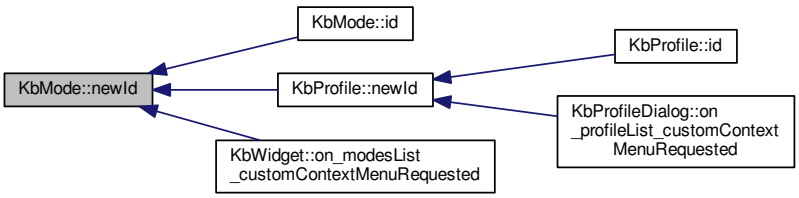
Referenced by id(), KbProfile::newId(), and KbWidget::on_modesList_customContextMenuRequested().

```
52                  {
53     _needsSave = true;
54     _id = UsbId();
55     // Create new IDs for animations
56     foreach(KbAnim* anim, _light->animList())
57         anim->newId();
58 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.34.3.11 KbPerf* KbMode::perf ( ) [inline]

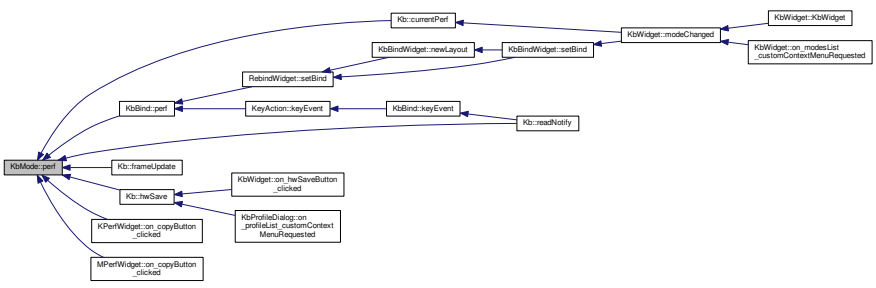
Definition at line 62 of file kbmode.h.

References _perf.

Referenced by Kb::currentPerf(), Kb::frameUpdate(), Kb::hwSave(), KPerfWidget::on_copyButton_clicked(), MPerfWidget::on_copyButton_clicked(), KbBind::perf(), and Kb::readNotify().

```
62 { return _perf; }
```

Here is the caller graph for this function:



12.34.3.12 void KbMode::save (CkbSettings & *settings*)

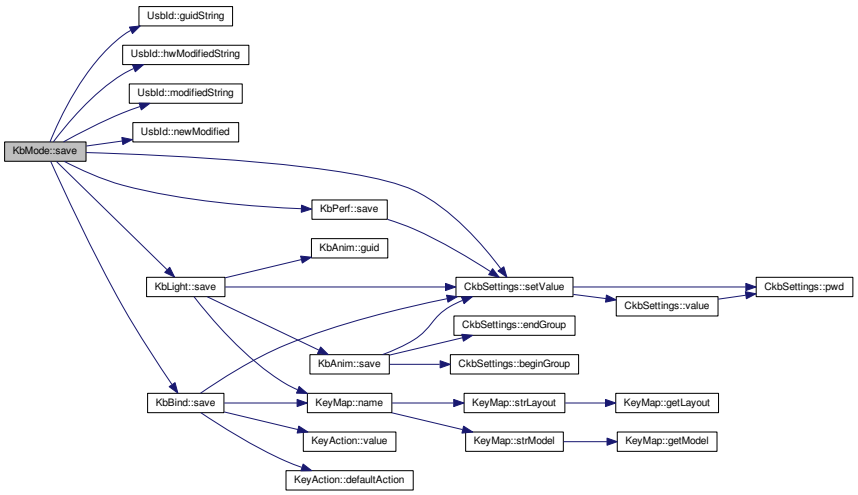
Definition at line 66 of file kbmode.cpp.

References _bind, _id, _light, _name, _needsSave, _perf, UsbId::guidString(), UsbId::hwModifiedString(), UsbId::modifiedString(), UsbId::newModified(), KbPerf::save(), KbBind::save(), KbLight::save(), and CkbSettings::setValue().

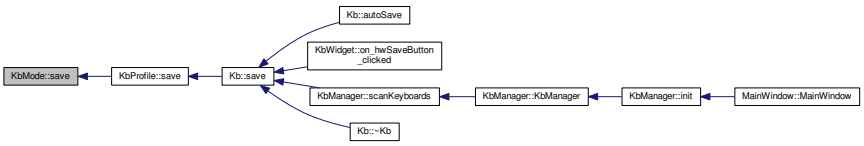
Referenced by KbProfile::save().

```
66                                          {
67     _needsSave = false;
68     _id.newModified();
69     settings.setValue("GUID", _id.guidString());
70     settings.setValue("Modified", _id.modifiedString());
71     settings.setValue("HwModified", _id.hwModifiedString());
72     settings.setValue("Name", _name);
73     _light->save(settings);
74     _bind->save(settings);
75     _perf->save(settings);
76 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.34.3.13 void KbMode::setNeedsSave ( ) [inline]

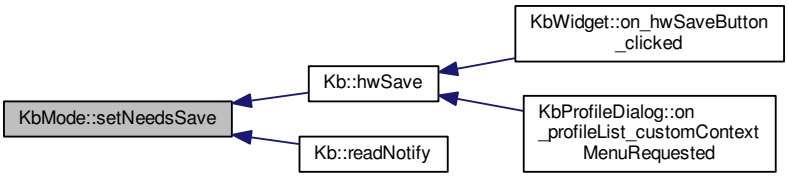
Definition at line 67 of file kbmode.h.

References _needsSave.

Referenced by Kb::hwSave(), and Kb::readNotify().

```
67 { _needsSave = true; }
```

Here is the caller graph for this function:



12.34.3.14 void KbMode::setNeedsUpdate ( ) [inline]

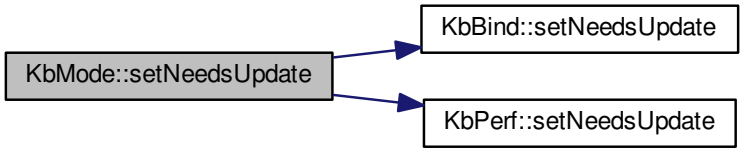
Definition at line 68 of file kbmode.h.

References _bind, _perf, KbBind::setNeedsUpdate(), and KbPerf::setNeedsUpdate().

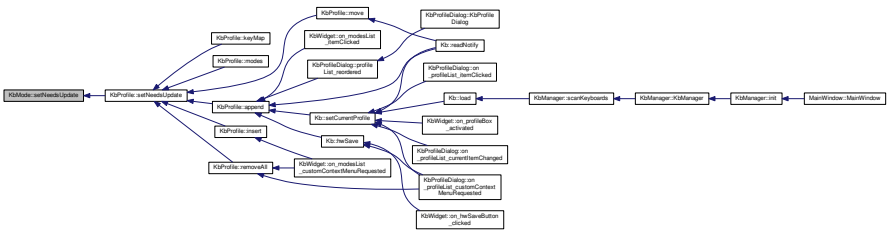
Referenced by KbProfile::setNeedsUpdate().

```
68 { _bind->setNeedsUpdate(); _perf->setNeedsUpdate(); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



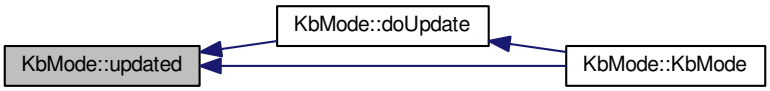
12.34.3.15 void KbMode::updated ( ) [signal]

Definition at line 131 of file moc_kbmode.cpp.

Referenced by doUpdate(), and KbMode().

```
132 {
133     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
134 }
```

Here is the caller graph for this function:



12.34.4 Field Documentation

12.34.4.1 KbBind* KbMode::_bind [private]

Definition at line 78 of file kbmode.h.

Referenced by bind(), KbMode(), keyMap(), needsSave(), save(), and setNeedsUpdate().

12.34.4.2 UsbId KbMode::_id [private]

Definition at line 75 of file kbmode.h.

Referenced by id(), KbMode(), newId(), and save().

12.34.4.3 KbLight* KbMode::_light [private]

Definition at line 77 of file kbmode.h.

Referenced by KbMode(), keyMap(), light(), needsSave(), newId(), and save().

12.34.4.4 QString KbMode::_name [private]

Definition at line 74 of file kbmode.h.

Referenced by KbMode(), name(), and save().

12.34.4.5 bool KbMode::_needsSave [private]

Definition at line 81 of file kbmode.h.

Referenced by id(), keyMap(), name(), needsSave(), newId(), save(), and setNeedsSave().

12.34.4.6 KbPerf* KbMode::_perf [private]

Definition at line 79 of file kbmode.h.

Referenced by KbMode(), needsSave(), perf(), save(), and setNeedsUpdate().

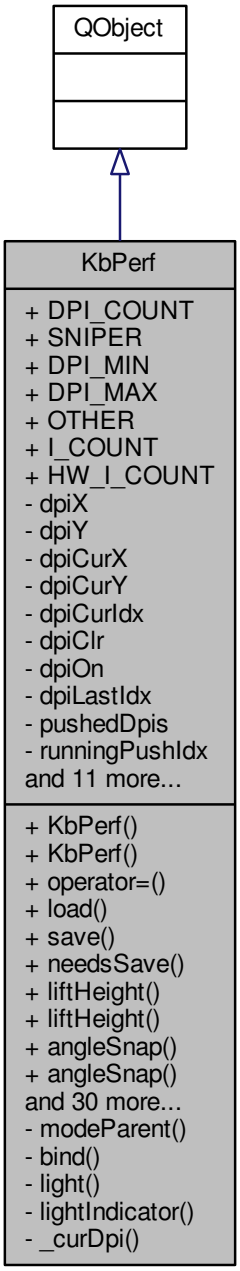
The documentation for this class was generated from the following files:

- src/ckb/kbmode.h
- src/ckb/kbmode.cpp
- src/ckb/release/moc_kbmode.cpp

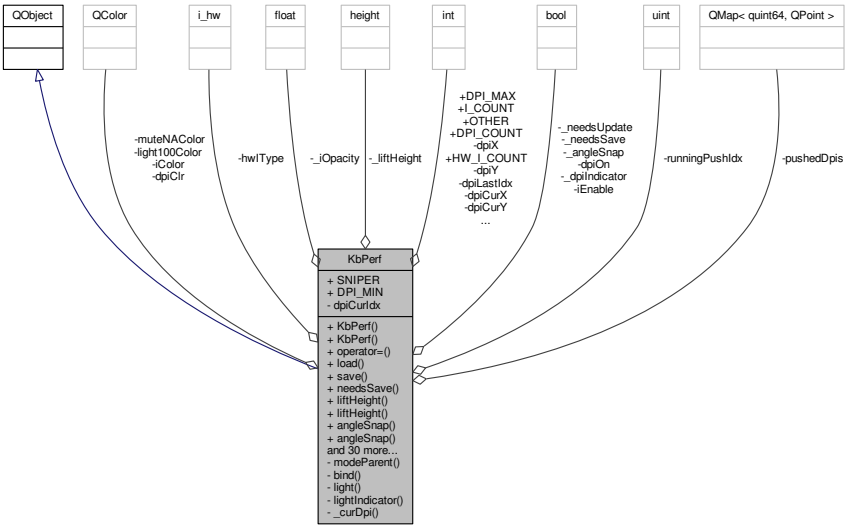
12.35 KbPerf Class Reference

`#include <src/ckb/kbperf.h>`

Inheritance diagram for KbPerf:



Collaboration diagram for KbPerf:



Public Types

- enum height {
  LOW = 1, LOWMED, MEDIUM, MEDHIGH,
  HIGH }
- enum indicator {
  NUM, CAPS, SCROLL, HW_IMAX = SCROLL,
  MODE, MACRO, LIGHT, LOCK,
  MUTE }
- enum i_hw { NONE = -1, NORMAL, ON, OFF }

Signals

- void didLoad ()
- void settingsUpdated ()

Public Member Functions

- KbPerf (KbMode *parent)
- KbPerf (KbMode *parent, const KbPerf &other)
- const KbPerf & operator= (const KbPerf &rhs)
- void load (CkbSettings &settings)
- void save (CkbSettings &settings)
- bool needsSave () const
- height liftHeight () const
- void liftHeight (height newHeight)
- bool angleSnap () const
- void angleSnap (bool newAngleSnap)
- QPoint dpi (int index) const
- void dpi (int index, const QPoint &newValue)
- QPoint sniperDpi () const
- void sniperDpi (const QPoint &newValue)

- void dpi (int index, int newValue)
- void sniperDpi (int newValue)
- QPoint curDpi () const
- void curDpi (const QPoint &newDpi)
- void curDpi (int newDpi)
- int curDpiIdx () const
- void curDpiIdx (int newIdx)
- void dpiUp ()
- void dpiDown ()
- bool dpiEnabled (int index) const
- void dpiEnabled (int index, bool newEnabled)
- quint64 pushDpi (const QPoint &newDpi)
- quint64 pushDpi (int newDpi)
- quint64 pushSniper ()
- void popDpi (quint64 pushIdx)
- float iOpacity () const
- void iOpacity (float newIOpacity)
- bool dpiIndicator () const
- void dpiIndicator (bool newDpiIndicator)
- QColor dpiColor (int index) const
- void dpiColor (int index, const QColor &newColor)
- void getIndicator (indicator index, QColor &color1, QColor &color2, QColor &color3, bool &software_enable, i_hw &hardware_enable)
- void setIndicator (indicator index, const QColor &color1, const QColor &color2, const QColor &color3=QColor(), bool software_enable=true, i_hw hardware_enable=NORMAL)
- void update (QFile &cmd, int notifyNumber, bool force=false, bool saveCustomDpi=true)
- void setNeedsUpdate ()
- void applyIndicators (int modeIndex, const bool indicatorState[HW_I_COUNT])

Static Public Attributes

- static const int DPI_COUNT = 6
- static const int SNIPER = 0
- static const int DPI_MIN = 100
- static const int DPI_MAX = 12000
- static const int OTHER = DPI_COUNT
- static const int I_COUNT = (int)MUTE + 1
- static const int HW_I_COUNT = (int)HW_IMAX + 1

Private Member Functions

- KbMode * modeParent () const
- KbBind * bind () const
- KbLight * light () const
- void lightIndicator (const char *name, QRgb rgba)
- void _curDpi (const QPoint &newDpi)

Private Attributes

- int dpiX [DPI_COUNT]
- int dpiY [DPI_COUNT]
- int dpiCurX
- int dpiCurY
- int dpiCurIdx
- QColor dpiClr [DPI_COUNT+1]
- bool dpiOn [DPI_COUNT]
- int dpiLastIdx
- QMap< quint64, QPoint > pushedDpis
- uint runningPushIdx
- float _iOpacity
- QColor iColor [I_COUNT][2]
- QColor light100Color
- QColor muteNAColor
- bool iEnable [I_COUNT]
- i_hw hwIType [HW_I_COUNT]
- bool _dpiIndicator
- height _liftHeight
- bool _angleSnap
- bool _needsUpdate
- bool _needsSave

12.35.1 Detailed Description

Definition at line 15 of file kbperf.h.

12.35.2 Member Enumeration Documentation

12.35.2.1 enum KbPerf::height

Enumerator

LOW

LOWMED

MEDIUM

MEDHIGH

HIGH

Definition at line 31 of file kbperf.h.

```
31                  {
32          LOW = 1,
33          LOWMED,
34          MEDIUM,
35          MEDHIGH,
36          HIGH
37      };
```

12.35.2.2 enum KbPerf::i_hw

Enumerator

NONE

NORMAL

ON

OFF

Definition at line 98 of file kbperf.h.

```
98              {
99          NONE = -1,  // For non-hardware indicators
100          NORMAL,
101          ON,
102          OFF
103      };
```

12.35.2.3 enum KbPerf::indicator

Enumerator

NUM

CAPS

SCROLL

HW_IMAX

MODE

MACRO

LIGHT

LOCK

MUTE

Definition at line 85 of file kbperf.h.

```
85                  {
86          // Hardware
87          NUM,
88          CAPS,
89          SCROLL, HW_IMAX = SCROLL,
90          // Software
91          MODE,
92          MACRO,
93          LIGHT,
94          LOCK,
95          MUTE
96      };
```

12.35.3 Constructor & Destructor Documentation

12.35.3.1 KbPerf::KbPerf (KbMode * *parent*) [explicit]

Definition at line 13 of file kbperf.cpp.

References CAPS, DPI_COUNT, dpiClr, dpiCurIdx, dpiCurX, dpiCurY, dpiLastIdx, dpiOn, dpiX, dpiY, HW_I_COUNT, hwIType, I_COUNT, iColor, iEnable, LIGHT, light100Color, LOCK, MACRO, MODE, MUTE, muteNAColor, NORMAL, NUM, and SCROLL.

```
13                              :
14     QObject(parent), runningPushIdx(1),
15     _iOpacity(1.f), _dpiIndicator(true), _liftHeight(
       MEDIUM), _angleSnap(false),
16     _needsUpdate(true), _needsSave(true) {
17     // Default DPI settings
18     dpiX[0] = dpiY[0] = 400;
19     dpiX[1] = dpiY[1] = 450;
20     dpiX[2] = dpiY[2] = 800;
21     dpiX[3] = dpiY[3] = 1500;
22     dpiX[4] = dpiY[4] = 3000;
23     dpiX[5] = dpiY[5] = 6000;
24     dpiClr[0] = QColor(255, 0, 0);
25     dpiClr[1] = QColor(255, 192, 0);
26     dpiClr[2] = QColor(255, 255, 0);
27     dpiClr[3] = QColor(0, 255, 0);
28     dpiClr[4] = QColor(0, 255, 255);
29     dpiClr[5] = QColor(255, 255, 255);
30     dpiClr[6] = QColor(192, 192, 192);
31     for(int i = 0; i < DPI_COUNT; i++)
32         dpiOn[i] = true;
33     dpiLastIdx = dpiCurIdx = 3;
34     dpiCurX = dpiX[dpiCurIdx];
35     dpiCurY = dpiY[dpiCurIdx];
36     // Default indicators
37     iColor[NUM][0] = iColor[CAPS][0] = iColor[SCROLL][0] = QColor(0, 255, 0)
       ;   // Lock lights: on = green, off = black
38     iColor[NUM][1] = iColor[CAPS][1] = iColor[SCROLL][1] = QColor(0, 0, 0);
39     iColor[MACRO][0] = QColor(255, 0, 0);                                    // Macro: on =
       red, off = black
40     iColor[LOCK][0] = QColor(255, 255, 255);                                 // Win lock: on =
       white, off = black
41     iColor[MODE][0] = iColor[MUTE][0] = QColor(255, 255, 255, 0);            //
       Mode, mute: on = transparent, off = black
42     iColor[MODE][1] = iColor[MACRO][1] = iColor[LOCK][1] =
       iColor[MUTE][1] = muteNAColor = QColor(0, 0, 0);
43     iColor[LIGHT][0] = QColor(255, 0, 0);       // Brightness: red, yellow, white
44     iColor[LIGHT][1] = QColor(255, 255, 0);
45     light100Color = QColor(255, 255, 255);
46     for(int i = 0; i < HW_I_COUNT; i++){
47         // Set all lock lights to HW mode
48         iEnable[i] = false;
49         hwIType[i] = NORMAL;
50     }
51     for(int i = HW_I_COUNT; i < I_COUNT; i++){
52         // Turn all other indicators on
53         iEnable[i] = true;
54     }
55 }
```

12.35.3.2 KbPerf::KbPerf (KbMode * *parent*, const KbPerf & *other*)

Definition at line 57 of file kbperf.cpp.

References curDpi(), DPI_COUNT, dpiClr, dpiOn, dpiX, dpiY, hwIType, I_COUNT, iColor, iEnable, and pushedDpis.

```
57                                                      :
58     QObject(parent), dpiCurX(other.dpiCurX), dpiCurY(other.
       dpiCurY), dpiCurIdx(other.dpiCurIdx), dpiLastIdx(other.
       dpiLastIdx), runningPushIdx(1),
59     _iOpacity(other._iOpacity), light100Color(other.
       light100Color), muteNAColor(other.muteNAColor),
       _dpiIndicator(other._dpiIndicator),
60     _liftHeight(other._liftHeight), _angleSnap(other.
       _angleSnap),
61     _needsUpdate(true), _needsSave(true) {
62     memcpy(dpiX, other.dpiX, sizeof(dpiX));
63     memcpy(dpiY, other.dpiY, sizeof(dpiY));
64     for(int i = 0; i < DPI_COUNT + 1; i++)
65         dpiClr[i] = other.dpiClr[i];
66     memcpy(dpiOn, other.dpiOn, sizeof(dpiOn));
67     for(int i = 0; i < I_COUNT; i++){
68         iColor[i][0] = other.iColor[i][0];
69         iColor[i][1] = other.iColor[i][1];
70     }
71     memcpy(iEnable, other.iEnable, sizeof(iEnable));
72     memcpy(hwIType, other.hwIType, sizeof(hwIType));
73     // Don't copy pushed DPI states. If the other mode has any, restore the original DPI
74     if(!other.pushedDpis.isEmpty())
75         curDpi(other.pushedDpis[0]);
76 }
```

Here is the call graph for this function:

12.35.4 Member Function Documentation

12.35.4.1 void KbPerf::_curDpi (const QPoint & *newDpi*) [private]

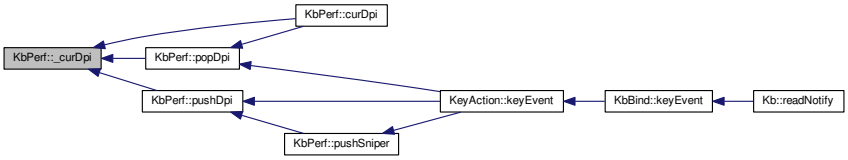
Definition at line 262 of file kbperf.cpp.

References _needsSave, _needsUpdate, DPI_COUNT, dpiCurIdx, dpiCurX, dpiCurY, dpiLastIdx, dpiX, and dpiY.

Referenced by curDpi(), popDpi(), and pushDpi().

```
262                                         {
263     dpiCurX = newDpi.x();
264     dpiCurY = newDpi.y();
265     // Set current/last index
266     dpiCurIdx = -1;
267     for(int i = 0; i < DPI_COUNT; i++){
268         if(dpiCurX == dpiX[i] && dpiCurY == dpiY[i]){
269             dpiCurIdx = i;
270             if(i != 0)
271                 dpiLastIdx = i;
272             break;
273         }
274     }
275     _needsUpdate = _needsSave = true;
276 }
```

Here is the caller graph for this function:



12.35.4.2 bool KbPerf::angleSnap ( ) const [inline]

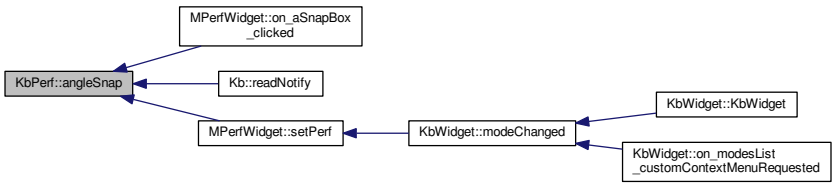
Definition at line 42 of file kbperf.h.

References _angleSnap.

Referenced by MPerfWidget::on_aSnapBox_clicked(), Kb::readNotify(), and MPerfWidget::setPerf().

```
42 { return _angleSnap; }
```

Here is the caller graph for this function:



12.35.4.3 void KbPerf::angleSnap (bool *newAngleSnap*)

Definition at line 368 of file kbperf.cpp.

References _angleSnap, _needsSave, and _needsUpdate.

```
368                                         {
369     _angleSnap = newAngleSnap;
370     _needsUpdate = _needsSave = true;
371 }
```

12.35.4.4 void KbPerf::applyIndicators (int *modeIndex,* const bool *indicatorState[HW_I_COUNT]*)

Definition at line 432 of file kbperf.cpp.

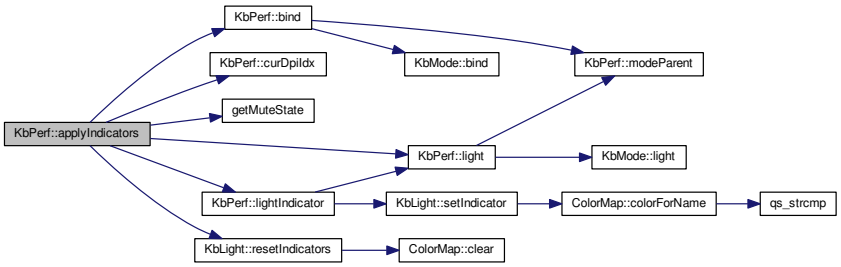
References _dpiIndicator, _iOpacity, bind(), CAPS, curDpiIdx(), dpiClr, getMuteState(), Kb::HWMODE_MAX, iColor, iEnable, LIGHT, light(), light100Color, lightIndicator(), LOCK, MACRO, MODE, MUTE, MUTED, muteNAColor, NUM, OTHER, KbLight::resetIndicators(), SCROLL, and UNMUTED.

Referenced by Kb::frameUpdate().

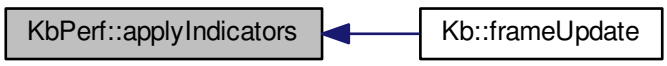
```
432                                                                         {
433     light()->resetIndicators();
434     if(_iOpacity <= 0.f)
435         return;
436     if(_dpiIndicator){
437         // Set DPI indicator according to index
438         int index = curDpiIdx();
439         if(index == -1 || index > OTHER)
440             index = OTHER;
441         lightIndicator("dpi", dpiClr[index].rgba());
442     }
443     // KB indicators
444     if(iEnable[MODE]){
445         for(int i = 0; i < Kb::HWMODE_MAX; i++){
446             char name[4];
447             snprintf(name, sizeof(name), "m%d", i + 1);
448             if(modeIndex == i)
449                 lightIndicator(name, iColor[MODE][0].rgba());
450             else
451                 lightIndicator(name, iColor[MODE][1].rgba());
452         }
453     }
454     if(iEnable[MACRO])
455         lightIndicator("mr", iColor[MUTE][1].rgba());
456     if(iEnable[LIGHT]){
457         switch(light()->dimming()){
458         case 0: // 100%
459             lightIndicator("light", light100Color.rgba());
460             break;
461         case 1: // 67%
462             lightIndicator("light", iColor[LIGHT][1].rgba());
463             break;
464         case 2: // 33%
465         case 3: // light off
466             lightIndicator("light", iColor[LIGHT][0].rgba());
467             break;
```

```
468         }
469     }
470     if(iEnable[LOCK]){
471         if(bind()->winLock())
472             lightIndicator("lock", iColor[LOCK][0].rgba());
473         else
474             lightIndicator("lock", iColor[LOCK][1].rgba());
475     }
476     if(iEnable[MUTE]){
477         switch(getMuteState()){
478         case MUTED:
479             lightIndicator("mute", iColor[MUTE][0].rgba());
480             break;
481         case UNMUTED:
482             lightIndicator("mute", iColor[MUTE][1].rgba());
483             break;
484         default:
485             lightIndicator("mute", muteNAColor.rgba());
486             break;
487         }
488     }
489     // Lock lights
490     if(iEnable[NUM])
491         lightIndicator("numlock", indicatorState[0] ? iColor[NUM][0].rgba() :
    iColor[NUM][1].rgba());
492     if(iEnable[CAPS])
493         lightIndicator("caps", indicatorState[1] ? iColor[CAPS][0].rgba() :
    iColor[CAPS][1].rgba());
494     if(iEnable[SCROLL])
495         lightIndicator("scroll", indicatorState[2] ? iColor[SCROLL][0].rgba() :
    iColor[SCROLL][1].rgba());
496 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.35.4.5 KbBind * KbPerf::bind ( ) const [private]

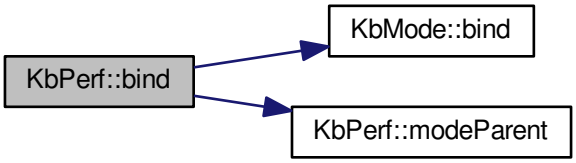
Definition at line 100 of file kbperf.cpp.

References KbMode::bind(), and modeParent().

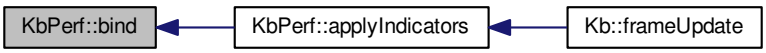
Referenced by applyIndicators().

```
100                             {
101     return modeParent()->bind();
102 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.35.4.6 QPoint KbPerf::curDpi ( ) const [inline]

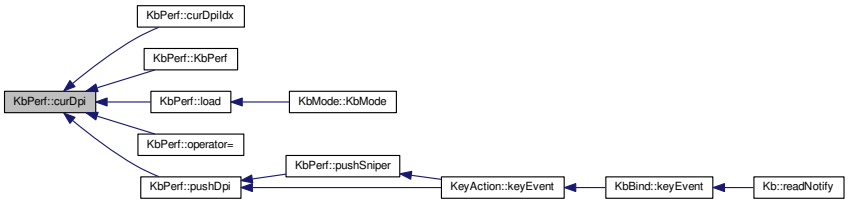
Definition at line 57 of file kbperf.h.

References dpiCurX, and dpiCurY.

Referenced by curDpiIdx(), KbPerf(), load(), operator=(), and pushDpi().

```
57 { return QPoint(dpiCurX, dpiCurY); }
```

Here is the caller graph for this function:



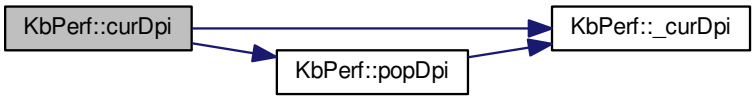
12.35.4.7 void KbPerf::curDpi (const QPoint & *newDpi*)

Definition at line 278 of file kbperf.cpp.

References _curDpi(), popDpi(), and pushedDpis.

```
278                                     {
279     while(pushedDpis.count() > 0)
280         popDpi(pushedDpis.keys().last());
281     _curDpi(newDpi);
282 }
```

Here is the call graph for this function:



12.35.4.8 void KbPerf::curDpi (int *newDpi*) [inline]

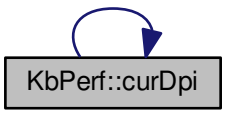
Definition at line 59 of file kbperf.h.

References curDpi().

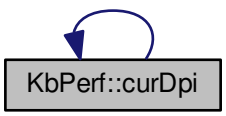
Referenced by curDpi().

```
59 { curDpi(QPoint(newDpi, newDpi)); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.35.4.9 int KbPerf::curDpiIdx ( ) const [inline]

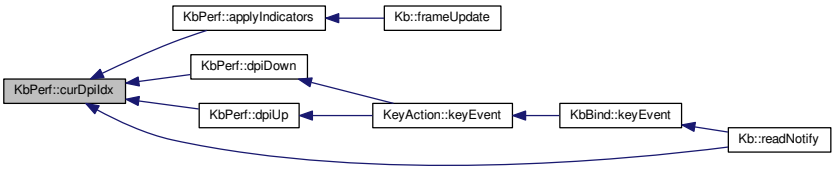
Definition at line 61 of file kbperf.h.

References dpiCurIdx.

Referenced by applyIndicators(), dpiDown(), dpiUp(), and Kb::readNotify().

```
61 { return dpiCurIdx; }
```

Here is the caller graph for this function:



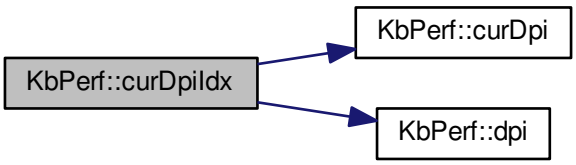
12.35.4.10 void KbPerf::curDpiIdx (int *newIdx*) [inline]

Definition at line 62 of file kbperf.h.

References curDpi(), and dpi().

```
62 { curDpi(dpi(newIdx)); }
```

Here is the call graph for this function:



12.35.4.11 void KbPerf::didLoad ( ) [signal]

Definition at line 134 of file moc_kbperf.cpp.

Referenced by load().

```
135 {
136     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
137 }
```

Here is the caller graph for this function:

12.35.4.12 QPoint KbPerf::dpi (int *index*) const [inline]

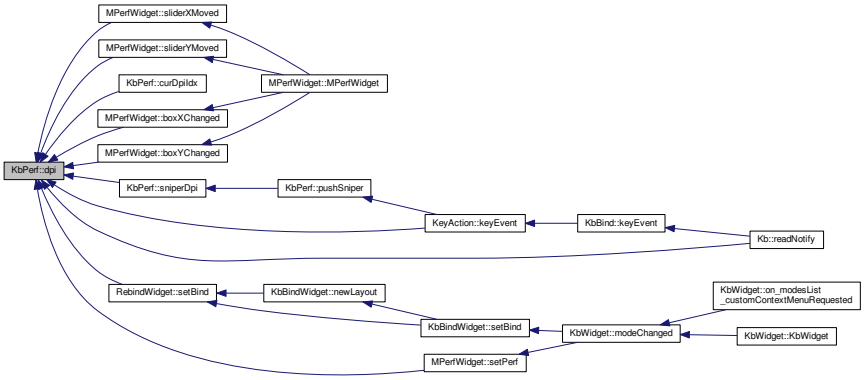
Definition at line 48 of file kbperf.h.

References DPI_COUNT, dpiX, and dpiY.

Referenced by MPerfWidget::boxXChanged(), MPerfWidget::boxYChanged(), curDpiIdx(), KeyAction::keyEvent(), Kb::readNotify(), RebindWidget::setBind(), MPerfWidget::setPerf(), MPerfWidget::sliderXMoved(), MPerfWidget::sliderYMoved(), and sniperDpi().

```
48 { if(index < 0 || index >= DPI_COUNT) return QPoint(); return QPoint(
      dpiX[index], dpiY[index]); }
```

Here is the caller graph for this function:



12.35.4.13 void KbPerf::dpi (int *index*, const QPoint & *newValue*)

Definition at line 249 of file kbperf.cpp.

References _needsSave, _needsUpdate, DPI_COUNT, dpiCurIdx, dpiCurX, dpiCurY, dpiX, and dpiY.

```
249                                                 {
250     if(index < 0 || index >= DPI_COUNT)
251         return;
252     dpiX[index] = newValue.x();
253     dpiY[index] = newValue.y();
254     // Update current DPI if needed
255     if(dpiCurIdx == index){
256         dpiCurX = newValue.x();
257         dpiCurY = newValue.y();
258     }
259     _needsUpdate = _needsSave = true;
260 }
```

12.35.4.14 void KbPerf::dpi (int *index*, int *newValue*) [inline]

Definition at line 53 of file kbperf.h.

References dpi().

Referenced by dpi().

```
53 { dpi(index, QPoint(newValue, newValue)); }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.35.4.15 QColor KbPerf::dpiColor (int *index*) const [inline]

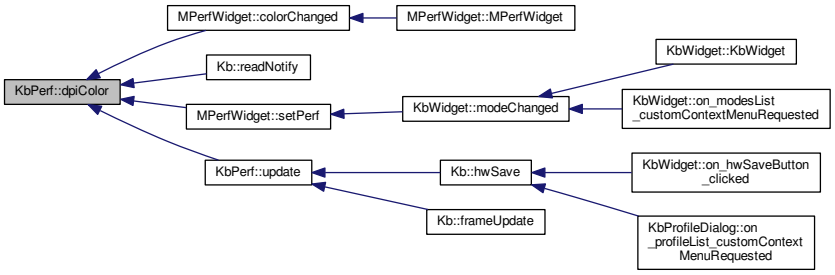
Definition at line 82 of file kbperf.h.

References dpiClr.

Referenced by MPerfWidget::colorChanged(), Kb::readNotify(), MPerfWidget::setPerf(), and update().

```
82 { return dpiClr[index]; }
```

Here is the caller graph for this function:



12.35.4.16 void KbPerf::dpiColor (int *index*, const QColor & *newColor*) [inline]

Definition at line 83 of file kbperf.h.

References _needsSave, _needsUpdate, and dpiClr.

```
83 { dpiClr[index] = newColor; _needsUpdate = _needsSave = true; }
```

12.35.4.17 void KbPerf::dpiDown ( )

Definition at line 319 of file kbperf.cpp.

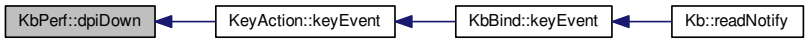
References curDpiIdx(), dpiOn, and SNIPER.

Referenced by KeyAction::keyEvent().

```
319                     {
320     int idx = curDpiIdx();
321     do {
322         idx--;
323         if(idx <= SNIPER)
324             return;
325     } while(!dpiOn[idx]);
326     curDpiIdx(idx);
327 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.35.4.18 bool KbPerf::dpiEnabled (int *index*) const [inline]

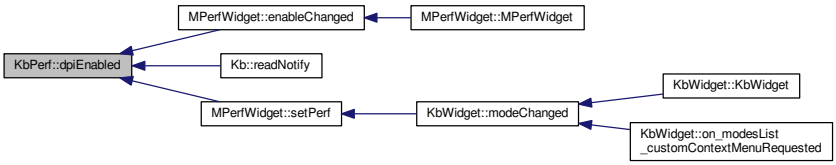
Definition at line 66 of file kbperf.h.

References dpiOn.

Referenced by MPerfWidget::enableChanged(), Kb::readNotify(), and MPerfWidget::setPerf().

```
66 { return dpiOn[index]; }
```

Here is the caller graph for this function:



12.35.4.19 void KbPerf::dpiEnabled (int *index*, bool *newEnabled*) [inline]

Definition at line 67 of file kbperf.h.

References _needsSave, _needsUpdate, and dpiOn.

```
67 { if(index <= 0) return; dpiOn[index] = newEnabled; _needsUpdate =
      _needsSave = true; }
```

12.35.4.20 bool KbPerf::dpiIndicator ( ) const [inline]

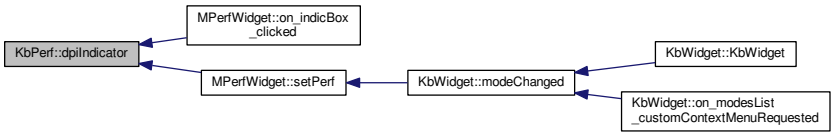
Definition at line 79 of file kbperf.h.

References _dpiIndicator.

Referenced by MPerfWidget::on_indicBox_clicked(), and MPerfWidget::setPerf().

```
79 { return _dpiIndicator; }
```

Here is the caller graph for this function:



12.35.4.21 void KbPerf::dpiIndicator (bool *newDpiIndicator*) [inline]

Definition at line 80 of file kbperf.h.

References _dpiIndicator, and _needsSave.

```
80 { _dpiIndicator = newDpiIndicator; _needsSave = true; }
```

12.35.4.22 void KbPerf::dpiUp ( )

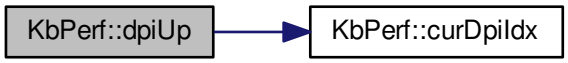
Definition at line 308 of file kbperf.cpp.

References curDpiIdx(), DPI_COUNT, and dpiOn.

Referenced by KeyAction::keyEvent().

```
308                     {
309     // Scroll past disabled DPIs and choose the next one up
310     int idx = curDpiIdx();
311     do {
312         idx++;
313         if(idx >= DPI_COUNT)
314             return;
315     } while(!dpiOn[idx]);
316     curDpiIdx(idx);
317 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.35.4.23 void KbPerf::getIndicator (indicator *index*, QColor & *color1*, QColor & *color2*, QColor & *color3*, bool & *software_enable*, i_hw & *hardware_enable*)

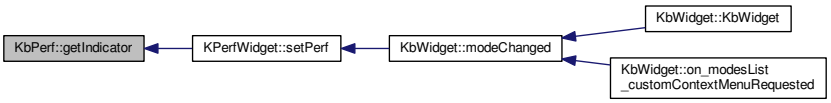
Definition at line 329 of file kbperf.cpp.

References HW_IMAX, hwIType, I_COUNT, iColor, iEnable, LIGHT, light100Color, MUTE, muteNAColor, and NONE.

Referenced by KPerfWidget::setPerf().

```
329
                                {
330     if(index < 0 || index >= I_COUNT)
331         return;
332     color1 = iColor[index][0];
333     color2 = iColor[index][1];
334     if(index == LIGHT)
335         color3 = light100Color;
336     else if(index == MUTE)
337         color3 = muteNAColor;
338     else
339         color3 = QColor();
340     software_enable = iEnable[index];
341     hardware_enable = (index <= HW_IMAX ? hwIType[index] : NONE);
342 }
```

Here is the caller graph for this function:



12.35.4.24 float KbPerf::iOpacity ( ) const [inline]

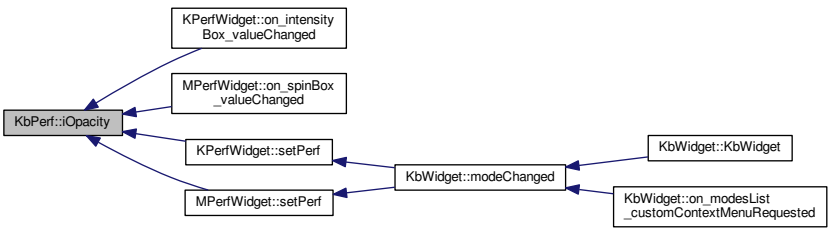
Definition at line 76 of file kbperf.h.

References _iOpacity.

Referenced by KPerfWidget::on_intensityBox_valueChanged(), MPerfWidget::on_spinBox_valueChanged(), KPerfWidget::setPerf(), and MPerfWidget::setPerf().

```
76 { return _iOpacity; }
```

Here is the caller graph for this function:



12.35.4.25 void KbPerf::iOpacity (float *newIOpacity*) [inline]

Definition at line 77 of file kbperf.h.

References _iOpacity, and _needsSave.

```
77 { _iOpacity = newIOpacity; _needsSave = true; }
```

12.35.4.26 height KbPerf::liftHeight ( ) const [inline]

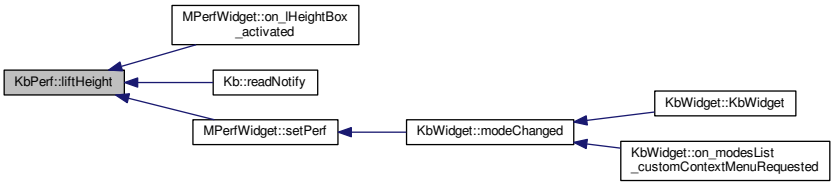
Definition at line 38 of file kbperf.h.

References _liftHeight.

Referenced by MPerfWidget::on_lHeightBox_activated(), Kb::readNotify(), and MPerfWidget::setPerf().

```
38 { return _liftHeight; }
```

Here is the caller graph for this function:



12.35.4.27 void KbPerf::liftHeight (height *newHeight*)

Definition at line 361 of file kbperf.cpp.

References _liftHeight, _needsSave, _needsUpdate, and HIGH.

```
361                                         {
362     if(newHeight < LOW || newHeight > HIGH)
363         return;
364     _liftHeight = newHeight;
365     _needsUpdate = _needsSave = true;
366 }
```

12.35.4.28 KbLight * KbPerf::light ( ) const [private]

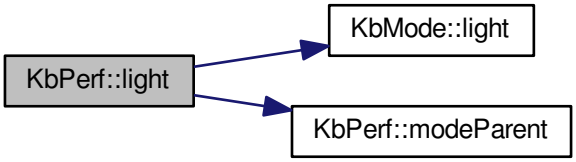
Definition at line 104 of file kbperf.cpp.

References KbMode::light(), and modeParent().

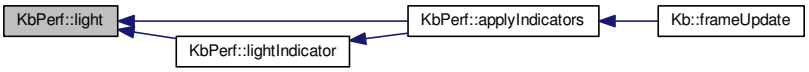
Referenced by applyIndicators(), and lightIndicator().

```
104                                 {
105     return modeParent()->light();
106 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.35.4.29 void KbPerf::lightIndicator (const char * *name*, QRgb *rgba*) [private]

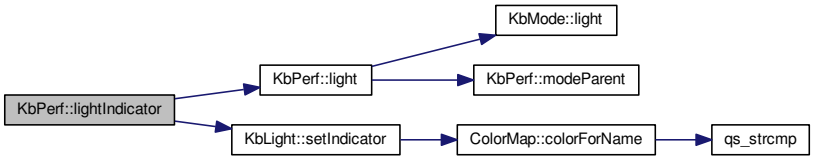
Definition at line 425 of file kbperf.cpp.

References _iOpacity, light(), and KbLight::setIndicator().

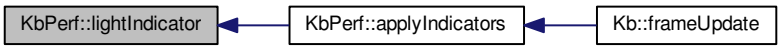
Referenced by applyIndicators().

```
425                                                     {
426     int a = round(qAlpha(rgba) * _iOpacity);
427     if(a <= 0)
428         return;
429     light()->setIndicator(name, qRgba(qRed(rgba), qGreen(rgba), qBlue(rgba), a));
430 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.35.4.30 void KbPerf::load (CkbSettings & *settings*)

Definition at line 108 of file kbperf.cpp.

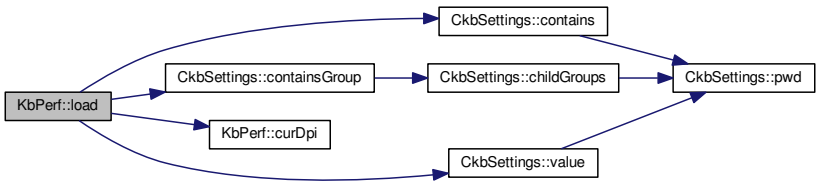
References _angleSnap, _dpiIndicator, _iOpacity, _liftHeight, _needsSave, CkbSettings::contains(), CkbSettings::containsGroup(), curDpi(), didLoad(), DPI_COUNT, dpiClr, dpiLastIdx, dpiOn, dpiX, dpiY, HIGH, HW_IMAX, hwIType, I_COUNT, iColor, iEnable, LIGHT, light100Color, LOCK, MACRO, MEDIUM, MODE, MUTE, muteNAColor, NORMAL, OTHER, pushedDpis, runningPushIdx, and CkbSettings::value().

Referenced by KbMode::KbMode().

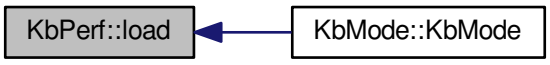
```
108                                     {
109     pushedDpis.clear();
110     runningPushIdx = 1;
111     _needsSave = false;
112     bool readIndicators = true;
113     if(!settings.containsGroup("Performance/Indicators")){
114         // Read old indicator settings from the lighting group, if present
115         // (ckb <= v0.2.0)
116         SGroup group(settings, "Lighting");
117         if(settings.contains("InactiveIndicators")){
118             bool inOk = false;
119             int inactive = settings.value("InactiveIndicators").toInt(&inOk);
120             if(!inOk || inactive > 2)
121                 inactive = 2;
122             if(inactive == 1)
123                 _iOpacity = 0.75f;
124             else if(inactive == 0)
125                 _iOpacity = 0.5f;
126             else if(inactive < 0){
127                 // Indicators disabled
128                 iEnable[MODE] = iEnable[MACRO] = iEnable[
    LIGHT] = iEnable[LOCK]  = iEnable[MUTE] = false;
129             }
130             bool showMute = (settings.value("ShowMute").toInt(&inOk) != 0);
131             if(inOk && !showMute)
132                 iEnable[MUTE] = false;
133             readIndicators = false;
134         }
135     }
136     SGroup group(settings, "Performance");
137     // Read DPI settings
138     {
139         SGroup group(settings, "DPI");
140         for(int i = 0; i < DPI_COUNT; i++){
141             QString iStr = QString::number(i);
142             QPoint value = settings.value(iStr).toPoint();
143             if(value.isNull())
144                 continue;
145             dpiX[i] = value.x(); dpiY[i] = value.y();
146             QColor color = settings.value(iStr + "RGB").toString();
147             if(color.isValid())
148                 dpiClr[i] = color;
149             if(i != 0)
150                 dpiOn[i] = !settings.value(iStr + "Disabled").toBool();
151         }
152         QColor color = settings.value("6RGB").toString();
153         if(color.isValid())
154             dpiClr[OTHER] = color;
155         if(settings.contains("LastIdx")){
156             dpiLastIdx = settings.value("LastIdx").toInt();
157             if(dpiLastIdx >= DPI_COUNT || dpiLastIdx < 0)
158                 dpiLastIdx = 1;
159         }
160         QPoint value = settings.value("Current").toPoint();
161         if(!value.isNull())
```

```
162             curDpi(value);
163     }
164     // Read misc. mouse settings
165     _liftHeight = (height)settings.value("LiftHeight").toInt();
166     if(_liftHeight < LOW || _liftHeight > HIGH)
167         _liftHeight = MEDIUM;
168     _angleSnap = settings.value("AngleSnap").toBool();
169     if(settings.contains("NoIndicator")){
170         // ckb <= v0.2.0
171         _dpiIndicator = !settings.value("NoIndicator").toBool();
172     } else {
173         _dpiIndicator = settings.value("Indicators/DPI", true).toBool();
174     }
175     // Read indicator settings
176     if(readIndicators){
177         SGroup group(settings, "Indicators");
178         _iOpacity = settings.value("Opacity", 100).toInt() / 100.f;
179         for(int i = 0; i < I_COUNT; i++){
180             SGroup group(settings, QString::number(i));
181             QColor color = settings.value("RGB0").toString();
182             if(color.isValid())
183                 iColor[i][0] = color;
184             color = settings.value("RGB1").toString();
185             if(color.isValid())
186                 iColor[i][1] = color;
187             if(i == LIGHT){
188                 color = settings.value("RGB2").toString();
189                 if(color.isValid())
190                     light100Color = color;
191             } else if(i == MUTE){
192                 color = settings.value("RGB2").toString();
193                 if(color.isValid())
194                     muteNAColor = color;
195             }
196             if(i <= HW_IMAX){
197                 iEnable[i] = settings.value("Enable", false).toBool();
198                 hwIType[i] = (i_hw)settings.value("Hardware", (int)
    NORMAL).toInt();
199             } else {
200                 iEnable[i] = settings.value("Enable", true).toBool();
201             }
202         }
203     }
204     emit didLoad();
205 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



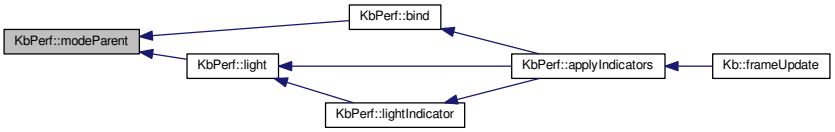
12.35.4.31 KbMode* KbPerf::modeParent ( ) const [inline], [private]

Definition at line 124 of file kbperf.h.

Referenced by bind(), and light().

```
124 { return (KbMode*)parent(); }
```

Here is the caller graph for this function:



12.35.4.32 bool KbPerf::needsSave ( ) const [inline]

Definition at line 28 of file kbperf.h.

References _needsSave.

Referenced by KbMode::needsSave().

```
28 { return _needsSave; }
```

Here is the caller graph for this function:

12.35.4.33 const KbPerf & KbPerf::operator= (const KbPerf & *rhs*)

Definition at line 78 of file kbperf.cpp.

References _angleSnap, _dpiIndicator, _iOpacity, _liftHeight, _needsSave, _needsUpdate, curDpi(), DPI_COUNT, dpiClr, dpiCurIdx, dpiCurX, dpiCurY, dpiLastIdx, dpiOn, dpiX, dpiY, hwIType, I_COUNT, iColor, iEnable, light100Color, muteNAColor, pushedDpis, and runningPushIdx.

```
78                                                  {
79     dpiCurX = other.dpiCurX; dpiCurY = other.dpiCurY; dpiCurIdx = other.dpiCurIdx;
       dpiLastIdx = other.dpiLastIdx; runningPushIdx = 1;
80     _iOpacity = other._iOpacity; light100Color = other.light100Color;
       muteNAColor = other.muteNAColor; _dpiIndicator = other._dpiIndicator;
81     _liftHeight = other._liftHeight; _angleSnap = other._angleSnap;
82     _needsUpdate = true; _needsSave = true;
83     memcpy(dpiX, other.dpiX, sizeof(dpiX));
84     memcpy(dpiY, other.dpiY, sizeof(dpiY));
85     for(int i = 0; i < DPI_COUNT + 1; i++)
86         dpiClr[i] = other.dpiClr[i];
87     memcpy(dpiOn, other.dpiOn, sizeof(dpiOn));
88     for(int i = 0; i < I_COUNT; i++){
89         iColor[i][0] = other.iColor[i][0];
90         iColor[i][1] = other.iColor[i][1];
91     }
92     memcpy(iEnable, other.iEnable, sizeof(iEnable));
```

```
93     memcpy(hwIType, other.hwIType, sizeof(hwIType));
94     // Don't copy pushed DPI states. If the other mode has any, restore the original DPI
95     if(!other.pushedDpis.isEmpty())
96         curDpi(other.pushedDpis[0]);
97     return other;
98 }
```

Here is the call graph for this function:

12.35.4.34 void KbPerf::popDpi (quint64 *pushIdx*)

Definition at line 296 of file kbperf.cpp.

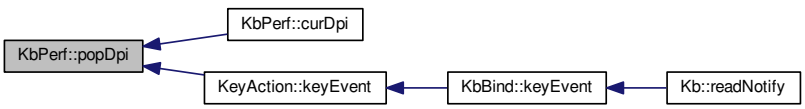
References _curDpi(), _needsSave, _needsUpdate, map_last, and pushedDpis.

Referenced by curDpi(), and KeyAction::keyEvent().

```
296                                     {
297     if(pushIdx == 0 || !pushedDpis.contains(pushIdx))
298         return;
299     pushedDpis.remove(pushIdx);
300     // Set the DPI to the last-pushed value still on the stack
301     _curDpi(map_last(pushedDpis));
302     // If all values have been popped, remove the original DPI
303     if(pushedDpis.count() == 1)
304         pushedDpis.clear();
305     _needsUpdate = _needsSave = true;
306 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.35.4.35 quint64 KbPerf::pushDpi (const QPoint & *newDpi*)

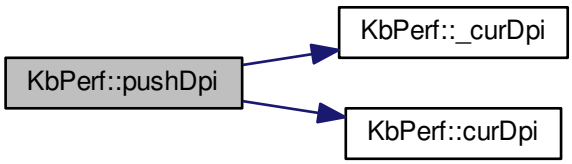
Definition at line 284 of file kbperf.cpp.

References _curDpi(), curDpi(), pushedDpis, and runningPushIdx.

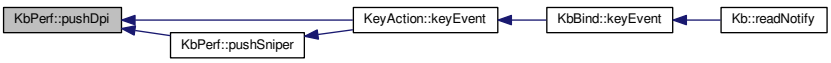
Referenced by KeyAction::keyEvent(), and pushSniper().

```
284                                             {
285     if(pushedDpis.isEmpty())
286         // Push original DPI
287         pushedDpis[0] = curDpi();
288     quint64 index = runningPushIdx++;
289     if(runningPushIdx == 0)
290         runningPushIdx = 1;
291     pushedDpis[index] = newDpi;
292     _curDpi(newDpi);
293     return index;
294 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.35.4.36 quint64 KbPerf::pushDpi (int *newDpi*) [inline]

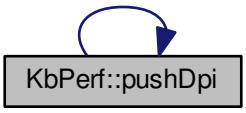
Definition at line 71 of file kbperf.h.

References pushDpi().

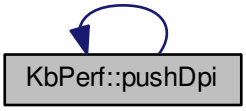
Referenced by pushDpi().

```
71 { return pushDpi(QPoint(newDpi, newDpi)); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.35.4.37 quint64 KbPerf::pushSniper ( ) [inline]

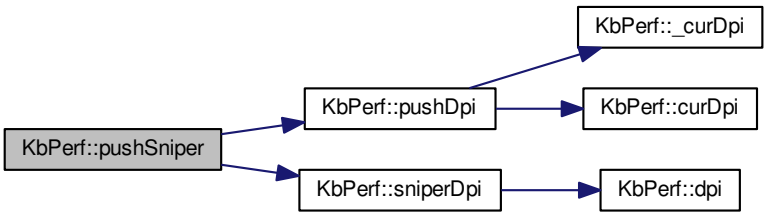
Definition at line 72 of file kbperf.h.

References pushDpi(), and sniperDpi().

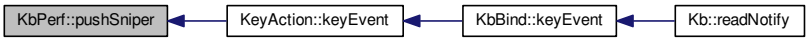
Referenced by KeyAction::keyEvent().

```
72 { return pushDpi(sniperDpi()); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.35.4.38 void KbPerf::save (CkbSettings & *settings*)

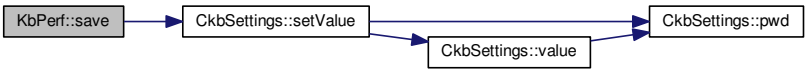
Definition at line 207 of file kbperf.cpp.

References _angleSnap, _dpiIndicator, _liftHeight, _needsSave, DPI_COUNT, dpiClr, dpiCurX, dpiCurY, dpiLastIdx, dpiOn, dpiX, dpiY, HW_IMAX, hwIType, I_COUNT, iColor, iEnable, LIGHT, light100Color, MUTE, muteNAColor, OTHER, pushedDpis, and CkbSettings::setValue().

Referenced by KbMode::save().

```
207                                     {
208     _needsSave = false;
209     SGroup group(settings, "Performance");
210     {
211         SGroup group(settings, "DPI");
212         for(int i = 0; i < DPI_COUNT; i++){
213             QString iStr = QString::number(i);
214             settings.setValue(iStr, QPoint(dpiX[i], dpiY[i]));
215             settings.setValue(iStr + "RGB", dpiClr[i].name(QColor::HexArgb));
216             if(i != 0)
217                 settings.setValue(iStr + "Disabled", !dpiOn[i]);
218         }
219         settings.setValue("6RGB", dpiClr[OTHER].name(QColor::HexArgb));
220         settings.setValue("LastIdx", dpiLastIdx);
221         int curX = dpiCurX, curY = dpiCurY;
222         // Ignore any pushed modes
223         if(pushedDpis.count() > 0){
224             curX = pushedDpis.value(0).x();
225             curY = pushedDpis.value(0).y();
226         }
227         settings.setValue("Current", QPoint(curX, curY));
228     }
229     settings.setValue("LiftHeight", _liftHeight);
230     settings.setValue("AngleSnap", _angleSnap);
231     {
232         SGroup group(settings, "Indicators");
233         settings.setValue("DPI", _dpiIndicator);
234         for(int i = 0; i < I_COUNT; i++){
235             SGroup group(settings, QString::number(i));
236             settings.setValue("RGB0", iColor[i][0].name(QColor::HexArgb));
237             settings.setValue("RGB1", iColor[i][1].name(QColor::HexArgb));
238             if(i == LIGHT)
239                 settings.setValue("RGB2", light100Color.name(QColor::HexArgb));
240             else if(i == MUTE)
241                 settings.setValue("RGB2", muteNAColor.name(QColor::HexArgb));
242             settings.setValue("Enable", iEnable[i]);
243             if(i <= HW_IMAX)
244                 settings.setValue("Hardware", (int)hwIType[i]);
245         }
246     }
247 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.35.4.39 void KbPerf::setIndicator (indicator *index*, const QColor & *color1*, const QColor & *color2*, const QColor & *color3* = QColor(), bool *software_enable* = true, i_hw *hardware_enable* = NORMAL)

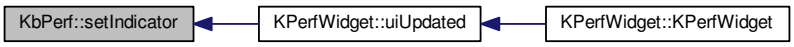
Definition at line 344 of file kbperf.cpp.

References _needsSave, _needsUpdate, HW_IMAX, hwIType, I_COUNT, iColor, iEnable, LIGHT, light100Color, MUTE, muteNAColor, NONE, and NORMAL.

Referenced by KPerfWidget::uiUpdated().

```
344
                                                {
345     if(index < 0 || index >= I_COUNT)
346         return;
347     iColor[index][0] = color1;
348     iColor[index][1] = color2;
349     if(index == LIGHT)
350         light100Color = color3;
351     else if(index == MUTE)
352         muteNAColor = color3;
353     iEnable[index] = software_enable;
354     if(hardware_enable == NONE)
355         hardware_enable = NORMAL;
356     if(index <= HW_IMAX)
357         hwIType[index] = hardware_enable;
358     _needsUpdate = _needsSave = true;
359 }
```

Here is the caller graph for this function:



12.35.4.40 void KbPerf::setNeedsUpdate ( ) [inline]

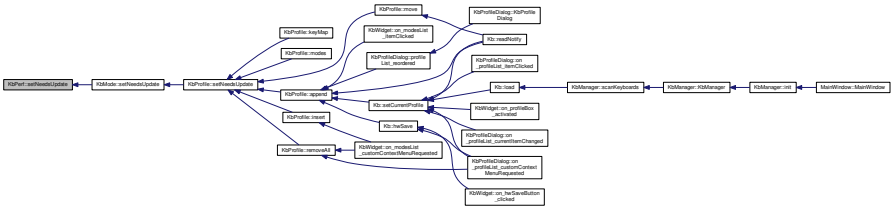
Definition at line 113 of file kbperf.h.

References _needsUpdate.

Referenced by KbMode::setNeedsUpdate().

```
113 { _needsUpdate = true; }
```

Here is the caller graph for this function:



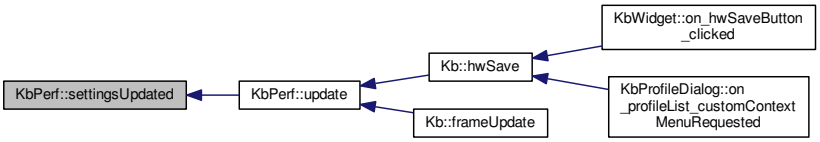
12.35.4.41 void KbPerf::settingsUpdated ( ) [signal]

Definition at line 140 of file moc_kbperf.cpp.

Referenced by update().

```
141 {
142     QMetaObject::activate(this, &staticMetaObject, 1, Q_NULLPTR);
143 }
```

Here is the caller graph for this function:



12.35.4.42 QPoint KbPerf::sniperDpi ( ) const [inline]

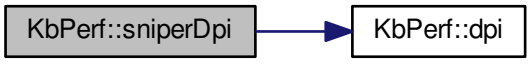
Definition at line 50 of file kbperf.h.

References dpi(), and SNIPER.

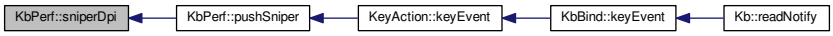
Referenced by pushSniper().

```
50 { return dpi(SNIPER); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



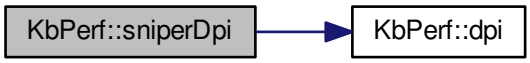
12.35.4.43 void KbPerf::sniperDpi (const QPoint & *newValue*) [inline]

Definition at line 51 of file kbperf.h.

References dpi(), and SNIPER.

```
51 { dpi(SNIPER, newValue); }
```

Here is the call graph for this function:



12.35.4.44 void KbPerf::sniperDpi (int *newValue*) [inline]

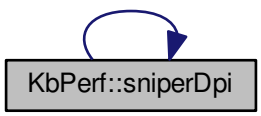
Definition at line 54 of file kbperf.h.

References sniperDpi().

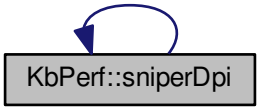
Referenced by sniperDpi().

```
54 { sniperDpi(QPoint(newValue, newValue)); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.35.4.45 void KbPerf::update (QFile & *cmd*, int *notifyNumber*, bool *force* = `false`, bool *saveCustomDpi* = `true`)

Definition at line 373 of file kbperf.cpp.

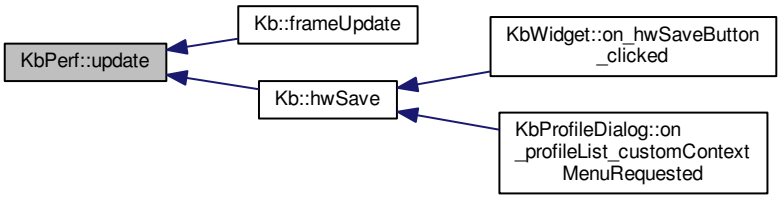
References _angleSnap, _liftHeight, _needsUpdate, DPI_COUNT, dpiColor(), dpiCurIdx, dpiCurX, dpiCurY, dpiOn, dpiX, dpiY, HW_I_COUNT, hwIType, OFF, ON, and settingsUpdated().

Referenced by Kb::frameUpdate(), and Kb::hwSave().

```
373                                                                                 {
374     if(!force && !_needsUpdate)
375         return;
376     emit settingsUpdated();
377     _needsUpdate = false;
378     // Save DPI stage 0 (sniper)
379     cmd.write(QString("dpi 0:%1,%2").arg(dpiX[0]).arg(dpiY[0]).toLatin1());
380     // If the mouse is set to a custom DPI, save it in stage 1
381     int stage = dpiCurIdx;
382     if(stage < 0 && saveCustomDpi){
383         stage = 1;
384         cmd.write(QString(" 1:%1,%2").arg(dpiCurX).arg(dpiCurY).toLatin1());
385     } else {
386         // Otherwise, save stage 1 normally
387         if(!dpiOn[1] && stage != 1)
388             cmd.write(" 1:off");
389         else
390             cmd.write(QString(" 1:%1,%2").arg(dpiX[1]).arg(dpiY[1]).toLatin1());
391     }
392     // Save stages 1 - 5
393     for(int i = 2; i < DPI_COUNT; i++){
394         if(!dpiOn[i] && stage != i)
395             cmd.write(QString(" %1:off").arg(i).toLatin1());
396         else
397         cmd.write(QString(" %1:%2,%3").arg(i).arg(dpiX[i]).arg(dpiY[i]).toLatin1());
398     }
399     // Save stage selection, lift height, and angle snap
400     cmd.write(QString(" dpisel %1 lift %2 snap %3").arg(stage).arg(
    _liftHeight).arg(_angleSnap ? "on" : "off").toLatin1());
401     // Save DPI colors
402     cmd.write(" rgb");
403     for(int i = 0; i < DPI_COUNT; i++){
404         QColor color = dpiColor(i);
405         cmd.write(" dpi");
406         char output[9];
407         snprintf(output, sizeof(output), "%1d:%02x%02x%02x", i, color.red(), color.green(), color.blue());
408         cmd.write(output);
409     }
410     // Enable indicator notifications
411     cmd.write(QString("\n@%1 inotify all").arg(notifyNumber).toLatin1());
412     // Set indicator state
413     const char* iNames[HW_I_COUNT] = { "num", "caps", "scroll" };
414     for(int i = 0; i < HW_I_COUNT; i++){
415         if(hwIType[i] == ON)
416             cmd.write(" ion ");
417         else if(hwIType[i] == OFF)
418             cmd.write(" ioff ");
419         else
420             cmd.write(" iauto ");
421         cmd.write(iNames[i]);
422     }
423 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.35.5 Field Documentation

12.35.5.1 bool KbPerf::_angleSnap [private]

Definition at line 158 of file kbperf.h.

Referenced by angleSnap(), load(), operator=(), save(), and update().

12.35.5.2 bool KbPerf::_dpiIndicator [private]

Definition at line 154 of file kbperf.h.

Referenced by applyIndicators(), dpiIndicator(), load(), operator=(), and save().

12.35.5.3 float KbPerf::_iOpacity [private]

Definition at line 149 of file kbperf.h.

Referenced by applyIndicators(), iOpacity(), lightIndicator(), load(), and operator=().

12.35.5.4 height KbPerf::_liftHeight [private]

Definition at line 157 of file kbperf.h.

Referenced by liftHeight(), load(), operator=(), save(), and update().

12.35.5.5 bool KbPerf::_needsSave [private]

Definition at line 160 of file kbperf.h.

Referenced by _curDpi(), angleSnap(), dpi(), dpiColor(), dpiEnabled(), dpiIndicator(), iOpacity(), liftHeight(), load(), needsSave(), operator=(), popDpi(), save(), and setIndicator().

12.35.5.6 bool KbPerf::_needsUpdate [private]

Definition at line 160 of file kbperf.h.

Referenced by _curDpi(), angleSnap(), dpi(), dpiColor(), dpiEnabled(), liftHeight(), operator=(), popDpi(), setIndicator(), setNeedsUpdate(), and update().

12.35.5.7 const int KbPerf::DPI_COUNT = 6 [static]

Definition at line 46 of file kbperf.h.

Referenced by _curDpi(), dpi(), dpiUp(), KbPerf(), KeyAction::keyEvent(), load(), operator=(), Kb::readNotify(), save(), RebindWidget::setBind(), and update().

12.35.5.8 const int KbPerf::DPI_MAX = 12000 [static]

Definition at line 47 of file kbperf.h.

12.35.5.9 const int KbPerf::DPI_MIN = 100 [static]

Definition at line 47 of file kbperf.h.

Referenced by dpiExp(), and dpiLog().

12.35.5.10 QColor KbPerf::dpiClr[DPI_COUNT+1] [private]

Definition at line 135 of file kbperf.h.

Referenced by applyIndicators(), dpiColor(), KbPerf(), load(), operator=(), and save().

12.35.5.11 int KbPerf::dpiCurIdx [private]

Definition at line 134 of file kbperf.h.

Referenced by _curDpi(), curDpiIdx(), dpi(), KbPerf(), operator=(), and update().

12.35.5.12 int KbPerf::dpiCurX [private]

Definition at line 134 of file kbperf.h.

Referenced by _curDpi(), curDpi(), dpi(), KbPerf(), operator=(), save(), and update().

12.35.5.13 int KbPerf::dpiCurY [private]

Definition at line 134 of file kbperf.h.

Referenced by _curDpi(), curDpi(), dpi(), KbPerf(), operator=(), save(), and update().

12.35.5.14 int KbPerf::dpiLastIdx [private]

Definition at line 138 of file kbperf.h.

Referenced by _curDpi(), KbPerf(), load(), operator=(), and save().

12.35.5.15 bool KbPerf::dpiOn[DPI_COUNT] [private]

Definition at line 136 of file kbperf.h.

Referenced by dpiDown(), dpiEnabled(), dpiUp(), KbPerf(), load(), operator=(), save(), and update().

12.35.5.16 int KbPerf::dpiX[DPI_COUNT] [private]

Definition at line 132 of file kbperf.h.

Referenced by _curDpi(), dpi(), KbPerf(), load(), operator=(), save(), and update().

12.35.5.17 int KbPerf::dpiY[DPI_COUNT] [private]

Definition at line 133 of file kbperf.h.

Referenced by _curDpi(), dpi(), KbPerf(), load(), operator=(), save(), and update().

12.35.5.18 const int KbPerf::HW_I_COUNT = (int)HW_IMAX + 1 [static]

Definition at line 104 of file kbperf.h.

Referenced by KbPerf(), and update().

12.35.5.19 i_hw KbPerf::hwiType[HW_I_COUNT] [private]

Definition at line 153 of file kbperf.h.

Referenced by getIndicator(), KbPerf(), load(), operator=(), save(), setIndicator(), and update().

12.35.5.20 const int KbPerf::I_COUNT = (int)MUTE + 1 [static]

Definition at line 104 of file kbperf.h.

Referenced by getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.21 QColor KbPerf::iColor[I_COUNT][2] [private]

Definition at line 150 of file kbperf.h.

Referenced by applyIndicators(), getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.22 bool KbPerf::iEnable[I_COUNT] [private]

Definition at line 152 of file kbperf.h.

Referenced by applyIndicators(), getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.23 QColor KbPerf::light100Color [private]

Definition at line 151 of file kbperf.h.

Referenced by applyIndicators(), getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.24 QColor KbPerf::muteNAColor [private]

Definition at line 151 of file kbperf.h.

Referenced by applyIndicators(), getIndicator(), KbPerf(), load(), operator=(), save(), and setIndicator().

12.35.5.25 const int KbPerf::OTHER = DPI_COUNT [static]

Definition at line 81 of file kbperf.h.

Referenced by applyIndicators(), MPerfWidget::colorChanged(), load(), save(), and MPerfWidget::setPerf().

12.35.5.26 QMap<quint64, QPoint> KbPerf::pushedDpis [private]

Definition at line 142 of file kbperf.h.

Referenced by curDpi(), KbPerf(), load(), operator=(), popDpi(), pushDpi(), and save().

12.35.5.27 uint KbPerf::runningPushIdx [private]

Definition at line 143 of file kbperf.h.

Referenced by load(), operator=(), and pushDpi().

12.35.5.28 const int KbPerf::SNIPER = 0 [static]

Definition at line 46 of file kbperf.h.

Referenced by dpiDown(), and sniperDpi().

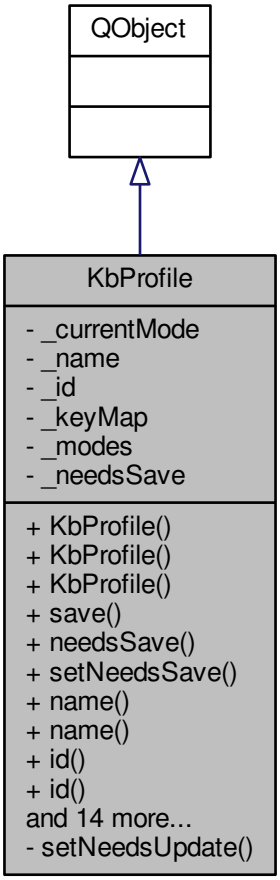
The documentation for this class was generated from the following files:

- src/ckb/kbperf.h
- src/ckb/kbperf.cpp
- src/ckb/release/moc_kbperf.cpp

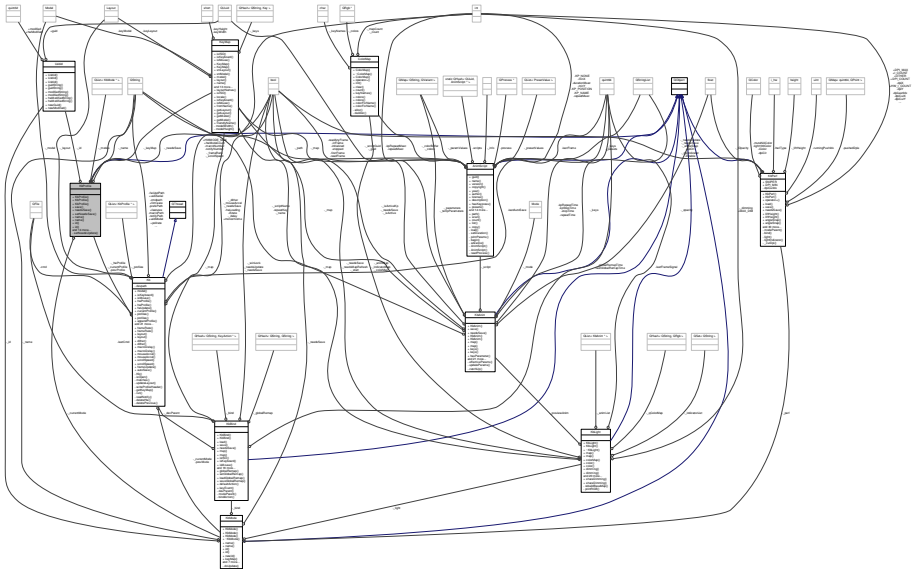
12.36 KbProfile Class Reference

`#include <src/ckb/kbprofile.h>`

Inheritance diagram for KbProfile:



Collaboration diagram for KbProfile:



Public Types

- typedef QList< KbMode * > ModeList

Public Member Functions

- KbProfile (Kb *parent, const KeyMap &keyMap, const KbProfile &other)
- KbProfile (Kb *parent, const KeyMap &keyMap, const QString &guid="", const QString &modified="")
- KbProfile (Kb *parent, const KeyMap &keyMap, CkbSettings &settings, const QString &guid)
- void save (CkbSettings &settings)
- bool needsSave () const
- void setNeedsSave ()
- QString name () const
- void name (const QString &newName)
- UsbId & id ()
- void id (const UsbId &newId)
- void newId ()
- const KeyMap & keyMap () const
- void keyMap (const KeyMap &newKeyMap)
- const ModeList & modes () const
- void modes (const QList< KbMode * > &newModes)
- void append (KbMode *newMode)
- void insert (int index, KbMode *newMode)
- void removeAll (KbMode *mode)
- void move (int from, int to)
- int modeCount () const
- int indexOf (KbMode *mode) const
- KbMode * find (const QUuid &id)
- KbMode * currentMode () const
- void currentMode (KbMode *newCurrentMode)

Private Member Functions

- void setNeedsUpdate ()

Private Attributes

- KbMode * _currentMode
- QString _name
- UsbId _id
- KeyMap _keyMap
- ModeList _modes
- bool _needsSave

12.36.1 Detailed Description

Definition at line 11 of file kbprofile.h.

12.36.2 Member Typedef Documentation

12.36.2.1 typedef QList<KbMode*> KbProfile::ModeList

Definition at line 41 of file kbprofile.h.

12.36.3 Constructor & Destructor Documentation

12.36.3.1 KbProfile::KbProfile (Kb * *parent*, const KeyMap & *keyMap*, const KbProfile & *other*) [explicit]

Definition at line 4 of file kbprofile.cpp.

References _currentMode, _modes, and modes().

```
4                                                                                   :
5      QObject(parent), _currentMode(0), _name(other._name),
       _id(other._id), _keyMap(keyMap), _needsSave(true)
6  {
7      foreach(KbMode* mode, other.modes()){
8          KbMode* newMode = new KbMode(parent, keyMap, *mode);
9          if(!_currentMode || mode == other._currentMode)
10             _currentMode = newMode;
11         _modes.append(newMode);
12     }
13 }
```

Here is the call graph for this function:

12.36.3.2 KbProfile::KbProfile (Kb * *parent*, const KeyMap & *keyMap*, const QString & *guid* = "", const QString & *modified* = "") [explicit]

Definition at line 15 of file kbprofile.cpp.

References _id, and UsbId::guid.

```
15                                                                                                                  :
16     QObject(parent), _currentMode(0), _id(guid, modified.toUInt(0, 16)),
       _keyMap(keyMap), _needsSave(true)
17 {
18     if(_id.guid.isNull())
19         _id.guid = QUuid::createUuid();
20 }
```

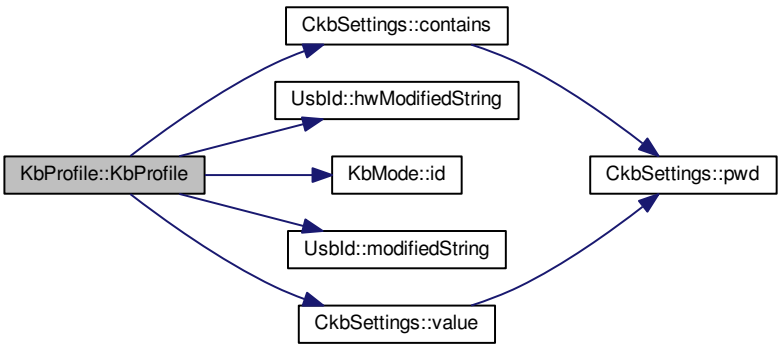
12.36.3.3 KbProfile::KbProfile (Kb * *parent*, const KeyMap & *keyMap*, CkbSettings & *settings*, const QString & *guid*) [explicit]

Definition at line 22 of file kbprofile.cpp.

References _currentMode, _id, _keyMap, _modes, _name, CkbSettings::contains(), current, UsbId::guid, UsbId::hwModified, UsbId::hwModifiedString(), KbMode::id(), UsbId::modified, UsbId::modifiedString(), and CkbSettings::value().

```
22                                                                                                                  :
23     QObject(parent), _currentMode(0), _id(guid, 0),
       _keyMap(keyMap), _needsSave(false)
24 {
25     // Load data from preferences
26     SGroup group(settings, guid);
27     _name = settings.value("Name").toString().trimmed();
28     if(_name == "")
29         _name = "Unnamed";
30     _id.modifiedString(settings.value("Modified").toString());
31     if(settings.contains("HwModified"))
32         _id.hwModifiedString(settings.value("HwModified").toString());
33     else
34         _id.hwModified = _id.modified;
35     QUuid current = settings.value("CurrentMode").toString().trimmed();
36     // Load modes
37     uint count = settings.value("ModeCount").toUInt();
38     for(uint i = 0; i < count; i++){
39         SGroup group(settings, QString::number(i));
40         KbMode* mode = new KbMode(parent, _keyMap, settings);
41         _modes.append(mode);
42         // Set currentMode to the mode matching the current GUID, or the first mode in case it's not found
43         if(current == mode->id().guid || !_currentMode)
44             _currentMode = mode;
45     }
46 }
```

Here is the call graph for this function:



12.36.4 Member Function Documentation

12.36.4.1 void KbProfile::append (KbMode * *newMode*) [inline]

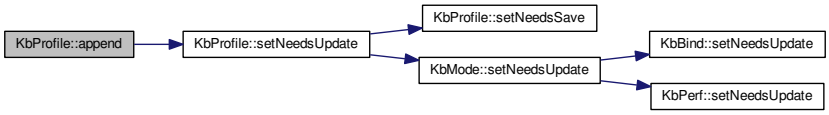
Definition at line 44 of file kbprofile.h.

References _modes, and setNeedsUpdate().

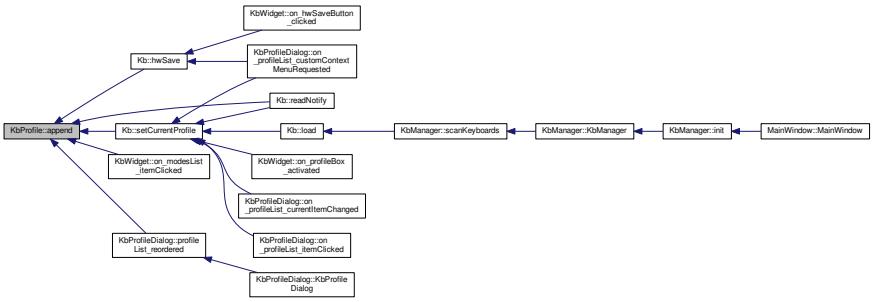
Referenced by Kb::hwSave(), KbWidget::on_modesList_itemClicked(), KbProfileDialog::profileList_reordered(), Kb::readNotify(), and Kb::setCurrentProfile().

```
44 { setNeedsUpdate(); _modes.append(newMode); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.36.4.2 KbMode* KbProfile::currentMode ( ) const [inline]

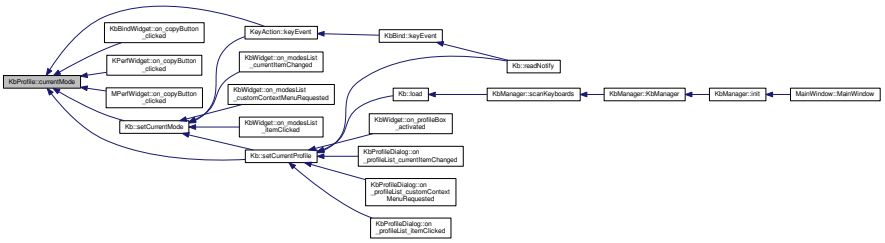
Definition at line 54 of file kbprofile.h.

References _currentMode.

Referenced by KeyAction::keyEvent(), KbBindWidget::on_copyButton_clicked(), KPerfWidget::on_copyButton_clicked(), MPerfWidget::on_copyButton_clicked(), Kb::setCurrentMode(), and Kb::setCurrentProfile().

```
54 { return _currentMode; }
```

Here is the caller graph for this function:



12.36.4.3 void KbProfile::currentMode (KbMode * *newCurrentMode*) [inline]

Definition at line 55 of file kbprofile.h.

References _currentMode, and _needsSave.

```
55 { _needsSave = true; _currentMode = newCurrentMode; }
```

12.36.4.4 KbMode* KbProfile::find (const QUuid & *id*) [inline]

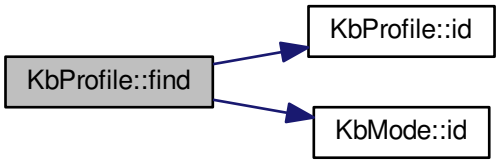
Definition at line 51 of file kbprofile.h.

References _modes, UsbId::guid, id(), and KbMode::id().

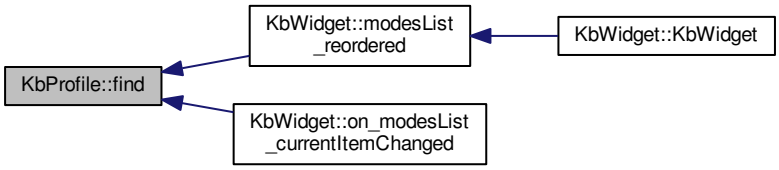
Referenced by KbWidget::modesList_reordered(), and KbWidget::on_modesList_currentItemChanged().

```
51 { foreach(KbMode* mode, _modes) { if(mode->id().guid == id) return mode; } return 0; }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.36.4.5 UsbId& KbProfile::id ( ) [inline]

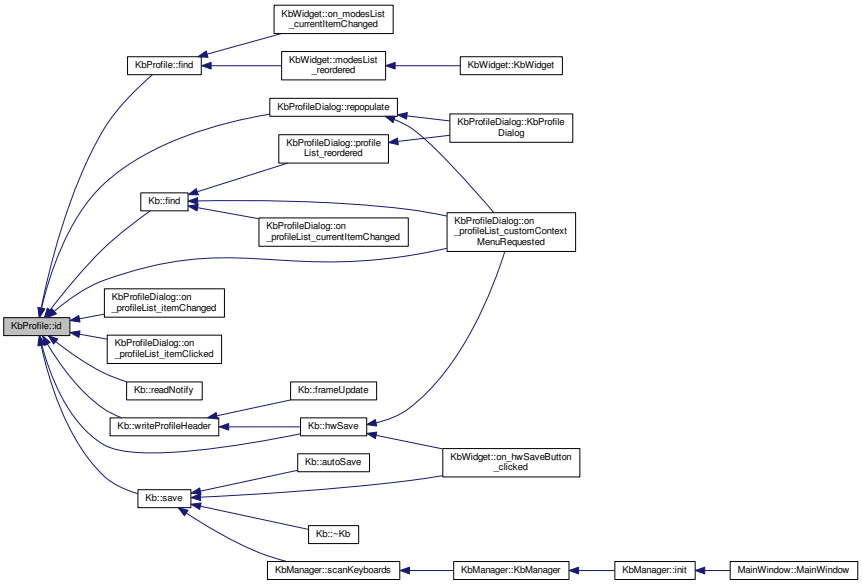
Definition at line 30 of file kbprofile.h.

References _id.

Referenced by find(), Kb::find(), Kb::hwSave(), KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::on_profileList_itemChanged(), KbProfileDialog::on_profileList_itemClicked(), Kb::readNotify(), KbProfileDialog::repopulate(), Kb::save(), and Kb::writeProfileHeader().

```
30 { return _id; }
```

Here is the caller graph for this function:



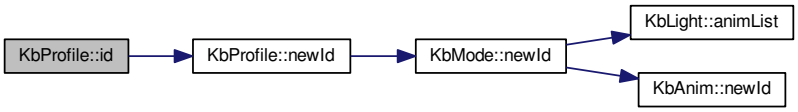
12.36.4.6 void KbProfile::id (const UsbId & *newId*) [inline]

Definition at line 31 of file kbprofile.h.

References _id, _needsSave, and newId().

```
31 { _needsSave = true; _id = newId; }
```

Here is the call graph for this function:



12.36.4.7 int KbProfile::indexOf (KbMode * *mode*) const [inline]

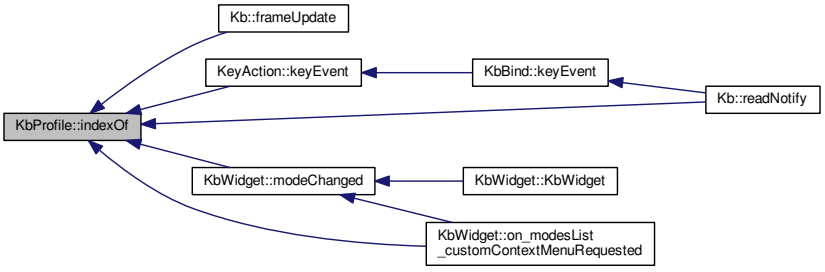
Definition at line 50 of file kbprofile.h.

References _modes.

Referenced by Kb::frameUpdate(), KeyAction::keyEvent(), KbWidget::modeChanged(), KbWidget::on_modesList_customContextMenuRequested(), and Kb::readNotify().

```
50 { return _modes.indexOf(mode); }
```

Here is the caller graph for this function:



12.36.4.8 void KbProfile::insert (int *index*, KbMode * *newMode*) [inline]

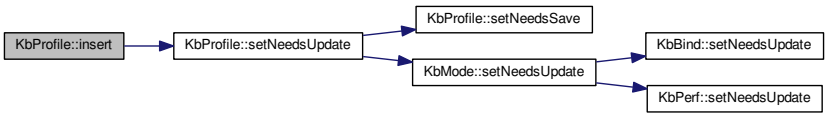
Definition at line 45 of file kbprofile.h.

References _modes, and setNeedsUpdate().

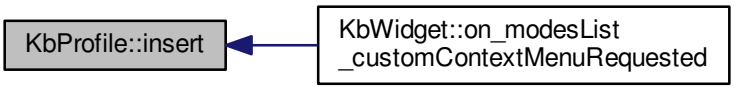
Referenced by KbWidget::on_modesList_customContextMenuRequested().

```
45 { setNeedsUpdate(); _modes.insert(index, newMode); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.36.4.9 const KeyMap& KbProfile::keyMap ( ) const [inline]

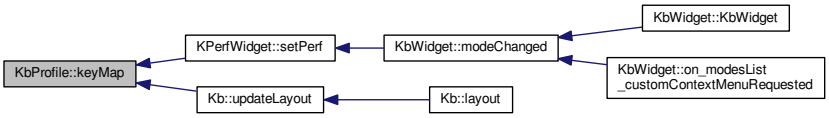
Definition at line 37 of file kbprofile.h.

References _keyMap.

Referenced by KPerfWidget::setPerf(), and Kb::updateLayout().

```
37 { return _keyMap; }
```

Here is the caller graph for this function:



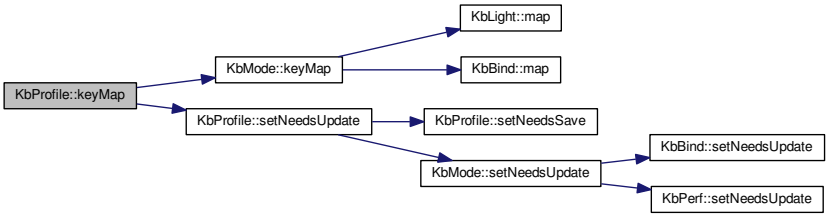
12.36.4.10 void KbProfile::keyMap (const KeyMap & *newKeyMap*)

Definition at line 85 of file kbprofile.cpp.

References _keyMap, _modes, KbMode::keyMap(), and setNeedsUpdate().

```
85                                          {
86     _keyMap = newKeyMap;
87     foreach(KbMode* mode, _modes)
88         mode->keyMap(newKeyMap);
89     setNeedsUpdate();
90 }
```

Here is the call graph for this function:



12.36.4.11 int KbProfile::modeCount ( ) const [inline]

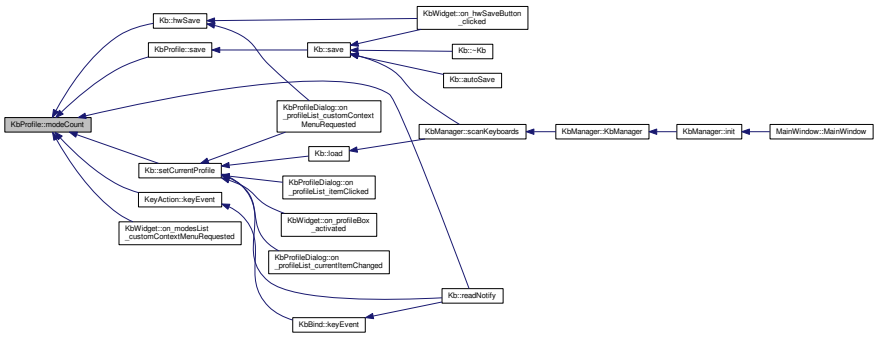
Definition at line 49 of file kbprofile.h.

References _modes.

Referenced by Kb::hwSave(), KeyAction::keyEvent(), KbWidget::on_modesList_customContextMenuRequested(), Kb::readNotify(), save(), and Kb::setCurrentProfile().

```
49 { return _modes.count(); }
```

Here is the caller graph for this function:



12.36.4.12 const ModeList& KbProfile::modes ( ) const [inline]

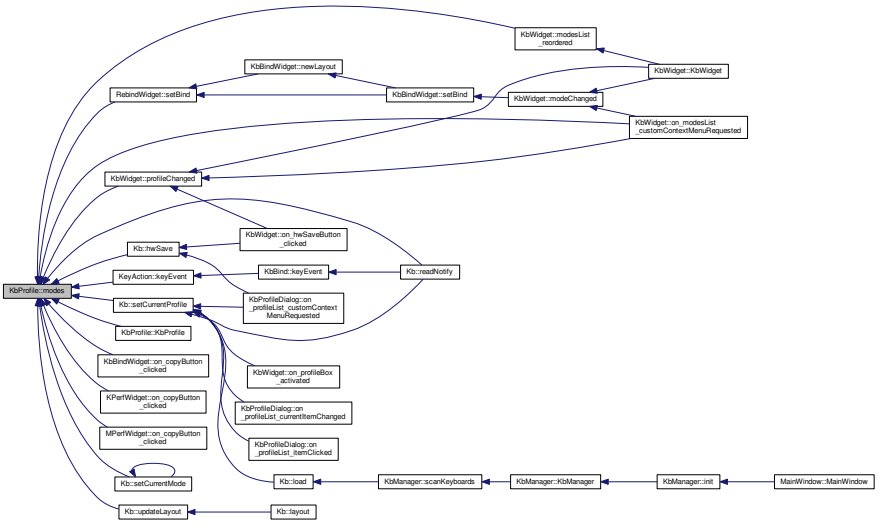
Definition at line 42 of file kbprofile.h.

References _modes.

Referenced by Kb::hwSave(), KbProfile(), KeyAction::keyEvent(), KbWidget::modesList_reordered(), KbBindWidget::on_copyButton_clicked(), KPerfWidget::on_copyButton_clicked(), MPerfWidget::on_copyButton_clicked(), KbWidget::on_modesList_customContextMenuRequested(), KbWidget::profileChanged(), Kb::readNotify(), RebindWidget::setBind(), Kb::setCurrentMode(), Kb::setCurrentProfile(), and Kb::updateLayout().

```
42 { return _modes; }
```

Here is the caller graph for this function:



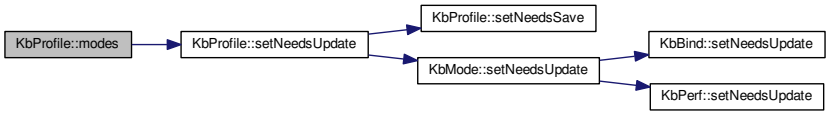
12.36.4.13 void KbProfile::modes (const QList< KbMode * > & *newModes*) [inline]

Definition at line 43 of file kbprofile.h.

References _modes, and setNeedsUpdate().

```
43 { setNeedsUpdate(); _modes = newModes; }
```

Here is the call graph for this function:



12.36.4.14 void KbProfile::move (int *from*, int *to*) [inline]

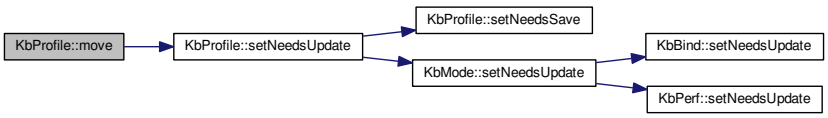
Definition at line 47 of file kbprofile.h.

References _modes, and setNeedsUpdate().

Referenced by Kb::readNotify().

```
47 { setNeedsUpdate(); _modes.move(from, to); }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.36.4.15 QString KbProfile::name ( ) const [inline]

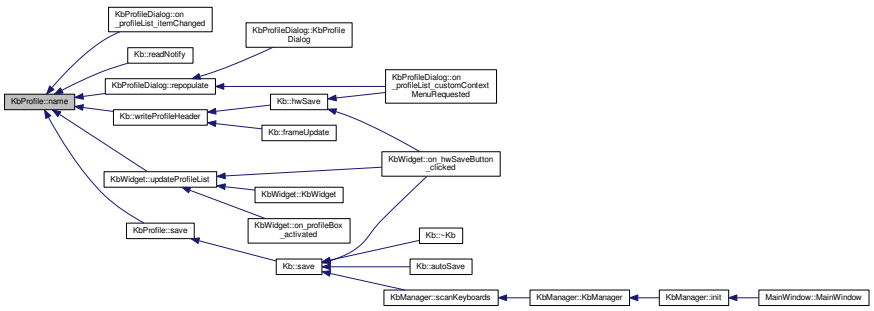
Definition at line 28 of file kbprofile.h.

References _name.

Referenced by KbProfileDialog::on_profileList_itemChanged(), Kb::readNotify(), KbProfileDialog::repopulate(), save(), KbWidget::updateProfileList(), and Kb::writeProfileHeader().

```
28 { return _name; }
```

Here is the caller graph for this function:



12.36.4.16 void KbProfile::name (const QString & *newName*) [inline]

Definition at line 29 of file kbprofile.h.

References _name, and _needsSave.

```
29 { _needsSave = true; _name = newName.trimmed(); if(_name == "")
      _name = "Unnamed"; }
```

12.36.4.17 bool KbProfile::needsSave ( ) const

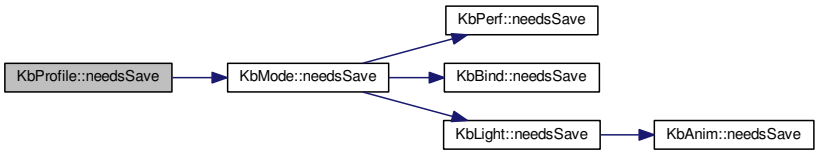
Definition at line 68 of file kbprofile.cpp.

References _modes, _needsSave, and KbMode::needsSave().

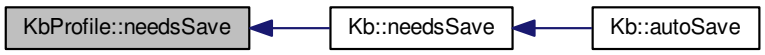
Referenced by Kb::needsSave().

```
68                                  {
69     if(_needsSave)
70         return true;
71     foreach(KbMode* mode, _modes){
72         if(mode->needsSave())
73             return true;
74     }
75     return false;
76 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.36.4.18 void KbProfile::newId ( )

Definition at line 78 of file kbprofile.cpp.

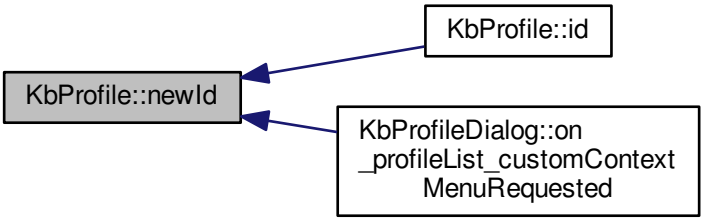
References _id, _modes, _needsSave, and KbMode::newId().

Referenced by id(), and KbProfileDialog::on_profileList_customContextMenuRequested().

```
78                         {
79     _needsSave = true;
80     _id = UsbId();
81     foreach(KbMode* mode, _modes)
82         mode->newId();
83 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.36.4.19 void KbProfile::removeAll (KbMode * *mode*) [inline]

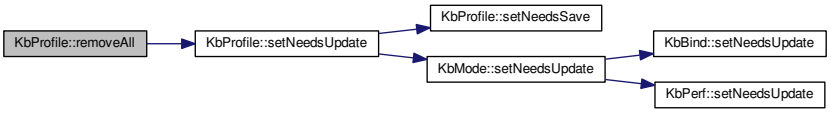
Definition at line 46 of file kbprofile.h.

References _modes, and setNeedsUpdate().

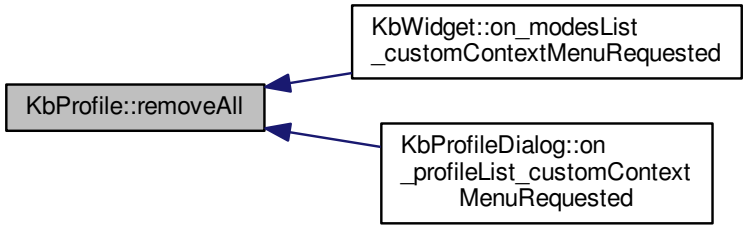
Referenced by KbWidget::on_modesList_customContextMenuRequested(), and KbProfileDialog::on_profileList_-customContextMenuRequested().

```
46 { setNeedsUpdate(); _modes.removeAll(mode); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.36.4.20 void KbProfile::save (CkbSettings & *settings*)

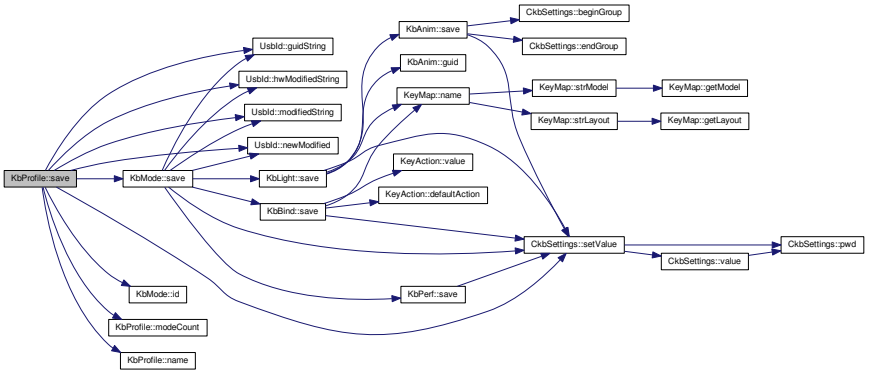
Definition at line 48 of file kbprofile.cpp.

References _currentMode, _id, _modes, _needsSave, UsbId::guidString(), UsbId::hwModifiedString(), KbMode::id(), modeCount(), UsbId::modifiedString(), name(), UsbId::newModified(), KbMode::save(), and CkbSettings::setValue().

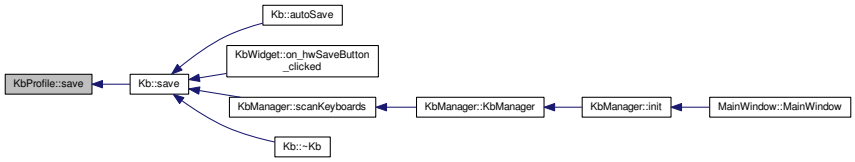
Referenced by Kb::save().

```
48                                          {
49     _needsSave = false;
50     _id.newModified();
51     // Save data to preferences
52     SGroup group(settings, id().guidString());
53     settings.setValue("Name", name());
54     settings.setValue("Modified", _id.modifiedString());
55     settings.setValue("HwModified", _id.hwModifiedString());
56     if(_currentMode)
57         settings.setValue("CurrentMode", _currentMode->id().
       guidString());
58     // Save modes
59     uint count = modeCount();
60     settings.setValue("ModeCount", count);
61     for(uint i = 0; i < count; i++){
62         SGroup group(settings, QString::number(i));
63         KbMode* mode = _modes.at(i);
64         mode->save(settings);
65     }
66 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.36.4.21 void KbProfile::setNeedsSave ( ) [inline]

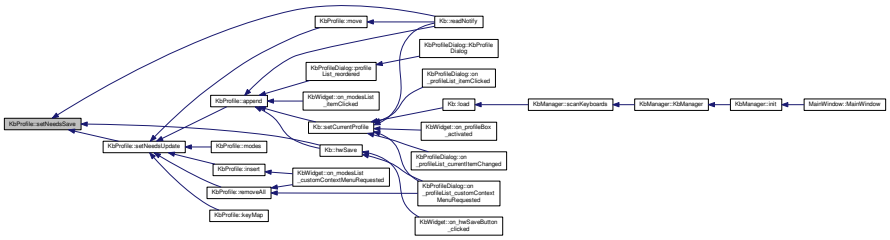
Definition at line 25 of file kbprofile.h.

References _needsSave.

Referenced by Kb::hwSave(), Kb::readNotify(), and setNeedsUpdate().

```
25 { _needsSave = true; }
```

Here is the caller graph for this function:



12.36.4.22 void KbProfile::setNeedsUpdate ( ) [inline], [private]

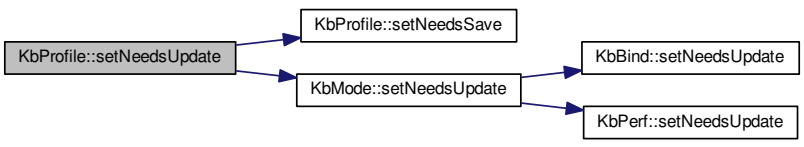
Definition at line 66 of file kbprofile.h.

References _modes, setNeedsSave(), and KbMode::setNeedsUpdate().

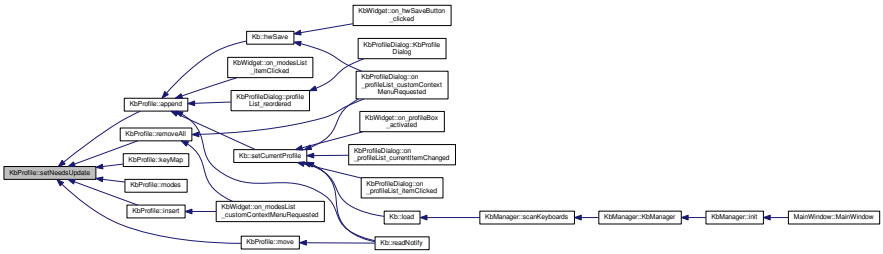
Referenced by append(), insert(), keyMap(), modes(), move(), and removeAll().

```
66 { setNeedsSave(); foreach(KbMode* mode, _modes){ mode->
       setNeedsUpdate(); } }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.36.5 Field Documentation

12.36.5.1 KbMode* KbProfile::_currentMode [private]

Definition at line 58 of file kbprofile.h.

Referenced by currentMode(), KbProfile(), and save().

12.36.5.2 UsbId KbProfile::_id [private]

Definition at line 60 of file kbprofile.h.

Referenced by id(), KbProfile(), newId(), and save().

12.36.5.3 KeyMap KbProfile::_keyMap [private]

Definition at line 61 of file kbprofile.h.

Referenced by KbProfile(), and keyMap().

12.36.5.4 ModeList KbProfile::_modes [private]

Definition at line 62 of file kbprofile.h.

Referenced by append(), find(), indexOf(), insert(), KbProfile(), keyMap(), modeCount(), modes(), move(), needsSave(), newId(), removeAll(), save(), and setNeedsUpdate().

12.36.5.5 QString KbProfile::_name [private]

Definition at line 59 of file kbprofile.h.

Referenced by KbProfile(), and name().

12.36.5.6 bool KbProfile::_needsSave [private]

Definition at line 63 of file kbprofile.h.

Referenced by currentMode(), id(), name(), needsSave(), newId(), save(), and setNeedsSave().

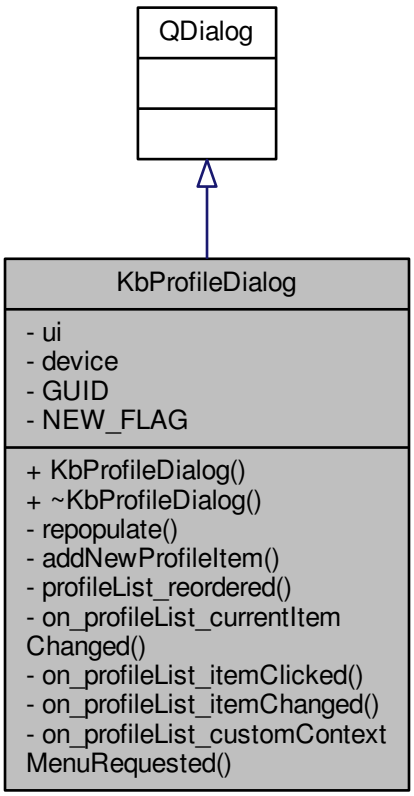
The documentation for this class was generated from the following files:

- src/ckb/kbprofile.h
- src/ckb/kbprofile.cpp

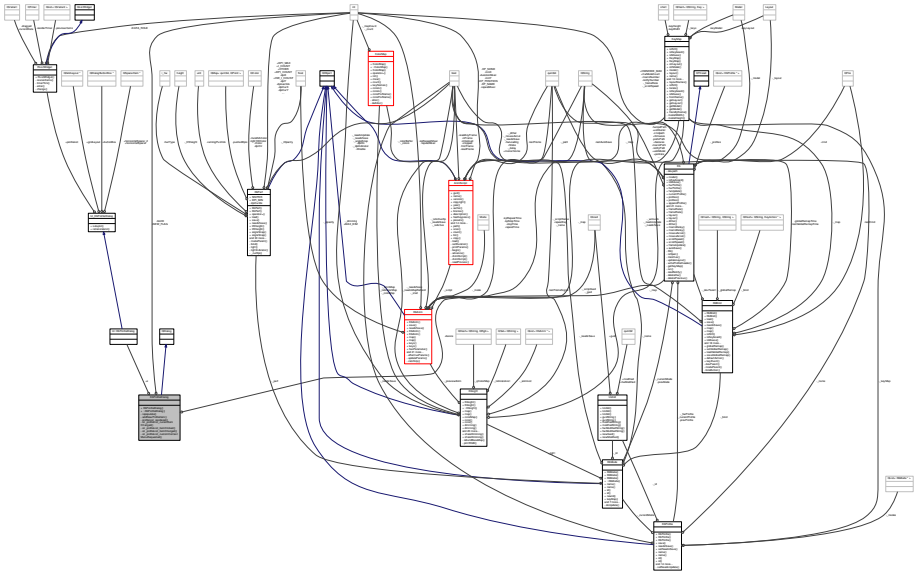
12.37 KbProfileDialog Class Reference

`#include <src/ckb/kbprofiledialog.h>`

Inheritance diagram for KbProfileDialog:



Collaboration diagram for KbProfileDialog:



Public Member Functions

- KbProfileDialog (KbWidget ∗parent=0)
- ∼KbProfileDialog ()

Private Slots

- void profileList_reordered ()
- void on_profileList_currentItemChanged (QListWidgetItem ∗current, QListWidgetItem ∗previous)
- void on_profileList_itemClicked (QListWidgetItem ∗item)
- void on_profileList_itemChanged (QListWidgetItem ∗item)
- void on_profileList_customContextMenuRequested (const QPoint &pos)

Private Member Functions

- void repopulate ()
- void addNewProfileItem ()

Private Attributes

- Ui::KbProfileDialog ∗ ui
- Kb ∗ device

Static Private Attributes

- static const int GUID = Qt::UserRole
- static const int NEW_FLAG = Qt::UserRole + 1

12.37.1 Detailed Description

Definition at line 11 of file kbprofiledialog.h.

12.37.2 Constructor & Destructor Documentation

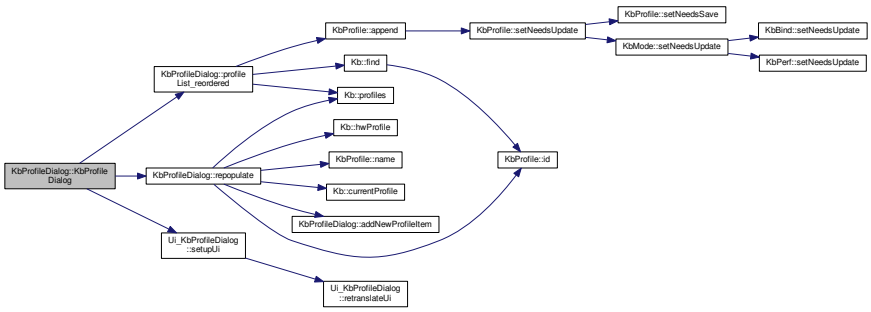
12.37.2.1 KbProfileDialog::KbProfileDialog (KbWidget * *parent* = 0) [explicit]

Definition at line 5 of file kbprofiledialog.cpp.

References Ui_KbProfileDialog::profileList, profileList_reordered(), repopulate(), Ui_KbProfileDialog::setupUi(), and ui.

```
5                                                :
6     QDialog(parent),
7     ui(new Ui::KbProfileDialog), device(parent->
      device)
8 {
9     ui->setupUi(this);
10     connect(ui->profileList, SIGNAL(orderChanged()), this, SLOT(
      profileList_reordered()));
11
12     // Populate profile list
13     repopulate();
14 }
```

Here is the call graph for this function:



12.37.2.2 KbProfileDialog::~KbProfileDialog ( )

Definition at line 16 of file kbprofiledialog.cpp.

References ui.

```
16                                    {
17     delete ui;
18 }
```

12.37.3 Member Function Documentation

12.37.3.1 void KbProfileDialog::addNewProfileItem ( ) [private]

Definition at line 66 of file kbprofiledialog.cpp.

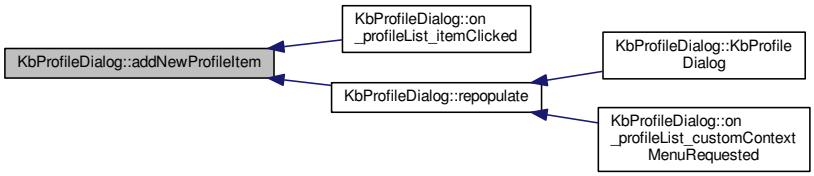
References NEW_FLAG, Ui_KbProfileDialog::profileList, and ui.

Referenced by on_profileList_itemClicked(), and repopulate().

```
66                                        {
67     // Add an item for creating a new profile. Make it editable but not dragable.
68     QListWidgetItem* item = new QListWidgetItem("New profile...", ui->
      profileList);
69     item->setFlags((item->flags() | Qt::ItemIsEditable) & ~Qt::ItemIsDragEnabled & ~Qt::ItemIsDropEnabled);
70     item->setData(NEW_FLAG, 1);
```

```
71     QFont font = item->font();
72     font.setItalic(true);
73     item->setFont(font);
74     item->setIcon(QIcon(":/img/icon_plus.png"));
75     ui->profileList->addItem(item);
76 }
```

Here is the caller graph for this function:



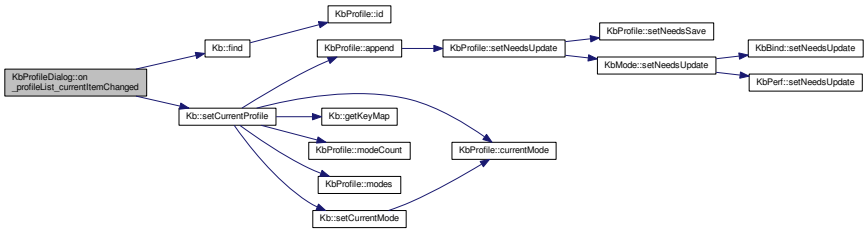
12.37.3.2 void KbProfileDialog::on_profileList_currentItemChanged (QListWidgetItem * *current*, QListWidgetItem * *previous*) [private], [slot]

Definition at line 39 of file kbprofiledialog.cpp.

References device, Kb::find(), GUID, and Kb::setCurrentProfile().

```
39                                                                                                                  {
40     if(!current)
41         return;
42     KbProfile* profile = device->find(current->data(
       GUID).toUuid());
43     if(!profile)
44         return;
45     device->setCurrentProfile(profile);
46 }
```

Here is the call graph for this function:



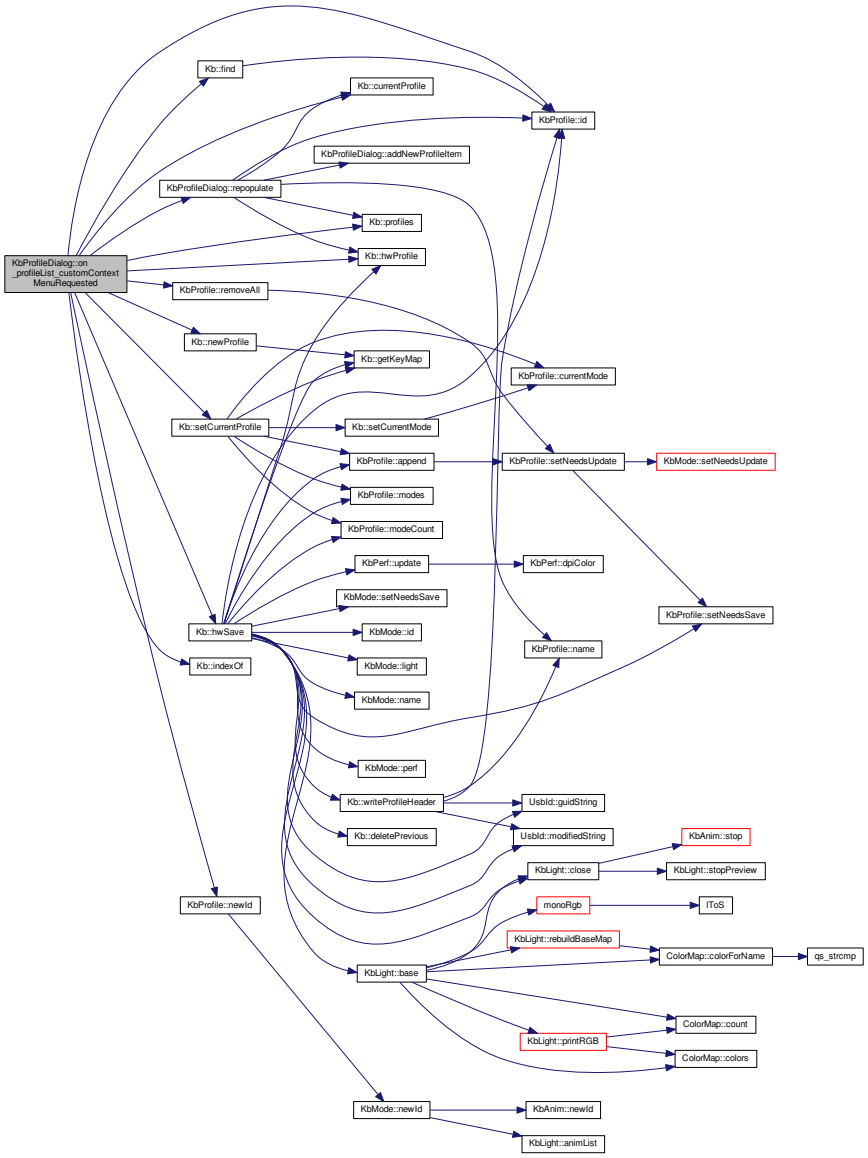
12.37.3.3 void KbProfileDialog::on_profileList_customContextMenuRequested (const QPoint & *pos*) [private], [slot]

Definition at line 109 of file kbprofiledialog.cpp.

References Kb::currentProfile(), device, Kb::find(), UsbId::guid, GUID, Kb::hwProfile(), Kb::hwSave(), KbProfile::id(), Kb::indexOf(), NEW_FLAG, KbProfile::newId(), Kb::newProfile(), Ui_KbProfileDialog::profileList, Kb::profiles(), KbProfile::removeAll(), repopulate(), Kb::setCurrentProfile(), and ui.

```
109                                                                                 {
110     QListWidgetItem* item = ui->profileList->itemAt(pos);
111     KbProfile* currentProfile = device->currentProfile();
112     if(!item || !currentProfile || item->data(GUID).toUuid() != currentProfile->
    id().guid)
113         return;
114     int index = device->indexOf(currentProfile);
115     QList<KbProfile*> profiles = device->profiles();
116 
117     QMenu menu(this);
118     QAction* rename = new QAction("Rename...", this);
119     QAction* duplicate = new QAction("Duplicate", this);
120     QAction* del = new QAction("Delete", this);
121     bool canDelete = (profiles.count() > 1);
122     if(!canDelete)
123         // Can't delete the last profile on the device
124         del->setEnabled(false);
125     QAction* hwsave = new QAction("Save to Hardware", this);
126     QAction* moveup = new QAction("Move Up", this);
127     if(index == 0)
128         moveup->setEnabled(false);
129     QAction* movedown = new QAction("Move Down", this);
130     if(index >= profiles.count() - 1)
131         movedown->setEnabled(false);
132     menu.addAction(rename);
133     menu.addAction(duplicate);
134     menu.addAction(del);
135     menu.addSeparator();
136     menu.addAction(hwsave);
137     menu.addSeparator();
138     menu.addAction(moveup);
139     menu.addAction(movedown);
140     QAction* result = menu.exec(QCursor::pos());
141     if(result == rename){
142         ui->profileList->editItem(item);
143     } else if(result == duplicate){
144         KbProfile* newProfile = device->newProfile(currentProfile);
145         newProfile->newId();
146         profiles.insert(index + 1, newProfile);
147         device->profiles(profiles);
148         device->setCurrentProfile(newProfile);
149     } else if(result == del){
150         if(!canDelete)
151             return;
152         profiles.removeAll(currentProfile);
153         device->profiles(profiles);
154         currentProfile->deleteLater();
155         // Select next profile
156         if(index < profiles.count())
157             device->setCurrentProfile(profiles.at(index));
158         else
159             device->setCurrentProfile(profiles.last());
160     } else if(result == hwsave){
161         device->hwSave();
162         // Refresh item icons
163         int count = ui->profileList->count();
164         for(int i = 0; i < count; i++){
165             QListWidgetItem* item = ui->profileList->item(i);
166             if(item->data(NEW_FLAG).toUInt() == 1)
167                 continue;
168             KbProfile* profile = device->find(item->data(GUID).toUuid());
169             item->setIcon(QIcon((profile == device->hwProfile()) ? "
    :/img/icon_profile_hardware.png" : ":/img/icon_profile.png"));
170         }
171     } else if(result == moveup){
172         profiles.removeAll(currentProfile);
173         profiles.insert(index - 1, currentProfile);
174         device->profiles(profiles);
175     } else if(result == movedown){
176         profiles.removeAll(currentProfile);
177         profiles.insert(index + 1, currentProfile);
178         device->profiles(profiles);
179     }
180     repopulate();
181 }
```

Here is the call graph for this function:



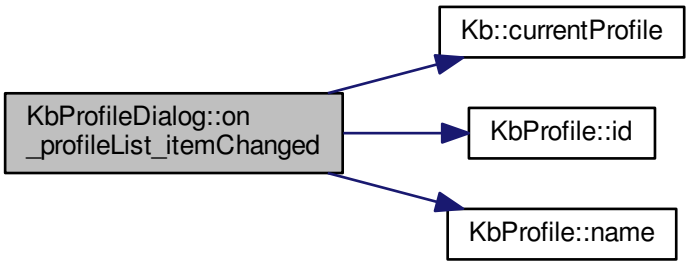
12.37.3.4 void KbProfileDialog::on_profileList_itemChanged (QListWidgetItem * *item*) [private], [slot]

Definition at line 100 of file kbprofiledialog.cpp.

References Kb::currentProfile(), device, UsbId::guid, GUID, KbProfile::id(), and KbProfile::name().

```
100                                                                 {
101     KbProfile* currentProfile = device->currentProfile();
102     if(!item || !currentProfile || item->data(GUID).toUuid() != currentProfile->
      id().guid)
103         return;
104     currentProfile->name(item->text());
105     // Set the text to the actual name (trimmed, "" replaced with "Unnamed")
106     item->setText(currentProfile->name());
107 }
```

Here is the call graph for this function:



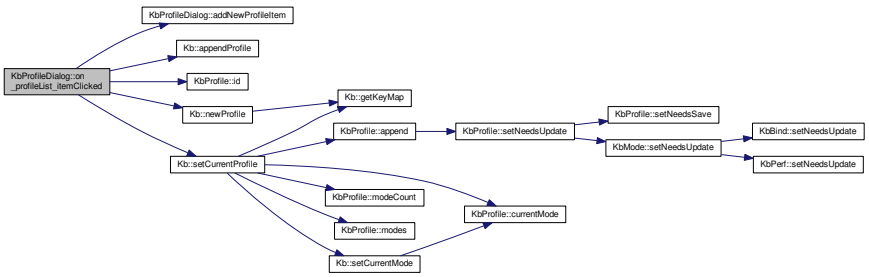
12.37.3.5 void KbProfileDialog::on_profileList_itemClicked (QListWidgetItem * *item*) [private], [slot]

Definition at line 78 of file kbprofiledialog.cpp.

References addNewProfileItem(), Kb::appendProfile(), device, UsbId::guid, GUID, KbProfile::id(), NEW_FLAG, Kb::newProfile(), Ui_KbProfileDialog::profileList, Kb::setCurrentProfile(), and ui.

```
78                                                                  {
79     QUuid guid = item->data(GUID).toUuid();
80     if(guid.isNull() && item->data(NEW_FLAG).toInt() == 1){
81         // New profile
82         item->setText("");
83         ui->profileList->editItem(item);
84         item->setFlags(item->flags() | Qt::ItemIsEditable | Qt::ItemIsDragEnabled | Qt::ItemIsDropEnabled);
85         QFont font = item->font();
86         font.setItalic(false);
87         item->setFont(font);
88         item->setIcon(QIcon(":/img/icon_profile.png"));
89         // Add the new profile and assign it to this item
90         KbProfile* newProfile = device->newProfile();
91         device->appendProfile(newProfile);
92         item->setData(GUID, newProfile->id().guid);
93         item->setData(NEW_FLAG, 0);
94         device->setCurrentProfile(newProfile);
95         // Create another "new profile" item to replace this one
96         addNewProfileItem();
97     }
98 }
```

Here is the call graph for this function:



12.37.3.6 void KbProfileDialog::profileList_reordered ( ) [private],[slot]

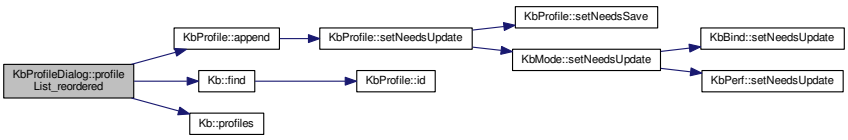
Definition at line 20 of file kbprofiledialog.cpp.

References KbProfile::append(), device, Kb::find(), GUID, Ui_KbProfileDialog::profileList, Kb::profiles(), and ui.

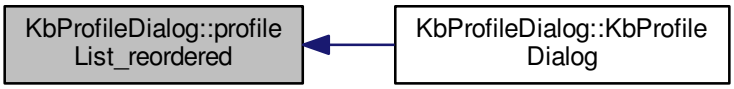
Referenced by KbProfileDialog().

```
20                                          {
21     // Rebuild profile list from items
22     QList<KbProfile*> newProfiles;
23     int count = ui->profileList->count();
24     for(int i = 0; i < count; i++){
25         QListWidgetItem* item = ui->profileList->item(i);
26         KbProfile* profile = device->find(item->data(GUID).toUuid());
27         if(profile && !newProfiles.contains(profile))
28             newProfiles.append(profile);
29         item->setFlags(item->flags() | Qt::ItemIsEditable);
30     }
31     // Add any missing profiles at the end of the list
32     foreach(KbProfile* profile, device->profiles()){
33         if(!newProfiles.contains(profile))
34             newProfiles.append(profile);
35     }
36     device->profiles(newProfiles);
37 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.37.3.7 void KbProfileDialog::repopulate ( ) [private]

Definition at line 48 of file kbprofiledialog.cpp.

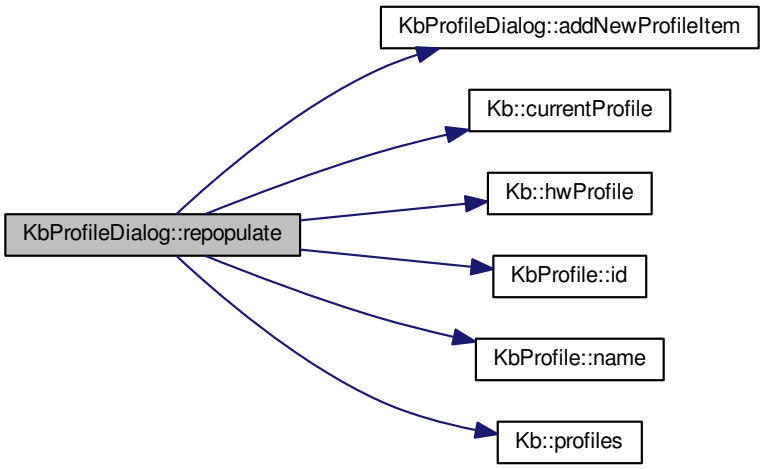
References addNewProfileItem(), current, Kb::currentProfile(), device, UsbId::guid, GUID, Kb::hwProfile(), KbProfile::id(), KbProfile::name(), Ui_KbProfileDialog::profileList, Kb::profiles(), and ui.

Referenced by KbProfileDialog(), and on_profileList_customContextMenuRequested().

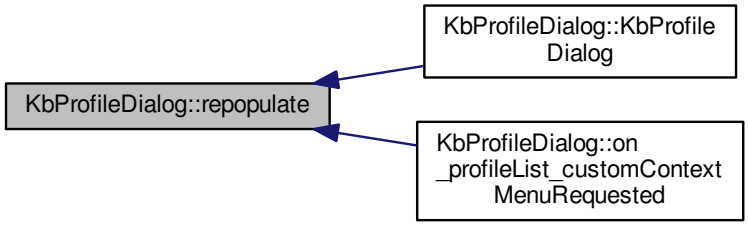
```
48                                  {
49     ui->profileList->clear();
50     QListWidgetItem* current = 0;
51     foreach(KbProfile* profile, device->profiles()){
52         QListWidgetItem* item = new QListWidgetItem(QIcon((profile == device->
      hwProfile()) ? ":/img/icon_profile_hardware.png" : ":/img/icon_profile.png"), profile->
```

```
      name(), ui->profileList);
53          item->setData(GUID, profile->id().guid);
54          item->setFlags(item->flags() | Qt::ItemIsEditable);
55          if(profile == device->currentProfile()){
56              item->setSelected(true);
57              current = item;
58          }
59          ui->profileList->addItem(item);
60      }
61      if(current)
62          ui->profileList->setCurrentItem(current);
63      addNewProfileItem();
64  }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.37.4 Field Documentation

12.37.4.1 Kb* KbProfileDialog::device [private]

Definition at line 29 of file kbprofiledialog.h.

Referenced by on_profileList_currentItemChanged(), on_profileList_customContextMenuRequested(), on_profileList_itemChanged(), on_profileList_itemClicked(), profileList_reordered(), and repopulate().

12.37.4.2 const int KbProfileDialog::GUID = Qt::UserRole [static], [private]

Definition at line 30 of file kbprofiledialog.h.

Referenced by on_profileList_currentItemChanged(), on_profileList_customContextMenuRequested(), on_profileList_itemChanged(), on_profileList_itemClicked(), profileList_reordered(), and repopulate().

12.37.4.3 const int KbProfileDialog::NEW_FLAG = Qt::UserRole + 1 [static], [private]

Definition at line 31 of file kbprofiledialog.h.

Referenced by addNewProfileItem(), on_profileList_customContextMenuRequested(), and on_profileList_itemClicked().

12.37.4.4 Ui::KbProfileDialog* KbProfileDialog::ui [private]

Definition at line 27 of file kbprofiledialog.h.

Referenced by addNewProfileItem(), KbProfileDialog(), on_profileList_customContextMenuRequested(), on_profileList_itemClicked(), profileList_reordered(), repopulate(), and ~KbProfileDialog().

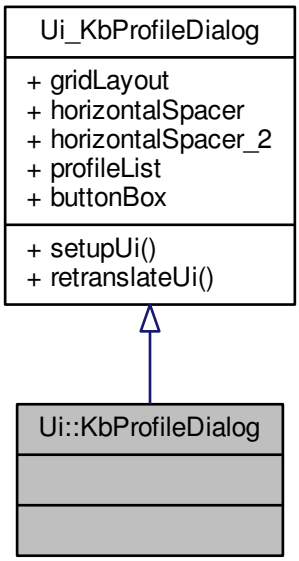
The documentation for this class was generated from the following files:

- src/ckb/kbprofiledialog.h
- src/ckb/kbprofiledialog.cpp

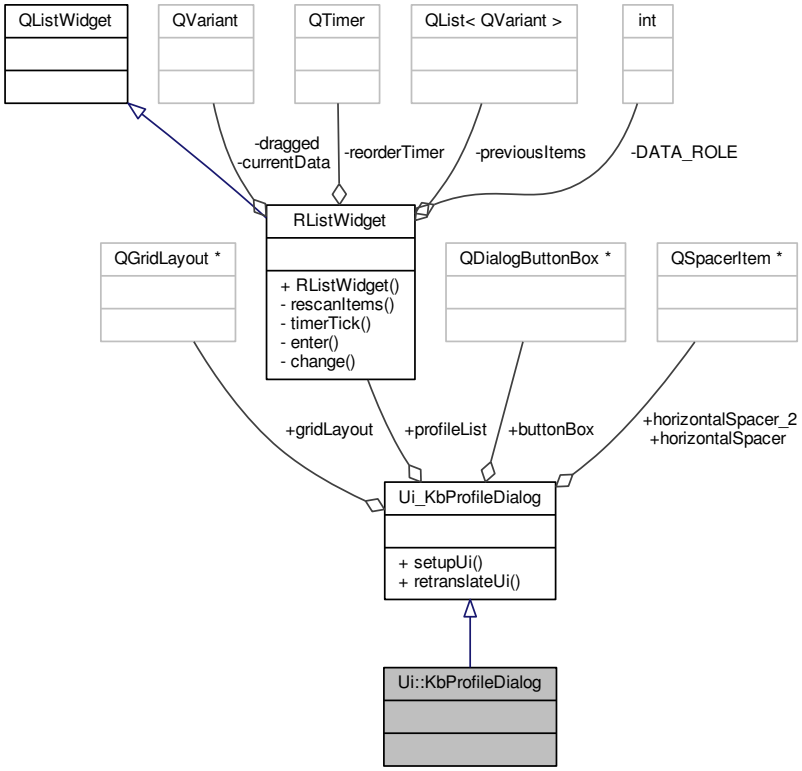
12.38 Ui::KbProfileDialog Class Reference

#include <src/ckb/ui_kbprofiledialog.h>

Inheritance diagram for Ui::KbProfileDialog:



Collaboration diagram for Ui::KbProfileDialog:



Public Member Functions

- void setupUi (QDialog *KbProfileDialog)
- void retranslateUi (QDialog *KbProfileDialog)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer
- QSpacerItem * horizontalSpacer_2
- RListWidget * profileList
- QDialogButtonBox * buttonBox

12.38.1 Detailed Description

Definition at line 81 of file ui_kbprofiledialog.h.

12.38.2 Member Function Documentation

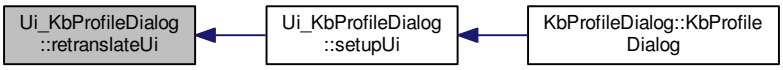
12.38.2.1 void Ui_KbProfileDialog::retranslateUi (QDialog * *KbProfileDialog*) [inline], [inherited]

Definition at line 73 of file ui_kbprofiledialog.h.

Referenced by Ui_KbProfileDialog::setupUi().

```
74     {
75         KbProfileDialog->setWindowTitle(QApplication::translate("KbProfileDialog", "Keyboard Profiles",
       Q_NULLPTR));
76     } // retranslateUi
```

Here is the caller graph for this function:



12.38.2.2 void Ui_KbProfileDialog::setupUi (QDialog * *KbProfileDialog*) [inline],[inherited]

Definition at line 34 of file ui_kbprofiledialog.h.

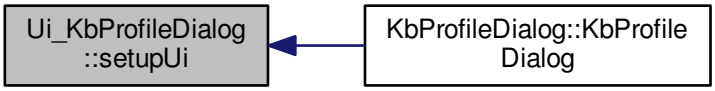
References Ui_KbProfileDialog::buttonBox, Ui_KbProfileDialog::gridLayout, Ui_KbProfileDialog::horizontalSpacer, Ui_KbProfileDialog::horizontalSpacer_2, Ui_KbProfileDialog::profileList, and Ui_KbProfileDialog::retranslateUi().

Referenced by KbProfileDialog::KbProfileDialog().

```
35     {
36         if (KbProfileDialog->objectName().isEmpty())
37             KbProfileDialog->setObjectName(QStringLiteral("KbProfileDialog"));
38         KbProfileDialog->resize(400, 300);
39         KbProfileDialog->setFocusPolicy(Qt::ClickFocus);
40         gridLayout = new QGridLayout(KbProfileDialog);
41         gridLayout->setObjectName(QStringLiteral("gridLayout"));
42         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
       QSizePolicy::Minimum);
43
44         gridLayout->addItem(horizontalSpacer, 0, 0, 1, 1);
45
46         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
       QSizePolicy::Minimum);
47
48         gridLayout->addItem(horizontalSpacer_2, 0, 2, 1, 1);
49
50         profileList = new RListWidget(KbProfileDialog);
51         profileList->setObjectName(QStringLiteral("profileList"));
52         profileList->setContextMenuPolicy(Qt::CustomContextMenu);
53         profileList->setFrameShadow(QFrame::Plain);
54         profileList->setIconSize(QSize(24, 24));
55
56         gridLayout->addWidget(profileList, 0, 1, 1, 1);
57
58         buttonBox = new QDialogButtonBox(KbProfileDialog);
59         buttonBox->setObjectName(QStringLiteral("buttonBox"));
60         buttonBox->setOrientation(Qt::Horizontal);
61         buttonBox->setStandardButtons(QDialogButtonBox::Ok);
62
63         gridLayout->addWidget(buttonBox, 1, 0, 1, 3);
64
65
66         retranslateUi(KbProfileDialog);
67         QObject::connect(buttonBox, SIGNAL(accepted()), KbProfileDialog, SLOT(accept()));
68         QObject::connect(buttonBox, SIGNAL(rejected()), KbProfileDialog, SLOT(reject()));
69
70         QMetaObject::connectSlotsByName(KbProfileDialog);
71     } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.38.3 Field Documentation

12.38.3.1 QDialogButtonBox* Ui_KbProfileDialog::buttonBox [inherited]

Definition at line 32 of file ui_kbprofiledialog.h.

Referenced by Ui_KbProfileDialog::setupUi().

12.38.3.2 QGridLayout* Ui_KbProfileDialog::gridLayout [inherited]

Definition at line 28 of file ui_kbprofiledialog.h.

Referenced by Ui_KbProfileDialog::setupUi().

12.38.3.3 QSpacerItem* Ui_KbProfileDialog::horizontalSpacer [inherited]

Definition at line 29 of file ui_kbprofiledialog.h.

Referenced by Ui_KbProfileDialog::setupUi().

12.38.3.4 QSpacerItem* Ui_KbProfileDialog::horizontalSpacer_2 [inherited]

Definition at line 30 of file ui_kbprofiledialog.h.

Referenced by Ui_KbProfileDialog::setupUi().

12.38.3.5 RListWidget* Ui_KbProfileDialog::profileList [inherited]

Definition at line 31 of file ui_kbprofiledialog.h.

Referenced by KbProfileDialog::addNewProfileItem(), KbProfileDialog::KbProfileDialog(), KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::on_profileList_itemClicked(), KbProfileDialog::profileList_reordered(), KbProfileDialog::repopulate(), and Ui_KbProfileDialog::setupUi().

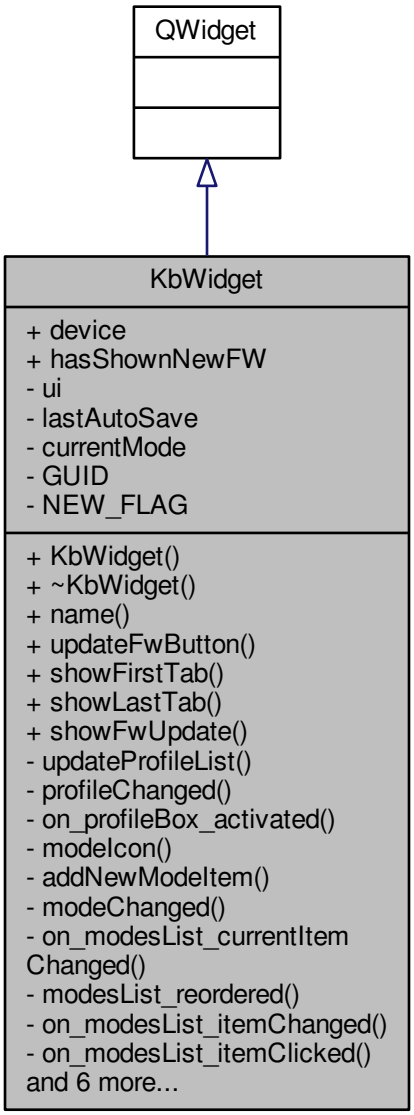
The documentation for this class was generated from the following file:

- src/ckb/ui_kbprofiledialog.h

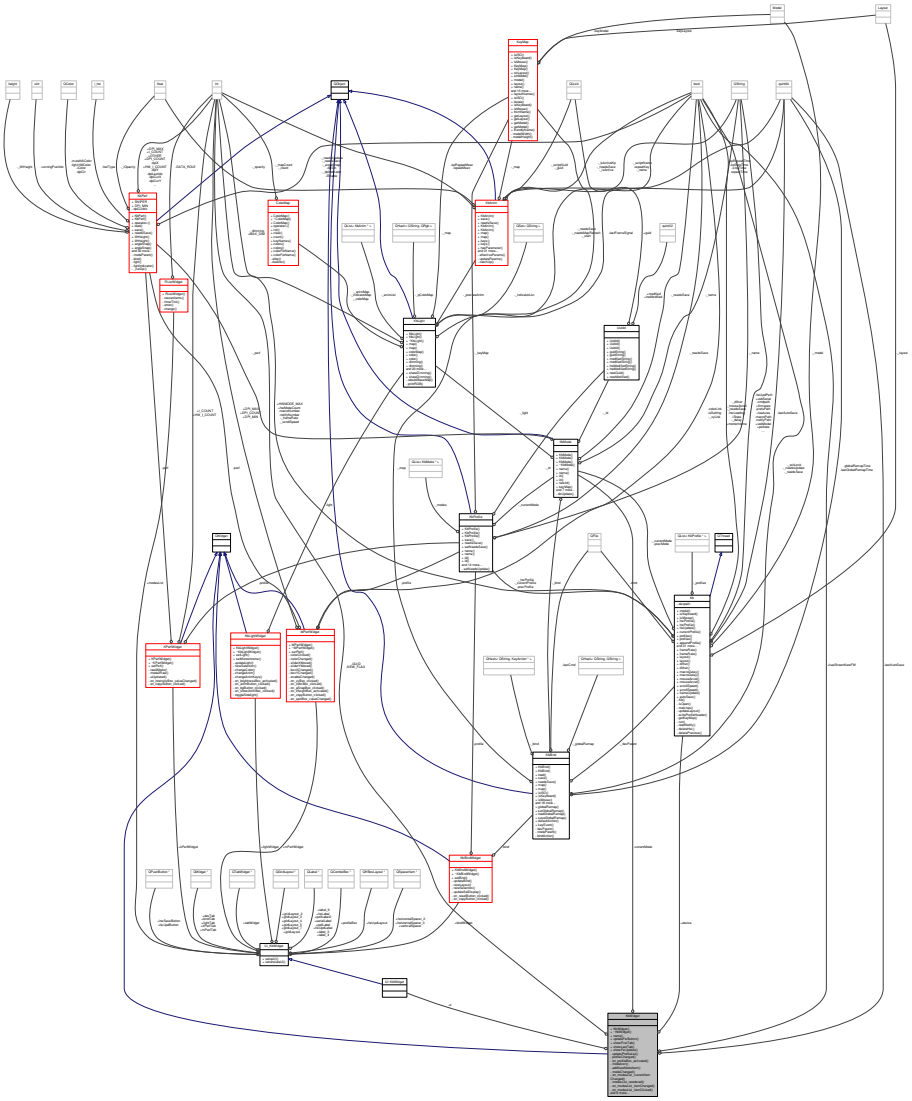
12.39 KbWidget Class Reference

`#include <src/ckb/kbwidget.h>`

Inheritance diagram for KbWidget:



Collaboration diagram for KbWidget:



Public Slots

- void showFirstTab ()
- void showLastTab ()
- void showFwUpdate ()

Public Member Functions

- KbWidget (QWidget *parent, Kb *_device)
- ~KbWidget ()
- QString name () const
- void updateFwButton ()

Data Fields

- Kb * device
- bool hasShownNewFW

Private Slots

- void updateProfileList ()
- void profileChanged ()
- void on_profileBox_activated (int index)
- QIcon modeIcon (int i)
- void addNewModeItem ()
- void modeChanged (bool spontaneous=true)
- void on_modesList_currentItemChanged (QListWidgetItem ∗current, QListWidgetItem ∗previous)
- void modesList_reordered ()
- void on_modesList_itemChanged (QListWidgetItem ∗item)
- void on_modesList_itemClicked (QListWidgetItem ∗item)
- void on_modesList_customContextMenuRequested (const QPoint &pos)

  KbWidget::on_modesList_customContextMenuRequested.
- void devUpdate ()
- void modeUpdate ()
- void on_hwSaveButton_clicked ()
- void on_tabWidget_currentChanged (int index)
- void on_fwUpdButton_clicked ()

Private Attributes

- Ui::KbWidget ∗ ui
- quint64 lastAutoSave
- KbMode ∗ currentMode

Static Private Attributes

- static const int GUID = Qt::UserRole
- static const int NEW_FLAG = Qt::UserRole + 1

12.39.1 Detailed Description

Definition at line 15 of file kbwidget.h.

12.39.2 Constructor & Destructor Documentation

12.39.2.1 KbWidget::KbWidget (QWidget ∗ *parent*, Kb ∗ *_device*) [explicit]

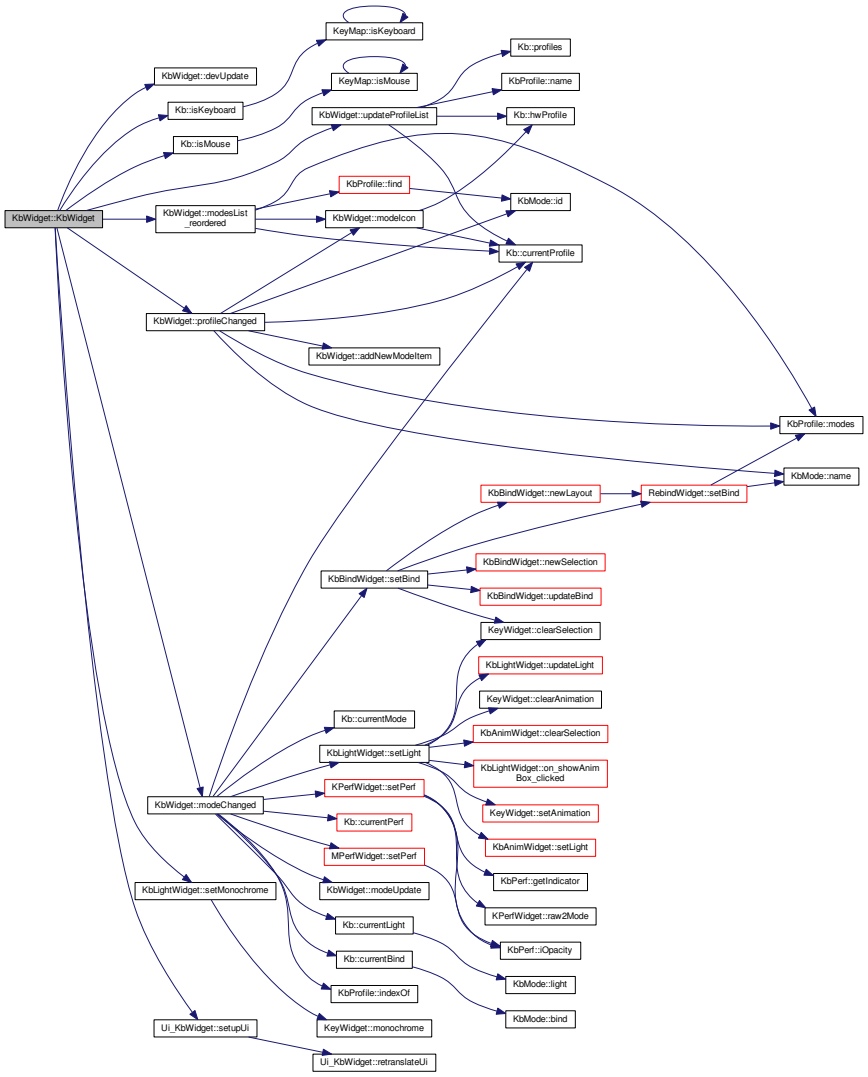
Definition at line 15 of file kbwidget.cpp.

References device, devUpdate(), Kb::features, Ui_KbWidget::fwUpdButton, Ui_KbWidget::fwUpdLabel, Ui_KbWidget::fwUpdLayout, Kb::isKeyboard(), Kb::isMouse(), Ui_KbWidget::kPerfTab, Ui_KbWidget::lightTab, Ui_KbWidget::lightWidget, modeChanged(), Ui_KbWidget::modesList, modesList_reordered(), Kb::monochrome, Ui_KbWidget::mPerfTab, Ui_KbWidget::pollLabel, Ui_KbWidget::pollLabel2, profileChanged(), KbLightWidget::setMonochrome(), Ui_KbWidget::setupUi(), Ui_KbWidget::tabWidget, ui, and updateProfileList().

```
15                                          :
16     QWidget(parent),
17     device(_device), hasShownNewFW(false),
18     ui(new Ui::KbWidget),
19     currentMode(0)
20 {
21     ui->setupUi(this);
22     connect(ui->modesList, SIGNAL(orderChanged()), this, SLOT(
       modesList_reordered()));
23
```

```
24      connect(device, SIGNAL(infoUpdated()), this, SLOT(devUpdate()));
25      connect(device, SIGNAL(profileAdded()), this, SLOT(updateProfileList()));
26      connect(device, SIGNAL(profileChanged()), this, SLOT(
    profileChanged()));
27      connect(device, SIGNAL(profileRenamed()), this, SLOT(updateProfileList()));
28      connect(device, SIGNAL(modeRenamed()), this, SLOT(profileChanged()));
29      connect(device, SIGNAL(modeRenamed()), this, SLOT(modeChanged()));
30      connect(device, SIGNAL(modeChanged(bool)), this, SLOT(
    modeChanged(bool)));
31
32      // Remove the Lighting and Performance tabs from non-RGB keyboards
33      if(!device->features.contains("rgb")){
34          ui->tabWidget->removeTab(ui->tabWidget->indexOf(ui->
    lightTab));
35          ui->tabWidget->removeTab(ui->tabWidget->indexOf(ui->
    kPerfTab));
36          ui->tabWidget->removeTab(ui->tabWidget->indexOf(ui->
    mPerfTab));
37      } else {
38          // Remove mouse Performance tab from non-mice
39          if(!device->isMouse())
40              ui->tabWidget->removeTab(ui->tabWidget->indexOf(
    ui->mPerfTab));
41          // Remove keyboard Performance tab from non-keyboards
42          if(!device->isKeyboard())
43              ui->tabWidget->removeTab(ui->tabWidget->indexOf(
    ui->kPerfTab));
44      }
45      // Hide poll rate and FW update as appropriate
46      if(!device->features.contains("pollrate")){
47          ui->pollLabel->hide();
48          ui->pollLabel2->hide();
49      }
50      if(!device->features.contains("fwupdate")){
51          ui->fwUpdButton->hide();
52          ui->fwUpdLabel->hide();
53          ui->fwUpdLayout->removeItem(ui->fwUpdLayout->itemAt(1));
54      }
55      // Set monochrome mode according to hardware
56      if(device->monochrome)
57          ui->lightWidget->setMonochrome();
58  }
```

Here is the call graph for this function:



12.39.2.2 KbWidget::~KbWidget ( )

Definition at line 60 of file kbwidget.cpp.

References ui.

```
60                      {
61     delete ui;
62 }
```

12.39.3 Member Function Documentation

12.39.3.1 void KbWidget::addNewModelItem ( ) [private], [slot]

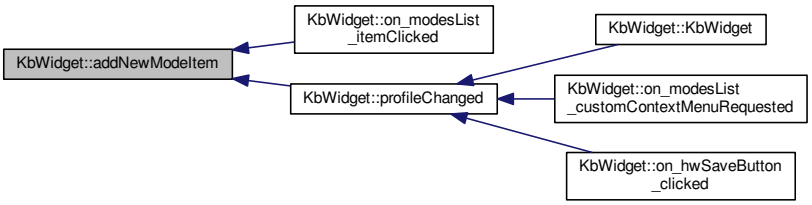
Definition at line 136 of file kbwidget.cpp.

References Ui_KbWidget::modesList, NEW_FLAG, and ui.

Referenced by on_modesList_itemClicked(), and profileChanged().

```
136                             {
137     // Add an item for creating a new mode. Make it editable but not dragable.
138     QListWidgetItem* item = new QListWidgetItem("New mode...", ui->modesList);
139     item->setFlags((item->flags() | Qt::ItemIsEditable) & ~Qt::ItemIsDragEnabled & ~Qt::ItemIsDropEnabled);
140     item->setData(NEW_FLAG, 1);
141     QFont font = item->font();
142     font.setItalic(true);
143     item->setFont(font);
144     item->setIcon(QIcon(":/img/icon_plus.png"));
145     ui->modesList->addItem(item);
146 }
```

Here is the caller graph for this function:



12.39.3.2 void KbWidget::devUpdate ( ) [private],[slot]

Definition at line 300 of file kbwidget.cpp.

References device, Kb::firmware, Ui_KbWidget::fwLabel, Ui_KbWidget::pollLabel, Kb::pollrate, Ui_KbWidget::serialLabel, ui, and Kb::usbSerial.

Referenced by KbWidget().

```
300                         {
301     // Update device tab
302     ui->serialLabel->setText(device->usbSerial);
303     ui->fwLabel->setText(device->firmware);
304     ui->pollLabel->setText(device->pollrate);
305 }
```

Here is the caller graph for this function:

12.39.3.3 void KbWidget::modeChanged (bool *spontaneous* = true) [private],[slot]

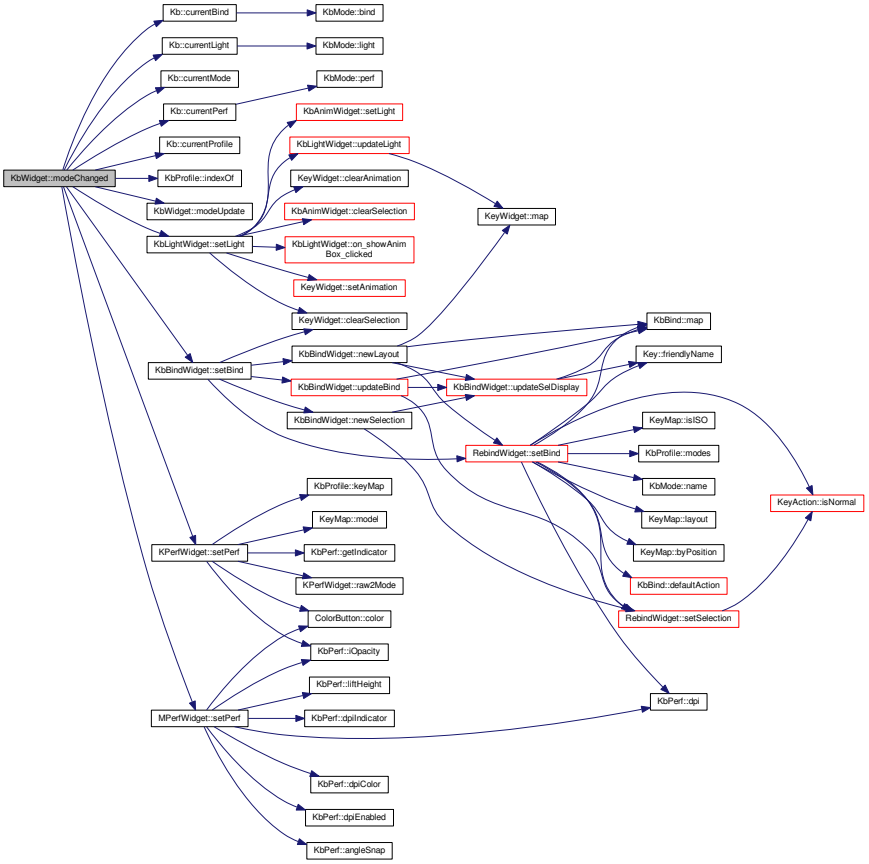
Definition at line 148 of file kbwidget.cpp.

References Ui_KbWidget::bindWidget, Kb::currentBind(), Kb::currentLight(), currentMode, Kb::currentMode(), Kb::currentPerf(), Kb::currentProfile(), device, KbProfile::indexOf(), Ui_KbWidget::kPerfWidget, Ui_KbWidget::lightWidget, Ui_KbWidget::modesList, modeUpdate(), Ui_KbWidget::mPerfWidget, KbBindWidget::setBind(), KbLightWidget::setLight(), KPerfWidget::setPerf(), MPerfWidget::setPerf(), and ui.

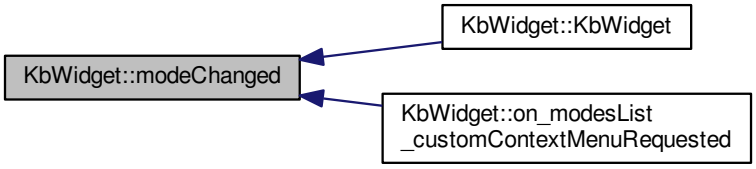
Referenced by KbWidget(), and on_modesList_customContextMenuRequested().

```
148                                         {
149     int index = device->currentProfile()->indexOf(
    device->currentMode());
150     if(index < 0)
151         return;
152     // Update tabs
153     ui->lightWidget->setLight(device->currentLight());
154     ui->bindWidget->setBind(device->currentBind(),
    device->currentProfile());
155     ui->kPerfWidget->setPerf(device->currentPerf(),
    device->currentProfile());
156     ui->mPerfWidget->setPerf(device->currentPerf(),
    device->currentProfile());
157     // Update selection
158     if(spontaneous)
159         ui->modesList->setCurrentRow(index);
160     // Connect signals
161     if(currentMode)
162         disconnect(currentMode, SIGNAL(updated()), this, SLOT(
    modeUpdate()));
163     currentMode = device->currentMode();
164     connect(currentMode, SIGNAL(updated()), this, SLOT(modeUpdate()));
165     modeUpdate();
166 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.39.3.4 QIcon KbWidget::modeIcon (int *i*) [private], [slot]

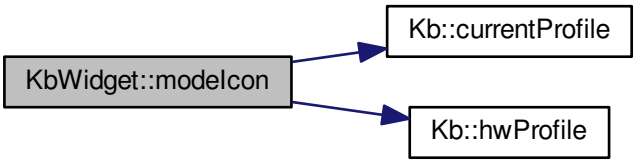
Definition at line 127 of file kbwidget.cpp.

References Kb::currentProfile(), device, Kb::hwModeCount, and Kb::hwProfile().

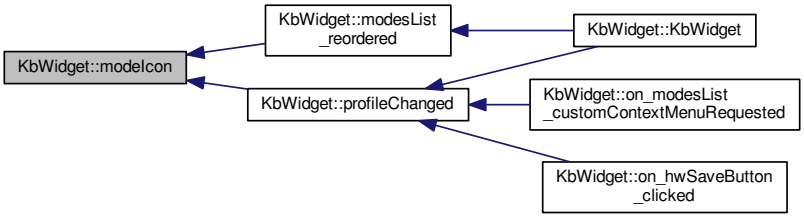
Referenced by modesList_reordered(), and profileChanged().

```
127                             {
128     KbProfile* currentProfile = device->currentProfile(), *hwProfile =
      device->hwProfile();
129     int hwModeCount = device->hwModeCount;
130     if(i >= hwModeCount)
131         return QIcon(":/img/icon_mode.png");
132     else
133         return QIcon(QString(currentProfile == hwProfile ? ":/img/icon_mode%1_hardware.png" : "
      :/img/icon_mode%1.png").arg(i + 1));
134 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.39.3.5 void KbWidget::modesList_reordered ( ) [private], [slot]

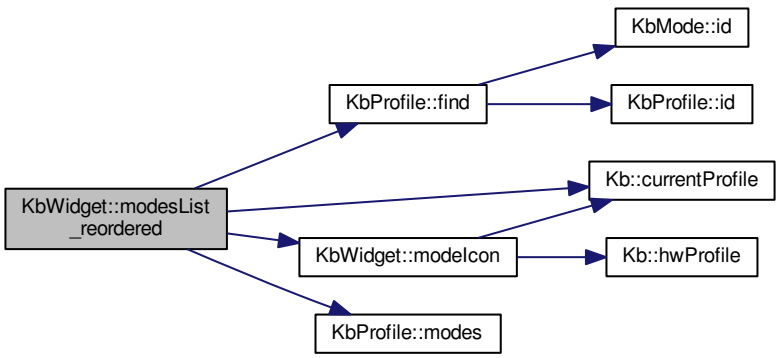
Definition at line 177 of file kbwidget.cpp.

References Kb::currentProfile(), device, KbProfile::find(), GUID, modelcon(), KbProfile::modes(), Ui_KbWidget::modesList, NEW_FLAG, and ui.

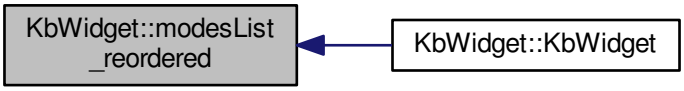
Referenced by KbWidget().

```
177                                {
178     KbProfile* currentProfile = device->currentProfile();
179     // Rebuild mode list from items
180     QList<KbMode*> newModes;
181     int count = ui->modesList->count();
182     for(int i = 0; i < count; i++){
183         QListWidgetItem* item = ui->modesList->item(i);
184         KbMode* mode = currentProfile->find(item->data(GUID).toUuid());
185         if(mode && !newModes.contains(mode))
186             newModes.append(mode);
187         if(item->data(NEW_FLAG).toInt() != 1)
188             item->setIcon(modeIcon(i));
189         item->setFlags(item->flags() | Qt::ItemIsEditable);
190     }
191     // Add any missing modes at the end of the list
192     foreach(KbMode* mode, currentProfile->modes()){
193         if(!newModes.contains(mode))
194             newModes.append(mode);
195     }
196     currentProfile->modes(newModes);
197 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.39.3.6 void KbWidget::modeUpdate ( ) [private],[slot]

Definition at line 307 of file kbwidget.cpp.

Referenced by modeChanged().

```
307                          {
308 }
```

Here is the caller graph for this function:

12.39.3.7 QString KbWidget::name ( ) const [inline]

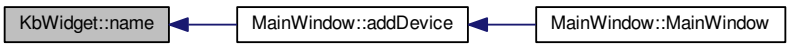
Definition at line 25 of file kbwidget.h.

References device, and Kb::usbModel.

Referenced by MainWindow::addDevice().

```
25 { return device->usbModel; }
```

Here is the caller graph for this function:



12.39.3.8 void KbWidget::on_fwUpdButton_clicked ( ) [private],[slot]

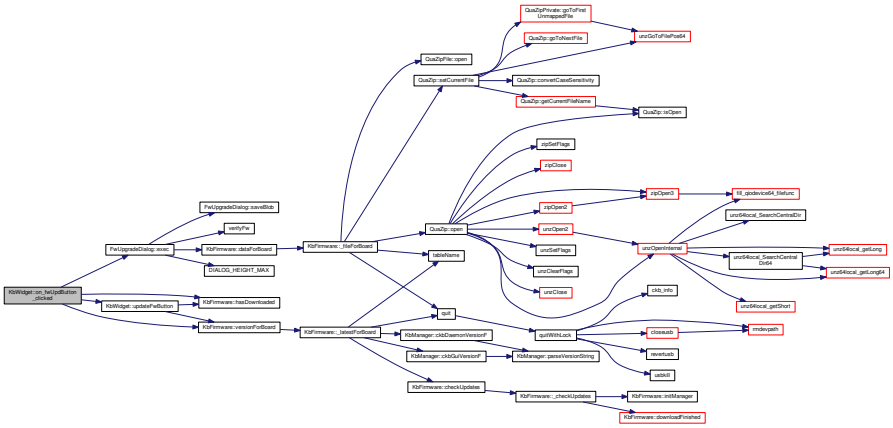
Definition at line 339 of file kbwidget.cpp.

References device, FwUpgradeDialog::exec(), Kb::features, Kb::firmware, Ui_KbWidget::fwUpdButton, KbFirmware::hasDownloaded(), ui, updateFwButton(), and KbFirmware::versionForBoard().

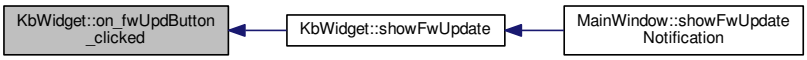
Referenced by showFwUpdate().

```
339                                     {
340     // If alt is pressed, ignore upgrades and go straight to the manual prompt
341     if(!(qApp->keyboardModifiers() & Qt::AltModifier)){
342         // Check version numbers
343         if(!KbFirmware::hasDownloaded()){
344             ui->fwUpdButton->setText("Checking...");
345             ui->fwUpdButton->setEnabled(false);
346         }
347         float newVersion = KbFirmware::versionForBoard(
    device->features, true);
348         float oldVersion = device->firmware.toFloat();
349         ui->fwUpdButton->setEnabled(true);
350         updateFwButton();
351         if(newVersion == -1.f){
352             QMessageBox::information(this, "Firmware update", "<center>There is a new firmware available
     for this device.<br />However, it requires a newer version of ckb.<br />Please upgrade ckb and try
     again.</center>");
353             return;
354         } else if(newVersion == 0.f){
355             if(QMessageBox::question(this, "Firmware update", "<center>There was a problem getting the
     status for this device.<br />Would you like to select a file manually?</center>") != QMessageBox::Yes)
356                 return;
357             // "Yes" -> fall through to browse file
358         } else if(newVersion <= oldVersion){
359             if(QMessageBox::question(this, "Firmware update", "<center>Your firmware is already up to
     date.<br />Would you like to select a file manually?</center>") != QMessageBox::Yes)
360                 return;
361             // "Yes" -> fall through to browse file
362         } else {
363             // Automatic upgrade. Fetch file from web.
364             // FwUpgradeDialog can't be parented to KbWidget because KbWidget may be deleted before the
     dialog exits
365             FwUpgradeDialog dialog(parentWidget(), newVersion, "",
    device);
366             dialog.exec();
367             return;
368         }
369     }
370     // Browse for file
371     QString path = QFileDialog::getOpenFileName(this, "Select firmware file",
    QStandardPaths::writableLocation(QStandardPaths::DownloadLocation), "Firmware blobs (*.bin)");
372     if(path.isEmpty())
373         return;
374     QFile file(path);
375     if(!file.open(QIODevice::ReadOnly)){
376         QMessageBox::warning(parentWidget(), "Error", "<center>File could not be read.</center>");
377         return;
378     }
379     QByteArray blob = file.readAll();
380     FwUpgradeDialog dialog(parentWidget(), 0.f, blob, device);
381     dialog.exec();
382 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



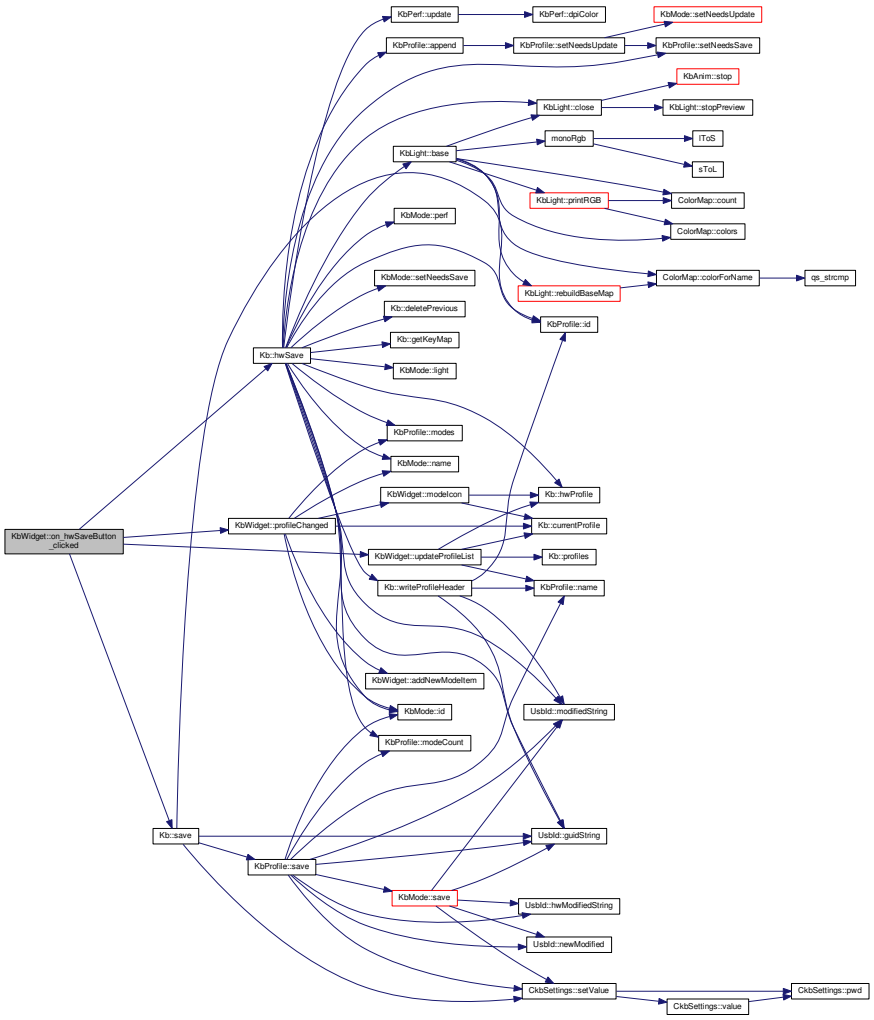
12.39.3.9 void KbWidget::on_hwSaveButton_clicked ( ) [private], [slot]

Definition at line 310 of file kbwidget.cpp.

References device, Kb::hwSave(), profileChanged(), Kb::save(), and updateProfileList().

```
310                                        {
311     device->save();
312     device->hwSave();
313     updateProfileList();
314     profileChanged();
315 }
```

Here is the call graph for this function:



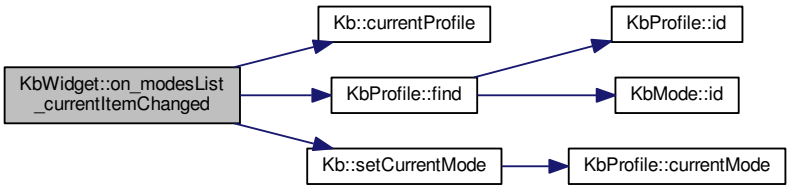
12.39.3.10 void KbWidget::on_modesList_currentItemChanged (QListWidgetItem * *current*, QListWidgetItem * *previous*) [private], [slot]

Definition at line 168 of file kbwidget.cpp.

References Kb::currentProfile(), device, KbProfile::find(), GUID, and Kb::setCurrentMode().

```
168                                                                                                 {
169     if(!current)
170         return;
171     KbMode* mode = device->currentProfile()->find(
      current->data(GUID).toUuid());
172     if(!mode)
173         return;
174     device->setCurrentMode(mode, false);
175 }
```

Here is the call graph for this function:



12.39.3.11 void KbWidget::on_modesList_customContextMenuRequested (const QPoint & *pos*) [private],[slot]

Parameters

pos	Opens on right click in the profiles list a context sensitive menue at position pos.

When clicking on a command it is located and executed.

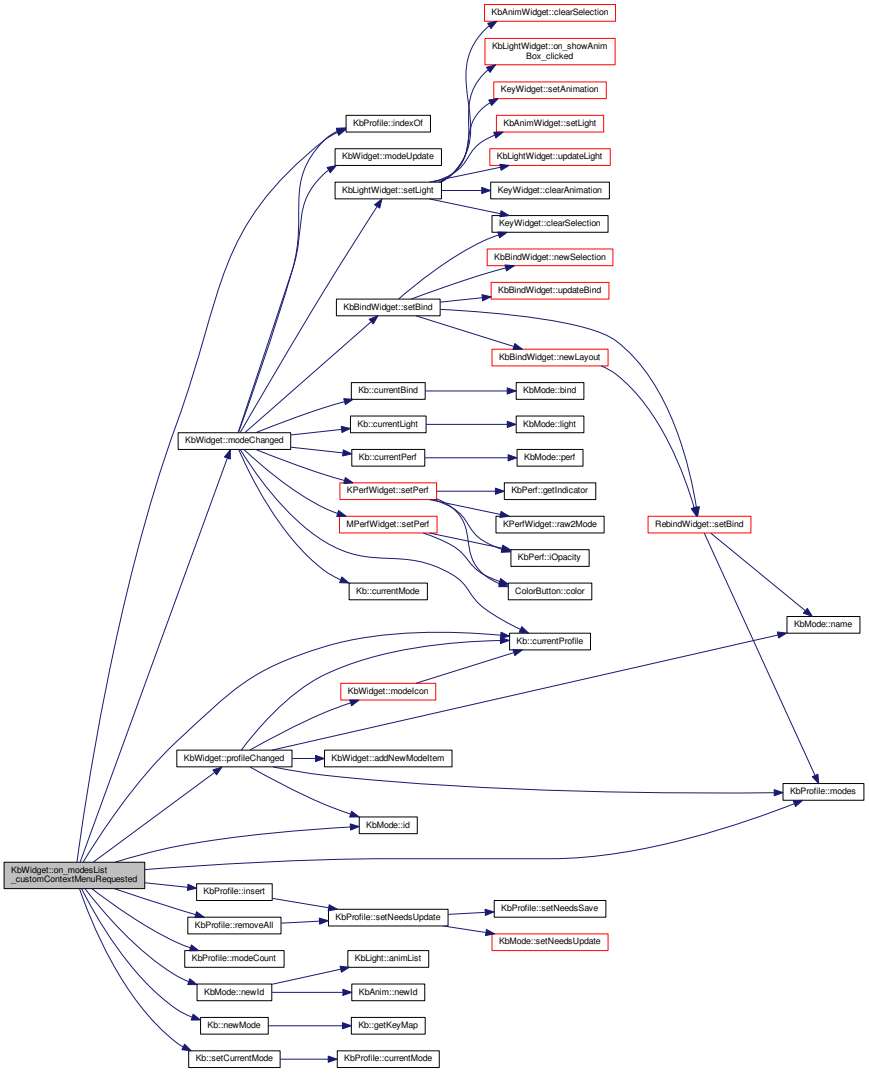
Definition at line 236 of file kbwidget.cpp.

References currentMode, Kb::currentProfile(), device, UsbId::guid, GUID, Kb::hwModeCount, KbMode::id(), KbProfile::indexOf(), KbProfile::insert(), modeChanged(), KbProfile::modeCount(), KbProfile::modes(), Ui_KbWidget::modesList, KbMode::newId(), Kb::newMode(), profileChanged(), KbProfile::removeAll(), Kb::setCurrentMode(), and ui.

```
236                                                                    {
237     QListWidgetItem* item = ui->modesList->itemAt(pos);
238     if(!item || !currentMode || item->data(GUID).toUuid() !=
    currentMode->id().guid)
239         return;
240     KbProfile* currentProfile = device->currentProfile();
241     int index = currentProfile->indexOf(currentMode);
242
243     QMenu menu(this);
244     QAction* rename = new QAction("Rename...", this);
245     QAction* duplicate = new QAction("Duplicate", this);
246     QAction* del = new QAction("Delete", this);
247     bool canDelete = (device->currentProfile()->modeCount() >
    device->hwModeCount);
248     if(!canDelete)
249         // Can't delete modes if they're required by hardware
250         del->setEnabled(false);
251     QAction* moveup = new QAction("Move Up", this);
252     if(index == 0)
253         moveup->setEnabled(false);
254     QAction* movedown = new QAction("Move Down", this);
255     if(index >= currentProfile->modeCount() - 1)
256         movedown->setEnabled(false);
257     menu.addAction(rename);
258     menu.addAction(duplicate);
259     menu.addAction(del);
260     menu.addSeparator();
261     menu.addAction(moveup);
262     menu.addAction(movedown);
263     QAction* result = menu.exec(QCursor::pos());
264     if(result == rename){
265         ui->modesList->editItem(item);
266     } else if(result == duplicate){
267         KbMode* newMode = device->newMode(currentMode);
268         newMode->newId();
269         currentProfile->insert(index + 1, newMode);
270         // Update UI
271         profileChanged();
272         device->setCurrentMode(newMode);
273     } else if(result == del){
274         if(!canDelete)
275             return;
276         currentProfile->removeAll(currentMode);
277         currentMode->deleteLater();
```

```
278         currentMode = 0;
279         // Select next mode
280         profileChanged();
281         if(index < currentProfile->modeCount())
282             device->setCurrentMode(currentProfile->modes()[index]);
283         else
284             device->setCurrentMode(currentProfile->modes().last());
285     } else if(result == moveup){
286         currentProfile->removeAll(currentMode);
287         currentProfile->insert(index - 1, currentMode);
288         // Update UI
289         profileChanged();
290         modeChanged(true);
291     } else if(result == movedown){
292         currentProfile->removeAll(currentMode);
293         currentProfile->insert(index + 1, currentMode);
294         // Update UI
295         profileChanged();
296         modeChanged(true);
297     }
298 }
```

Here is the call graph for this function:



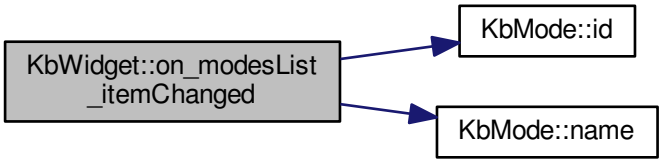
12.39.3.12 void KbWidget::on_modesList_itemChanged (QListWidgetItem * *item*) [private],[slot]

Definition at line 199 of file kbwidget.cpp.

References currentMode, UsbId::guid, GUID, KbMode::id(), and KbMode::name().

```
199                                                         {
200     if(!item || !currentMode || item->data(GUID).toUuid() !=
      currentMode->id().guid)
201         return;
202     currentMode->name(item->text());
203     // Set the text to the actual name (trimmed, "" replaced with "Unnamed")
204     item->setText(currentMode->name());
205 }
```

Here is the call graph for this function:



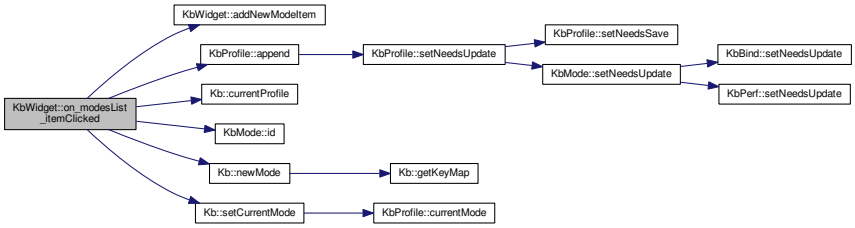
12.39.3.13 void KbWidget::on_modesList_itemClicked (QListWidgetItem * *item*) [private],[slot]

Definition at line 207 of file kbwidget.cpp.

References addNewModeItem(), KbProfile::append(), Kb::currentProfile(), device, UsbId::guid, GUID, KbMode::id(), Ui_KbWidget::modesList, NEW_FLAG, Kb::newMode(), Kb::setCurrentMode(), and ui.

```
207                                                         {
208     QUuid guid = item->data(GUID).toUuid();
209     if(guid.isNull() && item->data(NEW_FLAG).toInt() == 1){
210         // "New mode" item. Clear text and start editing
211         item->setText("");
212         ui->modesList->editItem(item);
213         item->setFlags(item->flags() | Qt::ItemIsEditable | Qt::ItemIsDragEnabled | Qt::ItemIsDropEnabled);
214         QFont font = item->font();
215         font.setItalic(false);
216         item->setFont(font);
217         item->setIcon(QIcon(":/img/icon_mode.png"));
218         // Add the new mode and assign it to this item
219         KbMode* newMode = device->newMode();
220         device->currentProfile()->append(newMode);
221         item->setData(GUID, newMode->id().guid);
222         item->setData(NEW_FLAG, 0);
223         device->setCurrentMode(newMode, false);
224         // Create another "new mode" item to replace this one
225         addNewModeItem();
226     }
227 }
```

Here is the call graph for this function:



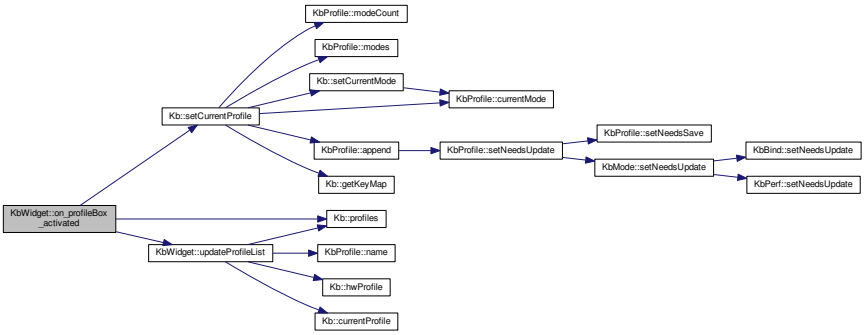
12.39.3.14 void KbWidget::on_profileBox_activated (int *index*) [private], [slot]

Definition at line 113 of file kbwidget.cpp.

References device, Kb::profiles(), Kb::setCurrentProfile(), and updateProfileList().

```
113                                                 {
114     if(index < 0)
115         return;
116     if(index >= device->profiles().count()){
117         // "Manage profiles" option
118         KbProfileDialog dialog(this);
119         dialog.exec();
120         updateProfileList();
121         return;
122     }
123     device->setCurrentProfile(device->profiles()[index]);
124     // Device will emit profileChanged() and modeChanged() signals to update UI
125 }
```

Here is the call graph for this function:



12.39.3.15 void KbWidget::on_tabWidget_currentChanged (int *index*) [private], [slot]

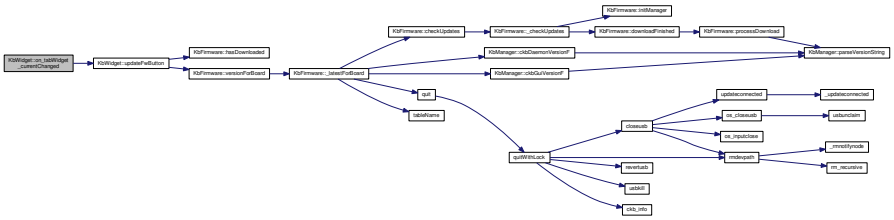
Definition at line 317 of file kbwidget.cpp.

References device, Ui_KbWidget::tabWidget, ui, and updateFwButton().

```
317                                                 {
318     if(!device)
319         return;
320     if(index == ui->tabWidget->count() - 1){
321         // Device tab
```

```
322         updateFwButton();
323     }
324 }
```

Here is the call graph for this function:



12.39.3.16 void KbWidget::profileChanged ( ) [private], [slot]

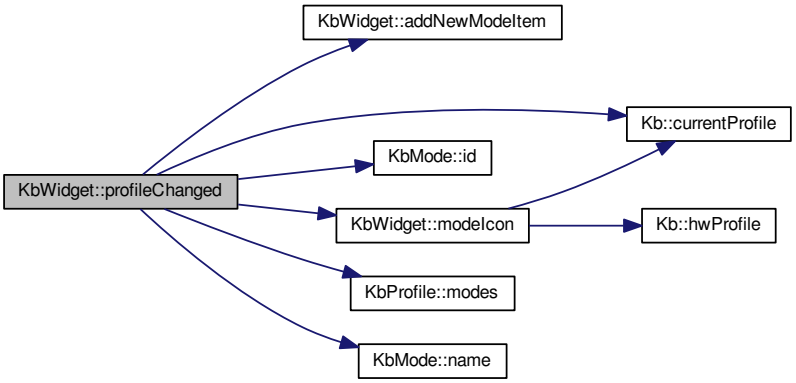
Definition at line 91 of file kbwidget.cpp.

References addNewModeItem(), current, currentMode, Kb::currentProfile(), device, UsbId::guid, GUID, KbMode::id(), modeIcon(), KbProfile::modes(), Ui_KbWidget::modesList, KbMode::name(), and ui.

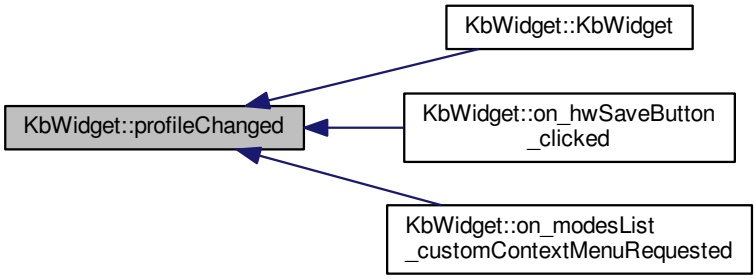
Referenced by KbWidget(), on_hwSaveButton_clicked(), and on_modesList_customContextMenuRequested().

```
91                          {
92     // Rebuild mode list
93     ui->modesList->clear();
94     int i = 0;
95     QListWidgetItem* current = 0;
96     foreach(KbMode* mode, device->currentProfile()->
       modes()){
97         QListWidgetItem* item = new QListWidgetItem(modeIcon(i), mode->
       name(), ui->modesList);
98         item->setData(GUID, mode->id().guid);
99         item->setFlags(item->flags() | Qt::ItemIsEditable);
100         if(mode == currentMode){
101             item->setSelected(true);
102             current = item;
103         }
104         ui->modesList->addItem(item);
105         i++;
106     }
107     if(current)
108         ui->modesList->setCurrentItem(current);
109     addNewModeItem();
110     // Wait for modeChanged() to refresh the rest of the UI
111 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.39.3.17 void KbWidget::showFirstTab ( ) [slot]

Definition at line 64 of file kbwidget.cpp.

References Ui_KbWidget::tabWidget, and ui.

```
64                          {
65     ui->tabWidget->setCurrentIndex(0);
66 }
```

12.39.3.18 void KbWidget::showFwUpdate ( ) [inline], [slot]

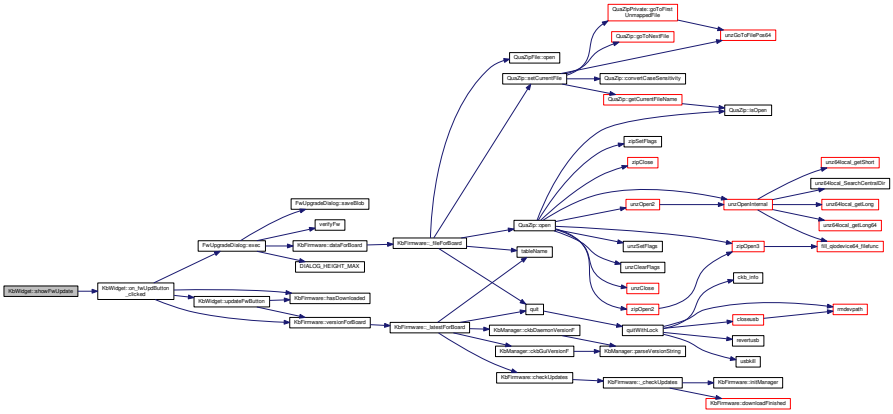
Definition at line 38 of file kbwidget.h.

References on_fwUpdButton_clicked().

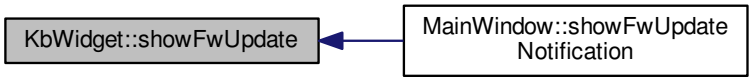
Referenced by MainWindow::showFwUpdateNotification().

```
38 { on_fwUpdButton_clicked(); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.39.3.19 void KbWidget::showLastTab ( ) [slot]

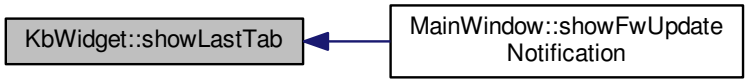
Definition at line 68 of file kbwidget.cpp.

References Ui_KbWidget::tabWidget, and ui.

Referenced by MainWindow::showFwUpdateNotification().

```
68                          {
69     ui->tabWidget->setCurrentIndex(ui->tabWidget->count() - 1);
70 }
```

Here is the caller graph for this function:



12.39.3.20 void KbWidget::updateFwButton ( )

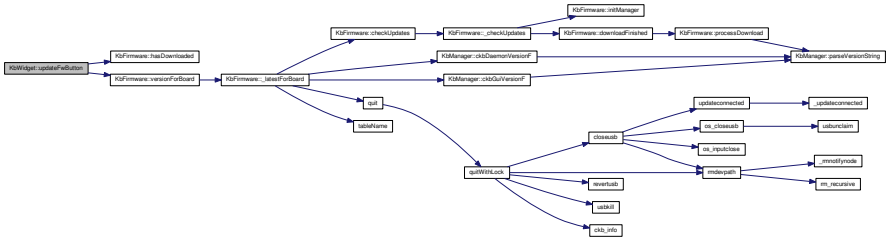
Definition at line 326 of file kbwidget.cpp.

References device, Kb::features, Kb::firmware, Ui_KbWidget::fwUpdButton, KbFirmware::hasDownloaded(), ui, and KbFirmware::versionForBoard().

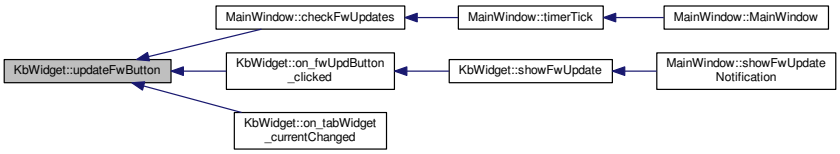
Referenced by MainWindow::checkFwUpdates(), on_fwUpdButton_clicked(), and on_tabWidget_currentChanged().

```
326                             {
327     if(!KbFirmware::hasDownloaded())
328         ui->fwUpdButton->setText("Check for updates");
329     else {
330         float newVersion = KbFirmware::versionForBoard(
    device->features);
331         float oldVersion = device->firmware.toFloat();
332         if(newVersion <= 0.f || newVersion <= oldVersion)
333             ui->fwUpdButton->setText("Up to date");
334         else
335             ui->fwUpdButton->setText(tr("Upgrade to v%1").arg(QString::number(newVersion, 'f',
     2)));
336     }
337 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.39.3.21 void KbWidget::updateProfileList ( ) [private], [slot]

Definition at line 73 of file kbwidget.cpp.

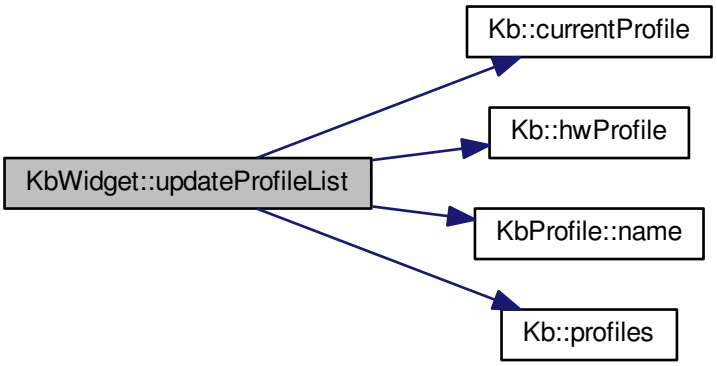
References Kb::currentProfile(), device, Kb::hwProfile(), KbProfile::name(), Ui_KbWidget::profileBox, Kb::profiles(), and ui.

Referenced by KbWidget(), on_hwSaveButton_clicked(), and on_profileBox_activated().

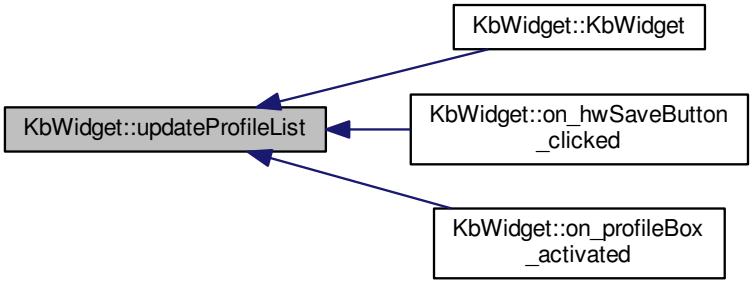
```
73                              {
74     // Clear profile list and rebuild
75     KbProfile* hwProfile = device->hwProfile(), *currentProfile =
    device->currentProfile();
76     ui->profileBox->clear();
77     int i = 0;
78     foreach(KbProfile* profile, device->profiles()){
79         ui->profileBox->addItem((profile == hwProfile) ? QIcon(":/img/icon_profile_hardware.png
    ") : QIcon(":/img/icon_profile.png"),
80                                 profile->name());
81         if(profile == currentProfile)
82             ui->profileBox->setCurrentIndex(i);
```

```
83          i++;
84      }
85      ui->profileBox->addItem(QIcon(":/img/icon_blank.png"), "Manage profiles...");
86      QFont font = ui->profileBox->font();
87      font.setItalic(true);
88      ui->profileBox->setItemData(ui->profileBox->count() - 1, font, Qt::FontRole);
89  }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.39.4 Field Documentation

12.39.4.1 KbMode* KbWidget::currentMode [private]

Definition at line 44 of file kbwidget.h.

Referenced by modeChanged(), on_modesList_customContextMenuRequested(), on_modesList_itemChanged(), and profileChanged().

12.39.4.2 Kb* KbWidget::device

Definition at line 24 of file kbwidget.h.

Referenced by MainWindow::addDevice(), MainWindow::checkFwUpdates(), devUpdate(), KbWidget(), modeChanged(), modeIcon(), modesList_reordered(), name(), on_fwUpdButton_clicked(), on_hwSaveButton_clicked(), on_modesList_currentItemChanged(), on_modesList_customContextMenuRequested(), on_modesList_itemClicked(), on_profileBox_activated(), on_tabWidget_currentChanged(), profileChanged(), MainWindow::removeDevice(), MainWindow::showFwUpdateNotification(), updateFwButton(), and updateProfileList().

12.39.4.3 const int KbWidget::GUID = Qt::UserRole [static], [private]

Definition at line 46 of file kbwidget.h.

Referenced by modesList_reordered(), on_modesList_currentItemChanged(), on_modesList_customContextMenuRequested(), on_modesList_itemChanged(), on_modesList_itemClicked(), and profileChanged().

12.39.4.4 bool KbWidget::hasShownNewFW

Definition at line 28 of file kbwidget.h.

Referenced by MainWindow::checkFwUpdates().

12.39.4.5 quint64 KbWidget::lastAutoSave [private]

Definition at line 42 of file kbwidget.h.

12.39.4.6 const int KbWidget::NEW_FLAG = Qt::UserRole + 1 [static], [private]

Definition at line 47 of file kbwidget.h.

Referenced by addNewModeItem(), modesList_reordered(), and on_modesList_itemClicked().

12.39.4.7 Ui::KbWidget* KbWidget::ui [private]

Definition at line 41 of file kbwidget.h.

Referenced by addNewModeItem(), devUpdate(), KbWidget(), modeChanged(), modesList_reordered(), on_fwUpdButton_clicked(), on_modesList_customContextMenuRequested(), on_modesList_itemClicked(), on_tabWidget_currentChanged(), profileChanged(), showFirstTab(), showLastTab(), updateFwButton(), updateProfileList(), and ~KbWidget().

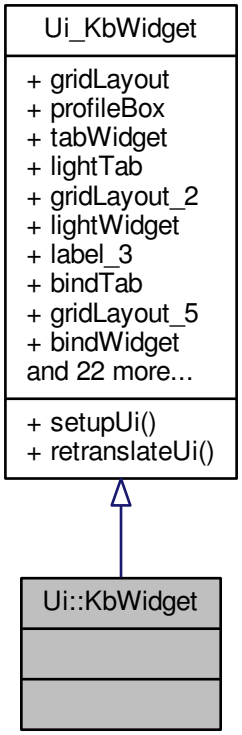
The documentation for this class was generated from the following files:

- src/ckb/kbwidget.h
- src/ckb/kbwidget.cpp

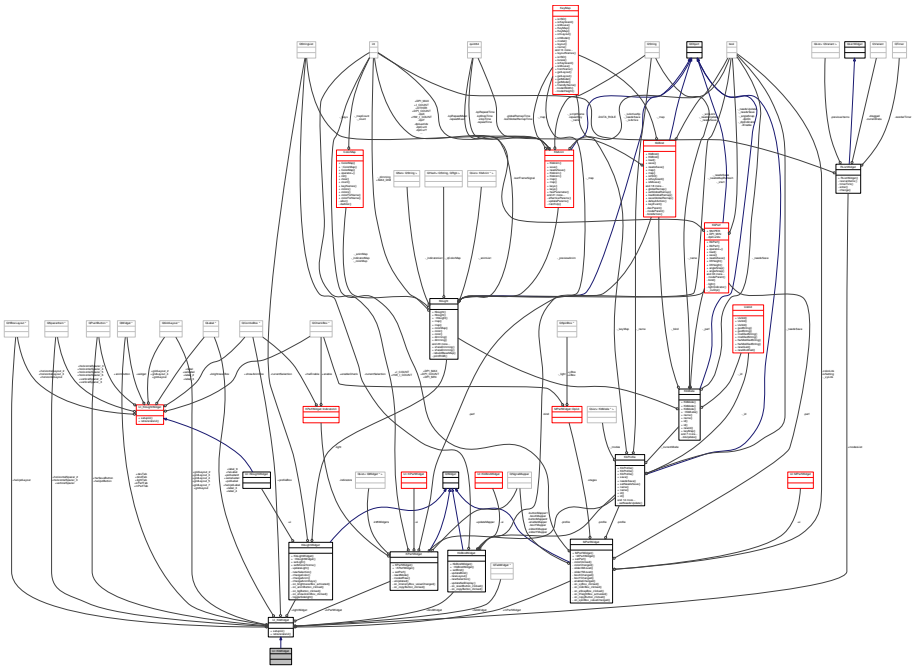
12.40 Ui::KbWidget Class Reference

`#include <src/ckb/ui_kbwidget.h>`

Inheritance diagram for Ui::KbWidget:



Collaboration diagram for Ui::KbWidget:



Public Member Functions

- void setupUi (QWidget *KbWidget)
- void retranslateUi (QWidget *KbWidget)

Data Fields

- QGridLayout * gridLayout
- QComboBox * profileBox
- QTabWidget * tabWidget
- QWidget * lightTab
- QGridLayout * gridLayout_2
- KbLightWidget * lightWidget
- QLabel * label_3
- QWidget * bindTab
- QGridLayout * gridLayout_5
- KbBindWidget * bindWidget
- QWidget * kPerfTab
- QGridLayout * gridLayout_4
- KPerfWidget * kPerfWidget
- QWidget * mPerfTab
- QGridLayout * gridLayout_7
- MPerfWidget * mPerfWidget
- QWidget * devTab
- QGridLayout * gridLayout_3
- QLabel * fwUpdLabel
- QSpacerItem * verticalSpacer
- QLabel * fwLabel
- QLabel * label_4
- QSpacerItem * horizontalSpacer_2
- QLabel * label_9
- QLabel * serialLabel
- QHBoxLayout * fwUpdLayout
- QPushButton * fwUpdButton
- QSpacerItem * horizontalSpacer_3
- QLabel * pollLabel2
- QLabel * pollLabel
- RListWidget * modesList
- QPushButton * hwSaveButton

12.40.1 Detailed Description

Definition at line 291 of file ui_kbwidget.h.

12.40.2 Member Function Documentation

12.40.2.1 void Ui_KbWidget::retranslateUi (QWidget * *KbWidget*) [inline], [inherited]

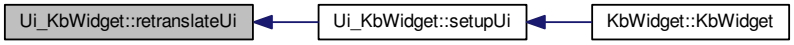
Definition at line 268 of file ui_kbwidget.h.

References Ui_KbWidget::bindTab, Ui_KbWidget::devTab, Ui_KbWidget::fwLabel, Ui_KbWidget::fwUpdButton, Ui_KbWidget::fwUpdLabel, Ui_KbWidget::hwSaveButton, Ui_KbWidget::kPerfTab, Ui_KbWidget::label_3, Ui_KbWidget::label_4, Ui_KbWidget::label_9, Ui_KbWidget::lightTab, Ui_KbWidget::mPerfTab, Ui_KbWidget::pollLabel, Ui_KbWidget::pollLabel2, Ui_KbWidget::serialLabel, and Ui_KbWidget::tabWidget.

Referenced by Ui_KbWidget::setupUi().

```
269     {
270         KbWidget->setWindowTitle(QApplication::translate("KbWidget", "Form", Q_NULLPTR));
271         label_3->setText(QApplication::translate("KbWidget", "Tip: Drag+drop items to reorder.
     Right-click for menu.", Q_NULLPTR));
272         tabWidget->setTabText(tabWidget->indexOf(lightTab),
    QApplication::translate("KbWidget", "Lighting", Q_NULLPTR));
273         tabWidget->setTabText(tabWidget->indexOf(bindTab), QApplication::translate
    ("KbWidget", "Binding", Q_NULLPTR));
274         tabWidget->setTabText(tabWidget->indexOf(kPerfTab),
    QApplication::translate("KbWidget", "Performance", Q_NULLPTR));
275         tabWidget->setTabText(tabWidget->indexOf(mPerfTab),
    QApplication::translate("KbWidget", "Performance", Q_NULLPTR));
276         fwUpdLabel->setText(QApplication::translate("KbWidget", "Status:", Q_NULLPTR));
277         fwLabel->setText(QApplication::translate("KbWidget", "N/A", Q_NULLPTR));
278         label_4->setText(QApplication::translate("KbWidget", "USB device ID:", Q_NULLPTR));
279         label_9->setText(QApplication::translate("KbWidget", "Firmware version:", Q_NULLPTR));
280         serialLabel->setText(QApplication::translate("KbWidget", "N/A", Q_NULLPTR));
281         fwUpdButton->setText(QApplication::translate("KbWidget", "Check for updates", Q_NULLPTR)
    );
282         pollLabel2->setText(QApplication::translate("KbWidget", "Poll rate:", Q_NULLPTR));
283         pollLabel->setText(QApplication::translate("KbWidget", "N/A", Q_NULLPTR));
284         tabWidget->setTabText(tabWidget->indexOf(devTab), QApplication::translate("
    KbWidget", "Device", Q_NULLPTR));
285         hwSaveButton->setText(QApplication::translate("KbWidget", "Save to hardware", Q_NULLPTR
    ));
286     } // retranslateUi
```

Here is the caller graph for this function:



12.40.2.2 void Ui_KbWidget::setupUi (QWidget * *KbWidget*) [inline], [inherited]

Definition at line 69 of file ui_kbwidget.h.

References Ui_KbWidget::bindTab, Ui_KbWidget::bindWidget, Ui_KbWidget::devTab, Ui_KbWidget::fwLabel, Ui_KbWidget::fwUpdButton, Ui_KbWidget::fwUpdLabel, Ui_KbWidget::fwUpdLayout, Ui_KbWidget::gridLayout, Ui_KbWidget::gridLayout_2, Ui_KbWidget::gridLayout_3, Ui_KbWidget::gridLayout_4, Ui_KbWidget::gridLayout_5, Ui_KbWidget::gridLayout_7, Ui_KbWidget::horizontalSpacer_2, Ui_KbWidget::horizontalSpacer_3, Ui_KbWidget::hwSaveButton, Ui_KbWidget::kPerfTab, Ui_KbWidget::kPerfWidget, Ui_KbWidget::label_3, Ui_KbWidget::label_4, Ui_KbWidget::label_9, Ui_KbWidget::lightTab, Ui_KbWidget::lightWidget, Ui_KbWidget::modesList, Ui_KbWidget::mPerfTab, Ui_KbWidget::mPerfWidget, Ui_KbWidget::pollLabel, Ui_KbWidget::pollLabel2, Ui_KbWidget::profileBox, Ui_KbWidget::retranslateUi(), Ui_KbWidget::serialLabel, Ui_KbWidget::tabWidget, and Ui_KbWidget::verticalSpacer.

Referenced by KbWidget::KbWidget().

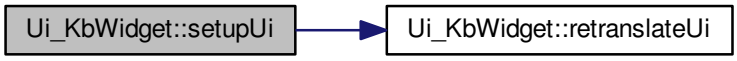
```
70     {
71         if (KbWidget->objectName().isEmpty())
72             KbWidget->setObjectName(QStringLiteral("KbWidget"));
73         KbWidget->resize(773, 539);
74         gridLayout = new QGridLayout(KbWidget);
75         gridLayout->setSpacing(9);
76         gridLayout->setObjectName(QStringLiteral("gridLayout"));
77         gridLayout->setContentsMargins(9, -1, 9, 9);
78         profileBox = new QComboBox(KbWidget);
79         profileBox->setObjectName(QStringLiteral("profileBox"));
80         QSizePolicy sizePolicy(QSizePolicy::Preferred, QSizePolicy::Fixed);
81         sizePolicy.setHorizontalStretch(18);
82         sizePolicy.setVerticalStretch(0);
83         sizePolicy.setHeightForWidth(profileBox->sizePolicy().hasHeightForWidth());
84         profileBox->setSizePolicy(sizePolicy);
85         profileBox->setIconSize(QSize(24, 24));
86
87         gridLayout->addWidget(profileBox, 0, 0, 1, 1);
88
```

```
89          tabWidget = new QTabWidget(KbWidget);
90          tabWidget->setObjectName(QStringLiteral("tabWidget"));
91          QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Expanding);
92          sizePolicy1.setHorizontalStretch(82);
93          sizePolicy1.setVerticalStretch(0);
94          sizePolicy1.setHeightForWidth(tabWidget->sizePolicy().hasHeightForWidth());
95          tabWidget->setSizePolicy(sizePolicy1);
96          lightTab = new QWidget();
97          lightTab->setObjectName(QStringLiteral("lightTab"));
98          gridLayout_2 = new QGridLayout(lightTab);
99          gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
100          gridLayout_2->setHorizontalSpacing(0);
101          gridLayout_2->setVerticalSpacing(6);
102          gridLayout_2->setContentsMargins(6, 6, 6, 6);
103          lightWidget = new KbLightWidget(lightTab);
104          lightWidget->setObjectName(QStringLiteral("lightWidget"));
105          QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Expanding);
106          sizePolicy2.setHorizontalStretch(0);
107          sizePolicy2.setVerticalStretch(0);
108          sizePolicy2.setHeightForWidth(lightWidget->sizePolicy().hasHeightForWidth());
109          lightWidget->setSizePolicy(sizePolicy2);
110
111          gridLayout_2->addWidget(lightWidget, 0, 0, 1, 1);
112
113          label_3 = new QLabel(lightTab);
114          label_3->setObjectName(QStringLiteral("label_3"));
115          QSizePolicy sizePolicy3(QSizePolicy::Preferred, QSizePolicy::Minimum);
116          sizePolicy3.setHorizontalStretch(0);
117          sizePolicy3.setVerticalStretch(0);
118          sizePolicy3.setHeightForWidth(label_3->sizePolicy().hasHeightForWidth());
119          label_3->setSizePolicy(sizePolicy3);
120
121          gridLayout_2->addWidget(label_3, 1, 0, 1, 1);
122
123          tabWidget->addTab(lightTab, QString());
124          bindTab = new QWidget();
125          bindTab->setObjectName(QStringLiteral("bindTab"));
126          gridLayout_5 = new QGridLayout(bindTab);
127          gridLayout_5->setSpacing(0);
128          gridLayout_5->setObjectName(QStringLiteral("gridLayout_5"));
129          gridLayout_5->setContentsMargins(6, 6, 6, 6);
130          bindWidget = new KbBindWidget(bindTab);
131          bindWidget->setObjectName(QStringLiteral("bindWidget"));
132          sizePolicy2.setHeightForWidth(bindWidget->sizePolicy().hasHeightForWidth());
133          bindWidget->setSizePolicy(sizePolicy2);
134
135          gridLayout_5->addWidget(bindWidget, 0, 0, 1, 1);
136
137          tabWidget->addTab(bindTab, QString());
138          kPerfTab = new QWidget();
139          kPerfTab->setObjectName(QStringLiteral("kPerfTab"));
140          gridLayout_4 = new QGridLayout(kPerfTab);
141          gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
142          gridLayout_4->setContentsMargins(6, 6, 6, 6);
143          kPerfWidget = new KPerfWidget(kPerfTab);
144          kPerfWidget->setObjectName(QStringLiteral("kPerfWidget"));
145
146          gridLayout_4->addWidget(kPerfWidget, 0, 0, 1, 1);
147
148          tabWidget->addTab(kPerfTab, QString());
149          mPerfTab = new QWidget();
150          mPerfTab->setObjectName(QStringLiteral("mPerfTab"));
151          gridLayout_7 = new QGridLayout(mPerfTab);
152          gridLayout_7->setObjectName(QStringLiteral("gridLayout_7"));
153          gridLayout_7->setContentsMargins(6, 6, 6, 6);
154          mPerfWidget = new MPerfWidget(mPerfTab);
155          mPerfWidget->setObjectName(QStringLiteral("mPerfWidget"));
156
157          gridLayout_7->addWidget(mPerfWidget, 0, 0, 1, 1);
158
159          tabWidget->addTab(mPerfTab, QString());
160          devTab = new QWidget();
161          devTab->setObjectName(QStringLiteral("devTab"));
162          gridLayout_3 = new QGridLayout(devTab);
163          gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
164          gridLayout_3->setContentsMargins(6, 6, 6, 6);
165          fwUpdLabel = new QLabel(devTab);
166          fwUpdLabel->setObjectName(QStringLiteral("fwUpdLabel"));
167          fwUpdLabel->setMinimumSize(QSize(0, 34));
168
169          gridLayout_3->addWidget(fwUpdLabel, 4, 0, 1, 1);
170
171          verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
172
173          gridLayout_3->addItem(verticalSpacer, 6, 2, 1, 1);
174
```

```
175         fwLabel = new QLabel(devTab);
176         fwLabel->setObjectName(QStringLiteral("fwLabel"));
177         fwLabel->setCursor(QCursor(Qt::IBeamCursor));
178         fwLabel->setTextInteractionFlags(Qt::LinksAccessibleByMouse|Qt::TextSelectableByMouse);
179 
180         gridLayout_3->addWidget(fwLabel, 2, 2, 1, 1);
181 
182         label_4 = new QLabel(devTab);
183         label_4->setObjectName(QStringLiteral("label_4"));
184         label_4->setMinimumSize(QSize(0, 34));
185 
186         gridLayout_3->addWidget(label_4, 0, 0, 1, 1);
187 
188         horizontalSpacer_2 = new QSpacerItem(40, 1, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
189 
190         gridLayout_3->addItem(horizontalSpacer_2, 2, 1, 1, 1);
191 
192         label_9 = new QLabel(devTab);
193         label_9->setObjectName(QStringLiteral("label_9"));
194         label_9->setMinimumSize(QSize(0, 34));
195 
196         gridLayout_3->addWidget(label_9, 2, 0, 1, 1);
197 
198         serialLabel = new QLabel(devTab);
199         serialLabel->setObjectName(QStringLiteral("serialLabel"));
200         serialLabel->setCursor(QCursor(Qt::IBeamCursor));
201         serialLabel->setTextInteractionFlags(Qt::LinksAccessibleByMouse|
    Qt::TextSelectableByMouse);
202 
203         gridLayout_3->addWidget(serialLabel, 0, 2, 1, 1);
204 
205         fwUpdLayout = new QHBoxLayout();
206         fwUpdLayout->setObjectName(QStringLiteral("fwUpdLayout"));
207         fwUpdButton = new QPushButton(devTab);
208         fwUpdButton->setObjectName(QStringLiteral("fwUpdButton"));
209 
210         fwUpdLayout->addWidget(fwUpdButton);
211 
212         horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
213 
214         fwUpdLayout->addItem(horizontalSpacer_3);
215 
216 
217         gridLayout_3->addLayout(fwUpdLayout, 4, 2, 1, 1);
218 
219         pollLabel2 = new QLabel(devTab);
220         pollLabel2->setObjectName(QStringLiteral("pollLabel2"));
221         pollLabel2->setMinimumSize(QSize(0, 34));
222 
223         gridLayout_3->addWidget(pollLabel2, 1, 0, 1, 1);
224 
225         pollLabel = new QLabel(devTab);
226         pollLabel->setObjectName(QStringLiteral("pollLabel"));
227 
228         gridLayout_3->addWidget(pollLabel, 1, 2, 1, 1);
229 
230         tabWidget->addTab(devTab, QString());
231 
232         gridLayout->addWidget(tabWidget, 0, 1, 3, 1);
233 
234         modesList = new RListWidget(KbWidget);
235         modesList->setObjectName(QStringLiteral("modesList"));
236         QSizePolicy sizePolicy4(QSizePolicy::Expanding, QSizePolicy::Expanding);
237         sizePolicy4.setHorizontalStretch(18);
238         sizePolicy4.setVerticalStretch(0);
239         sizePolicy4.setHeightForWidth(modesList->sizePolicy().hasHeightForWidth());
240         modesList->setSizePolicy(sizePolicy4);
241         modesList->setContextMenuPolicy(Qt::CustomContextMenu);
242         modesList->setFrameShadow(QFrame::Plain);
243         modesList->setDragDropMode(QAbstractItemView::InternalMove);
244         modesList->setIconSize(QSize(24, 24));
245         modesList->setMovement(QListView::Snap);
246 
247         gridLayout->addWidget(modesList, 1, 0, 1, 1);
248 
249         hwSaveButton = new QPushButton(KbWidget);
250         hwSaveButton->setObjectName(QStringLiteral("hwSaveButton"));
251         QSizePolicy sizePolicy5(QSizePolicy::Minimum, QSizePolicy::Fixed);
252         sizePolicy5.setHorizontalStretch(18);
253         sizePolicy5.setVerticalStretch(0);
254         sizePolicy5.setHeightForWidth(hwSaveButton->sizePolicy().hasHeightForWidth());
255         hwSaveButton->setSizePolicy(sizePolicy5);
256 
257         gridLayout->addWidget(hwSaveButton, 2, 0, 1, 1);
258 
```

```
259
260         retranslateUi(KbWidget);
261
262         tabWidget->setCurrentIndex(0);
263
264
265         QMetaObject::connectSlotsByName(KbWidget);
266     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.40.3 Field Documentation

12.40.3.1 QWidget* Ui_KbWidget::bindTab [inherited]

Definition at line 43 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.2 KbBindWidget* Ui_KbWidget::bindWidget [inherited]

Definition at line 45 of file ui_kbwidget.h.

Referenced by KbWidget::modeChanged(), and Ui_KbWidget::setupUi().

12.40.3.3 QWidget* Ui_KbWidget::devTab [inherited]

Definition at line 52 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.4 QLabel* Ui_KbWidget::fwLabel [inherited]

Definition at line 56 of file ui_kbwidget.h.

Referenced by KbWidget::devUpdate(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.5 QPushButton* Ui_KbWidget::fwUpdButton [inherited]

Definition at line 62 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), KbWidget::on_fwUpdButton_clicked(), Ui_KbWidget::retranslateUi(), Ui_KbWidget::setupUi(), and KbWidget::updateFwButton().

12.40.3.6 QLabel* Ui_KbWidget::fwUpdLabel [inherited]

Definition at line 54 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.7 QHBoxLayout* Ui_KbWidget::fwUpdLayout [inherited]

Definition at line 61 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), and Ui_KbWidget::setupUi().

12.40.3.8 QGridLayout* Ui_KbWidget::gridLayout [inherited]

Definition at line 36 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.9 QGridLayout* Ui_KbWidget::gridLayout_2 [inherited]

Definition at line 40 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.10 QGridLayout* Ui_KbWidget::gridLayout_3 [inherited]

Definition at line 53 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.11 QGridLayout* Ui_KbWidget::gridLayout_4 [inherited]

Definition at line 47 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.12 QGridLayout* Ui_KbWidget::gridLayout_5 [inherited]

Definition at line 44 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.13 QGridLayout* Ui_KbWidget::gridLayout_7 [inherited]

Definition at line 50 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.14 QSpacerItem* Ui_KbWidget::horizontalSpacer_2 [inherited]

Definition at line 58 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.15 QSpacerItem* Ui_KbWidget::horizontalSpacer_3 [inherited]

Definition at line 63 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

12.40.3.16 QPushButton* Ui_KbWidget::hwSaveButton [inherited]

Definition at line 67 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.17 QWidget* Ui_KbWidget::kPerfTab [inherited]

Definition at line 46 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.18 KPerfWidget* Ui_KbWidget::kPerfWidget [inherited]

Definition at line 48 of file ui_kbwidget.h.

Referenced by KbWidget::modeChanged(), and Ui_KbWidget::setupUi().

12.40.3.19 QLabel* Ui_KbWidget::label_3 [inherited]

Definition at line 42 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.20 QLabel* Ui_KbWidget::label_4 [inherited]

Definition at line 57 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.21 QLabel* Ui_KbWidget::label_9 [inherited]

Definition at line 59 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.22 QWidget* Ui_KbWidget::lightTab [inherited]

Definition at line 39 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.23 KbLightWidget* Ui_KbWidget::lightWidget [inherited]

Definition at line 41 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), KbWidget::modeChanged(), and Ui_KbWidget::setupUi().

12.40.3.24 RListWidget* Ui_KbWidget::modesList [inherited]

Definition at line 66 of file ui_kbwidget.h.

Referenced by KbWidget::addNewModeItem(), KbWidget::KbWidget(), KbWidget::modeChanged(), KbWidget::modesList_reordered(), KbWidget::on_modesList_customContextMenuRequested(), KbWidget::on_modesList_itemClicked(), KbWidget::profileChanged(), and Ui_KbWidget::setupUi().

12.40.3.25 QWidget* Ui_KbWidget::mPerfTab [inherited]

Definition at line 49 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.26 MPerfWidget* Ui_KbWidget::mPerfWidget [inherited]

Definition at line 51 of file ui_kbwidget.h.

Referenced by KbWidget::modeChanged(), and Ui_KbWidget::setupUi().

12.40.3.27 QLabel* Ui_KbWidget::pollLabel [inherited]

Definition at line 65 of file ui_kbwidget.h.

Referenced by KbWidget::devUpdate(), KbWidget::KbWidget(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.28 QLabel* Ui_KbWidget::pollLabel2 [inherited]

Definition at line 64 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.29 QComboBox* Ui_KbWidget::profileBox [inherited]

Definition at line 37 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi(), and KbWidget::updateProfileList().

12.40.3.30 QLabel* Ui_KbWidget::serialLabel [inherited]

Definition at line 60 of file ui_kbwidget.h.

Referenced by KbWidget::devUpdate(), Ui_KbWidget::retranslateUi(), and Ui_KbWidget::setupUi().

12.40.3.31 QTabWidget* Ui_KbWidget::tabWidget [inherited]

Definition at line 38 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), KbWidget::on_tabWidget_currentChanged(), Ui_KbWidget::retranslateUi(), Ui_KbWidget::setupUi(), KbWidget::showFirstTab(), and KbWidget::showLastTab().

12.40.3.32 QSpacerItem* Ui_KbWidget::verticalSpacer [inherited]

Definition at line 55 of file ui_kbwidget.h.

Referenced by Ui_KbWidget::setupUi().

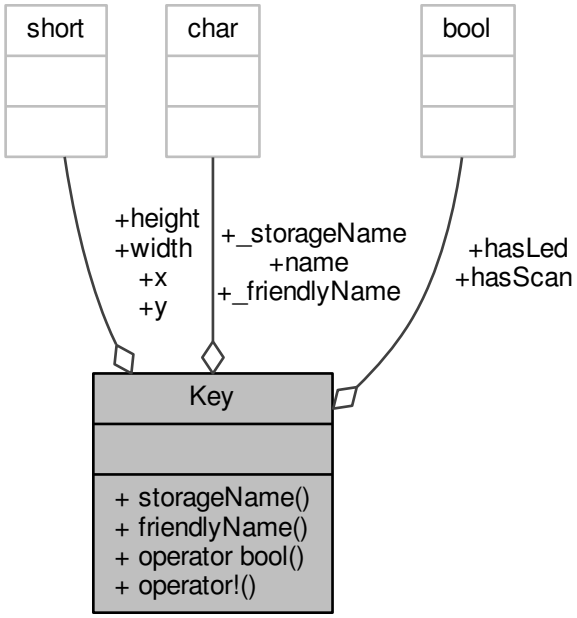
The documentation for this class was generated from the following file:

- src/ckb/ui_kbwidget.h

12.41 Key Struct Reference

`#include <src/ckb/keymap.h>`

Collaboration diagram for Key:



Public Member Functions

- const char * storageName () const
- QString friendlyName (bool os=true) const
- operator bool () const
- bool operator! () const

Data Fields

- const char * _storageName
- const char * _friendlyName
- const char * name

- short x
- short y
- short width
- short height
- bool hasLed
- bool hasScan

12.41.1 Detailed Description

Definition at line 8 of file keymap.h.

12.41.2 Member Function Documentation

12.41.2.1 QString Key::friendlyName (bool *os* = `true`) const [inline]

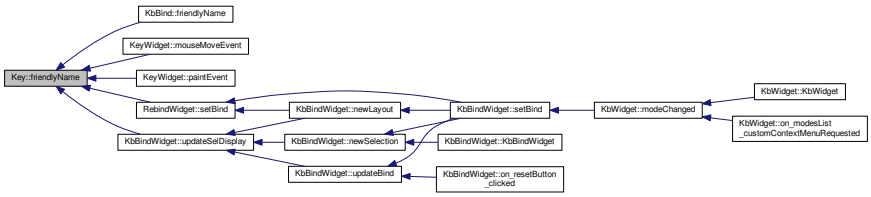
Definition at line 23 of file keymap.h.

References _friendlyName, and name.

Referenced by KbBind::friendlyName(), KeyWidget::mouseMoveEvent(), KeyWidget::paintEvent(), RebindWidget::setBind(), and KbBindWidget::updateSelDisplay().

```
23                                                  {
24         if(os){
25 #ifdef Q_OS_MACX
26             if(!strcmp(name, "lwin")) return "Left Cmd";
27             if(!strcmp(name, "rwin")) return "Right Cmd";
28             if(!strcmp(name, "lalt")) return "Left Option";
29             if(!strcmp(name, "ralt")) return "Right Option";
30             if(!strcmp(name, "prtscn")) return "F13";
31             if(!strcmp(name, "scroll")) return "F14";
32             if(!strcmp(name, "pause")) return "F15";
33             if(!strcmp(name, "ins")) return "Help";
34             if(!strcmp(name, "numlock")) return "Clear";
35 #elif defined(Q_OS_LINUX)
36             if(!strcmp(name, "lwin")) return "Left Super";
37             if(!strcmp(name, "rwin")) return "Right Super";
38 #endif
39         }
40         return _friendlyName ? _friendlyName : QString(
    name).toUpper();
41     }
```

Here is the caller graph for this function:



12.41.2.2 Key::operator bool ( ) const [inline]

Definition at line 44 of file keymap.h.

References name.

```
44 { return name != 0; }
```

12.41.2.3 bool Key::operator! ( ) const [inline]

Definition at line 45 of file keymap.h.

```
45 { return !(bool)*this; }
```

12.41.2.4 const char* Key::storageName ( ) const [inline]

Definition at line 11 of file keymap.h.

References _storageName, and name.

Referenced by KeyMap::toStorage().

```
11 { return _storageName ? _storageName : name; }
```

Here is the caller graph for this function:

12.41.3 Field Documentation

12.41.3.1 const char* Key::_friendlyName

Definition at line 13 of file keymap.h.

Referenced by _patch(), and friendlyName().

12.41.3.2 const char* Key::_storageName

Definition at line 10 of file keymap.h.

Referenced by _patch(), and storageName().

12.41.3.3 bool Key::hasLed

Definition at line 19 of file keymap.h.

Referenced by ColorMap::init(), KeyWidget::mouseMoveEvent(), KeyWidget::mousePressEvent(), KeyWidget::paintEvent(), and KeyWidget::selectAll().

12.41.3.4 bool Key::hasScan

Definition at line 20 of file keymap.h.

Referenced by KeyWidget::mouseMoveEvent(), KeyWidget::mousePressEvent(), KeyWidget::paintEvent(), and KeyWidget::selectAll().

12.41.3.5 short Key::height

Definition at line 17 of file keymap.h.

Referenced by getMap(), KeyWidget::mouseMoveEvent(), KeyWidget::mousePressEvent(), KeyWidget::paintEvent(), and patchANSI().

12.41.3.6 const char* Key::name

Definition at line 14 of file keymap.h.

Referenced by friendlyName(), ColorMap::init(), KeyWidget::mouseMoveEvent(), KeyWidget::mousePressEvent(), operator bool(), KeyWidget::paintEvent(), KeyWidget::selectAll(), and storageName().

12.41.3.7 short Key::width

Definition at line 17 of file keymap.h.

Referenced by getMap(), KeyWidget::mouseMoveEvent(), KeyWidget::mousePressEvent(), KeyWidget::paintEvent(), and patchANSI().

12.41.3.8 short Key::x

Definition at line 16 of file keymap.h.

Referenced by AnimScript::begin(), KeyMap::byPosition(), getMap(), AnimScript::keypress(), KeyWidget::mouseMoveEvent(), KeyWidget::mousePressEvent(), KeyWidget::paintEvent(), and patchANSI().

12.41.3.9 short Key::y

Definition at line 16 of file keymap.h.

Referenced by AnimScript::begin(), KeyMap::byPosition(), getMap(), AnimScript::keypress(), KeyWidget::mouseMoveEvent(), KeyWidget::mousePressEvent(), KeyWidget::paintEvent(), and patchANSI().

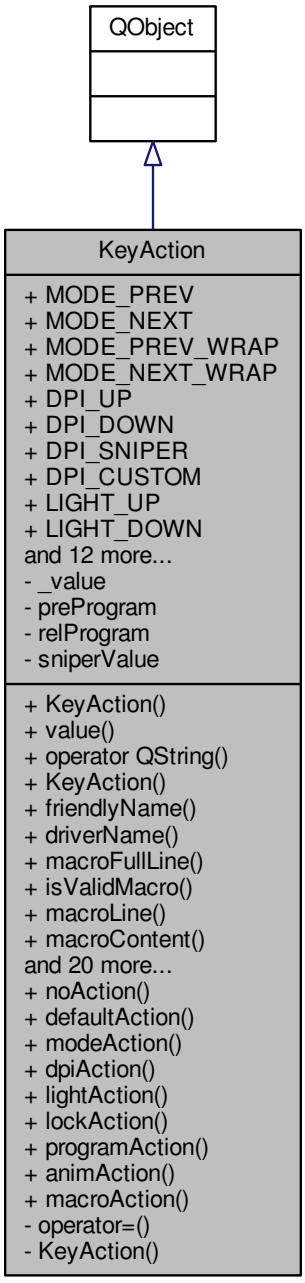
The documentation for this struct was generated from the following file:

- src/ckb/keymap.h

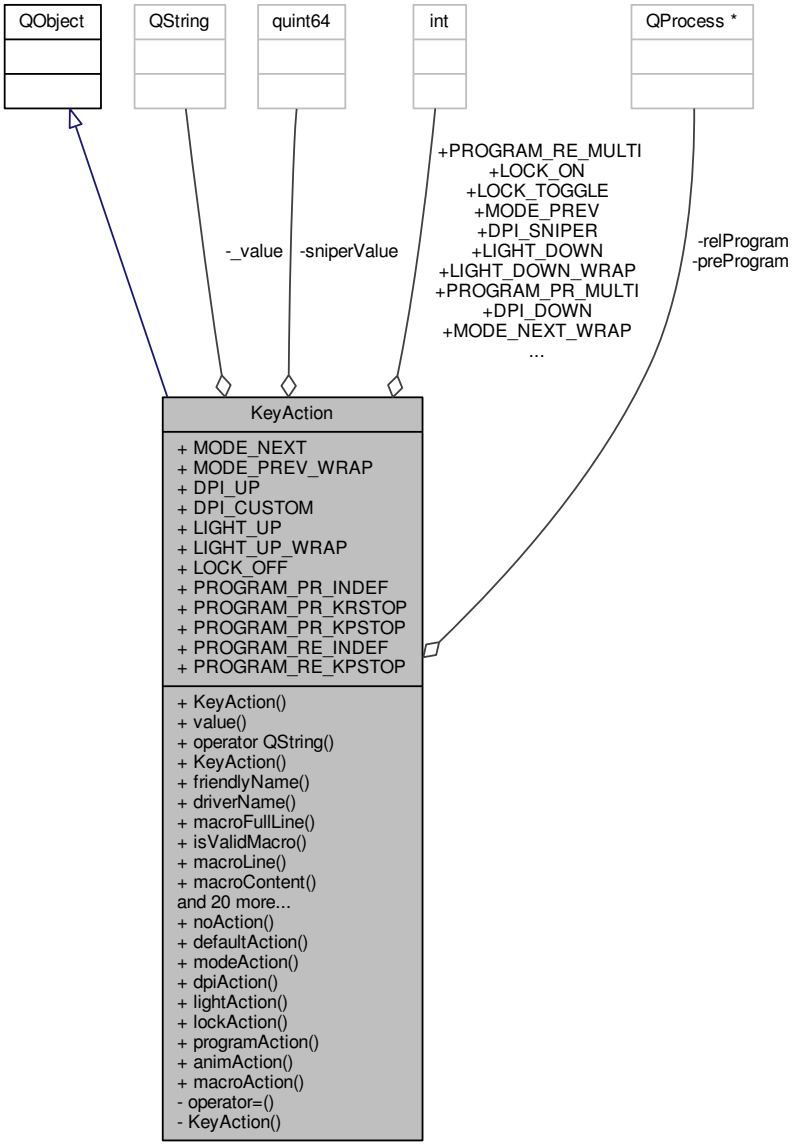
12.42 KeyAction Class Reference

`#include <src/ckb/keyaction.h>`

Inheritance diagram for KeyAction:



Collaboration diagram for KeyAction:



Public Types

- enum Type { UNBOUND, NORMAL, SPECIAL }

Public Member Functions

- KeyAction (const QString &action, QObject *parent=0)
- QString value () const
- operator QString () const
- KeyAction (QObject *parent=0)
- QString friendlyName (const KeyMap &map) const
- QString driverName () const

- QString macroFullLine () const

  macroFullLine If a macro command and a macro definition exists for the given key, returns the complete string except the leading "$" (the $ may confuse some caller).

- bool isValidMacro () const

  isValidMacro checks whether a keyAction contains a valid macro. This is done easily: If the macro action starts with $macro: and has five elements, delimited by ":", we may assume, that is a structural correct macro action. If it has 4 entries only, it is an older definition and ok also.

- QStringList macroLine () const

  macroLine returns all interresting content for a macro definition.

- QString macroContent () const

  macroContent returns the macro key definition only (the second part of the macro action).

- QString macroTiming () const

  macroTiming returns the macro key definition with original timing infos (the fifth and up to now last part of the macro action). If the implementation does not know anything about delays and has no 5th part, return first part.

- void macroDisplay ()

  Debug output for invalid macro Definitions.

- Type type () const
- bool isUnbound () const
- bool isNormal () const
- bool isSpecial () const
- bool isMedia () const
- bool isProgram () const
- bool isAnim () const
- bool isMacro () const
- bool isDPI () const
- bool isMouse () const
- QString specialInfo (int &parameter) const
- int programInfo (QString &onPress, QString &onRelease) const
- int dpiInfo (QPoint &custom) const
- QUuid animInfo (bool &onlyOnce, bool &stopOnRelease) const
- void keyEvent (KbBind *bind, bool down)
- void keyRelease (KbBind *bind)
- void adjustDisplay ()
- ~KeyAction ()

Static Public Member Functions

- static QString noAction ()
- static QString defaultAction (const QString &key)
- static QString modeAction (int mode)
- static QString dpiAction (int level, int customX=0, int customY=0)
- static QString lightAction (int type=LIGHT_UP_WRAP)
- static QString lockAction (int type=LOCK_TOGGLE)
- static QString programAction (const QString &onPress, const QString &onRelease, int stop)
- static QString animAction (const QUuid &guid, bool onlyOnce, bool stopOnRelease)
- static QString macroAction (QString macroDef)

  well documented in cpp file

Static Public Attributes

- static const int MODE_PREV = -2
- static const int MODE_NEXT = -1
- static const int MODE_PREV_WRAP = -4
- static const int MODE_NEXT_WRAP = -3
- static const int DPI_UP = -2
- static const int DPI_DOWN = -1
- static const int DPI_SNIPER = 0
- static const int DPI_CUSTOM = 6
- static const int LIGHT_UP = 0
- static const int LIGHT_DOWN = 1
- static const int LIGHT_UP_WRAP = 2
- static const int LIGHT_DOWN_WRAP = 3
- static const int LOCK_TOGGLE = 0
- static const int LOCK_ON = 1
- static const int LOCK_OFF = 2
- static const int PROGRAM_PR_MULTI = 0x04
- static const int PROGRAM_PR_INDEF = 0x00
- static const int PROGRAM_PR_KRSTOP = 0x01
- static const int PROGRAM_PR_KPSTOP = 0x02
- static const int PROGRAM_RE_MULTI = 0x40
- static const int PROGRAM_RE_INDEF = 0x00
- static const int PROGRAM_RE_KPSTOP = 0x20

Private Member Functions

- void operator= (const KeyAction &rhs)

  ccMSC: Don't copy key actions (the old one needs to be deleted first) frickler24: statement left as described, but copying is done in KbBind copy constructor
- KeyAction (const KeyAction &rhs)

Private Attributes

- QString _value
- QProcess * preProgram
- QProcess * relProgram
- quint64 sniperValue

12.42.1 Detailed Description

Definition at line 13 of file keyaction.h.

12.42.2 Member Enumeration Documentation

12.42.2.1 enum KeyAction::Type

Enumerator

UNBOUND

NORMAL

SPECIAL

Definition at line 145 of file keyaction.h.

```
145                 {
146         UNBOUND,
147         NORMAL,
148         SPECIAL,
149     };
```

12.42.3 Constructor & Destructor Documentation

12.42.3.1 KeyAction::KeyAction (const QString & *action,* QObject * *parent* = 0)

Definition at line 22 of file keyaction.cpp.

```
23     : QObject(parent), _value(action), preProgram(0),
      relProgram(0), sniperValue(0)
24 {
25 }
```

12.42.3.2 KeyAction::KeyAction (QObject * *parent* = 0) [explicit]

Definition at line 27 of file keyaction.cpp.

```
28     : QObject(parent), _value(""), preProgram(0),
      relProgram(0), sniperValue(0)
29 {
30 }
```

12.42.3.3 KeyAction::~KeyAction ( )

Definition at line 32 of file keyaction.cpp.

References preProgram, and relProgram.

```
32                      {
33     // Clean up processes
34     if(preProgram){
35         preProgram->kill();
36         delete preProgram;
37     }
38     if(relProgram){
39         relProgram->kill();
40         delete relProgram;
41     }
42 }
```

12.42.3.4 KeyAction::KeyAction (const KeyAction & *rhs*) [inline], [private]

Definition at line 186 of file keyaction.h.

```
186 : QObject() {}
```

12.42.4 Member Function Documentation

12.42.4.1 void KeyAction::adjustDisplay ( )

Definition at line 445 of file keyaction.cpp.

Referenced by keyEvent().

```
445                             {
446 #ifdef USE_LIBX11
447     // Try to get the current display from the X server
448     char* display_name = XDisplayName(NULL);
449     if(!display_name)
450         return;
451     Display* display = XOpenDisplay(display_name);
452     if(!display)
453         return;
454     char* display_string = DisplayString(display);
455     if(!display_string || strlen(display_string) == 0){
456         XCloseDisplay(display);
457         return;
458     }
459     size_t envstr_size = strlen(display_string) + 4;
460     char* envstr = new char[envstr_size];
461     strncpy(envstr, display_string, envstr_size);
462     envstr[envstr_size - 1] = 0;
463 
464     Window root_window = XRootWindow(display, DefaultScreen(display));
465     Window root_window_ret, child_window_ret, window;
466     XWindowAttributes attr;
467     int root_x, root_y, win_x, win_y;
468     unsigned int mask_ret;
469 
470     // Find the screen which currently has the mouse
471     XQueryPointer(display, root_window, &root_window_ret, &child_window_ret, &root_x, &root_y, &win_x, &
    win_y, &mask_ret);
472     if(child_window_ret == (Window)NULL)
473         window = root_window_ret;
474     else
475         window = child_window_ret;
476     XGetWindowAttributes(display, window,  &attr);
477 
478     char* ptr = strchr(envstr, ':');
479     if(ptr){
480         ptr = strchr(ptr, '.');
481         if(ptr)
482             *ptr = '\0';
483         char buf[16];
484         snprintf(buf, sizeof(buf), ".%i", XScreenNumberOfScreen(attr.screen));
485         strncat(envstr, buf, envstr_size - 1 - strlen(envstr));
486 
487         // Update environment variable
488         setenv("DISPLAY", envstr, 1);
489     }
490 
491     delete[] envstr;
492     XCloseDisplay(display);
493 #endif
494 }
```

Here is the caller graph for this function:

12.42.4.2 QString KeyAction::animAction (const QUuid & *guid*, bool *onlyOnce*, bool *stopOnRelease*) [static]

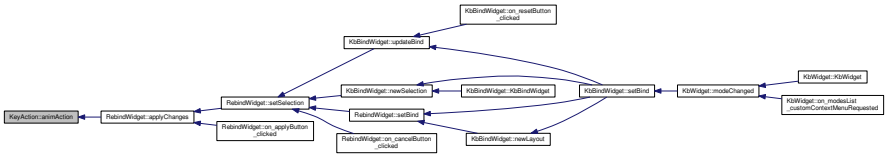
Definition at line 175 of file keyaction.cpp.

References ANIM_KRSTOP, and ANIM_ONCE.

Referenced by RebindWidget::applyChanges().

```
175                                                                                 {
176     int flags = (onlyOnce ? ANIM_ONCE : 0) | (stopOnRelease ?
    ANIM_KRSTOP : 0);
177     return "$anim:" + guid.toString() + QString("+%1").arg(flags);
178 }
```

Here is the caller graph for this function:



12.42.4.3 QUuid KeyAction::animInfo (bool & *onlyOnce,* bool & *stopOnRelease*) const

Definition at line 216 of file keyaction.cpp.

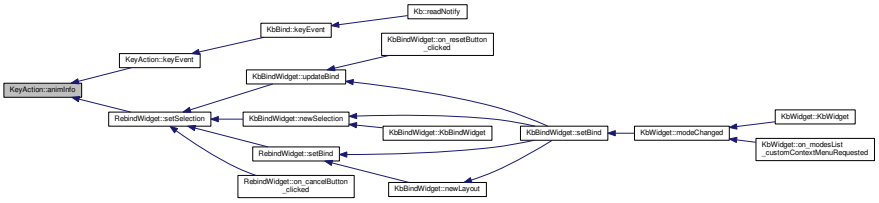
References _value, ANIM_KRSTOP, ANIM_ONCE, and isAnim().

Referenced by keyEvent(), and RebindWidget::setSelection().

```
216                                                                 {
217     if(!isAnim())
218         return QUuid();
219     QString param = _value.mid(6);
220     QStringList split = param.split("+");
221     if(split.length() < 2)
222         return QUuid();
223     QUuid id = split[0];
224     int flags = split[1].toInt();
225     onlyOnce = !!(flags & ANIM_ONCE);
226     stopOnRelease = !!(flags & ANIM_KRSTOP);
227     return id;
228 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



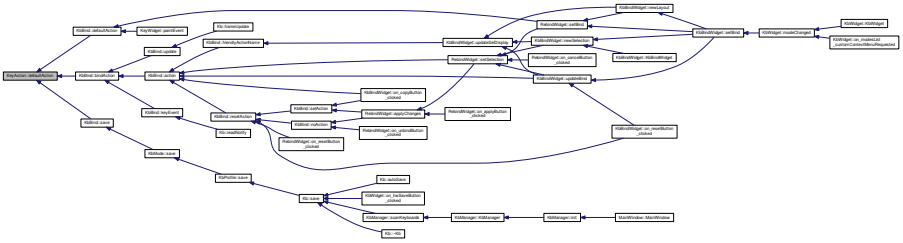
12.42.4.4 QString KeyAction::defaultAction (const QString & *key*) [static]

Definition at line 44 of file keyaction.cpp.

Referenced by KbBind::bindAction(), KbBind::defaultAction(), and KbBind::save().

```
44                                                  {
45      // G1-G18 are unbound by default
46      if(key.length() >= 2 && key[0] == 'g'
47          && ((key.length() == 2 && key[1] >= '0' && key[1] <= '9')
48          || (key.length() == 3 && key[1] == '1' && key[2] >= '0' && key[2] <= '8')))
49          return "";
50      // So are thumbgrid buttons
51      if(key.startsWith("thumb"))
52          return "";
53      // TODO: default action for MR
54      if(key == "mr")
55          return "";
56      // M1-M3 switch modes
57      if(key == "m1")
58          return "$mode:0";
59      if(key == "m2")
60          return "$mode:1";
61      if(key == "m3")
62          return "$mode:2";
63      // Brightness and Win Lock are their own functions
64      if(key == "light")
65          return "$light:2";
66      if(key == "lock")
67          return "$lock:0";
68      // DPI buttons
69      if(key == "dpiup")
70          return "$dpi:-2";
71      if(key == "dpidn")
72          return "$dpi:-1";
73      if(key == "sniper")
74          return "$dpi:0";
75      // Everything else is a standard keypress
76      return key;
77  }
```

Here is the caller graph for this function:



12.42.4.5 QString KeyAction::dpiAction (int *level*, int *customX* = 0, int *customY* = 0) [static]

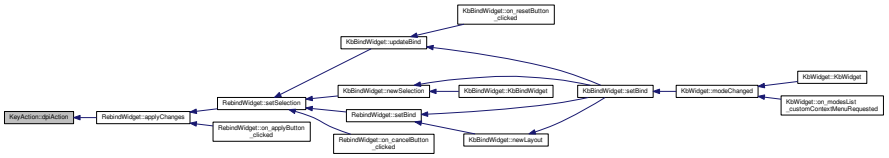
Definition at line 153 of file keyaction.cpp.

References DPI_CUSTOM.

Referenced by RebindWidget::applyChanges().

```
153                                                                 {
154      QString action = tr("$dpi:%1").arg(level);
155      if(level == DPI_CUSTOM)
156          action += tr("+%1+%2").arg(customX).arg(customY);
157      return action;
158  }
```

Here is the caller graph for this function:



12.42.4.6 int KeyAction::dpiInfo (QPoint & *custom*) const

Definition at line 202 of file keyaction.cpp.

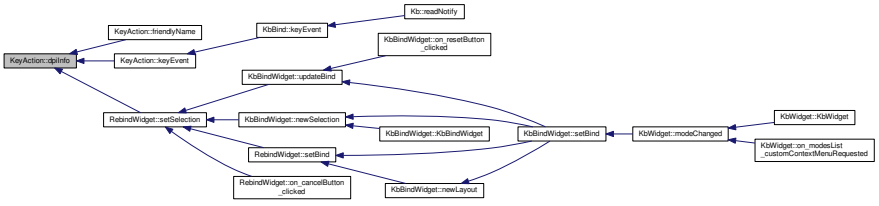
References _value, DPI_CUSTOM, and isDPI().

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

```
202                                         {
203     if(!isDPI())
204         return 0;
205     QString param = _value.mid(5);
206     QStringList lxy = param.split("+");
207     int level = lxy[0].toInt();
208     if(level == DPI_CUSTOM){
209         if(lxy.length() != 3)
210             return 0;
211         custom = QPoint(lxy[1].toInt(), lxy[2].toInt());
212     }
213     return level;
214 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.42.4.7 QString KeyAction::driverName ( ) const

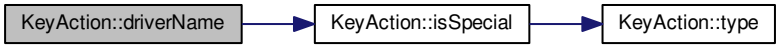
Definition at line 230 of file keyaction.cpp.

References _value, and isSpecial().

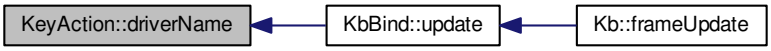
Referenced by KbBind::update().

```
230                                     {
231     if(isSpecial())
232         return "";
233     return _value;
234 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.42.4.8 QString KeyAction::friendlyName (const KeyMap & *map*) const

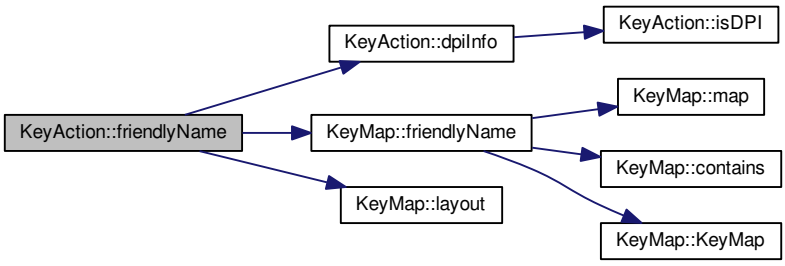
Definition at line 79 of file keyaction.cpp.

References _value, DPI_CUSTOM, DPI_DOWN, DPI_SNIPER, DPI_UP, dpiInfo(), KeyMap::friendlyName(), KeyMap::layout(), LIGHT_DOWN, LIGHT_DOWN_WRAP, LIGHT_UP, LIGHT_UP_WRAP, LOCK_OFF, LOCK_ON, LOCK_TOGGLE, MODE_NEXT, MODE_NEXT_WRAP, MODE_PREV, and MODE_PREV_WRAP.

```
79                                                      {
80     if(_value.isEmpty())
81         return "Unbound";
82     QStringList parts = _value.split(":");
83     QString prefix = parts[0];
84     if(parts.length() < 2){
85         KeyMap::Layout layout = map.layout();
86         QString name = KeyMap::friendlyName(_value, layout);
87         if(name.isEmpty())
88             return "(Unknown)";
89         return name;
90     }
91     int suffix = parts[1].toInt();
92     if(prefix == "$mode"){
93         switch(suffix){
94         case MODE_PREV:
95         case MODE_PREV_WRAP:
96             return "Switch to previous mode";
97         case MODE_NEXT:
98         case MODE_NEXT_WRAP:
99             return "Switch to next mode";
100         default:
101             return tr("Switch to mode %1").arg(suffix + 1);
102         }
103     } else if(prefix == "$dpi"){
104         // Split off custom parameters (if any)
105         int level = parts[1].split("+")[0].toInt();
106         switch(level){
107         case DPI_UP:
```

```
108             return "DPI up";
109         case DPI_DOWN:
110             return "DPI down";
111         case DPI_SNIPER:
112             return "Sniper";
113         case DPI_CUSTOM:{
114             QPoint xy;
115             dpiInfo(xy);
116             return tr("DPI: %1, %2").arg(xy.x()).arg(xy.y());
117         }
118         default:
119             return tr("DPI stage %1").arg(level);
120         }
121     } else if(prefix == "$light"){
122         switch(suffix){
123         case LIGHT_UP:
124         case LIGHT_UP_WRAP:
125             return "Brightness up";
126         case LIGHT_DOWN:
127         case LIGHT_DOWN_WRAP:
128             return "Brightness down";
129         }
130     } else if(prefix == "$lock"){
131         switch(suffix){
132         case LOCK_TOGGLE:
133             return "Toggle Windows lock";
134         case LOCK_ON:
135             return "Windows lock on";
136         case LOCK_OFF:
137             return "Windows lock off";
138         }
139     } else if(prefix == "$anim"){
140         return "Start animation";
141     } else if(prefix == "$program"){
142         return "Launch program";
143     } else if(prefix == "$macro"){
144         return "Send G-key macro";
145     }
146     return "(Unknown)";
147 }
```

Here is the call graph for this function:



12.42.4.9 bool KeyAction::isAnim ( ) const [inline]

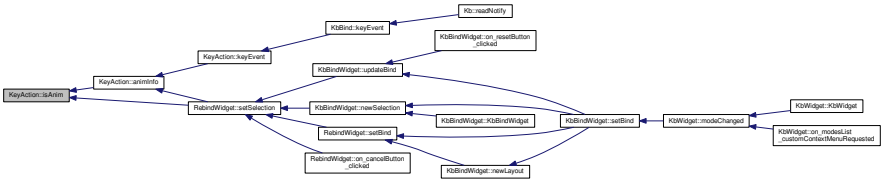
Definition at line 158 of file keyaction.h.

References _value.

Referenced by animInfo(), and RebindWidget::setSelection().

```
158 { return _value.startsWith("$anim:"); }
```

Here is the caller graph for this function:



12.42.4.10 bool KeyAction::isDPI ( ) const [inline]

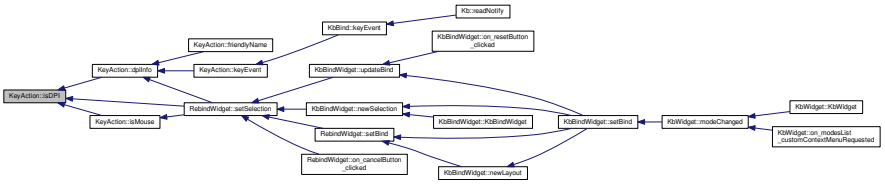
Definition at line 161 of file keyaction.h.

References _value.

Referenced by dpiInfo(), isMouse(), and RebindWidget::setSelection().

```
161 { return _value.startsWith("$dpi:"); }
```

Here is the caller graph for this function:



12.42.4.11 bool KeyAction::isMacro ( ) const [inline]

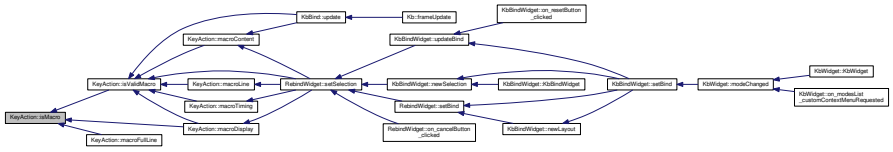
Definition at line 159 of file keyaction.h.

References _value.

Referenced by isValidMacro(), macroDisplay(), and macroFullLine().

```
159 { return _value.startsWith("$macro:"); }
```

Here is the caller graph for this function:



12.42.4.12 bool KeyAction::isMedia ( ) const [inline]

Definition at line 155 of file keyaction.h.

References _value.

```
155 { return _value == "mute" || _value == "volup" || _value == "voldn" ||
      _value == "stop" || _value == "prev" || _value == "play" ||
      _value == "next"; }
```

12.42.4.13 bool KeyAction::isMouse ( ) const [inline]

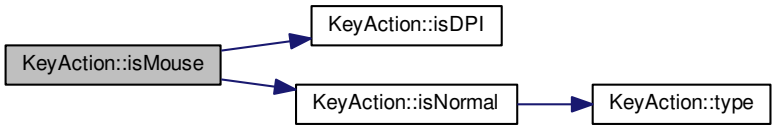
Definition at line 162 of file keyaction.h.

References _value, isDPI(), and isNormal().

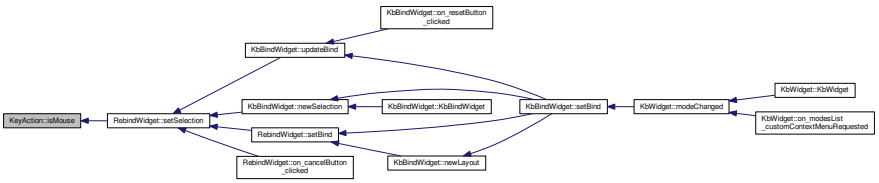
Referenced by RebindWidget::setSelection().

```
162 { return (isNormal() && (_value.startsWith("mouse") || _value.startsWith("wheel"))) ||
      isDPI(); }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.42.4.14 bool KeyAction::isNormal ( ) const [inline]

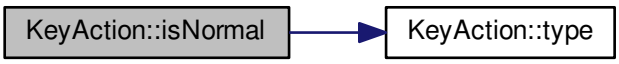
Definition at line 152 of file keyaction.h.

References NORMAL, and type().

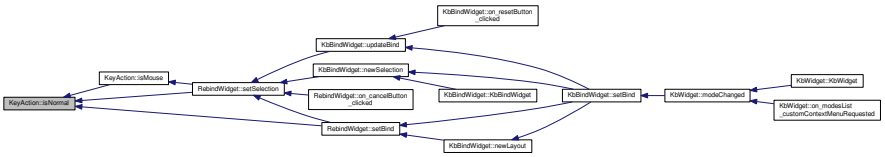
Referenced by isMouse(), RebindWidget::setBind(), and RebindWidget::setSelection().

```
152 { return type() == NORMAL; }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.42.4.15 bool KeyAction::isProgram ( ) const [inline]

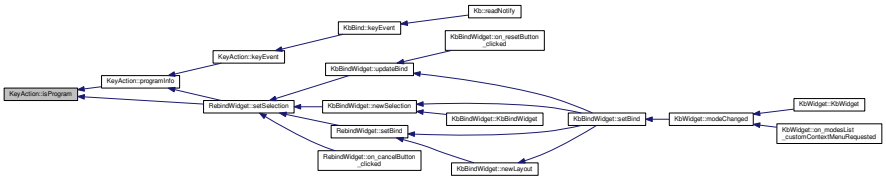
Definition at line 157 of file keyaction.h.

References _value.

Referenced by programInfo(), and RebindWidget::setSelection().

```
157 { return _value.startsWith("$program:"); }
```

Here is the caller graph for this function:



12.42.4.16 bool KeyAction::isSpecial ( ) const [inline]

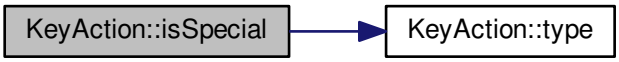
Definition at line 153 of file keyaction.h.

References SPECIAL, and type().

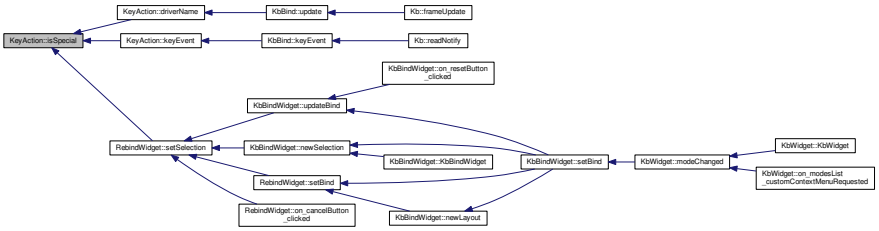
Referenced by driverName(), keyEvent(), and RebindWidget::setSelection().

```
153 { return type() == SPECIAL; }
```

Here is the call graph for this function:



Here is the caller graph for this function:



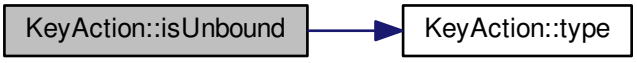
12.42.4.17 bool KeyAction::isUnbound ( ) const [inline]

Definition at line 151 of file keyaction.h.

References type(), and UNBOUND.

```
151 { return type() == UNBOUND; }
```

Here is the call graph for this function:



12.42.4.18 bool KeyAction::isValidMacro ( ) const [inline]

Returns

bool as true iff the macro definition contains all four elements.

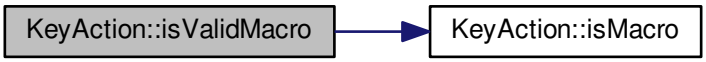
Definition at line 55 of file keyaction.h.

References _value, and isMacro().

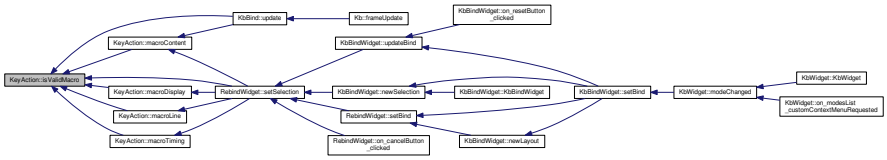
Referenced by macroContent(), macroDisplay(), macroLine(), macroTiming(), RebindWidget::setSelection(), and KbBind::update().

```
55                                      {
56          if (isMacro()) {
57              QStringList ret;
58              ret =_value.split(":");
59              return ((ret.count() >= 4) && (ret.count() <= 5));
60          } else {
61              return false;
62          }
63      }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.42.4.19 void KeyAction::keyEvent (KbBind * *bind*, bool *down*)

Definition at line 236 of file keyaction.cpp.

References _value, adjustDisplay(), anim, animInfo(), KbProfile::currentMode(), Kb::currentProfile(), KbBind::devParent(), KbLight::dimming(), KbPerf::dpi(), KbPerf::DPI_COUNT, DPI_CUSTOM, DPI_DOWN, DPI_SNIPER, DPI_UP, KbPerf::dpiDown(), dpiInfo(), KbPerf::dpiUp(), KbLight::findAnim(), KbProfile::indexOf(), KbAnim::isActive(), isSpecial(), KbBind::light(), LIGHT_DOWN, LIGHT_DOWN_WRAP, LIGHT_UP, LIGHT_UP_WRAP, LOCK_OFF, LOCK_ON, LOCK_TOGGLE, KbLight::MAX_DIM, MODE_NEXT, MODE_NEXT_WRAP, MODE_PREV, MODE_PREV_WRAP, KbProfile::modeCount(), KbProfile::modes(), KbBind::perf(), KbPerf::popDpi(), preProgram, PROGRAM_PR_KPSTOP, PROGRAM_PR_KRSTOP, PROGRAM_PR_MULTI, PROGRAM_RE_KPSTOP, PROGRAM_RE_MULTI, programInfo(), KbPerf::pushDpi(), KbPerf::pushSniper(), relProgram, Kb::setCurrentMode(), sniperValue, KbAnim::stop(), KbAnim::trigger(), and KbBind::winLock().

Referenced by KbBind::keyEvent().

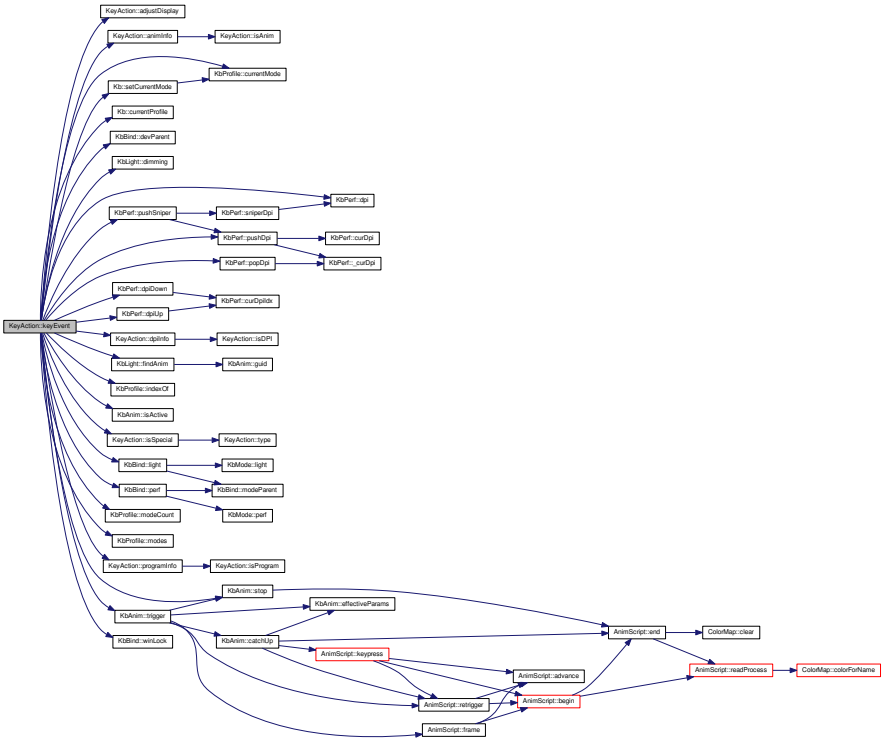
```
236                                                 {
237     // No need to respond to standard actions
238     if(!isSpecial())
239         return;
240     QStringList parts = _value.split(":");
241     if(parts.length() < 2)
242         return;
243     QString prefix = parts[0];
244     int suffix = parts[1].toInt();
245     if(prefix == "$mode"){
246         if(!down)
247             return;
248         // Change mode
249         Kb* device = bind->devParent();
250         KbProfile* currentProfile = device->currentProfile();
251         int mode = currentProfile->indexOf(currentProfile->currentMode());
```

```
252         int modeCount = currentProfile->modeCount();
253         switch(suffix){
254         case MODE_PREV_WRAP:
255             mode--;
256             if(mode < 0)
257                 mode = modeCount - 1;
258             break;
259         case MODE_NEXT_WRAP:
260             mode++;
261             if(mode >= modeCount)
262                 mode = 0;
263             break;
264         case MODE_PREV:
265             mode--;
266             break;
267         case MODE_NEXT:
268             mode++;
269             break;
270         default:
271             // Absolute
272             mode = suffix;
273             break;
274         }
275         if(mode < 0 || mode >= modeCount)
276             return;
277         device->setCurrentMode(currentProfile->modes()[mode]);
278     } else if(prefix == "$dpi"){
279         KbPerf* perf = bind->perf();
280         int level = parts[1].split("+")[0].toInt();
281         switch(level){
282         case DPI_UP:
283             if(!down)
284                 return;
285             perf->dpiUp();
286             break;
287         case DPI_DOWN:
288             if(!down)
289                 return;
290             perf->dpiDown();
291             break;
292         case DPI_SNIPER:
293             if(down)
294                 sniperValue = perf->pushSniper();
295             else {
296                 perf->popDpi(sniperValue);
297                 sniperValue = 0;
298             }
299             break;
300         case DPI_CUSTOM:{
301             QPoint xy;
302             dpiInfo(xy);
303             if(xy.x() <= 0 || xy.y() <= 0)
304                 break;
305             if(down)
306                 sniperValue = perf->pushDpi(xy);
307             else {
308                 perf->popDpi(sniperValue);
309                 sniperValue = 0;
310             }
311             break;
312         }
313         default:
314             if(level < 1 || level >= KbPerf::DPI_COUNT
315                     || !down)
316                 return;
317             perf->dpi(level);
318             break;
319         }
320     } else if(prefix == "$light"){
321         if(!down)
322             return;
323         // Change brightness
324         KbLight* light = bind->light();
325         int dim = light->dimming();
326         switch(suffix){
327         case LIGHT_UP:
328             if(dim > 0)
329                 dim--;
330             break;
331         case LIGHT_DOWN:
332             if(dim < KbLight::MAX_DIM)
333                 dim++;
334             break;
335         case LIGHT_UP_WRAP:
336             dim--;
337             if(dim < 0)
338                 dim = KbLight::MAX_DIM;
```

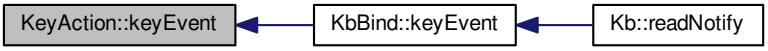
```
339             break;
340         case LIGHT_DOWN_WRAP:
341             dim++;
342             if(dim > KbLight::MAX_DIM)
343                 dim = 0;
344             break;
345         }
346         light->dimming(dim);
347     } else if(prefix == "$lock"){
348         if(!down)
349             return;
350         // Change win lock
351         switch(suffix){
352         case LOCK_TOGGLE:
353             bind->winLock(!bind->winLock());
354             break;
355         case LOCK_ON:
356             bind->winLock(true);
357             break;
358         case LOCK_OFF:
359             bind->winLock(false);
360             break;
361         }
362     } else if(prefix == "$anim"){
363         // Start animation
364         bool onlyOnce = false, stopOnRelease = false;
365         QUuid id = animInfo(onlyOnce, stopOnRelease);
366         KbAnim* anim = bind->light()->findAnim(id);
367         if(!anim)
368             return;
369         if(down){
370             if(!onlyOnce || !anim->isActive())
371                 // If "only once" is enabled, don't start the animation when it's already running
372                 anim->trigger(QDateTime::currentMSecsSinceEpoch(), true);
373         } else if(stopOnRelease){
374             // Key released - stop animation
375             anim->stop();
376         }
377     } else if(prefix == "$program"){
378         // Launch program
379         QString onPress, onRelease;
380         int stop = programInfo(onPress, onRelease);
381         // Stop running programs based on setting
382         QProcess* process = 0;
383         if(down){
384             if(stop & PROGRAM_PR_KPSTOP){
385                 process = preProgram;
386                 if(process)
387                     process->kill();
388                 process = 0;
389             }
390             if(stop & PROGRAM_RE_KPSTOP)
391                 process = relProgram;
392         } else {
393             if(stop & PROGRAM_PR_KRSTOP)
394                 process = preProgram;
395         }
396         if(process)
397             process->kill();
398         // Launch new process if requested
399         QString& program = down ? onPress : onRelease;
400         if(program.isEmpty())
401             return;
402         // Check if the program is running already. If so, don't start it again.
403         process = down ? preProgram : relProgram;
404         if(process){
405             if(process->state() == QProcess::NotRunning)
406                 delete process;
407             else
408                 return;
409         }
410
411         // Adjust the selected display.
412         adjustDisplay();
413
414         // Start the program. Wrap it around sh to parse arguments.
415         if((down && (stop & PROGRAM_PR_MULTI))
416                 || (!down && (stop & PROGRAM_RE_MULTI))){
417             // Multiple instances allowed? Start detached process
418             QProcess::startDetached("sh", QStringList() << "-c" << program);
419         } else {
420             process = new QProcess(this);
421             process->start("sh", QStringList() << "-c" << program);
422             if(down)
423                 preProgram = process;
424             else
425                 relProgram = process;
```

```
426         }
427     } else if (prefix == "$macro") {
428         // Do nothing, because all work is done by the keyboard itself.
429         // For now, there is no reason to react on G-key press or release.
430         // If u find some reason, then here is the place for it.
431     }
432 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.42.4.20 void KeyAction::keyRelease (KbBind * *bind*)

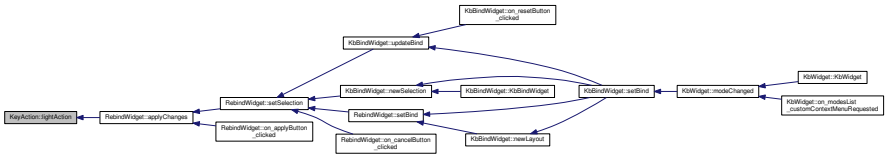
12.42.4.21 QString KeyAction::lightAction (int *type* = LIGHT_UP_WRAP) [static]

Definition at line 160 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
160                                     {
161     return QString("$light:%1").arg(type);
162 }
```

Here is the caller graph for this function:



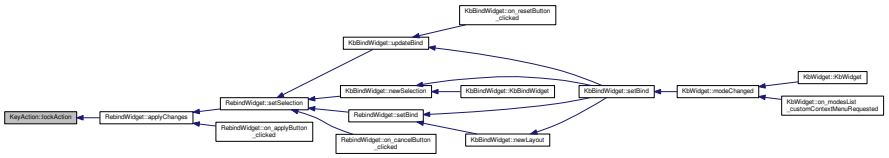
12.42.4.22 QString KeyAction::lockAction (int *type* = LOCK_TOGGLE) [static]

Definition at line 164 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
164                                          {
165     return QString("$lock:%1").arg(type);
166 }
```

Here is the caller graph for this function:



12.42.4.23 QString KeyAction::macroAction (QString *macroDef*) [static]

KeyAction::macroAction is called when applying changes on a macro definition. macroAction ist called while being in the macro pane and clicking Apply with something in the Macro Text Box. It tags that input with "$macro:" for further recognition.

Parameters

macroDef	holds the String containing parts 2-5 of a complete macro definition.

Returns

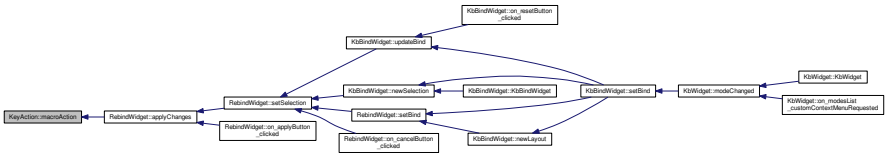
QString holding the complete G-Key macro definition (parts 1-5)

Definition at line 504 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
504                                                {
505     return QString ("$macro:%1").arg(macroDef);
506 }
```

Here is the caller graph for this function:



12.42.4.24 QString KeyAction::macroContent ( ) const [inline]

Returns

QString macroContent

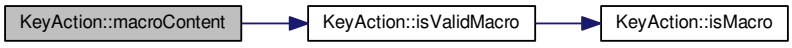
Definition at line 86 of file keyaction.h.

References _value, and isValidMacro().

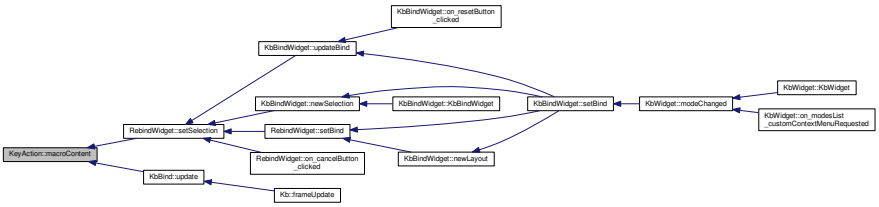
Referenced by RebindWidget::setSelection(), and KbBind::update().

```
86                                      {
87         // return isValidMacro() ? _value.split(":")[1].replace(QRegExp("=\\d+"), "") : ""; ///< Is used if
       we have ckb without delay handling
88         return isValidMacro() ? _value.split(":")[1] : "";
89     }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.42.4.25 void KeyAction::macroDisplay ( )

KeyAction::macroDisplay is just for debugging. It shows the content of the key action and some other info.

General Info on KeyAction::_value for macros: That string consists of 4 elements, all delimited by ":".

1. Macro command indicator "$macro:"

2. Macro Key Definition (coming from pteMacroBox): This sequence will program the keyboard and is hardly readable
3. Readable Macro String: This is displayed in pteMacroText
4. Readable Macro Comment:This is displayed in pteMacroComment
5. completely unreadable original macro information with timing values

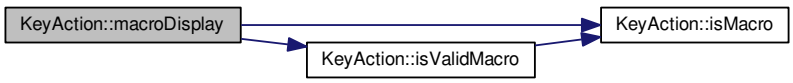
Definition at line 437 of file keyaction.cpp.

References _value, isMacro(), and isValidMacro().

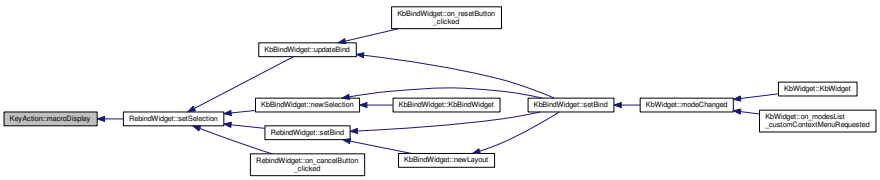
Referenced by RebindWidget::setSelection().

```
437                             {
438     qDebug() << "isMacro returns" << (isMacro() ? "true" : "false");
439     qDebug() << "isValidMacro returns" << (isValidMacro() ? "true" : "false");
440     QStringList ret =_value.split(":");
441     qDebug() << "Macro definition conains" << ret.count() << "elements";
442     qDebug() << "Macro definition is" << _value;
443 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.42.4.26 QString KeyAction::macroFullLine ( ) const [inline]

Returns

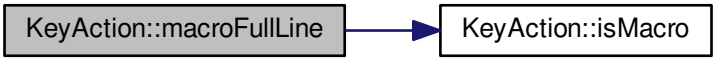
QString All 5 parts are returned in one QString. If no definition exists, return ""

Definition at line 43 of file keyaction.h.

References _value, and isMacro().

```
43                                      {
44         return isMacro() ? _value.right(_value.length()-1) : "";
45     }
```

Here is the call graph for this function:



12.42.4.27 QStringList KeyAction::macroLine ( ) const [inline]

Returns

QStringList returns the Macro Key Definition, Readble Macro String, Readable Macro Comment and the original timing information (if it exists as a 5th part) as QStringList.

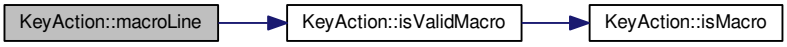
Definition at line 73 of file keyaction.h.

References _value, and isValidMacro().

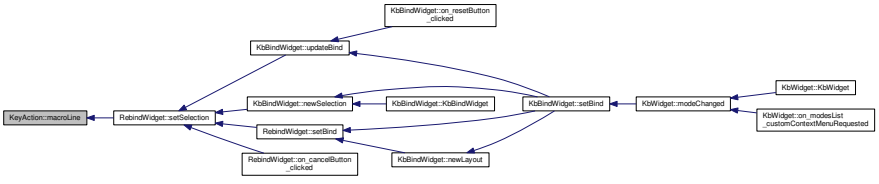
Referenced by RebindWidget::setSelection().

```
73                                          {
74         if (isValidMacro()) {
75             QStringList ret =_value.split(":");
76             ret.removeFirst();
77             return ret;
78         } else return QStringList();
79     }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.42.4.28 QString KeyAction::macroTiming ( ) const [inline]

Returns

QString macroTiming

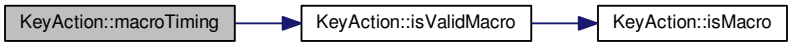
Definition at line 98 of file keyaction.h.

References _value, and isValidMacro().

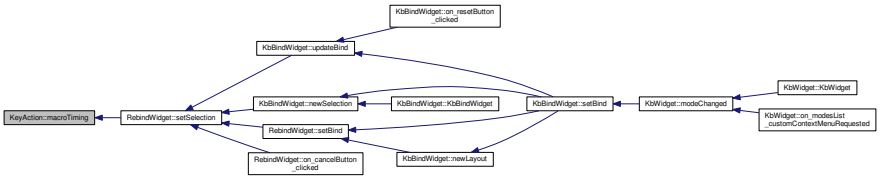
Referenced by RebindWidget::setSelection().

```
98                                      {
99          if (isValidMacro()) {
100             QStringList rval = _value.split(":");
101             return (rval.length() == 4)? rval[1] : rval[4];
102         }
103         return QString("");
104     }
```

Here is the call graph for this function:



Here is the caller graph for this function:



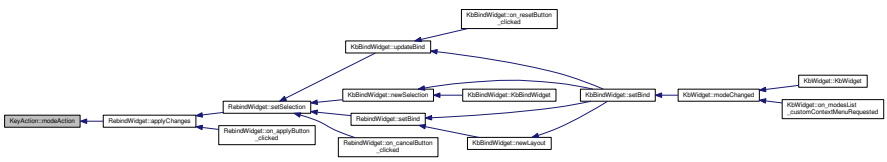
12.42.4.29 QString KeyAction::modeAction (int *mode*) [static]

Definition at line 149 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
149                                         {
150     return QString("$mode:%1").arg(mode);
151 }
```

Here is the caller graph for this function:



12.42.4.30 static QString KeyAction::noAction ( ) [inline], [static]

Definition at line 25 of file keyaction.h.

```
25 { return ""; }
```

12.42.4.31 KeyAction::operator QString ( ) const [inline]

Definition at line 20 of file keyaction.h.

References _value.

```
20 { return _value; }
```

12.42.4.32 void KeyAction::operator= (const KeyAction & *rhs*) [inline], [private]

Definition at line 185 of file keyaction.h.

```
185 {}
```

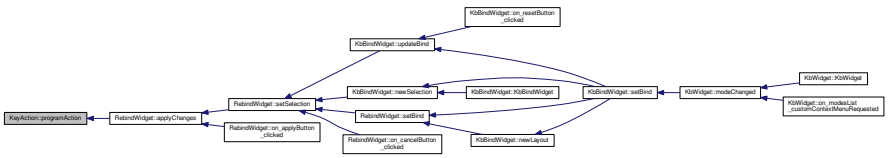
12.42.4.33 QString KeyAction::programAction (const QString & *onPress*, const QString & *onRelease*, int *stop*) [static]

Definition at line 168 of file keyaction.cpp.

Referenced by RebindWidget::applyChanges().

```
168                                                                                                 {
169     // URL-encode the commands and place them in the string (":" and "+" are both replaced, so they won't
      interfere)
170     return "$program:" + QString::fromUtf8(QUrl::toPercentEncoding(onPress.trimmed())) + "+" +
      QString::fromUtf8(QUrl::toPercentEncoding(onRelease.trimmed())) + QString("+%1").arg(stop);
171 }
```

Here is the caller graph for this function:



12.42.4.34 int KeyAction::programInfo (QString & *onPress*, QString & *onRelease*) const

Definition at line 190 of file keyaction.cpp.

References _value, and isProgram().

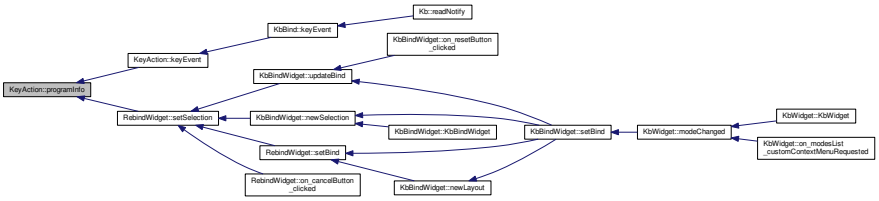
Referenced by keyEvent(), and RebindWidget::setSelection().

```
190                                                                                 {
191     if(!isProgram())
192         return 0;
193     QString param = _value.mid(9);
194     QStringList programs = param.split("+");
```

```
195     if(programs.length() != 3)
196         return 0;
197     onPress = QUrl::fromPercentEncoding(programs[0].toUtf8());
198     onRelease = QUrl::fromPercentEncoding(programs[1].toUtf8());
199     return programs[2].toInt();
200 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.42.4.35 QString KeyAction::specialInfo (int & *parameter*) const

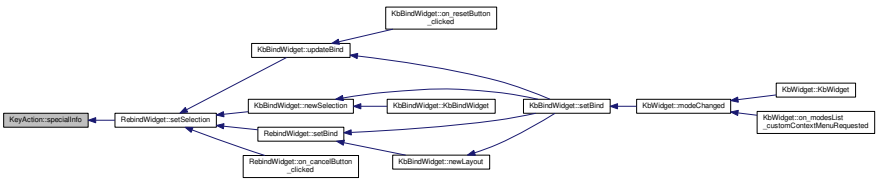
Definition at line 180 of file keyaction.cpp.

References _value.

Referenced by RebindWidget::setSelection().

```
180                                                 {
181     QStringList list = _value.split(":");
182     if(list.length() < 2){
183         parameter = INT_MIN;
184         return "";
185     }
186     parameter = list[1].toInt();
187     return list[0].replace("$", "");
188 }
```

Here is the caller graph for this function:



12.42.4.36 KeyAction::Type KeyAction::type ( ) const

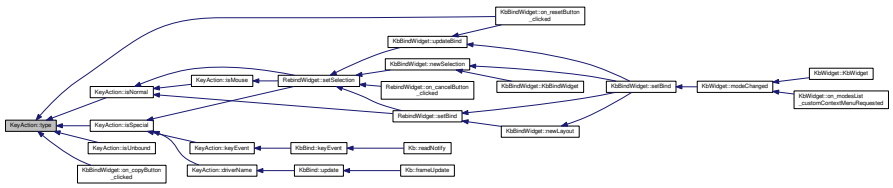
Definition at line 14 of file keyaction.cpp.

References _value, NORMAL, SPECIAL, and UNBOUND.

Referenced by isNormal(), isSpecial(), isUnbound(), KbBindWidget::on_copyButton_clicked(), and KbBindWidget::on_resetButton_clicked().

```
14                                      {
15     if(_value.isEmpty())
16         return UNBOUND;
17     if(_value.at(0) == '$')
18         return SPECIAL;
19     return NORMAL;
20 }
```

Here is the caller graph for this function:



12.42.4.37 QString KeyAction::value ( ) const [inline]

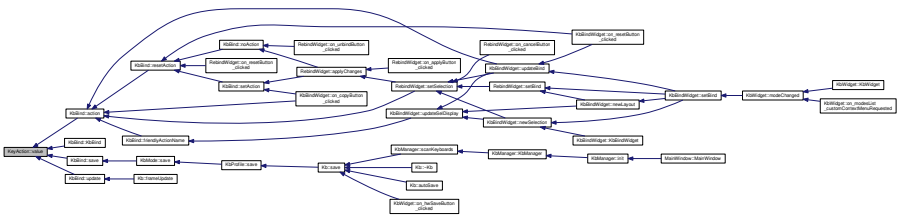
Definition at line 19 of file keyaction.h.

References _value.

Referenced by KbBind::action(), KbBind::KbBind(), KbBind::save(), and KbBind::update().

```
19 { return _value; }
```

Here is the caller graph for this function:



12.42.5 Field Documentation

12.42.5.1 QString KeyAction::_value [private]

Definition at line 188 of file keyaction.h.

Referenced by animInfo(), dpiInfo(), driverName(), friendlyName(), isAnim(), isDPI(), isMacro(), isMedia(), isMouse(), isProgram(), isValidMacro(), keyEvent(), macroContent(), macroDisplay(), macroFullLine(), macroLine(), macroTiming(), operator QString(), programInfo(), specialInfo(), type(), and value().

12.42.5.2 const int KeyAction::DPI_CUSTOM = 6 [static]

Definition at line 127 of file keyaction.h.

Referenced by dpiAction(), dpiInfo(), friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.3 const int KeyAction::DPI_DOWN = -1 [static]

Definition at line 126 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.4 const int KeyAction::DPI_SNIPER = 0 [static]

Definition at line 127 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.5 const int KeyAction::DPI_UP = -2 [static]

Definition at line 126 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.6 const int KeyAction::LIGHT_DOWN = 1 [static]

Definition at line 130 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.7 const int KeyAction::LIGHT_DOWN_WRAP = 3 [static]

Definition at line 131 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.8 const int KeyAction::LIGHT_UP = 0 [static]

Definition at line 130 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.9 const int KeyAction::LIGHT_UP_WRAP = 2 [static]

Definition at line 131 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.10 const int KeyAction::LOCK_OFF = 2 [static]

Definition at line 134 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.11 const int KeyAction::LOCK_ON = 1 [static]

Definition at line 134 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.12 const int KeyAction::LOCK_TOGGLE = 0 [static]

Definition at line 134 of file keyaction.h.

Referenced by friendlyName(), and keyEvent().

12.42.5.13 const int KeyAction::MODE_NEXT = -1 [static]

Definition at line 122 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.14 const int KeyAction::MODE_NEXT_WRAP = -3 [static]

Definition at line 123 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.15 const int KeyAction::MODE_PREV = -2 [static]

Definition at line 122 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.16 const int KeyAction::MODE_PREV_WRAP = -4 [static]

Definition at line 123 of file keyaction.h.

Referenced by friendlyName(), keyEvent(), and RebindWidget::setSelection().

12.42.5.17 QProcess* KeyAction::preProgram [private]

Definition at line 191 of file keyaction.h.

Referenced by keyEvent(), and ~KeyAction().

12.42.5.18 const int KeyAction::PROGRAM_PR_INDEF = 0x00 [static]

Definition at line 137 of file keyaction.h.

12.42.5.19 const int KeyAction::PROGRAM_PR_KPSTOP = 0x02 [static]

Definition at line 137 of file keyaction.h.

Referenced by keyEvent().

12.42.5.20 const int KeyAction::PROGRAM_PR_KRSTOP = 0x01 [static]

Definition at line 137 of file keyaction.h.

Referenced by keyEvent().

12.42.5.21 const int KeyAction::PROGRAM_PR_MULTI = 0x04 [static]

Definition at line 137 of file keyaction.h.

Referenced by RebindWidget::applyChanges(), keyEvent(), and RebindWidget::setSelection().

12.42.5.22 const int KeyAction::PROGRAM_RE_INDEF = 0x00 [static]

Definition at line 138 of file keyaction.h.

Referenced by RebindWidget::applyChanges(), and RebindWidget::setSelection().

12.42.5.23 const int KeyAction::PROGRAM_RE_KPSTOP = 0x20 [static]

Definition at line 138 of file keyaction.h.

Referenced by RebindWidget::applyChanges(), keyEvent(), and RebindWidget::setSelection().

12.42.5.24 const int KeyAction::PROGRAM_RE_MULTI = 0x40 [static]

Definition at line 138 of file keyaction.h.

Referenced by RebindWidget::applyChanges(), keyEvent(), and RebindWidget::setSelection().

12.42.5.25 QProcess* KeyAction::relProgram [private]

Definition at line 192 of file keyaction.h.

Referenced by keyEvent(), and ~KeyAction().

12.42.5.26 quint64 KeyAction::sniperValue [private]

Definition at line 195 of file keyaction.h.

Referenced by keyEvent().

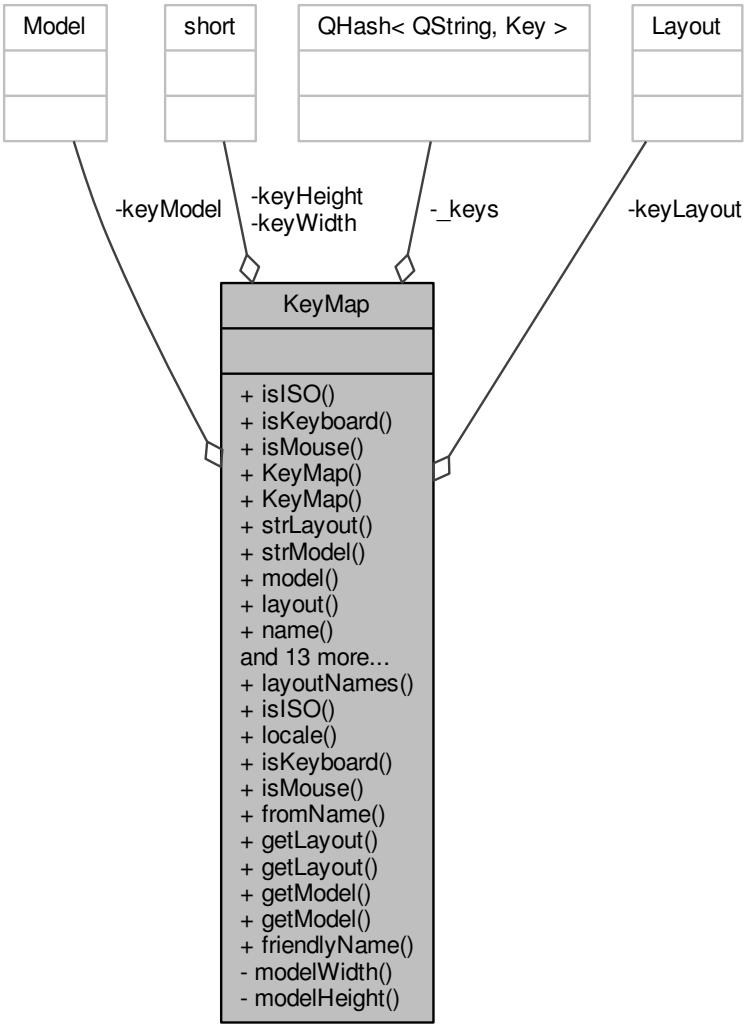
The documentation for this class was generated from the following files:

- src/ckb/keyaction.h
- src/ckb/keyaction.cpp

12.43 KeyMap Class Reference

`#include <src/ckb/keymap.h>`

Collaboration diagram for KeyMap:



Public Types

- enum Model {
  NO_MODEL = -1, K65, K70, K95,
  STRAFE, M65, SABRE, SCIMITAR,
  _MODEL_MAX }
- enum Layout {
  NO_LAYOUT = -1, DK, EU, EU_DVORAK,
  GB, GB_DVORAK, US, US_DVORAK,
  FR, DE, IT, NO,
  PL, MX, ES, SE,
  _LAYOUT_MAX }

Public Member Functions

- bool isISO () const
- bool isKeyboard () const
- bool isMouse () const
- KeyMap ()
- KeyMap (Model _keyModel, Layout _keyLayout)
- QString strLayout () const
- QString strModel () const
- Model model () const
- Layout layout () const
- QString name () const
- uint count () const
- uint width () const
- uint height () const
- Key key (const QString &name) const
- Key operator[] (const QString &name) const
- bool contains (const QString &name) const
- const QHash< QString, Key > & map () const
- operator const QHash< QString, Key > & () const
- QStringList keys () const
- QList< Key > positions () const
- QString toStorage (const QString &name)
- QString fromStorage (const QString &storage)
- QStringList byPosition () const

Static Public Member Functions

- static QStringList layoutNames ()
- static bool isISO (Layout layout)
- static Layout locale ()
- static bool isKeyboard (Model model)
- static bool isMouse (Model model)
- static KeyMap fromName (const QString &name)
- static Layout getLayout (const QString &name)
- static QString getLayout (Layout layout)
- static Model getModel (const QString &name)
- static QString getModel (Model model)
- static QString friendlyName (const QString &key, Layout layout=US)

Static Private Member Functions

- static int modelWidth (Model model)
- static int modelHeight (Model model)

Private Attributes

- QHash< QString, Key > _keys
- short keyWidth
- short keyHeight
- Model keyModel:8
- Layout keyLayout:8

12.43.1 Detailed Description

Definition at line 49 of file keymap.h.

12.43.2 Member Enumeration Documentation

12.43.2.1 enum KeyMap::Layout

Enumerator

NO_LAYOUT

DK

EU

EU_DVORAK

GB

GB_DVORAK

US

US_DVORAK

FR

DE

IT

NO

PL

MX

ES

SE

_LAYOUT_MAX

Definition at line 65 of file keymap.h.

```
65                 {
66         NO_LAYOUT = -1,
67         DK,                     // Danish
68         EU,                     // English (EU)
69         EU_DVORAK,
70         GB,                     // English (UK)
71         GB_DVORAK,
72         US,                     // English (US)
73         US_DVORAK,
74         FR,                     // French
75         DE,                     // German
76         IT,                     // Italian
77         NO,                     // Norwegian
78         PL,                     // Polish (identical to US)
79         MX,                     // Spanish (Mexico/Latin America)
80         ES,                     // Spanish (Spain)
81         SE,                     // Swedish
82         _LAYOUT_MAX
83     };
```

12.43.2.2 enum KeyMap::Model

Enumerator

NO_MODEL

K65

K70

K95

STRAFE

M65

SABRE

SCIMITAR

_MODEL_MAX

Definition at line 51 of file keymap.h.

```
51                {
52          NO_MODEL = -1,
53          // Keyboard models
54          K65,
55          K70,
56          K95,
57          STRAFE,
58          // Mouse models
59          M65,
60          SABRE,
61          SCIMITAR,
62          _MODEL_MAX
63      };
```

12.43.3 Constructor & Destructor Documentation

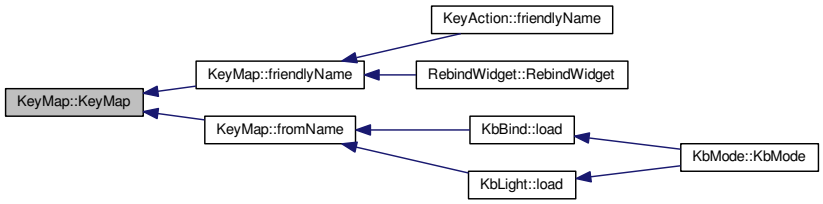
12.43.3.1 KeyMap::KeyMap ( )

Definition at line 583 of file keymap.cpp.

Referenced by friendlyName(), and fromName().

```
583                 :
584       keyWidth(0), keyHeight(0),
585       keyModel(NO_MODEL), keyLayout(NO_LAYOUT)
586 {}
```

Here is the caller graph for this function:



12.43.3.2 KeyMap::KeyMap (Model *_keyModel,* Layout *_keyLayout*)

Definition at line 577 of file keymap.cpp.

```
577                                                :
578      _keys(getMap(_keyModel, _keyLayout)),
579      keyWidth(modelWidth(_keyModel)), keyHeight(
       modelHeight(_keyModel)),
580      keyModel(_keyModel), keyLayout(_keyLayout)
581 {}
```

12.43.4 Member Function Documentation

12.43.4.1 QStringList KeyMap::byPosition ( ) const

Definition at line 588 of file keymap.cpp.

References Key::x, x, Key::y, and y.

Referenced by RebindWidget::setBind().

```
588                                    {
589     // Use QMaps to order the keys
590     QMap<int, QMap<int, QString> > ordered;
591     QHashIterator<QString, Key> i(*this);
592     while(i.hasNext()){
593         i.next();
594         const Key& key = i.value();
595         ordered[key.y][key.x] = i.key();
596     }
597     // Merge them into a single list
598     QStringList result;
599     QMapIterator<int, QMap<int, QString> > y(ordered);
600     while(y.hasNext()){
601         y.next();
602         QMapIterator<int, QString> x(y.value());
603         while(x.hasNext()){
604             x.next();
605             result << x.value();
606         }
607     }
608     return result;
609 }
```

Here is the caller graph for this function:

12.43.4.2 bool KeyMap::contains (const QString & *name*) const [inline]

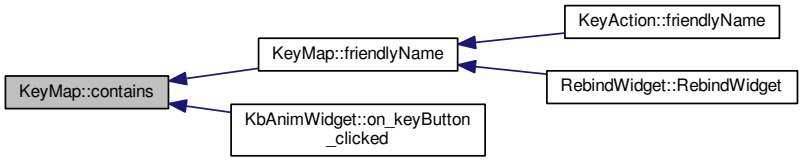
Definition at line 127 of file keymap.h.

References _keys.

Referenced by friendlyName(), and KbAnimWidget::on_keyButton_clicked().

```
127 { return _keys.contains(name); }
```

Here is the caller graph for this function:



12.43.4.3 uint KeyMap::count ( ) const [inline]

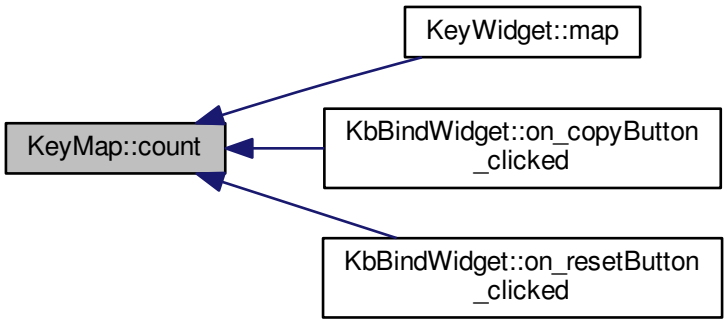
Definition at line 118 of file keymap.h.

References _keys.

Referenced by KeyWidget::map(), KbBindWidget::on_copyButton_clicked(), and KbBindWidget::on_resetButton_-clicked().

```
118 { return _keys.count(); }
```

Here is the caller graph for this function:



12.43.4.4 QString KeyMap::friendlyName (const QString & *key*, Layout *layout* = US) [static]

Definition at line 611 of file keymap.cpp.

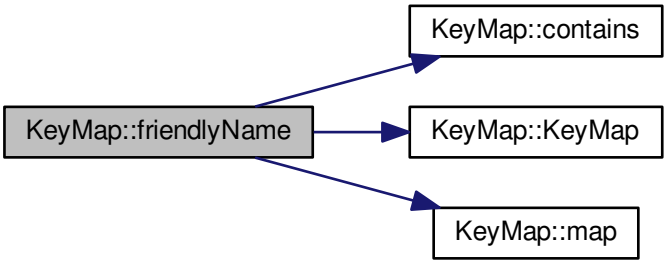
References contains(), K95, KeyMap(), M65, map(), SCIMITAR, and STRAFE.

Referenced by KeyAction::friendlyName(), and RebindWidget::RebindWidget().

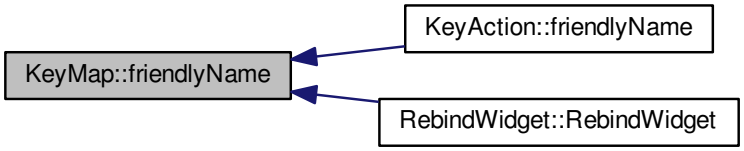
```
611                                                                 {
612     // Try K95 map first
613     // FIXME: This is an odd function and probably should be refactored
614     // it would probably be best to remove the friendly names from the maps and have a completely separate
       name->friendlyName store
615     KeyMap map(K95, layout);
616     if(map.contains(key))
617         return map[key].friendlyName();
618
619     // The only key missing from it should be Fn, which is found on STRAFE
620     map = KeyMap(STRAFE, layout);
621     if(map.contains(key))
622         return map[key].friendlyName();
623
624     // Additionally, there are a handful of keys not present on any physical keyboard, but we need names
       for them
625     if(key == "f13" || key == "f14" || key == "f15" || key == "f16" ||
      key == "f17" || key == "f18" || key == "f19" || key == "f20")
626         return key.toUpper();
627     else if(key == "lightup")
628         return "Screen Brightness Up";
629     else if(key == "lightdn")
630         return "Screen Brightness Down";
631     else if(key == "eject" || key == "power")
632         return key[0].toUpper() + key.mid(1);   // capitalize first letter
633
634     // All other names are found on mice
635     map = KeyMap(SCIMITAR, layout);
```

```
636     if(map.contains(key))
637         return map[key].friendlyName();
638     map = KeyMap(M65, layout);
639     if(map.contains(key))
640         return map[key].friendlyName();
641
642     // Not found at all
643     return "";
644 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.43.4.5 KeyMap KeyMap::fromName (const QString & *name*) [static]

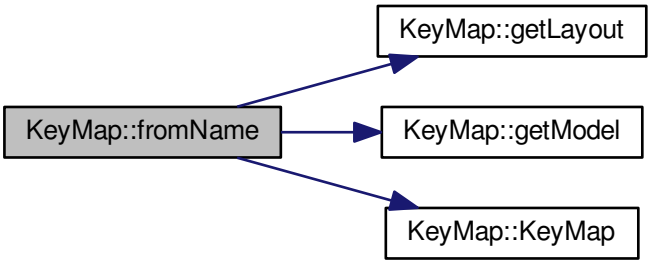
Definition at line 535 of file keymap.cpp.

References getLayout(), getModel(), and KeyMap().

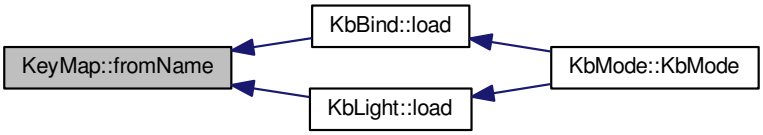
Referenced by KbBind::load(), and KbLight::load().

```
535                                         {
536     QStringList list = name.trimmed().split(" ");
537     if(list.length() != 2)
538         return KeyMap();
539     return KeyMap(getModel(list[0]), getLayout(list[1]));
540 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



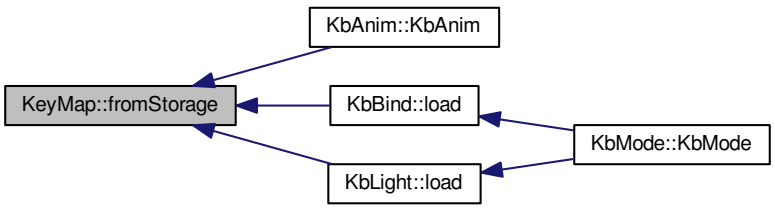
12.43.4.6 QString KeyMap::fromStorage (const QString & *storage*) [inline]

Definition at line 135 of file keymap.h.

Referenced by KbAnim::KbAnim(), KbBind::load(), and KbLight::load().

```
135 { QHashIterator<QString, Key> i(*this); while(i.hasNext()) { i.next(); const char* s = i.value().
      storageName(); if(s == storage) return i.value().name; } return storage; }
```

Here is the caller graph for this function:



12.43.4.7 KeyMap::Layout KeyMap::getLayout (const QString & *name*) [static]

Definition at line 407 of file keymap.cpp.

References DE, DK, ES, EU, EU_DVORAK, FR, GB, GB_DVORAK, IT, MX, NO, NO_LAYOUT, PL, SE, US, and US_DVORAK.

Referenced by fromName(), SettingsWidget::on_layoutBox_activated(), SettingsWidget::SettingsWidget(), and strLayout().

```
407                                                 {
408     QString lower = name.toLower();
409     if(lower == "dk")
410         return DK;
411     if(lower == "eu")
412         return EU;
413     if(lower == "eu_dvorak")
414         return EU_DVORAK;
415     if(lower == "gb_dvorak")
416         return GB_DVORAK;
417     if(lower == "us")
418         return US;
419     if(lower == "us_dvorak")
420         return US_DVORAK;
421     if(lower == "fr")
422         return FR;
423     if(lower == "de")
424         return DE;
425     if(lower == "it")
426         return IT;
427     if(lower == "no")
428         return NO;
429     if(lower == "pl")
430         return PL;
431     if(lower == "mx")
432         return MX;
433     if(lower == "es")
434         return ES;
435     if(lower == "se")
436         return SE;
437     if(lower == "gb")
438         return GB;
439     return NO_LAYOUT;
440 }
```

Here is the caller graph for this function:

12.43.4.8 QString KeyMap::getLayout (KeyMap::Layout *layout*) [static]

Definition at line 442 of file keymap.cpp.

References DE, DK, ES, EU, EU_DVORAK, FR, GB, GB_DVORAK, IT, MX, NO, PL, SE, US, and US_DVORAK.

```
442                                                 {
443     switch(layout){
444     case DK:
445         return "dk";
446     case EU:
447         return "eu";
448     case EU_DVORAK:
449         return "eu_dvorak";
450     case GB:
451         return "gb";
452     case GB_DVORAK:
453         return "gb_dvorak";
454     case US:
```

```
455         return "us";
456     case US_DVORAK:
457         return "us_dvorak";
458     case FR:
459         return "fr";
460     case DE:
461         return "de";
462     case IT:
463         return "it";
464     case NO:
465         return "no";
466     case PL:
467         return "pl";
468     case MX:
469         return "mx";
470     case ES:
471         return "es";
472     case SE:
473         return "se";
474     default:
475         return "";
476     }
477 }
```

12.43.4.9 KeyMap::Model KeyMap::getModel (const QString & *name*) [static]

Definition at line 495 of file keymap.cpp.

References K65, K70, K95, M65, NO_MODEL, SABRE, SCIMITAR, and STRAFE.

Referenced by fromName(), Kb::Kb(), and strModel().

```
495                                                 {
496     QString lower = name.toLower();
497     if(lower == "k65")
498         return K65;
499     if(lower == "k70")
500         return K70;
501     if(lower == "k95")
502         return K95;
503     if(lower == "strafe")
504         return STRAFE;
505     if(lower == "m65")
506         return M65;
507     if(lower == "sabre")
508         return SABRE;
509     if(lower == "scimitar")
510         return SCIMITAR;
511     return NO_MODEL;
512 }
```

Here is the caller graph for this function:

12.43.4.10 QString KeyMap::getModel (KeyMap::Model *model*) [static]

Definition at line 514 of file keymap.cpp.

References K65, K70, K95, M65, SABRE, SCIMITAR, and STRAFE.

```
514                                                 {
515     switch(model){
516     case K65:
517         return "k65";
518     case K70:
519         return "k70";
```

```
520     case K95:
521         return "k95";
522     case STRAFE:
523         return "strafe";
524     case M65:
525         return "m65";
526     case SABRE:
527         return "sabre";
528     case SCIMITAR:
529         return "scimitar";
530     default:
531         return "";
532     }
533 }
```

12.43.4.11 uint KeyMap::height ( ) const [inline]

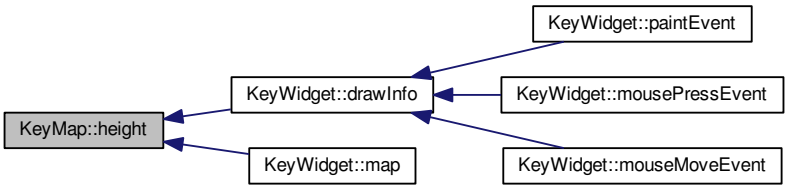
Definition at line 122 of file keymap.h.

References keyHeight.

Referenced by KeyWidget::drawInfo(), and KeyWidget::map().

```
122 { return keyHeight; }
```

Here is the caller graph for this function:



12.43.4.12 static bool KeyMap::isISO (Layout *layout*) [inline], [static]

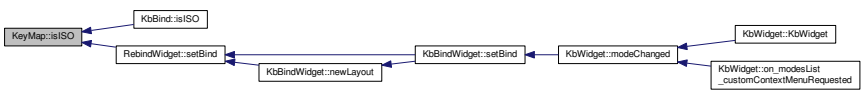
Definition at line 87 of file keymap.h.

References PL, US, and US_DVORAK.

Referenced by KbBind::isISO(), and RebindWidget::setBind().

```
87 { return layout != US && layout != US_DVORAK && layout !=
     PL; }
```

Here is the caller graph for this function:



12.43.4.13 bool KeyMap::isISO ( ) const [inline]

Definition at line 88 of file keymap.h.

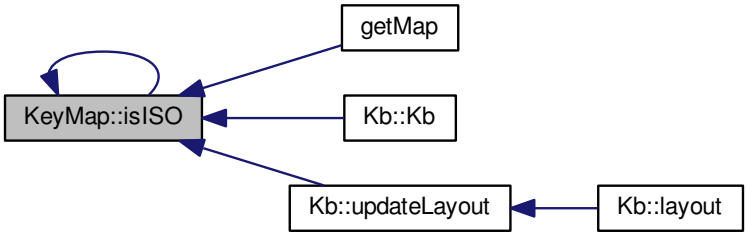
References isISO(), and keyLayout.

Referenced by getMap(), isISO(), Kb::Kb(), and Kb::updateLayout().

```
88 { return isISO(keyLayout); }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.43.4.14 static bool KeyMap::isKeyboard (Model *model*) [inline], [static]

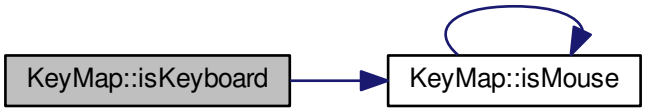
Definition at line 93 of file keymap.h.

References isMouse(), and NO_MODEL.

Referenced by KbBind::isKeyboard().

```
93 { return !isMouse(model) && model != NO_MODEL; }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.43.4.15 bool KeyMap::isKeyboard ( ) const [inline]

Definition at line 94 of file keymap.h.

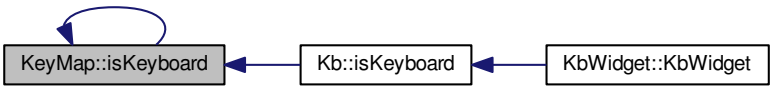
References isKeyboard(), and keyModel.

Referenced by Kb::isKeyboard(), and isKeyboard().

```
94 { return isKeyboard(keyModel); }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.43.4.16 static bool KeyMap::isMouse (Model *model*) [inline], [static]

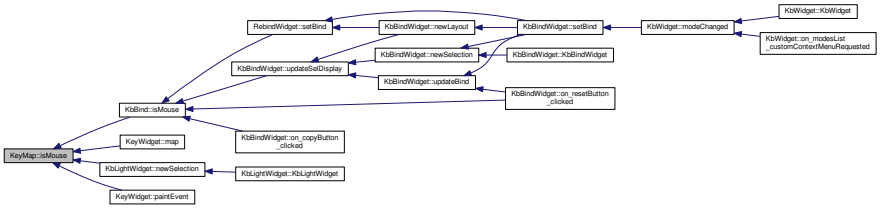
Definition at line 95 of file keymap.h.

References M65, SABRE, and SCIMITAR.

Referenced by KbBind::isMouse(), KeyWidget::map(), KbLightWidget::newSelection(), and KeyWidget::paintEvent().

```
95 { return model == M65 || model == SABRE || model ==
      SCIMITAR; }
```

Here is the caller graph for this function:



12.43.4.17 bool KeyMap::isMouse ( ) const [inline]

Definition at line 96 of file keymap.h.

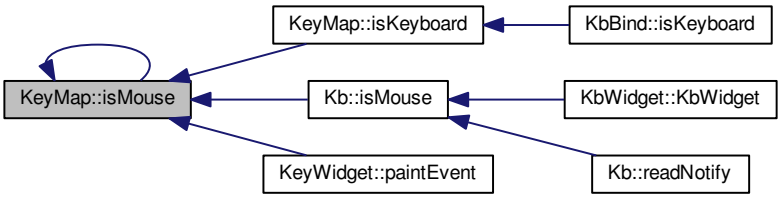
References isMouse(), and keyModel.

Referenced by isKeyboard(), Kb::isMouse(), isMouse(), and KeyWidget::paintEvent().

```
96 { return isMouse(keyModel); }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.43.4.18 Key KeyMap::key (const QString & *name*) const [inline]

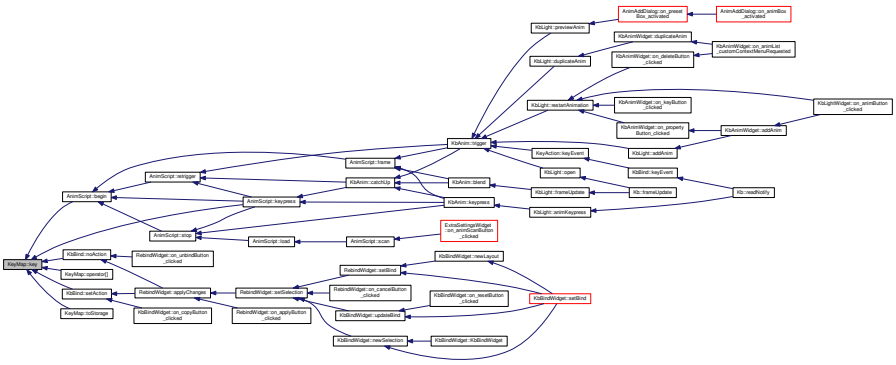
Definition at line 125 of file keymap.h.

References _keys.

Referenced by AnimScript::begin(), AnimScript::keypress(), KbBind::noAction(), operator[](), KbBind::setAction(), and toStorage().

```
125 { Key empty = {0,0,0,0,0,0,0,0,0}; return _keys.value(name, empty); }
```

Here is the caller graph for this function:



12.43.4.19 QStringList KeyMap::keys ( ) const [inline]

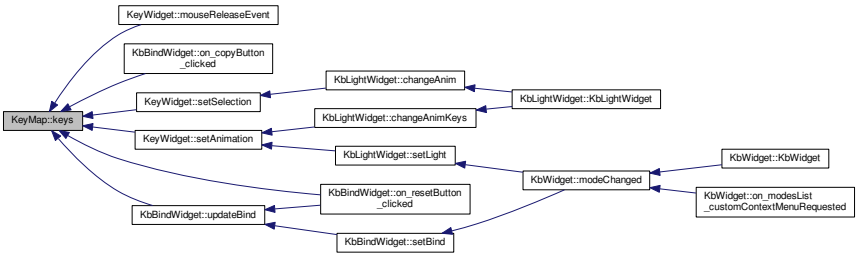
Definition at line 131 of file keymap.h.

References _keys.

Referenced by KeyWidget::mouseReleaseEvent(), KbBindWidget::on_copyButton_clicked(), KbBindWidget::on_-resetButton_clicked(), KeyWidget::setAnimation(), KeyWidget::setSelection(), and KbBindWidget::updateBind().

```
131 { return _keys.keys(); }
```

Here is the caller graph for this function:



12.43.4.20 Layout KeyMap::layout ( ) const [inline]

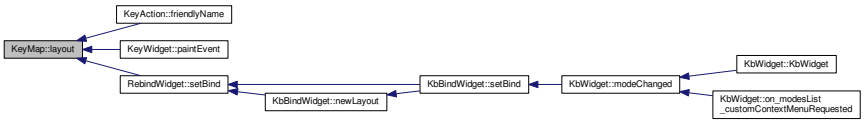
Definition at line 114 of file keymap.h.

References keyLayout.

Referenced by KeyAction::friendlyName(), KeyWidget::paintEvent(), and RebindWidget::setBind().

```
114 { return keyLayout; }
```

Here is the caller graph for this function:



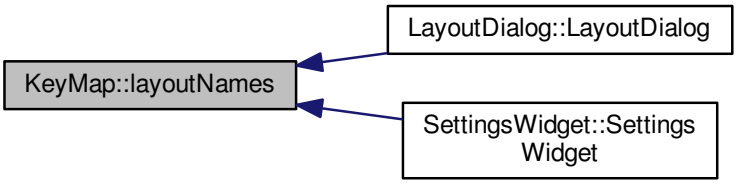
12.43.4.21 QStringList KeyMap::layoutNames ( ) [static]

Definition at line 479 of file keymap.cpp.

Referenced by LayoutDialog::LayoutDialog(), and SettingsWidget::SettingsWidget().

```
479                                {
480     return QStringList()
481             << "Danish"
482             << "English (ISO/European)" << "English (ISO/European, Dvorak)"
483             << "English (United Kingdom)" << "English (United Kingdom, Dvorak)"
484             << "English (United States)" << "English (United States, Dvorak)"
485             << "French"
486             << "German"
487             << "Italian"
488             << "Norwegian"
489             << "Polish"
490             << "Spanish (Latin America)"
491             << "Spanish (Spain)"
492             << "Swedish";
493 }
```

Here is the caller graph for this function:



12.43.4.22 KeyMap::Layout KeyMap::locale ( ) [static]

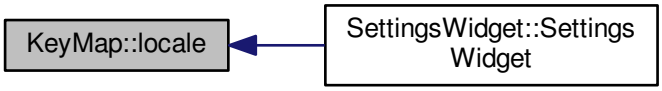
Definition at line 375 of file keymap.cpp.

References DE, DK, ES, FR, GB, IT, MX, NO, PL, SE, and US.

Referenced by SettingsWidget::SettingsWidget().

```
375                         {
376     setlocale(LC_ALL, "");
377     QString loc = setlocale(LC_CTYPE, 0);
378     loc = loc.toLower().replace('_', '-');
379     if(loc.startsWith("dk-"))
380         return KeyMap::DK;
381     else if(loc.startsWith("fr-"))
382         return KeyMap::FR;
383     else if(loc.startsWith("de-"))
384         return KeyMap::DE;
385     else if(loc.startsWith("it-"))
386         return KeyMap::IT;
387     else if(loc.startsWith("pl-"))
388         return KeyMap::PL;
389     else if(loc.startsWith("no-"))
390         return KeyMap::NO;
391     else if(loc.startsWith("es-es"))
392         // Spain uses the ES layout
393         return KeyMap::ES;
394     else if(loc.startsWith("es-"))
395         // Other Spanish locales use MX
396         return KeyMap::MX;
397     else if(loc.startsWith("se-"))
398         return KeyMap::SE;
399     else if(loc.startsWith("en-us") || loc.startsWith("en-au") || loc.startsWith("en-ca") || loc.startsWith
    ("en-hk") || loc.startsWith("en-in") || loc.startsWith("en-nz") || loc.startsWith("en-ph") || loc.startsWith
    ("en-sg") || loc.startsWith("en-za"))
400         // Most English locales use US
401         return KeyMap::US;
402     else
403         // Default to GB
404         return KeyMap::GB;
405 }
```

Here is the caller graph for this function:



12.43.4.23 const QHash<QString, Key>& KeyMap::map ( ) const [inline]

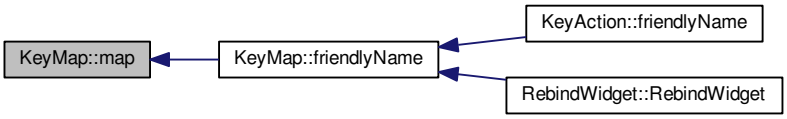
Definition at line 129 of file keymap.h.

References _keys.

Referenced by friendlyName().

```
129 { return _keys; }
```

Here is the caller graph for this function:



12.43.4.24 Model KeyMap::model ( ) const [inline]

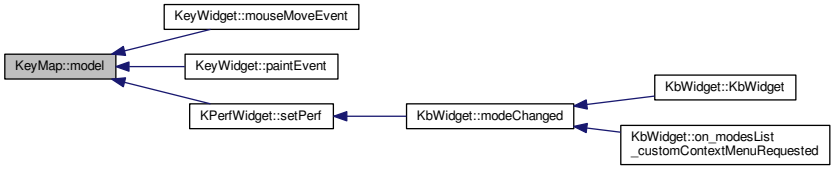
Definition at line 113 of file keymap.h.

References keyModel.

Referenced by KeyWidget::mouseMoveEvent(), KeyWidget::paintEvent(), and KPerfWidget::setPerf().

```
113 { return keyModel; }
```

Here is the caller graph for this function:



12.43.4.25 int KeyMap::modelHeight (Model *model*) [static], [private]

Definition at line 561 of file keymap.cpp.

References K65, K70, K95, K95_HEIGHT, M65, M65_HEIGHT, SABRE, SCIMITAR, and STRAFE.

```
561                                  {
562     switch(model){
563     case K65:
564     case K70:
565     case K95:
566     case STRAFE:
567         return K95_HEIGHT;
568     case M65:
569     case SABRE:
570     case SCIMITAR:
571         return M65_HEIGHT;
572     default:
573         return 0;
574     }
575 }
```

12.43.4.26 int KeyMap::modelWidth (Model *model*) [static], [private]

Definition at line 542 of file keymap.cpp.

References K65, K65_WIDTH, K70, K70_WIDTH, K95, K95_WIDTH, KSTRAFE_WIDTH, M65, M65_WIDTH, SABRE, SCIMITAR, and STRAFE.

```
542                                  {
543     switch(model){
544     case K65:
545         return K65_WIDTH;
546     case K70:
547         return K70_WIDTH;
548     case K95:
549         return K95_WIDTH;
550     case STRAFE:
551         return KSTRAFE_WIDTH;
552     case M65:
553     case SABRE:
554     case SCIMITAR:
555         return M65_WIDTH;
556     default:
557         return 0;
558     }
559 }
```

12.43.4.27 QString KeyMap::name ( ) const [inline]

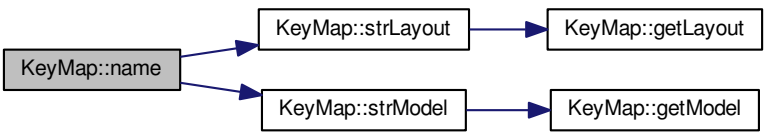
Definition at line 115 of file keymap.h.

References strLayout(), and strModel().

Referenced by KbBind::save(), KbLight::save(), and toStorage().

```
115 { return (strModel() + " " + strLayout()).toUpper(); }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.43.4.28 KeyMap::operator const QHash< QString, Key > & ( ) const [inline]

Definition at line 130 of file keymap.h.

References _keys.

```
130 { return _keys; }
```

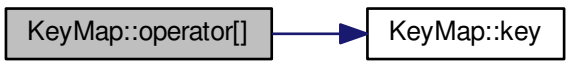
12.43.4.29 Key KeyMap::operator[] (const QString & *name*) const [inline]

Definition at line 126 of file keymap.h.

References key().

```
126 { return key(name); }
```

Here is the call graph for this function:



12.43.4.30 QList<Key> KeyMap::positions ( ) const [inline]

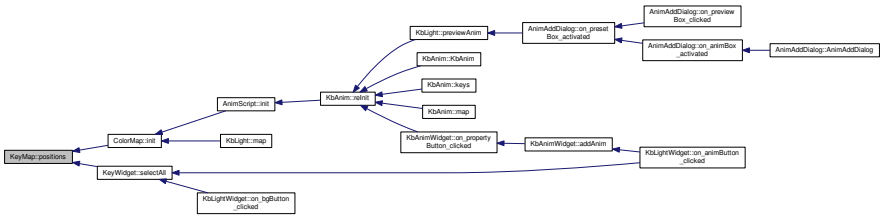
Definition at line 132 of file keymap.h.

References _keys.

Referenced by ColorMap::init(), and KeyWidget::selectAll().

```
132 { return _keys.values(); }
```

Here is the caller graph for this function:



12.43.4.31 QString KeyMap::strLayout ( ) const [inline]

Definition at line 106 of file keymap.h.

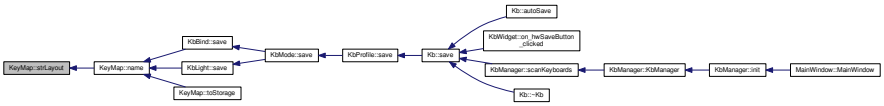
References getLayout(), and keyLayout.

Referenced by name().

```
106 { return getLayout(keyLayout); }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.43.4.32 QString KeyMap::strModel ( ) const [inline]

Definition at line 110 of file keymap.h.

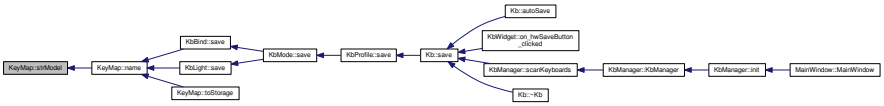
References getModel(), and keyModel.

Referenced by name().

```
110 { return getModel(keyModel); }
```

Here is the call graph for this function:

Here is the caller graph for this function:



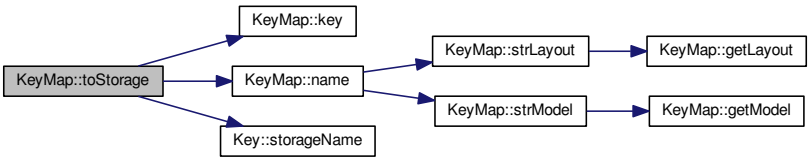
12.43.4.33 QString KeyMap::toStorage (const QString & *name*) [inline]

Definition at line 134 of file keymap.h.

References key(), name(), and Key::storageName().

```
134 { const char* storage = key(name).storageName(); if(!storage) return
      name; return storage; }
```

Here is the call graph for this function:



12.43.4.34 uint KeyMap::width ( ) const [inline]

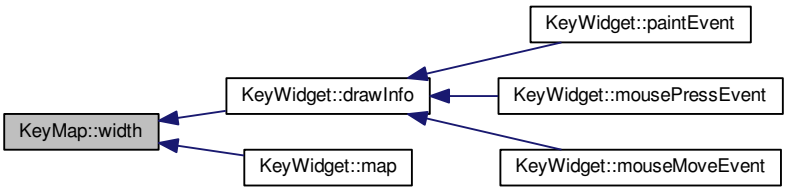
Definition at line 120 of file keymap.h.

References keyWidth.

Referenced by KeyWidget::drawInfo(), and KeyWidget::map().

```
120 { return keyWidth; }
```

Here is the caller graph for this function:



12.43.5 Field Documentation

12.43.5.1 QHash<QString, Key> KeyMap::_keys [private]

Definition at line 147 of file keymap.h.

Referenced by contains(), count(), key(), keys(), map(), operator const QHash< QString, Key > &(), and positions().

12.43.5.2 short KeyMap::keyHeight [private]

Definition at line 148 of file keymap.h.

Referenced by height().

12.43.5.3 Layout KeyMap::keyLayout [private]

Definition at line 150 of file keymap.h.

Referenced by isISO(), layout(), and strLayout().

12.43.5.4 Model KeyMap::keyModel [private]

Definition at line 149 of file keymap.h.

Referenced by isKeyboard(), isMouse(), model(), and strModel().

12.43.5.5 short KeyMap::keyWidth [private]

Definition at line 148 of file keymap.h.

Referenced by width().

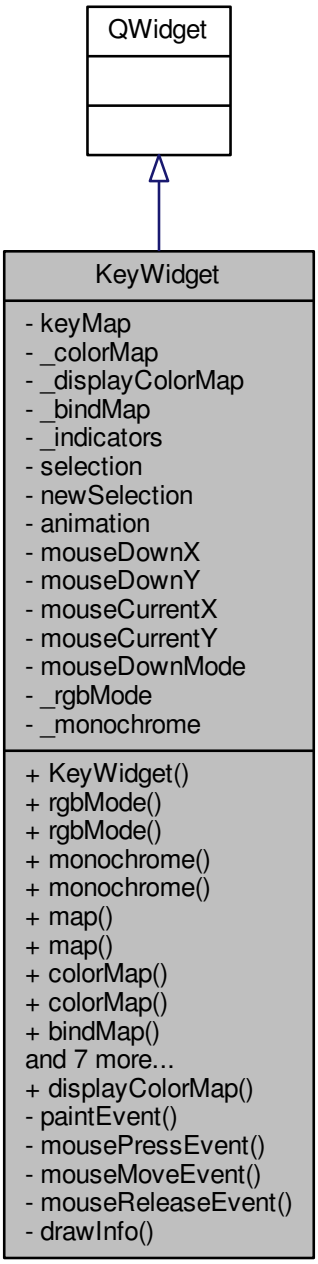
The documentation for this class was generated from the following files:

- src/ckb/keymap.h
- src/ckb/keymap.cpp

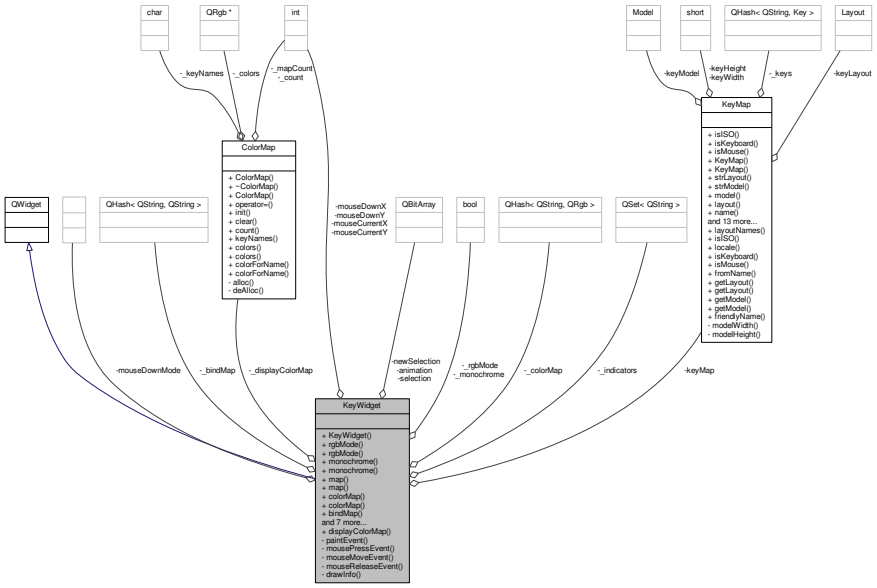
12.44 KeyWidget Class Reference

`#include <src/ckb/keywidget.h>`

Inheritance diagram for KeyWidget:



Collaboration diagram for KeyWidget:



Public Types

- typedef QHash< QString, QString > BindMap

Public Slots

- void displayColorMap (const ColorMap &newDisplayMap, const QSet< QString > &indicators=QSet< QString >())

Signals

- void selectionChanged (QStringList selected)
- void sidelightToggled ()

Public Member Functions

- KeyWidget (QWidget *parent=0, bool rgbMode=true)
- bool rgbMode ()
- void rgbMode (bool newRgbMode)
- bool monochrome ()
- void monochrome (bool newMono)
- const KeyMap & map () const
- void map (const KeyMap &newMap)
- const QColorMap & colorMap () const
- void colorMap (const QColorMap &newColorMap)
- const BindMap & bindMap () const
- void bindMap (const BindMap &newBindMap)
- void setSelection (const QStringList &keys)
- void selectAll ()
- void clearSelection ()

- void setAnimation (const QStringList &keys)
- void setAnimationToSelection ()
- void clearAnimation ()

Private Types

- enum {
  NONE, SET, ADD, SUBTRACT,
  TOGGLE }

Private Member Functions

- void paintEvent (QPaintEvent *)
- void mousePressEvent (QMouseEvent *event)
- void mouseMoveEvent (QMouseEvent *event)
- void mouseReleaseEvent (QMouseEvent *event)
- void drawInfo (float &scale, float &offsetX, float &offsetY, int ratio=1)

Private Attributes

- KeyMap keyMap
- QColorMap _colorMap
- ColorMap _displayColorMap
- BindMap _bindMap
- QSet< QString > _indicators
- QBitArray selection
- QBitArray newSelection
- QBitArray animation
- int mouseDownX
- int mouseDownY
- int mouseCurrentX
- int mouseCurrentY
- enum KeyWidget:: { ... } mouseDownMode
- bool _rgbMode
- bool _monochrome

12.44.1 Detailed Description

Definition at line 11 of file keywidget.h.

12.44.2 Member Typedef Documentation

12.44.2.1 typedef QHash<QString, QString> KeyWidget::BindMap

Definition at line 30 of file keywidget.h.

12.44.3 Member Enumeration Documentation

12.44.3.1 anonymous enum [private]

Enumerator

NONE

SET

ADD

SUBTRACT

TOGGLE

Definition at line 66 of file keywidget.h.

```
66          {
67         NONE,
68         SET,
69         ADD,
70         SUBTRACT,
71         TOGGLE,
72     } mouseDownMode;
```

12.44.4 Constructor & Destructor Documentation

12.44.4.1 KeyWidget::KeyWidget (QWidget * *parent* = 0, bool *rgbMode* = true) [explicit]

Definition at line 17 of file keywidget.cpp.

```
17                                                  :
18     QWidget(parent), mouseDownX(-1), mouseDownY(-1),
       mouseCurrentX(-1), mouseCurrentY(-1), mouseDownMode(
       NONE), _rgbMode(rgbMode), _monochrome(false)
19 {
20     setMouseTracking(true);
21     setAutoFillBackground(false);
22 }
```

12.44.5 Member Function Documentation

12.44.5.1 const BindMap& KeyWidget::bindMap ( ) const [inline]

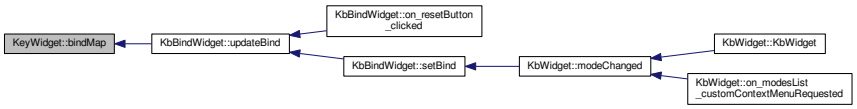
Definition at line 31 of file keywidget.h.

References _bindMap.

Referenced by KbBindWidget::updateBind().

```
31 { return _bindMap; }
```

Here is the caller graph for this function:



12.44.5.2 void KeyWidget::bindMap (const BindMap & *newBindMap*)

Definition at line 65 of file keywidget.cpp.

References _bindMap.

```
65                                                  {
66     _bindMap = newBindMap;
67     update();
68 }
```

12.44.5.3 void KeyWidget::clearAnimation ( )

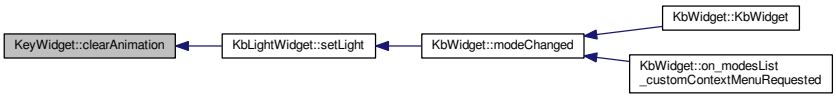
Definition at line 632 of file keywidget.cpp.

References animation.

Referenced by KbLightWidget::setLight().

```
632                                 {
633     animation.fill(false);
634     update();
635 }
```

Here is the caller graph for this function:



12.44.5.4 void KeyWidget::clearSelection ( )

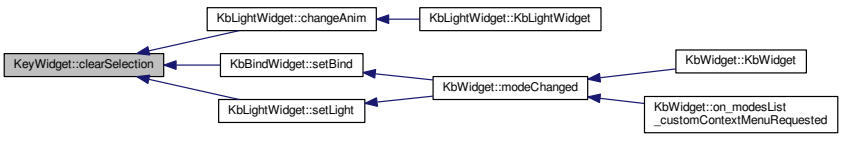
Definition at line 605 of file keywidget.cpp.

References mouseDownMode, newSelection, NONE, selection, and selectionChanged().

Referenced by KbLightWidget::changeAnim(), KbBindWidget::setBind(), and KbLightWidget::setLight().

```
605                                 {
606     selection.fill(false);
607     newSelection.fill(false);
608     mouseDownMode = NONE;
609     update();
610     emit selectionChanged(QStringList());
611 }
```

Here is the caller graph for this function:



12.44.5.5 const QColorMap& KeyWidget::colorMap ( ) const [inline]

Definition at line 27 of file keywidget.h.

References _colorMap.

Referenced by KbLightWidget::changeColor(), KbLightWidget::toggleSidelight(), and KbLightWidget::updateLight().

```
27 { return _colorMap; }
```

Here is the caller graph for this function:

12.44.5.6 void KeyWidget::colorMap (const QColorMap & *newColorMap*)

Definition at line 52 of file keywidget.cpp.

References _colorMap.

```
52                                                  {
53     _colorMap = newColorMap;
54     update();
55 }
```

12.44.5.7 void KeyWidget::displayColorMap (const ColorMap & *newDisplayMap*, const QSet< QString > & *indicators* = QSet<QString>()) [slot]

Definition at line 57 of file keywidget.cpp.

References _displayColorMap, and _indicators.

Referenced by KbLightWidget::on_showAnimBox_clicked().

```
57                                                                                  {
58     if(!isVisible())
59         return;
60     _displayColorMap = newDisplayMap;
61     _indicators = indicators;
62     update();
63 }
```

Here is the caller graph for this function:

12.44.5.8 void KeyWidget::drawInfo (float & *scale*, float & *offsetX*, float & *offsetY*, int *ratio* = 1) [private]

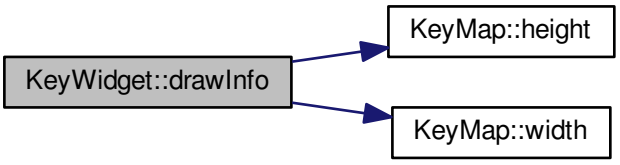
Definition at line 43 of file keywidget.cpp.

References KeyMap::height(), KEY_SIZE, keyMap, width, and KeyMap::width().

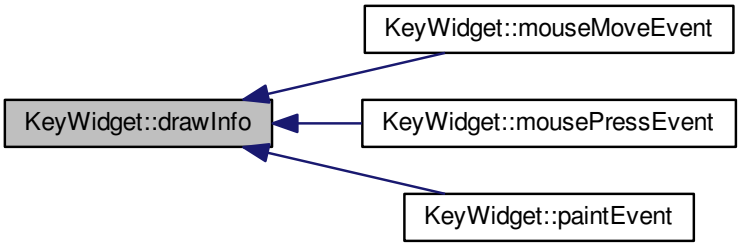
Referenced by mouseMoveEvent(), mousePressEvent(), and paintEvent().

```
43                                                                                  {
44     int w = width() * ratio, h = height() * ratio;
45     float xScale = (float)w / (keyMap.width() + KEY_SIZE);
46     float yScale = (float)h / (keyMap.height() + KEY_SIZE);
47     scale = fmin(xScale, yScale);
48     offsetX = (w / scale - keyMap.width()) / 2.f;
49     offsetY = (h / scale - keyMap.height()) / 2.f;
50 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.44.5.9 const KeyMap& KeyWidget::map ( ) const [inline]

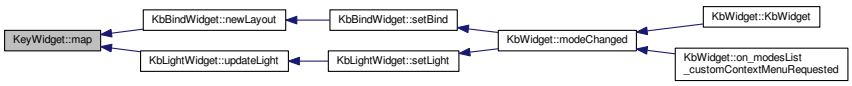
Definition at line 24 of file keywidget.h.

References keyMap.

Referenced by KbBindWidget::newLayout(), and KbLightWidget::updateLight().

```
24 { return keyMap; }
```

Here is the caller graph for this function:



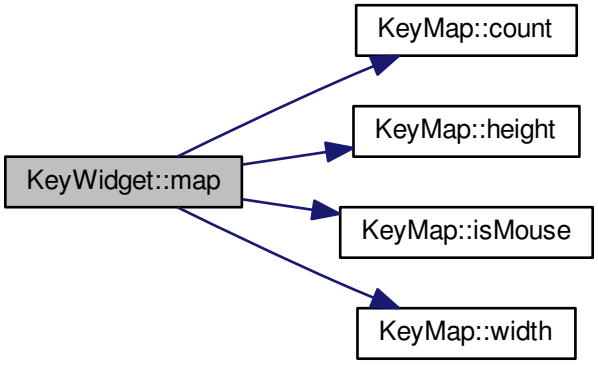
12.44.5.10 void KeyWidget::map (const KeyMap & *newMap*)

Definition at line 24 of file keywidget.cpp.

References animation, KeyMap::count(), KeyMap::height(), KeyMap::isMouse(), KEY_SIZE, keyMap, newSelection, selection, width, and KeyMap::width().

```
24                                      {
25     keyMap = newMap;
26     selection = QBitArray(keyMap.count());
27     newSelection = QBitArray(keyMap.count());
28     animation = QBitArray(keyMap.count());
29     int width, height;
30     if(keyMap.isMouse()){
31         width = (keyMap.width() + KEY_SIZE) * 2.6;
32         height = (keyMap.height() + KEY_SIZE) * 2.6;
33     } else {
34         width = (keyMap.width() + KEY_SIZE) * 2.3;
35         height = (keyMap.height() + KEY_SIZE) * 2.3;
36     }
37     if(width < 500)
38         width = 500;
39     setFixedSize(width, height);
40     update();
41 }
```

Here is the call graph for this function:



12.44.5.11 bool KeyWidget::monochrome ( ) [inline]

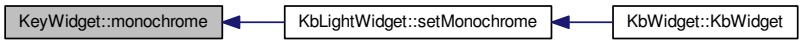
Definition at line 20 of file keywidget.h.

References _monochrome.

Referenced by KbLightWidget::setMonochrome().

```
20 { return _monochrome; }
```

Here is the caller graph for this function:



12.44.5.12 void KeyWidget::monochrome (bool *newMono*) [inline]

Definition at line 21 of file keywidget.h.

References _monochrome.

```
21 { _monochrome = newMono; update(); }
```

12.44.5.13 void KeyWidget::mouseMoveEvent (QMouseEvent * *event*) [private]

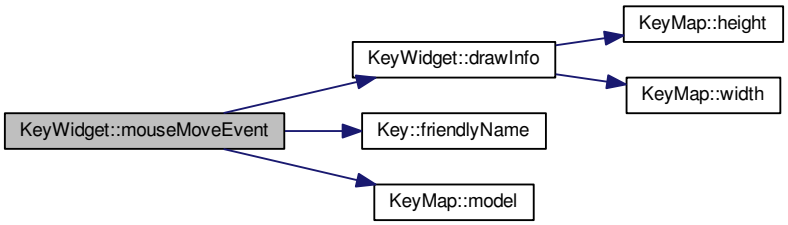
Definition at line 475 of file keywidget.cpp.

References _indicators, _rgbMode, drawInfo(), Key::friendlyName(), Key::hasLed, Key::hasScan, Key::height, keyMap, KeyMap::model(), mouseCurrentX, mouseCurrentY, mouseDownMode, mouseDownX, mouseDownY, Key::name, newSelection, NONE, KeyMap::STRAFE, Key::width, Key::x, and Key::y.

```
475                                                 {
476     event->accept();
477     QString tooltip;
478
479     // Find selection rectangle
480     mouseCurrentX = event->x();
481     mouseCurrentY = event->y();
482     float scale, offX, offY;
483     drawInfo(scale, offX, offY);
484     float mx = mouseCurrentX / scale - offX, my = mouseCurrentY / scale - offY;
485     float mx1, mx2, my1, my2;
486     if(mouseCurrentX >= mouseDownX){
487         mx1 = mouseDownX / scale - offX;
488         mx2 = mouseCurrentX / scale - offX;
489     } else {
490         mx1 = mouseCurrentX / scale - offX;
491         mx2 = mouseDownX / scale - offX;
492     }
493     if(mouseCurrentY >= mouseDownY){
494         my1 = mouseDownY / scale - offY;
495         my2 = mouseCurrentY / scale - offY;
496     } else {
497         my1 = mouseCurrentY / scale - offY;
498         my2 = mouseDownY / scale - offY;
499     }
500     // Clear new selection
501     if(mouseDownMode != NONE)
502         newSelection.fill(false);
503     // See if the event hit any keys
504     QHashIterator<QString, Key> k(keyMap);
505     uint i = -1;
506     while(k.hasNext()){
507         k.next();
508         i++;
509         const Key& key = k.value();
510         if((_rgbMode && !key.hasLed)
511                 || (!_rgbMode && !key.hasScan))
512             continue;
513         // Update tooltip with the mouse hover (if any), even if it's not selectable
514         if(fabs(key.x - mx) <= key.width / 2.f - 1.f && fabs(key.y - my) <= key.
```

```
    height / 2.f - 1.f
515                 && tooltip.isEmpty())
516             tooltip = key.friendlyName(false);
517         // on STRAFE Sidelights and indicators can't be assigned color the way other keys are colored
518         if(keyMap.model() == KeyMap::STRAFE && (!strcmp(key.
    name, "lside1") || !strcmp(key.name, "rside1") || _indicators.contains(key.
    name))) // FIX: _indicators check fails whenever _indicators is empty because "show animated" is
     unchecked
519             continue;
520         float kx1 = key.x - key.width / 2.f + 1.f;
521         float ky1 = key.y - key.height / 2.f + 1.f;
522         float kx2 = kx1 + key.width - 2.f;
523         float ky2 = ky1 + key.height - 2.f;
524         // If they overlap, add the key to the selection
525         if(!(mx1 >= kx2 || kx1 >= mx2)
526                 && !(my1 >= ky2 || ky1 >= my2)
527                 && mouseDownMode != NONE)
528             newSelection.setBit(i);
529     }
530
531     if(mouseDownMode != NONE)
532         update();
533     setToolTip(tooltip);
534 }
```

Here is the call graph for this function:



12.44.5.14 void KeyWidget::mousePressEvent (QMouseEvent * *event*) [private]

Definition at line 443 of file keywidget.cpp.

References _rgbMode, ADD, drawInfo(), Key::hasLed, Key::hasScan, Key::height, keyMap, mouseCurrentX, mouseCurrentY, mouseDownMode, mouseDownX, mouseDownY, Key::name, newSelection, SET, sidelightToggled(), SUBTRACT, TOGGLE, Key::width, Key::x, and Key::y.

```
443                                                 {
444     event->accept();
445     mouseDownMode = (event->modifiers() & Qt::AltModifier) ?
    SUBTRACT : (event->modifiers() & Qt::ShiftModifier) ? ADD : (event->modifiers() &
    Qt::ControlModifier) ? TOGGLE : SET;
446     mouseDownX = mouseCurrentX = event->x();
447     mouseDownY = mouseCurrentY = event->y();
448     // See if the event hit a key
449     float scale, offX, offY;
450     drawInfo(scale, offX, offY);
451     float mx = mouseCurrentX / scale - offX, my = mouseCurrentY / scale - offY;
452     QHashIterator<QString, Key> k(keyMap);
453     uint i = -1;
454     while(k.hasNext()){
455         k.next();
456         i++;
457         const Key& key = k.value();
458         if((_rgbMode && !key.hasLed)
459                 || (!_rgbMode && !key.hasScan))
460             continue;
461         if(fabs(key.x - mx) <= key.width / 2.f - 1.f && fabs(key.y - my) <= key.
    height / 2.f - 1.f){
462             // Sidelights can't have a color, but they can be toggled
463             if(!strcmp(key.name, "lside1") || !strcmp(key.name, "rside1")){
```

```
464                 emit sidelightToggled(); // get the kblightwidget to record it
465                 update();
466                 break;
467             }
468             newSelection.setBit(i);
469             update();
470             break;
471         }
472     }
473 }
```

Here is the call graph for this function:

12.44.5.15 void KeyWidget::mouseReleaseEvent (QMouseEvent * *event*) [private]

Definition at line 536 of file keywidget.cpp.

References ADD, keyMap, KeyMap::keys(), mouseDownMode, newSelection, NONE, selection, selectionChanged(), SET, SUBTRACT, and TOGGLE.

```
536                                                 {
537     event->accept();
538     if(mouseDownMode == NONE)
539         return;
540     // Apply the new selection
541     switch(mouseDownMode){
542     case SET:
543         selection = newSelection;
544         break;
545     case ADD:
546         selection |= newSelection;
547         break;
548     case SUBTRACT:
549         selection &= ~newSelection;
550         break;
551     case TOGGLE:
552         selection ^= newSelection;
553         break;
554     default:;
555     }
556     // Clear mousedown state.
557     newSelection.fill(false);
558     mouseDownMode = NONE;
559     // Emit signal with the names of the keys
560     QStringList selectedNames;
561     uint i = 0;
562     foreach(const QString& key, keyMap.keys()){
563         if(selection.testBit(i++))
564             selectedNames << key;
565     }
566     emit selectionChanged(selectedNames);
567     update();
568 }
```

Here is the call graph for this function:

12.44.5.16 void KeyWidget::paintEvent (QPaintEvent *) [private]

Definition at line 70 of file keywidget.cpp.

References _bindMap, _colorMap, _displayColorMap, _indicators, _monochrome, _rgbMode, ADD, animation, ColorMap::colorForName(), KbBind::defaultAction(), drawInfo(), KeyMap::EU, KeyMap::EU_DVORAK, Key::friendlyName(), KbBind::globalRemap(), Key::hasLed, Key::hasScan, Key::height, KeyMap::isMouse(), KeyMap::K65, keyMap, KeyMap::layout(), KeyMap::M65, m65Overlay, KeyMap::model(), monoRgb(), mouseCurrentX, mouseCurrentY, mouseDownMode, mouseDownX, mouseDownY, Key::name, newSelection, NONE, sabOverlay, KeyMap::SABRE, KeyMap::SCIMITAR, scimOverlay, selection, SET, KeyMap::STRAFE, SUBTRACT, TOGGLE, Key::width, width, Key::x, x, Key::y, and y.

```
70                                      {
71     const QColor bgColor(68, 64, 64);
72     const QColor keyColor(112, 110, 110);
73     const QColor sniperColor(130, 90, 90);
74     const QColor thumbColor(34, 32, 32);
75     const QColor transparentColor(0, 0, 0, 0);
76     const QColor highlightColor(136, 176, 240);
77     const QColor highlightAnimColor(136, 200, 240);
78     const QColor animColor(112, 200, 110);
79
80     // Determine which keys to highlight
81     QBitArray highlight;
82     switch(mouseDownMode){
83     case SET:
84         highlight = newSelection;
85         break;
86     case ADD:
87         highlight = selection | newSelection;
88         break;
89     case SUBTRACT:
90         highlight = selection & ~newSelection;
91         break;
92     case TOGGLE:
93         highlight = selection ^ newSelection;
94         break;
95     default:
96         highlight = selection;
97     }
98
99     QPainter painter(this);
100 #if QT_VERSION >= QT_VERSION_CHECK(5, 3, 0)
101     int ratio = painter.device()->devicePixelRatio();
102 #else
103     int ratio = 1;
104 #endif
105     int wWidth = width(), wHeight = height();
106     KeyMap::Model model = keyMap.model();
107     KeyMap::Layout layout = keyMap.layout();
108     float scale, offX, offY;
109     drawInfo(scale, offX, offY, ratio);
110     // Draw background
111     painter.setPen(Qt::NoPen);
112     painter.setRenderHint(QPainter::Antialiasing, true);
113
114     if(keyMap.isMouse()){
115         // Draw mouse overlays
116         const QImage* overlay = 0;
117         float xpos = 0.f, ypos = 0.f;
118         if(model == KeyMap::M65){
```

```
119             if(!m65Overlay)
120                 m65Overlay = new QImage(":/img/overlay_m65.png");
121             overlay = m65Overlay;
122             xpos = 2.f;
123             ypos = -2.f;
124         } else if(model == KeyMap::SABRE){
125             if(!sabOverlay)
126                 sabOverlay = new QImage(":/img/overlay_sabre.png");
127             overlay = sabOverlay;
128             xpos = 1.f;
129             ypos = -2.f;
130         } else if(model == KeyMap::SCIMITAR){
131             if(!scimOverlay)
132                 scimOverlay = new QImage(":/img/overlay_scimitar.png");
133             overlay = scimOverlay;
134             xpos = 3.5f;
135             ypos = -2.f;
136         }
137         if(overlay){
138             painter.setBrush(palette().brush(QPalette::Window));
139             painter.drawRect(0, 0, width(), height());
140             float oXScale = scale / 9.f, oYScale = scale / 9.f;             // The overlay has a resolution
     of 9px per keymap unit
141             float x = (xpos + offX) * scale, y = (ypos + offY) * scale;
142             int w = overlay->width() * oXScale, h = overlay->height() * oYScale;
143             // We need to transform the image with QImage::scaled() because painter.drawImage() will
     butcher it, even with smoothing enabled
144             // However, the width/height need to be rounded to integers
145             int iW = round(w), iH = round(h);
146             painter.drawImage(QRectF((x - (iW - w) / 2.f) / ratio, (y - (iH - h) / 2.f) / ratio, iW /
    ratio, iH / ratio), overlay->scaled(iW, iH, Qt::IgnoreAspectRatio, Qt::SmoothTransformation));
147         }
148     } else {
149         // Otherwise, draw a solid background
150         painter.setBrush(QBrush(bgColor));
151         painter.drawRect(0, 0, width(), height());
152     }
153
154     // Draw mouse highlight (if any)
155     if(mouseDownMode != NONE && (mouseDownX !=
    mouseCurrentX || mouseDownY != mouseCurrentY)){
156         int x1 = (mouseDownX > mouseCurrentX) ?
    mouseCurrentX : mouseDownX;
157         int x2 = (mouseDownX > mouseCurrentX) ?
    mouseDownX : mouseCurrentX;
158         int y1 = (mouseDownY > mouseCurrentY) ?
    mouseCurrentY : mouseDownY;
159         int y2 = (mouseDownY > mouseCurrentY) ?
    mouseDownY : mouseCurrentY;
160         painter.setPen(QPen(highlightColor, 0.5));
161         QColor bColor = highlightColor;
162         bColor.setAlpha(128);
163         painter.setBrush(QBrush(bColor));
164         painter.drawRect(x1, y1, x2 - x1, y2 - y1);
165     }
166
167     // Draw key backgrounds on a separate pixmap so that a drop shadow can be applied to them.
168     QPixmap keyBG(wWidth * ratio, wHeight * ratio);
169     keyBG.fill(QColor(0, 0, 0, 0));
170     QPainter bgPainter(&keyBG);
171     bgPainter.setRenderHints(QPainter::Antialiasing | QPainter::TextAntialiasing);
172     bgPainter.setPen(Qt::NoPen);
173     QHashIterator<QString, Key> k(keyMap);
174     uint i = -1;
175     while(k.hasNext()){
176         k.next();
177         i++;
178         const Key& key = k.value();
179         float x = key.x + offX - key.width / 2.f + 1.f;
180         float y = key.y + offY - key.height / 2.f + 1.f;
181         float w = key.width - 2.f;
182         float h = key.height - 2.f;
183         // In RGB mode, ignore keys without LEDs
184         if((_rgbMode && !key.hasLed)
185                 || (!_rgbMode && !key.hasScan))
186             continue;
187         // Set color based on key highlight
188         bgPainter.setOpacity(1.);
189         if(highlight.testBit(i)){
190             if(animation.testBit(i))
191                 bgPainter.setBrush(QBrush(highlightAnimColor));
192             else
193                 bgPainter.setBrush(QBrush(highlightColor));
194         } else if(animation.testBit(i)){
195             bgPainter.setBrush(QBrush(animColor));
196         } else {
197             if(!strcmp(key.name, "sniper"))
```

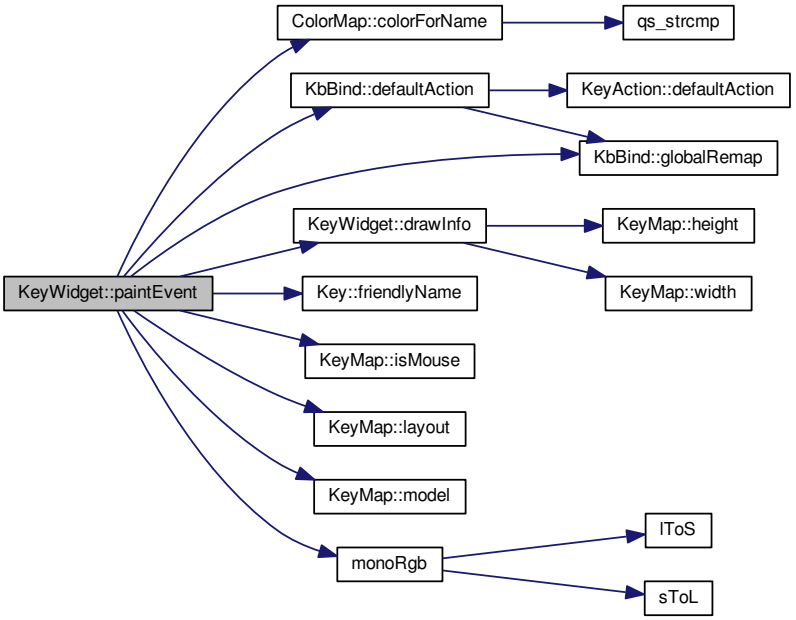
```
198                 // Sniper key uses a reddish base color instead of the usual grey
199                 bgPainter.setBrush(QBrush(sniperColor));
200             else if(model == KeyMap::SCIMITAR && !strncmp(key.
    name, "thumb", 5) && strcmp(key.name, "thumb"))
201                 // Thumbgrid keys use a black color
202                 bgPainter.setBrush(QBrush(thumbColor));
203             else if(!strcmp(key.name, "lsidel") || !strcmp(key.name, "rsidel") || !strcmp(key.
    name, "logo"))
204                 // Strafe side lights have different background
205                 bgPainter.setBrush(QBrush(transparentColor));
206             else {
207                 bgPainter.setBrush(QBrush(keyColor));
208                 if(KeyMap::isMouse(model))
209                     bgPainter.setOpacity(0.7);
210             }
211         }
212         if(model != KeyMap::STRAFE && (!strcmp(key.name, "mr") || !strcmp(key.
    name, "m1") || !strcmp(key.name, "m2") || !strcmp(key.name, "m3")
213                 || !strcmp(key.name, "light") || !strcmp(key.name, "lock") || (model ==
    KeyMap::K65 && !strcmp(key.name, "mute")))){
214             // Switch keys are circular except for Strafe. All Strafe keys are square
215             x += w / 8.f;
216             y += h / 8.f;
217             w *= 0.75f;
218             h *= 0.75f;
219             bgPainter.drawEllipse(QRectF(x * scale, y * scale, w * scale, h * scale));
220         } else {
221             if(!strcmp(key.name, "enter")){
222                 if(key.height == 24){
223                     // ISO enter key isn't rectangular
224                     y = key.y + 1.f;
225                     h = 10.f;
226                     bgPainter.drawRect(QRectF((x + w - 13.f) * scale, y * scale, 13.f * scale, 22.f * scale
    ));
227                 } else {
228                     // US enter key isn't perfectly centered, needs an extra pixel on the left to appear
     correctly
229                     x -= 1.f;
230                     w += 1.f;
231                 }
232             } else if(!strcmp(key.name, "rshift") || !strcmp(key.name, "stop")){
233                 // A few other keys also need extra pixels
234                 x -= 1.f;
235                 w += 1.f;
236             } else if(!strcmp(key.name, "caps") || !strcmp(key.name, "lshift") || !strcmp(key.
    name, "next")){
237                 w += 1.f;
238             }
239             bgPainter.drawRect(QRectF(x * scale, y * scale, w * scale, h * scale));
240         }
241     }
242
243     // Render the key decorations (RGB -> light circles, binding -> key names) on yet another layer
244     QPixmap decoration(wWidth * ratio, wHeight * ratio);
245     decoration.fill(QColor(0, 0, 0, 0));
246     QPainter decPainter(&decoration);
247     decPainter.setRenderHints(QPainter::Antialiasing | QPainter::TextAntialiasing);
248     if(_rgbMode){
249         // Draw key colors (RGB mode)
250         QHashIterator<QString, Key> k(keyMap);
251         uint i = -1;
252         while(k.hasNext()){
253             k.next();
254             i++;
255             const Key& key = k.value();
256             if(!key.hasLed)
257                 continue;
258             float x = key.x + offX - 1.8f;
259             float y = key.y + offY - 1.8f;
260             float w = 3.6f;
261             float h = 3.6f;
262             // Display a white circle around regular keys, red circle around indicators
263             if(_indicators.contains(key.name))
264                 decPainter.setPen(QPen(QColor(255, 248, 136), 1.5));
265             else
266                 decPainter.setPen(QPen(QColor(255, 255, 255), 1.5));
267             QRgb color;
268             const QRgb* inDisplay = _displayColorMap.
    colorForName(key.name);
269             if(inDisplay)
270                 // Color in display map? Grab it from there
271                 // (monochrome conversion not necessary as this would have been done by the animation)
272                 color = *inDisplay;
273             else {
274                 // Otherwise, read from base map
275                 color = _colorMap.value(k.key());
276                 if(_monochrome)
```

```
277                     color = monoRgb(qRed(color), qGreen(color), qBlue(color));
278             }
279             decPainter.setBrush(QBrush(color));
280             if (model == KeyMap::STRAFE) { // STRAFE custom design and special keys
281                 float kx = key.x + offX - key.width / 2.f + 1.f;
282                 float ky = key.y + offY - key.height / 2.f + 1.f;
283                 float kw = key.width - 2.f;
284                 float kh = key.height - 2.f;
285                 decPainter.setPen(QPen(QColor(255, 255, 255), 1.2)); // less invasive outline to show the
    key color better
286                 if(!strcmp(key.name, "logo")) { // stylized logo
287                     float lx = key.x + offX - key.width / 2.f + 2.f;
288                     float ly = key.y + offY - key.height / 2.f + 2.f;
289                     float lw = key.width - 4.f;
290                     float lh = key.height - 4.f;
291                     QPainterPath logo;
292                     logo.moveTo(lx*scale,(ly+lh)*scale);
293                     logo.quadTo((lx+2.f)*scale,(ly+lh/2.f)*scale,lx*scale,ly*scale);
294                     logo.quadTo((lx+lw)*scale,ly*scale,(lx+lw)*scale,(ly+lh)*scale);
295                     logo.quadTo((lx+lw/2.f)*scale,(ly+lh-4.f)*scale,lx*scale,(ly+lh)*scale);
296                     decPainter.drawPath(logo);
297                     //decPainter.setPen(QPen(Qt::green, 1.2)); //QColor(125,125,125)
298                     //decPainter.drawRect(QRectF(lx * scale, ly * scale, lw * scale, lh * scale)); // don't
    really know why the 12 and 24 make it work here, but they do
299                 } else if(!strcmp(key.name, "lsidel") || !strcmp(key.name, "rsidel")) { // Strafe
    side lights (toggle lights with no animation)
300                     QRadialGradient gradient(QPointF(wWidth/2.f * ratio, wHeight/2.f * ratio), wWidth/2.f *
    ratio);//,QPointF(10, 5));
301                     gradient.setColorAt(0, color);
302                     gradient.setColorAt(0.9, color); // bring up intensity
303                     gradient.setColorAt(1, bgColor);
304                     decPainter.setBrush(QBrush(gradient));
305                     decPainter.setPen(QPen(keyColor, 1.2)); //QColor(125,125,125)
306                     decPainter.drawRect(QRectF(kx * scale, ky * scale - 12 , kw * scale, kh * scale+24));
    // don't really know why the 12 and 24 make it work here, but they do
307                 } else if(_indicators.contains(key.name)) { // FIX: This check fails
    whenever _indicators is empty because "show animated" is unchecked
308                     decPainter.setPen(QPen(QColor(0,0,0,0), 1));    // no outline for the indicators, you
    can't change their color the standard way
309                     decPainter.drawRect(QRectF((kx+2.f) * scale, (ky+2.f) * scale, (kw-4.f) * scale, (kh-4.
    f) * scale)); // square indicators
310                 } else //everything else is a circle, just a tad bigger to show the key color better
311                     decPainter.drawEllipse(QRectF((x-1.f) * scale, (y-1.f) * scale, (w+2.f) * scale, (h+2.f
    ) * scale));
312             } else
313                 decPainter.drawEllipse(QRectF(x * scale, y * scale, w * scale, h * scale));
314         }
315     } else {
316         // Draw key names
317         decPainter.setBrush(Qt::NoBrush);
318         QFont font = painter.font();
319         font.setBold(true);
320         font.setPixelSize(5.25f * scale);
321         QFont font0 = font;
322         QHashIterator<QString, Key> k(keyMap);
323         uint i = -1;
324         while(k.hasNext()){
325             k.next();
326             i++;
327             const Key& key = k.value();
328             if(!key.hasScan)
329                 continue;
330             float x = key.x + offX - key.width / 2.f + 1.f;
331             float y = key.y + offY - key.height / 2.f;
332             float w = key.width - 2.f;
333             float h = key.height;
334             // Print the key's friendly name (with some exceptions)
335             QString keyName = KbBind::globalRemap(key.name);
336             QString name = key.friendlyName(false);
337             name = name.split(" ").last();
338             struct {
339                 const char* keyName, *displayName;
340             } names[] = {
341                 {"light", ""}, {"lock", ""}, {"mute", ""}, {"volup", keyMap.
    model() == KeyMap::K65 ? "))" : ""}, {"voldn", keyMap.
    model() == KeyMap::K65 ? ")" : ""},
342                 {"prtscn",  "PrtScn\nSysRq"}, {"scroll", "Scroll\nLock"}, {"pause", "Pause\nBreak"}, {"stop
    ", ""}, {"prev", "|"}, {"play", "||"}, {"next", "|"},
343                 {"pgup", "Page\nUp"}, {"pgdn", "Page\nDown"}, {"numlock", "Num\nLock"},
344                 {"caps", "Caps"}, {"lshift", "Shift"}, {"rshift", "Shift"},
345 #ifdef Q_OS_MACX
346                 {"lctrl", ""}, {"rctrl", ""}, {"lwin", ""}, {"rwin", ""}, {"lalt", ""}, {"ralt", ""},
347 #else
348                 {"lctrl", "Ctrl"}, {"rctrl", "Ctrl"}, {"lwin", ""}, {"rwin", ""}, {"lalt", "Alt"}, {"ralt
    ", "Alt"},
349 #endif
350                 {"rmenu", ""}, {"up", ""}, {"left", ""}, {"down", ""}, {"right", ""}, {"fn","Fn"},
```

```
351                 {"mouse1", ""}, {"mouse2", ""}, {"mouse3", ""}, {"dpiup", ""}, {"dpidn", ""}, {"wheelup"
    , ""}, {"wheeldn", ""}, {"dpi", ""}, {"mouse5", ""}, {"mouse4", ""}, {"sniper", ""}
352             };
353             for(uint k = 0; k < sizeof(names) / sizeof(names[0]); k++){
354                 if(keyName == names[k].keyName){
355                     name = names[k].displayName;
356                     break;
357                 }
358             }
359             if(keyName == "thumb1" && model == KeyMap::SABRE)
360                 name = "";
361             if(keyName == "mr" || keyName == "m1" || keyName == "m2" || keyName == "m3" || keyName == "up"
    || keyName == "down" || keyName == "left" || keyName == "right")
362                 // Use a smaller size for MR, M1 - M3, and arrow keys
363                 font.setPixelSize(font.pixelSize() * 0.75);
364             else if(keyName == "end")
365                 // Use a smaller size for "End" to match everything else in that area
366                 font.setPixelSize(font.pixelSize() * 0.65);
367             else if(keyName == "light"
368 #ifndef Q_OS_MACX
369                     || keyName == "lwin" || keyName == "rwin"
370 #endif
371                     )
372                 // Use a larger font size for Super (Linux only) and Brightness to compensate for the
     unicode symbols looking smaller
373                 font.setPixelSize(font.pixelSize() * 1.3);
374             if((layout == KeyMap::EU || layout == KeyMap::EU_DVORAK) && (keyName
     == "hash" || keyName == "bslash_iso"))
375                 // Don't differentiate backslashes on the EU layout
376                 name = "\\";
377             // Determine the appropriate size to draw the text at
378             decPainter.setFont(font);
379             QRectF rect(x * scale, y * scale - 1, w * scale, h * scale);
380             int flags = Qt::AlignHCenter | Qt::AlignVCenter | Qt::TextWordWrap;
381             QRectF bounds = decPainter.boundingRect(rect, flags, name);
382             while((bounds.height() >= rect.height() - 8. || bounds.width() >= rect.width() - 2.) && font.
    pixelSize() >= 5){
383                 // Scale font size down until it fits inside the key
384                 font.setPixelSize(font.pixelSize() - 2);
385                 decPainter.setFont(font);
386                 bounds = decPainter.boundingRect(rect, flags, name);
387             }
388             // Pick color based on key function
389             QString bind = _bindMap.value(key.name);
390             QString def = KbBind::defaultAction(key.name);
391             if(bind.isEmpty())
392                 // Unbound - red
393                 decPainter.setPen(QColor(255, 136, 136));
394             else if(KeyAction(bind).isProgram())
395                 // Custom program - orange
396                 decPainter.setPen(QColor(255, 224, 192));
397             else if(KeyAction(bind).isSpecial() && (bind == def || !
    KeyAction(def).isSpecial()))
398                 // Special function - blue (only if not mapped to a different function - if a special
     function is remapped, color it yellow)
399                 decPainter.setPen(QColor(128, 224, 255));
400             else if(KeyAction(bind).isMedia() && (bind == def || !
    KeyAction(def).isMedia()))
401                 // Media key - green
402                 decPainter.setPen(QColor(160, 255, 168));
403             else if(bind == def)
404                 // Standard key - white
405                 decPainter.setPen(QColor(255, 255, 255));
406             else
407                 // Remapped key - yellow
408                 decPainter.setPen(QColor(255, 248, 128));
409             decPainter.drawText(rect, flags, name);
410             font = font0;
411         }
412     }
413     // Create drop shadow effects
414     QGraphicsDropShadowEffect* bgEffect = new QGraphicsDropShadowEffect;  // Have to use "new", creating
     these on the stack causes a crash...
415     bgEffect->setBlurRadius(2.);
416     bgEffect->setColor(QColor(0, 0, 0, 32));
417     bgEffect->setOffset(0, 1);
418     QGraphicsDropShadowEffect* decEffect = new QGraphicsDropShadowEffect;
419     decEffect->setBlurRadius(4.);
420     decEffect->setColor(QColor(0, 0, 0, 104));
421     decEffect->setOffset(0, 1);
422     // Apply them to the pixmaps
423     QGraphicsPixmapItem* bgItem = new QGraphicsPixmapItem(keyBG);
424     bgItem->setGraphicsEffect(bgEffect);
425     QGraphicsPixmapItem* decItem = new QGraphicsPixmapItem(decoration);
426     decItem->setGraphicsEffect(decEffect);
427     // Render everything
428     QGraphicsScene* scene = new QGraphicsScene;
```

```
429     scene->addItem(bgItem);
430     scene->addItem(decItem);
431     // It has to be rendered onto yet another pixmap or else DPI scaling will look terrible...
432     QPixmap final(wWidth * ratio, wHeight * ratio);
433     final.fill(QColor(0, 0, 0, 0));
434     QPainter finalPainter(&final);
435     scene->render(&finalPainter, QRectF(0, 0, wWidth * ratio, wHeight * ratio), QRectF(0, 0, wWidth * ratio
      , wHeight * ratio));
436     delete scene;   // <- Automatically cleans up the rest of the objects
437 #if QT_VERSION >= QT_VERSION_CHECK(5, 3, 0)
438     final.setDevicePixelRatio(ratio);
439 #endif
440     painter.drawPixmap(QPointF(0., 0.), final);
441 }
```

Here is the call graph for this function:



12.44.5.17 bool KeyWidget::rgbMode ( ) [inline]

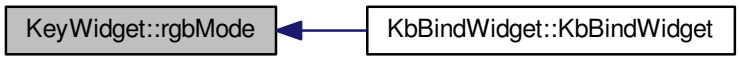
Definition at line 17 of file keywidget.h.

References _rgbMode.

Referenced by KbBindWidget::KbBindWidget().

```
17 { return _rgbMode; }
```

Here is the caller graph for this function:



12.44.5.18 void KeyWidget::rgbMode (bool *newRgbMode*) [inline]

Definition at line 18 of file keywidget.h.

References _rgbMode.

```
18 { _rgbMode = newRgbMode; update(); }
```

12.44.5.19 void KeyWidget::selectAll ( )

Definition at line 584 of file keywidget.cpp.

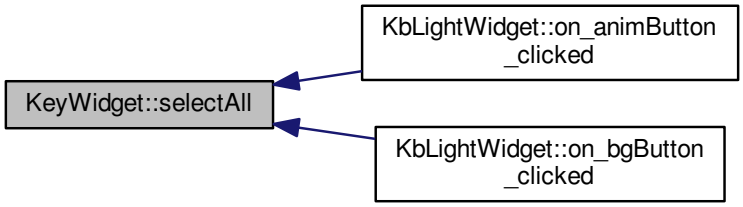
References _rgbMode, Key::hasLed, Key::hasScan, keyMap, mouseDownMode, Key::name, newSelection, NONE, KeyMap::positions(), selection, and selectionChanged().

Referenced by KbLightWidget::on_animButton_clicked(), and KbLightWidget::on_bgButton_clicked().

```
584                          {
585     selection.fill(false);
586     // Fill the selection with all keys that have an LED/scancode (depending on widget mode)
587     int i = 0;
588     QStringList selectedNames;
589     foreach(const Key& key, keyMap.positions()){
590         // Sidelights can't be selected
591         if(strcmp(key.name, "lsidel") && strcmp(key.name, "rsidel")
592            && ((_rgbMode && key.hasLed) || !(_rgbMode && key.
    hasScan))){
593             selection.setBit(i);
594             selectedNames << key.name;
595         }
596         i++;
597     }
598     // Clear mousedown state
599     newSelection.fill(false);
600     mouseDownMode = NONE;
601     update();
602     emit selectionChanged(selectedNames);
603 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



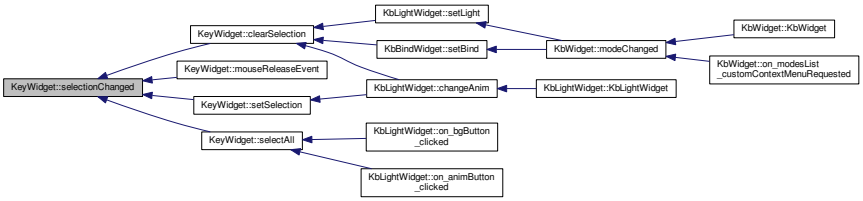
12.44.5.20 void KeyWidget::selectionChanged (QStringList *selected*) [signal]

Definition at line 164 of file moc_keywidget.cpp.

Referenced by clearSelection(), mouseReleaseEvent(), selectAll(), and setSelection().

```
165 {
166     void *_a[] = { Q_NULLPTR, const_cast<void*>(reinterpret_cast<const void*>(&_t1)) };
167     QMetaObject::activate(this, &staticMetaObject, 0, _a);
168 }
```

Here is the caller graph for this function:



12.44.5.21 void KeyWidget::setAnimation (const QStringList & *keys*)

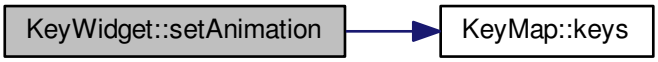
Definition at line 613 of file keywidget.cpp.

References animation, keyMap, and KeyMap::keys().

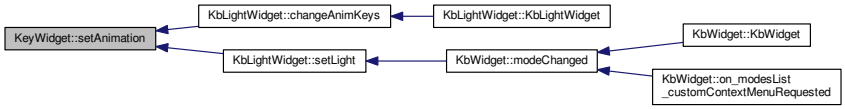
Referenced by KbLightWidget::changeAnimKeys(), and KbLightWidget::setLight().

```
613                                                 {
614     animation.fill(false);
615     QStringList allNames = keyMap.keys();
616     foreach(const QString& key, keys){
617         // Sidelights can't be selected
618         if(!strcmp(key.toLatin1(), "lsidel") || !strcmp(key.toLatin1(), "rsidel"))
619             continue;
620         int index = allNames.indexOf(key);
621         if(index >= 0)
622             animation.setBit(index);
623     }
624     update();
625 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.44.5.22 void KeyWidget::setAnimationToSelection ( )

Definition at line 627 of file keywidget.cpp.

References animation, and selection.

Referenced by KbLightWidget::changeAnim().

```
627                                         {
628     animation = selection;
629     update();
630 }
```

Here is the caller graph for this function:

12.44.5.23 void KeyWidget::setSelection (const QStringList & *keys*)

Definition at line 570 of file keywidget.cpp.

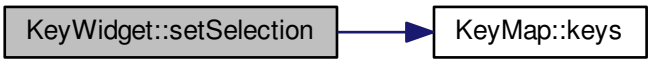
References keyMap, KeyMap::keys(), mouseDownMode, newSelection, NONE, selection, and selectionChanged().

Referenced by KbLightWidget::changeAnim().

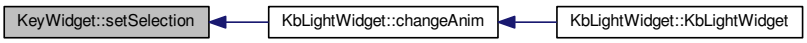
```
570                                                 {
571     selection.fill(false);
572     QStringList allNames = keyMap.keys();
573     foreach(const QString& key, keys){
574         int index = allNames.indexOf(key);
575         if(index >= 0)
```

```
576             selection.setBit(index);
577     }
578     newSelection.fill(false);
579     mouseDownMode = NONE;
580     update();
581     emit selectionChanged(keys);
582 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.44.5.24 void KeyWidget::sidelightToggled ( ) [signal]

Definition at line 171 of file moc_keywidget.cpp.

Referenced by mousePressEvent().

```
172 {
173     QMetaObject::activate(this, &staticMetaObject, 1, Q_NULLPTR);
174 }
```

Here is the caller graph for this function:

12.44.6 Field Documentation

12.44.6.1 BindMap KeyWidget::_bindMap [private]

Definition at line 58 of file keywidget.h.

Referenced by bindMap(), and paintEvent().

12.44.6.2 QColorMap KeyWidget::_colorMap [private]

Definition at line 56 of file keywidget.h.

Referenced by colorMap(), and paintEvent().

12.44.6.3 ColorMap KeyWidget::_displayColorMap [private]

Definition at line 57 of file keywidget.h.

Referenced by displayColorMap(), and paintEvent().

12.44.6.4 QSet<QString> KeyWidget::_indicators [private]

Definition at line 59 of file keywidget.h.

Referenced by displayColorMap(), mouseMoveEvent(), and paintEvent().

12.44.6.5 bool KeyWidget::_monochrome [private]

Definition at line 73 of file keywidget.h.

Referenced by monochrome(), and paintEvent().

12.44.6.6 bool KeyWidget::_rgbMode [private]

Definition at line 73 of file keywidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), paintEvent(), rgbMode(), and selectAll().

12.44.6.7 QBitArray KeyWidget::animation [private]

Definition at line 63 of file keywidget.h.

Referenced by clearAnimation(), map(), paintEvent(), setAnimation(), and setAnimationToSelection().

12.44.6.8 KeyMap KeyWidget::keyMap [private]

Definition at line 55 of file keywidget.h.

Referenced by drawInfo(), map(), mouseMoveEvent(), mousePressEvent(), mouseReleaseEvent(), paintEvent(), selectAll(), setAnimation(), and setSelection().

12.44.6.9 int KeyWidget::mouseCurrentX [private]

Definition at line 65 of file keywidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), and paintEvent().

12.44.6.10 int KeyWidget::mouseCurrentY [private]

Definition at line 65 of file keywidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), and paintEvent().

12.44.6.11 enum { ... } KeyWidget::mouseDownMode [private]

Referenced by clearSelection(), mouseMoveEvent(), mousePressEvent(), mouseReleaseEvent(), paintEvent(), selectAll(), and setSelection().

12.44.6.12 int KeyWidget::mouseDownX [private]

Definition at line 64 of file keywidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), and paintEvent().

12.44.6.13 int KeyWidget::mouseDownY [private]

Definition at line 64 of file keywidget.h.

Referenced by mouseMoveEvent(), mousePressEvent(), and paintEvent().

12.44.6.14 QBitArray KeyWidget::newSelection [private]

Definition at line 62 of file keywidget.h.

Referenced by clearSelection(), map(), mouseMoveEvent(), mousePressEvent(), mouseReleaseEvent(), paintEvent(), selectAll(), and setSelection().

12.44.6.15 QBitArray KeyWidget::selection [private]

Definition at line 61 of file keywidget.h.

Referenced by clearSelection(), map(), mouseReleaseEvent(), paintEvent(), selectAll(), setAnimationToSelection(), and setSelection().

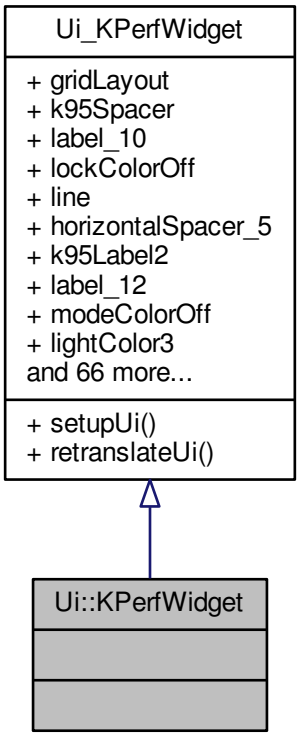
The documentation for this class was generated from the following files:

- src/ckb/keywidget.h
- src/ckb/keywidget.cpp
- src/ckb/release/moc_keywidget.cpp

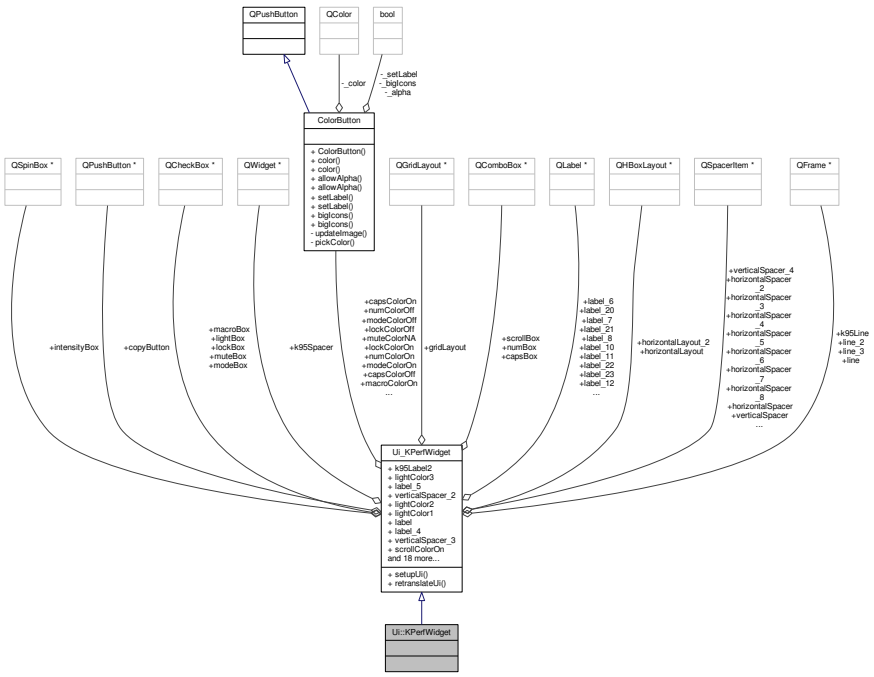
12.45 Ui::KPerfWidget Class Reference

`#include <src/ckb/ui_kperfwidget.h>`

Inheritance diagram for Ui::KPerfWidget:



Collaboration diagram for Ui::KPerfWidget:



Public Member Functions

- void setupUi (QWidget *KPerfWidget)
- void retranslateUi (QWidget *KPerfWidget)

Data Fields

- QGridLayout * gridLayout
- QWidget * k95Spacer
- QLabel * label_10
- ColorButton * lockColorOff
- QFrame * line
- QSpacerItem * horizontalSpacer_5
- QLabel * k95Label2
- QLabel * label_12
- ColorButton * modeColorOff
- ColorButton * lightColor3
- QSpacerItem * horizontalSpacer
- QCheckBox * lockBox
- ColorButton * modeColorOn
- QCheckBox * macroBox
- ColorButton * numColorOn
- QComboBox * numBox
- QLabel * label_5
- QSpacerItem * verticalSpacer_2
- ColorButton * lightColor2
- QSpacerItem * horizontalSpacer_7
- QLabel * label_8

- QCheckBox * lightBox
- ColorButton * lightColor1
- QSpacerItem * verticalSpacer_4
- QLabel * label_6
- QLabel * label
- QSpacerItem * horizontalSpacer_6
- ColorButton * lockColorOn
- QLabel * label_4
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_3
- QCheckBox * modeBox
- ColorButton * capsColorOff
- ColorButton * numColorOff
- ColorButton * capsColorOn
- QFrame * line_3
- QLabel * label_22
- QComboBox * scrollBox
- QLabel * label_7
- ColorButton * scrollColorOn
- QComboBox * capsBox
- ColorButton * scrollColorOff
- QCheckBox * muteBox
- ColorButton * muteColorOn
- ColorButton * macroColorOff
- QLabel * label_3
- ColorButton * muteColorOff
- QLabel * k95Label3
- ColorButton * macroColorOn
- ColorButton * muteColorNA
- QLabel * label_19
- QFrame * k95Line
- QLabel * label_21
- QLabel * label_24
- QLabel * label_20
- QLabel * label_16
- QLabel * label_14
- QLabel * label_18
- QSpacerItem * horizontalSpacer_2
- QLabel * label_15
- QLabel * k95Label4
- QLabel * label_17
- QLabel * label_11
- QLabel * label_23
- QLabel * k95Label1
- QHBoxLayout * horizontalLayout_2
- QPushButton * copyButton
- QSpacerItem * horizontalSpacer_8
- QHBoxLayout * horizontalLayout
- QLabel * label_2
- QSpacerItem * horizontalSpacer_4
- QSpinBox * intensityBox
- QSpacerItem * horizontalSpacer_3
- QLabel * k95Label5
- QFrame * line_2
- QLabel * k95Label6

12.45.1 Detailed Description

Definition at line 677 of file ui_kperfwidget.h.

12.45.2 Member Function Documentation

12.45.2.1 void Ui_KPerfWidget::retranslateUi (QWidget * *KPerfWidget*) [inline],[inherited]

Definition at line 589 of file ui_kperfwidget.h.

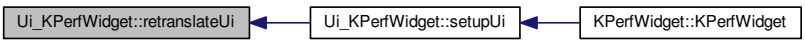
References Ui_KPerfWidget::capsBox, Ui_KPerfWidget::capsColorOff, Ui_KPerfWidget::capsColorOn, Ui_KPerfWidget::copyButton, Ui_KPerfWidget::intensityBox, Ui_KPerfWidget::k95Label1, Ui_KPerfWidget::k95Label2, Ui_KPerfWidget::k95Label3, Ui_KPerfWidget::k95Label4, Ui_KPerfWidget::k95Label5, Ui_KPerfWidget::k95Label6, Ui_KPerfWidget::label, Ui_KPerfWidget::label_10, Ui_KPerfWidget::label_11, Ui_KPerfWidget::label_12, Ui_KPerfWidget::label_14, Ui_KPerfWidget::label_15, Ui_KPerfWidget::label_16, Ui_KPerfWidget::label_17, Ui_KPerfWidget::label_18, Ui_KPerfWidget::label_19, Ui_KPerfWidget::label_2, Ui_KPerfWidget::label_20, Ui_KPerfWidget::label_21, Ui_KPerfWidget::label_22, Ui_KPerfWidget::label_23, Ui_KPerfWidget::label_24, Ui_KPerfWidget::label_3, Ui_KPerfWidget::label_4, Ui_KPerfWidget::label_5, Ui_KPerfWidget::label_6, Ui_KPerfWidget::label_7, Ui_KPerfWidget::label_8, Ui_KPerfWidget::lightBox, Ui_KPerfWidget::lightColor1, Ui_KPerfWidget::lightColor2, Ui_KPerfWidget::lightColor3, Ui_KPerfWidget::lockBox, Ui_KPerfWidget::lockColorOff, Ui_KPerfWidget::lockColorOn, Ui_KPerfWidget::macroBox, Ui_KPerfWidget::macroColorOff, Ui_KPerfWidget::macroColorOn, Ui_KPerfWidget::modeBox, Ui_KPerfWidget::modeColorOff, Ui_KPerfWidget::modeColorOn, Ui_KPerfWidget::muteBox, Ui_KPerfWidget::muteColorNA, Ui_KPerfWidget::muteColorOff, Ui_KPerfWidget::muteColorOn, Ui_KPerfWidget::numBox, Ui_KPerfWidget::numColorOff, Ui_KPerfWidget::numColorOn, Ui_KPerfWidget::scrollBox, Ui_KPerfWidget::scrollColorOff, and Ui_KPerfWidget::scrollColorOn.

Referenced by Ui_KPerfWidget::setupUi().

```
590     {
591         KPerfWidget->setWindowTitle(QApplication::translate("KPerfWidget", "Form", Q_NULLPTR));
592         label_10->setText(QApplication::translate("KPerfWidget", "100%", Q_NULLPTR));
593         lockColorOff->setText(QString());
594         k95Label2->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
595         label_12->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
596         modeColorOff->setText(QString());
597         lightColor3->setText(QString());
598         lockBox->setText(QApplication::translate("KPerfWidget", "Indicate Windows Lock:", Q_NULLPTR)
    );
599         modeColorOn->setText(QString());
600         macroBox->setText(QApplication::translate("KPerfWidget", "Indicate macro recording:",
    Q_NULLPTR));
601         numColorOn->setText(QString());
602         numBox->clear();
603         numBox->insertItems(0, QStringList()
604          << QApplication::translate("KPerfWidget", "Normal", Q_NULLPTR)
605          << QApplication::translate("KPerfWidget", "Always on", Q_NULLPTR)
606          << QApplication::translate("KPerfWidget", "Always off", Q_NULLPTR)
607          << QApplication::translate("KPerfWidget", "RGB indicator", Q_NULLPTR)
608          << QApplication::translate("KPerfWidget", "RGB + normal", Q_NULLPTR)
609         );
610         label_5->setText(QApplication::translate("KPerfWidget", "Num lock:", Q_NULLPTR));
611         lightColor2->setText(QString());
612         label_8->setText(QApplication::translate("KPerfWidget", "Note: many desktop environments do
     not use scroll lock. The indicator may not turn on even when enabled.", Q_NULLPTR));
613         lightBox->setText(QApplication::translate("KPerfWidget", "Indicate brightness:", Q_NULLPTR)
    );
614         lightColor1->setText(QString());
615         label_6->setText(QApplication::translate("KPerfWidget", "Caps lock:", Q_NULLPTR));
616         label->setText(QApplication::translate("KPerfWidget", "Miscellaneous", Q_NULLPTR));
617         lockColorOn->setText(QString());
618         label_4->setText(QApplication::translate("KPerfWidget", "Lock lights", Q_NULLPTR));
619         modeBox->setText(QApplication::translate("KPerfWidget", "Indicate current mode:", Q_NULLPTR)
    );
620         capsColorOff->setText(QString());
621         numColorOff->setText(QString());
622         capsColorOn->setText(QString());
623         label_22->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
624         scrollBox->clear();
625         scrollBox->insertItems(0, QStringList()
626          << QApplication::translate("KPerfWidget", "Normal", Q_NULLPTR)
627          << QApplication::translate("KPerfWidget", "Always on", Q_NULLPTR)
628          << QApplication::translate("KPerfWidget", "Always off", Q_NULLPTR)
629          << QApplication::translate("KPerfWidget", "RGB indicator", Q_NULLPTR)
```

```
630          << QApplication::translate("KPerfWidget", "RGB + normal", Q_NULLPTR)
631         );
632         label_7->setText(QApplication::translate("KPerfWidget", "Scroll lock:", Q_NULLPTR));
633         scrollColorOn->setText(QString());
634         capsBox->clear();
635         capsBox->insertItems(0, QStringList()
636          << QApplication::translate("KPerfWidget", "Normal", Q_NULLPTR)
637          << QApplication::translate("KPerfWidget", "Always on", Q_NULLPTR)
638          << QApplication::translate("KPerfWidget", "Always off", Q_NULLPTR)
639          << QApplication::translate("KPerfWidget", "RGB indicator", Q_NULLPTR)
640          << QApplication::translate("KPerfWidget", "RGB + normal", Q_NULLPTR)
641         );
642         scrollColorOff->setText(QString());
643         muteBox->setText(QApplication::translate("KPerfWidget", "Indicate mute:", Q_NULLPTR));
644         muteColorOn->setText(QString());
645         macroColorOff->setText(QString());
646         label_3->setText(QApplication::translate("KPerfWidget", "Top row", Q_NULLPTR));
647         muteColorOff->setText(QString());
648         k95Label3->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
649         macroColorOn->setText(QString());
650 #ifndef QT_NO_TOOLTIP
651         muteColorNA->setToolTip(QApplication::translate("KPerfWidget", "If the sound device does
       not support muting, or if mute status is unknown, this color will be displayed.", Q_NULLPTR));
652 #endif // QT_NO_TOOLTIP
653         muteColorNA->setText(QString());
654         label_19->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
655         label_21->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
656         label_24->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
657         label_20->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
658         label_16->setText(QApplication::translate("KPerfWidget", "67%", Q_NULLPTR));
659         label_14->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
660         label_18->setText(QApplication::translate("KPerfWidget", "33%", Q_NULLPTR));
661         label_15->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
662         k95Label4->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
663         label_17->setText(QApplication::translate("KPerfWidget", "Unknown", Q_NULLPTR));
664         label_11->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
665         label_23->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
666         k95Label1->setText(QApplication::translate("KPerfWidget", "K95 buttons", Q_NULLPTR));
667         copyButton->setText(QApplication::translate("KPerfWidget", "Copy to mode...", Q_NULLPTR))
    ;
668         label_2->setText(QApplication::translate("KPerfWidget", "Indicator intensity:", Q_NULLPTR));
669         intensityBox->setSuffix(QApplication::translate("KPerfWidget", "%", Q_NULLPTR));
670         k95Label5->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
671         k95Label6->setText(QApplication::translate("KPerfWidget", "Note: macro recording not yet
       implemented. Indicator will always display \"off\".", Q_NULLPTR));
672     } // retranslateUi
```

Here is the caller graph for this function:



12.45.2.2 void Ui_KPerfWidget::setupUi (QWidget * *KPerfWidget*) [inline], [inherited]

Definition at line 111 of file ui_kperfwidget.h.

References Ui_KPerfWidget::capsBox, Ui_KPerfWidget::capsColorOff, Ui_KPerfWidget::capsColorOn, Ui_KPerfWidget::copyButton, Ui_KPerfWidget::gridLayout, Ui_KPerfWidget::horizontalLayout, Ui_KPerfWidget::horizontalLayout_2, Ui_KPerfWidget::horizontalSpacer, Ui_KPerfWidget::horizontalSpacer_2, Ui_KPerfWidget::horizontalSpacer_3, Ui_KPerfWidget::horizontalSpacer_4, Ui_KPerfWidget::horizontalSpacer_5, Ui_KPerfWidget::horizontalSpacer_6, Ui_KPerfWidget::horizontalSpacer_7, Ui_KPerfWidget::horizontalSpacer_8, Ui_KPerfWidget::intensityBox, Ui_KPerfWidget::k95Label1, Ui_KPerfWidget::k95Label2, Ui_KPerfWidget::k95Label3, Ui_KPerfWidget::k95Label4, Ui_KPerfWidget::k95Label5, Ui_KPerfWidget::k95Label6, Ui_KPerfWidget::k95Line, Ui_KPerfWidget::k95Spacer, Ui_KPerfWidget::label, Ui_KPerfWidget::label_10, Ui_KPerfWidget::label_11, Ui_KPerfWidget::label_12, Ui_KPerfWidget::label_14, Ui_KPerfWidget::label_15, Ui_KPerfWidget::label_16, Ui_KPerfWidget::label_17, Ui_KPerfWidget::label_18, Ui_KPerfWidget::label_19, Ui_KPerfWidget::label_2, Ui_KPerfWidget::label_20, Ui_KPerfWidget::label_21, Ui_KPerfWidget::label_22, Ui_KPerfWidget::label_23, Ui_KPerfWidget::label_24, Ui_KPerfWidget::label_3, Ui_KPerfWidget::label_4, Ui_KPerfWidget::label_5, Ui_KPerfWidget::label_6, Ui_KPerfWidget-

::label_7, Ui_KPerfWidget::label_8, Ui_KPerfWidget::lightBox, Ui_KPerfWidget::lightColor1, Ui_KPerfWidget::lightColor2, Ui_KPerfWidget::lightColor3, Ui_KPerfWidget::line, Ui_KPerfWidget::line_2, Ui_KPerfWidget::line_3, Ui_KPerfWidget::lockBox, Ui_KPerfWidget::lockColorOff, Ui_KPerfWidget::lockColorOn, Ui_KPerfWidget::macroBox, Ui_KPerfWidget::macroColorOff, Ui_KPerfWidget::macroColorOn, Ui_KPerfWidget::modeBox, Ui_KPerfWidget::modeColorOff, Ui_KPerfWidget::modeColorOn, Ui_KPerfWidget::muteBox, Ui_KPerfWidget::muteColorNA, Ui_KPerfWidget::muteColorOff, Ui_KPerfWidget::muteColorOn, Ui_KPerfWidget::numBox, Ui_KPerfWidget::numColorOff, Ui_KPerfWidget::numColorOn, Ui_KPerfWidget::retranslateUi(), Ui_KPerfWidget::scrollBox, Ui_KPerfWidget::scrollColorOff, Ui_KPerfWidget::scrollColorOn, Ui_KPerfWidget::verticalSpacer, Ui_KPerfWidget::verticalSpacer_2, Ui_KPerfWidget::verticalSpacer_3, and Ui_KPerfWidget::verticalSpacer_4.

Referenced by KPerfWidget::KPerfWidget().

```
112     {
113         if (KPerfWidget->objectName().isEmpty())
114             KPerfWidget->setObjectName(QStringLiteral("KPerfWidget"));
115         KPerfWidget->resize(840, 679);
116         gridLayout = new QGridLayout(KPerfWidget);
117         gridLayout->setObjectName(QStringLiteral("gridLayout"));
118         k95Spacer = new QWidget(KPerfWidget);
119         k95Spacer->setObjectName(QStringLiteral("k95Spacer"));
120         QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
121         sizePolicy.setHorizontalStretch(0);
122         sizePolicy.setVerticalStretch(0);
123         sizePolicy.setHeightForWidth(k95Spacer->sizePolicy().hasHeightForWidth());
124         k95Spacer->setSizePolicy(sizePolicy);
125         k95Spacer->setMinimumSize(QSize(15, 10));
126         k95Spacer->setMaximumSize(QSize(15, 10));
127 
128         gridLayout->addWidget(k95Spacer, 12, 4, 1, 1);
129 
130         label_10 = new QLabel(KPerfWidget);
131         label_10->setObjectName(QStringLiteral("label_10"));
132 
133         gridLayout->addWidget(label_10, 15, 5, 1, 1);
134 
135         lockColorOff = new ColorButton(KPerfWidget);
136         lockColorOff->setObjectName(QStringLiteral("lockColorOff"));
137         sizePolicy.setHeightForWidth(lockColorOff->sizePolicy().hasHeightForWidth());
138         lockColorOff->setSizePolicy(sizePolicy);
139         lockColorOff->setMinimumSize(QSize(0, 40));
140         lockColorOff->setMaximumSize(QSize(16777215, 40));
141 
142         gridLayout->addWidget(lockColorOff, 16, 7, 1, 1);
143 
144         line = new QFrame(KPerfWidget);
145         line->setObjectName(QStringLiteral("line"));
146         line->setFrameShape(QFrame::HLine);
147         line->setFrameShadow(QFrame::Sunken);
148 
149         gridLayout->addWidget(line, 2, 0, 1, 13);
150 
151         horizontalSpacer_5 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
152 
153         gridLayout->addItem(horizontalSpacer_5, 17, 6, 1, 1);
154 
155         k95Label2 = new QLabel(KPerfWidget);
156         k95Label2->setObjectName(QStringLiteral("k95Label2"));
157 
158         gridLayout->addWidget(k95Label2, 9, 5, 1, 1);
159 
160         label_12 = new QLabel(KPerfWidget);
161         label_12->setObjectName(QStringLiteral("label_12"));
162 
163         gridLayout->addWidget(label_12, 17, 5, 1, 1);
164 
165         modeColorOff = new ColorButton(KPerfWidget);
166         modeColorOff->setObjectName(QStringLiteral("modeColorOff"));
167         sizePolicy.setHeightForWidth(modeColorOff->sizePolicy().hasHeightForWidth());
168         modeColorOff->setSizePolicy(sizePolicy);
169         modeColorOff->setMinimumSize(QSize(0, 40));
170         modeColorOff->setMaximumSize(QSize(16777215, 40));
171 
172         gridLayout->addWidget(modeColorOff, 9, 7, 1, 1);
173 
174         lightColor3 = new ColorButton(KPerfWidget);
175         lightColor3->setObjectName(QStringLiteral("lightColor3"));
176         sizePolicy.setHeightForWidth(lightColor3->sizePolicy().hasHeightForWidth());
177         lightColor3->setSizePolicy(sizePolicy);
178         lightColor3->setMinimumSize(QSize(0, 40));
179         lightColor3->setMaximumSize(QSize(16777215, 40));
180 
181         gridLayout->addWidget(lightColor3, 15, 4, 1, 1);
```

```
182
183         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
184
185         gridLayout->addItem(horizontalSpacer, 15, 12, 1, 1);
186
187         lockBox = new QCheckBox(KPerfWidget);
188         lockBox->setObjectName(QStringLiteral("lockBox"));
189
190         gridLayout->addWidget(lockBox, 16, 1, 1, 2);
191
192         modeColorOn = new ColorButton(KPerfWidget);
193         modeColorOn->setObjectName(QStringLiteral("modeColorOn"));
194         sizePolicy.setHeightForWidth(modeColorOn->sizePolicy().hasHeightForWidth());
195         modeColorOn->setSizePolicy(sizePolicy);
196         modeColorOn->setMinimumSize(QSize(0, 40));
197         modeColorOn->setMaximumSize(QSize(16777215, 40));
198
199         gridLayout->addWidget(modeColorOn, 9, 4, 1, 1);
200
201         macroBox = new QCheckBox(KPerfWidget);
202         macroBox->setObjectName(QStringLiteral("macroBox"));
203
204         gridLayout->addWidget(macroBox, 10, 1, 1, 2);
205
206         numColorOn = new ColorButton(KPerfWidget);
207         numColorOn->setObjectName(QStringLiteral("numColorOn"));
208         sizePolicy.setHeightForWidth(numColorOn->sizePolicy().hasHeightForWidth());
209         numColorOn->setSizePolicy(sizePolicy);
210         numColorOn->setMinimumSize(QSize(0, 40));
211         numColorOn->setMaximumSize(QSize(16777215, 40));
212
213         gridLayout->addWidget(numColorOn, 21, 4, 1, 1);
214
215         numBox = new QComboBox(KPerfWidget);
216         numBox->setObjectName(QStringLiteral("numBox"));
217
218         gridLayout->addWidget(numBox, 21, 2, 1, 1);
219
220         label_5 = new QLabel(KPerfWidget);
221         label_5->setObjectName(QStringLiteral("label_5"));
222
223         gridLayout->addWidget(label_5, 21, 1, 1, 1);
224
225         verticalSpacer_2 = new QSpacerItem(20, 20, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
226
227         gridLayout->addItem(verticalSpacer_2, 4, 1, 1, 1);
228
229         lightColor2 = new ColorButton(KPerfWidget);
230         lightColor2->setObjectName(QStringLiteral("lightColor2"));
231         sizePolicy.setHeightForWidth(lightColor2->sizePolicy().hasHeightForWidth());
232         lightColor2->setSizePolicy(sizePolicy);
233         lightColor2->setMinimumSize(QSize(0, 40));
234         lightColor2->setMaximumSize(QSize(16777215, 40));
235
236         gridLayout->addWidget(lightColor2, 15, 7, 1, 1);
237
238         horizontalSpacer_7 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
239
240         gridLayout->addItem(horizontalSpacer_7, 17, 3, 1, 1);
241
242         label_8 = new QLabel(KPerfWidget);
243         label_8->setObjectName(QStringLiteral("label_8"));
244         QFont font;
245         font.setPointSize(8);
246         font.setItalic(true);
247         label_8->setFont(font);
248
249         gridLayout->addWidget(label_8, 25, 1, 1, 12);
250
251         lightBox = new QCheckBox(KPerfWidget);
252         lightBox->setObjectName(QStringLiteral("lightBox"));
253
254         gridLayout->addWidget(lightBox, 15, 1, 1, 2);
255
256         lightColor1 = new ColorButton(KPerfWidget);
257         lightColor1->setObjectName(QStringLiteral("lightColor1"));
258         sizePolicy.setHeightForWidth(lightColor1->sizePolicy().hasHeightForWidth());
259         lightColor1->setSizePolicy(sizePolicy);
260         lightColor1->setMinimumSize(QSize(0, 40));
261         lightColor1->setMaximumSize(QSize(16777215, 40));
262
263         gridLayout->addWidget(lightColor1, 15, 10, 1, 1);
264
265         verticalSpacer_4 = new QSpacerItem(0, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);
```

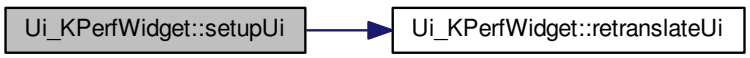
```
266
267         gridLayout->addItem(verticalSpacer_4, 24, 4, 1, 1);
268
269         label_6 = new QLabel(KPerfWidget);
270         label_6->setObjectName(QStringLiteral("label_6"));
271
272         gridLayout->addWidget(label_6, 22, 1, 1, 1);
273
274         label = new QLabel(KPerfWidget);
275         label->setObjectName(QStringLiteral("label"));
276         QFont font1;
277         font1.setBold(true);
278         font1.setWeight(75);
279         label->setFont(font1);
280
281         gridLayout->addWidget(label, 1, 0, 1, 13);
282
283         horizontalSpacer_6 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
284
285         gridLayout->addItem(horizontalSpacer_6, 17, 9, 1, 1);
286
287         lockColorOn = new ColorButton(KPerfWidget);
288         lockColorOn->setObjectName(QStringLiteral("lockColorOn"));
289         sizePolicy.setHeightForWidth(lockColorOn->sizePolicy().hasHeightForWidth());
290         lockColorOn->setSizePolicy(sizePolicy);
291         lockColorOn->setMinimumSize(QSize(0, 40));
292         lockColorOn->setMaximumSize(QSize(16777215, 40));
293
294         gridLayout->addWidget(lockColorOn, 16, 4, 1, 1);
295
296         label_4 = new QLabel(KPerfWidget);
297         label_4->setObjectName(QStringLiteral("label_4"));
298         label_4->setFont(font1);
299
300         gridLayout->addWidget(label_4, 19, 0, 1, 13);
301
302         verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
303
304         gridLayout->addItem(verticalSpacer, 26, 2, 1, 1);
305
306         verticalSpacer_3 = new QSpacerItem(20, 20, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
307
308         gridLayout->addItem(verticalSpacer_3, 18, 4, 1, 1);
309
310         modeBox = new QCheckBox(KPerfWidget);
311         modeBox->setObjectName(QStringLiteral("modeBox"));
312
313         gridLayout->addWidget(modeBox, 9, 1, 1, 2);
314
315         capsColorOff = new ColorButton(KPerfWidget);
316         capsColorOff->setObjectName(QStringLiteral("capsColorOff"));
317         sizePolicy.setHeightForWidth(capsColorOff->sizePolicy().hasHeightForWidth());
318         capsColorOff->setSizePolicy(sizePolicy);
319         capsColorOff->setMinimumSize(QSize(0, 40));
320         capsColorOff->setMaximumSize(QSize(16777215, 40));
321
322         gridLayout->addWidget(capsColorOff, 22, 7, 1, 1);
323
324         numColorOff = new ColorButton(KPerfWidget);
325         numColorOff->setObjectName(QStringLiteral("numColorOff"));
326         QSizePolicy sizePolicy1(QSizePolicy::Fixed, QSizePolicy::Fixed);
327         sizePolicy1.setHorizontalStretch(0);
328         sizePolicy1.setVerticalStretch(40);
329         sizePolicy1.setHeightForWidth(numColorOff->sizePolicy().hasHeightForWidth());
330         numColorOff->setSizePolicy(sizePolicy1);
331         numColorOff->setMaximumSize(QSize(16777215, 40));
332
333         gridLayout->addWidget(numColorOff, 21, 7, 1, 1);
334
335         capsColorOn = new ColorButton(KPerfWidget);
336         capsColorOn->setObjectName(QStringLiteral("capsColorOn"));
337         sizePolicy.setHeightForWidth(capsColorOn->sizePolicy().hasHeightForWidth());
338         capsColorOn->setSizePolicy(sizePolicy);
339         capsColorOn->setMinimumSize(QSize(0, 40));
340         capsColorOn->setMaximumSize(QSize(16777215, 40));
341
342         gridLayout->addWidget(capsColorOn, 22, 4, 1, 1);
343
344         line_3 = new QFrame(KPerfWidget);
345         line_3->setObjectName(QStringLiteral("line_3"));
346         line_3->setFrameShape(QFrame::HLine);
347         line_3->setFrameShadow(QFrame::Sunken);
348
349         gridLayout->addWidget(line_3, 20, 0, 1, 13);
```

```
350
351         label_22 = new QLabel(KPerfWidget);
352         label_22->setObjectName(QStringLiteral("label_22"));
353
354         gridLayout->addWidget(label_22, 21, 8, 1, 1);
355
356         scrollBox = new QComboBox(KPerfWidget);
357         scrollBox->setObjectName(QStringLiteral("scrollBox"));
358
359         gridLayout->addWidget(scrollBox, 23, 2, 1, 1);
360
361         label_7 = new QLabel(KPerfWidget);
362         label_7->setObjectName(QStringLiteral("label_7"));
363
364         gridLayout->addWidget(label_7, 23, 1, 1, 1);
365
366         scrollColorOn = new ColorButton(KPerfWidget);
367         scrollColorOn->setObjectName(QStringLiteral("scrollColorOn"));
368         sizePolicy.setHeightForWidth(scrollColorOn->sizePolicy().hasHeightForWidth());
369         scrollColorOn->setSizePolicy(sizePolicy);
370         scrollColorOn->setMinimumSize(QSize(0, 40));
371         scrollColorOn->setMaximumSize(QSize(16777215, 40));
372
373         gridLayout->addWidget(scrollColorOn, 23, 4, 1, 1);
374
375         capsBox = new QComboBox(KPerfWidget);
376         capsBox->setObjectName(QStringLiteral("capsBox"));
377
378         gridLayout->addWidget(capsBox, 22, 2, 1, 1);
379
380         scrollColorOff = new ColorButton(KPerfWidget);
381         scrollColorOff->setObjectName(QStringLiteral("scrollColorOff"));
382         sizePolicy.setHeightForWidth(scrollColorOff->sizePolicy().hasHeightForWidth());
383         scrollColorOff->setSizePolicy(sizePolicy);
384         scrollColorOff->setMinimumSize(QSize(0, 40));
385         scrollColorOff->setMaximumSize(QSize(16777215, 40));
386
387         gridLayout->addWidget(scrollColorOff, 23, 7, 1, 1);
388
389         muteBox = new QCheckBox(KPerfWidget);
390         muteBox->setObjectName(QStringLiteral("muteBox"));
391
392         gridLayout->addWidget(muteBox, 17, 1, 1, 2);
393
394         muteColorOn = new ColorButton(KPerfWidget);
395         muteColorOn->setObjectName(QStringLiteral("muteColorOn"));
396         sizePolicy.setHeightForWidth(muteColorOn->sizePolicy().hasHeightForWidth());
397         muteColorOn->setSizePolicy(sizePolicy);
398         muteColorOn->setMinimumSize(QSize(0, 40));
399         muteColorOn->setMaximumSize(QSize(16777215, 40));
400
401         gridLayout->addWidget(muteColorOn, 17, 4, 1, 1);
402
403         macroColorOff = new ColorButton(KPerfWidget);
404         macroColorOff->setObjectName(QStringLiteral("macroColorOff"));
405         QSizePolicy sizePolicy2(QSizePolicy::Minimum, QSizePolicy::Fixed);
406         sizePolicy2.setHorizontalStretch(0);
407         sizePolicy2.setVerticalStretch(40);
408         sizePolicy2.setHeightForWidth(macroColorOff->sizePolicy().hasHeightForWidth());
409         macroColorOff->setSizePolicy(sizePolicy2);
410         macroColorOff->setMinimumSize(QSize(0, 40));
411
412         gridLayout->addWidget(macroColorOff, 10, 7, 1, 1);
413
414         label_3 = new QLabel(KPerfWidget);
415         label_3->setObjectName(QStringLiteral("label_3"));
416         label_3->setFont(font1);
417
418         gridLayout->addWidget(label_3, 13, 0, 1, 3);
419
420         muteColorOff = new ColorButton(KPerfWidget);
421         muteColorOff->setObjectName(QStringLiteral("muteColorOff"));
422         sizePolicy.setHeightForWidth(muteColorOff->sizePolicy().hasHeightForWidth());
423         muteColorOff->setSizePolicy(sizePolicy);
424         muteColorOff->setMinimumSize(QSize(0, 40));
425         muteColorOff->setMaximumSize(QSize(16777215, 40));
426
427         gridLayout->addWidget(muteColorOff, 17, 7, 1, 1);
428
429         k95Label3 = new QLabel(KPerfWidget);
430         k95Label3->setObjectName(QStringLiteral("k95Label3"));
431
432         gridLayout->addWidget(k95Label3, 9, 8, 1, 1);
433
434         macroColorOn = new ColorButton(KPerfWidget);
435         macroColorOn->setObjectName(QStringLiteral("macroColorOn"));
436         sizePolicy2.setHeightForWidth(macroColorOn->sizePolicy().hasHeightForWidth());
```

```
437         macroColorOn->setSizePolicy(sizePolicy2);
438         macroColorOn->setMinimumSize(QSize(0, 40));
439 
440         gridLayout->addWidget(macroColorOn, 10, 4, 1, 1);
441 
442         muteColorNA = new ColorButton(KPerfWidget);
443         muteColorNA->setObjectName(QStringLiteral("muteColorNA"));
444         muteColorNA->setMinimumSize(QSize(0, 40));
445         muteColorNA->setMaximumSize(QSize(16777215, 40));
446 
447         gridLayout->addWidget(muteColorNA, 17, 10, 1, 1);
448 
449         label_19 = new QLabel(KPerfWidget);
450         label_19->setObjectName(QStringLiteral("label_19"));
451 
452         gridLayout->addWidget(label_19, 21, 5, 1, 1);
453 
454         k95Line = new QFrame(KPerfWidget);
455         k95Line->setObjectName(QStringLiteral("k95Line"));
456         k95Line->setFrameShape(QFrame::HLine);
457         k95Line->setFrameShadow(QFrame::Sunken);
458 
459         gridLayout->addWidget(k95Line, 8, 0, 1, 13);
460 
461         label_21 = new QLabel(KPerfWidget);
462         label_21->setObjectName(QStringLiteral("label_21"));
463 
464         gridLayout->addWidget(label_21, 23, 5, 1, 1);
465 
466         label_24 = new QLabel(KPerfWidget);
467         label_24->setObjectName(QStringLiteral("label_24"));
468 
469         gridLayout->addWidget(label_24, 23, 8, 1, 1);
470 
471         label_20 = new QLabel(KPerfWidget);
472         label_20->setObjectName(QStringLiteral("label_20"));
473 
474         gridLayout->addWidget(label_20, 22, 5, 1, 1);
475 
476         label_16 = new QLabel(KPerfWidget);
477         label_16->setObjectName(QStringLiteral("label_16"));
478 
479         gridLayout->addWidget(label_16, 15, 8, 1, 1);
480 
481         label_14 = new QLabel(KPerfWidget);
482         label_14->setObjectName(QStringLiteral("label_14"));
483 
484         gridLayout->addWidget(label_14, 17, 8, 1, 1);
485 
486         label_18 = new QLabel(KPerfWidget);
487         label_18->setObjectName(QStringLiteral("label_18"));
488 
489         gridLayout->addWidget(label_18, 15, 11, 1, 1);
490 
491         horizontalSpacer_2 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
492 
493         gridLayout->addItem(horizontalSpacer_2, 15, 0, 1, 1);
494 
495         label_15 = new QLabel(KPerfWidget);
496         label_15->setObjectName(QStringLiteral("label_15"));
497 
498         gridLayout->addWidget(label_15, 16, 8, 1, 1);
499 
500         k95Label4 = new QLabel(KPerfWidget);
501         k95Label4->setObjectName(QStringLiteral("k95Label4"));
502 
503         gridLayout->addWidget(k95Label4, 10, 5, 1, 1);
504 
505         label_17 = new QLabel(KPerfWidget);
506         label_17->setObjectName(QStringLiteral("label_17"));
507 
508         gridLayout->addWidget(label_17, 17, 11, 1, 1);
509 
510         label_11 = new QLabel(KPerfWidget);
511         label_11->setObjectName(QStringLiteral("label_11"));
512 
513         gridLayout->addWidget(label_11, 16, 5, 1, 1);
514 
515         label_23 = new QLabel(KPerfWidget);
516         label_23->setObjectName(QStringLiteral("label_23"));
517 
518         gridLayout->addWidget(label_23, 22, 8, 1, 1);
519 
520         k95Label1 = new QLabel(KPerfWidget);
521         k95Label1->setObjectName(QStringLiteral("k95Label1"));
522         k95Label1->setFont(font1);
```

```
523
524         gridLayout->addWidget(k95Label1, 7, 0, 1, 5);
525
526         horizontalLayout_2 = new QHBoxLayout();
527         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
528         copyButton = new QPushButton(KPerfWidget);
529         copyButton->setObjectName(QStringLiteral("copyButton"));
530
531         horizontalLayout_2->addWidget(copyButton);
532
533         horizontalSpacer_8 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
534
535         horizontalLayout_2->addItem(horizontalSpacer_8);
536
537
538         gridLayout->addLayout(horizontalLayout_2, 3, 10, 1, 3);
539
540         horizontalLayout = new QHBoxLayout();
541         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
542         label_2 = new QLabel(KPerfWidget);
543         label_2->setObjectName(QStringLiteral("label_2"));
544
545         horizontalLayout->addWidget(label_2);
546
547         horizontalSpacer_4 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
548
549         horizontalLayout->addItem(horizontalSpacer_4);
550
551         intensityBox = new QSpinBox(KPerfWidget);
552         intensityBox->setObjectName(QStringLiteral("intensityBox"));
553         intensityBox->setMaximum(100);
554         intensityBox->setValue(100);
555
556         horizontalLayout->addWidget(intensityBox);
557
558         horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
559
560         horizontalLayout->addItem(horizontalSpacer_3);
561
562
563         gridLayout->addLayout(horizontalLayout, 3, 1, 1, 9);
564
565         k95Label5 = new QLabel(KPerfWidget);
566         k95Label5->setObjectName(QStringLiteral("k95Label5"));
567
568         gridLayout->addWidget(k95Label5, 10, 8, 1, 1);
569
570         line_2 = new QFrame(KPerfWidget);
571         line_2->setObjectName(QStringLiteral("line_2"));
572         line_2->setFrameShape(QFrame::HLine);
573         line_2->setFrameShadow(QFrame::Sunken);
574
575         gridLayout->addWidget(line_2, 14, 0, 1, 13);
576
577         k95Label6 = new QLabel(KPerfWidget);
578         k95Label6->setObjectName(QStringLiteral("k95Label6"));
579         k95Label6->setFont(font);
580
581         gridLayout->addWidget(k95Label6, 11, 1, 1, 10);
582
583
584         retranslateUi(KPerfWidget);
585
586         QMetaObject::connectSlotsByName(KPerfWidget);
587     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.45.3 Field Documentation

12.45.3.1 QComboBox* Ui_KPerfWidget::capsBox [inherited]

Definition at line 74 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.2 ColorButton* Ui_KPerfWidget::capsColorOff [inherited]

Definition at line 66 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.3 ColorButton* Ui_KPerfWidget::capsColorOn [inherited]

Definition at line 68 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.4 QPushButton* Ui_KPerfWidget::copyButton [inherited]

Definition at line 100 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.5 QGridLayout* Ui_KPerfWidget::gridLayout [inherited]

Definition at line 34 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.6 QHBoxLayout* Ui_KPerfWidget::horizontalLayout [inherited]

Definition at line 102 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.7 QHBoxLayout* Ui_KPerfWidget::horizontalLayout_2 [inherited]

Definition at line 99 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.8 QSpacerItem* Ui_KPerfWidget::horizontalSpacer [inherited]

Definition at line 44 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.9 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_2 [inherited]

Definition at line 92 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.10 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_3 [inherited]

Definition at line 106 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.11 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_4 [inherited]

Definition at line 104 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.12 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_5 [inherited]

Definition at line 39 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.13 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_6 [inherited]

Definition at line 60 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.14 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_7 [inherited]

Definition at line 53 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.15 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_8 [inherited]

Definition at line 101 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.16 QSpinBox* Ui_KPerfWidget::intensityBox [inherited]

Definition at line 105 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.17 QLabel* Ui_KPerfWidget::k95Label1 [inherited]

Definition at line 98 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.18 QLabel* Ui_KPerfWidget::k95Label2 [inherited]

Definition at line 40 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.19 QLabel* Ui_KPerfWidget::k95Label3 [inherited]

Definition at line 81 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.20 QLabel* Ui_KPerfWidget::k95Label4 [inherited]

Definition at line 94 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.21 QLabel* Ui_KPerfWidget::k95Label5 [inherited]

Definition at line 107 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.22 QLabel* Ui_KPerfWidget::k95Label6 [inherited]

Definition at line 109 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.23 QFrame* Ui_KPerfWidget::k95Line [inherited]

Definition at line 85 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), and Ui_KPerfWidget::setupUi().

12.45.3.24 QWidget* Ui_KPerfWidget::k95Spacer [inherited]

Definition at line 35 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), and Ui_KPerfWidget::setupUi().

12.45.3.25 QLabel* Ui_KPerfWidget::label [inherited]

Definition at line 59 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.26 QLabel* Ui_KPerfWidget::label_10 [inherited]

Definition at line 36 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.27 QLabel* Ui_KPerfWidget::label_11 [inherited]

Definition at line 96 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.28 QLabel* Ui_KPerfWidget::label_12 [inherited]

Definition at line 41 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.29 QLabel* Ui_KPerfWidget::label_14 [inherited]

Definition at line 90 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.30 QLabel* Ui_KPerfWidget::label_15 [inherited]

Definition at line 93 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.31 QLabel* Ui_KPerfWidget::label_16 [inherited]

Definition at line 89 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.32 QLabel* Ui_KPerfWidget::label_17 [inherited]

Definition at line 95 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.33 QLabel* Ui_KPerfWidget::label_18 [inherited]

Definition at line 91 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.34 QLabel* Ui_KPerfWidget::label_19 [inherited]

Definition at line 84 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.35 QLabel* Ui_KPerfWidget::label_2 [inherited]

Definition at line 103 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.36 QLabel* Ui_KPerfWidget::label_20 [inherited]

Definition at line 88 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.37 QLabel* Ui_KPerfWidget::label_21 [inherited]

Definition at line 86 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.38 QLabel* Ui_KPerfWidget::label_22 [inherited]

Definition at line 70 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.39 QLabel* Ui_KPerfWidget::label_23 [inherited]

Definition at line 97 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.40 QLabel* Ui_KPerfWidget::label_24 [inherited]

Definition at line 87 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.41 QLabel* Ui_KPerfWidget::label_3 [inherited]

Definition at line 79 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.42 QLabel* Ui_KPerfWidget::label_4 [inherited]

Definition at line 62 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.43 QLabel* Ui_KPerfWidget::label_5 [inherited]

Definition at line 50 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.44 QLabel* Ui_KPerfWidget::label_6 [inherited]

Definition at line 58 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.45 QLabel* Ui_KPerfWidget::label_7 [inherited]

Definition at line 72 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.46 QLabel* Ui_KPerfWidget::label_8 [inherited]

Definition at line 54 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.47 QCheckBox* Ui_KPerfWidget::lightBox [inherited]

Definition at line 55 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.48 ColorButton* Ui_KPerfWidget::lightColor1 [inherited]

Definition at line 56 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.49 ColorButton* Ui_KPerfWidget::lightColor2 [inherited]

Definition at line 52 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.50 ColorButton* Ui_KPerfWidget::lightColor3 [inherited]

Definition at line 43 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.51 QFrame* Ui_KPerfWidget::line [inherited]

Definition at line 38 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.52 QFrame* Ui_KPerfWidget::line_2 [inherited]

Definition at line 108 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.53 QFrame* Ui_KPerfWidget::line_3 [inherited]

Definition at line 69 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.54 QCheckBox* Ui_KPerfWidget::lockBox [inherited]

Definition at line 45 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.55 ColorButton* Ui_KPerfWidget::lockColorOff [inherited]

Definition at line 37 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.56 ColorButton* Ui_KPerfWidget::lockColorOn [inherited]

Definition at line 61 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.57 QCheckBox* Ui_KPerfWidget::macroBox [inherited]

Definition at line 47 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.58 ColorButton* Ui_KPerfWidget::macroColorOff [inherited]

Definition at line 78 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.59 ColorButton* Ui_KPerfWidget::macroColorOn [inherited]

Definition at line 82 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.60 QCheckBox* Ui_KPerfWidget::modeBox [inherited]

Definition at line 65 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.61 ColorButton* Ui_KPerfWidget::modeColorOff [inherited]

Definition at line 42 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.62 ColorButton* Ui_KPerfWidget::modeColorOn [inherited]

Definition at line 46 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.63 QCheckBox* Ui_KPerfWidget::muteBox [inherited]

Definition at line 76 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.64 ColorButton* Ui_KPerfWidget::muteColorNA [inherited]

Definition at line 83 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.65 ColorButton* Ui_KPerfWidget::muteColorOff [inherited]

Definition at line 80 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.66 ColorButton* Ui_KPerfWidget::muteColorOn [inherited]

Definition at line 77 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), KPerfWidget::setPerf(), and Ui_KPerfWidget::setupUi().

12.45.3.67 QComboBox* Ui_KPerfWidget::numBox [inherited]

Definition at line 49 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.68 ColorButton* Ui_KPerfWidget::numColorOff [inherited]

Definition at line 67 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.69 ColorButton* Ui_KPerfWidget::numColorOn [inherited]

Definition at line 48 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.70 QComboBox* Ui_KPerfWidget::scrollBox [inherited]

Definition at line 71 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.71 ColorButton* Ui_KPerfWidget::scrollColorOff [inherited]

Definition at line 75 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.72 ColorButton* Ui_KPerfWidget::scrollColorOn [inherited]

Definition at line 73 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), Ui_KPerfWidget::retranslateUi(), and Ui_KPerfWidget::setupUi().

12.45.3.73 QSpacerItem* Ui_KPerfWidget::verticalSpacer [inherited]

Definition at line 63 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.74 QSpacerItem* Ui_KPerfWidget::verticalSpacer_2 [inherited]

Definition at line 51 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.75 QSpacerItem* Ui_KPerfWidget::verticalSpacer_3 [inherited]

Definition at line 64 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

12.45.3.76 QSpacerItem* Ui_KPerfWidget::verticalSpacer_4 [inherited]

Definition at line 57 of file ui_kperfwidget.h.

Referenced by Ui_KPerfWidget::setupUi().

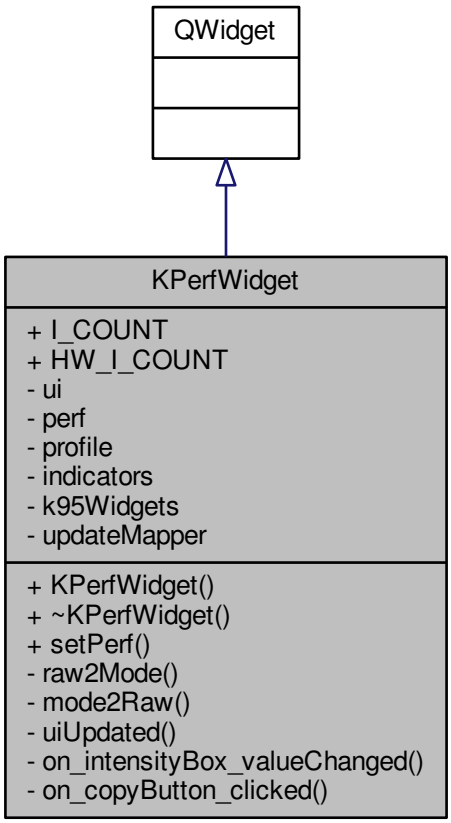
The documentation for this class was generated from the following file:

- src/ckb/ui_kperfwidget.h

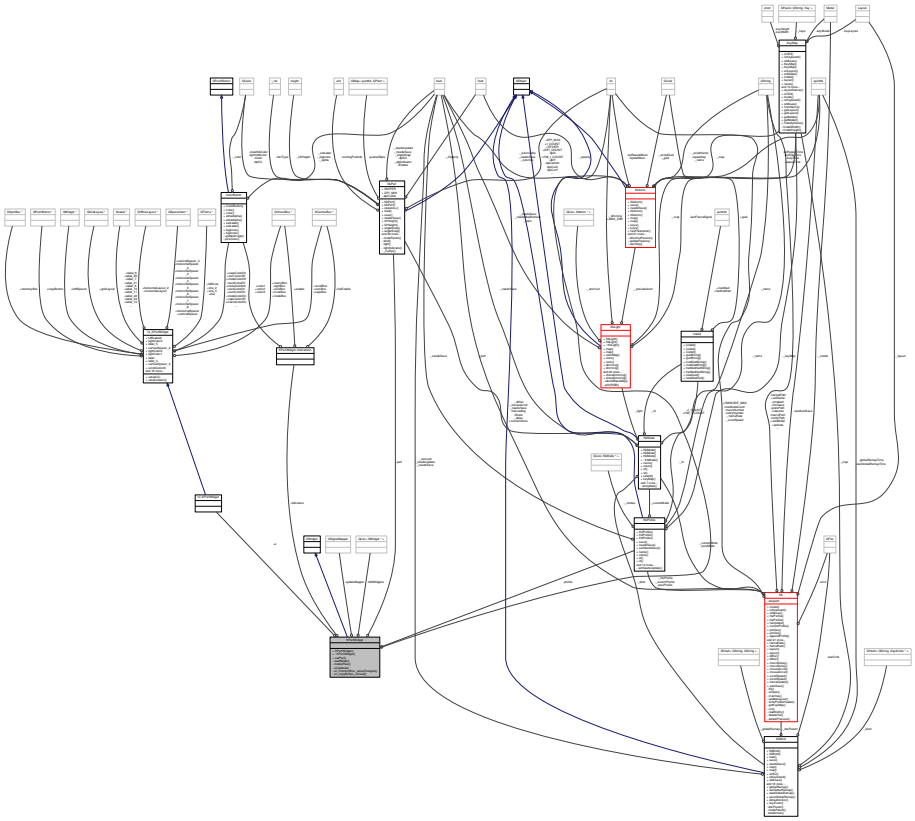
12.46 KPerfWidget Class Reference

`#include <src/ckb/kperfwidget.h>`

Inheritance diagram for KPerfWidget:



Collaboration diagram for KPerfWidget:



Data Structures

- struct IndicatorUi

Public Types

- typedef KbPerf::indicator indicator
- typedef KbPerf::i_hw i_hw

Public Member Functions

- KPerfWidget (QWidget ∗parent=0)

  KPerfWidget::KPerfWidget sets up the UI for Keyboard Performace panel.
- ∼KPerfWidget ()

  KPerfWidget::∼KPerfWidget nothing unusual - just delete the ui object.
- void setPerf (KbPerf ∗newPerf, KbProfile ∗newProfile)

Static Public Attributes

- static const int I_COUNT = KbPerf::I_COUNT
- static const int HW_I_COUNT = KbPerf::HW_I_COUNT

Private Types

- enum HwMode {
  NORMAL, ALWAYS_ON, ALWAYS_OFF, RGB,
  BOTH }

Private Slots

- void uiUpdated (int index)
- void on_intensityBox_valueChanged (int arg1)
- void on_copyButton_clicked ()

Private Member Functions

- HwMode raw2Mode (bool sw_enable, i_hw hw_enable)

  KPerfWidget::raw2Mode return hardware mode depending on setiings in sw_enable and hw_enable.
- void mode2Raw (HwMode mode, bool &sw_enable, i_hw &hw_enable)

  KPerfWidget::mode2Raw Set values of sw_enable and hw_enable to hte value corresponding to input var mode.

Private Attributes

- Ui::KPerfWidget * ui
- KbPerf * perf
- KbProfile * profile
- IndicatorUi indicators [I_COUNT]
- QList< QWidget * > k95Widgets
- QSignalMapper updateMapper

12.46.1 Detailed Description

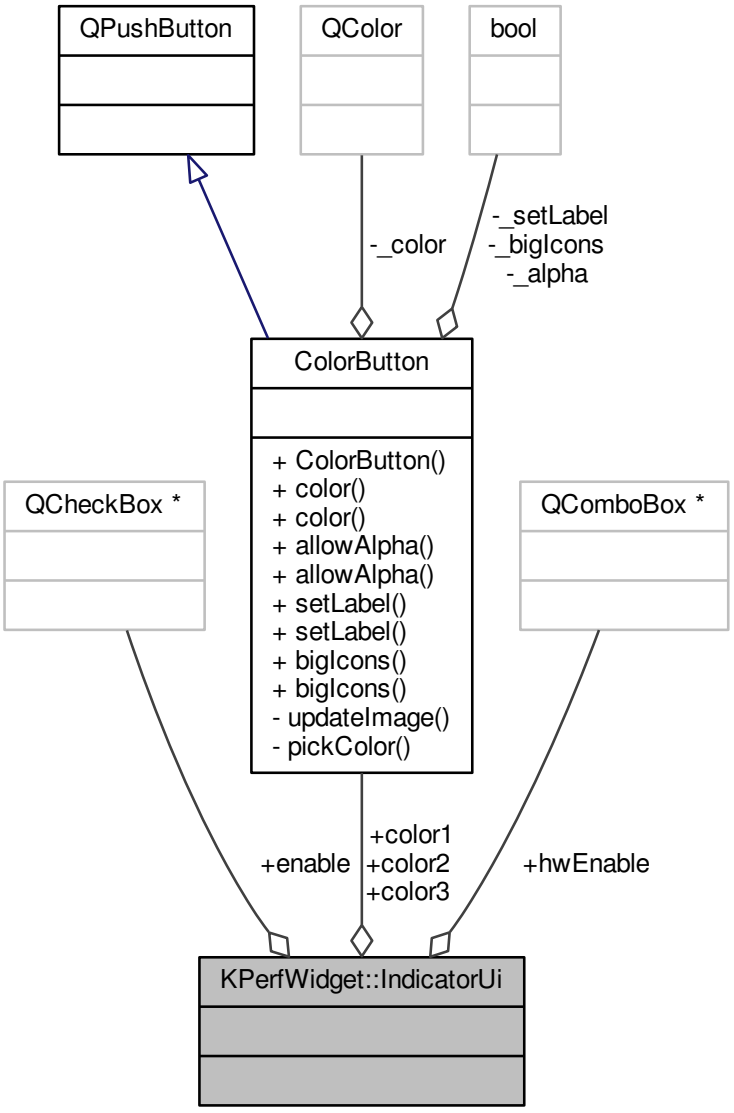
Definition at line 16 of file kperfwidget.h.

12.46.2 Data Structure Documentation

12.46.2.1 struct KPerfWidget::IndicatorUi

Definition at line 54 of file kperfwidget.h.

Collaboration diagram for KPerfWidget::IndicatorUi:



Data Fields

ColorButton *	color1	
ColorButton *	color2	
ColorButton *	color3	
QCheckBox *	enable	
QComboBox *	hwEnable	

12.46.3 Member Typedef Documentation

12.46.3.1 typedef KbPerf::i_hw KPerfWidget::i_hw

Definition at line 29 of file kperfwidget.h.

12.46.3.2 typedef KbPerf::indicator KPerfWidget::indicator

Definition at line 28 of file kperfwidget.h.

12.46.4 Member Enumeration Documentation

12.46.4.1 enum KPerfWidget::HwMode [private]

Enumerator

NORMAL

ALWAYS_ON

ALWAYS_OFF

RGB

BOTH

Definition at line 38 of file kperfwidget.h.

```
38                  {
39          NORMAL,
40          ALWAYS_ON,
41          ALWAYS_OFF,
42          RGB,
43          BOTH
44      };
```

12.46.5 Constructor & Destructor Documentation

12.46.5.1 KPerfWidget::KPerfWidget (QWidget * *parent* = 0) [explicit]

Parameters

parent	

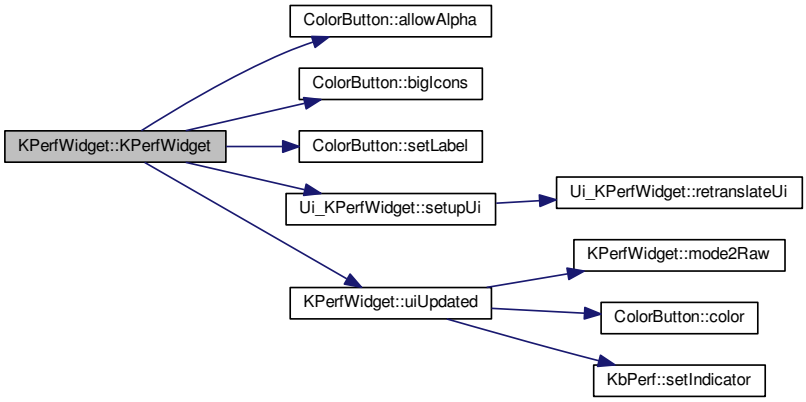
Definition at line 10 of file kperfwidget.cpp.

References ColorButton::allowAlpha(), ColorButton::bigIcons(), Ui_KPerfWidget::capsBox, Ui_KPerfWidget::capsColorOff, Ui_KPerfWidget::capsColorOn, KPerfWidget::IndicatorUi::color1, KPerfWidget::IndicatorUi::color2, KPerfWidget::IndicatorUi::color3, KPerfWidget::IndicatorUi::enable, KPerfWidget::IndicatorUi::hwEnable, I_COUNT, indicators, Ui_KPerfWidget::k95Label1, Ui_KPerfWidget::k95Label2, Ui_KPerfWidget::k95Label3, Ui_KPerfWidget::k95Label4, Ui_KPerfWidget::k95Label5, Ui_KPerfWidget::k95Label6, Ui_KPerfWidget::k95Line, Ui_KPerfWidget::k95Spacer, k95Widgets, Ui_KPerfWidget::lightBox, Ui_KPerfWidget::lightColor1, Ui_KPerfWidget::lightColor2, Ui_KPerfWidget::lightColor3, Ui_KPerfWidget::lockBox, Ui_KPerfWidget::lockColorOff, Ui_KPerfWidget::lockColorOn, Ui_KPerfWidget::macroBox, Ui_KPerfWidget::macroColorOff, Ui_KPerfWidget::macroColorOn, Ui_KPerfWidget::modeBox, Ui_KPerfWidget::modeColorOff, Ui_KPerfWidget::modeColorOn, Ui_KPerfWidget::muteBox, Ui_KPerfWidget::muteColorNA, Ui_KPerfWidget::muteColorOff, Ui_KPerfWidget::muteColorOn, Ui_KPerfWidget::numBox, Ui_KPerfWidget::numColorOff, Ui_KPerfWidget::numColorOn, Ui_KPerfWidget::scrollBox, Ui_KPerfWidget::scrollColorOff, Ui_KPerfWidget::scrollColorOn, ColorButton::setLabel(), Ui_KPerfWidget::setupUi(), ui, uiUpdated(), and updateMapper.

```
10                                      :
11      QWidget(parent),
12      ui(new Ui::KPerfWidget)
13  {
14      ui->setupUi(this);
15      // Set up indicators
```

```
16      indicators[0].enable = 0; indicators[0].hwEnable =
       ui->numBox; indicators[0].color1 = ui->numColorOn;
       indicators[0].color2 = ui->numColorOff; indicators[0].
       color3 = 0;
17      indicators[1].enable = 0; indicators[1].hwEnable =
       ui->capsBox; indicators[1].color1 = ui->capsColorOn;
       indicators[1].color2 = ui->capsColorOff;
       indicators[1].color3 = 0;
18      indicators[2].enable = 0; indicators[2].hwEnable =
       ui->scrollBox; indicators[2].color1 = ui->
       scrollColorOn; indicators[2].color2 = ui->
       scrollColorOff; indicators[2].color3 = 0;
19      indicators[3].enable = ui->modeBox; indicators[3].
       hwEnable = 0; indicators[3].color1 = ui->modeColorOn;
       indicators[3].color2 = ui->modeColorOff;
       indicators[3].color3 = 0;
20      indicators[4].enable = ui->macroBox; indicators[4].
       hwEnable = 0; indicators[4].color1 = ui->macroColorOn;
       indicators[4].color2 = ui->macroColorOff;
       indicators[4].color3 = 0;
21      indicators[5].enable = ui->lightBox; indicators[5].
       hwEnable = 0; indicators[5].color1 = ui->lightColor1;
       indicators[5].color2 = ui->lightColor2; indicators[5].
       color3 = ui->lightColor3;
22      indicators[6].enable = ui->lockBox; indicators[6].
       hwEnable = 0; indicators[6].color1 = ui->lockColorOn;
       indicators[6].color2 = ui->lockColorOff;
       indicators[6].color3 = 0;
23      indicators[7].enable = ui->muteBox; indicators[7].
       hwEnable = 0; indicators[7].color1 = ui->muteColorOn;
       indicators[7].color2 = ui->muteColorOff;
       indicators[7].color3 = ui->muteColorNA;
24      for(int i = 0; i < I_COUNT; i++){
25          indicators[i].color1->setLabel(false);
26          indicators[i].color1->bigIcons(true);
27          indicators[i].color1->allowAlpha(true);
28          indicators[i].color2->setLabel(false);
29          indicators[i].color2->bigIcons(true);
30          indicators[i].color2->allowAlpha(true);
31          if(indicators[i].color3){
32              indicators[i].color3->setLabel(false);
33              indicators[i].color3->bigIcons(true);
34              indicators[i].color3->allowAlpha(true);
35          }
36          // Map signals
37          if(indicators[i].enable){
38              connect(indicators[i].enable, SIGNAL(clicked(bool)), &
       updateMapper, SLOT(map()));
39              updateMapper.setMapping(indicators[i].enable, i);
40          }
41          if(indicators[i].hwEnable){
42              connect(indicators[i].hwEnable, SIGNAL(activated(int)), &
       updateMapper, SLOT(map()));
43              updateMapper.setMapping(indicators[i].hwEnable, i);
44          }
45          connect(indicators[i].color1, SIGNAL(colorChanged(QColor)), &
       updateMapper, SLOT(map()));
46          updateMapper.setMapping(indicators[i].color1, i);
47          connect(indicators[i].color2, SIGNAL(colorChanged(QColor)), &
       updateMapper, SLOT(map()));
48          updateMapper.setMapping(indicators[i].color2, i);
49          if(indicators[i].color3){
50              connect(indicators[i].color3, SIGNAL(colorChanged(QColor)), &
       updateMapper, SLOT(map()));
51              updateMapper.setMapping(indicators[i].color3, i);
52          }
53      }
54      connect(&updateMapper, SIGNAL(mapped(int)), this, SLOT(uiUpdated(int)));
55      k95Widgets << ui->modeBox << ui->modeColorOn <<
       ui->modeColorOff << ui->macroBox << ui->macroColorOn <<
       ui->macroColorOff << ui->k95Label1 << ui->k95Label2 <<
       ui->k95Label3 << ui->k95Label4 << ui->k95Label5 <<
       ui->k95Label6 << ui->k95Line << ui->k95Spacer;
56  }
```

Here is the call graph for this function:



12.46.5.2 KPerfWidget::~KPerfWidget ( )

Definition at line 61 of file kperfwidget.cpp.

References ui.

```
61                              {
62     delete ui;
63 }
```

12.46.6 Member Function Documentation

12.46.6.1 void KPerfWidget::mode2Raw (HwMode *mode*, bool & *sw_enable*, i_hw & *hw_enable*) [private]

Parameters

[IN]	mode
[OUT]	sw_enable
[OUT]	hw_enable
[IN]	mode
[OUT]	sw_enable
[OUT]	hw_enable mode determines how colors at a key and separate indicators should be handled: Mode | sw | hw _ | _ | _ NORMAL | No color change at the key | use the separate indicator depending on key state ALWAYS_ON | No color change at the key | switch on separate indicator ALWAYS_OFF | No color change at the key | switch off separate indicator RGB | use color change at the key depending on color sliders | switch off separate indicator BOTH | use color change at the key depending on color sliders | use the separate indicator depending on key state

Definition at line 100 of file kperfwidget.cpp.

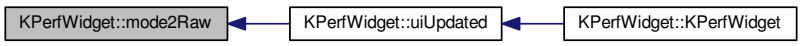
References ALWAYS_OFF, ALWAYS_ON, BOTH, NORMAL, KbPerf::NORMAL, KbPerf::OFF, KbPerf::ON, and RGB.

Referenced by uiUpdated().

```
100                                                                 {
101     switch(mode){
102     case NORMAL:
```

```
103         sw_enable = false;
104         hw_enable = KbPerf::NORMAL;
105         break;
106     case ALWAYS_ON:
107         sw_enable = false;
108         hw_enable = KbPerf::ON;
109         break;
110     case ALWAYS_OFF:
111         sw_enable = false;
112         hw_enable = KbPerf::OFF;
113         break;
114     case RGB:
115         sw_enable = true;
116         hw_enable = KbPerf::OFF;
117         break;
118     case BOTH:
119         sw_enable = true;
120         hw_enable = KbPerf::NORMAL;
121         break;
122     }
123 }
```

Here is the caller graph for this function:



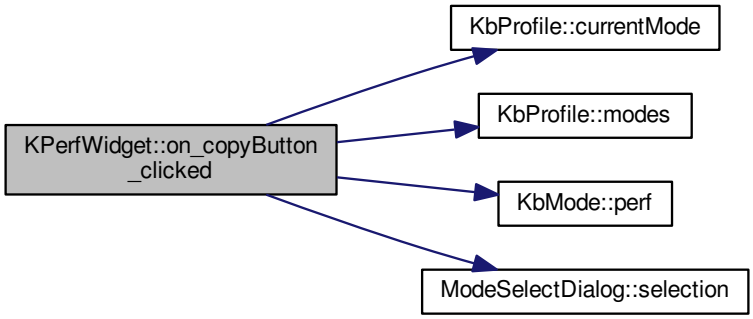
12.46.6.2 void KPerfWidget::on_copyButton_clicked ( ) [private],[slot]

Definition at line 221 of file kperfwidget.cpp.

References KbProfile::currentMode(), KbProfile::modes(), perf, KbMode::perf(), profile, and ModeSelectDialog-::selection().

```
221                                     {
222     ModeSelectDialog dialog(this, profile->currentMode(),
      profile->modes(), "Copy performance settings to:");
223     if(dialog.exec() != QDialog::Accepted)
224         return;
225     QList<KbMode*> selectedModes = dialog.selection();
226     foreach(KbMode* mode, selectedModes){
227         *mode->perf() = *perf;
228     }
229 }
```

Here is the call graph for this function:



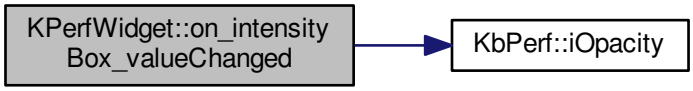
12.46.6.3 void KPerfWidget::on_intensityBox_valueChanged (int *arg1*) [private], [slot]

Definition at line 215 of file kperfwidget.cpp.

References KbPerf::iOpacity(), and perf.

```
215                                                 {
216     if(!perf)
217         return;
218     perf->iOpacity(arg1 / 100.f);
219 }
```

Here is the call graph for this function:



12.46.6.4 KPerfWidget::HwMode KPerfWidget::raw2Mode (bool *sw_enable,* i_hw *hw_enable*) [private]

Parameters

sw_enable	
hw_enable	

Returns

the mode of operation for key-coloring and separate indicators.

See Also

KPerfWidget::mode2Raw for details.

Definition at line 72 of file kperfwidget.cpp.

References ALWAYS_OFF, ALWAYS_ON, BOTH, NORMAL, KbPerf::NORMAL, KbPerf::OFF, KbPerf::ON, and RGB.

Referenced by setPerf().

```
72                                                                  {
73     if(sw_enable){
74         if(hw_enable == KbPerf::NORMAL)
75             return BOTH;
76         return RGB;
77     } else {
78         if(hw_enable == KbPerf::ON)
79             return ALWAYS_ON;
80         else if(hw_enable == KbPerf::OFF)
81             return ALWAYS_OFF;
82         return NORMAL;
83     }
84 }
```

Here is the caller graph for this function:

12.46.6.5 void KPerfWidget::setPerf (KbPerf * *newPerf,* KbProfile * *newProfile*)

Definition at line 125 of file kperfwidget.cpp.

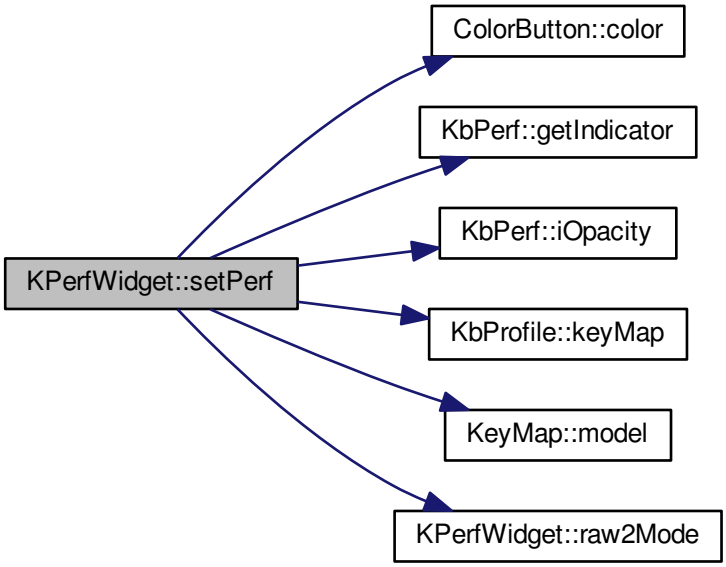
References BOTH, ColorButton::color(), KPerfWidget::IndicatorUi::color1, KPerfWidget::IndicatorUi::color2, KPerfWidget::IndicatorUi::color3, KPerfWidget::IndicatorUi::enable, KbPerf::getIndicator(), HW_I_COUNT, KPerfWidget::IndicatorUi::hwEnable, I_COUNT, indicators, Ui_KPerfWidget::intensityBox, KbPerf::iOpacity(), KeyMap::K95, k95Widgets, KbProfile::keyMap(), Ui_KPerfWidget::label_12, Ui_KPerfWidget::label_14, Ui_KPerfWidget::label_17, KeyMap::model(), Ui_KPerfWidget::muteBox, Ui_KPerfWidget::muteColorNA, Ui_KPerfWidget::muteColorOff, Ui_KPerfWidget::muteColorOn, perf, profile, raw2Mode(), RGB, KeyMap::STRAFE, and ui.

Referenced by KbWidget::modeChanged().

```
125                                                     {
126     perf = newPerf;
127     profile = newProfile;
128     // Set intensity
129     ui->intensityBox->setValue(round(perf->iOpacity() * 100.f));
130     // Set hardware indicator values
131     for(int i = 0; i < HW_I_COUNT; i++){
132         QColor c1, c2, c3;
133         bool software;
134         i_hw hardware;
135         perf->getIndicator((indicator)i, c1, c2, c3, software, hardware);
136         HwMode mode = raw2Mode(software, hardware);
137         indicators[i].hwEnable->setCurrentIndex((int)mode);
138         indicators[i].color1->color(c1);
139         indicators[i].color2->color(c2);
140         if(mode == RGB || mode == BOTH){
141             indicators[i].color1->setEnabled(true);
142             indicators[i].color2->setEnabled(true);
143         } else {
144             indicators[i].color1->setEnabled(false);
145             indicators[i].color2->setEnabled(false);
146         }
147     }
148     // Set software indicators
149     for(int i = HW_I_COUNT; i < I_COUNT; i++){
150         QColor c1, c2, c3;
151         bool software;
152         i_hw hardware;
153         perf->getIndicator((indicator)i, c1, c2, c3, software, hardware);
154         indicators[i].enable->setChecked(software);
155         indicators[i].color1->color(c1);
156         indicators[i].color2->color(c2);
157         if(indicators[i].color3) indicators[i].color3->
    color(c3);
158         if(software){
159             indicators[i].color1->setEnabled(true);
160             indicators[i].color2->setEnabled(true);
161             if(indicators[i].color3) indicators[i].color3->setEnabled(true);
162         } else {
163             indicators[i].color1->setEnabled(false);
164             indicators[i].color2->setEnabled(false);
165             if(indicators[i].color3) indicators[i].color3->setEnabled(false);
166         }
167     }
168     // Hide K95 indicators on non-K95s
169     if(profile->keyMap().model() == KeyMap::K95){
170         foreach(QWidget* w, k95Widgets)
171             w->show();
172     } else {
173         foreach(QWidget* w, k95Widgets)
174             w->hide();
175         if(profile->keyMap().model() == KeyMap::STRAFE) { // hide
```

```
        indicators unsupported by STRAFE
176             ui->muteBox->hide();
177             ui->muteColorOn->hide();
178             ui->muteColorOff->hide();
179             ui->muteColorNA->hide();
180             ui->label_12->hide();
181             ui->label_14->hide();
182             ui->label_17->hide();
183         }
184     }
185 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.46.6.6 void KPerfWidget::uiUpdated (int *index*) [private],[slot]

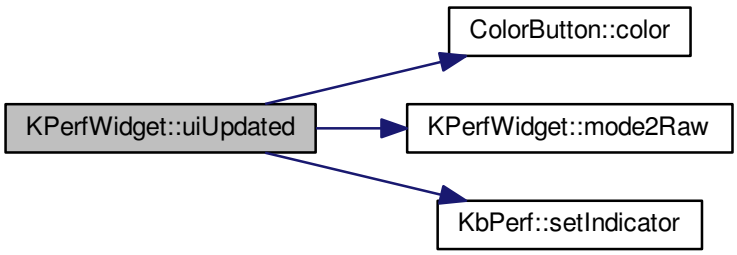
Definition at line 187 of file kperfwidget.cpp.

References ColorButton::color(), KPerfWidget::IndicatorUi::color1, KPerfWidget::IndicatorUi::color2, KPerfWidget::IndicatorUi::color3, KPerfWidget::IndicatorUi::enable, indicators, mode2Raw(), KbPerf::NONE, perf, and KbPerf::setIndicator().

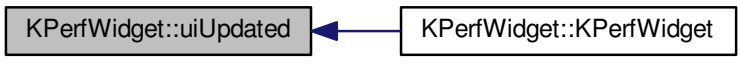
Referenced by KPerfWidget().

```
187                                     {
188     if(!perf)
189         return;
190     // Read HW/SW enable state
191     bool software;
192     i_hw hardware;
193     if(indicators[index].enable){
194         software = indicators[index].enable->isChecked();
195         hardware = KbPerf::NONE;
196     } else {
197         mode2Raw((HwMode)indicators[index].hwEnable->currentIndex(), software,
      hardware);
198     }
199     // Enable/disable color buttons based on whether or not the indicator is turned on
200     if(software){
201         indicators[index].color1->setEnabled(true);
202         indicators[index].color2->setEnabled(true);
203         if(indicators[index].color3) indicators[index].
      color3->setEnabled(true);
204     } else {
205         indicators[index].color1->setEnabled(false);
206         indicators[index].color2->setEnabled(false);
207         if(indicators[index].color3) indicators[index].
      color3->setEnabled(false);
208     }
209     QColor c1 = indicators[index].color1->color();
210     QColor c2 = indicators[index].color2->color();
211     QColor c3 = indicators[index].color3 ? indicators[index].
      color3->color() : QColor();
212     perf->setIndicator((indicator)index, c1, c2, c3, software, hardware);
213 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.46.7 Field Documentation

12.46.7.1 const int KPerfWidget::HW_I_COUNT = KbPerf::HW_I_COUNT [static]

Definition at line 27 of file kperfwidget.h.

Referenced by setPerf().

12.46.7.2 const int KPerfWidget::I_COUNT = KbPerf::I_COUNT [static]

Definition at line 26 of file kperfwidget.h.

Referenced by KPerfWidget(), and setPerf().

12.46.7.3 IndicatorUi KPerfWidget::indicators[I_COUNT] [private]

Definition at line 59 of file kperfwidget.h.

Referenced by KPerfWidget(), setPerf(), and uiUpdated().

12.46.7.4 QList<QWidget*> KPerfWidget::k95Widgets [private]

Definition at line 60 of file kperfwidget.h.

Referenced by KPerfWidget(), and setPerf().

12.46.7.5 KbPerf* KPerfWidget::perf [private]

Definition at line 34 of file kperfwidget.h.

Referenced by on_copyButton_clicked(), on_intensityBox_valueChanged(), setPerf(), and uiUpdated().

12.46.7.6 KbProfile* KPerfWidget::profile [private]

Definition at line 35 of file kperfwidget.h.

Referenced by on_copyButton_clicked(), and setPerf().

12.46.7.7 Ui::KPerfWidget* KPerfWidget::ui [private]

Definition at line 32 of file kperfwidget.h.

Referenced by KPerfWidget(), setPerf(), and ~KPerfWidget().

12.46.7.8 QSignalMapper KPerfWidget::updateMapper [private]

Definition at line 62 of file kperfwidget.h.

Referenced by KPerfWidget().

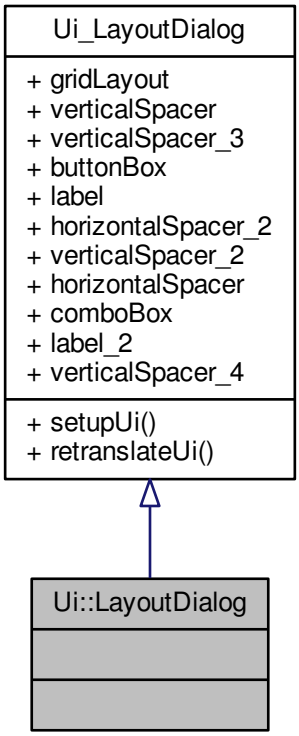
The documentation for this class was generated from the following files:

- src/ckb/kperfwidget.h
- src/ckb/kperfwidget.cpp

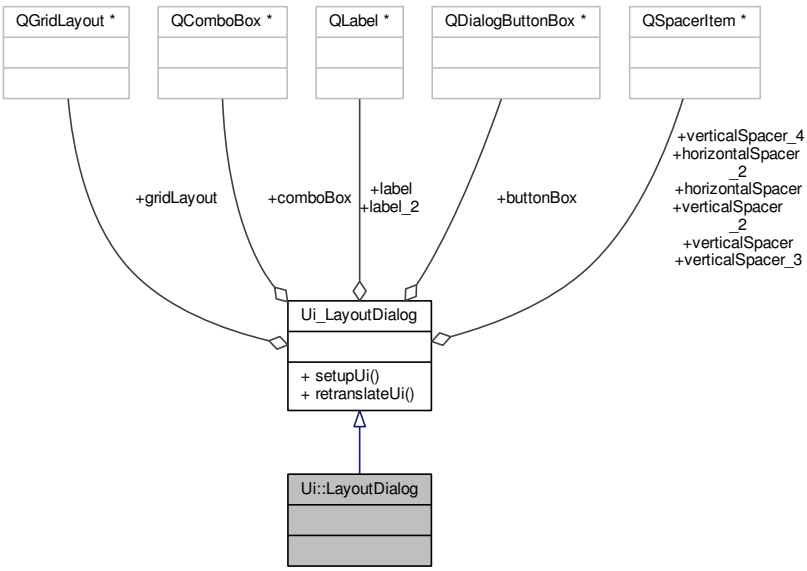
12.47 Ui::LayoutDialog Class Reference

`#include <src/ckb/ui_layoutdialog.h>`

Inheritance diagram for Ui::LayoutDialog:



Collaboration diagram for Ui::LayoutDialog:



Public Member Functions

- void setupUi (QDialog *LayoutDialog)
- void retranslateUi (QDialog *LayoutDialog)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_3
- QDialogButtonBox * buttonBox
- QLabel * label
- QSpacerItem * horizontalSpacer_2
- QSpacerItem * verticalSpacer_2
- QSpacerItem * horizontalSpacer
- QComboBox * comboBox
- QLabel * label_2
- QSpacerItem * verticalSpacer_4

12.47.1 Detailed Description

Definition at line 119 of file ui_layoutdialog.h.

12.47.2 Member Function Documentation

12.47.2.1 void Ui_LayoutDialog::retranslateUi (QDialog * *LayoutDialog*) [inline], [inherited]

Definition at line 109 of file ui_layoutdialog.h.

References Ui_LayoutDialog::label, and Ui_LayoutDialog::label_2.

Referenced by Ui_LayoutDialog::setupUi().

```
110     {
111         LayoutDialog->setWindowTitle(QApplication::translate("LayoutDialog", "Keyboard Layout", Q_NULLPTR))
    ;
112         label->setText(QApplication::translate("LayoutDialog", "Please select your keyboard layout:",
    Q_NULLPTR));
113         label_2->setText(QApplication::translate("LayoutDialog", "Note: this only controls the
     layout within the ckb application. If your keys are typing the wrong characters, check your system preferences.",
     Q_NULLPTR));
114     } // retranslateUi
```

Here is the caller graph for this function:

12.47.2.2 void Ui_LayoutDialog::setupUi (QDialog * *LayoutDialog*) [inline],[inherited]

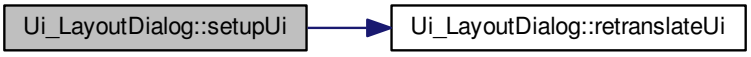
Definition at line 41 of file ui_layoutdialog.h.

References Ui_LayoutDialog::buttonBox, Ui_LayoutDialog::comboBox, Ui_LayoutDialog::gridLayout, Ui_LayoutDialog::horizontalSpacer, Ui_LayoutDialog::horizontalSpacer_2, Ui_LayoutDialog::label, Ui_LayoutDialog::label_2, Ui_LayoutDialog::retranslateUi(), Ui_LayoutDialog::verticalSpacer, Ui_LayoutDialog::verticalSpacer_2, Ui_LayoutDialog::verticalSpacer_3, and Ui_LayoutDialog::verticalSpacer_4.

Referenced by LayoutDialog::LayoutDialog().

```
42     {
43         if (LayoutDialog->objectName().isEmpty())
44             LayoutDialog->setObjectName(QStringLiteral("LayoutDialog"));
45         LayoutDialog->resize(400, 240);
46         gridLayout = new QGridLayout(LayoutDialog);
47         gridLayout->setObjectName(QStringLiteral("gridLayout"));
48         verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
49
50         gridLayout->addItem(verticalSpacer, 6, 0, 1, 3);
51
52         verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
53
54         gridLayout->addItem(verticalSpacer_3, 0, 1, 1, 1);
55
56         buttonBox = new QDialogButtonBox(LayoutDialog);
57         buttonBox->setObjectName(QStringLiteral("buttonBox"));
58         buttonBox->setOrientation(Qt::Horizontal);
59         buttonBox->setStandardButtons(QDialogButtonBox::Ok);
60
61         gridLayout->addWidget(buttonBox, 7, 0, 1, 3);
62
63         label = new QLabel(LayoutDialog);
64         label->setObjectName(QStringLiteral("label"));
65         label->setAlignment(Qt::AlignCenter);
66
67         gridLayout->addWidget(label, 1, 0, 1, 3);
68
69         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
70
71         gridLayout->addItem(horizontalSpacer_2, 3, 2, 1, 1);
72
73         verticalSpacer_2 = new QSpacerItem(20, 15, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
74
75         gridLayout->addItem(verticalSpacer_2, 4, 1, 1, 1);
76
77         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
78
79         gridLayout->addItem(horizontalSpacer, 3, 0, 1, 1);
80
81         comboBox = new QComboBox(LayoutDialog);
82         comboBox->setObjectName(QStringLiteral("comboBox"));
83
84         gridLayout->addWidget(comboBox, 3, 1, 1, 1);
85
86         label_2 = new QLabel(LayoutDialog);
87         label_2->setObjectName(QStringLiteral("label_2"));
88         QFont font;
89         font.setPointSize(8);
90         font.setItalic(true);
91         label_2->setFont(font);
92         label_2->setAlignment(Qt::AlignCenter);
93         label_2->setWordWrap(true);
94
95         gridLayout->addWidget(label_2, 5, 0, 1, 3);
96
97         verticalSpacer_4 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
98
99         gridLayout->addItem(verticalSpacer_4, 2, 1, 1, 1);
100
101
102         retranslateUi(LayoutDialog);
103         QObject::connect(buttonBox, SIGNAL(accepted()), LayoutDialog, SLOT(accept()));
104         QObject::connect(buttonBox, SIGNAL(rejected()), LayoutDialog, SLOT(reject()));
105
106         QMetaObject::connectSlotsByName(LayoutDialog);
107     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.47.3 Field Documentation

12.47.3.1 QDialogButtonBox* Ui_LayoutDialog::buttonBox [inherited]

Definition at line 32 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

12.47.3.2 QComboBox* Ui_LayoutDialog::comboBox [inherited]

Definition at line 37 of file ui_layoutdialog.h.

Referenced by LayoutDialog::LayoutDialog(), LayoutDialog::selected(), and Ui_LayoutDialog::setupUi().

12.47.3.3 QGridLayout* Ui_LayoutDialog::gridLayout [inherited]

Definition at line 29 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

12.47.3.4 QSpacerItem* Ui_LayoutDialog::horizontalSpacer [inherited]

Definition at line 36 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

12.47.3.5 QSpacerItem* Ui_LayoutDialog::horizontalSpacer_2 [inherited]

Definition at line 34 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

12.47.3.6 QLabel* Ui_LayoutDialog::label [inherited]

Definition at line 33 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::retranslateUi(), and Ui_LayoutDialog::setupUi().

12.47.3.7 QLabel* Ui_LayoutDialog::label_2 [inherited]

Definition at line 38 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::retranslateUi(), and Ui_LayoutDialog::setupUi().

12.47.3.8 QSpacerItem* Ui_LayoutDialog::verticalSpacer [inherited]

Definition at line 30 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

12.47.3.9 QSpacerItem* Ui_LayoutDialog::verticalSpacer_2 [inherited]

Definition at line 35 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

12.47.3.10 QSpacerItem* Ui_LayoutDialog::verticalSpacer_3 [inherited]

Definition at line 31 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

12.47.3.11 QSpacerItem* Ui_LayoutDialog::verticalSpacer_4 [inherited]

Definition at line 39 of file ui_layoutdialog.h.

Referenced by Ui_LayoutDialog::setupUi().

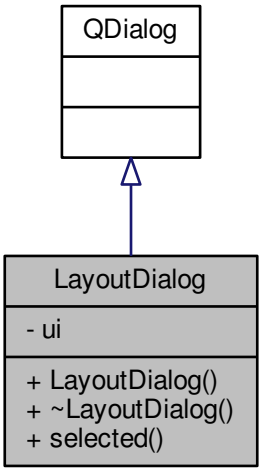
The documentation for this class was generated from the following file:

- src/ckb/ui_layoutdialog.h

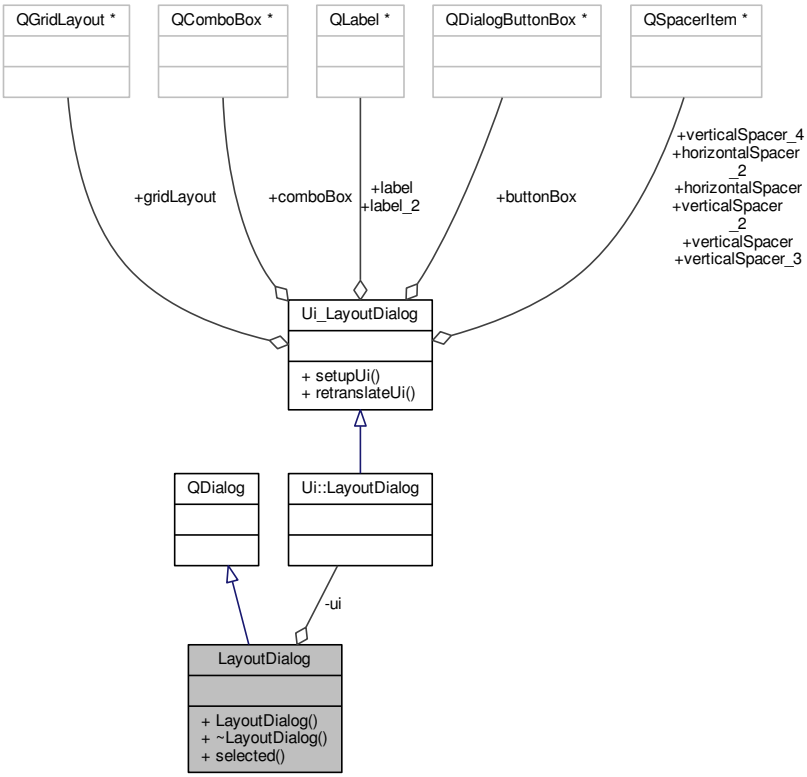
12.48 LayoutDialog Class Reference

`#include <src/ckb/layoutdialog.h>`

Inheritance diagram for LayoutDialog:



Collaboration diagram for LayoutDialog:



Public Member Functions

- LayoutDialog (QWidget *parent=0)
- ~LayoutDialog ()
- KeyMap::Layout selected () const

Private Attributes

- Ui::LayoutDialog * ui

12.48.1 Detailed Description

Definition at line 13 of file layoutdialog.h.

12.48.2 Constructor & Destructor Documentation

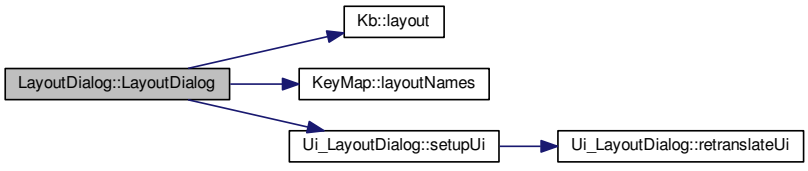
12.48.2.1 LayoutDialog::LayoutDialog (QWidget * *parent* = 0) [explicit]

Definition at line 5 of file layoutdialog.cpp.

References Ui_LayoutDialog::comboBox, Kb::layout(), KeyMap::layoutNames(), Ui_LayoutDialog::setupUi(), and ui.

```
5                                       :
6     QDialog(parent),
7     ui(new Ui::LayoutDialog) {
8     ui->setupUi(this);
9     // Populate layout list
10     ui->comboBox->addItems(KeyMap::layoutNames());
11     ui->comboBox->setCurrentIndex((int)Kb::layout());
12 }
```

Here is the call graph for this function:



12.48.2.2 LayoutDialog::~LayoutDialog ( )

Definition at line 14 of file layoutdialog.cpp.

References ui.

```
14                              {
15     delete ui;
16 }
```

12.48.3 Member Function Documentation

12.48.3.1 KeyMap::Layout LayoutDialog::selected ( ) const

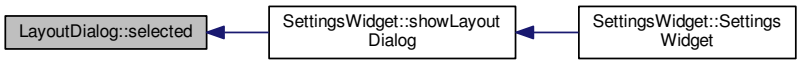
Definition at line 18 of file layoutdialog.cpp.

References Ui_LayoutDialog::comboBox, and ui.

Referenced by SettingsWidget::showLayoutDialog().

```
18                                          {
19     return (KeyMap::Layout)ui->comboBox->currentIndex();
20 }
```

Here is the caller graph for this function:



12.48.4 Field Documentation

12.48.4.1 Ui::LayoutDialog* LayoutDialog::ui [private]

Definition at line 24 of file layoutdialog.h.

Referenced by LayoutDialog(), selected(), and ~LayoutDialog().

The documentation for this class was generated from the following files:

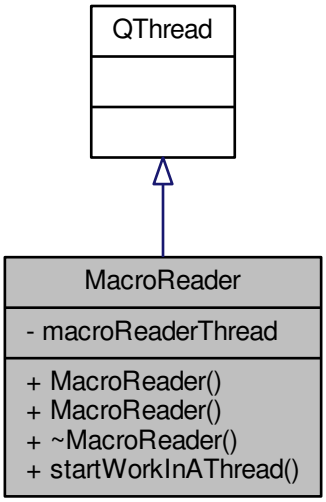
- src/ckb/layoutdialog.h
- src/ckb/layoutdialog.cpp

12.49 MacroReader Class Reference

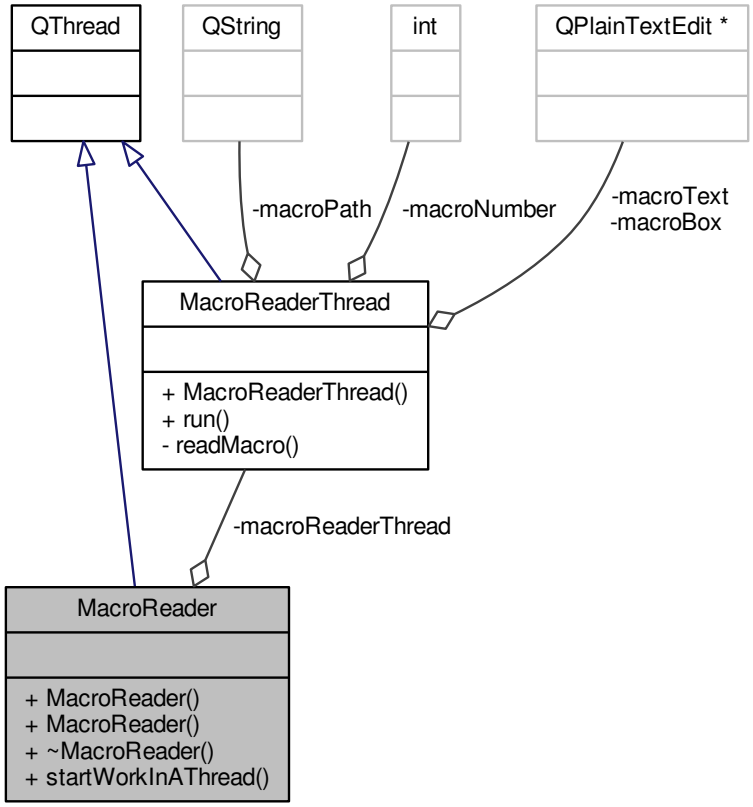
The MacroReader class creates a worker thread object. It does a connect do delayed deletion of thread local variables in the case the worker thread terminates.

`#include <src/ckb/macroreader.h>`

Inheritance diagram for MacroReader:



Collaboration diagram for MacroReader:



Public Member Functions

- MacroReader ()

  MacroReader Calling MacroReader without params is not allowed.
- MacroReader (int macroNumber, QString macroPath, QPlainTextEdit ∗macBox, QPlainTextEdit ∗macText)

  MacroReader This is the only allowed constructor. It only calls startWorkInAThread() with the four params.
- ∼MacroReader ()
- void startWorkInAThread (int macroNumber, QString macroPath, QPlainTextEdit ∗macBox, QPlainTextEdit ∗macText)

  startWorkInAThread This member function creates the new thread object and starts it with the four params.

Private Attributes

- MacroReaderThread ∗ macroReaderThread

12.49.1 Detailed Description

Definition at line 87 of file macroreader.h.

12.49.2 Constructor & Destructor Documentation

12.49.2.1 MacroReader::MacroReader ( )

Definition at line 9 of file macroreader.cpp.

```
9                           {
10     qDebug() << "Calling MacroReader without params is not allowed.";
11 }
```

12.49.2.2 MacroReader::MacroReader (int *macroNumber*, QString *macroPath*, QPlainTextEdit * *macBox*, QPlainTextEdit * *macText*)

Parameters

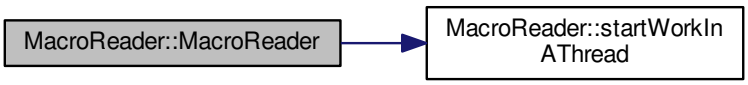
macroNumber	
macroPath	
macBox	
macText	

Definition at line 13 of file macroreader.cpp.

References startWorkInAThread().

```
13
       {
14     startWorkInAThread(macroNumber, macroPath, macBox, macText);
15 }
```

Here is the call graph for this function:



12.49.2.3 MacroReader::~MacroReader ( )

Definition at line 16 of file macroreader.cpp.

```
16 {}
```

12.49.3 Member Function Documentation

12.49.3.1 void MacroReader::startWorkInAThread (int *macroNumber*, QString *macroPath*, QPlainTextEdit * *macBox*, QPlainTextEdit * *macText*)

Parameters

macroNumber	
macroPath	
macBox	
macText	

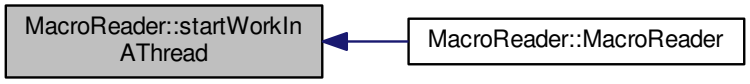
Definition at line 18 of file macroreader.cpp.

References macroReaderThread.

Referenced by MacroReader().

```
18
                {
19     macroReaderThread = new MacroReaderThread(macroNumber, macroPath,
       macBox, macText);
20     connect(macroReaderThread, &MacroReaderThread::finished,
       macroReaderThread, &QObject::deleteLater);
21     macroReaderThread->start();
22 }
```

Here is the caller graph for this function:



12.49.4 Field Documentation

12.49.4.1 MacroReaderThread* MacroReader::macroReaderThread [private]

Definition at line 123 of file macroreader.h.

Referenced by startWorkInAThread().

The documentation for this class was generated from the following files:

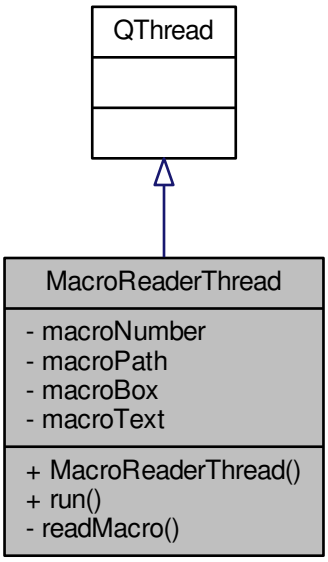
- src/ckb/macroreader.h
- src/ckb/macroreader.cpp

12.50 MacroReaderThread Class Reference

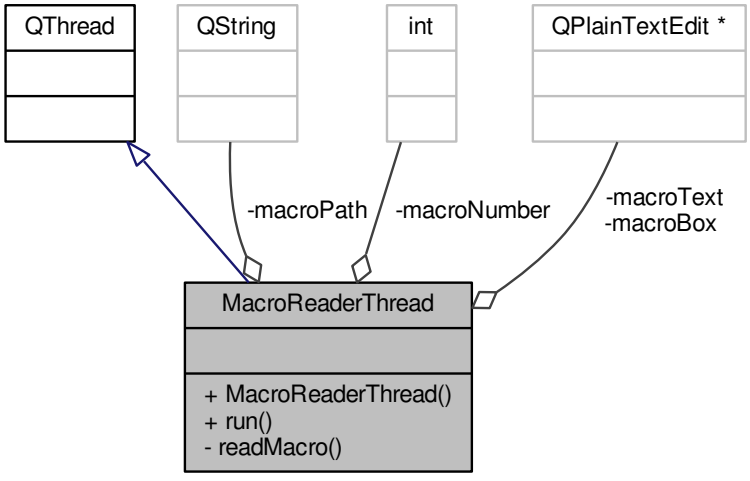
The MacroReaderThread class is responsible for reading Macro Key Values. It is created as a separate thread (worker thread) for reading macro commands from an fresh opened notify channel. Standard notify channel for macro definitions is number 2.

`#include <src/ckb/macroreader.h>`

Inheritance diagram for MacroReaderThread:



Collaboration diagram for MacroReaderThread:



Public Member Functions

- MacroReaderThread (int macNum, QString macPath, QPlainTextEdit ∗macBox, QPlainTextEdit ∗macText)

  MacroReaderThread saves the four params to local vars with similar varNames.

- void run () Q_DECL_OVERRIDE

  run is the notification reader main loop.

Private Slots

- void readMacro (QString line)

  readMacro is called for each line received by the worker thread. The method ist called via signal (metaObject) from the worker thread, which reads the keyboard input. Just display the key code in the macroBox Widget without he trailing newline and reposition the cursor in the macro pane.

Private Attributes

- int macroNumber

  macroNumber Filenames of nofity channels have the structure <input-device-path>/ckb1/notify<number> First part is hold in macroPath, the number is hold in macroNumber. macroNumber may range from 0 to 9.
- QString macroPath

  macroPath holds the path for the notify channel
- QPlainTextEdit * macroBox

  macroBox will receive the Macro Key Values sent from the keyboard while defining a new macro.
- QPlainTextEdit * macroText

  macroText is the other textpane used in the UI while typing new macros. That variable is used for setting the focus to that textpane and to set the cursor at EOT.

12.50.1 Detailed Description

While the worker Thread gets input from the keyboard, the lines are sent via signalling (metaobject) to run a member function in the context of the Qt UI manager.

When the notify channel is closed (that's normally done by pressing "Stop"-Button in the UI), the worker thread closes the channelFile and leaves.

See Also

MacroReaderThread(), ~MacroReaderThread(), readMaco(), run()

Definition at line 22 of file macroreader.h.

12.50.2 Constructor & Destructor Documentation

12.50.2.1 MacroReaderThread::MacroReaderThread (int *macNum*, QString *macPath*, QPlainTextEdit * *macBox*, QPlainTextEdit * *macText*) [inline]

Parameters

macNum	
macPath	
macBox	
macText	

Definition at line 55 of file macroreader.h.

References macroBox, macroNumber, macroPath, and macroText.

```
55                                                                                  {
56         macroNumber = macNum;
57         macroPath = macPath;
58         macroBox = macBox;
59         macroText = macText;
60     }
```

12.50.3 Member Function Documentation

12.50.3.1 void MacroReaderThread::readMacro (QString *line*) [private],[slot]

This is used, because the worker thread shouldn't get access to the UI elements (and normally has none, because the pointers macroBox and macroText remain on the stack). That mechanism guarantees, that the UI does not freeze if it happens something magic to the reading function.

Parameters

line	holds the line just got from keyboard

We want to see the keys as they appear in the macroText Widget.

Because it is possible to change the Focus via keyboard, we must set the focus on each call.

Definition at line 27 of file macroreader.cpp.

References macroBox, and macroText.

```
27                                              {
32     macroText->setFocus();
33     QTextCursor c = macroText->textCursor();
34     c.setPosition(macroText->toPlainText().length());
35     macroText->setTextCursor(c);
36     macroBox->appendPlainText(line.left(line.size()-1));
37 }
```

12.50.3.2 void MacroReaderThread::run ( )

MacroReaderThread::run is the standard main function for a thread. Tries to open a file <macroPath><macroNumber> several times (in this case, it should be possible the first time (the code was recycled from kb.cpp).

While the file is open, read lines an signal them via metaObject() to the main thread. When the file is closed by the sender, close it as reader and terminate.

Definition at line 47 of file macroreader.cpp.

References macroBox, macroNumber, macroPath, and macroText.

```
47                              {
48     qDebug() << "MacroReader::run() started with" << macroNumber << "and" <<
       macroPath << "and" << macroBox << "and" << macroText;
49
50     QFile macroFile(macroPath);
51     // Wait a small amount of time for the node to open (100ms) (code reused from kb.cpp)
52     QThread::usleep(100000);
53     if(!macroFile.open(QIODevice::ReadOnly)){
54         // If it's still not open, try again before giving up (1s at a time, 10s total)
55         QThread::usleep(900000);
56         for(int i = 1; i < 10; i++){
57             if(macroFile.open(QIODevice::ReadOnly))
58                 break;
59             QThread::sleep(1);
60         }
61         if(!macroFile.isOpen()) {
62             qDebug() << QString("unable to open macroFile (%1)").arg(macroPath);
63             return;
64         }
65     }
66     // Read data from notification node macroPath
67     // Count time between lines read from the interface
68     QByteArray line;
69     timeval t;
70     gettimeofday(&t, NULL);
71     double tstart = t.tv_sec+(t.tv_usec/1000000.0);
72     bool firstline = true;
73
74     while(macroFile.isOpen() && (line = macroFile.readLine()).length() > 0){
75         QString text = QString::fromUtf8(line);
76         gettimeofday(&t, NULL);
77         double tnow = t.tv_sec+(t.tv_usec/1000000.0);
78
79         // in the first line, there is only a delay "before start". Don't use it.
80         if (!firstline) {
```

```
81             text.prepend ("\n");
82             text.prepend (QString::number ((tnow - tstart) * 1000000.0, 'f', 0));
83             text.prepend ("=");
84         } else firstline = false;
85         tstart = tnow;
86 
87         metaObject()->invokeMethod(this, "readMacro", Qt::QueuedConnection, Q_ARG(QString, text));
88     }
89     qDebug() << "MacroReader::run() ends.";
90     macroFile.close();
91     QThread::exit ();
92 }
```

12.50.4 Field Documentation

12.50.4.1 QPlainTextEdit* MacroReaderThread::macroBox [private]

Definition at line 40 of file macroreader.h.

Referenced by MacroReaderThread(), readMacro(), and run().

12.50.4.2 int MacroReaderThread::macroNumber [private]

Definition at line 31 of file macroreader.h.

Referenced by MacroReaderThread(), and run().

12.50.4.3 QString MacroReaderThread::macroPath [private]

See Also

macroNumber

Definition at line 36 of file macroreader.h.

Referenced by MacroReaderThread(), and run().

12.50.4.4 QPlainTextEdit* MacroReaderThread::macroText [private]

Definition at line 45 of file macroreader.h.

Referenced by MacroReaderThread(), readMacro(), and run().

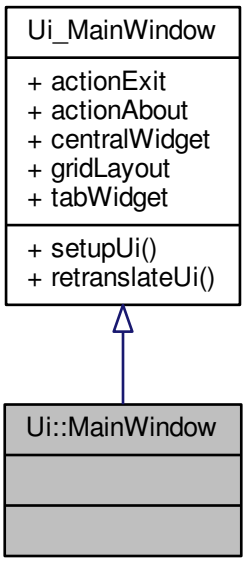
The documentation for this class was generated from the following files:

- src/ckb/macroreader.h
- src/ckb/macroreader.cpp

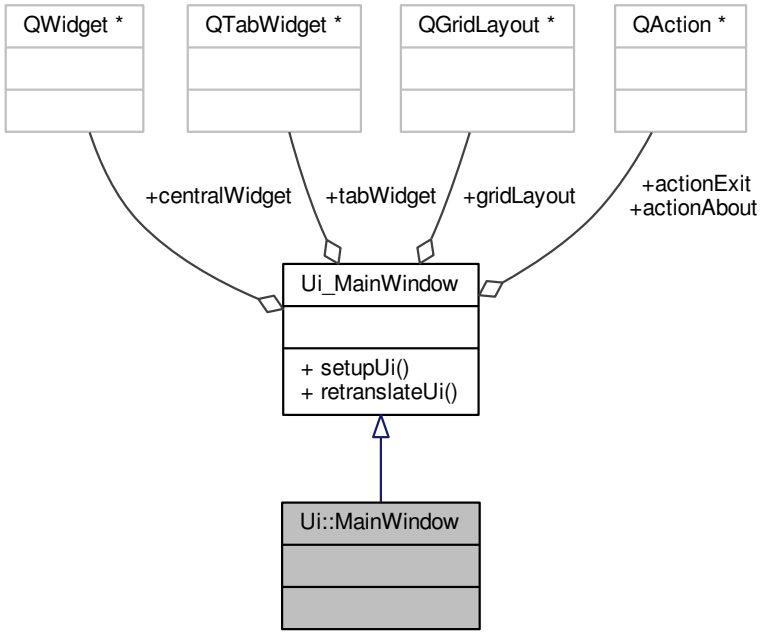
12.51 Ui::MainWindow Class Reference

`#include <src/ckb/ui_mainwindow.h>`

Inheritance diagram for Ui::MainWindow:



Collaboration diagram for Ui::MainWindow:



Public Member Functions

- void setupUi (QMainWindow *MainWindow)
- void retranslateUi (QMainWindow *MainWindow)

Data Fields

- QAction * actionExit
- QAction * actionAbout
- QWidget * centralWidget
- QGridLayout * gridLayout
- QTabWidget * tabWidget

12.51.1 Detailed Description

Definition at line 79 of file ui_mainwindow.h.

12.51.2 Member Function Documentation

12.51.2.1 void Ui_MainWindow::retranslateUi (QMainWindow * *MainWindow*) [inline], [inherited]

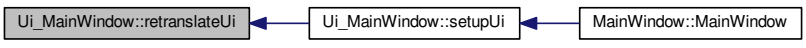
Definition at line 68 of file ui_mainwindow.h.

References Ui_MainWindow::actionAbout, and Ui_MainWindow::actionExit.

Referenced by Ui_MainWindow::setupUi().

```
69     {
70         MainWindow->setWindowTitle(QApplication::translate("MainWindow", "ckb-next", Q_NULLPTR));
71         actionExit->setText(QApplication::translate("MainWindow", "Exit", Q_NULLPTR));
72         actionExit->setShortcut(QApplication::translate("MainWindow", "Ctrl+Q", Q_NULLPTR));
73         actionAbout->setText(QApplication::translate("MainWindow", "About", Q_NULLPTR));
74     } // retranslateUi
```

Here is the caller graph for this function:



12.51.2.2 void Ui_MainWindow::setupUi (QMainWindow * *MainWindow*) [inline], [inherited]

Definition at line 33 of file ui_mainwindow.h.

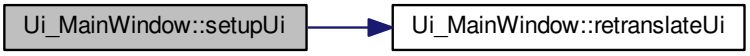
References Ui_MainWindow::actionAbout, Ui_MainWindow::actionExit, Ui_MainWindow::centralWidget, Ui_MainWindow::gridLayout, Ui_MainWindow::retranslateUi(), and Ui_MainWindow::tabWidget.

Referenced by MainWindow::MainWindow().

```
34     {
35         if (MainWindow->objectName().isEmpty())
36             MainWindow->setObjectName(QStringLiteral("MainWindow"));
37         MainWindow->resize(1000, 750);
38         MainWindow->setMinimumSize(QSize(1000, 750));
39         QIcon icon;
40         icon.addFile(QStringLiteral(":/img/ckb-logo.png"), QSize(), QIcon::Normal, QIcon::Off);
```

```
41          MainWindow->setWindowIcon(icon);
42          MainWindow->setUnifiedTitleAndToolBarOnMac(true);
43          actionExit = new QAction(MainWindow);
44          actionExit->setObjectName(QStringLiteral("actionExit"));
45          actionAbout = new QAction(MainWindow);
46          actionAbout->setObjectName(QStringLiteral("actionAbout"));
47          centralWidget = new QWidget(MainWindow);
48          centralWidget->setObjectName(QStringLiteral("centralWidget"));
49          gridLayout = new QGridLayout(centralWidget);
50          gridLayout->setSpacing(6);
51          gridLayout->setContentsMargins(11, 11, 11, 11);
52          gridLayout->setObjectName(QStringLiteral("gridLayout"));
53          tabWidget = new QTabWidget(centralWidget);
54          tabWidget->setObjectName(QStringLiteral("tabWidget"));
55
56          gridLayout->addWidget(tabWidget, 0, 0, 1, 1);
57
58          MainWindow->setCentralWidget(centralWidget);
59
60          retranslateUi(MainWindow);
61
62          tabWidget->setCurrentIndex(-1);
63
64
65          QMetaObject::connectSlotsByName(MainWindow);
66      } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.51.3 Field Documentation

12.51.3.1 QAction* Ui_MainWindow::actionAbout [inherited]

Definition at line 28 of file ui_mainwindow.h.

Referenced by Ui_MainWindow::retranslateUi(), and Ui_MainWindow::setupUi().

12.51.3.2 QAction* Ui_MainWindow::actionExit [inherited]

Definition at line 27 of file ui_mainwindow.h.

Referenced by MainWindow::MainWindow(), Ui_MainWindow::retranslateUi(), and Ui_MainWindow::setupUi().

12.51.3.3 QWidget* Ui_MainWindow::centralWidget [inherited]

Definition at line 29 of file ui_mainwindow.h.

Referenced by Ui_MainWindow::setupUi().

12.51.3.4 QGridLayout* Ui_MainWindow::gridLayout [inherited]

Definition at line 30 of file ui_mainwindow.h.

Referenced by Ui_MainWindow::setupUi().

12.51.3.5 QTabWidget* Ui_MainWindow::tabWidget [inherited]

Definition at line 31 of file ui_mainwindow.h.

Referenced by MainWindow::addDevice(), MainWindow::MainWindow(), MainWindow::removeDevice(), Ui_MainWindow::setupUi(), and MainWindow::showFwUpdateNotification().

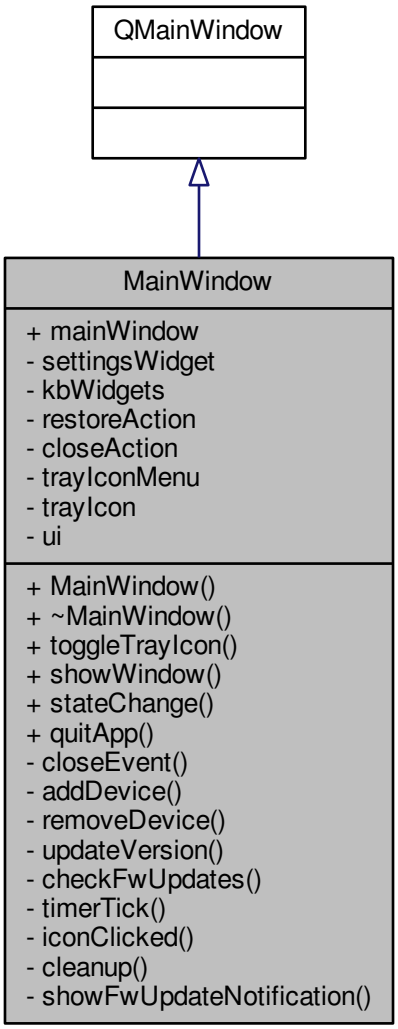
The documentation for this class was generated from the following file:

- src/ckb/ui_mainwindow.h

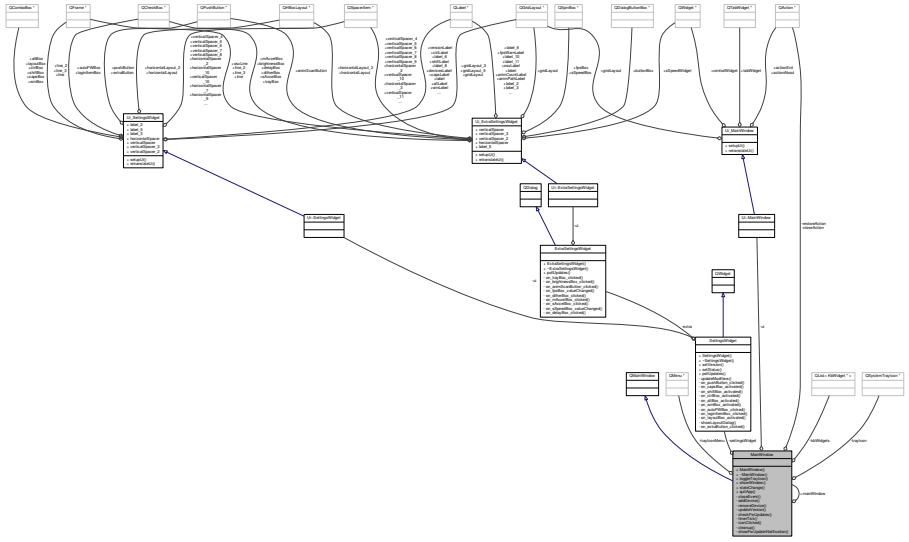
12.52 MainWindow Class Reference

`#include <src/ckb/mainwindow.h>`

Inheritance diagram for MainWindow:



Collaboration diagram for MainWindow:



Public Slots

- void showWindow ()
- void stateChange (Qt::ApplicationState state)
- void quitApp ()

Public Member Functions

- MainWindow (QWidget ∗parent=0)
- ∼MainWindow ()
- void toggleTrayIcon (bool visible)

Static Public Attributes

- static MainWindow ∗ mainWindow = 0

Private Slots

- void addDevice (Kb ∗device)
- void removeDevice (Kb ∗device)
- void updateVersion ()
- void checkFwUpdates ()
- void timerTick ()
- void iconClicked (QSystemTrayIcon::ActivationReason reason)
- void cleanup ()
- void showFwUpdateNotification (QWidget ∗widget, float version)

Private Member Functions

- void closeEvent (QCloseEvent ∗event)

Private Attributes

- SettingsWidget * settingsWidget
- QList< KbWidget * > kbWidgets
- QAction * restoreAction
- QAction * closeAction
- QMenu * trayIconMenu
- QSystemTrayIcon * trayIcon
- Ui::MainWindow * ui

12.52.1 Detailed Description

Definition at line 27 of file mainwindow.h.

12.52.2 Constructor & Destructor Documentation

12.52.2.1 MainWindow::MainWindow (QWidget * *parent* = 0) [explicit]

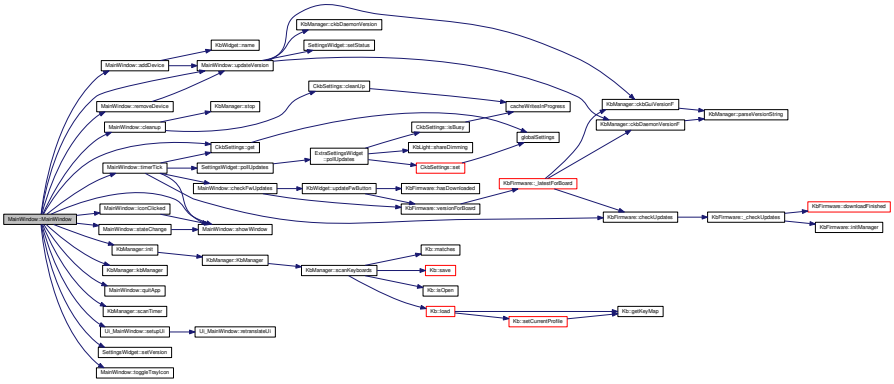
Definition at line 35 of file mainwindow.cpp.

References Ui_MainWindow::actionExit, addDevice(), cleanup(), closeAction, configLabel, CkbSettings::get(), iconClicked(), KbManager::init(), KbManager::kbManager(), mainWindow, quitApp(), removeDevice(), restoreAction, KbManager::scanTimer(), settingsWidget, Ui_MainWindow::setupUi(), SettingsWidget::setVersion(), showWindow(), stateChange(), Ui_MainWindow::tabWidget, timerTick(), toggleTrayIcon(), trayIcon, trayIconMenu, ui, and updateVersion().

```
35                                      :
36     QMainWindow(parent),
37     ui(new Ui::MainWindow)
38 {
39     ui->setupUi(this);
40     mainWindow = this;
41
42     // Start device manager
43     KbManager::init(CKB_VERSION_STR);
44     connect(KbManager::kbManager(), SIGNAL(kbConnected(Kb*)), this, SLOT(
       addDevice(Kb*)));
45     connect(KbManager::kbManager(), SIGNAL(kbDisconnected(Kb*)), this, SLOT(
       removeDevice(Kb*)));
46     connect(KbManager::kbManager(), SIGNAL(versionUpdated()), this, SLOT(
       updateVersion()));
47     connect(KbManager::scanTimer(), SIGNAL(timeout()), this, SLOT(
       timerTick()));
48
49     // Set up tray icon
50     restoreAction = new QAction(tr("Restore"), this);
51     closeAction = new QAction(tr("Quit ckb"), this);
52 #ifdef USE_LIBAPPINDICATOR
53     QString desktop = std::getenv("XDG_CURRENT_DESKTOP");
54     unityDesktop = (desktop.toLower() == "unity");
55
56     if(unityDesktop){
57         trayIcon = 0;
58
59         indicatorMenu = gtk_menu_new();
60         indicatorMenuRestoreItem = gtk_menu_item_new_with_label("Restore");
61         indicatorMenuQuitItem = gtk_menu_item_new_with_label("Quit ckb");
62
63         gtk_menu_shell_append(GTK_MENU_SHELL(indicatorMenu), indicatorMenuRestoreItem);
64         gtk_menu_shell_append(GTK_MENU_SHELL(indicatorMenu), indicatorMenuQuitItem);
65
66         g_signal_connect(indicatorMenuQuitItem, "activate",
67             G_CALLBACK(quitIndicator), this);
68         g_signal_connect(indicatorMenuRestoreItem, "activate",
69             G_CALLBACK(restoreIndicator), this);
70
71         gtk_widget_show(indicatorMenuRestoreItem);
72         gtk_widget_show(indicatorMenuQuitItem);
73
74         indicator = app_indicator_new("ckb", "indicator-messages",
       APP_INDICATOR_CATEGORY_APPLICATION_STATUS);
75
```

```
76         app_indicator_set_status(indicator, APP_INDICATOR_STATUS_ACTIVE);
77         app_indicator_set_menu(indicator, GTK_MENU(indicatorMenu));
78         app_indicator_set_icon(indicator, "ckb");
79     } else
80 #endif // USE_LIBAPPINDICATOR
81     {
82         trayIconMenu = new QMenu(this);
83         trayIconMenu->addAction(restoreAction);
84         trayIconMenu->addAction(closeAction);
85         trayIcon = new QSystemTrayIcon(QIcon(":/img/ckb-logo.png"), this);
86         trayIcon->setContextMenu(trayIconMenu);
87         connect(trayIcon, SIGNAL(activated(QSystemTrayIcon::ActivationReason)), this, SLOT(
       iconClicked(QSystemTrayIcon::ActivationReason)));
88       }
89       toggleTrayIcon(!CkbSettings::get("Program/SuppressTrayIcon").toBool());
90
91 #ifdef Q_OS_MACX
92     // Make a custom "Close" menu action for OSX, as the default one brings up the "still running" popup
       unnecessarily
93     QMenuBar* menuBar = new QMenuBar(this);
94     setMenuBar(menuBar);
95     this->menuBar()->addMenu("ckb")->addAction(closeAction);
96 #else
97     // On linux, add a handler for Ctrl+Q
98     new QShortcut(QKeySequence("Ctrl+Q"), this, SLOT(quitApp()));
99 #endif
100
101     connect(ui->actionExit, SIGNAL(triggered()), this, SLOT(quitApp()));
102     connect(closeAction, SIGNAL(triggered()), this, SLOT(quitApp()));
103     connect(restoreAction, SIGNAL(triggered()), this, SLOT(
       showWindow()));
104     connect(qApp, SIGNAL(applicationStateChanged(Qt::ApplicationState)), this, SLOT(
       stateChange(Qt::ApplicationState)));
105
106     connect(qApp, SIGNAL(aboutToQuit()), this, SLOT(cleanup()));
107
108     ui->tabWidget->addTab(settingsWidget = new
       SettingsWidget(this), configLabel);
109     settingsWidget->setVersion("ckb-next " CKB_VERSION_STR);
110 }
```

Here is the call graph for this function:



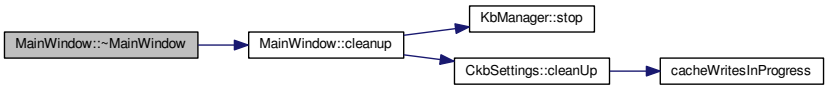
12.52.2.2 MainWindow::~MainWindow ( )

Definition at line 303 of file mainwindow.cpp.

References cleanup(), and ui.

```
303                         {
304     cleanup();
305     delete ui;
306 }
```

Here is the call graph for this function:



12.52.3 Member Function Documentation

12.52.3.1 void MainWindow::addDevice (Kb * *device*) [private], [slot]

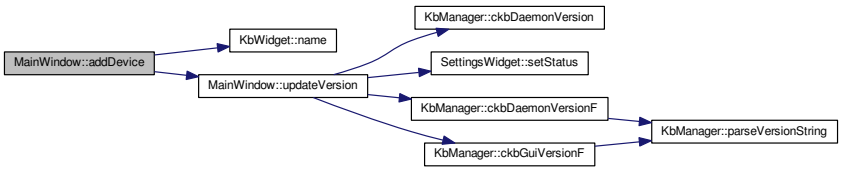
Definition at line 121 of file mainwindow.cpp.

References KbWidget::device, kbWidgets, KbWidget::name(), Ui_MainWindow::tabWidget, ui, and updateVersion().

Referenced by MainWindow().

```
121                                     {
122     // Connected already?
123     foreach(KbWidget* w, kbWidgets){
124         if(w->device == device)
125             return;
126     }
127     // Add the keyboard
128     KbWidget* widget = new KbWidget(this, device);
129     kbWidgets.append(widget);
130     // Add to tabber; switch to this device if on the settings screen
131     int count = ui->tabWidget->count();
132     ui->tabWidget->insertTab(count - 1, widget, widget->name());
133     if(ui->tabWidget->currentIndex() == count)
134         ui->tabWidget->setCurrentIndex(count - 1);
135     // Update connected device count
136     updateVersion();
137 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.52.3.2 void MainWindow::checkFwUpdates ( ) [private], [slot]

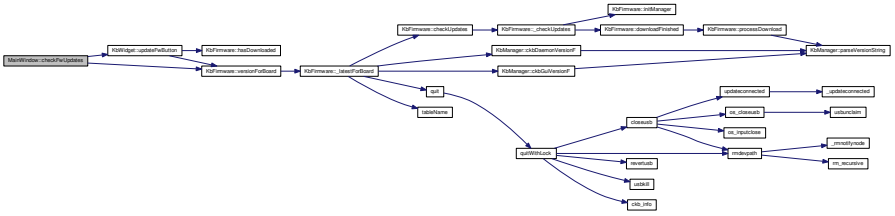
Definition at line 172 of file mainwindow.cpp.

References KbWidget::device, Kb::features, Kb::firmware, KbWidget::hasShownNewFW, kbWidgets, mainWindow, KbWidget::updateFwButton(), and KbFirmware::versionForBoard().

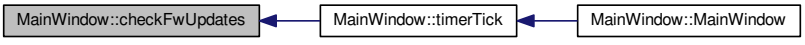
Referenced by timerTick().

```
172                                {
173     if(!mainWindow->isVisible())
174         return;
175     foreach(KbWidget* w, kbWidgets){
176         // Display firmware upgrade notification if a new version is available
177         float version = KbFirmware::versionForBoard(w->
    device->features);
178         if(version > w->device->firmware.toFloat()){
179             if(w->hasShownNewFW)
180                 continue;
181             w->hasShownNewFW = true;
182             w->updateFwButton();
183             // Don't run this method here because it will lock up the timer and prevent devices from
     working properly
184             // Use a queued invocation instead
185             metaObject()->invokeMethod(this, "showFwUpdateNotification", Qt::QueuedConnection, Q_ARG(
    QWidget*, w), Q_ARG(float, version));
186             // Don't display more than one of these at once
187             return;
188         }
189     }
190 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.52.3.3 void MainWindow::cleanup ( ) [private], [slot]

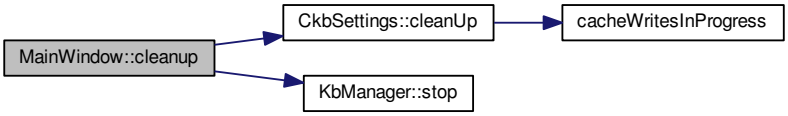
Definition at line 295 of file mainwindow.cpp.

References CkbSettings::cleanUp(), kbWidgets, and KbManager::stop().

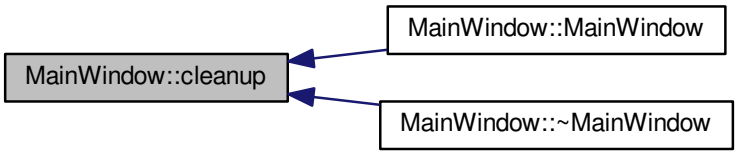
Referenced by MainWindow(), and ~MainWindow().

```
295                        {
296     foreach(KbWidget* w, kbWidgets)
297         delete w;
298     kbWidgets.clear();
299     KbManager::stop();
300     CkbSettings::cleanUp();
301 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



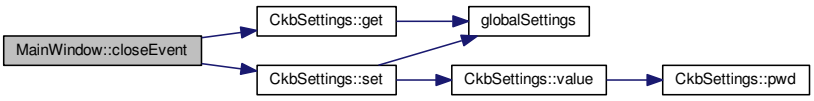
12.52.3.4 void MainWindow::closeEvent (QCloseEvent * *event*) [private]

Definition at line 209 of file mainwindow.cpp.

References CkbSettings::get(), and CkbSettings::set().

```
209                                          {
210     // If the window is hidden already or the event is non-spontaneous (can happen on OSX when using the
      Quit menu), accept it and close
211     if(!event->spontaneous() || isHidden()){
212         event->accept();
213         return;
214     }
215     if(!CkbSettings::get("Popups/BGWarning").toBool()){
216         QMessageBox::information(this, "ckb", "ckb will still run in the background.\nTo close it, choose
      Exit from the tray menu\nor click \"Quit ckb\" on the Settings screen.");
217         CkbSettings::set("Popups/BGWarning", true);
218     }
219     hide();
220     event->ignore();
221 }
```

Here is the call graph for this function:



12.52.3.5 void MainWindow::iconClicked (QSystemTrayIcon::ActivationReason *reason*) [private],[slot]

Definition at line 257 of file mainwindow.cpp.

References showWindow().

Referenced by MainWindow().

```
257                                                                 {
258     // On Linux, hide/show the app when the tray icon is clicked
259     // On OSX this just shows the menu
260 #ifndef Q_OS_MACX
261     if(reason == QSystemTrayIcon::DoubleClick || reason == QSystemTrayIcon::Trigger){
262         if(isVisible())
263             hide();
264         else
265             showWindow();
266     }
267 #endif
268 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

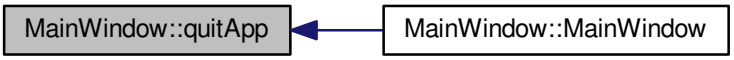
12.52.3.6 void MainWindow::quitApp ( ) [slot]

Definition at line 291 of file mainwindow.cpp.

Referenced by MainWindow().

```
291                         {
292     qApp->quit();
293 }
```

Here is the caller graph for this function:



12.52.3.7 void MainWindow::removeDevice (Kb * *device*) [private], [slot]

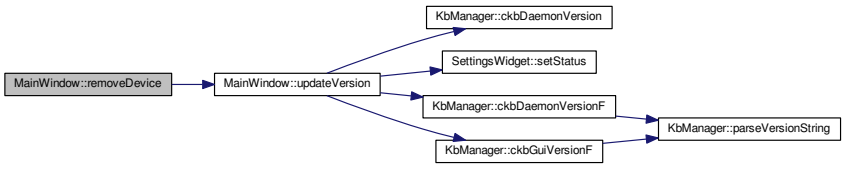
Definition at line 139 of file mainwindow.cpp.

References KbWidget::device, kbWidgets, Ui_MainWindow::tabWidget, ui, and updateVersion().

Referenced by MainWindow().

```
139                                         {
140     foreach(KbWidget* w, kbWidgets){
141         // Remove this device from the UI
142         if(w->device == device){
143             int i = kbWidgets.indexOf(w);
144             ui->tabWidget->removeTab(i);
145             kbWidgets.removeAt(i);
146             w->deleteLater();
147         }
148     }
149     // Update connected device count
150     updateVersion();
151 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

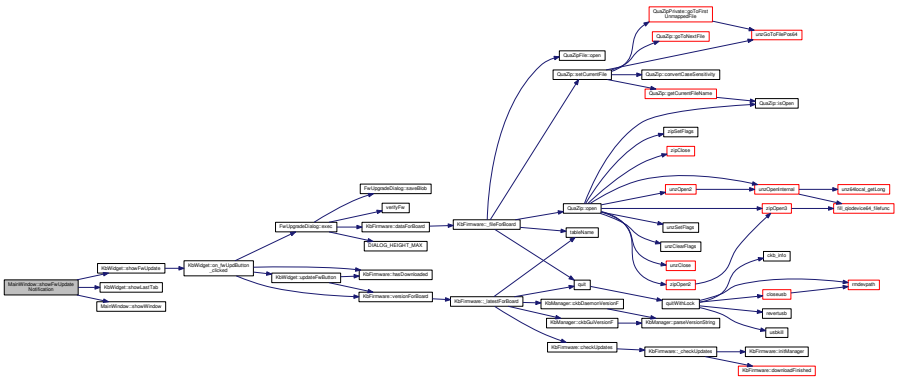
12.52.3.8 void MainWindow::showFwUpdateNotification (QWidget * *widget*, float *version*) [private], [slot]

Definition at line 192 of file mainwindow.cpp.

References KbWidget::device, kbWidgets, KbWidget::showFwUpdate(), KbWidget::showLastTab(), showWindow(), Ui_MainWindow::tabWidget, ui, and Kb::usbModel.

```
192                                                                 {
193     static bool isShowing = false;
194     if(isShowing)
195         return;
196     isShowing = true;
197     showWindow();
198     KbWidget* w = (KbWidget*)widget;
199     // Ask for update
200     if(QMessageBox::information(this, "Firmware update", tr("A new firmware is available for your %1 (v%2)
      \nWould you like to install it now?").arg(w->device->usbModel, QString::number(version, 'f', 2)
      ), QMessageBox::StandardButtons(QMessageBox::Yes | QMessageBox::No), QMessageBox::Yes) == QMessageBox::Yes){
201         // If accepted, switch to firmware tab and bring up update window
202         w->showLastTab();
203         ui->tabWidget->setCurrentIndex(kbWidgets.indexOf(w));
204         w->showFwUpdate();
205     }
206     isShowing = false;
207 }
```

Here is the call graph for this function:



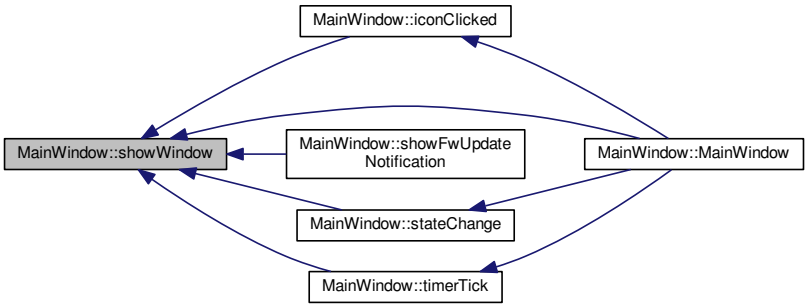
12.52.3.9 void MainWindow::showWindow ( ) [slot]

Definition at line 270 of file mainwindow.cpp.

Referenced by iconClicked(), MainWindow(), showFwUpdateNotification(), stateChange(), and timerTick().

```
270                             {
271     showNormal();
272     raise();
273     activateWindow();
274 }
```

Here is the caller graph for this function:



12.52.3.10 void MainWindow::stateChange (Qt::ApplicationState *state*) [slot]

Definition at line 276 of file mainwindow.cpp.

References showWindow().

Referenced by MainWindow().

```
276                                                 {
277     // On OSX it's possible for the app to be brought to the foreground without the window actually
      reappearing.
278     // We want to make sure it's shown when this happens.
279 #ifdef Q_OS_MAC
280     static quint64 lastStateChange = 0;
281     quint64 now = QDateTime::currentMSecsSinceEpoch();
282     if(state == Qt::ApplicationActive){
283         // This happens once at startup so ignore it. Also don't allow it to be called more than once every
      2s.
284         if(lastStateChange != 0 && now >= lastStateChange + 2 * 1000)
285             showWindow();
286         lastStateChange = now;
287     }
288 #endif
289 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.52.3.11 void MainWindow::timerTick ( ) [private], [slot]

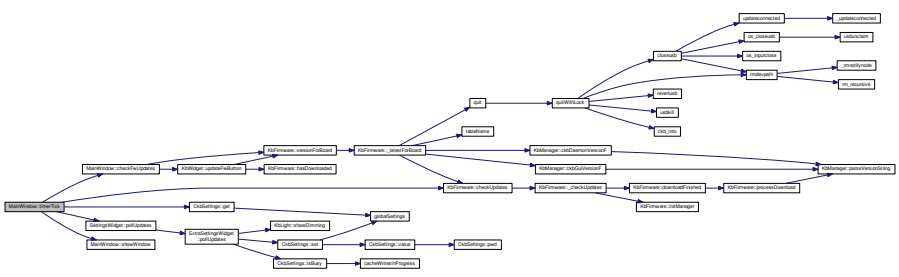
Definition at line 223 of file mainwindow.cpp.

References appShare, checkFwUpdates(), KbFirmware::checkUpdates(), CkbSettings::get(), SettingsWidget::pollUpdates(), settingsWidget, and showWindow().

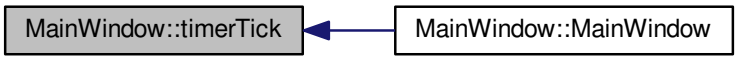
Referenced by MainWindow().

```
223                         {
224     // Check shared memory for changes
225     if(appShare.lock()){
226         void* data = appShare.data();
227         QStringList commands = QString((const char*)data).split("\n");
228         // Restore PID, remove all other data
229         snprintf((char*)appShare.data(), appShare.size(), "PID %ld", (long)getpid());
230         appShare.unlock();
231         // Parse commands
232         foreach(const QString& line, commands){
233             // Old ckb option line - bring application to foreground
234             if(line == "Open")
235                 showWindow();
236             if(line.startsWith("Option ")){
237                 // New ckb option line
238                 QString option = line.split(" ")[1];
239                 if(option == "Open")
240                     // Bring to foreground
241                     showWindow();
242                 else if(option == "Close")
243                     // Quit application
244                     qApp->quit();
245             }
246         }
247     }
248     // Check for firmware updates (when appropriate)
249     if(!CkbSettings::get("Program/DisableAutoFWCheck").toBool()){
250         KbFirmware::checkUpdates();
251         checkFwUpdates();
252     }
253     // Poll for setting updates
254     settingsWidget->pollUpdates();
255 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.52.3.12 void MainWindow::toggleTrayIcon (bool *visible*)

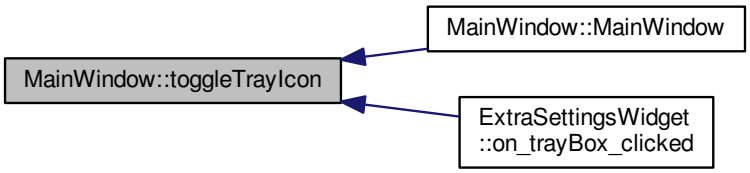
Definition at line 112 of file mainwindow.cpp.

References trayIcon.

Referenced by MainWindow(), and ExtraSettingsWidget::on_trayBox_clicked().

```
112                                          {
113 #ifdef USE_LIBAPPINDICATOR
114     if(unityDesktop)
115         app_indicator_set_status(indicator, visible ? APP_INDICATOR_STATUS_ACTIVE :
    APP_INDICATOR_STATUS_PASSIVE);
116     else
117 #endif // USE_LIBAPPINDICATOR
118         trayIcon->setVisible(visible);
119 }
```

Here is the caller graph for this function:



12.52.3.13 void MainWindow::updateVersion ( ) [private], [slot]

Definition at line 153 of file mainwindow.cpp.

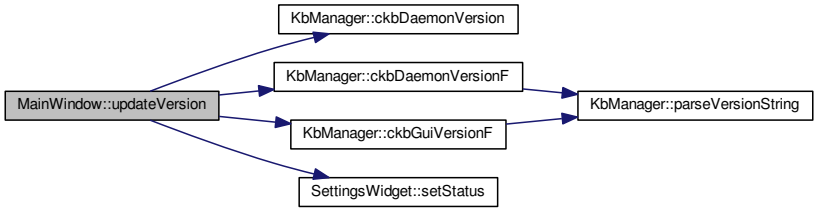
References KbManager::ckbDaemonVersion(), KbManager::ckbDaemonVersionF(), KbManager::ckbGuiVersionF(), DAEMON_UNAVAILABLE_STR, kbWidgets, SettingsWidget::setStatus(), and settingsWidget.

Referenced by addDevice(), MainWindow(), and removeDevice().

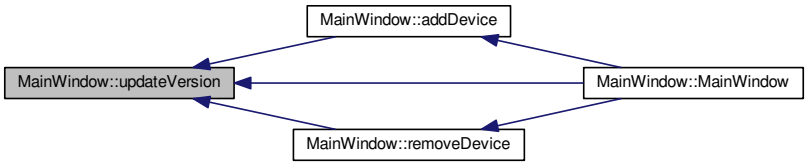
```
153                             {
154     QString daemonVersion = KbManager::ckbDaemonVersion();
155     if(daemonVersion == DAEMON_UNAVAILABLE_STR){
156         settingsWidget->setStatus("Driver inactive");
157         return;
158     }
159     int count = kbWidgets.count();
160     // Warn if the daemon version doesn't match the GUI
```

```
161     QString daemonWarning;
162     if(daemonVersion != CKB_VERSION_STR)
163         daemonWarning = "<br /><br /><b>Warning:</b> Driver version mismatch (" + daemonVersion + ").
       Please upgrade ckb" + QString(KbManager::ckbDaemonVersionF() >
      KbManager::ckbGuiVersionF() ? "" : "-daemon") + ". If the problem persists, try
       rebooting.";
164     if(count == 0)
165         settingsWidget->setStatus("No devices connected" + daemonWarning);
166     else if(count == 1)
167         settingsWidget->setStatus("1 device connected" + daemonWarning);
168     else
169         settingsWidget->setStatus(QString("%1 devices connected").arg(count) +
      daemonWarning);
170 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.52.4 Field Documentation

12.52.4.1 QAction* MainWindow::closeAction [private]

Definition at line 44 of file mainwindow.h.

Referenced by MainWindow().

12.52.4.2 QList<KbWidget*> MainWindow::kbWidgets [private]

Definition at line 41 of file mainwindow.h.

Referenced by addDevice(), checkFwUpdates(), cleanup(), removeDevice(), showFwUpdateNotification(), and updateVersion().

12.52.4.3 MainWindow * MainWindow::mainWindow = 0 [static]

Definition at line 35 of file mainwindow.h.

Referenced by checkFwUpdates(), MainWindow(), and ExtraSettingsWidget::on_trayBox_clicked().

12.52.4.4 QAction* MainWindow::restoreAction [private]

Definition at line 43 of file mainwindow.h.

Referenced by MainWindow().

12.52.4.5 SettingsWidget* MainWindow::settingsWidget [private]

Definition at line 40 of file mainwindow.h.

Referenced by MainWindow(), timerTick(), and updateVersion().

12.52.4.6 QSystemTrayIcon* MainWindow::trayIcon [private]

Definition at line 54 of file mainwindow.h.

Referenced by MainWindow(), and toggleTrayIcon().

12.52.4.7 QMenu* MainWindow::trayIconMenu [private]

Definition at line 53 of file mainwindow.h.

Referenced by MainWindow().

12.52.4.8 Ui::MainWindow* MainWindow::ui [private]

Definition at line 75 of file mainwindow.h.

Referenced by addDevice(), MainWindow(), removeDevice(), showFwUpdateNotification(), and ~MainWindow().

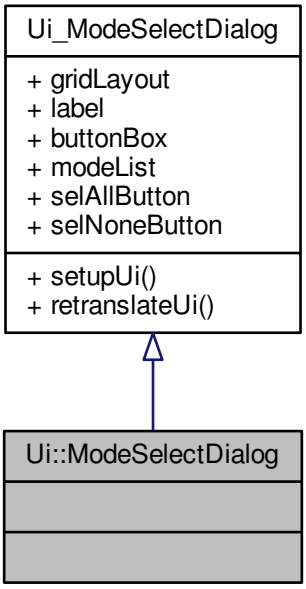
The documentation for this class was generated from the following files:

- src/ckb/mainwindow.h
- src/ckb/mainwindow.cpp

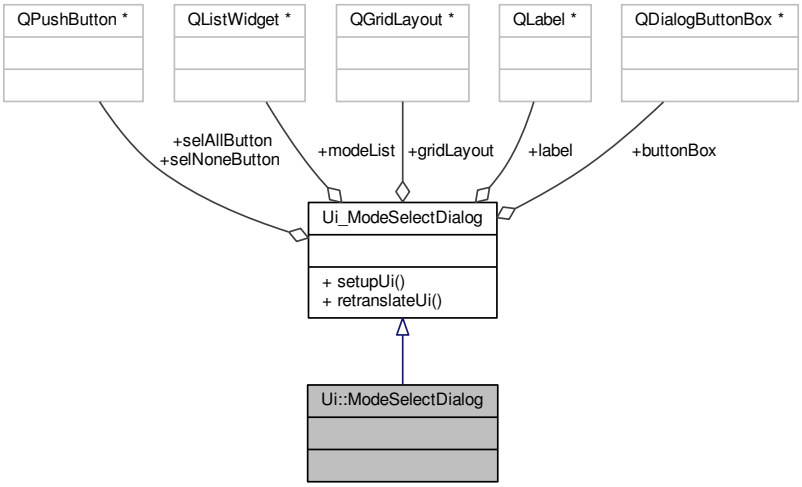
12.53 Ui::ModeSelectDialog Class Reference

`#include <src/ckb/ui_modeselectdialog.h>`

Inheritance diagram for Ui::ModeSelectDialog:



Collaboration diagram for Ui::ModeSelectDialog:



Public Member Functions

- void setupUi (QDialog *ModeSelectDialog)
- void retranslateUi (QDialog *ModeSelectDialog)

Data Fields

- QGridLayout * gridLayout
- QLabel * label
- QDialogButtonBox * buttonBox
- QListWidget * modeList
- QPushButton * selAllButton
- QPushButton * selNoneButton

12.53.1 Detailed Description

Definition at line 93 of file ui_modeselectdialog.h.

12.53.2 Member Function Documentation

12.53.2.1 void Ui_ModeSelectDialog::retranslateUi (QDialog * *ModeSelectDialog*) [inline], [inherited]

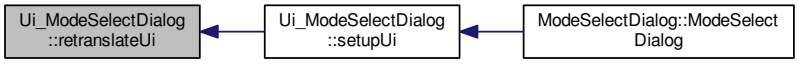
Definition at line 82 of file ui_modeselectdialog.h.

References Ui_ModeSelectDialog::label, Ui_ModeSelectDialog::selAllButton, and Ui_ModeSelectDialog::selNoneButton.

Referenced by Ui_ModeSelectDialog::setupUi().

```
83     {
84         ModeSelectDialog->setWindowTitle(QApplication::translate("ModeSelectDialog", "Select Modes",
       Q_NULLPTR));
85         label->setText(QApplication::translate("ModeSelectDialog", "TextLabel", Q_NULLPTR));
86         selAllButton->setText(QApplication::translate("ModeSelectDialog", "Select All",
       Q_NULLPTR));
87         selNoneButton->setText(QApplication::translate("ModeSelectDialog", "Select None",
       Q_NULLPTR));
88     } // retranslateUi
```

Here is the caller graph for this function:



12.53.2.2 void Ui_ModeSelectDialog::setupUi (QDialog * *ModeSelectDialog*) [inline], [inherited]

Definition at line 36 of file ui_modeselectdialog.h.

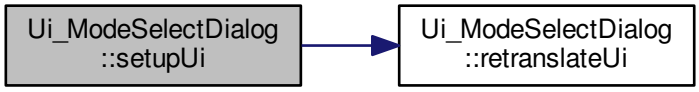
References Ui_ModeSelectDialog::buttonBox, Ui_ModeSelectDialog::gridLayout, Ui_ModeSelectDialog::label, Ui_ModeSelectDialog::modeList, Ui_ModeSelectDialog::retranslateUi(), Ui_ModeSelectDialog::selAllButton, and Ui_ModeSelectDialog::selNoneButton.

Referenced by ModeSelectDialog::ModeSelectDialog().

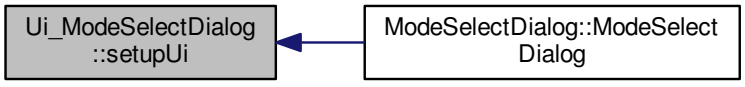
```
37     {
38         if (ModeSelectDialog->objectName().isEmpty())
39             ModeSelectDialog->setObjectName(QStringLiteral("ModeSelectDialog"));
40         ModeSelectDialog->resize(320, 320);
41         gridLayout = new QGridLayout(ModeSelectDialog);
42         gridLayout->setObjectName(QStringLiteral("gridLayout"));
43         label = new QLabel(ModeSelectDialog);
```

```
44          label->setObjectName(QStringLiteral("label"));
45          label->setAlignment(Qt::AlignLeading|Qt::AlignLeft|Qt::AlignTop);
46
47          gridLayout->addWidget(label, 0, 0, 1, 2);
48
49          buttonBox = new QDialogButtonBox(ModeSelectDialog);
50          buttonBox->setObjectName(QStringLiteral("buttonBox"));
51          buttonBox->setOrientation(Qt::Vertical);
52          buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
53          buttonBox->setCenterButtons(false);
54
55          gridLayout->addWidget(buttonBox, 0, 2, 3, 1);
56
57          modeList = new QListWidget(ModeSelectDialog);
58          modeList->setObjectName(QStringLiteral("modeList"));
59          modeList->setFrameShadow(QFrame::Plain);
60          modeList->setSelectionMode(QAbstractItemView::ExtendedSelection);
61
62          gridLayout->addWidget(modeList, 1, 0, 1, 2);
63
64          selAllButton = new QPushButton(ModeSelectDialog);
65          selAllButton->setObjectName(QStringLiteral("selAllButton"));
66
67          gridLayout->addWidget(selAllButton, 2, 0, 1, 1);
68
69          selNoneButton = new QPushButton(ModeSelectDialog);
70          selNoneButton->setObjectName(QStringLiteral("selNoneButton"));
71
72          gridLayout->addWidget(selNoneButton, 2, 1, 1, 1);
73
74
75          retranslateUi(ModeSelectDialog);
76          QObject::connect(buttonBox, SIGNAL(accepted()), ModeSelectDialog, SLOT(accept()));
77          QObject::connect(buttonBox, SIGNAL(rejected()), ModeSelectDialog, SLOT(reject()));
78
79          QMetaObject::connectSlotsByName(ModeSelectDialog);
80      } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.53.3 Field Documentation

12.53.3.1 QDialogButtonBox* Ui_ModeSelectDialog::buttonBox [inherited]

Definition at line 31 of file ui_modeselectdialog.h.

Referenced by Ui_ModeSelectDialog::setupUi().

12.53.3.2 QGridLayout* Ui_ModeSelectDialog::gridLayout [inherited]

Definition at line 29 of file ui_modeselectdialog.h.

Referenced by Ui_ModeSelectDialog::setupUi().

12.53.3.3 QLabel* Ui_ModeSelectDialog::label [inherited]

Definition at line 30 of file ui_modeselectdialog.h.

Referenced by ModeSelectDialog::ModeSelectDialog(), Ui_ModeSelectDialog::retranslateUi(), and Ui_ModeSelectDialog::setupUi().

12.53.3.4 QListWidget* Ui_ModeSelectDialog::modeList [inherited]

Definition at line 32 of file ui_modeselectdialog.h.

Referenced by ModeSelectDialog::ModeSelectDialog(), ModeSelectDialog::on_selAllButton_clicked(), ModeSelectDialog::on_selNoneButton_clicked(), ModeSelectDialog::selection(), and Ui_ModeSelectDialog::setupUi().

12.53.3.5 QPushButton* Ui_ModeSelectDialog::selAllButton [inherited]

Definition at line 33 of file ui_modeselectdialog.h.

Referenced by Ui_ModeSelectDialog::retranslateUi(), and Ui_ModeSelectDialog::setupUi().

12.53.3.6 QPushButton* Ui_ModeSelectDialog::selNoneButton [inherited]

Definition at line 34 of file ui_modeselectdialog.h.

Referenced by Ui_ModeSelectDialog::retranslateUi(), and Ui_ModeSelectDialog::setupUi().

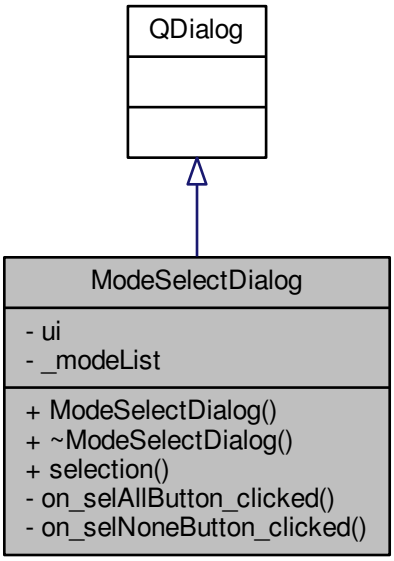
The documentation for this class was generated from the following file:

- src/ckb/ui_modeselectdialog.h

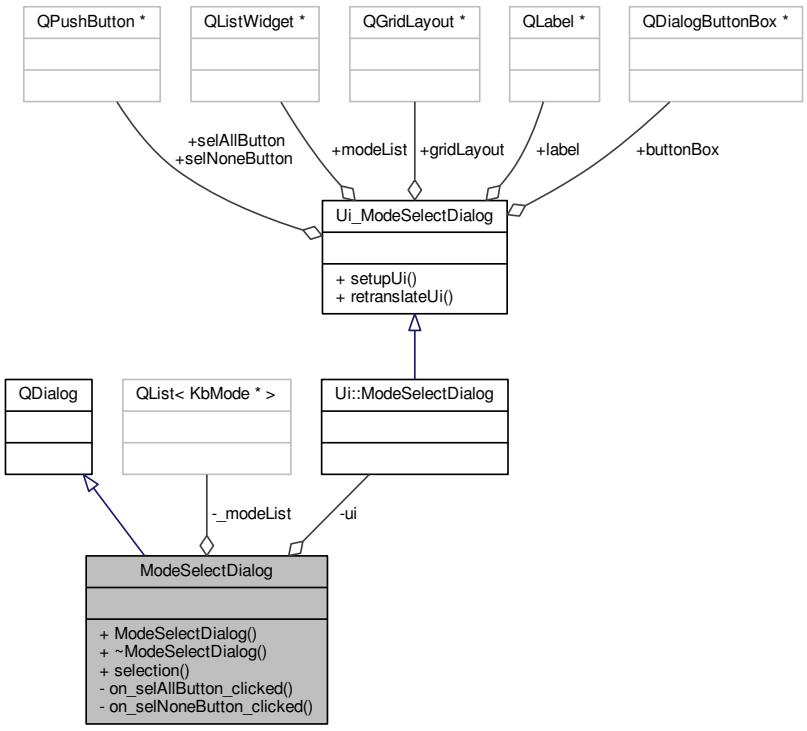
12.54 ModeSelectDialog Class Reference

`#include <src/ckb/modeselectdialog.h>`

Inheritance diagram for ModeSelectDialog:



Collaboration diagram for ModeSelectDialog:



Public Member Functions

- ModeSelectDialog (QWidget *parent, KbMode *currentMode, QList< KbMode * > modeList, const QString &textLabel)
- ~ModeSelectDialog ()
- QList< KbMode * > selection ()

Private Slots

- void on_selAllButton_clicked ()
- void on_selNoneButton_clicked ()

Private Attributes

- Ui::ModeSelectDialog * ui
- QList< KbMode * > _modeList

12.54.1 Detailed Description

Definition at line 13 of file modeselectdialog.h.

12.54.2 Constructor & Destructor Documentation

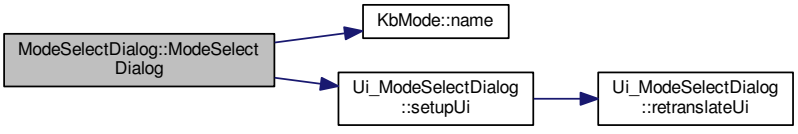
12.54.2.1 ModeSelectDialog::ModeSelectDialog (QWidget * *parent*, KbMode * *currentMode*, QList< KbMode * > *modeList*, const QString & *textLabel*)

Definition at line 4 of file modeselectdialog.cpp.

References _modeList, Ui_ModeSelectDialog::label, Ui_ModeSelectDialog::modeList, KbMode::name(), Ui_ModeSelectDialog::setupUi(), and ui.

```
4
                    :
5     QDialog(parent), ui(new Ui::ModeSelectDialog),
6     _modeList(modeList)
7 {
8     ui->setupUi(this);
9     _modeList.removeAll(currentMode);
10     ui->label->setText(textLabel);
11     // Populate list
12     foreach(KbMode* mode, _modeList)
13         ui->modeList->addItem(mode->name());
14 }
```

Here is the call graph for this function:



12.54.2.2 ModeSelectDialog::~ModeSelectDialog ( )

Definition at line 16 of file modeselectdialog.cpp.

References ui.

```
16                                      {
17     delete ui;
18 }
```

12.54.3 Member Function Documentation

12.54.3.1 void ModeSelectDialog::on_selAllButton_clicked ( ) [private], [slot]

Definition at line 30 of file modeselectdialog.cpp.

References Ui_ModeSelectDialog::modeList, and ui.

```
30                                                {
31     int count = ui->modeList->count();
32     for(int i = 0; i < count; i++)
33         ui->modeList->item(i)->setSelected(true);
34 }
```

12.54.3.2 void ModeSelectDialog::on_selNoneButton_clicked ( ) [private], [slot]

Definition at line 36 of file modeselectdialog.cpp.

References Ui_ModeSelectDialog::modeList, and ui.

```
36                                                 {
37     int count = ui->modeList->count();
38     for(int i = 0; i < count; i++)
39         ui->modeList->item(i)->setSelected(false);
40 }
```

12.54.3.3 QList< KbMode * > ModeSelectDialog::selection ( )

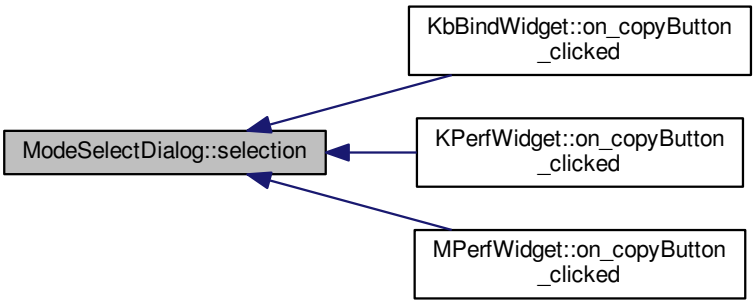
Definition at line 20 of file modeselectdialog.cpp.

References _modeList, Ui_ModeSelectDialog::modeList, and ui.

Referenced by KbBindWidget::on_copyButton_clicked(), KPerfWidget::on_copyButton_clicked(), and MPerfWidget::on_copyButton_clicked().

```
20                                           {
21     QList<KbMode*> res;
22     int count = ui->modeList->count();
23     for(int i = 0; i < count; i++){
24         if(ui->modeList->item(i)->isSelected())
25             res.append(_modeList[i]);
26     }
27     return res;
28 }
```

Here is the caller graph for this function:



12.54.4 Field Documentation

12.54.4.1 QList<KbMode*> ModeSelectDialog::_modeList [private]

Definition at line 31 of file modeselectdialog.h.

Referenced by ModeSelectDialog(), and selection().

12.54.4.2 Ui::ModeSelectDialog* ModeSelectDialog::ui [private]

Definition at line 30 of file modeselectdialog.h.

Referenced by ModeSelectDialog(), on_selAllButton_clicked(), on_selNoneButton_clicked(), selection(), and ~ModeSelectDialog().

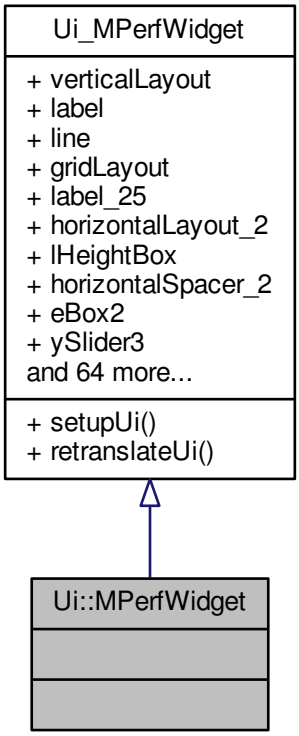
The documentation for this class was generated from the following files:

- src/ckb/modeselectdialog.h
- src/ckb/modeselectdialog.cpp

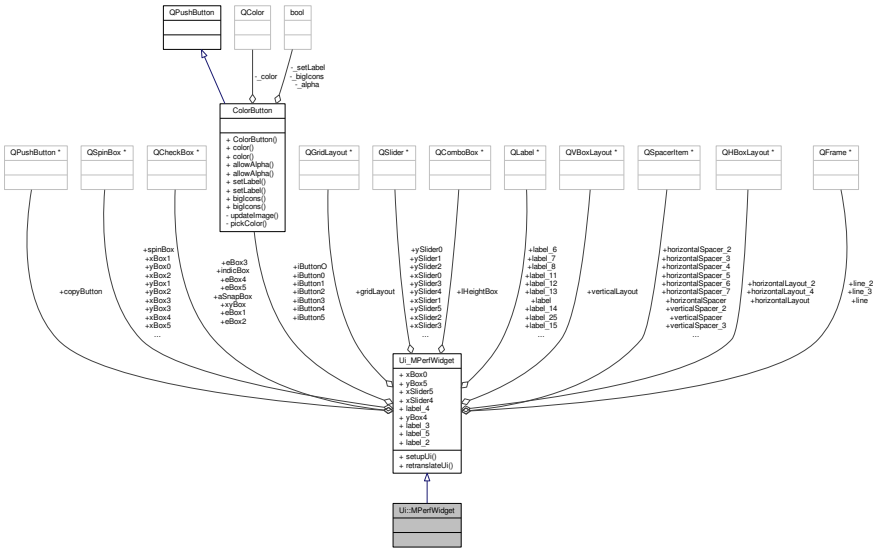
12.55 Ui::MPerfWidget Class Reference

#include <src/ckb/ui_mperfwidget.h>

Inheritance diagram for Ui::MPerfWidget:



Collaboration diagram for Ui::MPerfWidget:



Public Member Functions

- void setupUi (QWidget *MPerfWidget)
- void retranslateUi (QWidget *MPerfWidget)

Data Fields

- QVBoxLayout * verticalLayout
- QLabel * label
- QFrame * line
- QGridLayout * gridLayout
- QLabel * label_25
- QHBoxLayout * horizontalLayout_2
- QComboBox * lHeightBox
- QSpacerItem * horizontalSpacer_2
- QCheckBox * eBox2
- QSlider * ySlider3
- QSlider * xSlider2
- QSpinBox * xBox3
- QSpinBox * yBox0
- QSlider * ySlider0
- ColorButton * iButton4
- ColorButton * iButton5
- QSpacerItem * horizontalSpacer_4
- QSpacerItem * verticalSpacer_3
- QSpacerItem * horizontalSpacer_5
- ColorButton * iButton3
- QLabel * label_12
- QSpinBox * xBox4
- QSpinBox * xBox0
- QSpinBox * yBox5
- QCheckBox * eBox5
- QSlider * xSlider5
- QSpinBox * xBox1
- QSpinBox * yBox2
- QSpinBox * yBox3
- QSlider * xSlider4
- QLabel * label_4
- QSlider * xSlider0
- ColorButton * iButton2
- QFrame * line_3
- ColorButton * iButtonO
- QSpinBox * yBox1
- QSlider * ySlider2
- QSpinBox * xBox2
- QSlider * xSlider1
- QSpacerItem * horizontalSpacer
- QSpinBox * yBox4
- ColorButton * iButton1
- QSlider * ySlider4
- QSlider * ySlider1
- ColorButton * iButton0
- QSlider * xSlider3
- QSpinBox * xBox5

- QLabel * label_3
- QLabel * label_6
- QSlider * ySlider5
- QLabel * label_7
- QLabel * label_8
- QLabel * label_5
- QLabel * label_15
- QLabel * label_13
- QLabel * label_14
- QCheckBox * eBox4
- QLabel * label_11
- QCheckBox * eBox3
- QCheckBox * eBox1
- QLabel * label_2
- QSpacerItem * verticalSpacer
- QCheckBox * aSnapBox
- QFrame * line_2
- QHBoxLayout * horizontalLayout_4
- QCheckBox * indicBox
- QSpacerItem * horizontalSpacer_3
- QSpinBox * spinBox
- QSpacerItem * horizontalSpacer_7
- QCheckBox * xyBox
- QSpacerItem * verticalSpacer_2
- QHBoxLayout * horizontalLayout
- QPushButton * copyButton
- QSpacerItem * horizontalSpacer_6

12.55.1 Detailed Description

Definition at line 727 of file ui_mperfwidget.h.

12.55.2 Member Function Documentation

12.55.2.1 void Ui_MPerfWidget::retranslateUi (QWidget * *MPerfWidget*) [inline], [inherited]

Definition at line 641 of file ui_mperfwidget.h.

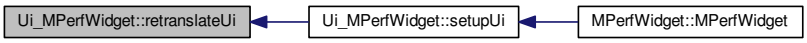
References Ui_MPerfWidget::aSnapBox, Ui_MPerfWidget::copyButton, Ui_MPerfWidget::eBox1, Ui_MPerfWidget::eBox2, Ui_MPerfWidget::eBox3, Ui_MPerfWidget::eBox4, Ui_MPerfWidget::eBox5, Ui_MPerfWidget::iButton0, Ui_MPerfWidget::iButton1, Ui_MPerfWidget::iButton2, Ui_MPerfWidget::iButton3, Ui_MPerfWidget::iButton4, Ui_MPerfWidget::iButton5, Ui_MPerfWidget::iButtonO, Ui_MPerfWidget::indicBox, Ui_MPerfWidget::label, Ui_MPerfWidget::label_11, Ui_MPerfWidget::label_12, Ui_MPerfWidget::label_13, Ui_MPerfWidget::label_14, Ui_MPerfWidget::label_15, Ui_MPerfWidget::label_2, Ui_MPerfWidget::label_25, Ui_MPerfWidget::label_3, Ui_MPerfWidget::label_4, Ui_MPerfWidget::label_5, Ui_MPerfWidget::label_6, Ui_MPerfWidget::label_7, Ui_MPerfWidget::label_8, Ui_MPerfWidget::lHeightBox, Ui_MPerfWidget::spinBox, and Ui_MPerfWidget::xyBox.

Referenced by Ui_MPerfWidget::setupUi().

```
642     {
643         MPerfWidget->setWindowTitle(QApplication::translate("MPerfWidget", "Form", Q_NULLPTR));
644         label->setText(QApplication::translate("MPerfWidget", "DPI", Q_NULLPTR));
645         label_25->setText(QApplication::translate("MPerfWidget", "Lift height:", Q_NULLPTR));
646         lHeightBox->clear();
647         lHeightBox->insertItems(0, QStringList()
648          << QApplication::translate("MPerfWidget", "Low", Q_NULLPTR)
649          << QApplication::translate("MPerfWidget", "Medium-low", Q_NULLPTR)
650          << QApplication::translate("MPerfWidget", "Medium", Q_NULLPTR)
651          << QApplication::translate("MPerfWidget", "Medium-high", Q_NULLPTR)
```

```
652          << QApplication::translate("MPerfWidget", "High", Q_NULLPTR)
653         );
654 #ifndef QT_NO_TOOLTIP
655         eBox2->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage
    while moving up or down.", Q_NULLPTR));
656 #endif // QT_NO_TOOLTIP
657         eBox2->setText(QString());
658 #ifndef QT_NO_TOOLTIP
659         iButton4->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all
    colors at once", Q_NULLPTR));
660 #endif // QT_NO_TOOLTIP
661         iButton4->setText(QString());
662 #ifndef QT_NO_TOOLTIP
663         iButton5->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all
    colors at once", Q_NULLPTR));
664 #endif // QT_NO_TOOLTIP
665         iButton5->setText(QString());
666 #ifndef QT_NO_TOOLTIP
667         iButton3->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all
    colors at once", Q_NULLPTR));
668 #endif // QT_NO_TOOLTIP
669         iButton3->setText(QString());
670         label_12->setText(QApplication::translate("MPerfWidget", "X Value:", Q_NULLPTR));
671 #ifndef QT_NO_TOOLTIP
672         eBox5->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage
    while moving up or down.", Q_NULLPTR));
673 #endif // QT_NO_TOOLTIP
674         eBox5->setText(QString());
675         label_4->setText(QApplication::translate("MPerfWidget", "Y Value:", Q_NULLPTR));
676 #ifndef QT_NO_TOOLTIP
677         iButton2->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all
    colors at once", Q_NULLPTR));
678 #endif // QT_NO_TOOLTIP
679         iButton2->setText(QString());
680 #ifndef QT_NO_TOOLTIP
681         iButtonO->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all
    colors at once", Q_NULLPTR));
682 #endif // QT_NO_TOOLTIP
683         iButtonO->setText(QString());
684 #ifndef QT_NO_TOOLTIP
685         iButton1->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all
    colors at once", Q_NULLPTR));
686 #endif // QT_NO_TOOLTIP
687         iButton1->setText(QString());
688 #ifndef QT_NO_TOOLTIP
689         iButton0->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all
    colors at once", Q_NULLPTR));
690 #endif // QT_NO_TOOLTIP
691         iButton0->setText(QString());
692         label_3->setText(QApplication::translate("MPerfWidget", "You can assign other DPIs in the
    Binding tab.", Q_NULLPTR));
693         label_6->setText(QApplication::translate("MPerfWidget", "2:", Q_NULLPTR));
694         label_7->setText(QApplication::translate("MPerfWidget", "3:", Q_NULLPTR));
695         label_8->setText(QApplication::translate("MPerfWidget", "4:", Q_NULLPTR));
696         label_5->setText(QApplication::translate("MPerfWidget", "1:", Q_NULLPTR));
697         label_15->setText(QApplication::translate("MPerfWidget", "Other:", Q_NULLPTR));
698         label_13->setText(QApplication::translate("MPerfWidget", "5:", Q_NULLPTR));
699         label_14->setText(QApplication::translate("MPerfWidget", "Sniper:", Q_NULLPTR));
700 #ifndef QT_NO_TOOLTIP
701         eBox4->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage
    while moving up or down.", Q_NULLPTR));
702 #endif // QT_NO_TOOLTIP
703         eBox4->setText(QString());
704         label_11->setText(QApplication::translate("MPerfWidget", "DPI Stage:", Q_NULLPTR));
705 #ifndef QT_NO_TOOLTIP
706         eBox3->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage
    while moving up or down.", Q_NULLPTR));
707 #endif // QT_NO_TOOLTIP
708         eBox3->setText(QString());
709 #ifndef QT_NO_TOOLTIP
710         eBox1->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage
    while moving up or down.", Q_NULLPTR));
711 #endif // QT_NO_TOOLTIP
712         eBox1->setText(QString());
713         label_2->setText(QApplication::translate("MPerfWidget", "Movement", Q_NULLPTR));
714         aSnapBox->setText(QApplication::translate("MPerfWidget", "Angle snap", Q_NULLPTR));
715         indicBox->setText(QApplication::translate("MPerfWidget", "Use DPI indicator:", Q_NULLPTR));
716 #ifndef QT_NO_TOOLTIP
717         spinBox->setToolTip(QApplication::translate("MPerfWidget", "Indicator intensity", Q_NULLPTR)
    );
718 #endif // QT_NO_TOOLTIP
719         spinBox->setSuffix(QApplication::translate("MPerfWidget", "%", Q_NULLPTR));
720         xyBox->setText(QApplication::translate("MPerfWidget", "Independent X/Y states", Q_NULLPTR));
721         copyButton->setText(QApplication::translate("MPerfWidget", "Copy to mode...", Q_NULLPTR))
    ;
722     } // retranslateUi
```

Here is the caller graph for this function:



12.55.2.2 void Ui_MPerfWidget::setupUi (QWidget * *MPerfWidget*) [inline],[inherited]

Definition at line 111 of file ui_mperfwidget.h.

References Ui_MPerfWidget::aSnapBox, Ui_MPerfWidget::copyButton, Ui_MPerfWidget::eBox1, Ui_MPerfWidget::eBox2, Ui_MPerfWidget::eBox3, Ui_MPerfWidget::eBox4, Ui_MPerfWidget::eBox5, Ui_MPerfWidget::gridLayout, Ui_MPerfWidget::horizontalLayout, Ui_MPerfWidget::horizontalLayout_2, Ui_MPerfWidget::horizontalLayout_4, Ui_MPerfWidget::horizontalSpacer, Ui_MPerfWidget::horizontalSpacer_2, Ui_MPerfWidget::horizontalSpacer_3, Ui_MPerfWidget::horizontalSpacer_4, Ui_MPerfWidget::horizontalSpacer_5, Ui_MPerfWidget::horizontalSpacer_6, Ui_MPerfWidget::horizontalSpacer_7, Ui_MPerfWidget::iButton0, Ui_MPerfWidget::iButton1, Ui_MPerfWidget::iButton2, Ui_MPerfWidget::iButton3, Ui_MPerfWidget::iButton4, Ui_MPerfWidget::iButton5, Ui_MPerfWidget::iButtonO, Ui_MPerfWidget::indicBox, Ui_MPerfWidget::label, Ui_MPerfWidget::label_11, Ui_MPerfWidget::label_12, Ui_MPerfWidget::label_13, Ui_MPerfWidget::label_14, Ui_MPerfWidget::label_15, Ui_MPerfWidget::label_2, Ui_MPerfWidget::label_25, Ui_MPerfWidget::label_3, Ui_MPerfWidget::label_4, Ui_MPerfWidget::label_5, Ui_MPerfWidget::label_6, Ui_MPerfWidget::label_7, Ui_MPerfWidget::label_8, Ui_MPerfWidget::lHeightBox, Ui_MPerfWidget::line, Ui_MPerfWidget::line_2, Ui_MPerfWidget::line_3, Ui_MPerfWidget::retranslateUi(), Ui_MPerfWidget::spinBox, Ui_MPerfWidget::verticalLayout, Ui_MPerfWidget::verticalSpacer, Ui_MPerfWidget::verticalSpacer_2, Ui_MPerfWidget::verticalSpacer_3, Ui_MPerfWidget::xBox0, Ui_MPerfWidget::xBox1, Ui_MPerfWidget::xBox2, Ui_MPerfWidget::xBox3, Ui_MPerfWidget::xBox4, Ui_MPerfWidget::xBox5, Ui_MPerfWidget::xSlider0, Ui_MPerfWidget::xSlider1, Ui_MPerfWidget::xSlider2, Ui_MPerfWidget::xSlider3, Ui_MPerfWidget::xSlider4, Ui_MPerfWidget::xSlider5, Ui_MPerfWidget::xyBox, Ui_MPerfWidget::yBox0, Ui_MPerfWidget::yBox1, Ui_MPerfWidget::yBox2, Ui_MPerfWidget::yBox3, Ui_MPerfWidget::yBox4, Ui_MPerfWidget::yBox5, Ui_MPerfWidget::ySlider0, Ui_MPerfWidget::ySlider1, Ui_MPerfWidget::ySlider2, Ui_MPerfWidget::ySlider3, Ui_MPerfWidget::ySlider4, and Ui_MPerfWidget::ySlider5.

Referenced by MPerfWidget::MPerfWidget().

```
112     {
113         if (MPerfWidget->objectName().isEmpty())
114             MPerfWidget->setObjectName(QStringLiteral("MPerfWidget"));
115         MPerfWidget->resize(932, 637);
116         verticalLayout = new QVBoxLayout(MPerfWidget);
117         verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
118         label = new QLabel(MPerfWidget);
119         label->setObjectName(QStringLiteral("label"));
120         QFont font;
121         font.setBold(true);
122         font.setWeight(75);
123         label->setFont(font);
124 
125         verticalLayout->addWidget(label);
126 
127         line = new QFrame(MPerfWidget);
128         line->setObjectName(QStringLiteral("line"));
129         line->setFrameShape(QFrame::HLine);
130         line->setFrameShadow(QFrame::Sunken);
131 
132         verticalLayout->addWidget(line);
133 
134         gridLayout = new QGridLayout();
135         gridLayout->setObjectName(QStringLiteral("gridLayout"));
136         label_25 = new QLabel(MPerfWidget);
137         label_25->setObjectName(QStringLiteral("label_25"));
138         label_25->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
139 
140         gridLayout->addWidget(label_25, 16, 5, 1, 2);
141 
142         horizontalLayout_2 = new QHBoxLayout();
143         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
```

```
144         lHeightBox = new QComboBox(MPerfWidget);
145         lHeightBox->setObjectName(QStringLiteral("lHeightBox"));
146 
147         horizontalLayout_2->addWidget(lHeightBox);
148 
149         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
150 
151         horizontalLayout_2->addItem(horizontalSpacer_2);
152 
153 
154         gridLayout->addLayout(horizontalLayout_2, 16, 8, 1, 3);
155 
156         eBox2 = new QCheckBox(MPerfWidget);
157         eBox2->setObjectName(QStringLiteral("eBox2"));
158 
159         gridLayout->addWidget(eBox2, 7, 1, 1, 1);
160 
161         ySlider3 = new QSlider(MPerfWidget);
162         ySlider3->setObjectName(QStringLiteral("ySlider3"));
163         ySlider3->setMinimum(0);
164         ySlider3->setMaximum(1000);
165         ySlider3->setSingleStep(10);
166         ySlider3->setPageStep(50);
167         ySlider3->setValue(0);
168         ySlider3->setOrientation(Qt::Horizontal);
169 
170         gridLayout->addWidget(ySlider3, 8, 8, 1, 1);
171 
172         xSlider2 = new QSlider(MPerfWidget);
173         xSlider2->setObjectName(QStringLiteral("xSlider2"));
174         xSlider2->setMinimum(0);
175         xSlider2->setMaximum(1000);
176         xSlider2->setSingleStep(10);
177         xSlider2->setPageStep(50);
178         xSlider2->setValue(0);
179         xSlider2->setOrientation(Qt::Horizontal);
180 
181         gridLayout->addWidget(xSlider2, 7, 5, 1, 1);
182 
183         xBox3 = new QSpinBox(MPerfWidget);
184         xBox3->setObjectName(QStringLiteral("xBox3"));
185         xBox3->setMinimum(100);
186         xBox3->setMaximum(12000);
187         xBox3->setSingleStep(50);
188 
189         gridLayout->addWidget(xBox3, 8, 6, 1, 1);
190 
191         yBox0 = new QSpinBox(MPerfWidget);
192         yBox0->setObjectName(QStringLiteral("yBox0"));
193         yBox0->setMinimum(100);
194         yBox0->setMaximum(12000);
195         yBox0->setSingleStep(50);
196 
197         gridLayout->addWidget(yBox0, 11, 9, 1, 1);
198 
199         ySlider0 = new QSlider(MPerfWidget);
200         ySlider0->setObjectName(QStringLiteral("ySlider0"));
201         ySlider0->setMinimum(0);
202         ySlider0->setMaximum(1000);
203         ySlider0->setSingleStep(10);
204         ySlider0->setPageStep(50);
205         ySlider0->setValue(0);
206         ySlider0->setOrientation(Qt::Horizontal);
207 
208         gridLayout->addWidget(ySlider0, 11, 8, 1, 1);
209 
210         iButton4 = new ColorButton(MPerfWidget);
211         iButton4->setObjectName(QStringLiteral("iButton4"));
212         QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
213         sizePolicy.setHorizontalStretch(0);
214         sizePolicy.setVerticalStretch(0);
215         sizePolicy.setHeightForWidth(iButton4->sizePolicy().hasHeightForWidth());
216         iButton4->setSizePolicy(sizePolicy);
217         iButton4->setMinimumSize(QSize(0, 40));
218 
219         gridLayout->addWidget(iButton4, 9, 2, 1, 1);
220 
221         iButton5 = new ColorButton(MPerfWidget);
222         iButton5->setObjectName(QStringLiteral("iButton5"));
223         sizePolicy.setHeightForWidth(iButton5->sizePolicy().hasHeightForWidth());
224         iButton5->setSizePolicy(sizePolicy);
225         iButton5->setMinimumSize(QSize(0, 40));
226 
227         gridLayout->addWidget(iButton5, 10, 2, 1, 1);
228 
229         horizontalSpacer_4 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
```

```
    QSizePolicy::Minimum);
230
231         gridLayout->addItem(horizontalSpacer_4, 4, 4, 1, 1);
232
233         verticalSpacer_3 = new QSpacerItem(20, 15, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
234
235         gridLayout->addItem(verticalSpacer_3, 3, 2, 1, 1);
236
237         horizontalSpacer_5 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
238
239         gridLayout->addItem(horizontalSpacer_5, 4, 7, 1, 1);
240
241         iButton3 = new ColorButton(MPerfWidget);
242         iButton3->setObjectName(QStringLiteral("iButton3"));
243         sizePolicy.setHeightForWidth(iButton3->sizePolicy().hasHeightForWidth());
244         iButton3->setSizePolicy(sizePolicy);
245         iButton3->setMinimumSize(QSize(0, 40));
246
247         gridLayout->addWidget(iButton3, 8, 2, 1, 1);
248
249         label_12 = new QLabel(MPerfWidget);
250         label_12->setObjectName(QStringLiteral("label_12"));
251         QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Preferred);
252         sizePolicy1.setHorizontalStretch(0);
253         sizePolicy1.setVerticalStretch(0);
254         sizePolicy1.setHeightForWidth(label_12->sizePolicy().hasHeightForWidth());
255         label_12->setSizePolicy(sizePolicy1);
256
257         gridLayout->addWidget(label_12, 4, 5, 1, 1);
258
259         xBox4 = new QSpinBox(MPerfWidget);
260         xBox4->setObjectName(QStringLiteral("xBox4"));
261         xBox4->setMinimum(100);
262         xBox4->setMaximum(12000);
263         xBox4->setSingleStep(50);
264
265         gridLayout->addWidget(xBox4, 9, 6, 1, 1);
266
267         xBox0 = new QSpinBox(MPerfWidget);
268         xBox0->setObjectName(QStringLiteral("xBox0"));
269         xBox0->setMinimum(100);
270         xBox0->setMaximum(12000);
271         xBox0->setSingleStep(50);
272
273         gridLayout->addWidget(xBox0, 11, 6, 1, 1);
274
275         yBox5 = new QSpinBox(MPerfWidget);
276         yBox5->setObjectName(QStringLiteral("yBox5"));
277         yBox5->setMinimum(100);
278         yBox5->setMaximum(12000);
279         yBox5->setSingleStep(50);
280
281         gridLayout->addWidget(yBox5, 10, 9, 1, 1);
282
283         eBox5 = new QCheckBox(MPerfWidget);
284         eBox5->setObjectName(QStringLiteral("eBox5"));
285
286         gridLayout->addWidget(eBox5, 10, 1, 1, 1);
287
288         xSlider5 = new QSlider(MPerfWidget);
289         xSlider5->setObjectName(QStringLiteral("xSlider5"));
290         xSlider5->setMinimum(0);
291         xSlider5->setMaximum(1000);
292         xSlider5->setSingleStep(10);
293         xSlider5->setPageStep(50);
294         xSlider5->setValue(0);
295         xSlider5->setOrientation(Qt::Horizontal);
296
297         gridLayout->addWidget(xSlider5, 10, 5, 1, 1);
298
299         xBox1 = new QSpinBox(MPerfWidget);
300         xBox1->setObjectName(QStringLiteral("xBox1"));
301         sizePolicy.setHeightForWidth(xBox1->sizePolicy().hasHeightForWidth());
302         xBox1->setSizePolicy(sizePolicy);
303         xBox1->setMinimum(100);
304         xBox1->setMaximum(12000);
305         xBox1->setSingleStep(50);
306
307         gridLayout->addWidget(xBox1, 6, 6, 1, 1);
308
309         yBox2 = new QSpinBox(MPerfWidget);
310         yBox2->setObjectName(QStringLiteral("yBox2"));
311         yBox2->setMinimum(100);
312         yBox2->setMaximum(12000);
313         yBox2->setSingleStep(50);
```

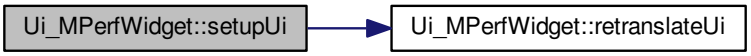
```
314
315         gridLayout->addWidget(yBox2, 7, 9, 1, 1);
316
317         yBox3 = new QSpinBox(MPerfWidget);
318         yBox3->setObjectName(QStringLiteral("yBox3"));
319         yBox3->setMinimum(100);
320         yBox3->setMaximum(12000);
321         yBox3->setSingleStep(50);
322
323         gridLayout->addWidget(yBox3, 8, 9, 1, 1);
324
325         xSlider4 = new QSlider(MPerfWidget);
326         xSlider4->setObjectName(QStringLiteral("xSlider4"));
327         xSlider4->setMinimum(0);
328         xSlider4->setMaximum(1000);
329         xSlider4->setSingleStep(10);
330         xSlider4->setPageStep(50);
331         xSlider4->setValue(0);
332         xSlider4->setOrientation(Qt::Horizontal);
333
334         gridLayout->addWidget(xSlider4, 9, 5, 1, 1);
335
336         label_4 = new QLabel(MPerfWidget);
337         label_4->setObjectName(QStringLiteral("label_4"));
338         sizePolicy1.setHeightForWidth(label_4->sizePolicy().hasHeightForWidth());
339         label_4->setSizePolicy(sizePolicy1);
340
341         gridLayout->addWidget(label_4, 4, 8, 1, 1);
342
343         xSlider0 = new QSlider(MPerfWidget);
344         xSlider0->setObjectName(QStringLiteral("xSlider0"));
345         xSlider0->setMinimum(0);
346         xSlider0->setMaximum(1000);
347         xSlider0->setSingleStep(10);
348         xSlider0->setPageStep(50);
349         xSlider0->setValue(0);
350         xSlider0->setOrientation(Qt::Horizontal);
351
352         gridLayout->addWidget(xSlider0, 11, 5, 1, 1);
353
354         iButton2 = new ColorButton(MPerfWidget);
355         iButton2->setObjectName(QStringLiteral("iButton2"));
356         sizePolicy.setHeightForWidth(iButton2->sizePolicy().hasHeightForWidth());
357         iButton2->setSizePolicy(sizePolicy);
358         iButton2->setMinimumSize(QSize(0, 40));
359
360         gridLayout->addWidget(iButton2, 7, 2, 1, 1);
361
362         line_3 = new QFrame(MPerfWidget);
363         line_3->setObjectName(QStringLiteral("line_3"));
364         line_3->setFrameShape(QFrame::HLine);
365         line_3->setFrameShadow(QFrame::Sunken);
366
367         gridLayout->addWidget(line_3, 5, 0, 1, 11);
368
369         iButtonO = new ColorButton(MPerfWidget);
370         iButtonO->setObjectName(QStringLiteral("iButtonO"));
371         sizePolicy.setHeightForWidth(iButtonO->sizePolicy().hasHeightForWidth());
372         iButtonO->setSizePolicy(sizePolicy);
373         iButtonO->setMinimumSize(QSize(0, 40));
374
375         gridLayout->addWidget(iButtonO, 12, 2, 1, 1);
376
377         yBox1 = new QSpinBox(MPerfWidget);
378         yBox1->setObjectName(QStringLiteral("yBox1"));
379         sizePolicy.setHeightForWidth(yBox1->sizePolicy().hasHeightForWidth());
380         yBox1->setSizePolicy(sizePolicy);
381         yBox1->setMinimum(100);
382         yBox1->setMaximum(12000);
383         yBox1->setSingleStep(50);
384
385         gridLayout->addWidget(yBox1, 6, 9, 1, 1);
386
387         ySlider2 = new QSlider(MPerfWidget);
388         ySlider2->setObjectName(QStringLiteral("ySlider2"));
389         ySlider2->setMinimum(0);
390         ySlider2->setMaximum(1000);
391         ySlider2->setSingleStep(10);
392         ySlider2->setPageStep(50);
393         ySlider2->setValue(0);
394         ySlider2->setOrientation(Qt::Horizontal);
395
396         gridLayout->addWidget(ySlider2, 7, 8, 1, 1);
397
398         xBox2 = new QSpinBox(MPerfWidget);
399         xBox2->setObjectName(QStringLiteral("xBox2"));
400         xBox2->setMinimum(100);
```

```
401         xBox2->setMaximum(12000);
402         xBox2->setSingleStep(50);
403 
404         gridLayout->addWidget(xBox2, 7, 6, 1, 1);
405 
406         xSlider1 = new QSlider(MPerfWidget);
407         xSlider1->setObjectName(QStringLiteral("xSlider1"));
408         QSizePolicy sizePolicy2(QSizePolicy::Expanding, QSizePolicy::Fixed);
409         sizePolicy2.setHorizontalStretch(0);
410         sizePolicy2.setVerticalStretch(0);
411         sizePolicy2.setHeightForWidth(xSlider1->sizePolicy().hasHeightForWidth());
412         xSlider1->setSizePolicy(sizePolicy2);
413         xSlider1->setMinimum(0);
414         xSlider1->setMaximum(1000);
415         xSlider1->setSingleStep(10);
416         xSlider1->setPageStep(50);
417         xSlider1->setValue(0);
418         xSlider1->setOrientation(Qt::Horizontal);
419 
420         gridLayout->addWidget(xSlider1, 6, 5, 1, 1);
421 
422         horizontalSpacer = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum)
    ;
423 
424         gridLayout->addItem(horizontalSpacer, 0, 0, 1, 1);
425 
426         yBox4 = new QSpinBox(MPerfWidget);
427         yBox4->setObjectName(QStringLiteral("yBox4"));
428         yBox4->setMinimum(100);
429         yBox4->setMaximum(12000);
430         yBox4->setSingleStep(50);
431 
432         gridLayout->addWidget(yBox4, 9, 9, 1, 1);
433 
434         iButton1 = new ColorButton(MPerfWidget);
435         iButton1->setObjectName(QStringLiteral("iButton1"));
436         sizePolicy.setHeightForWidth(iButton1->sizePolicy().hasHeightForWidth());
437         iButton1->setSizePolicy(sizePolicy);
438         iButton1->setMinimumSize(QSize(0, 40));
439 
440         gridLayout->addWidget(iButton1, 6, 2, 1, 1);
441 
442         ySlider4 = new QSlider(MPerfWidget);
443         ySlider4->setObjectName(QStringLiteral("ySlider4"));
444         ySlider4->setMinimum(0);
445         ySlider4->setMaximum(1000);
446         ySlider4->setSingleStep(10);
447         ySlider4->setPageStep(50);
448         ySlider4->setValue(0);
449         ySlider4->setOrientation(Qt::Horizontal);
450 
451         gridLayout->addWidget(ySlider4, 9, 8, 1, 1);
452 
453         ySlider1 = new QSlider(MPerfWidget);
454         ySlider1->setObjectName(QStringLiteral("ySlider1"));
455         ySlider1->setMinimum(0);
456         ySlider1->setMaximum(1000);
457         ySlider1->setSingleStep(10);
458         ySlider1->setPageStep(50);
459         ySlider1->setValue(0);
460         ySlider1->setOrientation(Qt::Horizontal);
461 
462         gridLayout->addWidget(ySlider1, 6, 8, 1, 1);
463 
464         iButton0 = new ColorButton(MPerfWidget);
465         iButton0->setObjectName(QStringLiteral("iButton0"));
466         sizePolicy.setHeightForWidth(iButton0->sizePolicy().hasHeightForWidth());
467         iButton0->setSizePolicy(sizePolicy);
468         iButton0->setMinimumSize(QSize(0, 40));
469 
470         gridLayout->addWidget(iButton0, 11, 2, 1, 1);
471 
472         xSlider3 = new QSlider(MPerfWidget);
473         xSlider3->setObjectName(QStringLiteral("xSlider3"));
474         xSlider3->setMinimum(0);
475         xSlider3->setMaximum(1000);
476         xSlider3->setSingleStep(10);
477         xSlider3->setPageStep(50);
478         xSlider3->setValue(0);
479         xSlider3->setOrientation(Qt::Horizontal);
480 
481         gridLayout->addWidget(xSlider3, 8, 5, 1, 1);
482 
483         xBox5 = new QSpinBox(MPerfWidget);
484         xBox5->setObjectName(QStringLiteral("xBox5"));
485         xBox5->setMinimum(100);
486         xBox5->setMaximum(12000);
```

```
487         xBox5->setSingleStep(50);
488
489         gridLayout->addWidget(xBox5, 10, 6, 1, 1);
490
491         label_3 = new QLabel(MPerfWidget);
492         label_3->setObjectName(QStringLiteral("label_3"));
493
494         gridLayout->addWidget(label_3, 12, 5, 1, 5);
495
496         label_6 = new QLabel(MPerfWidget);
497         label_6->setObjectName(QStringLiteral("label_6"));
498
499         gridLayout->addWidget(label_6, 7, 3, 1, 1);
500
501         ySlider5 = new QSlider(MPerfWidget);
502         ySlider5->setObjectName(QStringLiteral("ySlider5"));
503         ySlider5->setMinimum(0);
504         ySlider5->setMaximum(1000);
505         ySlider5->setSingleStep(10);
506         ySlider5->setPageStep(50);
507         ySlider5->setValue(0);
508         ySlider5->setOrientation(Qt::Horizontal);
509
510         gridLayout->addWidget(ySlider5, 10, 8, 1, 1);
511
512         label_7 = new QLabel(MPerfWidget);
513         label_7->setObjectName(QStringLiteral("label_7"));
514
515         gridLayout->addWidget(label_7, 8, 3, 1, 1);
516
517         label_8 = new QLabel(MPerfWidget);
518         label_8->setObjectName(QStringLiteral("label_8"));
519
520         gridLayout->addWidget(label_8, 9, 3, 1, 1);
521
522         label_5 = new QLabel(MPerfWidget);
523         label_5->setObjectName(QStringLiteral("label_5"));
524
525         gridLayout->addWidget(label_5, 6, 3, 1, 1);
526
527         label_15 = new QLabel(MPerfWidget);
528         label_15->setObjectName(QStringLiteral("label_15"));
529
530         gridLayout->addWidget(label_15, 12, 3, 1, 1);
531
532         label_13 = new QLabel(MPerfWidget);
533         label_13->setObjectName(QStringLiteral("label_13"));
534
535         gridLayout->addWidget(label_13, 10, 3, 1, 1);
536
537         label_14 = new QLabel(MPerfWidget);
538         label_14->setObjectName(QStringLiteral("label_14"));
539
540         gridLayout->addWidget(label_14, 11, 3, 1, 1);
541
542         eBox4 = new QCheckBox(MPerfWidget);
543         eBox4->setObjectName(QStringLiteral("eBox4"));
544
545         gridLayout->addWidget(eBox4, 9, 1, 1, 1);
546
547         label_11 = new QLabel(MPerfWidget);
548         label_11->setObjectName(QStringLiteral("label_11"));
549
550         gridLayout->addWidget(label_11, 4, 2, 1, 2);
551
552         eBox3 = new QCheckBox(MPerfWidget);
553         eBox3->setObjectName(QStringLiteral("eBox3"));
554
555         gridLayout->addWidget(eBox3, 8, 1, 1, 1);
556
557         eBox1 = new QCheckBox(MPerfWidget);
558         eBox1->setObjectName(QStringLiteral("eBox1"));
559
560         gridLayout->addWidget(eBox1, 6, 1, 1, 1);
561
562         label_2 = new QLabel(MPerfWidget);
563         label_2->setObjectName(QStringLiteral("label_2"));
564         label_2->setFont(font);
565
566         gridLayout->addWidget(label_2, 14, 0, 1, 10);
567
568         verticalSpacer = new QSpacerItem(20, 30, QSizePolicy::Minimum, QSizePolicy::Fixed);
569
570         gridLayout->addItem(verticalSpacer, 13, 2, 1, 1);
571
572         aSnapBox = new QCheckBox(MPerfWidget);
573         aSnapBox->setObjectName(QStringLiteral("aSnapBox"));
```

```
574
575         gridLayout->addWidget(aSnapBox, 16, 1, 1, 4);
576
577         line_2 = new QFrame(MPerfWidget);
578         line_2->setObjectName(QStringLiteral("line_2"));
579         line_2->setFrameShape(QFrame::HLine);
580         line_2->setFrameShadow(QFrame::Sunken);
581
582         gridLayout->addWidget(line_2, 15, 0, 1, 10);
583
584         horizontalLayout_4 = new QHBoxLayout();
585         horizontalLayout_4->setObjectName(QStringLiteral("horizontalLayout_4"));
586         indicBox = new QCheckBox(MPerfWidget);
587         indicBox->setObjectName(QStringLiteral("indicBox"));
588
589         horizontalLayout_4->addWidget(indicBox);
590
591         horizontalSpacer_3 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
592
593         horizontalLayout_4->addItem(horizontalSpacer_3);
594
595         spinBox = new QSpinBox(MPerfWidget);
596         spinBox->setObjectName(QStringLiteral("spinBox"));
597         spinBox->setMaximum(100);
598         spinBox->setValue(100);
599
600         horizontalLayout_4->addWidget(spinBox);
601
602         horizontalSpacer_7 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
603
604         horizontalLayout_4->addItem(horizontalSpacer_7);
605
606
607         gridLayout->addLayout(horizontalLayout_4, 0, 1, 1, 9);
608
609         xyBox = new QCheckBox(MPerfWidget);
610         xyBox->setObjectName(QStringLiteral("xyBox"));
611
612         gridLayout->addWidget(xyBox, 2, 1, 1, 9);
613
614
615         verticalLayout->addLayout(gridLayout);
616
617         verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
618
619         verticalLayout->addItem(verticalSpacer_2);
620
621         horizontalLayout = new QHBoxLayout();
622         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
623         copyButton = new QPushButton(MPerfWidget);
624         copyButton->setObjectName(QStringLiteral("copyButton"));
625
626         horizontalLayout->addWidget(copyButton);
627
628         horizontalSpacer_6 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
629
630         horizontalLayout->addItem(horizontalSpacer_6);
631
632
633         verticalLayout->addLayout(horizontalLayout);
634
635
636         retranslateUi(MPerfWidget);
637
638         QMetaObject::connectSlotsByName(MPerfWidget);
639     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.55.3 Field Documentation

12.55.3.1 QCheckBox* Ui_MPerfWidget::aSnapBox [inherited]

Definition at line 98 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), MPerfWidget::setPerf(), and Ui_MPerfWidget::setupUi().

12.55.3.2 QPushButton* Ui_MPerfWidget::copyButton [inherited]

Definition at line 108 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.3 QCheckBox* Ui_MPerfWidget::eBox1 [inherited]

Definition at line 95 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.4 QCheckBox* Ui_MPerfWidget::eBox2 [inherited]

Definition at line 44 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.5 QCheckBox* Ui_MPerfWidget::eBox3 [inherited]

Definition at line 94 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.6 QCheckBox* Ui_MPerfWidget::eBox4 [inherited]

Definition at line 92 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.7 QCheckBox* Ui_MPerfWidget::eBox5 [inherited]

Definition at line 60 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.8 QGridLayout* Ui_MPerfWidget::gridLayout [inherited]

Definition at line 39 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.9 QHBoxLayout* Ui_MPerfWidget::horizontalLayout [inherited]

Definition at line 107 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.10 QHBoxLayout* Ui_MPerfWidget::horizontalLayout_2 [inherited]

Definition at line 41 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.11 QHBoxLayout* Ui_MPerfWidget::horizontalLayout_4 [inherited]

Definition at line 100 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.12 QSpacerItem* Ui_MPerfWidget::horizontalSpacer [inherited]

Definition at line 75 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.13 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_2 [inherited]

Definition at line 43 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.14 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_3 [inherited]

Definition at line 102 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.15 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_4 [inherited]

Definition at line 52 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.16 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_5 [inherited]

Definition at line 54 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.17 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_6 [inherited]

Definition at line 109 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.18 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_7 [inherited]

Definition at line 104 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.19 ColorButton* Ui_MPerfWidget::iButton0 [inherited]

Definition at line 80 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.20 ColorButton* Ui_MPerfWidget::iButton1 [inherited]

Definition at line 77 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.21 ColorButton* Ui_MPerfWidget::iButton2 [inherited]

Definition at line 68 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.22 ColorButton* Ui_MPerfWidget::iButton3 [inherited]

Definition at line 55 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.23 ColorButton* Ui_MPerfWidget::iButton4 [inherited]

Definition at line 50 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.24 ColorButton* Ui_MPerfWidget::iButton5 [inherited]

Definition at line 51 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.25 ColorButton* Ui_MPerfWidget::iButtonO [inherited]

Definition at line 70 of file ui_mperfwidget.h.

Referenced by MPerfWidget::colorChanged(), MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), MPerfWidget::setPerf(), and Ui_MPerfWidget::setupUi().

12.55.3.26 QCheckBox* Ui_MPerfWidget::indicBox [inherited]

Definition at line 101 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), MPerfWidget::setPerf(), and Ui_MPerfWidget::setupUi().

12.55.3.27 QLabel* Ui_MPerfWidget::label [inherited]

Definition at line 37 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.28 QLabel* Ui_MPerfWidget::label_11 [inherited]

Definition at line 93 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.29 QLabel* Ui_MPerfWidget::label_12 [inherited]

Definition at line 56 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.30 QLabel* Ui_MPerfWidget::label_13 [inherited]

Definition at line 90 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.31 QLabel* Ui_MPerfWidget::label_14 [inherited]

Definition at line 91 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.32 QLabel* Ui_MPerfWidget::label_15 [inherited]

Definition at line 89 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.33 QLabel* Ui_MPerfWidget::label_2 [inherited]

Definition at line 96 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.34 QLabel* Ui_MPerfWidget::label_25 [inherited]

Definition at line 40 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.35 QLabel* Ui_MPerfWidget::label_3 [inherited]

Definition at line 83 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.36 QLabel* Ui_MPerfWidget::label_4 [inherited]

Definition at line 66 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.37 QLabel* Ui_MPerfWidget::label_5 [inherited]

Definition at line 88 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.38 QLabel* Ui_MPerfWidget::label_6 [inherited]

Definition at line 84 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.39 QLabel* Ui_MPerfWidget::label_7 [inherited]

Definition at line 86 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.40 QLabel* Ui_MPerfWidget::label_8 [inherited]

Definition at line 87 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), and Ui_MPerfWidget::setupUi().

12.55.3.41 QComboBox* Ui_MPerfWidget::lHeightBox [inherited]

Definition at line 42 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), MPerfWidget::setPerf(), and Ui_MPerfWidget::setupUi().

12.55.3.42 QFrame* Ui_MPerfWidget::line [inherited]

Definition at line 38 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.43 QFrame* Ui_MPerfWidget::line_2 [inherited]

Definition at line 99 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.44 QFrame* Ui_MPerfWidget::line_3 [inherited]

Definition at line 69 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.45 QSpinBox* Ui_MPerfWidget::spinBox [inherited]

Definition at line 103 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::retranslateUi(), MPerfWidget::setPerf(), and Ui_MPerfWidget::setupUi().

12.55.3.46 QVBoxLayout* Ui_MPerfWidget::verticalLayout [inherited]

Definition at line 36 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.47 QSpacerItem* Ui_MPerfWidget::verticalSpacer [inherited]

Definition at line 97 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.48 QSpacerItem* Ui_MPerfWidget::verticalSpacer_2 [inherited]

Definition at line 106 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.49 QSpacerItem* Ui_MPerfWidget::verticalSpacer_3 [inherited]

Definition at line 53 of file ui_mperfwidget.h.

Referenced by Ui_MPerfWidget::setupUi().

12.55.3.50 QSpinBox* Ui_MPerfWidget::xBox0 [inherited]

Definition at line 58 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.51 QSpinBox* Ui_MPerfWidget::xBox1 [inherited]

Definition at line 62 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.52 QSpinBox* Ui_MPerfWidget::xBox2 [inherited]

Definition at line 73 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.53 QSpinBox* Ui_MPerfWidget::xBox3 [inherited]

Definition at line 47 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.54 QSpinBox* Ui_MPerfWidget::xBox4 [inherited]

Definition at line 57 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.55 QSpinBox* Ui_MPerfWidget::xBox5 [inherited]

Definition at line 82 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.56 QSlider* Ui_MPerfWidget::xSlider0 [inherited]

Definition at line 67 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.57 QSlider* Ui_MPerfWidget::xSlider1 [inherited]

Definition at line 74 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.58 QSlider* Ui_MPerfWidget::xSlider2 [inherited]

Definition at line 46 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.59 QSlider* Ui_MPerfWidget::xSlider3 [inherited]

Definition at line 81 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.60 QSlider* Ui_MPerfWidget::xSlider4 [inherited]

Definition at line 65 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.61 QSlider* Ui_MPerfWidget::xSlider5 [inherited]

Definition at line 61 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.62 QCheckBox* Ui_MPerfWidget::xyBox [inherited]

Definition at line 105 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), Ui_MPerfWidget::retranslateUi(), Ui_MPerfWidget::setupUi(), and MPerfWidget::sliderYMoved().

12.55.3.63 QSpinBox* Ui_MPerfWidget::yBox0 [inherited]

Definition at line 48 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.64 QSpinBox* Ui_MPerfWidget::yBox1 [inherited]

Definition at line 71 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.65 QSpinBox* Ui_MPerfWidget::yBox2 [inherited]

Definition at line 63 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.66 QSpinBox* Ui_MPerfWidget::yBox3 [inherited]

Definition at line 64 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.67 QSpinBox* Ui_MPerfWidget::yBox4 [inherited]

Definition at line 76 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.68 QSpinBox* Ui_MPerfWidget::yBox5 [inherited]

Definition at line 59 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.69 QSlider* Ui_MPerfWidget::ySlider0 [inherited]

Definition at line 49 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.70 QSlider* Ui_MPerfWidget::ySlider1 [inherited]

Definition at line 79 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.71 QSlider* Ui_MPerfWidget::ySlider2 [inherited]

Definition at line 72 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.72 QSlider* Ui_MPerfWidget::ySlider3 [inherited]

Definition at line 45 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.73 QSlider* Ui_MPerfWidget::ySlider4 [inherited]

Definition at line 78 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

12.55.3.74 QSlider* Ui_MPerfWidget::ySlider5 [inherited]

Definition at line 85 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and Ui_MPerfWidget::setupUi().

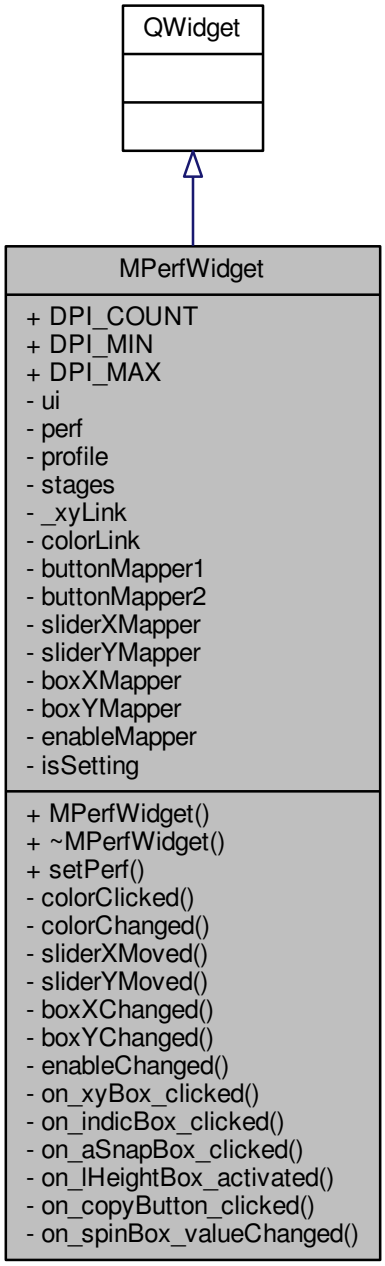
The documentation for this class was generated from the following file:

- src/ckb/ui_mperfwidget.h

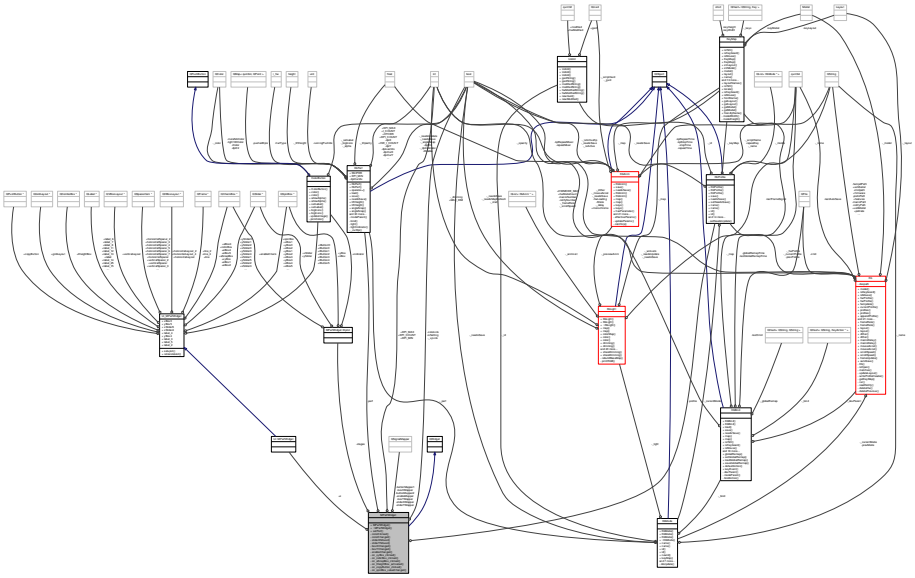
12.56 MPerfWidget Class Reference

`#include <src/ckb/mperfwidget.h>`

Inheritance diagram for MPerfWidget:



Collaboration diagram for MPerfWidget:



Data Structures

- struct DpiUi

Public Member Functions

- MPerfWidget (QWidget *parent=0)
- ~MPerfWidget ()
- void setPerf (KbPerf *newPerf, KbProfile *newProfile)

Static Public Attributes

- static const int DPI_COUNT = KbPerf::DPI_COUNT
- static const int DPI_MIN = KbPerf::DPI_MIN
- static const int DPI_MAX = KbPerf::DPI_MAX

Private Slots

- void colorClicked (int index)
- void colorChanged (int index)
- void sliderXMoved (int index)
- void sliderYMoved (int index)
- void boxXChanged (int index)
- void boxYChanged (int index)
- void enableChanged (int index)
- void on_xyBox_clicked (bool checked)
- void on_indicBox_clicked (bool checked)
- void on_aSnapBox_clicked (bool checked)
- void on_lHeightBox_activated (int index)
- void on_copyButton_clicked ()
- void on_spinBox_valueChanged (int arg1)

Private Attributes

- Ui::MPerfWidget * ui
- KbPerf * perf
- KbProfile * profile
- DpiUi stages [DPI_COUNT]
- bool _xyLink
- bool colorLink
- QSignalMapper buttonMapper1
- QSignalMapper buttonMapper2
- QSignalMapper sliderXMapper
- QSignalMapper sliderYMapper
- QSignalMapper boxXMapper
- QSignalMapper boxYMapper
- QSignalMapper enableMapper
- bool isSetting

12.56.1 Detailed Description

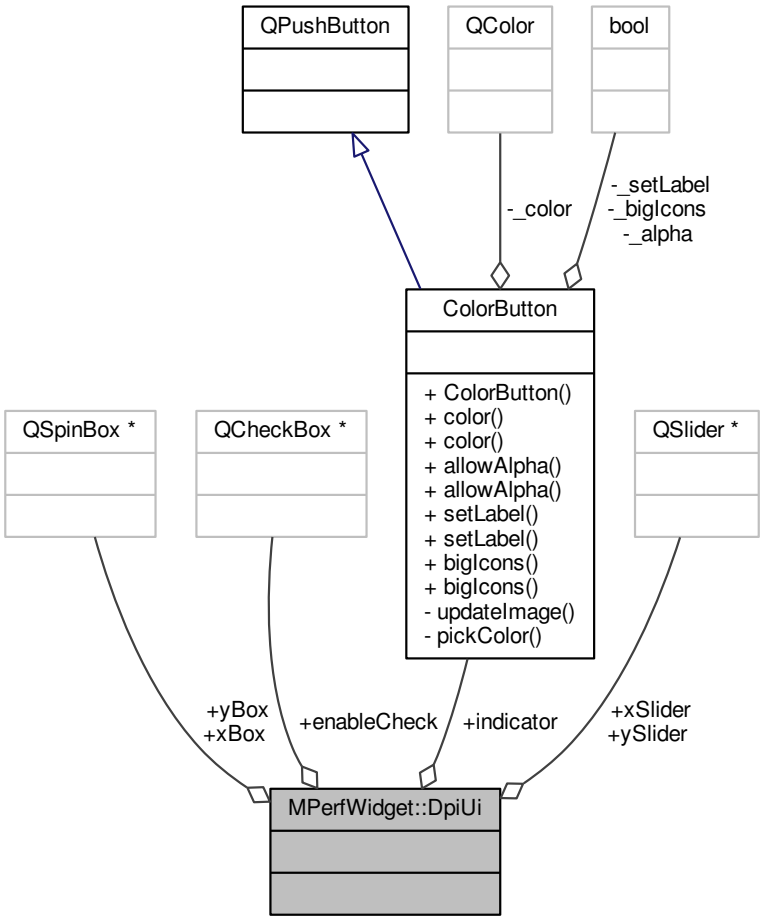
Definition at line 18 of file mperfwidget.h.

12.56.2 Data Structure Documentation

12.56.2.1 struct MPerfWidget::DpiUi

Definition at line 37 of file mperfwidget.h.

Collaboration diagram for MPerfWidget::DpiUi:



Data Fields

QCheckBox *	enableCheck	
ColorButton *	indicator	
QSpinBox *	xBox	
QSlider *	xSlider	
QSpinBox *	yBox	
QSlider *	ySlider	

12.56.3 Constructor & Destructor Documentation

12.56.3.1 MPerfWidget::MPerfWidget (QWidget * *parent* = 0) [explicit]

Definition at line 8 of file mperfwidget.cpp.

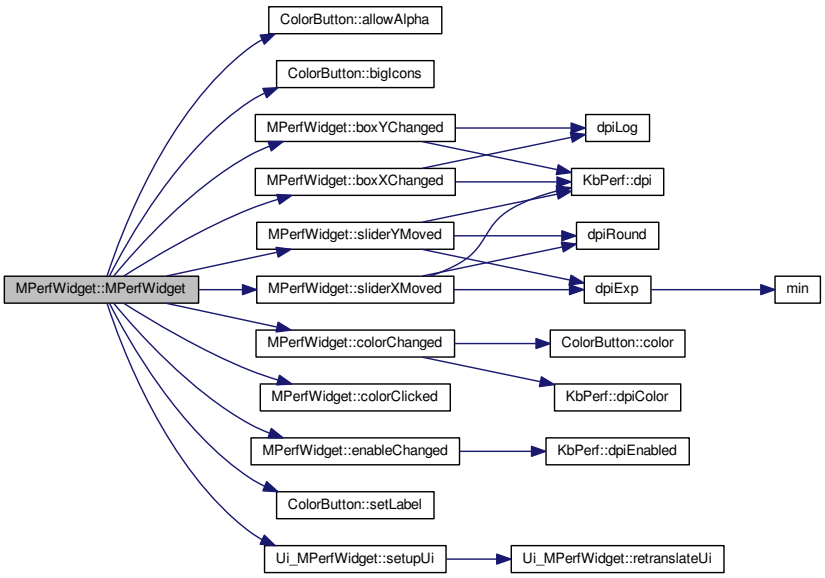
References _xyLink, ColorButton::allowAlpha(), ColorButton::bigIcons(), boxXChanged(), boxXMapper, boxYChanged(), boxYMapper, buttonMapper1, buttonMapper2, colorChanged(), colorClicked(), DPI_COUNT, Ui_MPerfWidget::eBox1, Ui_MPerfWidget::eBox2, Ui_MPerfWidget::eBox3, Ui_MPerfWidget::eBox4, Ui_MPerfWidget::eBox5, enableChanged(), MPerfWidget::DpiUi::enableCheck, enableMapper, Ui_MPerfWidget::iButton0,

Ui_MPerfWidget::iButton1, Ui_MPerfWidget::iButton2, Ui_MPerfWidget::iButton3, Ui_MPerfWidget::iButton4, Ui_MPerfWidget::iButton5, Ui_MPerfWidget::iButtonO, MPerfWidget::DpiUi::indicator, ColorButton::setLabel(), Ui_MPerfWidget::setupUi(), sliderXMapper, sliderXMoved(), sliderYMapper, sliderYMoved(), stages, ui, MPerfWidget::DpiUi::xBox, Ui_MPerfWidget::xBox0, Ui_MPerfWidget::xBox1, Ui_MPerfWidget::xBox2, Ui_MPerfWidget::xBox3, Ui_MPerfWidget::xBox4, Ui_MPerfWidget::xBox5, MPerfWidget::DpiUi::xSlider, Ui_MPerfWidget::xSlider0, Ui_MPerfWidget::xSlider1, Ui_MPerfWidget::xSlider2, Ui_MPerfWidget::xSlider3, Ui_MPerfWidget::xSlider4, Ui_MPerfWidget::xSlider5, Ui_MPerfWidget::xyBox, MPerfWidget::DpiUi::yBox, Ui_MPerfWidget::yBox0, Ui_MPerfWidget::yBox1, Ui_MPerfWidget::yBox2, Ui_MPerfWidget::yBox3, Ui_MPerfWidget::yBox4, Ui_MPerfWidget::yBox5, MPerfWidget::DpiUi::ySlider, Ui_MPerfWidget::ySlider0, Ui_MPerfWidget::ySlider1, Ui_MPerfWidget::ySlider2, Ui_MPerfWidget::ySlider3, Ui_MPerfWidget::ySlider4, and Ui_MPerfWidget::ySlider5.

```
8                                       :
9       QWidget(parent), ui(new Ui::MPerfWidget), perf(0),
        profile(0), _xyLink(!CkbSettings::get(xyLinkPath).toBool()),
        colorLink(false), isSetting(false) {
10       ui->setupUi(this);
11       ui->xyBox->setChecked(!_xyLink);
12       // Set up DPI stages
13       stages[0].indicator = ui->iButton0; stages[0].
        xSlider = ui->xSlider0; stages[0].ySlider = ui->
        ySlider0; stages[0].xBox = ui->xBox0; stages[0].
        yBox = ui->yBox0; stages[0].enableCheck = 0;
14       stages[1].indicator = ui->iButton1; stages[1].
        xSlider = ui->xSlider1; stages[1].ySlider = ui->
        ySlider1; stages[1].xBox = ui->xBox1; stages[1].
        yBox = ui->yBox1; stages[1].enableCheck = ui->
        eBox1;
15       stages[2].indicator = ui->iButton2; stages[2].
        xSlider = ui->xSlider2; stages[2].ySlider = ui->
        ySlider2; stages[2].xBox = ui->xBox2; stages[2].
        yBox = ui->yBox2; stages[2].enableCheck = ui->
        eBox2;
16       stages[3].indicator = ui->iButton3; stages[3].
        xSlider = ui->xSlider3; stages[3].ySlider = ui->
        ySlider3; stages[3].xBox = ui->xBox3; stages[3].
        yBox = ui->yBox3; stages[3].enableCheck = ui->
        eBox3;
17       stages[4].indicator = ui->iButton4; stages[4].
        xSlider = ui->xSlider4; stages[4].ySlider = ui->
        ySlider4; stages[4].xBox = ui->xBox4; stages[4].
        yBox = ui->yBox4; stages[4].enableCheck = ui->
        eBox4;
18       stages[5].indicator = ui->iButton5; stages[5].
        xSlider = ui->xSlider5; stages[5].ySlider = ui->
        ySlider5; stages[5].xBox = ui->xBox5; stages[5].
        yBox = ui->yBox5; stages[5].enableCheck = ui->
        eBox5;
19       ui->iButtonO->setLabel(false);
20       ui->iButtonO->bigIcons(true);
21       ui->iButtonO->allowAlpha(true);
22       for(int i = 0; i < DPI_COUNT; i++){
23           stages[i].indicator->setLabel(false);
24           stages[i].indicator->bigIcons(true);
25           stages[i].indicator->allowAlpha(true);
26           // Map signals
27           connect(stages[i].indicator, SIGNAL(clicked(bool)), &buttonMapper1, SLOT(map()))
        ;
28           connect(stages[i].indicator, SIGNAL(colorChanged(QColor)), &
        buttonMapper2, SLOT(map()));
29           connect(stages[i].xSlider, SIGNAL(valueChanged(int)), &
        sliderXMapper, SLOT(map()));
30           connect(stages[i].ySlider, SIGNAL(valueChanged(int)), &
        sliderYMapper, SLOT(map()));
31           connect(stages[i].xBox, SIGNAL(valueChanged(int)), &boxXMapper, SLOT(map()));
32           connect(stages[i].yBox, SIGNAL(valueChanged(int)), &boxYMapper, SLOT(map()));
33           if(stages[i].enableCheck)
34               // Sniper has no enable
35               connect(stages[i].enableCheck, SIGNAL(stateChanged(int)), &
        enableMapper, SLOT(map()));
36           // Set names
37           buttonMapper1.setMapping(stages[i].indicator, i);
38           buttonMapper2.setMapping(stages[i].indicator, i);
39           sliderXMapper.setMapping(stages[i].xSlider, i);
40           sliderYMapper.setMapping(stages[i].ySlider, i);
41           boxXMapper.setMapping(stages[i].xBox, i);
42           boxYMapper.setMapping(stages[i].yBox, i);
43           if(stages[i].enableCheck)
44               enableMapper.setMapping(stages[i].enableCheck, i);
45       }
46       // Connect to slots
47       connect(&buttonMapper1, SIGNAL(mapped(int)), this, SLOT(
        colorClicked(int)));
```

```
48     connect(&buttonMapper2, SIGNAL(mapped(int)), this, SLOT(
       colorChanged(int)));
49     connect(&sliderXMapper, SIGNAL(mapped(int)), this, SLOT(
       sliderXMoved(int)));
50     connect(&sliderYMapper, SIGNAL(mapped(int)), this, SLOT(
       sliderYMoved(int)));
51     connect(&boxXMapper, SIGNAL(mapped(int)), this, SLOT(boxXChanged(int)));
52     connect(&boxYMapper, SIGNAL(mapped(int)), this, SLOT(boxYChanged(int)));
53     connect(&enableMapper, SIGNAL(mapped(int)), this, SLOT(
       enableChanged(int)));
54 }
```

Here is the call graph for this function:



12.56.3.2 MPerfWidget::~MPerfWidget ( )

Definition at line 56 of file mperfwidget.cpp.

References ui.

```
56                          {
57     delete ui;
58 }
```

12.56.4 Member Function Documentation

12.56.4.1 void MPerfWidget::boxXChanged (int *index*) [private], [slot]

Definition at line 157 of file mperfwidget.cpp.

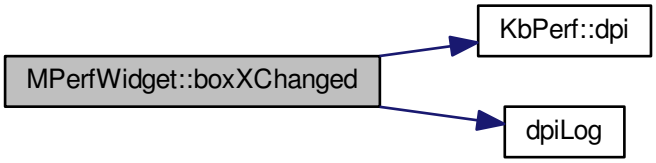
References _xyLink, KbPerf::dpi(), dpiLog(), perf, SET_END, SET_START, stages, MPerfWidget::DpiUi::xBox, MPerfWidget::DpiUi::xSlider, and MPerfWidget::DpiUi::yBox.

Referenced by MPerfWidget().

```
157                                     {
158     SET_START;
159     QSpinBox* box = stages[index].xBox;
160     QSlider* slider = stages[index].xSlider;
```

```
161     int value = box->value();
162     slider->setValue(dpiLog(value, slider->minimum(), slider->maximum()));
163     if(_xyLink)
164         perf->dpi(index, value);
165     else
166         perf->dpi(index, QPoint(value, perf->dpi(index).y()));
167     SET_END;
168     if(_xyLink)
169         stages[index].yBox->setValue(value);
170 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.56.4.2 void MPerfWidget::boxYChanged (int *index*) [private],[slot]

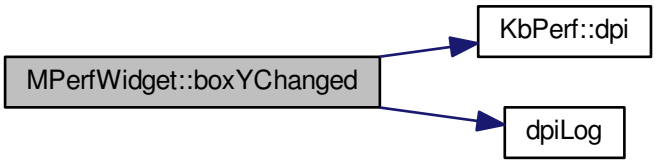
Definition at line 172 of file mperfwidget.cpp.

References _xyLink, KbPerf::dpi(), dpiLog(), perf, SET_END, SET_START, stages, MPerfWidget::DpiUi::xBox, MPerfWidget::DpiUi::yBox, and MPerfWidget::DpiUi::ySlider.

Referenced by MPerfWidget().

```
172                                     {
173     SET_START;
174     QSpinBox* box = stages[index].yBox;
175     QSlider* slider = stages[index].ySlider;
176     int value = box->value();
177     slider->setValue(dpiLog(value, slider->minimum(), slider->maximum()));
178     if(_xyLink)
179         perf->dpi(index, value);
180     else
181         perf->dpi(index, QPoint(perf->dpi(index).x(), value));
182     SET_END;
183     if(_xyLink)
184         stages[index].xBox->setValue(value);
185 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.56.4.3 void MPerfWidget::colorChanged (int *index*) [private],[slot]

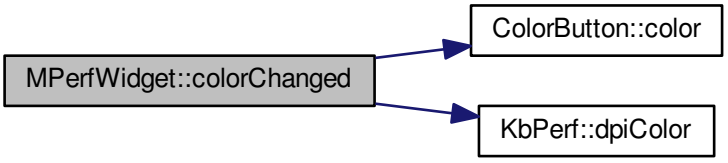
Definition at line 86 of file mperfwidget.cpp.

References ColorButton::color(), colorLink, DPI_COUNT, KbPerf::dpiColor(), Ui_MPerfWidget::iButtonO, MPerfWidget::DpiUi::indicator, KbPerf::OTHER, perf, stages, and ui.

Referenced by MPerfWidget().

```
86                                      {
87     QColor color = stages[index].indicator->color();
88     if(colorLink){
89         // Alt was held down - set all
90         for(int i = 0; i < DPI_COUNT; i++){
91             stages[i].indicator->color(color);
92             perf->dpiColor(i, color);
93         }
94         ui->iButtonO->color(color);
95         perf->dpiColor(KbPerf::OTHER, color);
96     } else {
97         // Set one
98         perf->dpiColor(index, color);
99     }
100     colorLink = false;
101 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.56.4.4 void MPerfWidget::colorClicked (int *index*) [private],[slot]

Definition at line 81 of file mperfwidget.cpp.

References colorLink.

Referenced by MPerfWidget().

```
81                                      {
82     // Set all colors at once if Alt is held down
83     colorLink = !!(qApp->keyboardModifiers() & Qt::AltModifier);
84 }
```

Here is the caller graph for this function:

12.56.4.5 void MPerfWidget::enableChanged (int *index*) [private],[slot]

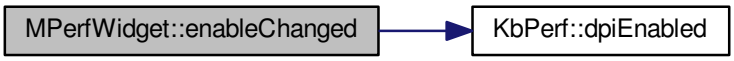
Definition at line 187 of file mperfwidget.cpp.

References KbPerf::dpiEnabled(), perf, and stages.

Referenced by MPerfWidget().

```
187                                         {
188     perf->dpiEnabled(index, stages[index].enableCheck->isChecked());
189 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

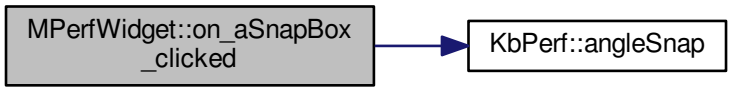
12.56.4.6 void MPerfWidget::on_aSnapBox_clicked (bool *checked*) [private], [slot]

Definition at line 201 of file mperfwidget.cpp.

References KbPerf::angleSnap(), and perf.

```
201                                                 {
202     perf->angleSnap(checked);
203 }
```

Here is the call graph for this function:



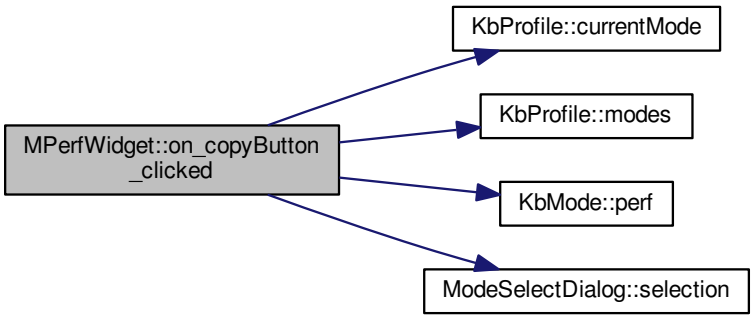
12.56.4.7 void MPerfWidget::on_copyButton_clicked ( ) [private], [slot]

Definition at line 209 of file mperfwidget.cpp.

References KbProfile::currentMode(), KbProfile::modes(), perf, KbMode::perf(), profile, and ModeSelectDialog::selection().

```
209                                     {
210     ModeSelectDialog dialog(this, profile->currentMode(),
      profile->modes(), "Copy performance settings to:");
211     if(dialog.exec() != QDialog::Accepted)
212         return;
213     QList<KbMode*> selectedModes = dialog.selection();
214     foreach(KbMode* mode, selectedModes){
215         *mode->perf() = *perf;
216     }
217 }
```

Here is the call graph for this function:



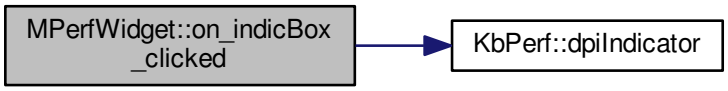
12.56.4.8 void MPerfWidget::on_indicBox_clicked (bool *checked*) [private], [slot]

Definition at line 197 of file mperfwidget.cpp.

References KbPerf::dpiIndicator(), and perf.

```
197                                                 {
198     perf->dpiIndicator(checked);
199 }
```

Here is the call graph for this function:



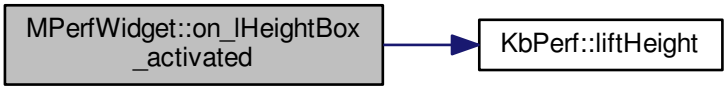
12.56.4.9 void MPerfWidget::on_lHeightBox_activated (int *index*) [private], [slot]

Definition at line 205 of file mperfwidget.cpp.

References KbPerf::liftHeight(), and perf.

```
205                                                 {
206     perf->liftHeight((KbPerf::height)(index + 1));
207 }
```

Here is the call graph for this function:



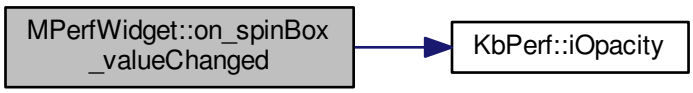
12.56.4.10 void MPerfWidget::on_spinBox_valueChanged (int *arg1*) [private], [slot]

Definition at line 219 of file mperfwidget.cpp.

References KbPerf::iOpacity(), and perf.

```
219                                                 {
220     if(!perf)
221         return;
222     perf->iOpacity(arg1 / 100.f);
223 }
```

Here is the call graph for this function:



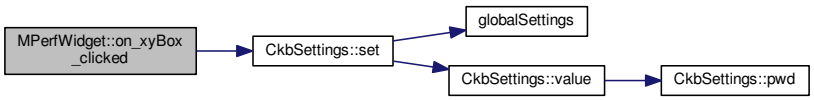
12.56.4.11 void MPerfWidget::on_xyBox_clicked (bool *checked*) [private], [slot]

Definition at line 191 of file mperfwidget.cpp.

References _xyLink, CkbSettings::set(), and xyLinkPath.

```
191                                                 {
192     _xyLink = !checked;
193     CkbSettings::set(xyLinkPath, checked);
194     // FIXME: update other MPerfWidgets, since this is a global setting
195 }
```

Here is the call graph for this function:



12.56.4.12 void MPerfWidget::setPerf (KbPerf * *newPerf,* KbProfile * *newProfile*)

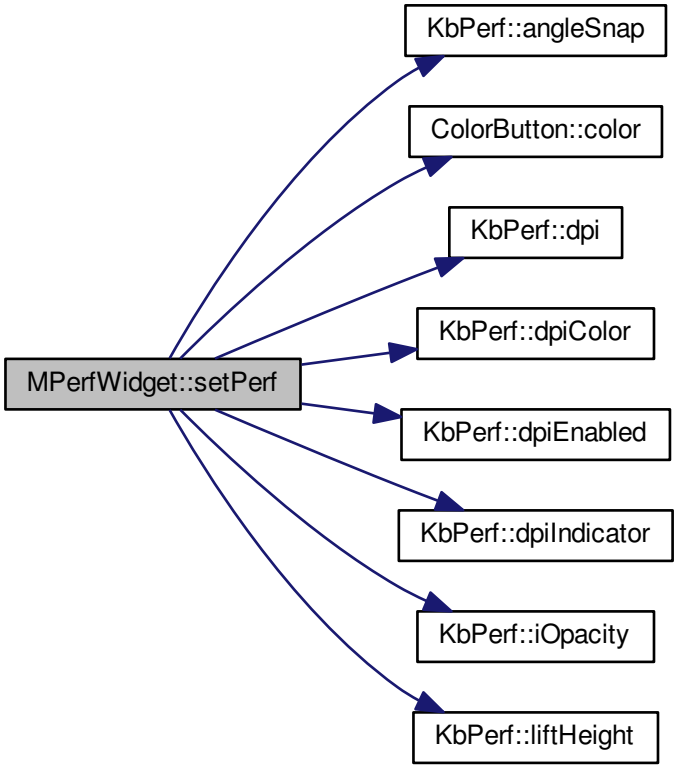
Definition at line 60 of file mperfwidget.cpp.

References _xyLink, KbPerf::angleSnap(), Ui_MPerfWidget::aSnapBox, ColorButton::color(), KbPerf::dpi(), DPI_COUNT, KbPerf::dpiColor(), KbPerf::dpiEnabled(), KbPerf::dpiIndicator(), MPerfWidget::DpiUi::enableCheck, Ui_MPerfWidget::iButtonO, MPerfWidget::DpiUi::indicator, Ui_MPerfWidget::indicBox, KbPerf::iOpacity(), Ui_MPerfWidget::lHeightBox, KbPerf::liftHeight(), KbPerf::OTHER, perf, profile, Ui_MPerfWidget::spinBox, stages, ui, MPerfWidget::DpiUi::xBox, and MPerfWidget::DpiUi::yBox.

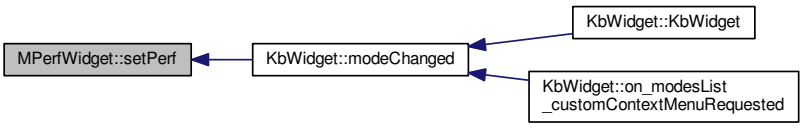
Referenced by KbWidget::modeChanged().

```
60                                                          {
61     perf = newPerf;
62     profile = newProfile;
63     ui->spinBox->setValue(round(perf->iOpacity() * 100.f));
64     for(int i = 0; i < DPI_COUNT; i++){
65         stages[i].indicator->color(perf->dpiColor(i));
66         bool oldLink = _xyLink;
67         // Don't force X/Y to the same value if they were set differently in the past
68         _xyLink = false;
69         stages[i].xBox->setValue(perf->dpi(i).x());
70         stages[i].yBox->setValue(perf->dpi(i).y());
71         _xyLink = oldLink;
72         if(stages[i].enableCheck)
73             stages[i].enableCheck->setChecked(perf->
      dpiEnabled(i));
74     }
75     ui->iButtonO->color(perf->dpiColor(KbPerf::OTHER));
76     ui->aSnapBox->setChecked(perf->angleSnap());
77     ui->lHeightBox->setCurrentIndex(perf->liftHeight() - 1);
78     ui->indicBox->setChecked(perf->dpiIndicator());
79 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.56.4.13 void MPerfWidget::sliderXMoved (int *index*) [private], [slot]

Definition at line 128 of file mperfwidget.cpp.

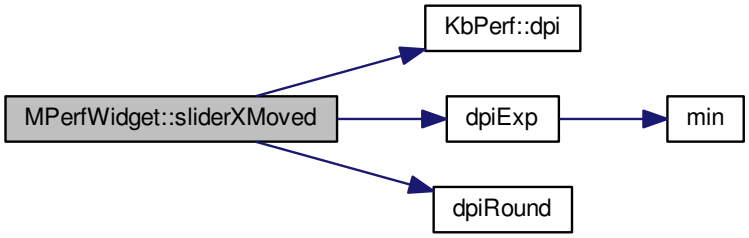
References _xyLink, KbPerf::dpi(), dpiExp(), dpiRound(), perf, SET_END, SET_START, stages, MPerfWidget::DpiUi::xBox, MPerfWidget::DpiUi::xSlider, and MPerfWidget::DpiUi::ySlider.

Referenced by MPerfWidget().

```
128                                    {
129     SET_START;
```

```
130     QSlider* slider = stages[index].xSlider;
131     int value = dpiRound(dpiExp(slider->value(), slider->minimum(), slider->maximum()));
132     stages[index].xBox->setValue(value);
133     if(_xyLink)
134         perf->dpi(index, value);
135     else
136         perf->dpi(index, QPoint(value, perf->dpi(index).y()));
137     SET_END;
138     if(_xyLink)
139         stages[index].ySlider->setValue(slider->value());
140 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.56.4.14 void MPerfWidget::sliderYMoved (int *index*) [private], [slot]

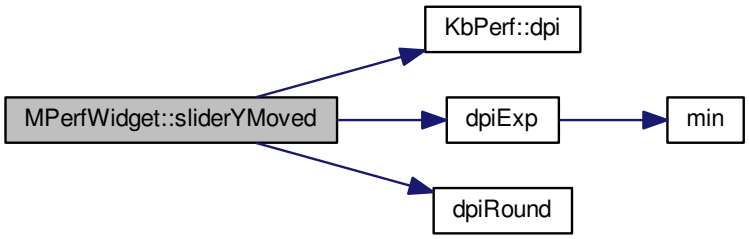
Definition at line 142 of file mperfwidget.cpp.

References _xyLink, KbPerf::dpi(), dpiExp(), dpiRound(), perf, SET_END, SET_START, stages, ui, Ui_MPerfWidget::xyBox, MPerfWidget::DpiUi::yBox, and MPerfWidget::DpiUi::ySlider.

Referenced by MPerfWidget().

```
142                                         {
143     SET_START;
144     QSlider* slider = stages[index].ySlider;
145     int value = dpiRound(dpiExp(slider->value(), slider->minimum(), slider->maximum()));
146     stages[index].yBox->setValue(value);
147     if(_xyLink)
148         perf->dpi(index, value);
149     else
150         perf->dpi(index, QPoint(perf->dpi(index).x(), value));
151     SET_END;
152     if(!ui->xyBox->isChecked())
153         // X/Y linked?
154         stages[index].xSlider->setValue(slider->value());
155 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.56.5 Field Documentation

12.56.5.1 bool MPerfWidget::_xyLink [private]

Definition at line 44 of file mperfwidget.h.

Referenced by boxXChanged(), boxYChanged(), MPerfWidget(), on_xyBox_clicked(), setPerf(), sliderXMoved(), and sliderYMoved().

12.56.5.2 QSignalMapper MPerfWidget::boxXMapper [private]

Definition at line 49 of file mperfwidget.h.

Referenced by MPerfWidget().

12.56.5.3 QSignalMapper MPerfWidget::boxYMapper [private]

Definition at line 49 of file mperfwidget.h.

Referenced by MPerfWidget().

12.56.5.4 QSignalMapper MPerfWidget::buttonMapper1 [private]

Definition at line 47 of file mperfwidget.h.

Referenced by MPerfWidget().

12.56.5.5 QSignalMapper MPerfWidget::buttonMapper2 [private]

Definition at line 47 of file mperfwidget.h.

Referenced by MPerfWidget().

12.56.5.6 bool MPerfWidget::colorLink [private]

Definition at line 45 of file mperfwidget.h.

Referenced by colorChanged(), and colorClicked().

12.56.5.7 const int MPerfWidget::DPI_COUNT = KbPerf::DPI_COUNT [static]

Definition at line 28 of file mperfwidget.h.

Referenced by colorChanged(), MPerfWidget(), and setPerf().

12.56.5.8 const int MPerfWidget::DPI_MAX = KbPerf::DPI_MAX [static]

Definition at line 29 of file mperfwidget.h.

12.56.5.9 const int MPerfWidget::DPI_MIN = KbPerf::DPI_MIN [static]

Definition at line 29 of file mperfwidget.h.

12.56.5.10 QSignalMapper MPerfWidget::enableMapper [private]

Definition at line 50 of file mperfwidget.h.

Referenced by MPerfWidget().

12.56.5.11 bool MPerfWidget::isSetting [private]

Definition at line 53 of file mperfwidget.h.

12.56.5.12 KbPerf* MPerfWidget::perf [private]

Definition at line 34 of file mperfwidget.h.

Referenced by boxXChanged(), boxYChanged(), colorChanged(), enableChanged(), on_aSnapBox_clicked(), on_copyButton_clicked(), on_indicBox_clicked(), on_lHeightBox_activated(), on_spinBox_valueChanged(), setPerf(), sliderXMoved(), and sliderYMoved().

12.56.5.13 KbProfile* MPerfWidget::profile [private]

Definition at line 35 of file mperfwidget.h.

Referenced by on_copyButton_clicked(), and setPerf().

12.56.5.14 QSignalMapper MPerfWidget::sliderXMapper [private]

Definition at line 48 of file mperfwidget.h.

Referenced by MPerfWidget().

12.56.5.15 QSignalMapper MPerfWidget::sliderYMapper [private]

Definition at line 48 of file mperfwidget.h.

Referenced by MPerfWidget().

12.56.5.16 DpiUi MPerfWidget::stages[DPI_COUNT] [private]

Definition at line 43 of file mperfwidget.h.

Referenced by boxXChanged(), boxYChanged(), colorChanged(), enableChanged(), MPerfWidget(), setPerf(), sliderXMoved(), and sliderYMoved().

12.56.5.17 Ui::MPerfWidget* MPerfWidget::ui [private]

Definition at line 32 of file mperfwidget.h.

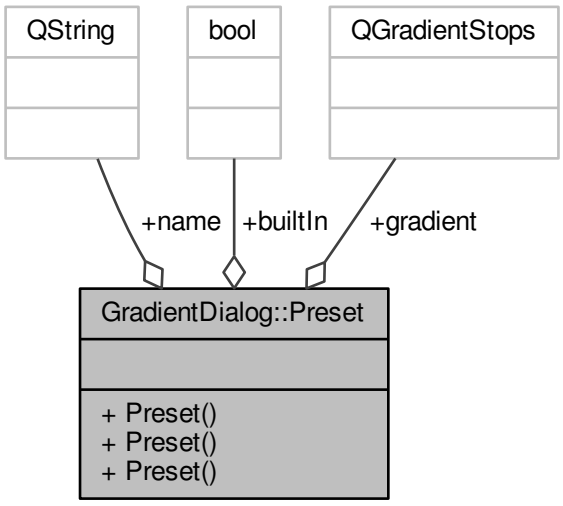
Referenced by colorChanged(), MPerfWidget(), setPerf(), sliderYMoved(), and ~MPerfWidget().

The documentation for this class was generated from the following files:

- src/ckb/mperfwidget.h
- src/ckb/mperfwidget.cpp

12.57 GradientDialog::Preset Struct Reference

Collaboration diagram for GradientDialog::Preset:



Public Member Functions

- Preset (QString _name, bool _builtIn=false)
- Preset (QString _name, const QGradientStops &_gradient)

- Preset ()

Data Fields

- QString name
- QGradientStops gradient
- bool builtIn

12.57.1 Detailed Description

Definition at line 23 of file gradientdialog.h.

12.57.2 Constructor & Destructor Documentation

12.57.2.1 GradientDialog::Preset::Preset (QString *_name,* bool *_builtIn* = false) [inline]

Definition at line 27 of file gradientdialog.h.

```
27 : name(_name), builtIn(_builtIn) {}
```

12.57.2.2 GradientDialog::Preset::Preset (QString *_name,* const QGradientStops & *_gradient*) [inline]

Definition at line 28 of file gradientdialog.h.

```
28 : name(_name), gradient(_gradient), builtIn(false) {}
```

12.57.2.3 GradientDialog::Preset::Preset ( ) [inline]

Definition at line 29 of file gradientdialog.h.

```
29 : builtIn(false) {}
```

12.57.3 Field Documentation

12.57.3.1 bool GradientDialog::Preset::builtIn

Definition at line 26 of file gradientdialog.h.

Referenced by GradientDialog::on_presetDelete_clicked(), GradientDialog::on_presetSave_clicked(), GradientDialog::setPreset(), and GradientDialog::~GradientDialog().

12.57.3.2 QGradientStops GradientDialog::Preset::gradient

Definition at line 25 of file gradientdialog.h.

Referenced by GradientDialog::GradientDialog(), GradientDialog::makeIcon(), GradientDialog::setPreset(), and GradientDialog::~GradientDialog().

12.57.3.3 QString GradientDialog::Preset::name

Definition at line 24 of file gradientdialog.h.

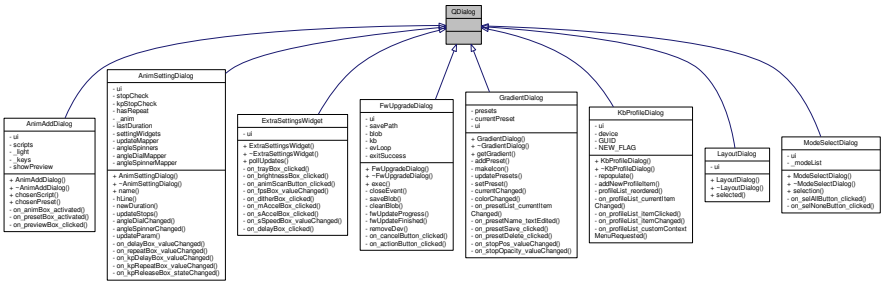
Referenced by GradientDialog::addPreset(), GradientDialog::on_presetDelete_clicked(), GradientDialog::on_presetSave_clicked(), GradientDialog::setPreset(), GradientDialog::updatePresets(), and GradientDialog::~GradientDialog().

The documentation for this struct was generated from the following file:

- src/ckb/gradientdialog.h

12.58 QDialog Class Reference

Inheritance diagram for QDialog:



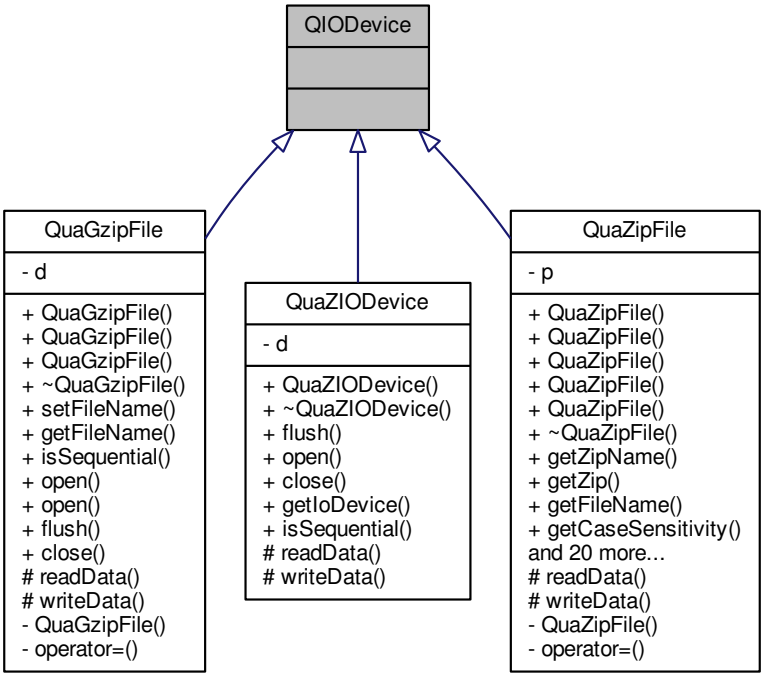
Collaboration diagram for QDialog:

The documentation for this class was generated from the following file:

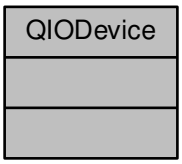
- src/ckb/extrasettingswidget.h

12.59 QIODevice Class Reference

Inheritance diagram for QIODevice:



Collaboration diagram for QIODevice:

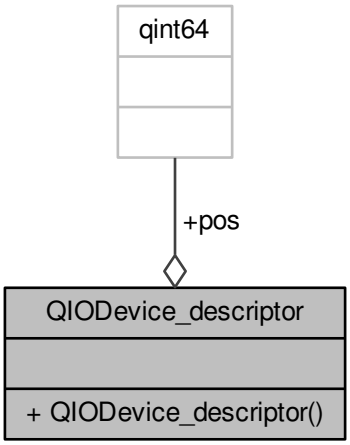


The documentation for this class was generated from the following file:

- src/ckb/quazip/quazipfile.h

12.60 QIODevice_descriptor Struct Reference

Collaboration diagram for QIODevice_descriptor:



Public Member Functions

- QIODevice_descriptor ()

Data Fields

- qint64 pos

12.60.1 Detailed Description

Definition at line 78 of file qioapi.cpp.

12.60.2 Constructor & Destructor Documentation

12.60.2.1 QIODevice_descriptor::QIODevice_descriptor ( ) [inline]

Definition at line 81 of file qioapi.cpp.

```
81                                  :
82          pos(0)
83      {}
```

12.60.3 Field Documentation

12.60.3.1 qint64 QIODevice_descriptor::pos

Definition at line 80 of file qioapi.cpp.

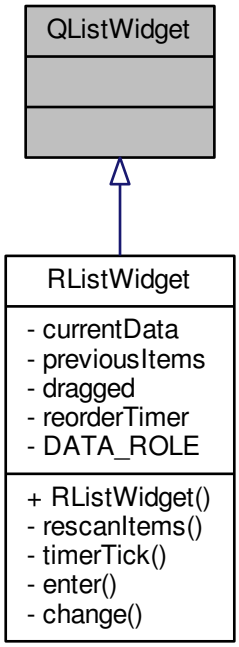
Referenced by qiodevice64_tell_file_func(), qiodevice_open_file_func(), qiodevice_read_file_func(), qiodevice_tell_file_func(), and qiodevice_write_file_func().

The documentation for this struct was generated from the following file:

- src/ckb/quazip/qioapi.cpp

12.61 QListWidget Class Reference

Inheritance diagram for QListWidget:



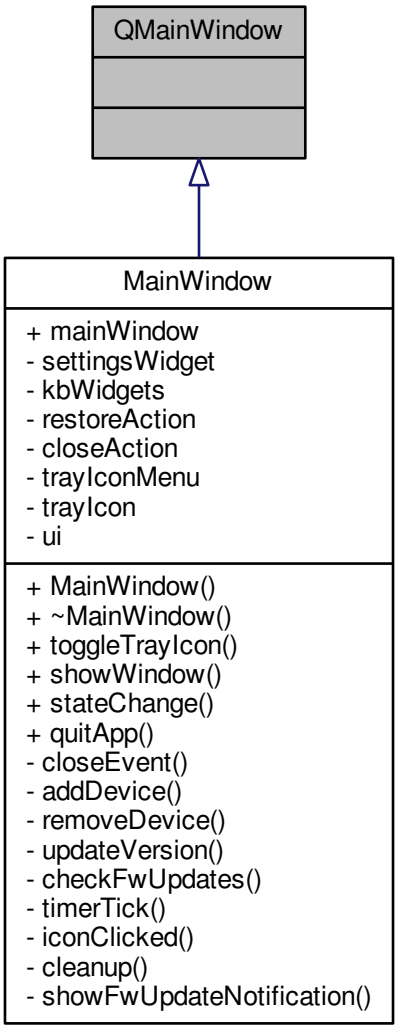
Collaboration diagram for QListWidget:

The documentation for this class was generated from the following file:

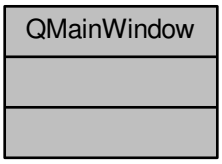
- src/ckb/rlistwidget.h

12.62 QMainWindow Class Reference

Inheritance diagram for QMainWindow:



Collaboration diagram for QMainWindow:

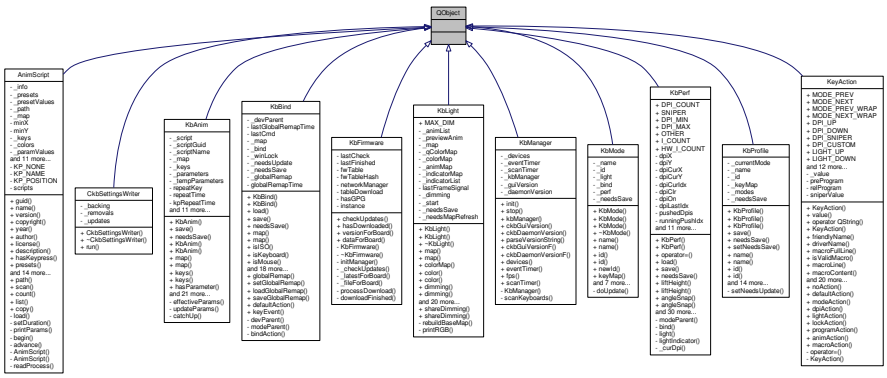


The documentation for this class was generated from the following file:

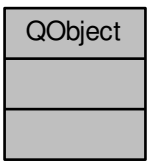
- src/ckb/mainwindow.h

12.63 QObject Class Reference

Inheritance diagram for QObject:



Collaboration diagram for QObject:

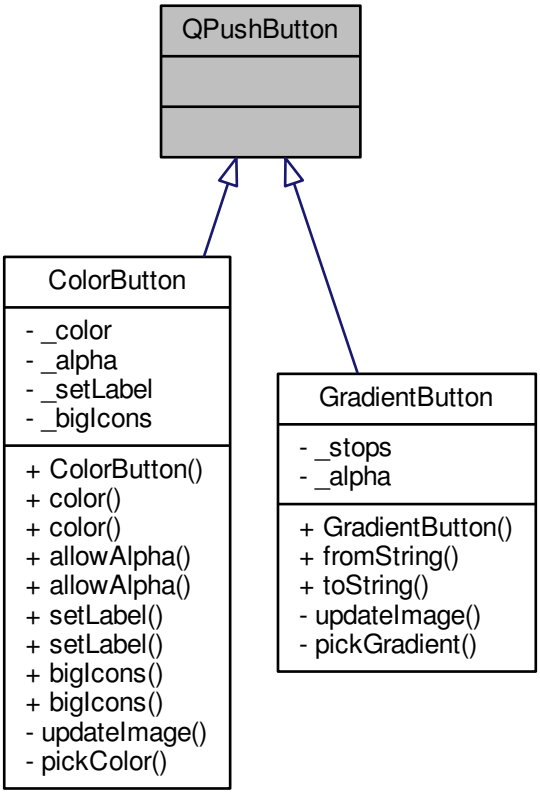


The documentation for this class was generated from the following file:

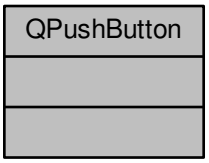
- src/ckb/kbprofile.h

12.64 QPushButton Class Reference

Inheritance diagram for QPushButton:



Collaboration diagram for QPushButton:

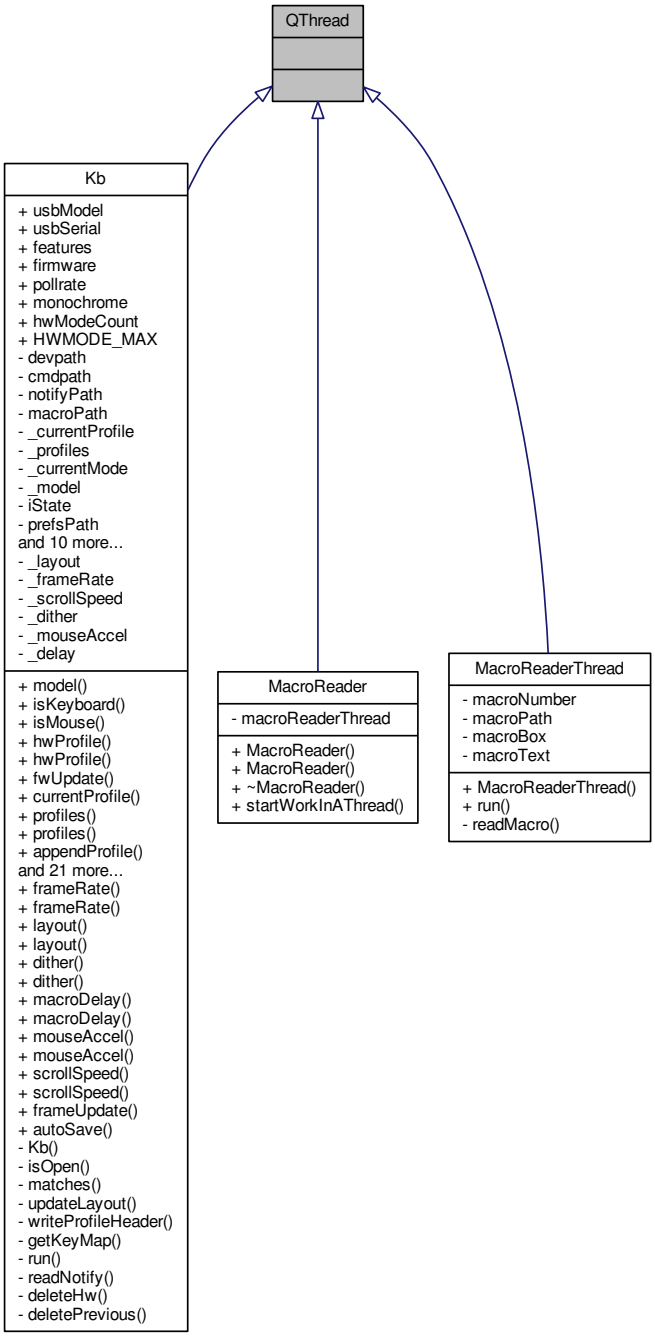


The documentation for this class was generated from the following file:

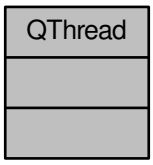
- src/ckb/colorbutton.h

12.65 QThread Class Reference

Inheritance diagram for QThread:



Collaboration diagram for QThread:



The documentation for this class was generated from the following file:

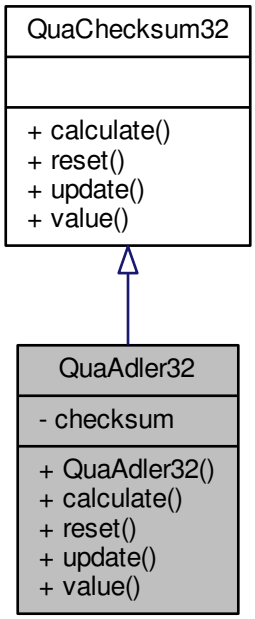
- src/ckb/macroreader.h

12.66 QuaAdler32 Class Reference

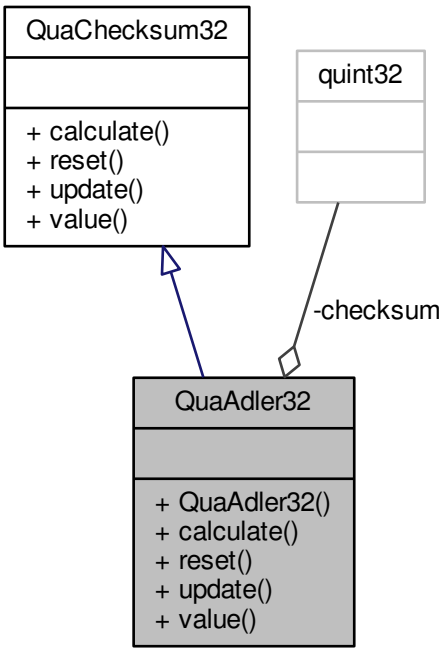
Adler32 checksum.

`#include <quazip/quaadler32.h>`

Inheritance diagram for QuaAdler32:



Collaboration diagram for QuaAdler32:



Public Member Functions

- QuaAdler32 ()
- quint32 calculate (const QByteArray &data)

  Calculates the checksum for data.
- void reset ()

  Resets the calculation on a checksun for a stream.
- void update (const QByteArray &buf)

  Updates the calculated checksum for the stream.
- quint32 value ()

  Value of the checksum calculated for the stream passed throw update().

Private Attributes

- quint32 checksum

12.66.1 Detailed Description

This class wrappers the adler32 function with the QuaChecksum32 interface. See QuaChecksum32 for more info.

Definition at line 38 of file quaadler32.h.

12.66.2 Constructor & Destructor Documentation

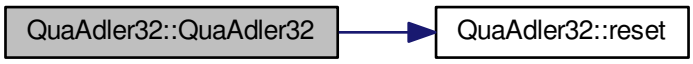
12.66.2.1 QuaAdler32::QuaAdler32 ( )

Definition at line 30 of file quaadler32.cpp.

References reset().

```
31 {
32     reset();
33 }
```

Here is the call graph for this function:



12.66.3 Member Function Documentation

12.66.3.1 quint32 QuaAdler32::calculate (const QByteArray & *data*) [virtual]

data source data

Returns

data checksum

This function has no efect on the value returned by value().

Implements QuaChecksum32.

Definition at line 35 of file quaadler32.cpp.

```
36 {
37     return adler32( adler32(0L, Z_NULL, 0), (const Bytef*)data.data(), data.size() );
38 }
```

12.66.3.2 void QuaAdler32::reset ( ) [virtual]

Implements QuaChecksum32.

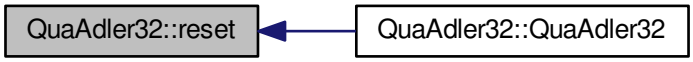
Definition at line 40 of file quaadler32.cpp.

References checksum.

Referenced by QuaAdler32().

```
41 {
42     checksum = adler32(0L, Z_NULL, 0);
43 }
```

Here is the caller graph for this function:



12.66.3.3 void QuaAdler32::update (const QByteArray & *buf*) [virtual]

buf next portion of data from the stream

Implements QuaChecksum32.

Definition at line 45 of file quaadler32.cpp.

References checksum.

```
46 {
47     checksum = adler32( checksum, (const Bytef*)buf.data(), buf.size() );
48 }
```

12.66.3.4 quint32 QuaAdler32::value ( ) [virtual]

Returns

checksum

Implements QuaChecksum32.

Definition at line 50 of file quaadler32.cpp.

References checksum.

```
51 {
52     return checksum;
53 }
```

12.66.4 Field Documentation

12.66.4.1 quint32 QuaAdler32::checksum [private]

Definition at line 51 of file quaadler32.h.

Referenced by reset(), update(), and value().

The documentation for this class was generated from the following files:

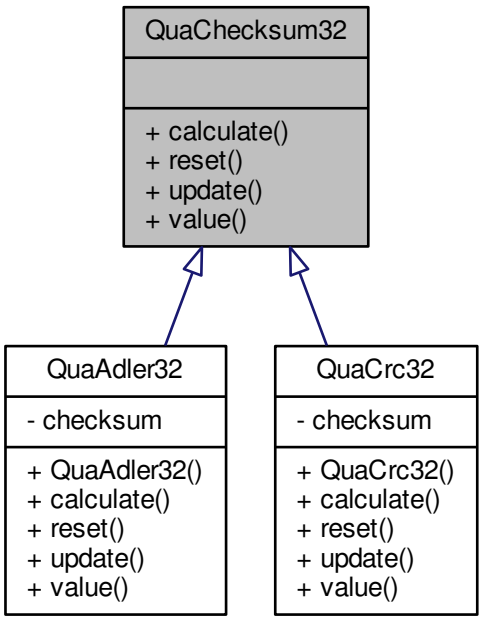
- src/ckb/quazip/quaadler32.h
- src/ckb/quazip/quaadler32.cpp

12.67 QuaChecksum32 Class Reference

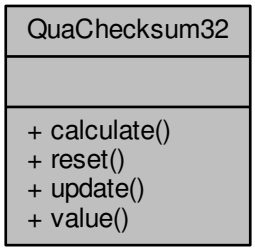
Checksum interface.

`#include <quazip/quachecksum32.h>`

Inheritance diagram for QuaChecksum32:



Collaboration diagram for QuaChecksum32:



Public Member Functions

- virtual quint32 calculate (const QByteArray &data)=0

  Calculates the checksum for data.
- virtual void reset ()=0

  Resets the calculation on a checksun for a stream.
- virtual void update (const QByteArray &buf)=0

Updates the calculated checksum for the stream.

- virtual quint32 value ()=0

  Value of the checksum calculated for the stream passed throw update().

12.67.1 Detailed Description

This is an interface for 32 bit checksums. Classes implementing this interface can calcunate a certin checksum in a single step:

```
QChecksum32 *crc32 = new QuaCrc32();
rasoult = crc32->calculate(data);
```

or by streaming the data:

```
QChecksum32 *crc32 = new QuaCrc32();
while(!fileA.atEnd())
    crc32->update(fileA.read(bufSize));
resoultA = crc32->value();
crc32->reset();
while(!fileB.atEnd())
    crc32->update(fileB.read(bufSize));
resoultB = crc32->value();
```

Definition at line 52 of file quachecksum32.h.

12.67.2 Member Function Documentation

12.67.2.1 virtual quint32 QuaChecksum32::calculate (const QByteArray & *data*) [pure virtual]

data source data

Returns

data checksum

This function has no efect on the value returned by value().

Implemented in QuaAdler32, and QuaCrc32.

12.67.2.2 virtual void QuaChecksum32::reset ( ) [pure virtual]

Implemented in QuaAdler32, and QuaCrc32.

12.67.2.3 virtual void QuaChecksum32::update (const QByteArray & *buf*) [pure virtual]

buf next portion of data from the stream

Implemented in QuaAdler32, and QuaCrc32.

12.67.2.4 virtual quint32 QuaChecksum32::value ( ) [pure virtual]

Returns

checksum

Implemented in QuaAdler32, and QuaCrc32.

The documentation for this class was generated from the following file:

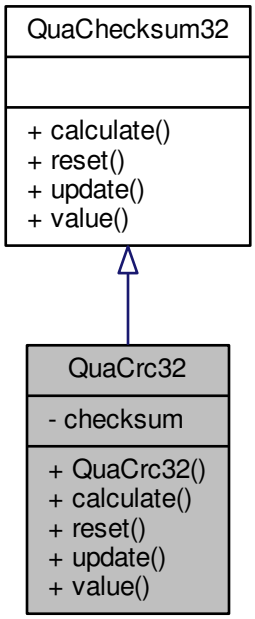
- src/ckb/quazip/quachecksum32.h

12.68 QuaCrc32 Class Reference

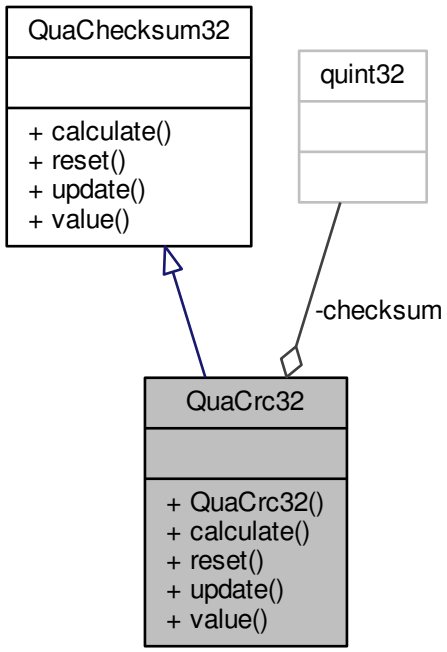
CRC32 checksum.

`#include <quazip/quacrc32.h>`

Inheritance diagram for QuaCrc32:



Collaboration diagram for QuaCrc32:



Public Member Functions

- QuaCrc32 ()
- quint32 calculate (const QByteArray &data)

  Calculates the checksum for data.
- void reset ()

  Resets the calculation on a checksun for a stream.
- void update (const QByteArray &buf)

  Updates the calculated checksum for the stream.
- quint32 value ()

  Value of the checksum calculated for the stream passed throw update().

Private Attributes

- quint32 checksum

12.68.1 Detailed Description

This class wrappers the crc32 function with the QuaChecksum32 interface. See QuaChecksum32 for more info.

Definition at line 35 of file quacrc32.h.

12.68.2 Constructor & Destructor Documentation

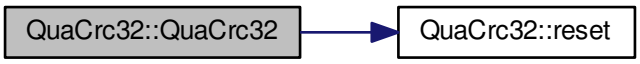
12.68.2.1 QuaCrc32::QuaCrc32 ( )

Definition at line 29 of file quacrc32.cpp.

References reset().

```
30 {
31     reset();
32 }
```

Here is the call graph for this function:



12.68.3 Member Function Documentation

12.68.3.1 quint32 QuaCrc32::calculate (const QByteArray & *data*) [virtual]

data source data

Returns

data checksum

This function has no efect on the value returned by value().

Implements QuaChecksum32.

Definition at line 34 of file quacrc32.cpp.

```
35 {
36     return crc32( crc32(0L, Z_NULL, 0), (const Bytef*)data.data(), data.size() );
37 }
```

12.68.3.2 void QuaCrc32::reset ( ) [virtual]

Implements QuaChecksum32.

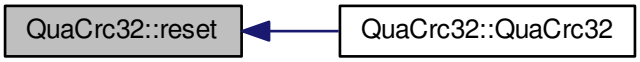
Definition at line 39 of file quacrc32.cpp.

References checksum.

Referenced by QuaCrc32().

```
40 {
41     checksum = crc32(0L, Z_NULL, 0);
42 }
```

Here is the caller graph for this function:



12.68.3.3 void QuaCrc32::update (const QByteArray & *buf*) [virtual]

buf next portion of data from the stream

Implements QuaChecksum32.

Definition at line 44 of file quacrc32.cpp.

References checksum.

```
45 {
46     checksum = crc32( checksum, (const Bytef*)buf.data(), buf.size() );
47 }
```

12.68.3.4 quint32 QuaCrc32::value ( ) [virtual]

Returns

checksum

Implements QuaChecksum32.

Definition at line 49 of file quacrc32.cpp.

References checksum.

```
50 {
51     return checksum;
52 }
```

12.68.4 Field Documentation

12.68.4.1 quint32 QuaCrc32::checksum [private]

Definition at line 47 of file quacrc32.h.

Referenced by reset(), update(), and value().

The documentation for this class was generated from the following files:

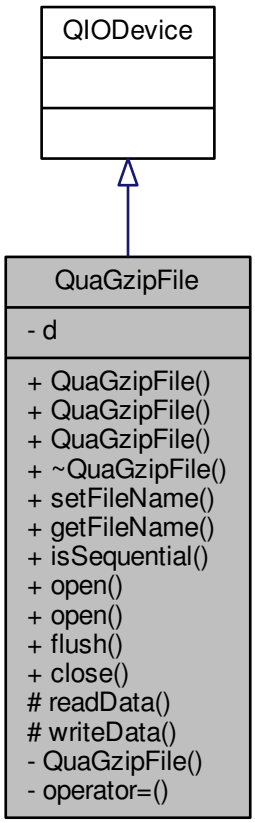
- src/ckb/quazip/quacrc32.h
- src/ckb/quazip/quacrc32.cpp

12.69 QuaGzipFile Class Reference

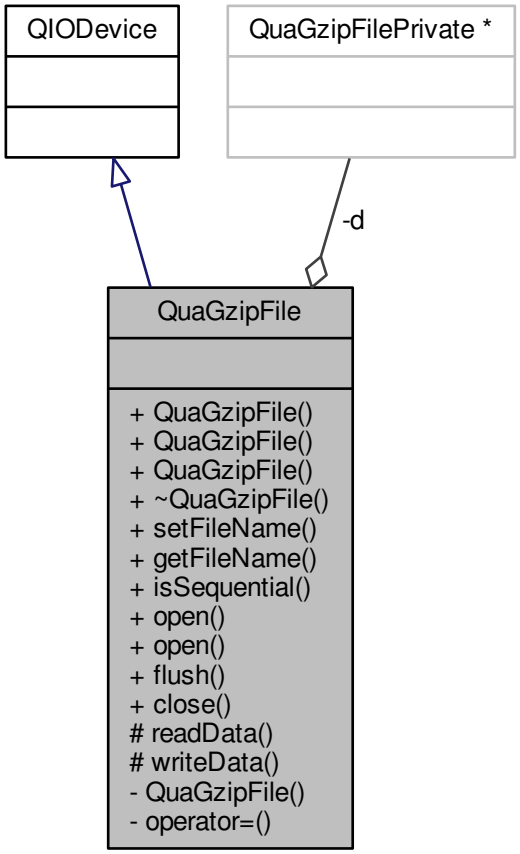
GZIP file.

`#include <src/ckb/quazip/quagzipfile.h>`

Inheritance diagram for QuaGzipFile:



Collaboration diagram for QuaGzipFile:



Public Member Functions

- QuaGzipFile ()

  Empty constructor.
- QuaGzipFile (QObject *parent)

  Empty constructor with a parent.
- QuaGzipFile (const QString &fileName, QObject *parent=NULL)

  Constructor.
- virtual ~QuaGzipFile ()

  Destructor.
- void setFileName (const QString &fileName)

  Sets the name of the GZIP file to be opened.
- QString getFileName () const

  Returns the name of the GZIP file.
- virtual bool isSequential () const

  Returns true.
- virtual bool open (QIODevice::OpenMode mode)

  Opens the file.

- virtual bool open (int fd, QIODevice::OpenMode mode)

  Opens the file.
- virtual bool flush ()

  Flushes data to file.
- virtual void close ()

  Closes the file.

Protected Member Functions

- virtual qint64 readData (char *data, qint64 maxSize)

  Implementation of QIODevice::readData().
- virtual qint64 writeData (const char *data, qint64 maxSize)

  Implementation of QIODevice::writeData().

Private Member Functions

- QuaGzipFile (const QuaGzipFile &that)
- QuaGzipFile & operator= (const QuaGzipFile &that)

Private Attributes

- QuaGzipFilePrivate * d

12.69.1 Detailed Description

This class is a wrapper around GZIP file access functions in zlib. Unlike QuaZip classes, it doesn't allow reading from a GZIP file opened as QIODevice, for example, if your GZIP file is in QBuffer. It only provides QIODevice access to a GZIP file contents, but the GZIP file itself must be identified by its name on disk or by descriptor id.

Definition at line 39 of file quagzipfile.h.

12.69.2 Constructor & Destructor Documentation

12.69.2.1 QuaGzipFile::QuaGzipFile ( )

Must call setFileName() before trying to open.

Definition at line 87 of file quagzipfile.cpp.

```
87                          :
88 d(new QuaGzipFilePrivate())
89 {
90 }
```

12.69.2.2 QuaGzipFile::QuaGzipFile (QObject * *parent*)

Must call setFileName() before trying to open.

Parameters

parent	The parent object, as per QObject logic.

Definition at line 92 of file quagzipfile.cpp.

```
92                                       :
93 QIODevice(parent),
94 d(new QuaGzipFilePrivate())
95 {
96 }
```

12.69.2.3 QuaGzipFile::QuaGzipFile (const QString & *fileName*, QObject * *parent* = NULL)

Parameters

fileName	The name of the GZIP file.
parent	The parent object, as per QObject logic.

Definition at line 98 of file quagzipfile.cpp.

```
98                                                                  :
99   QIODevice(parent),
100 d(new QuaGzipFilePrivate(fileName))
101 {
102 }
```

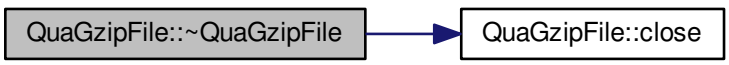
12.69.2.4 QuaGzipFile::~QuaGzipFile ( ) [virtual]

Definition at line 104 of file quagzipfile.cpp.

References close(), and d.

```
105 {
106   if (isOpen()) {
107     close();
108   }
109   delete d;
110 }
```

Here is the call graph for this function:



12.69.2.5 QuaGzipFile::QuaGzipFile (const QuaGzipFile & *that*) [private]

12.69.3 Member Function Documentation

12.69.3.1 void QuaGzipFile::close ( ) [virtual]

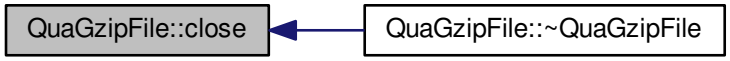
Definition at line 152 of file quagzipfile.cpp.

References d.

Referenced by ~QuaGzipFile().

```
153 {
154   QIODevice::close();
155   gzclose(d->gzd);
156 }
```

Here is the caller graph for this function:



12.69.3.2 bool QuaGzipFile::flush ( ) [virtual]

The data is written using Z_SYNC_FLUSH mode. Doesn't make any sense when reading.

Definition at line 147 of file quagzipfile.cpp.

References d.

```
148 {
149     return gzflush(d->gzd, Z_SYNC_FLUSH) == Z_OK;
150 }
```

12.69.3.3 QString QuaGzipFile::getFileName ( ) const

Definition at line 117 of file quagzipfile.cpp.

References d.

```
118 {
119     return d->fileName;
120 }
```

12.69.3.4 bool QuaGzipFile::isSequential ( ) const [virtual]

Strictly speaking, zlib supports seeking for GZIP files, but it is poorly implemented, because there is no way to implement it properly. For reading, seeking backwards is very slow, and for writing, it is downright impossible. Therefore, QuaGzipFile does not support seeking at all.

Definition at line 122 of file quagzipfile.cpp.

```
123 {
124   return true;
125 }
```

12.69.3.5 bool QuaGzipFile::open (QIODevice::OpenMode *mode*) [virtual]

Parameters

mode	Can be either QIODevice::Write or QIODevice::Read. ReadWrite and Append aren't supported.

Definition at line 127 of file quagzipfile.cpp.

References d.

```
128 {
129     QString error;
130     if (!d->open(d->fileName, mode, error)) {
131         setErrorString(error);
132         return false;
133     }
134     return QIODevice::open(mode);
135 }
```

12.69.3.6 bool QuaGzipFile::open (int *fd*, QIODevice::OpenMode *mode*) [virtual]

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts.

Parameters

fd	The file descriptor to read/write the GZIP file from/to.
mode	Can be either QIODevice::Write or QIODevice::Read. ReadWrite and Append aren't supported.

Definition at line 137 of file quagzipfile.cpp.

References d.

```
138 {
139     QString error;
140     if (!d->open(fd, mode, error)) {
141         setErrorString(error);
142         return false;
143     }
144     return QIODevice::open(mode);
145 }
```

12.69.3.7 QuaGzipFile& QuaGzipFile::operator= (const QuaGzipFile & *that*) [private]

12.69.3.8 qint64 QuaGzipFile::readData (char * *data*, qint64 *maxSize*) [protected], [virtual]

Definition at line 158 of file quagzipfile.cpp.

References d.

```
159 {
160     return gzread(d->gzd, (voidp)data, (unsigned)maxSize);
161 }
```

12.69.3.9 void QuaGzipFile::setFileName (const QString & *fileName*)

Definition at line 112 of file quagzipfile.cpp.

References d.

```
113 {
114     d->fileName = fileName;
115 }
```

12.69.3.10 qint64 QuaGzipFile::writeData (const char * *data*, qint64 *maxSize*) [protected], [virtual]

Definition at line 163 of file quagzipfile.cpp.

References d.

```
164 {
165     if (maxSize == 0)
166         return 0;
167     int written = gzwrite(d->gzd, (voidp)data, (unsigned)maxSize);
168     if (written == 0)
169         return -1;
170     else
171         return written;
172 }
```

12.69.4 Field Documentation

12.69.4.1 QuaGzipFilePrivate* QuaGzipFile::d [private]

Definition at line 105 of file quagzipfile.h.

Referenced by close(), flush(), getFileName(), open(), readData(), setFileName(), writeData(), and ~QuaGzipFile().

The documentation for this class was generated from the following files:

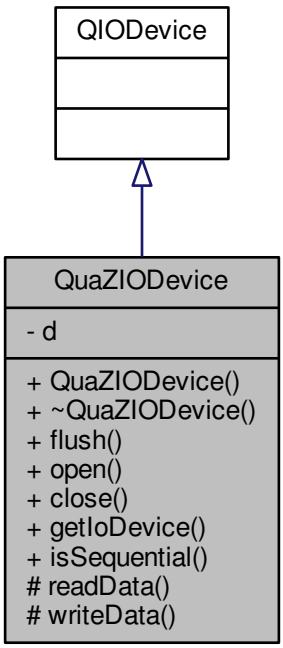
- src/ckb/quazip/quagzipfile.h
- src/ckb/quazip/quagzipfile.cpp

12.70 QuaZIODevice Class Reference

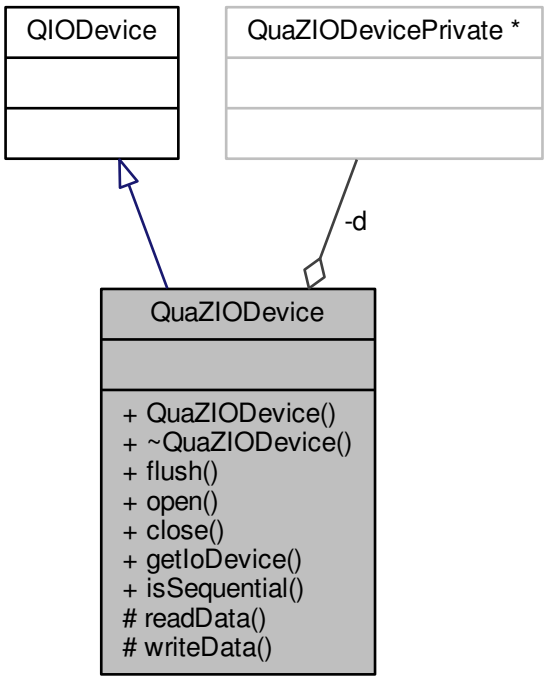
A class to compress/decompress QIODevice.

`#include <src/ckb/quazip/quaziodevice.h>`

Inheritance diagram for QuaZIODevice:



Collaboration diagram for QuaZIODevice:



Public Member Functions

- QuaZIODevice (QIODevice ∗io, QObject ∗parent=NULL)

  Constructor.
- ∼QuaZIODevice ()

  Destructor.
- virtual bool flush ()

  Flushes data waiting to be written.
- virtual bool open (QIODevice::OpenMode mode)

  Opens the device.
- virtual void close ()

  Closes this device, but not the underlying one.
- QIODevice ∗ getIoDevice () const

  Returns the underlying device.
- virtual bool isSequential () const

  Returns true.

Protected Member Functions

- virtual qint64 readData (char ∗data, qint64 maxSize)

  Implementation of QIODevice::readData().
- virtual qint64 writeData (const char ∗data, qint64 maxSize)

  Implementation of QIODevice::writeData().

Private Attributes

- QuaZIODevicePrivate * d

12.70.1 Detailed Description

This class can be used to compress any data written to QIODevice or decompress it back. Compressing data sent over a QTcpSocket is a good example.

Definition at line 41 of file quaziodevice.h.

12.70.2 Constructor & Destructor Documentation

12.70.2.1 QuaZIODevice::QuaZIODevice (QIODevice * *io*, QObject * *parent* = NULL)

Parameters

io	The QIODevice to read/write.
parent	The parent object, as per QObject logic.

Definition at line 123 of file quaziodevice.cpp.

```
123                                                     :
124     QIODevice(parent),
125     d(new QuaZIODevicePrivate(io))
126 {
127   connect(io, SIGNAL(readyRead()), SIGNAL(readyRead()));
128 }
```

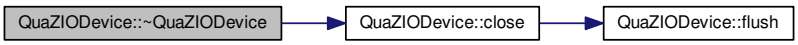
12.70.2.2 QuaZIODevice::~QuaZIODevice ( )

Definition at line 130 of file quaziodevice.cpp.

References close(), and d.

```
131 {
132     if (isOpen())
133         close();
134     delete d;
135 }
```

Here is the call graph for this function:



12.70.3 Member Function Documentation

12.70.3.1 void QuaZIODevice::close ( ) [virtual]

The underlying QIODevice is not closed in case you want to write something else to it.

Definition at line 169 of file quaziodevice.cpp.

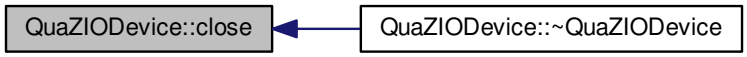
References d, and flush().

Referenced by ~QuaZIODevice().

```
170 {
171     if ((openMode() & QIODevice::ReadOnly) != 0) {
172         if (inflateEnd(&d->zins) != Z_OK) {
173             setErrorString(d->zins.msg);
174         }
175     }
176     if ((openMode() & QIODevice::WriteOnly) != 0) {
177         flush();
178         if (deflateEnd(&d->zouts) != Z_OK) {
179             setErrorString(d->zouts.msg);
180         }
181     }
182     QIODevice::close();
183 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.70.3.2 bool QuaZIODevice::flush ( ) [virtual]

Unfortunately, as QIODevice doesn't support flush() by itself, the only thing this method does is write the compressed data into the device using Z_SYNC_FLUSH mode. If you need the compressed data to actually be flushed from the buffer of the underlying QIODevice, you need to call its flush() method as well, providing it supports it (like QTcpSocket does). Example:

```
QuaZIODevice dev(&sock);
dev.open(QIODevice::Write);
dev.write(yourDataGoesHere);
dev.flush();
sock->flush(); // this actually sends data to network
```

This may change in the future versions of QuaZIP by implementing an ugly hack: trying to cast the QIODevice using qobject_cast to known flush()-supporting subclasses, and calling flush if the resulting pointer is not zero.

Definition at line 281 of file quaziodevice.cpp.

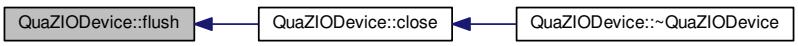
References d, and QUAZIO_OUTBUFSIZE.

Referenced by close().

```
282 {
283     QString error;
284     if (d->doFlush(error) < 0) {
```

```
285         setErrorString(error);
286         return false;
287     }
288     // can't flush buffer, some data is still waiting
289     if (d->outBufPos < d->outBufSize)
290         return true;
291     Bytef c = 0;
292     d->zouts.next_in = &c; // fake input buffer
293     d->zouts.avail_in = 0; // of zero size
294     do {
295         d->zouts.next_out = (Bytef *) d->outBuf;
296         d->zouts.avail_out = QUAZIO_OUTBUFSIZE;
297         switch (deflate(&d->zouts, Z_SYNC_FLUSH)) {
298         case Z_OK:
299           d->outBufSize = (char *) d->zouts.next_out - d->outBuf;
300           if (d->doFlush(error) < 0) {
301               setErrorString(error);
302               return false;
303           }
304           if (d->outBufPos < d->outBufSize)
305               return true;
306           break;
307         case Z_BUF_ERROR: // nothing to write?
308           return true;
309         default:
310           setErrorString(QString::fromLocal8Bit(d->zouts.msg));
311           return false;
312         }
313     } while (d->zouts.avail_out == 0);
314     return true;
315 }
```

Here is the caller graph for this function:



12.70.3.3 QIODevice * QuaZIODevice::getIoDevice ( ) const

Definition at line 137 of file quaziodevice.cpp.

References d.

```
138 {
139     return d->io;
140 }
```

12.70.3.4 bool QuaZIODevice::isSequential ( ) const [virtual]

Definition at line 317 of file quaziodevice.cpp.

```
318 {
319   return true;
320 }
```

12.70.3.5 bool QuaZIODevice::open (QIODevice::OpenMode *mode*) [virtual]

Parameters

mode	Neither QIODevice::ReadWrite nor QIODevice::Append are not supported.

Definition at line 142 of file quaziodevice.cpp.

References d.

```
143 {
144     if ((mode & QIODevice::Append) != 0) {
145         setErrorString(trUtf8("QIODevice::Append is not supported for"
146                     " QuaZIODevice"));
147         return false;
148     }
149     if ((mode & QIODevice::ReadWrite) == QIODevice::ReadWrite) {
150         setErrorString(trUtf8("QIODevice::ReadWrite is not supported for"
151                     " QuaZIODevice"));
152         return false;
153     }
154     if ((mode & QIODevice::ReadOnly) != 0) {
155         if (inflateInit(&d->zins) != Z_OK) {
156             setErrorString(d->zins.msg);
157             return false;
158         }
159     }
160     if ((mode & QIODevice::WriteOnly) != 0) {
161         if (deflateInit(&d->zouts, Z_DEFAULT_COMPRESSION) != Z_OK) {
162             setErrorString(d->zouts.msg);
163             return false;
164         }
165     }
166     return QIODevice::open(mode);
167 }
```

12.70.3.6 qint64 QuaZIODevice::readData (char * *data*, qint64 *maxSize*) [protected], [virtual]

Definition at line 185 of file quaziodevice.cpp.

References d, and QUAZIO_INBUFSIZE.

```
186 {
187   int read = 0;
188   while (read < maxSize) {
189     if (d->inBufPos == d->inBufSize) {
190       d->inBufPos = 0;
191       d->inBufSize = d->io->read(d->inBuf, QUAZIO_INBUFSIZE);
192       if (d->inBufSize == -1) {
193         d->inBufSize = 0;
194         setErrorString(d->io->errorString());
195         return -1;
196       }
197       if (d->inBufSize == 0)
198         break;
199     }
200     while (read < maxSize && d->inBufPos < d->inBufSize) {
201       d->zins.next_in = (Bytef *) (d->inBuf + d->inBufPos);
202       d->zins.avail_in = d->inBufSize - d->inBufPos;
203       d->zins.next_out = (Bytef *) (data + read);
204       d->zins.avail_out = (uInt) (maxSize - read); // hope it's less than 2GB
205       int more = 0;
206       switch (inflate(&d->zins, Z_SYNC_FLUSH)) {
207       case Z_OK:
208         read = (char *) d->zins.next_out - data;
209         d->inBufPos = (char *) d->zins.next_in - d->inBuf;
210         break;
211       case Z_STREAM_END:
212         read = (char *) d->zins.next_out - data;
213         d->inBufPos = (char *) d->zins.next_in - d->inBuf;
214         return read;
215       case Z_BUF_ERROR: // this should never happen, but just in case
216         if (!d->zBufError) {
217           qWarning("Z_BUF_ERROR detected with %d/%d in/out, weird",
218               d->zins.avail_in, d->zins.avail_out);
219           d->zBufError = true;
220         }
221         memmove(d->inBuf, d->inBuf + d->inBufPos, d->inBufSize - d->inBufPos);
222         d->inBufSize -= d->inBufPos;
223         d->inBufPos = 0;
224         more = d->io->read(d->inBuf + d->inBufSize, QUAZIO_INBUFSIZE -
      d->inBufSize);
```

```
225         if (more == -1) {
226           setErrorString(d->io->errorString());
227           return -1;
228         }
229         if (more == 0)
230           return read;
231         d->inBufSize += more;
232         break;
233       default:
234         setErrorString(QString::fromLocal8Bit(d->zins.msg));
235         return -1;
236       }
237     }
238   }
239 #ifdef QUAZIP_ZIODEVICE_DEBUG_INPUT
240   indebug.write(data, read);
241 #endif
242   return read;
243 }
```

12.70.3.7 qint64 QuaZIODevice::writeData (const char * *data*, qint64 *maxSize*) [protected], [virtual]

Definition at line 245 of file quaziodevice.cpp.

References d, and QUAZIO_OUTBUFSIZE.

```
246 {
247   int written = 0;
248   QString error;
249   if (d->doFlush(error) == -1) {
250     setErrorString(error);
251     return -1;
252   }
253   while (written < maxSize) {
254       // there is some data waiting in the output buffer
255     if (d->outBufPos < d->outBufSize)
256       return written;
257     d->zouts.next_in = (Bytef *) (data + written);
258     d->zouts.avail_in = (uInt) (maxSize - written); // hope it's less than 2GB
259     d->zouts.next_out = (Bytef *) d->outBuf;
260     d->zouts.avail_out = QUAZIO_OUTBUFSIZE;
261     switch (deflate(&d->zouts, Z_NO_FLUSH)) {
262     case Z_OK:
263       written = (char *) d->zouts.next_in - data;
264       d->outBufSize = (char *) d->zouts.next_out - d->outBuf;
265       break;
266     default:
267       setErrorString(QString::fromLocal8Bit(d->zouts.msg));
268       return -1;
269     }
270     if (d->doFlush(error) == -1) {
271       setErrorString(error);
272       return -1;
273     }
274   }
275 #ifdef QUAZIP_ZIODEVICE_DEBUG_OUTPUT
276   debug.write(data, written);
277 #endif
278   return written;
279 }
```

12.70.4 Field Documentation

12.70.4.1 QuaZIODevicePrivate* QuaZIODevice::d [private]

Definition at line 96 of file quaziodevice.h.

Referenced by close(), flush(), getIoDevice(), open(), readData(), writeData(), and ~QuaZIODevice().

The documentation for this class was generated from the following files:

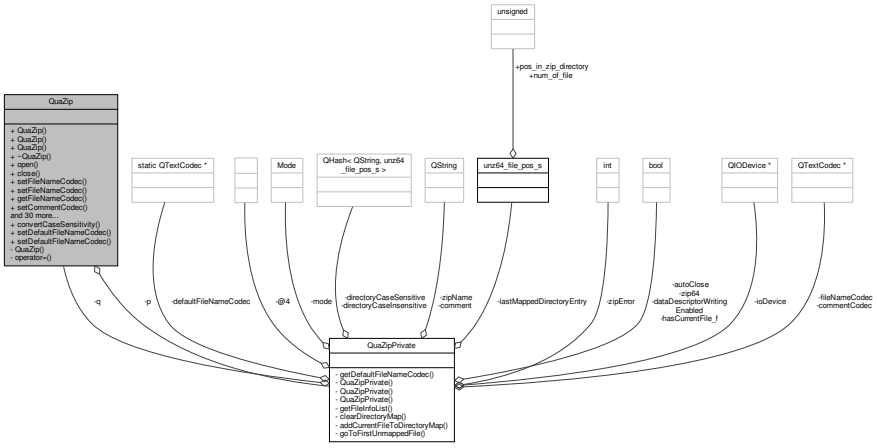
- src/ckb/quazip/quaziodevice.h
- src/ckb/quazip/quaziodevice.cpp

12.71 QuaZip Class Reference

ZIP archive.

`#include <quazip/quazip.h>`

Collaboration diagram for QuaZip:



Public Types

- enum Constants { MAX_FILE_NAME_LENGTH =256 }

  Useful constants.
- enum Mode {
  mdNotOpen, mdUnzip, mdCreate, mdAppend,
  mdAdd }

  Open mode of the ZIP file.
- enum CaseSensitivity { csDefault =0, csSensitive =1, csInsensitive =2 }

  Case sensitivity for the file names.

Public Member Functions

- QuaZip ()

  Constructs QuaZip object.
- QuaZip (const QString &zipName)

  Constructs QuaZip object associated with ZIP file zipName.
- QuaZip (QIODevice *ioDevice)

  Constructs QuaZip object associated with ZIP file represented by ioDevice.
- ~QuaZip ()

  Destroys QuaZip object.
- bool open (Mode mode, zlib_filefunc_def *ioApi=NULL)

  Opens ZIP file.
- void close ()

  Closes ZIP file.
- void setFileNameCodec (QTextCodec *fileNameCodec)

  Sets the codec used to encode/decode file names inside archive.
- void setFileNameCodec (const char *fileNameCodecName)

Sets the codec used to encode/decode file names inside archive.

- QTextCodec * getFileNameCodec () const

  Returns the codec used to encode/decode comments inside archive.
- void setCommentCodec (QTextCodec *commentCodec)

  Sets the codec used to encode/decode comments inside archive.
- void setCommentCodec (const char *commentCodecName)

  Sets the codec used to encode/decode comments inside archive.
- QTextCodec * getCommentCodec () const

  Returns the codec used to encode/decode comments inside archive.
- QString getZipName () const

  Returns the name of the ZIP file.
- void setZipName (const QString &zipName)

  Sets the name of the ZIP file.
- QIODevice * getIoDevice () const

  Returns the device representing this ZIP file.
- void setIoDevice (QIODevice *ioDevice)

  Sets the device representing the ZIP file.
- Mode getMode () const

  Returns the mode in which ZIP file was opened.
- bool isOpen () const

  Returns `true` if ZIP file is open, `false` otherwise.
- int getZipError () const

  Returns the error code of the last operation.
- int getEntriesCount () const

  Returns number of the entries in the ZIP central directory.
- QString getComment () const

  Returns global comment in the ZIP file.
- void setComment (const QString &comment)

  Sets the global comment in the ZIP file.
- bool goToFirstFile ()

  Sets the current file to the first file in the archive.
- bool goToNextFile ()

  Sets the current file to the next file in the archive.
- bool setCurrentFile (const QString &fileName, CaseSensitivity cs=csDefault)

  Sets current file by its name.
- bool hasCurrentFile () const

  Returns `true` if the current file has been set.
- bool getCurrentFileInfo (QuaZipFileInfo *info) const

  Retrieves information about the current file.
- bool getCurrentFileInfo (QuaZipFileInfo64 *info) const

  Retrieves information about the current file.
- QString getCurrentFileName () const

  Returns the current file name.
- unzFile getUnzFile ()

  Returns `unzFile` handle.
- zipFile getZipFile ()

  Returns `zipFile` handle.
- void setDataDescriptorWritingEnabled (bool enabled)

  Changes the data descriptor writing mode.
- bool isDataDescriptorWritingEnabled () const

  Returns the data descriptor default writing mode.

- QStringList getFileNameList () const

  Returns a list of files inside the archive.
- QList< QuaZipFileInfo > getFileInfoList () const

  Returns information list about all files inside the archive.
- QList< QuaZipFileInfo64 > getFileInfoList64 () const

  Returns information list about all files inside the archive.
- void setZip64Enabled (bool zip64)

  Enables the zip64 mode.
- bool isZip64Enabled () const

  Returns whether the zip64 mode is enabled.
- bool isAutoClose () const

  Returns the auto-close flag.
- void setAutoClose (bool autoClose) const

  Sets or unsets the auto-close flag.

Static Public Member Functions

- static Qt::CaseSensitivity convertCaseSensitivity (CaseSensitivity cs)

  Returns the actual case sensitivity for the specified QuaZIP one.
- static void setDefaultFileNameCodec (QTextCodec *codec)

  Sets the default file name codec to use.
- static void setDefaultFileNameCodec (const char *codecName)

  This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts. Equivalent to calling setDefltFileNameCodec(QTextCodec::codecForName(codecName)).

Private Member Functions

- QuaZip (const QuaZip &that)
- QuaZip & operator= (const QuaZip &that)

Private Attributes

- QuaZipPrivate * p

Friends

- class QuaZipPrivate

12.71.1 Detailed Description

This class implements basic interface to the ZIP archive. It can be used to read table contents of the ZIP archive and retreiving information about the files inside it.

You can also use this class to open files inside archive by passing pointer to the instance of this class to the constructor of the QuaZipFile class. But see QuaZipFile::QuaZipFile(QuaZip*, QObject*) for the possible pitfalls.

This class is indended to provide interface to the ZIP subpackage of the ZIP/UNZIP package as well as to the UNZIP subpackage. But currently it supports only UNZIP.

The use of this class is simple - just create instance using constructor, then set ZIP archive file name using setFile() function (if you did not passed the name to the constructor), then open() and then use different functions to work with it! Well, if you are paranoid, you may also wish to call close before destructing the instance, to check for errors on close.

You may also use getUnzFile() and getZipFile() functions to get the ZIP archive handle and use it with ZIP/UNZIP package API directly.

This class supports localized file names inside ZIP archive, but you have to set up proper codec with setCodec() function. By default, locale codec will be used, which is probably ok for UNIX systems, but will almost certainly fail with ZIP archives created in Windows. This is because Windows ZIP programs have strange habit of using DOS encoding for file names in ZIP archives. For example, ZIP archive with cyrillic names created in Windows will have file names in `IBM866` encoding instead of `WINDOWS-1251`. I think that calling one function is not much trouble, but for true platform independency it would be nice to have some mechanism for file name encoding auto detection using locale information. Does anyone know a good way to do it?

Definition at line 84 of file quazip.h.

12.71.2 Member Enumeration Documentation

12.71.2.1 enum QuaZip::CaseSensitivity

This is what you specify when accessing files in the archive. Works perfectly fine with any characters thanks to Qt's great unicode support. This is different from ZIP/UNZIP API, where only US-ASCII characters was supported.

Enumerator

csDefault Default for platform. Case sensitive for UNIX, not for Windows.

csSensitive Case sensitive.

csInsensitive Case insensitive.

Definition at line 114 of file quazip.h.

```
114                         {
115       csDefault=0,
116       csSensitive=1,
117       csInsensitive=2
118     };
```

12.71.2.2 enum QuaZip::Constants

Enumerator

MAX_FILE_NAME_LENGTH Maximum file name length. Taken from `UNZ_MAXFILENAMEINZIP` constant in unzip.c.

Definition at line 88 of file quazip.h.

```
88                  {
89       MAX_FILE_NAME_LENGTH=256
92     };
```

12.71.2.3 enum QuaZip::Mode

Enumerator

mdNotOpen ZIP file is not open. This is the initial mode.

mdUnzip ZIP file is open for reading files inside it.

mdCreate ZIP file was created with open() call.

mdAppend ZIP file was opened in append mode. This refers to `APPEND_STATUS_CREATEAFTER` mode in ZIP/UNZIP package and means that zip is appended to some existing file what is useful when that file contains self-extractor code. This is obviously *not* what you whant to use to add files to the existing ZIP archive.

mdAdd ZIP file was opened for adding files in the archive.

Definition at line 94 of file quazip.h.

```
94              {
95       mdNotOpen,
96       mdUnzip,
97       mdCreate,
98       mdAppend,
106       mdAdd
107     };
```

12.71.3 Constructor & Destructor Documentation

12.71.3.1 QuaZip::QuaZip (const QuaZip & *that*) [private]

12.71.3.2 QuaZip::QuaZip ( )

Call setName() before opening constructed object.

Definition at line 193 of file quazip.cpp.

```
193              :
194   p(new QuaZipPrivate(this))
195 {
196 }
```

12.71.3.3 QuaZip::QuaZip (const QString & *zipName*)

Definition at line 198 of file quazip.cpp.

```
198                                    :
199   p(new QuaZipPrivate(this, zipName))
200 {
201 }
```

12.71.3.4 QuaZip::QuaZip (QIODevice * *ioDevice*)

The IO device must be seekable, otherwise an error will occur when opening.

Definition at line 203 of file quazip.cpp.

```
203                                  :
204   p(new QuaZipPrivate(this, ioDevice))
205 {
206 }
```

12.71.3.5 QuaZip::~QuaZip ( )

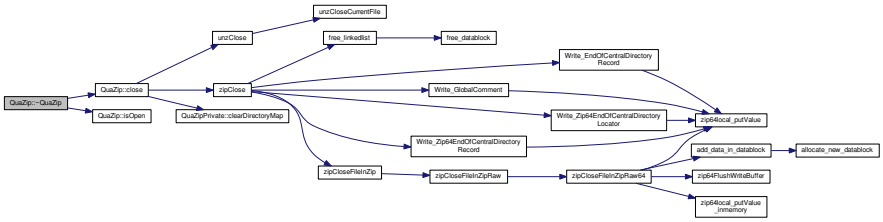
Calls close() if necessary.

Definition at line 208 of file quazip.cpp.

References close(), isOpen(), and p.

```
209 {
210   if(isOpen())
211     close();
212   delete p;
213 }
```

Here is the call graph for this function:



12.71.4 Member Function Documentation

12.71.4.1 void QuaZip::close ( )

Call getZipError() to determine if the close was successful.

If the file was opened by name, then the underlying QIODevice is closed and deleted.

If the underlying QIODevice was set explicitly using setIoDevice() or the appropriate constructor, then it is closed if the auto-close flag is set (which it is by default). Call setAutoClose() to clear the auto-close flag if this behavior is undesirable.

Since Qt 5.1, the QSaveFile was introduced. It breaks the QIODevice API by making close() private and crashing the application if it is called from the base class where it is public. It is an excellent example of poor design that illustrates why you should never ever break an is-a relationship between the base class and a subclass. QuaZIP works around this bug by checking if the QIODevice is an instance of QSaveFile, using qobject_cast<>, and if it is, calls QSaveFile::commit() instead of close(). It is a really ugly hack, but at least it makes your programs work instead of crashing. Note that if the auto-close flag is cleared, then this is a non-issue, and commit() isn't called.

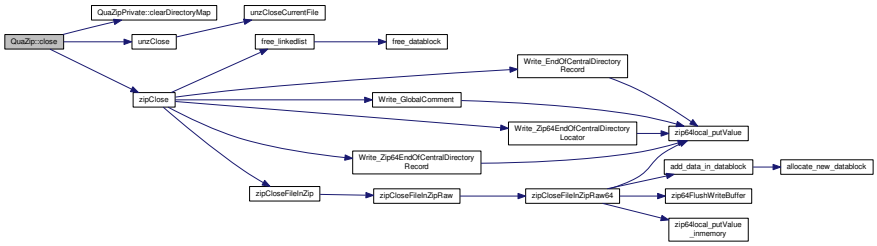
Definition at line 324 of file quazip.cpp.

References QuaZipPrivate::clearDirectoryMap(), QuaZipPrivate::comment, QuaZipPrivate::commentCodec, QuaZipPrivate::ioDevice, mdAdd, mdAppend, mdCreate, mdNotOpen, mdUnzip, QuaZipPrivate::mode, p, UNZ_OK, unzClose(), zipClose(), QuaZipPrivate::zipError, and QuaZipPrivate::zipName.

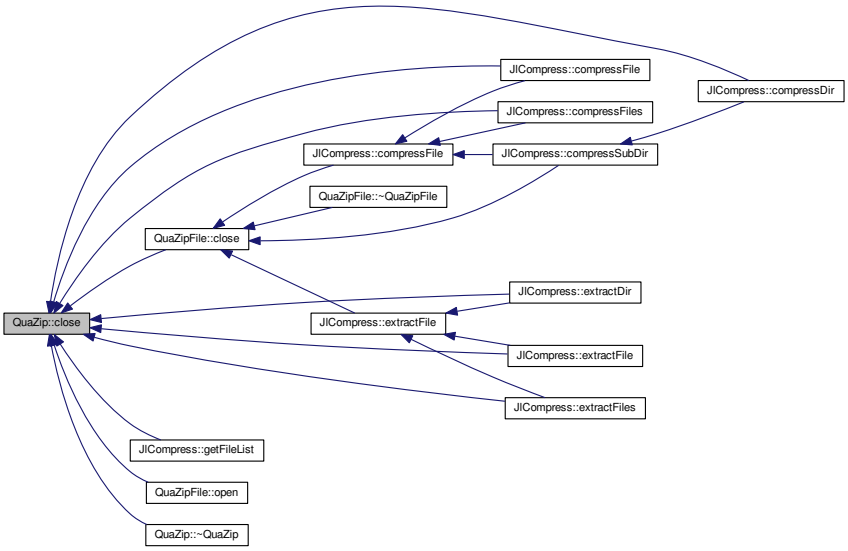
Referenced by QuaZipFile::close(), JlCompress::compressDir(), JlCompress::compressFile(), JlCompress::compressFiles(), JlCompress::extractDir(), JlCompress::extractFile(), JlCompress::extractFiles(), JlCompress::getFileList(), QuaZipFile::open(), and ~QuaZip().

```
325 {
326   p->zipError=UNZ_OK;
327   switch(p->mode) {
328     case mdNotOpen:
329       qWarning("QuaZip::close(): ZIP is not open");
330       return;
331     case mdUnzip:
332       p->zipError=unzClose(p->unzFile_f);
333       break;
334     case mdCreate:
335     case mdAppend:
336     case mdAdd:
337       p->zipError=zipClose(p->zipFile_f,
338           p->comment.isNull() ? NULL
339           : p->commentCodec->fromUnicode(p->comment).constData());
340       break;
341     default:
342       qWarning("QuaZip::close(): unknown mode: %d", (int)p->mode);
343       return;
344   }
345   // opened by name, need to delete the internal IO device
346   if (!p->zipName.isEmpty()) {
347       delete p->ioDevice;
348       p->ioDevice = NULL;
349   }
350   p->clearDirectoryMap();
351   if(p->zipError==UNZ_OK)
352     p->mode=mdNotOpen;
353 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.71.4.2 Qt::CaseSensitivity QuaZip::convertCaseSensitivity (QuaZip::CaseSensitivity *cs*) [static]

Parameters

cs	The value to convert.

Returns

If CaseSensitivity::csDefault, then returns the default file name case sensitivity for the platform. Otherwise, just returns the appropriate value from the Qt::CaseSensitivity enum.

Definition at line 747 of file quazip.cpp.

References csDefault, and csSensitive.

Referenced by QuaZipDir::exists(), and setCurrentFile().

```
748 {
749   if (cs == csDefault) {
750 #ifdef Q_WS_WIN
751       return Qt::CaseInsensitive;
752 #else
```

```
753         return Qt::CaseSensitive;
754 #endif
755     } else {
756         return cs == csSensitive ? Qt::CaseSensitive : Qt::CaseInsensitive;
757     }
758 }
```

Here is the caller graph for this function:

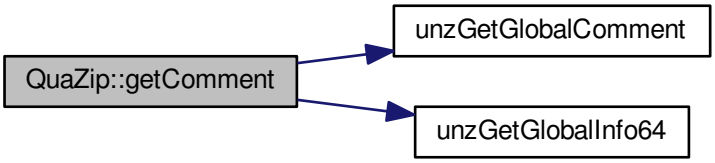
12.71.4.3 QString QuaZip::getComment ( ) const

Definition at line 389 of file quazip.cpp.

References QuaZipPrivate::commentCodec, mdUnzip, QuaZipPrivate::mode, p, unz_global_info64_s::size_comment, UNZ_OK, unzGetGlobalComment(), unzGetGlobalInfo64(), and QuaZipPrivate::zipError.

```
390 {
391   QuaZip *fakeThis=(QuaZip*)this; // non-const
392   fakeThis->p->zipError=UNZ_OK;
393   if(p->mode!=mdUnzip) {
394     qWarning("QuaZip::getComment(): ZIP is not open in mdUnzip mode");
395     return QString();
396   }
397   unz_global_info64 globalInfo;
398   QByteArray comment;
399   if((fakeThis->p->zipError=unzGetGlobalInfo64(p->unzFile_f, &globalInfo))!=
      UNZ_OK)
400     return QString();
401   comment.resize(globalInfo.size_comment);
402   if((fakeThis->p->zipError=unzGetGlobalComment(p->unzFile_f, comment.data(),
      comment.size())) < 0)
403     return QString();
404   fakeThis->p->zipError = UNZ_OK;
405   return p->commentCodec->toUnicode(comment);
406 }
```

Here is the call graph for this function:



12.71.4.4 QTextCodec * QuaZip::getCommentCodec ( ) const

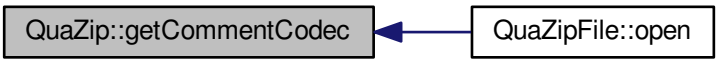
Definition at line 597 of file quazip.cpp.

References QuaZipPrivate::commentCodec, and p.

Referenced by QuaZipFile::open().

```
598 {
599   return p->commentCodec;
600 }
```

Here is the caller graph for this function:



12.71.4.5 bool QuaZip::getCurrentFileInfo (QuaZipFileInfo * *info*) const

Fills the structure pointed by *info*. Returns `true` on success, `false` otherwise. In the latter case structure pointed by *info* remains untouched. If there was an error, getZipError() returns error code.

Should be used only in QuaZip::mdUnzip mode.

Does nothing and returns `false` in any of the following cases.

- ZIP is not open;
- ZIP does not have current file.

In both cases getZipError() returns `UNZ_OK` since there is no ZIP/UNZIP API call.

This overload doesn't support zip64, but will work OK on zip64 archives except that if one of the sizes (compressed or uncompressed) is greater than 0xFFFFFFFFu, it will be set to exactly 0xFFFFFFFFu.

See Also

getCurrentFileInfo(QuaZipFileInfo64* info)const
QuaZipFileInfo64::toQuaZipFileInfo(QuaZipFileInfo&)const

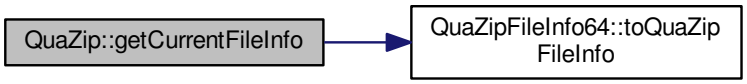
Definition at line 492 of file quazip.cpp.

References QuaZipFileInfo64::toQuaZipFileInfo().

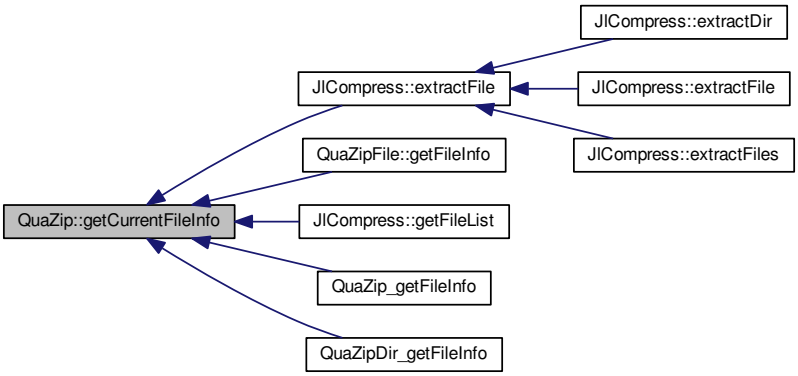
Referenced by JlCompress::extractFile(), QuaZipFile::getFileInfo(), JlCompress::getFileList(), QuaZip_getFileInfo(), and QuaZipDir_getFileInfo().

```
493 {
494     QuaZipFileInfo64 info64;
495     if (info == NULL) { // Very unlikely because of the overloads
496         return false;
497     }
498     if (getCurrentFileInfo(&info64)) {
499         info64.toQuaZipFileInfo(*info);
500         return true;
501     } else {
502         return false;
503     }
504 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.71.4.6 bool QuaZip::getCurrentFileInfo (QuaZipFileInfo64 * *info*) const

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts.

This function supports zip64. If the archive doesn't use zip64, it is completely equivalent to getCurrentFileInfo(QuaZipFileInfo* info) except for the argument type.

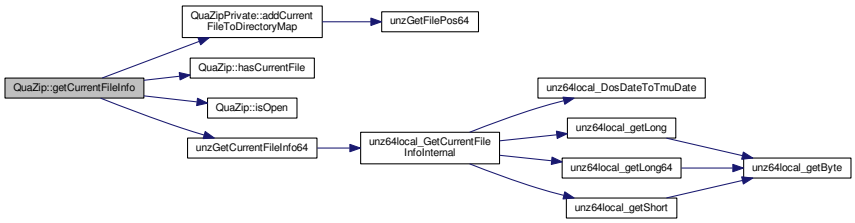
See Also

Definition at line 506 of file quazip.cpp.

References QuaZipPrivate::addCurrentFileToDirectoryMap(), QuaZipFileInfo64::comment, QuaZipPrivate::commentCodec, unz_file_info64_s::compressed_size, QuaZipFileInfo64::compressedSize, unz_file_info64_s::compression_method, QuaZipFileInfo64::crc, unz_file_info64_s::crc, QuaZipFileInfo64::dateTime, unz_file_info64_s::disk_num_start, QuaZipFileInfo64::diskNumberStart, unz_file_info64_s::external_fa, QuaZipFileInfo64::externalAttr, QuaZipFileInfo64::extra, QuaZipPrivate::fileNameCodec, unz_file_info64_s::flag, QuaZipFileInfo64::flags, hasCurrentFile(), unz_file_info64_s::internal_fa, QuaZipFileInfo64::internalAttr, isOpen(), mdUnzip, QuaZipFileInfo64::method, QuaZipPrivate::mode, QuaZipFileInfo64::name, p, unz_file_info64_s::size_file_comment, unz_file_info64_s::size_file_extra, unz_file_info64_s::size_filename, tm_unz_s::tm_hour, tm_unz_s::tm_mday, tm_unz_s::tm_min, tm_unz_s::tm_mon, tm_unz_s::tm_sec, tm_unz_s::tm_year, unz_file_info64_s::tmu_date, unz_file_info64_s::uncompressed_size, QuaZipFileInfo64::uncompressedSize, UNZ_OK, unzGetCurrentFileInfo64(), unz_file_info64_s::version, unz_file_info64_s::version_needed, QuaZipFileInfo64::versionCreated, QuaZipFileInfo64::versionNeeded, and QuaZipPrivate::zipError.

```
507 {
508   QuaZip *fakeThis=(QuaZip*)this; // non-const
509   fakeThis->p->zipError=UNZ_OK;
510   if(p->mode!=mdUnzip) {
511     qWarning("QuaZip::getCurrentFileInfo(): ZIP is not open in mdUnzip mode");
512     return false;
513   }
514   unz_file_info64 info_z;
515   QByteArray fileName;
516   QByteArray extra;
517   QByteArray comment;
518   if(info==NULL) return false;
519   if(!isOpen()||!hasCurrentFile()) return false;
520   if((fakeThis->p->zipError=unzGetCurrentFileInfo64(
      p->unzFile_f, &info_z, NULL, 0, NULL, 0, NULL, 0))!=UNZ_OK)
521     return false;
522   fileName.resize(info_z.size_filename);
523   extra.resize(info_z.size_file_extra);
524   comment.resize(info_z.size_file_comment);
525   if((fakeThis->p->zipError=unzGetCurrentFileInfo64(
      p->unzFile_f, NULL,
526       fileName.data(), fileName.size(),
527       extra.data(), extra.size(),
528       comment.data(), comment.size()))!=UNZ_OK)
529     return false;
530   info->versionCreated=info_z.version;
531   info->versionNeeded=info_z.version_needed;
532   info->flags=info_z.flag;
533   info->method=info_z.compression_method;
534   info->crc=info_z.crc;
535   info->compressedSize=info_z.compressed_size;
536   info->uncompressedSize=info_z.uncompressed_size;
537   info->diskNumberStart=info_z.disk_num_start;
538   info->internalAttr=info_z.internal_fa;
539   info->externalAttr=info_z.external_fa;
540   info->name=p->fileNameCodec->toUnicode(fileName);
541   info->comment=p->commentCodec->toUnicode(comment);
542   info->extra=extra;
543   info->dateTime=QDateTime(
544       QDate(info_z.tmu_date.tm_year, info_z.tmu_date.
      tm_mon+1, info_z.tmu_date.tm_mday),
545       QTime(info_z.tmu_date.tm_hour, info_z.tmu_date.
      tm_min, info_z.tmu_date.tm_sec));
546   // Add to directory map
547   p->addCurrentFileToDirectoryMap(info->name);
548   return true;
549 }
```

Here is the call graph for this function:



12.71.4.7 QString QuaZip::getCurrentFileName ( ) const

Equivalent to calling getCurrentFileInfo() and then getting `name` field of the QuaZipFileInfo structure, but faster and more convenient.

Should be used only in QuaZip::mdUnzip mode.

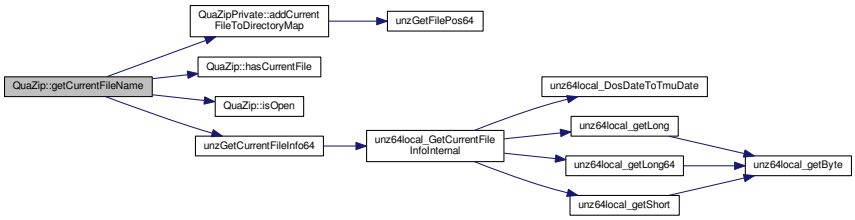
Definition at line 551 of file quazip.cpp.

References QuaZipPrivate::addCurrentFileToDirectoryMap(), QuaZipPrivate::fileNameCodec, hasCurrentFile(), isOpen(), MAX_FILE_NAME_LENGTH, mdUnzip, QuaZipPrivate::mode, p, UNZ_OK, unzGetCurrentFileInfo64(), and QuaZipPrivate::zipError.

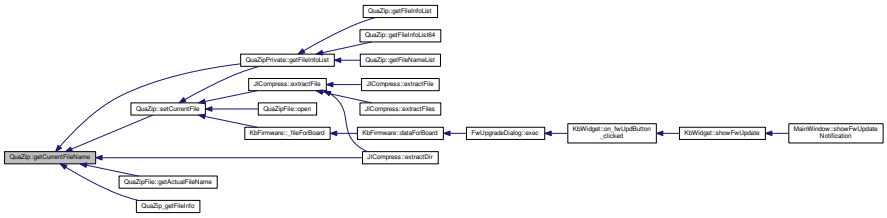
Referenced by JlCompress::extractDir(), QuaZipFile::getActualFileName(), QuaZipPrivate::getFileInfoList(), QuaZip_getFileInfo(), and setCurrentFile().

```
552 {
553   QuaZip *fakeThis=(QuaZip*)this; // non-const
554   fakeThis->p->zipError=UNZ_OK;
555   if(p->mode!=mdUnzip) {
556     qWarning("QuaZip::getCurrentFileName(): ZIP is not open in mdUnzip mode");
557     return QString();
558   }
559   if(!isOpen()||!hasCurrentFile()) return QString();
560   QByteArray fileName(MAX_FILE_NAME_LENGTH, 0);
561   if((fakeThis->p->zipError=unzGetCurrentFileInfo64(
      p->unzFile_f, NULL, fileName.data(), fileName.size(),
562       NULL, 0, NULL, 0))!=UNZ_OK)
563     return QString();
564   QString result = p->fileNameCodec->toUnicode(fileName.constData());
565   if (result.isEmpty())
566       return result;
567   // Add to directory map
568   p->addCurrentFileToDirectoryMap(result);
569   return result;
570 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.71.4.8 int QuaZip::getEntriesCount ( ) const

Returns negative error code in the case of error. The same error code will be returned by subsequent getZipError() call.

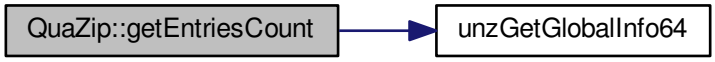
Definition at line 375 of file quazip.cpp.

References mdUnzip, QuaZipPrivate::mode, unz_global_info64_s::number_entry, p, UNZ_OK, unzGetGlobalInfo64(), and QuaZipPrivate::zipError.

```
376 {
377   QuaZip *fakeThis=(QuaZip*)this; // non-const
378   fakeThis->p->zipError=UNZ_OK;
379   if(p->mode!=mdUnzip) {
380     qWarning("QuaZip::getEntriesCount(): ZIP is not open in mdUnzip mode");
381     return -1;
```

```
382   }
383   unz_global_info64 globalInfo;
384   if((fakeThis->p->zipError=unzGetGlobalInfo64(p->unzFile_f, &globalInfo))!=
      UNZ_OK)
385     return p->zipError;
386   return (int)globalInfo.number_entry;
387 }
```

Here is the call graph for this function:



12.71.4.9 QList< QuaZipFileInfo > QuaZip::getFileInfoList ( ) const

Returns

A list of QuaZipFileInfo objects or an empty list if there was an error or if the archive is empty (call getZipError() to figure out which).

This function doesn't support zip64, but will still work with zip64 archives, converting results using QuaZipFileInfo64-::toQuaZipFileInfo(). If all file sizes are below 4 GB, it will work just fine.

See Also

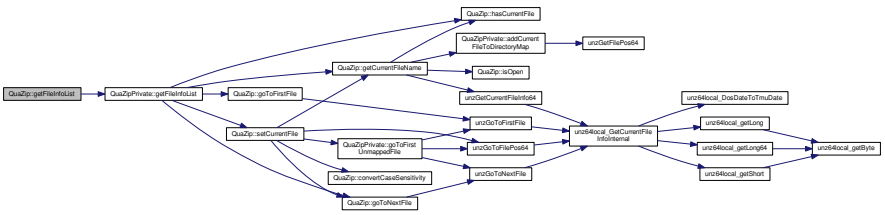
getFileNameList()
getFileInfoList64()

Definition at line 729 of file quazip.cpp.

References QuaZipPrivate::getFileInfoList(), and p.

```
730 {
731     QList<QuaZipFileInfo> list;
732     if (p->getFileInfoList(&list))
733         return list;
734     else
735         return QList<QuaZipFileInfo>();
736 }
```

Here is the call graph for this function:



12.71.4.10 QList< QuaZipFileInfo64 > QuaZip::getFileInfoList64 ( ) const

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts.

This function supports zip64.

See Also

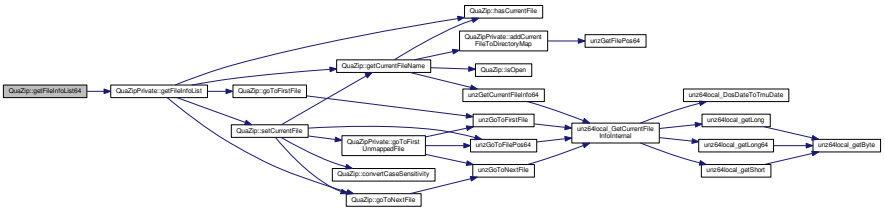
getFileNameList()
getFileInfoList()

Definition at line 738 of file quazip.cpp.

References QuaZipPrivate::getFileInfoList(), and p.

```
739 {
740     QList<QuaZipFileInfo64> list;
741     if (p->getFileInfoList(&list))
742         return list;
743     else
744         return QList<QuaZipFileInfo64>();
745 }
```

Here is the call graph for this function:



12.71.4.11 QTextCodec * QuaZip::getFileNameCodec ( ) const

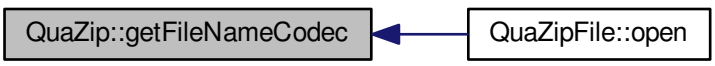
Definition at line 582 of file quazip.cpp.

References QuaZipPrivate::fileNameCodec, and p.

Referenced by QuaZipFile::open().

```
583 {
584   return p->fileNameCodec;
585 }
```

Here is the caller graph for this function:



12.71.4.12 QStringList QuaZip::getFileNameList ( ) const

Returns

A list of file names or an empty list if there was an error or if the archive is empty (call getZipError() to figure out which).

See Also

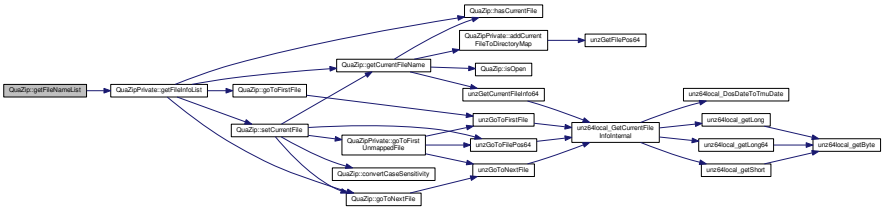
getFileInfoList()

Definition at line 720 of file quazip.cpp.

References QuaZipPrivate::getFileInfoList(), and p.

```
721 {
722     QStringList list;
723     if (p->getFileInfoList(&list))
724         return list;
725     else
726         return QStringList();
727 }
```

Here is the call graph for this function:



12.71.4.13 QIODevice * QuaZip::getIoDevice ( ) const

Returns null string if no device has been set explicitly, for example when opening a ZIP file by name.

See Also

setIoDevice(), getZipName(), setZipName()

Definition at line 607 of file quazip.cpp.

References QuaZipPrivate::ioDevice, p, and QuaZipPrivate::zipName.

```
608 {
609   if (!p->zipName.isEmpty()) // opened by name, using an internal QIODevice
610     return NULL;
611   return p->ioDevice;
612 }
```

12.71.4.14 QuaZip::Mode QuaZip::getMode ( ) const

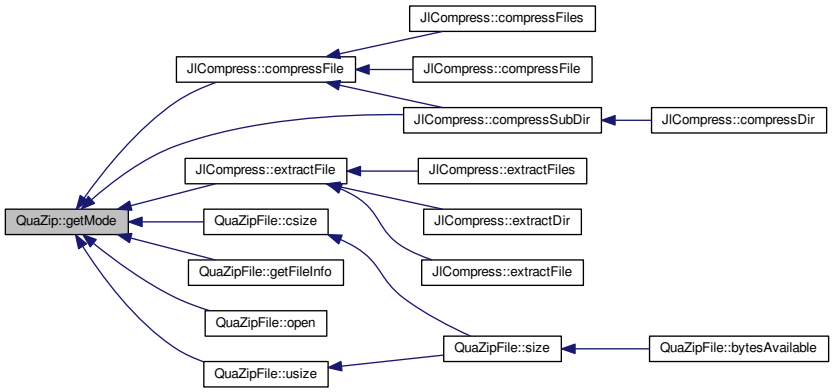
Definition at line 614 of file quazip.cpp.

References QuaZipPrivate::mode, and p.

Referenced by JlCompress::compressFile(), JlCompress::compressSubDir(), QuaZipFile::csize(), JlCompress::extractFile(), QuaZipFile::getFileInfo(), QuaZipFile::open(), and QuaZipFile::usize().

```
615 {
616   return p->mode;
617 }
```

Here is the caller graph for this function:



12.71.4.15 unzFile QuaZip::getUnzFile ( )

You can use this handle to directly call UNZIP part of the ZIP/UNZIP package functions (see unzip.h).

Warning

When using the handle returned by this function, please keep in mind that QuaZip class is unable to detect any changes you make in the ZIP file state (e. g. changing current file, or closing the handle). So please do not do anything with this handle that is possible to do with the functions of this class. Or at least return the handle in the original state before calling some another function of this class (including implicit destructor calls and calls from the QuaZipFile objects that refer to this QuaZip instance!). So if you have changed the current file in the ZIP archive - then change it back or you may experience some strange behavior or even crashes.

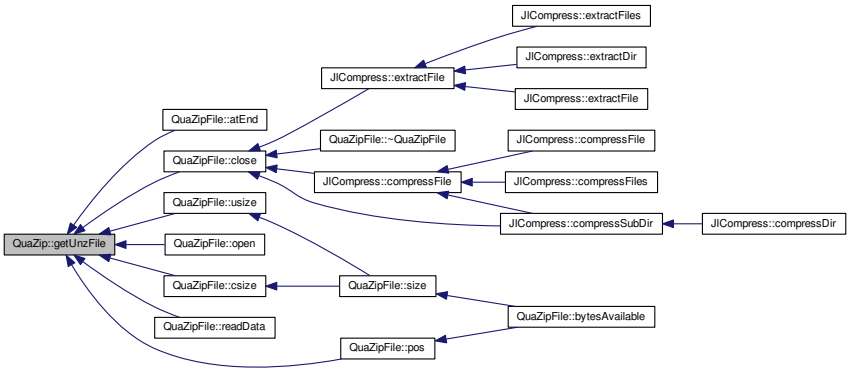
Definition at line 639 of file quazip.cpp.

References p.

Referenced by QuaZipFile::atEnd(), QuaZipFile::close(), QuaZipFile::csize(), QuaZipFile::open(), QuaZipFile::pos(), QuaZipFile::readData(), and QuaZipFile::usize().

```
640 {
641   return p->unzFile_f;
642 }
```

Here is the caller graph for this function:



12.71.4.16 int QuaZip::getZipError ( ) const

Returns `UNZ_OK` if the last operation was successful.

Error code resets to `UNZ_OK` every time you call any function that accesses something inside ZIP archive, even if it is `const` (like getEntriesCount()). open() and close() calls reset error code too. See documentation for the specific functions for details on error detection.

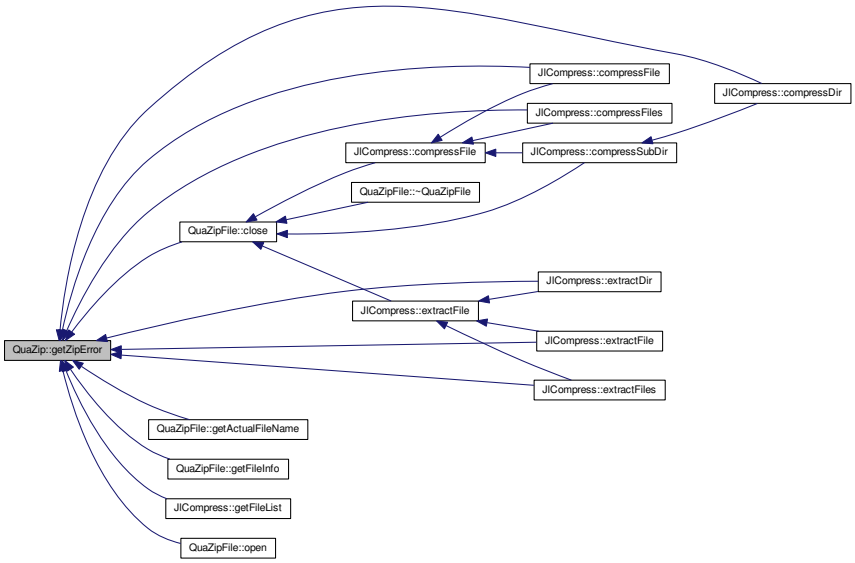
Definition at line 624 of file quazip.cpp.

References p, and QuaZipPrivate::zipError.

Referenced by QuaZipFile::close(), JlCompress::compressDir(), JlCompress::compressFile(), JlCompress::compressFiles(), JlCompress::extractDir(), JlCompress::extractFile(), JlCompress::extractFiles(), QuaZipFile::getActualFileName(), QuaZipFile::getFileInfo(), JlCompress::getFileList(), and QuaZipFile::open().

```
625 {
626   return p->zipError;
627 }
```

Here is the caller graph for this function:



12.71.4.17 zipFile QuaZip::getZipFile ( )

You can use this handle to directly call ZIP part of the ZIP/UNZIP package functions (see zip.h). Warnings about the getUnzFile() function also apply to this function.

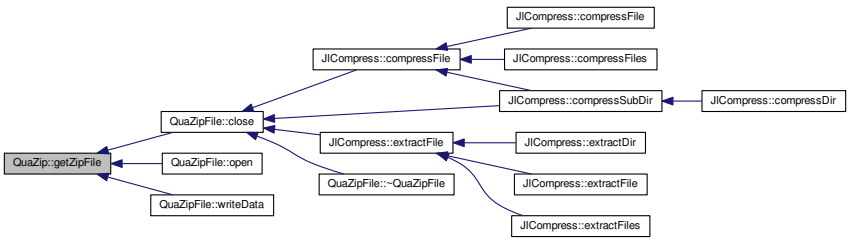
Definition at line 644 of file quazip.cpp.

References p.

Referenced by QuaZipFile::close(), QuaZipFile::open(), and QuaZipFile::writeData().

```
645 {
646   return p->zipFile_f;
647 }
```

Here is the caller graph for this function:



12.71.4.18 QString QuaZip::getZipName ( ) const

Returns null string if no ZIP file name has been set, for example when the QuaZip instance is set up to use a QIODevice instead.

See Also

setZipName(), setIoDevice(), getIoDevice()

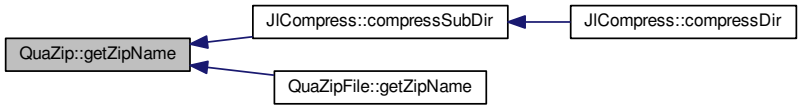
Definition at line 602 of file quazip.cpp.

References p, and QuaZipPrivate::zipName.

Referenced by JlCompress::compressSubDir(), and QuaZipFile::getZipName().

```
603 {
604   return p->zipName;
605 }
```

Here is the caller graph for this function:



12.71.4.19 bool QuaZip::goToFirstFile ( )

Returns `true` on success, `false` otherwise. Call getZipError() to get the error code.

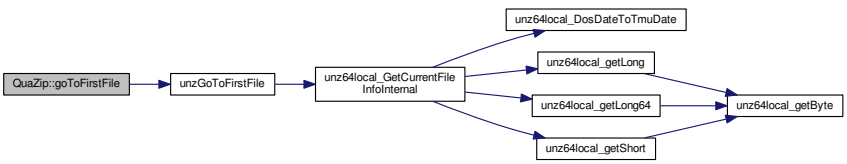
Definition at line 466 of file quazip.cpp.

References QuaZipPrivate::hasCurrentFile_f, mdUnzip, QuaZipPrivate::mode, p, UNZ_OK, unzGoToFirstFile(), and QuaZipPrivate::zipError.

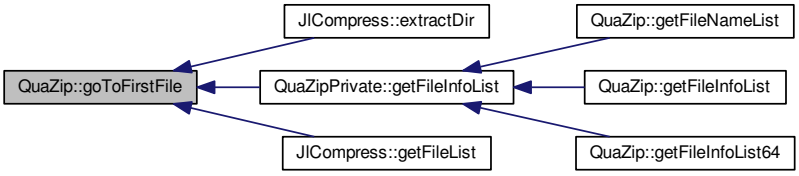
Referenced by JlCompress::extractDir(), QuaZipPrivate::getFileInfoList(), and JlCompress::getFileList().

```
467 {
468   p->zipError=UNZ_OK;
469   if(p->mode!=mdUnzip) {
470     qWarning("QuaZip::goToFirstFile(): ZIP is not open in mdUnzip mode");
471     return false;
472   }
473   p->zipError=unzGoToFirstFile(p->unzFile_f);
474   p->hasCurrentFile_f=p->zipError==UNZ_OK;
475   return p->hasCurrentFile_f;
476 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.71.4.20 bool QuaZip::goToNextFile ( )

Returns `true` on success, `false` otherwise. Call getZipError() to determine if there was an error.

Should be used only in QuaZip::mdUnzip mode.

Note

If the end of file was reached, getZipError() will return `UNZ_OK` instead of `UNZ_END_OF_LIST_OF_FILE`. This is to make things like this easier:

```
for(bool more=zip.goToFirstFile(); more; more=zip.goToNextFile()) {
  // do something
}
if(zip.getZipError()==UNZ_OK) {
  // ok, there was no error
}
```

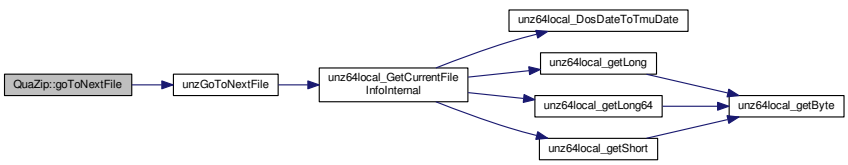
Definition at line 478 of file quazip.cpp.

References QuaZipPrivate::hasCurrentFile_f, mdUnzip, QuaZipPrivate::mode, p, UNZ_END_OF_LIST_OF_FILE, UNZ_OK, unzGoToNextFile(), and QuaZipPrivate::zipError.

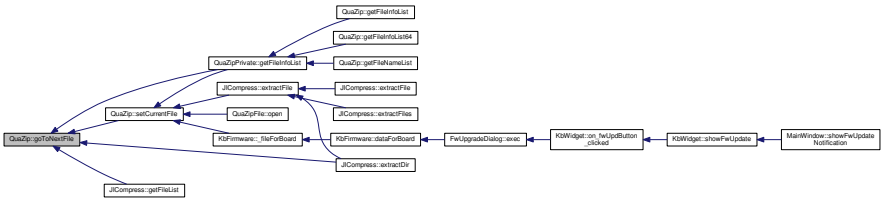
Referenced by JlCompress::extractDir(), QuaZipPrivate::getFileInfoList(), JlCompress::getFileList(), and setCurrentFile().

```
479 {
480   p->zipError=UNZ_OK;
481   if(p->mode!=mdUnzip) {
482     qWarning("QuaZip::goToFirstFile(): ZIP is not open in mdUnzip mode");
483     return false;
484   }
485   p->zipError=unzGoToNextFile(p->unzFile_f);
486   p->hasCurrentFile_f=p->zipError==UNZ_OK;
487   if(p->zipError==UNZ_END_OF_LIST_OF_FILE)
488     p->zipError=UNZ_OK;
489   return p->hasCurrentFile_f;
490 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.71.4.21 bool QuaZip::hasCurrentFile ( ) const

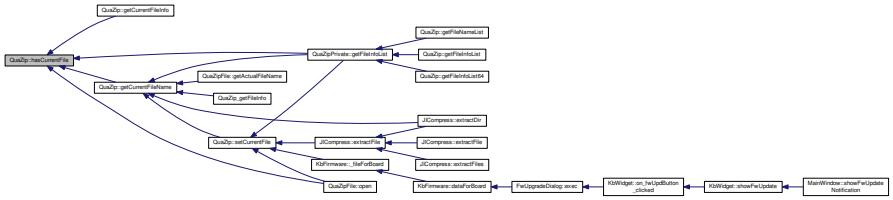
Definition at line 634 of file quazip.cpp.

References QuaZipPrivate::hasCurrentFile_f, and p.

Referenced by getCurrentFileInfo(), getCurrentFileName(), QuaZipPrivate::getFileInfoList(), and QuaZipFile::open().

```
635 {
636   return p->hasCurrentFile_f;
637 }
```

Here is the caller graph for this function:



12.71.4.22 bool QuaZip::isAutoClose ( ) const

See Also

setAutoClose()

Definition at line 780 of file quazip.cpp.

References QuaZipPrivate::autoClose, and p.

```
781 {
782     return p->autoClose;
783 }
```

12.71.4.23 bool QuaZip::isDataDescriptorWritingEnabled ( ) const

See Also

setDataDescriptorWritingEnabled()

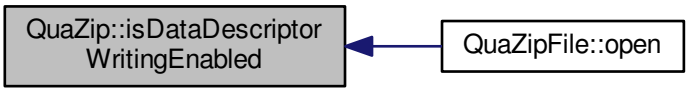
Definition at line 654 of file quazip.cpp.

References QuaZipPrivate::dataDescriptorWritingEnabled, and p.

Referenced by QuaZipFile::open().

```
655 {
656     return p->dataDescriptorWritingEnabled;
657 }
```

Here is the caller graph for this function:



12.71.4.24 bool QuaZip::isOpen ( ) const

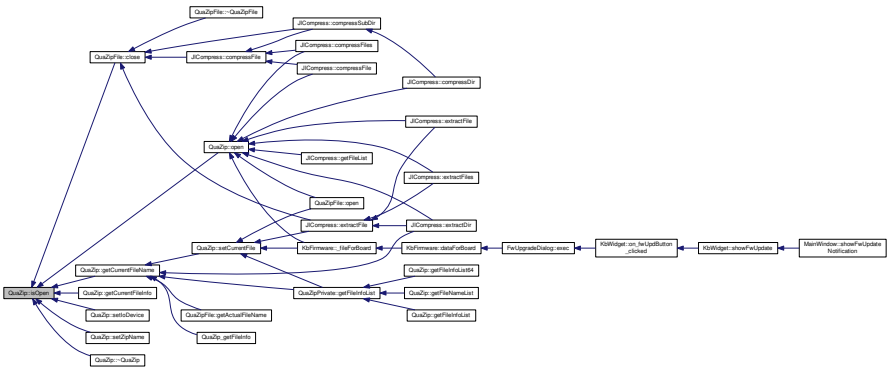
Definition at line 619 of file quazip.cpp.

References mdNotOpen, QuaZipPrivate::mode, and p.

Referenced by QuaZipFile::close(), getCurrentFileInfo(), getCurrentFileName(), open(), setIoDevice(), setZipName(), and ~QuaZip().

```
620 {
621   return p->mode!=mdNotOpen;
622 }
```

Here is the caller graph for this function:



12.71.4.25 bool QuaZip::isZip64Enabled ( ) const

Returns

`true` if and only if the zip64 mode is enabled.

See Also

setZip64Enabled()

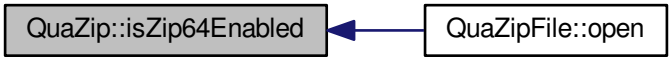
Definition at line 775 of file quazip.cpp.

References p, and QuaZipPrivate::zip64.

Referenced by QuaZipFile::open().

```
776 {
777     return p->zip64;
778 }
```

Here is the caller graph for this function:



12.71.4.26 bool QuaZip::open (Mode *mode*, zlib_filefunc_def * *ioApi* = NULL)

Argument *mode* specifies open mode of the ZIP archive. See Mode for details. Note that there is zipOpen2() function in the ZIP/UNZIP API which accepts *globalcomment* argument, but it does not use it anywhere, so this open() function does not have this argument. See setComment() if you need to set global comment.

If the ZIP file is accessed via explicitly set QIODevice, then this device is opened in the necessary mode. If the device was already opened by some other means, then QuaZIP checks if the open mode is compatible to the mode needed for the requested operation. If necessary, seeking is performed to position the device properly.

Returns

`true` if successful, `false` otherwise.

Note

ZIP/UNZIP API open calls do not return error code - they just return `NULL` indicating an error. But to make things easier, quazip.h header defines additional error code `UNZ_ERROROPEN` and getZipError() will return it if the open call of the ZIP/UNZIP API returns `NULL`.

Argument *ioApi* specifies IO function set for ZIP/UNZIP package to use. See unzip.h, zip.h and ioapi.h for details. Note that IO API for QuaZip is different from the original package. The file path argument was changed to be of type `voidpf`, and QuaZip passes a QIODevice pointer there. This QIODevice is either set explicitly via setIoDevice() or the QuaZip(QIODevice*) constructor, or it is created internally when opening the archive by its file name. The default API (qioapi.cpp) just delegates everything to the QIODevice API. Not only this allows to use a QIODevice instead of file name, but also has a nice side effect of raising the file size limit from 2G to 4G (in non-zip64 archives).

Note

If the zip64 support is needed, the ioApi argument *must* be NULL because due to the backwards compatibility issues it can be used to provide a 32-bit API only.
If the no-auto-close feature is used, then the *ioApi* argument *should* be NULL because the old API doesn't support the 'fake close' operation, causing slight memory leaks and other possible troubles (like closing the output device in case when an error occurs during opening).

In short: just forget about the *ioApi* argument and you'll be fine.

Definition at line 215 of file quazip.cpp.

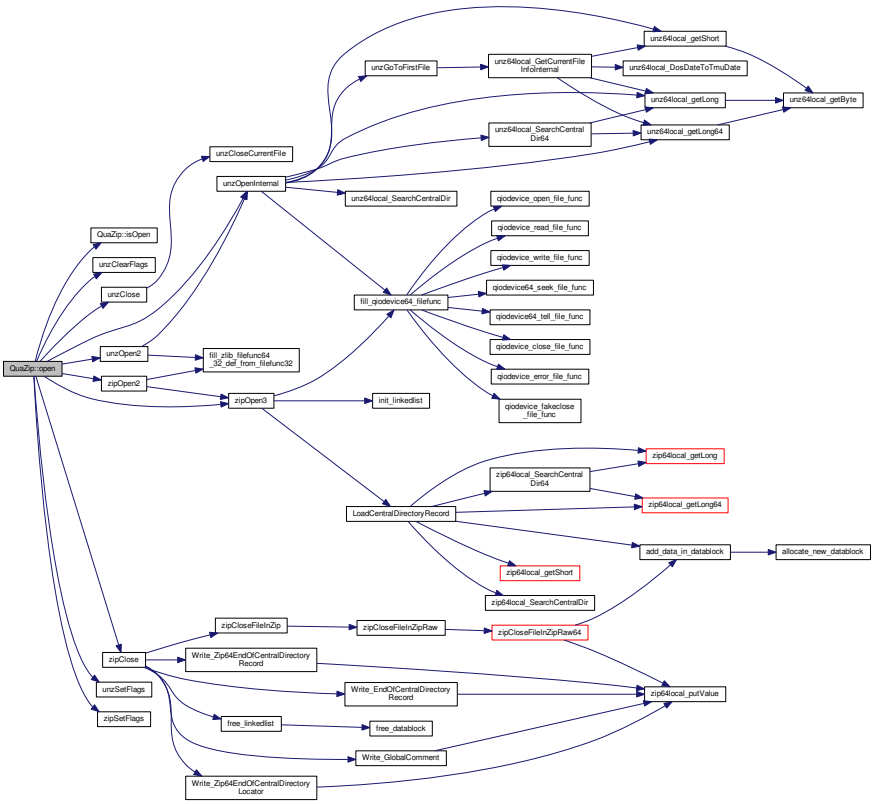
References APPEND_STATUS_ADDINZIP, APPEND_STATUS_CREATE, APPEND_STATUS_CREATEAFTER, QuaZipPrivate::autoClose, QuaZipPrivate::dataDescriptorWritingEnabled, QuaZipPrivate::ioDevice, isOpen(), mdAdd, mdAppend, mdCreate, mdUnzip, QuaZipPrivate::mode, p, UNZ_AUTO_CLOSE, UNZ_OK, UNZ_OPENERROR, unzClearFlags(), unzClose(), unzOpen2(), unzOpenInternal(), unzSetFlags(), ZIP_AUTO_CLOSE, ZIP_SEQUENTIAL, ZIP_WRITE_DATA_DESCRIPTOR, zipClose(), QuaZipPrivate::zipError, QuaZipPrivate::zipName, zipOpen2(), zipOpen3(), and zipSetFlags().

Referenced by KbFirmware::_fileForBoard(), JlCompress::compressDir(), JlCompress::compressFile(), JlCompress::compressFiles(), JlCompress::extractDir(), JlCompress::extractFile(), JlCompress::extractFiles(), JlCompress::getFileList(), and QuaZipFile::open().

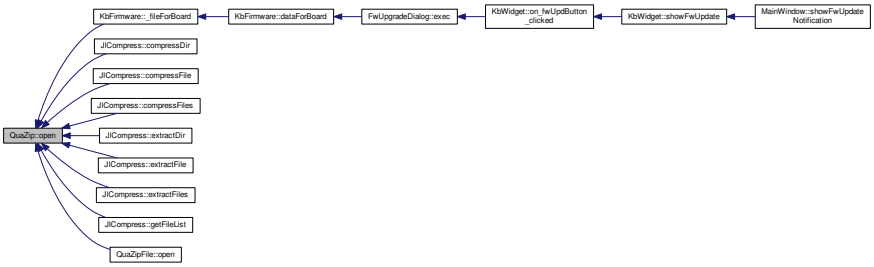
```
216 {
217   p->zipError=UNZ_OK;
218   if(isOpen()) {
219     qWarning("QuaZip::open(): ZIP already opened");
220     return false;
221   }
222   QIODevice *ioDevice = p->ioDevice;
223   if (ioDevice == NULL) {
224     if (p->zipName.isEmpty()) {
225       qWarning("QuaZip::open(): set either ZIP file name or IO device first");
226       return false;
227     } else {
228       ioDevice = new QFile(p->zipName);
229     }
230   }
231   unsigned flags = 0;
232   switch(mode) {
233     case mdUnzip:
234       if (ioApi == NULL) {
235           if (p->autoClose)
236               flags |= UNZ_AUTO_CLOSE;
237           p->unzFile_f=unzOpenInternal(ioDevice, NULL, 1, flags);
238       } else {
239           // QuaZIP pre-zip64 compatibility mode
240           p->unzFile_f=unzOpen2(ioDevice, ioApi);
241           if (p->unzFile_f != NULL) {
242               if (p->autoClose) {
243                   unzSetFlags(p->unzFile_f, UNZ_AUTO_CLOSE);
244               } else {
245                   unzClearFlags(p->unzFile_f, UNZ_AUTO_CLOSE);
246               }
247           }
248       }
249       if(p->unzFile_f!=NULL) {
250         if (ioDevice->isSequential()) {
251             unzClose(p->unzFile_f);
252             if (!p->zipName.isEmpty())
253                 delete ioDevice;
254             qWarning("QuaZip::open(): "
255                      "only mdCreate can be used with "
256                      "sequential devices");
257             return false;
258         }
259         p->mode=mode;
260         p->ioDevice = ioDevice;
261         return true;
262       } else {
263         p->zipError=UNZ_OPENERROR;
264         if (!p->zipName.isEmpty())
265           delete ioDevice;
266         return false;
267       }
268     case mdCreate:
269     case mdAppend:
270     case mdAdd:
271       if (ioApi == NULL) {
```

```
272             if (p->autoClose)
273                 flags |= ZIP_AUTO_CLOSE;
274             if (p->dataDescriptorWritingEnabled)
275                 flags |= ZIP_WRITE_DATA_DESCRIPTOR;
276             p->zipFile_f=zipOpen3(ioDevice,
277                 mode==mdCreate?APPEND_STATUS_CREATE:
278                 mode==mdAppend?APPEND_STATUS_CREATEAFTER:
279                 APPEND_STATUS_ADDINZIP,
280                 NULL, NULL, flags);
281         } else {
282             // QuaZIP pre-zip64 compatibility mode
283             p->zipFile_f=zipOpen2(ioDevice,
284                 mode==mdCreate?APPEND_STATUS_CREATE:
285                 mode==mdAppend?APPEND_STATUS_CREATEAFTER:
286                 APPEND_STATUS_ADDINZIP,
287                 NULL,
288                 ioApi);
289             if (p->zipFile_f != NULL) {
290                 zipSetFlags(p->zipFile_f, flags);
291             }
292         }
293         if(p->zipFile_f!=NULL) {
294           if (ioDevice->isSequential()) {
295               if (mode != mdCreate) {
296                   zipClose(p->zipFile_f, NULL);
297                   qWarning("QuaZip::open(): "
298                           "only mdCreate can be used with "
299                            "sequential devices");
300                   if (!p->zipName.isEmpty())
301                       delete ioDevice;
302                   return false;
303               }
304               zipSetFlags(p->zipFile_f, ZIP_SEQUENTIAL);
305           }
306           p->mode=mode;
307           p->ioDevice = ioDevice;
308           return true;
309         } else {
310           p->zipError=UNZ_OPENERROR;
311           if (!p->zipName.isEmpty())
312             delete ioDevice;
313           return false;
314         }
315       default:
316         qWarning("QuaZip::open(): unknown mode: %d", (int)mode);
317         if (!p->zipName.isEmpty())
318           delete ioDevice;
319         return false;
320         break;
321     }
322 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.71.4.27 QuaZip& QuaZip::operator= (const QuaZip & *that*) [private]

12.71.4.28 void QuaZip::setAutoClose (bool *autoClose*) const

By default, QuaZIP opens the underlying QIODevice when open() is called, and closes it when close() is called. In some cases, when the device is set explicitly using setIoDevice(), it may be desirable to leave the device open. If the auto-close flag is unset using this method, then the device isn't closed automatically if it was set explicitly.

If it is needed to clear this flag, it is recommended to do so before opening the archive because otherwise QuaZIP may close the device during the open() call if an error is encountered after the device is opened.

If the device was not set explicitly, but rather the setZipName() or the appropriate constructor was used to set the

ZIP file name instead, then the auto-close flag has no effect, and the internal device is closed nevertheless because there is no other way to close it.

See Also

isAutoClose()
setIoDevice()

Definition at line 785 of file quazip.cpp.

References QuaZipPrivate::autoClose, and p.

```
786 {
787     p->autoClose = autoClose;
788 }
```

12.71.4.29 void QuaZip::setComment (const QString & *comment*)

The comment will be written to the archive on close operation. QuaZip makes a distinction between a null QByteArray() comment and an empty "" comment in the QuaZip::mdAdd mode. A null comment is the default and it means "don't change the comment". An empty comment removes the original comment.

See Also

open()

Definition at line 629 of file quazip.cpp.

References QuaZipPrivate::comment, and p.

```
630 {
631   p->comment=comment;
632 }
```

12.71.4.30 void QuaZip::setCommentCodec (QTextCodec * *commentCodec*)

This codec defaults to locale codec, which is probably ok.

Definition at line 587 of file quazip.cpp.

References QuaZipPrivate::commentCodec, and p.

```
588 {
589   p->commentCodec=commentCodec;
590 }
```

12.71.4.31 void QuaZip::setCommentCodec (const char * *commentCodecName*)

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts. Equivalent to calling setCommentCodec(QTextCodec::codecForName(codecName));

Definition at line 592 of file quazip.cpp.

References QuaZipPrivate::commentCodec, and p.

```
593 {
594   p->commentCodec=QTextCodec::codecForName(commentCodecName);
595 }
```

12.71.4.32 bool QuaZip::setCurrentFile (const QString & *fileName*, CaseSensitivity *cs* = csDefault)

Returns `true` if successful, `false` otherwise. Argument *cs* specifies case sensitivity of the file name. Call getZipError() in the case of a failure to get error code.

This is not a wrapper to unzLocateFile() function. That is because I had to implement locale-specific case-insensitive comparison.

Here are the differences from the original implementation:

- If the file was not found, error code is `UNZ_OK`, not `UNZ_END_OF_LIST_OF_FILE` (see also goToNextFile()).
- If this function fails, it unsets the current file rather than resetting it back to what it was before the call.

If *fileName* is null string then this function unsets the current file and return `true`. Note that you should close the file first if it is open! See QuaZipFile::QuaZipFile(QuaZip*,QObject*) for the details.

Should be used only in QuaZip::mdUnzip mode.

See Also

setFileNameCodec(), CaseSensitivity

Definition at line 408 of file quazip.cpp.

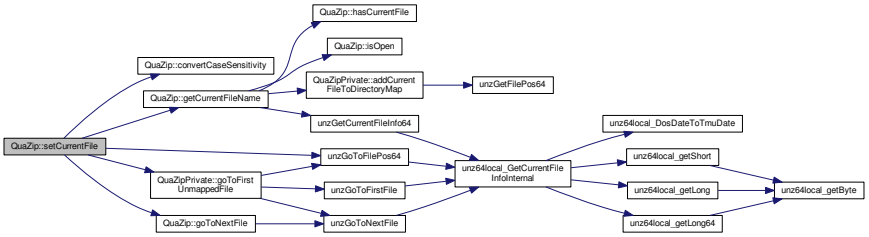
References convertCaseSensitivity(), current, QuaZipPrivate::directoryCaseInsensitive, QuaZipPrivate::directoryCaseSensitive, getCurrentFileName(), QuaZipPrivate::goToFirstUnmappedFile(), goToNextFile(), QuaZipPrivate::hasCurrentFile_f, MAX_FILE_NAME_LENGTH, mdUnzip, QuaZipPrivate::mode, p, unz64_file_pos_s::pos_in_zip_directory, UNZ_OK, UNZ_PARAMERROR, unzGoToFilePos64(), and QuaZipPrivate::zipError.

Referenced by KbFirmware::_fileForBoard(), JlCompress::extractFile(), QuaZipPrivate::getFileInfoList(), and QuaZipFile::open().

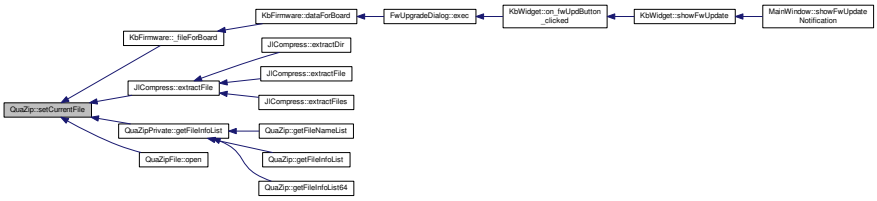
```
409 {
410   p->zipError=UNZ_OK;
411   if(p->mode!=mdUnzip) {
412     qWarning("QuaZip::setCurrentFile(): ZIP is not open in mdUnzip mode");
413     return false;
414   }
415   if(fileName.isEmpty()) {
416     p->hasCurrentFile_f=false;
417     return true;
418   }
419   // Unicode-aware reimplementation of the unzLocateFile function
420   if(p->unzFile_f==NULL) {
421     p->zipError=UNZ_PARAMERROR;
422     return false;
423   }
424   if(fileName.length()>MAX_FILE_NAME_LENGTH) {
425     p->zipError=UNZ_PARAMERROR;
426     return false;
427   }
428   // Find the file by name
429   bool sens = convertCaseSensitivity(cs) == Qt::CaseSensitive;
430   QString lower, current;
431   if(!sens) lower=fileName.toLower();
432   p->hasCurrentFile_f=false;
433
434   // Check the appropriate Map
435   unz64_file_pos fileDirPos;
436   fileDirPos.pos_in_zip_directory = 0;
437   if (sens) {
438       if (p->directoryCaseSensitive.contains(fileName))
439           fileDirPos = p->directoryCaseSensitive.value(fileName);
440   } else {
441       if (p->directoryCaseInsensitive.contains(lower))
442           fileDirPos = p->directoryCaseInsensitive.value(lower);
443   }
444
445   if (fileDirPos.pos_in_zip_directory != 0) {
446       p->zipError = unzGoToFilePos64(p->unzFile_f, &fileDirPos);
447       p->hasCurrentFile_f = p->zipError == UNZ_OK;
448   }
```

```
449
450   if (p->hasCurrentFile_f)
451       return p->hasCurrentFile_f;
452
453   // Not mapped yet, start from where we have got to so far
454   for(bool more=p->goToFirstUnmappedFile(); more; more=
      goToNextFile()) {
455     current=getCurrentFileName();
456     if(current.isEmpty()) return false;
457     if(sens) {
458       if(current==fileName) break;
459     } else {
460       if(current.toLower()==lower) break;
461     }
462   }
463   return p->hasCurrentFile_f;
464 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.71.4.33 void QuaZip::setDataDescriptorWritingEnabled (bool *enabled*)

According to the ZIP format specification, a file inside archive may have a data descriptor immediately following the file data. This is reflected by a special flag in the local file header and in the central directory. By default, QuaZIP sets this flag and writes the data descriptor unless both method and level were set to 0, in which case it operates in 1.0-compatible mode and never writes data descriptors.

By setting this flag to false, it is possible to disable data descriptor writing, thus increasing compatibility with archive readers that don't understand this feature of the ZIP file format.

Setting this flag affects all the QuaZipFile instances that are opened after this flag is set.

The data descriptor writing mode is enabled by default.

Note that if the ZIP archive is written into a QIODevice for which QIODevice::isSequential() returns `true`, then the data descriptor is mandatory and will be written even if this flag is set to false.

Parameters

enabled	If `true`, enable local descriptor writing, disable it otherwise.

See Also

QuaZipFile::isDataDescriptorWritingEnabled()

Definition at line 649 of file quazip.cpp.

References QuaZipPrivate::dataDescriptorWritingEnabled, and p.

```
650 {
651     p->dataDescriptorWritingEnabled = enabled;
652 }
```

12.71.4.34 void QuaZip::setDefaultFileNameCodec (QTextCodec * *codec*) [static]

The default codec is used by the constructors, so calling this function won't affect the QuaZip instances already created at that moment.

The codec specified here can be overriden by calling setFileNameCodec(). If neither function is called, QTextCodec-::codecForLocale() will be used to decode or encode file names. Use this function with caution if the application uses other libraries that depend on QuaZIP. Those libraries can either call this function by themselves, thus overriding your setting or can rely on the default encoding, thus failing mysteriously if you change it. For these reasons, it isn't recommended to use this function if you are developing a library, not an application. Instead, ask your library users to call it in case they need specific encoding.

In most cases, using setFileNameCodec() instead is the right choice. However, if you depend on third-party code that uses QuaZIP, then the reasons stated above can actually become a reason to use this function in case the third-party code in question fails because it doesn't understand the encoding you need and doesn't provide a way to specify it. This applies to the JlCompress class as well, as it was contributed and doesn't support explicit encoding parameters.

In short: use setFileNameCodec() when you can, resort to setDefaultFileNameCodec() when you don't have access to the QuaZip instance.

Parameters

codec	The codec to use by default. If NULL, resets to default.

Definition at line 760 of file quazip.cpp.

References QuaZipPrivate::defaultFileNameCodec.

Referenced by setDefaultFileNameCodec().

```
761 {
762     QuaZipPrivate::defaultFileNameCodec = codec;
763 }
```

Here is the caller graph for this function:

12.71.4.35 void QuaZip::setDefaultFileNameCodec (const char * *codecName*) [static]

Definition at line 765 of file quazip.cpp.

References setDefaultFileNameCodec().

```
766 {
767     setDefaultFileNameCodec(QTextCodec::codecForName(codecName));
768 }
```

Here is the call graph for this function:

12.71.4.36 void QuaZip::setFileNameCodec (QTextCodec * *fileNameCodec*)

This is necessary to access files in the ZIP archive created under Windows with non-latin characters in file names. For example, file names with cyrillic letters will be in `IBM866` encoding.

Definition at line 572 of file quazip.cpp.

References QuaZipPrivate::fileNameCodec, and p.

```
573 {
574   p->fileNameCodec=fileNameCodec;
575 }
```

12.71.4.37 void QuaZip::setFileNameCodec (const char * *fileNameCodecName*)

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts. Equivalent to calling setFileNameCodec(QTextCodec::codecForName(codecName));

Definition at line 577 of file quazip.cpp.

References QuaZipPrivate::fileNameCodec, and p.

```
578 {
579   p->fileNameCodec=QTextCodec::codecForName(fileNameCodecName);
580 }
```

12.71.4.38 void QuaZip::setIoDevice (QIODevice * *ioDevice*)

Does nothing if the ZIP file is open.

Does not reset error code returned by getZipError().

See Also

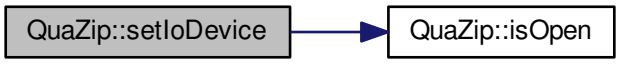
getIoDevice(), getZipName(), setZipName()

Definition at line 365 of file quazip.cpp.

References QuaZipPrivate::ioDevice, isOpen(), p, and QuaZipPrivate::zipName.

```
366 {
367   if(isOpen()) {
368     qWarning("QuaZip::setIoDevice(): ZIP is already open!");
369     return;
370   }
371   p->ioDevice = ioDevice;
372   p->zipName = QString();
373 }
```

Here is the call graph for this function:



12.71.4.39 void QuaZip::setZip64Enabled (bool *zip64*)

Parameters

zip64	If `true`, the zip64 mode is enabled, disabled otherwise.

Once this is enabled, all new files (until the mode is disabled again) will be created in the zip64 mode, thus enabling the ability to write files larger than 4 GB. By default, the zip64 mode is off due to compatibility reasons.

Note that this does not affect the ability to read zip64 archives in any way.

See Also

isZip64Enabled()

Definition at line 770 of file quazip.cpp.

References p, and QuaZipPrivate::zip64.

```
771 {
772     p->zip64 = zip64;
773 }
```

12.71.4.40 void QuaZip::setZipName (const QString & *zipName*)

Does nothing if the ZIP file is open.

Does not reset error code returned by getZipError().

See Also

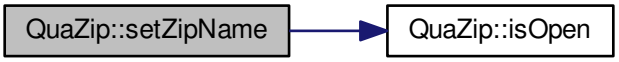
setIoDevice(), getIoDevice(), getZipName()

Definition at line 355 of file quazip.cpp.

References QuaZipPrivate::ioDevice, isOpen(), p, and QuaZipPrivate::zipName.

```
356 {
357   if(isOpen()) {
358     qWarning("QuaZip::setZipName(): ZIP is already open!");
359     return;
360   }
361   p->zipName=zipName;
362   p->ioDevice = NULL;
363 }
```

Here is the call graph for this function:



12.71.5 Friends And Related Function Documentation

12.71.5.1 friend class QuaZipPrivate [friend]

Definition at line 85 of file quazip.h.

12.71.6 Field Documentation

12.71.6.1 QuaZipPrivate* QuaZip::p [private]

Definition at line 129 of file quazip.h.

Referenced by close(), getComment(), getCommentCodec(), getCurrentFileInfo(), getCurrentFileName(), getEntriesCount(), getFileInfoList(), getFileInfoList64(), getFileNameCodec(), getFileNameList(), getIoDevice(), getMode(), getUnzFile(), getZipError(), getZipFile(), getZipName(), goToFirstFile(), goToNextFile(), hasCurrentFile(), isAutoClose(), isDataDescriptorWritingEnabled(), isOpen(), isZip64Enabled(), open(), setAutoClose(), setComment(), setCommentCodec(), setCurrentFile(), setDataDescriptorWritingEnabled(), setFileNameCodec(), setIoDevice(), setZip64Enabled(), setZipName(), and ~QuaZip().

The documentation for this class was generated from the following files:

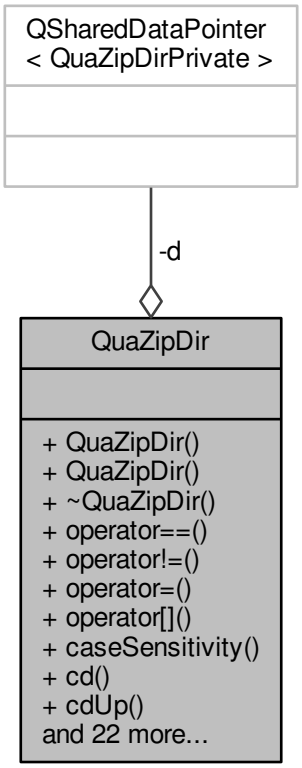
- src/ckb/quazip/quazip.h
- src/ckb/quazip/quazip.cpp

12.72 QuaZipDir Class Reference

Provides ZIP archive navigation.

`#include <src/ckb/quazip/quazipdir.h>`

Collaboration diagram for QuaZipDir:



Public Member Functions

- QuaZipDir (const QuaZipDir &that)

  The copy constructor.
- QuaZipDir (QuaZip ∗zip, const QString &dir=QString())

  Constructs a QuaZipDir instance pointing to the specified directory.
- ∼QuaZipDir ()

  Destructor.
- bool operator== (const QuaZipDir &that)

  The assignment operator.
- bool operator!= (const QuaZipDir &that)

  operator!=
- QuaZipDir & operator= (const QuaZipDir &that)

  operator==
- QString operator[] (int pos) const

  Returns the name of the entry at the specified position.
- QuaZip::CaseSensitivity caseSensitivity () const

  Returns the current case sensitivity mode.
- bool cd (const QString &dirName)

  Changes the 'current' directory.

- bool cdUp ()

  Goes up.
- uint count () const

  Returns the number of entries in the directory.
- QString dirName () const

  Returns the current directory name.
- QList< QuaZipFileInfo > entryInfoList (const QStringList &nameFilters, QDir::Filters filters=QDir::NoFilter, QDir::SortFlags sort=QDir::NoSort) const

  Returns the list of the entries in the directory.
- QList< QuaZipFileInfo > entryInfoList (QDir::Filters filters=QDir::NoFilter, QDir::SortFlags sort=QDir::NoSort) const

  Returns the list of the entries in the directory.
- QList< QuaZipFileInfo64 > entryInfoList64 (const QStringList &nameFilters, QDir::Filters filters=QDir::NoFilter, QDir::SortFlags sort=QDir::NoSort) const

  Returns the list of the entries in the directory with zip64 support.
- QList< QuaZipFileInfo64 > entryInfoList64 (QDir::Filters filters=QDir::NoFilter, QDir::SortFlags sort=QDir::NoSort) const

  Returns the list of the entries in the directory with zip64 support.
- QStringList entryList (const QStringList &nameFilters, QDir::Filters filters=QDir::NoFilter, QDir::SortFlags sort=QDir::NoSort) const

  Returns the list of the entry names in the directory.
- QStringList entryList (QDir::Filters filters=QDir::NoFilter, QDir::SortFlags sort=QDir::NoSort) const

  Returns the list of the entry names in the directory.
- bool exists (const QString &fileName) const

  Returns `true` *if the entry with the specified name exists.*
- bool exists () const

  Return `true` *if the directory pointed by this QuaZipDir exists.*
- QString filePath (const QString &fileName) const

  Returns the full path to the specified file.
- QDir::Filters filter ()

  Returns the default filter.
- bool isRoot () const

  Returns if the QuaZipDir points to the root of the archive.
- QStringList nameFilters () const

  Return the default name filter.
- QString path () const

  Returns the path to the current dir.
- QString relativeFilePath (const QString &fileName) const

  Returns the path to the specified file relative to the current dir.
- void setCaseSensitivity (QuaZip::CaseSensitivity caseSensitivity)

  Sets the default case sensitivity mode.
- void setFilter (QDir::Filters filters)

  Sets the default filter.
- void setNameFilters (const QStringList &nameFilters)

  Sets the default name filter.
- void setPath (const QString &path)

  Goes to the specified path.
- void setSorting (QDir::SortFlags sort)

  Sets the default sorting mode.
- QDir::SortFlags sorting () const

  Returns the default sorting mode.

Private Attributes

- QSharedDataPointer
  < QuaZipDirPrivate > d

12.72.1 Detailed Description

This class is modelled after QDir, and is designed to provide similar features for ZIP archives.

The only significant difference from QDir is that the root path is not '/', but an empty string since that's how the file paths are stored in the archive. However, QuaZipDir understands the paths starting with '/'. It is important in a few places:

- In the cd() function.
- In the constructor.
- In the exists() function.
- In the relativePath() function.

Note that since ZIP uses '/' on all platforms, the '\' separator is not supported.

Definition at line 54 of file quazipdir.h.

12.72.2 Constructor & Destructor Documentation

12.72.2.1 QuaZipDir::QuaZipDir (const QuaZipDir & *that*)

Definition at line 50 of file quazipdir.cpp.

Referenced by exists().

```
50                                          :
51     d(that.d)
52 {
53 }
```

Here is the caller graph for this function:

12.72.2.2 QuaZipDir::QuaZipDir (QuaZip * *zip*, const QString & *dir* = QString())

If *dir* is not specified, points to the root of the archive. The same happens if the *dir* is "/".

Definition at line 55 of file quazipdir.cpp.

References d.

```
55                                                  :
56     d(new QuaZipDirPrivate(zip, dir))
57 {
58     if (d->dir.startsWith('/'))
59         d->dir = d->dir.mid(1);
60 }
```

12.72.2.3 QuaZipDir::~QuaZipDir ( )

Definition at line 62 of file quazipdir.cpp.

```
63 {
64 }
```

12.72.3 Member Function Documentation

12.72.3.1 QuaZip::CaseSensitivity QuaZipDir::caseSensitivity ( ) const

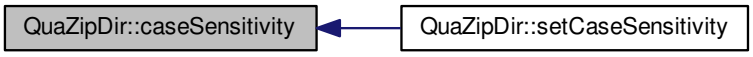
Definition at line 82 of file quazipdir.cpp.

References d.

Referenced by setCaseSensitivity().

```
83 {
84     return d->caseSensitivity;
85 }
```

Here is the caller graph for this function:



12.72.3.2 bool QuaZipDir::cd (const QString & *dirName*)

If the path starts with '/', it is interpreted as an absolute path from the root of the archive. Otherwise, it is interpreted as a path relative to the current directory as was set by the previous cd() or the constructor.

Note that the subsequent path() call will not return a path starting with '/' in all cases.

Definition at line 87 of file quazipdir.cpp.

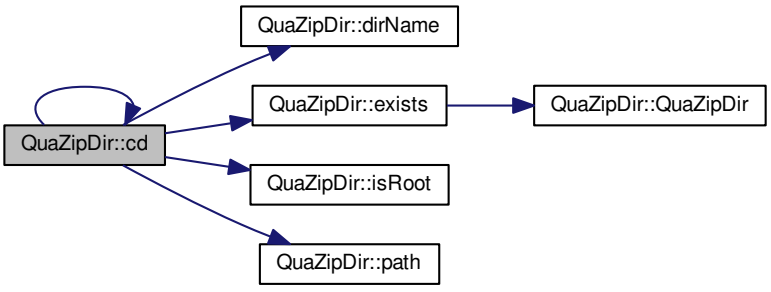
References cd(), d, dirName(), exists(), isRoot(), and path().

Referenced by cd(), and cdUp().

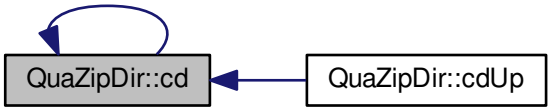
```
88 {
89     if (directoryName == "/") {
90         d->dir = "";
91         return true;
92     }
93     QString dirName = directoryName;
94     if (dirName.endsWith('/'))
95         dirName.chop(1);
96     if (dirName.contains('/')) {
97         QuaZipDir dir(*this);
98         if (dirName.startsWith('/')) {
99 #ifdef QUAZIP_QUAZIPDIR_DEBUG
100             qDebug("QuaZipDir::cd(%s): going to /",
101                    dirName.toUtf8().constData());
102 #endif
103             if (!dir.cd("/"))
104                 return false;
105         }
106         QStringList path = dirName.split('/', QString::SkipEmptyParts);
107         for (QStringList::const_iterator i = path.constBegin();
108                 i != path.end();
```

```
109                 ++i) {
110             const QString &step = *i;
111 #ifdef QUAZIP_QUAZIPDIR_DEBUG
112             qDebug("QuaZipDir::cd(%s): going to %s",
113                    dirName.toUtf8().constData(),
114                    step.toUtf8().constData());
115 #endif
116             if (!dir.cd(step))
117                 return false;
118         }
119         d->dir = dir.path();
120         return true;
121     } else { // no '/'
122         if (dirName == ".") {
123             return true;
124         } else if (dirName == "..") {
125             if (isRoot()) {
126                 return false;
127             } else {
128                 int slashPos = d->dir.lastIndexOf('/');
129                 if (slashPos == -1) {
130                     d->dir = "";
131                 } else {
132                     d->dir = d->dir.left(slashPos);
133                 }
134                 return true;
135             }
136         } else { // a simple subdirectory
137             if (exists(dirName)) {
138                 if (isRoot())
139                     d->dir = dirName;
140                 else
141                     d->dir += "/" + dirName;
142                 return true;
143             } else {
144                 return false;
145             }
146         }
147     }
148 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



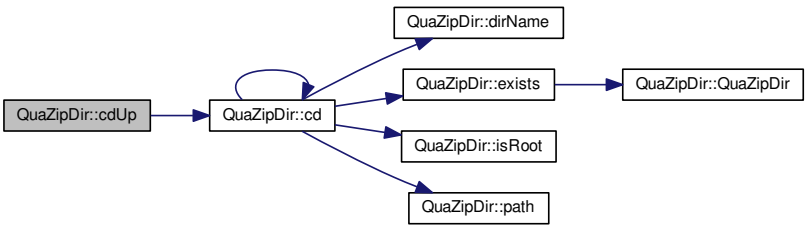
12.72.3.3 bool QuaZipDir::cdUp ( )

Definition at line 150 of file quazipdir.cpp.

References cd().

```
151 {
152     return cd("..");
153 }
```

Here is the call graph for this function:



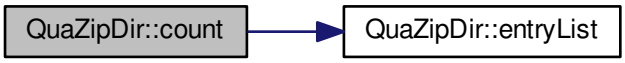
12.72.3.4 uint QuaZipDir::count ( ) const

Definition at line 155 of file quazipdir.cpp.

References entryList().

```
156 {
157     return entryList().count();
158 }
```

Here is the call graph for this function:



12.72.3.5 QString QuaZipDir::dirName ( ) const

The name doesn't include the path.

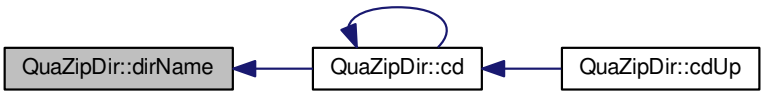
Definition at line 160 of file quazipdir.cpp.

References d.

Referenced by cd().

```
161 {
162     return QDir(d->dir).dirName();
163 }
```

Here is the caller graph for this function:



12.72.3.6 QList< QuaZipFileInfo > QuaZipDir::entryInfoList (const QStringList & *nameFilters*, QDir::Filters *filters* = QDir::NoFilter, QDir::SortFlags *sort* = QDir::NoSort) const

Parameters

nameFilters	The list of file patterns to list, uses the same syntax as QDir.
filters	The entry type filters, only Files and Dirs are accepted.
sort	Sorting mode.

Definition at line 401 of file quazipdir.cpp.

References d.

Referenced by entryInfoList().

```
403 {
404     QList<QuaZipFileInfo> result;
405     if (d->entryInfoList(nameFilters, filters, sort, result))
406         return result;
407     else
408         return QList<QuaZipFileInfo>();
409 }
```

Here is the caller graph for this function:

12.72.3.7 QList< QuaZipFileInfo > QuaZipDir::entryInfoList (QDir::Filters *filters* = QDir::NoFilter, QDir::SortFlags *sort* = QDir::NoSort) const

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts.

The same as entryInfoList(QStringList(), filters, sort).

Definition at line 411 of file quazipdir.cpp.

References entryInfoList().

```
413 {
414     return entryInfoList(QStringList(), filters, sort);
415 }
```

Here is the call graph for this function:

12.72.3.8 QList< QuaZipFileInfo64 > QuaZipDir::entryInfoList64 (const QStringList & *nameFilters*, QDir::Filters *filters* = QDir::NoFilter, QDir::SortFlags *sort* = QDir::NoSort) const

Parameters

nameFilters	The list of file patterns to list, uses the same syntax as QDir.
filters	The entry type filters, only Files and Dirs are accepted.
sort	Sorting mode.

Definition at line 417 of file quazipdir.cpp.

References d.

Referenced by entryInfoList64().

```
419 {
420     QList<QuaZipFileInfo64> result;
421     if (d->entryInfoList(nameFilters, filters, sort, result))
422         return result;
423     else
424         return QList<QuaZipFileInfo64>();
425 }
```

Here is the caller graph for this function:

12.72.3.9 QList< QuaZipFileInfo64 > QuaZipDir::entryInfoList64 (QDir::Filters *filters* = QDir::NoFilter, QDir::SortFlags *sort* = QDir::NoSort) const

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts.

The same as entryInfoList64(QStringList(), filters, sort).

Definition at line 427 of file quazipdir.cpp.

References entryInfoList64().

```
429 {
430     return entryInfoList64(QStringList(), filters, sort);
431 }
```

Here is the call graph for this function:

12.72.3.10 QStringList QuaZipDir::entryList (const QStringList & *nameFilters*, QDir::Filters *filters* = QDir::NoFilter, QDir::SortFlags *sort* = QDir::NoSort) const

The same as entryInfoList(nameFilters, filters, sort), but only returns entry names.

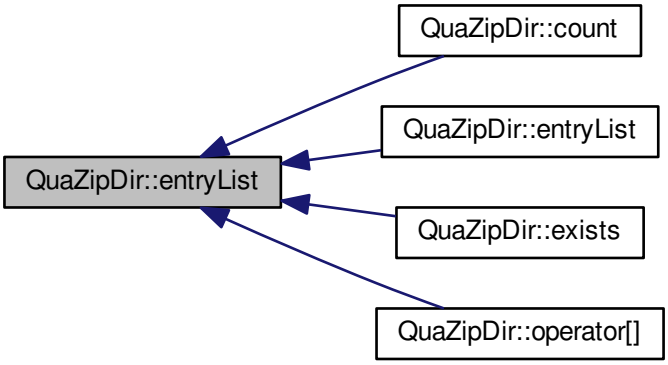
Definition at line 433 of file quazipdir.cpp.

References d.

Referenced by count(), entryList(), exists(), and operator[]().

```
435 {
436     QStringList result;
437     if (d->entryInfoList(nameFilters, filters, sort, result))
438         return result;
439     else
440         return QStringList();
441 }
```

Here is the caller graph for this function:



12.72.3.11 QStringList QuaZipDir::entryList (QDir::Filters *filters* = `QDir::NoFilter`, QDir::SortFlags *sort* = `QDir::NoSort`) const

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts.

The same as entryList(QStringList(), filters, sort).

Definition at line 443 of file quazipdir.cpp.

References entryList().

```
445 {
446     return entryList(QStringList(), filters, sort);
447 }
```

Here is the call graph for this function:

12.72.3.12 bool QuaZipDir::exists (const QString & *fileName*) const

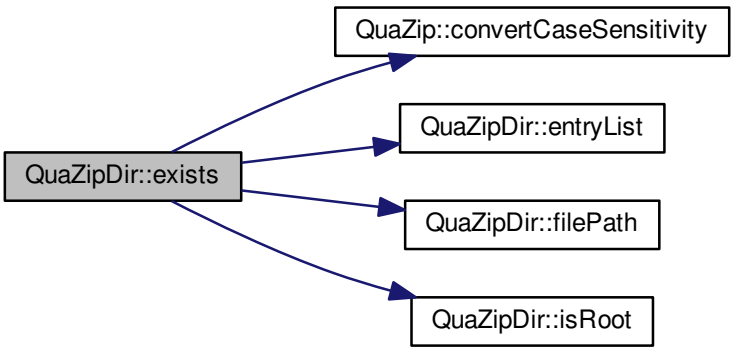
The ".." is considered to exist if the current directory is not root. The "." and "/" are considered to always exist. Paths starting with "/" are relative to the archive root, other paths are relative to the current dir.

Definition at line 449 of file quazipdir.cpp.

References QuaZip::convertCaseSensitivity(), d, entryList(), filePath(), and isRoot().

```
450 {
451     if (filePath == "/" || filePath.isEmpty())
452         return true;
453     QString fileName = filePath;
454     if (fileName.endsWith('/'))
455         fileName.chop(1);
456     if (fileName.contains('/')) {
457         QFileInfo fileInfo(fileName);
458 #ifdef QUAZIP_QUAZIPDIR_DEBUG
459         qDebug("QuaZipDir::exists(): fileName=%s, fileInfo.fileName()=%s, "
460                 "fileInfo.path()=%s", fileName.toUtf8().constData(),
461                 fileInfo.fileName().toUtf8().constData(),
462                 fileInfo.path().toUtf8().constData());
463 #endif
464         QuaZipDir dir(*this);
465         return dir.cd(fileInfo.path()) && dir.exists(fileInfo.fileName());
466     } else {
467         if (fileName == "..") {
468             return !isRoot();
469         } else if (fileName == ".") {
470             return true;
471         } else {
472             QStringList entries = entryList(QDir::AllEntries, QDir::NoSort);
473 #ifdef QUAZIP_QUAZIPDIR_DEBUG
474             qDebug("QuaZipDir::exists(): looking for %s",
475                     fileName.toUtf8().constData());
476             for (QStringList::const_iterator i = entries.constBegin();
477                     i != entries.constEnd();
478                     ++i) {
479                 qDebug("QuaZipDir::exists(): entry: %s",
480                         i->toUtf8().constData());
481             }
482 #endif
483             Qt::CaseSensitivity cs = QuaZip::convertCaseSensitivity(
484                     d->caseSensitivity);
485             if (filePath.endsWith('/')) {
486                 return entries.contains(filePath, cs);
487             } else {
488                 return entries.contains(fileName, cs)
489                     || entries.contains(fileName + "/", cs);
490             }
491         }
492     }
493 }
```

Here is the call graph for this function:



12.72.3.13 bool QuaZipDir::exists ( ) const

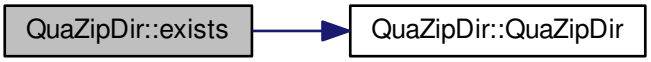
Definition at line 495 of file quazipdir.cpp.

References d, and QuaZipDir().

Referenced by cd().

```
496 {
497     return QuaZipDir(d->zip).exists(d->dir);
498 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.72.3.14 QString QuaZipDir::filePath (const QString & *fileName*) const

Doesn't check if the file actually exists.

Definition at line 500 of file quazipdir.cpp.

References d.

Referenced by exists().

```
501 {
502     return QDir(d->dir).filePath(fileName);
503 }
```

Here is the caller graph for this function:

12.72.3.15 QDir::Filters QuaZipDir::filter ( )

Definition at line 505 of file quazipdir.cpp.

References d.

```
506 {
507     return d->filter;
508 }
```

12.72.3.16 bool QuaZipDir::isRoot ( ) const

Not that the root path is the empty string, not '/'.

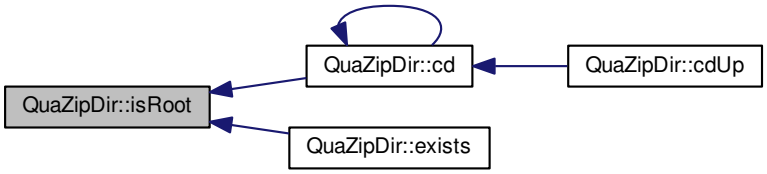
Definition at line 510 of file quazipdir.cpp.

References d.

Referenced by cd(), and exists().

```
511 {
512     return d->simplePath().isEmpty();
513 }
```

Here is the caller graph for this function:



12.72.3.17 QStringList QuaZipDir::nameFilters ( ) const

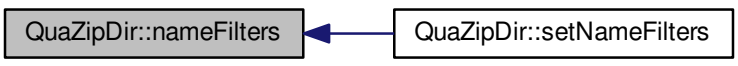
Definition at line 515 of file quazipdir.cpp.

References d.

Referenced by setNameFilters().

```
516 {
517     return d->nameFilters;
518 }
```

Here is the caller graph for this function:



12.72.3.18 bool QuaZipDir::operator!= (const QuaZipDir & *that*) [inline]

Returns

`true` if either this and *that* use different QuaZip instances or if they point to different directories.

Definition at line 75 of file quazipdir.h.

```
75 {return !operator==(that);}
```

12.72.3.19 QuaZipDir & QuaZipDir::operator= (const QuaZipDir & *that*)

Returns

`true` if both this and *that* use the same QuaZip instance and point to the same directory.

Definition at line 71 of file quazipdir.cpp.

References d.

```
72 {
73     this->d = that.d;
74     return *this;
75 }
```

12.72.3.20 bool QuaZipDir::operator== (const QuaZipDir & *that*)

Definition at line 66 of file quazipdir.cpp.

References d.

```
67 {
68     return d->zip == that.d->zip && d->dir == that.d->dir;
69 }
```

12.72.3.21 QString QuaZipDir::operator[] (int *pos*) const

Definition at line 77 of file quazipdir.cpp.

References entryList().

```
78 {
79     return entryList().at(pos);
80 }
```

Here is the call graph for this function:

12.72.3.22 QString QuaZipDir::path ( ) const

The path never starts with '/', and the root path is an empty string.

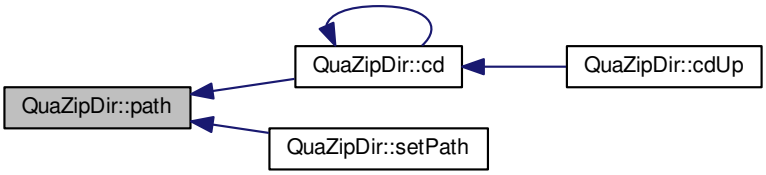
Definition at line 520 of file quazipdir.cpp.

References d.

Referenced by cd(), and setPath().

```
521 {
522     return d->dir;
523 }
```

Here is the caller graph for this function:



12.72.3.23 QString QuaZipDir::relativeFilePath (const QString & *fileName*) const

This function is mostly useless, provided only for the sake of completeness.

Parameters

fileName	The path to the file, should start with "/" if relative to the archive root.

Returns

Path relative to the current dir.

Definition at line 525 of file quazipdir.cpp.

References d.

```
526 {
527     return QDir("/" + d->dir).relativeFilePath(fileName);
528 }
```

12.72.3.24 void QuaZipDir::setCaseSensitivity (QuaZip::CaseSensitivity *caseSensitivity*)

Definition at line 530 of file quazipdir.cpp.

References caseSensitivity(), and d.

```
531 {
532     d->caseSensitivity = caseSensitivity;
533 }
```

Here is the call graph for this function:

12.72.3.25 void QuaZipDir::setFilter (QDir::Filters *filters*)

Definition at line 535 of file quazipdir.cpp.

References d.

```
536 {
537     d->filter = filters;
538 }
```

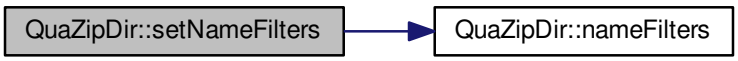
12.72.3.26 void QuaZipDir::setNameFilters (const QStringList & *nameFilters*)

Definition at line 540 of file quazipdir.cpp.

References d, and nameFilters().

```
541 {
542     d->nameFilters = nameFilters;
543 }
```

Here is the call graph for this function:



12.72.3.27 void QuaZipDir::setPath (const QString & *path*)

The difference from cd() is that this function never checks if the path actually exists and doesn't use relative paths, so it's possible to go to the root directory with setPath("").

Note that this function still chops the trailing and/or leading '/' and treats a single '/' as the root path (path() will still return an empty string).

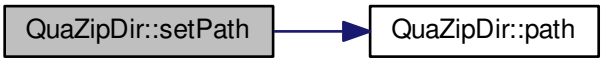
Definition at line 545 of file quazipdir.cpp.

References d, and path().

```
546 {
547     QString newDir = path;
```

```
548     if (newDir == "/") {
549         d->dir = "";
550     } else {
551         if (newDir.endsWith('/'))
552             newDir.chop(1);
553         if (newDir.startsWith('/'))
554             newDir = newDir.mid(1);
555         d->dir = newDir;
556     }
557 }
```

Here is the call graph for this function:



12.72.3.28 void QuaZipDir::setSorting (QDir::SortFlags *sort*)

Definition at line 559 of file quazipdir.cpp.

References d.

```
560 {
561     d->sorting = sort;
562 }
```

12.72.3.29 QDir::SortFlags QuaZipDir::sorting ( ) const

Definition at line 564 of file quazipdir.cpp.

References d.

```
565 {
566     return d->sorting;
567 }
```

12.72.4 Field Documentation

12.72.4.1 QSharedDataPointer<QuaZipDirPrivate> QuaZipDir::d [private]

Definition at line 56 of file quazipdir.h.

Referenced by caseSensitivity(), cd(), dirName(), entryInfoList(), entryInfoList64(), entryList(), exists(), filePath(), filter(), isRoot(), nameFilters(), operator=(), operator==(), path(), QuaZipDir(), relativeFilePath(), setCaseSensitivity(), setFilter(), setNameFilters(), setPath(), setSorting(), and sorting().

The documentation for this class was generated from the following files:

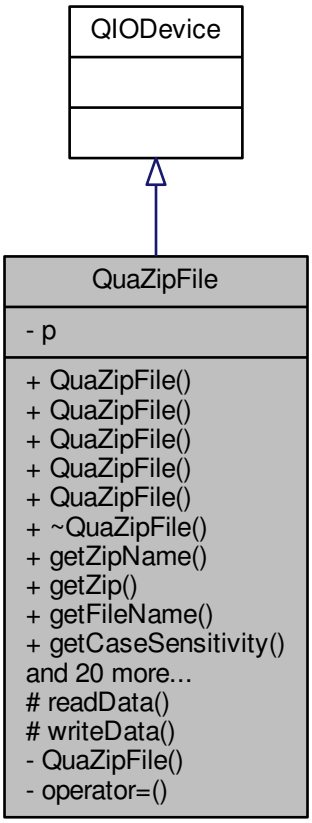
- src/ckb/quazip/quazipdir.h
- src/ckb/quazip/quazipdir.cpp

12.73 QuaZipFile Class Reference

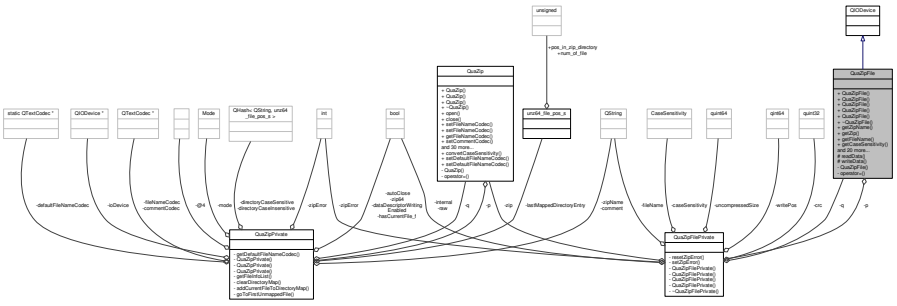
A file inside ZIP archive.

`#include <quazip/quazipfile.h>`

Inheritance diagram for QuaZipFile:



Collaboration diagram for QuaZipFile:



Public Member Functions

- QuaZipFile ()

  Constructs a QuaZipFile instance.
- QuaZipFile (QObject *parent)

  Constructs a QuaZipFile instance.
- QuaZipFile (const QString &zipName, QObject *parent=NULL)

  Constructs a QuaZipFile instance.
- QuaZipFile (const QString &zipName, const QString &fileName, QuaZip::CaseSensitivity cs=QuaZip::csDefault, QObject *parent=NULL)

  Constructs a QuaZipFile instance.
- QuaZipFile (QuaZip *zip, QObject *parent=NULL)

  Constructs a QuaZipFile instance.
- virtual ~QuaZipFile ()

  Destroys a QuaZipFile instance.
- QString getZipName () const

  Returns the ZIP archive file name.
- QuaZip * getZip () const

  Returns a pointer to the associated QuaZip object.
- QString getFileName () const

  Returns file name.
- QuaZip::CaseSensitivity getCaseSensitivity () const

  Returns case sensitivity of the file name.
- QString getActualFileName () const

  Returns the actual file name in the archive.
- void setZipName (const QString &zipName)

  Sets the ZIP archive file name.
- bool isRaw () const

  Returns `true` if the file was opened in raw mode.
- void setZip (QuaZip *zip)

  Binds to the existing QuaZip instance.
- void setFileName (const QString &fileName, QuaZip::CaseSensitivity cs=QuaZip::csDefault)

  Sets the file name.
- virtual bool open (OpenMode mode)

  Opens a file for reading.
- bool open (OpenMode mode, const char *password)

  Opens a file for reading.
- bool open (OpenMode mode, int *method, int *level, bool raw, const char *password=NULL)

  Opens a file for reading.
- bool open (OpenMode mode, const QuaZipNewInfo &info, const char *password=NULL, quint32 crc=0, int method=Z_DEFLATED, int level=Z_DEFAULT_COMPRESSION, bool raw=false, int windowBits=-MAX_WBITS, int memLevel=MAX_MEM_LEVEL, int strategy=Z_DEFAULT_STRATEGY)

  Opens a file for writing.
- virtual bool isSequential () const

  Returns `true`, but beware!
- virtual qint64 pos () const

  Returns current position in the file.
- virtual bool atEnd () const

  Returns `true` if the end of file was reached.
- virtual qint64 size () const

  Returns file size.

- qint64 csize () const

  Returns compressed file size.
- qint64 usize () const

  Returns uncompressed file size.
- bool getFileInfo (QuaZipFileInfo *info)

  Gets information about current file.
- bool getFileInfo (QuaZipFileInfo64 *info)

  Gets information about current file with zip64 support.
- virtual void close ()

  Closes the file.
- int getZipError () const

  Returns the error code returned by the last ZIP/UNZIP API call.
- virtual qint64 bytesAvailable () const

  Returns the number of bytes available for reading.

Protected Member Functions

- qint64 readData (char *data, qint64 maxSize)

  Implementation of the QIODevice::readData().
- qint64 writeData (const char *data, qint64 maxSize)

  Implementation of the QIODevice::writeData().

Private Member Functions

- QuaZipFile (const QuaZipFile &that)
- QuaZipFile & operator= (const QuaZipFile &that)

Private Attributes

- QuaZipFilePrivate * p

Friends

- class QuaZipFilePrivate

12.73.1 Detailed Description

This is the most interesting class. Not only it provides C++ interface to the ZIP/UNZIP package, but also integrates it with Qt by subclassing QIODevice. This makes possible to access files inside ZIP archive using QTextStream or QDataStream, for example. Actually, this is the main purpose of the whole QuaZIP library.

You can either use existing QuaZip instance to create instance of this class or pass ZIP archive file name to this class, in which case it will create internal QuaZip object. See constructors' descriptions for details. Writing is only possible with the existing instance.

Note that due to the underlying library's limitation it is not possible to use multiple QuaZipFile instances to open several files in the same archive at the same time. If you need to write to multiple files in parallel, then you should write to temporary files first, then pack them all at once when you have finished writing. If you need to read multiple files inside the same archive in parallel, you should extract them all into a temporary directory first.

12.73.2 Sequential or random-access?

At the first thought, QuaZipFile has fixed size, the start and the end and should be therefore considered random-access device. But there is one major obstacle to making it random-access: ZIP/UNZIP API does not support seek() operation and the only way to implement it is through reopening the file and re-reading to the required position, but this is prohibitively slow.

Therefore, QuaZipFile is considered to be a sequential device. This has advantage of availability of the ungetChar() operation (QIODevice does not implement it properly for non-sequential devices unless they support seek()). Disadvantage is a somewhat strange behaviour of the size() and pos() functions. This should be kept in mind while using this class.

Definition at line 74 of file quazipfile.h.

12.73.3 Constructor & Destructor Documentation

12.73.3.1 QuaZipFile::QuaZipFile (const QuaZipFile & *that*) [private]

12.73.3.2 QuaZipFile::QuaZipFile ( )

You should use setZipName() and setFileName() or setZip() before trying to call open() on the constructed object.

Definition at line 108 of file quazipfile.cpp.

```
108                       :
109   p(new QuaZipFilePrivate(this))
110 {
111 }
```

12.73.3.3 QuaZipFile::QuaZipFile (QObject * *parent*)

parent argument specifies this object's parent object.

You should use setZipName() and setFileName() or setZip() before trying to call open() on the constructed object.

Definition at line 113 of file quazipfile.cpp.

```
113                                       :
114   QIODevice(parent),
115   p(new QuaZipFilePrivate(this))
116 {
117 }
```

12.73.3.4 QuaZipFile::QuaZipFile (const QString & *zipName*, QObject * *parent* = NULL)

parent argument specifies this object's parent object and *zipName* specifies ZIP archive file name.

You should use setFileName() before trying to call open() on the constructed object.

QuaZipFile constructed by this constructor can be used for read only access. Use QuaZipFile(QuaZip*,QObject*) for writing.

Definition at line 119 of file quazipfile.cpp.

```
119                                                           :
120   QIODevice(parent),
121   p(new QuaZipFilePrivate(this, zipName))
122 {
123 }
```

12.73.3.5 QuaZipFile::QuaZipFile (const QString & *zipName*, const QString & *fileName*, QuaZip::CaseSensitivity *cs* = QuaZip::csDefault, QObject * *parent* = NULL)

parent argument specifies this object's parent object, *zipName* specifies ZIP archive file name and *fileName* and *cs* specify a name of the file to open inside archive.

QuaZipFile constructed by this constructor can be used for read only access. Use QuaZipFile(QuaZip*,QObject*) for writing.

See Also

QuaZip::setCurrentFile()

Definition at line 125 of file quazipfile.cpp.

```
126                                             :
127   QIODevice(parent),
128   p(new QuaZipFilePrivate(this, zipName, fileName, cs))
129 {
130 }
```

12.73.3.6 QuaZipFile::QuaZipFile (QuaZip * *zip*, QObject * *parent* = NULL)

parent argument specifies this object's parent object.

zip is the pointer to the existing QuaZip object. This QuaZipFile object then can be used to read current file in the *zip* or to write to the file inside it.

Warning

Using this constructor for reading current file can be tricky. Let's take the following example:

```
QuaZip zip("archive.zip");
zip.open(QuaZip::mdUnzip);
zip.setCurrentFile("file-in-archive");
QuaZipFile file(&zip);
file.open(QIODevice::ReadOnly);
// ok, now we can read from the file
file.read(somewhere, some);
zip.setCurrentFile("another-file-in-archive"); // oops...
QuaZipFile anotherFile(&zip);
anotherFile.open(QIODevice::ReadOnly);
anotherFile.read(somewhere, some); // this is still ok...
file.read(somewhere, some); // and this is NOT
```

So, what exactly happens here? When we change current file in the `zip` archive, `file` that references it becomes invalid (actually, as far as I understand ZIP/UNZIP sources, it becomes closed, but QuaZipFile has no means to detect it).

Summary: do not close `zip` object or change its current file as long as QuaZipFile is open. Even better - use another constructors which create internal QuaZip instances, one per object, and therefore do not cause unnecessary trouble. This constructor may be useful, though, if you already have a QuaZip instance and do not want to access several files at once. Good example:

```
QuaZip zip("archive.zip");
zip.open(QuaZip::mdUnzip);
// first, we need some information about archive itself
QByteArray comment=zip.getComment();
// and now we are going to access files inside it
QuaZipFile file(&zip);
for(bool more=zip.goToFirstFile(); more; more=zip.goToNextFile()) {
  file.open(QIODevice::ReadOnly);
  // do something cool with file here
  file.close(); // do not forget to close!
}
zip.close();
```

Definition at line 132 of file quazipfile.cpp.

```
132                                                 :
133   QIODevice(parent),
134   p(new QuaZipFilePrivate(this, zip))
135 {
136 }
```

12.73.3.7 QuaZipFile::~QuaZipFile ( ) [virtual]

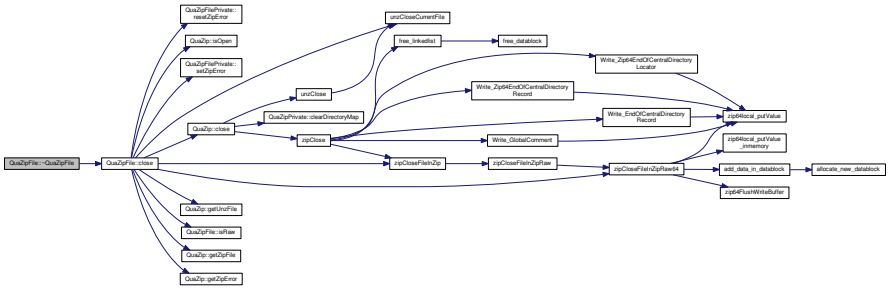
Closes file if open, destructs internal QuaZip object (if it exists and *is* internal, of course).

Definition at line 138 of file quazipfile.cpp.

References close(), and p.

```
139 {
140   if (isOpen())
141     close();
142   delete p;
143 }
```

Here is the call graph for this function:



12.73.4 Member Function Documentation

12.73.4.1 bool QuaZipFile::atEnd ( ) const [virtual]

This function returns `false` in the case of error. This means that you called this function on either not open file, or a file in the not open archive or even on a QuaZipFile instance that does not even have QuaZip instance associated. Do not do that because there is no means to determine whether `false` is returned because of error or because end of file was reached. Well, on the other side you may interpret `false` return value as "there is no file open to check for end of file and there is no end of file therefore".

When writing, this function always returns `true` (because you are always writing to the end of file).

Error code returned by getZipError() is not affected by this function call.

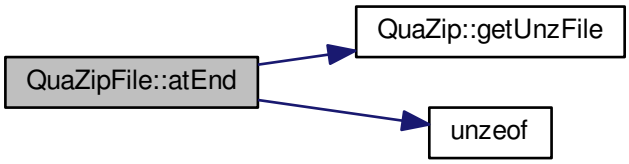
Definition at line 361 of file quazipfile.cpp.

References QuaZip::getUnzFile(), p, unzeof(), and QuaZipFilePrivate::zip.

```
362 {
363   if(p->zip==NULL) {
364     qWarning("QuaZipFile::atEnd(): call setZipName() or setZip() first");
365     return false;
366   }
367   if(!isOpen()) {
368     qWarning("QuaZipFile::atEnd(): file is not open");
369     return false;
370   }
371   if(openMode()&ReadOnly)
372       // the same problem as with pos()
373     return QIODevice::bytesAvailable() == 0
374         && unzeof(p->zip->getUnzFile())==1;
```

```
375   else
376     return true;
377 }
```

Here is the call graph for this function:



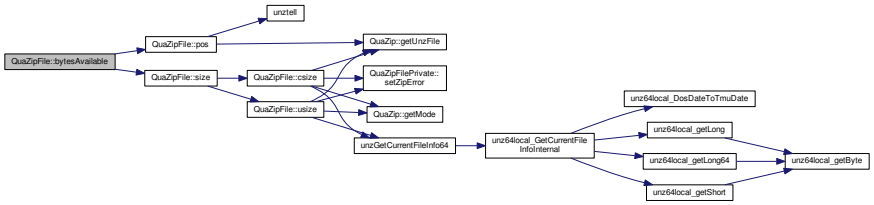
12.73.4.2 qint64 QuaZipFile::bytesAvailable ( ) const [virtual]

Definition at line 499 of file quazipfile.cpp.

References pos(), and size().

```
500 {
501     return size() - pos();
502 }
```

Here is the call graph for this function:



12.73.4.3 void QuaZipFile::close ( ) [virtual]

Call getZipError() to determine if the close was successful.

Definition at line 432 of file quazipfile.cpp.

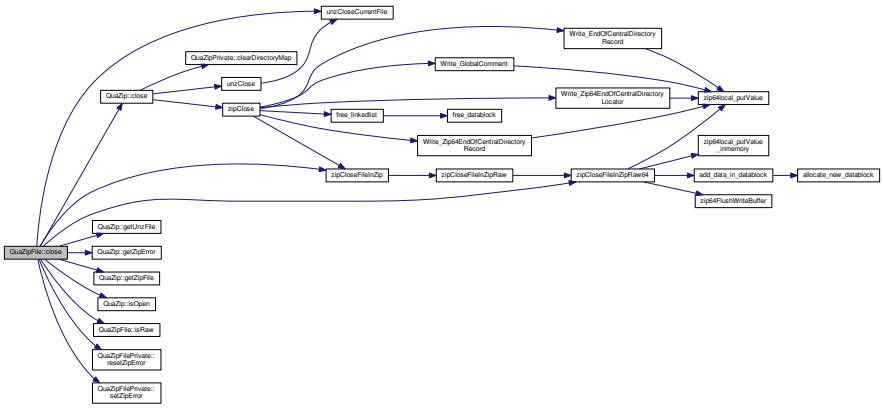
References QuaZip::close(), QuaZipFilePrivate::crc, QuaZip::getUnzFile(), QuaZip::getZipError(), QuaZip::getZipFile(), QuaZipFilePrivate::internal, QuaZip::isOpen(), isRaw(), p, QuaZipFilePrivate::resetZipError(), QuaZipFilePrivate::setZipError(), QuaZipFilePrivate::uncompressedSize, UNZ_OK, unzCloseCurrentFile(), QuaZipFilePrivate::zip, zipCloseFileInZip(), zipCloseFileInZipRaw64(), and QuaZipFilePrivate::zipError.

Referenced by JlCompress::compressFile(), JlCompress::compressSubDir(), JlCompress::extractFile(), and ~QuaZipFile().

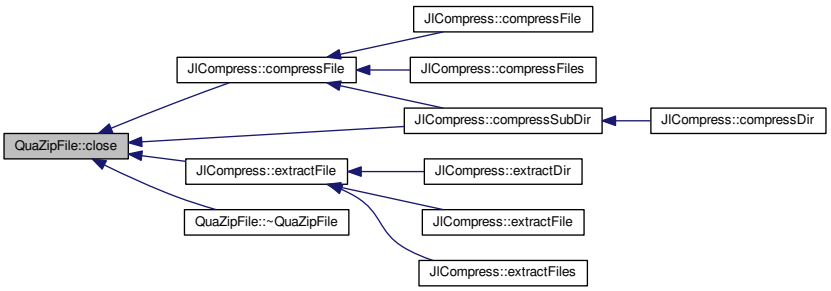
```
433 {
434   p->resetZipError();
435   if(p->zip==NULL||!p->zip->isOpen()) return;
```

```
436   if(!isOpen()) {
437     qWarning("QuaZipFile::close(): file isn't open");
438     return;
439   }
440   if(openMode()&ReadOnly)
441     p->setZipError(unzCloseCurrentFile(p->zip->
      getUnzFile()));
442   else if(openMode()&WriteOnly)
443     if(isRaw()) p->setZipError(zipCloseFileInZipRaw64(
      p->zip->getZipFile(), p->uncompressedSize, p->
      crc));
444     else p->setZipError(zipCloseFileInZip(p->zip->
      getZipFile()));
445   else {
446     qWarning("Wrong open mode: %d", (int)openMode());
447     return;
448   }
449   if(p->zipError==UNZ_OK) setOpenMode(QIODevice::NotOpen);
450   else return;
451   if(p->internal) {
452     p->zip->close();
453     p->setZipError(p->zip->getZipError());
454   }
455 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.73.4.4 qint64 QuaZipFile::csize ( ) const

Equivalent to calling getFileInfo() and then getting compressedSize field, but more convenient and faster.

File must be open for reading before calling this function.

Returns -1 on error, call getZipError() to get error code.

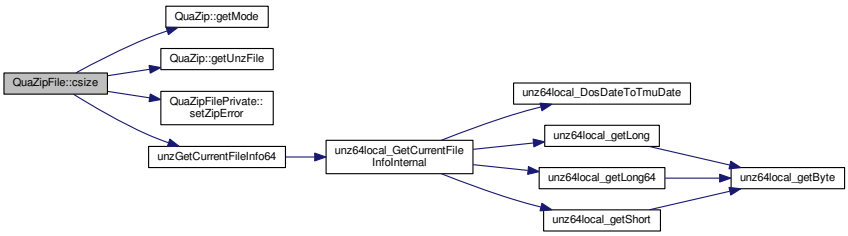
Definition at line 391 of file quazipfile.cpp.

References unz_file_info64_s::compressed_size, QuaZip::getMode(), QuaZip::getUnzFile(), QuaZip::mdUnzip, p, QuaZipFilePrivate::setZipError(), UNZ_OK, unzGetCurrentFileInfo64(), QuaZipFilePrivate::zip, and QuaZipFilePrivate::zipError.

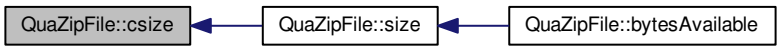
Referenced by size().

```
392 {
393   unz_file_info64 info_z;
394   p->setZipError(UNZ_OK);
395   if(p->zip==NULL||p->zip->getMode()!=QuaZip::mdUnzip) return -1;
396   p->setZipError(unzGetCurrentFileInfo64(p->
      zip->getUnzFile(), &info_z, NULL, 0, NULL, 0, NULL, 0));
397   if(p->zipError!=UNZ_OK)
398     return -1;
399   return info_z.compressed_size;
400 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.73.4.5 QString QuaZipFile::getActualFileName ( ) const

This is *not* a ZIP archive file name, but a name of file inside archive. It is not necessary the same name that you have passed to the QuaZipFile(const QString&,const QString&,QuaZip::CaseSensitivity,QObject*), setFileName() or QuaZip::setCurrentFile() - this is the real file name inside archive, so it may differ in case if the file name search was case-insensitive.

Equivalent to calling getCurrentFileName() on the associated QuaZip object. Returns null string if there is no associated QuaZip object or if it does not have a current file yet. And this is the case if you called setFileName() but did not open the file yet. So this is perfectly fine:

```
QuaZipFile file("somezip.zip");
file.setFileName("somefile");
QString name=file.getName(); // name=="somefile"
QString actual=file.getActualFileName(); // actual is null string
file.open(QIODevice::ReadOnly);
QString actual=file.getActualFileName(); // actual can be "SoMeFiLe" on Windows
```

See Also

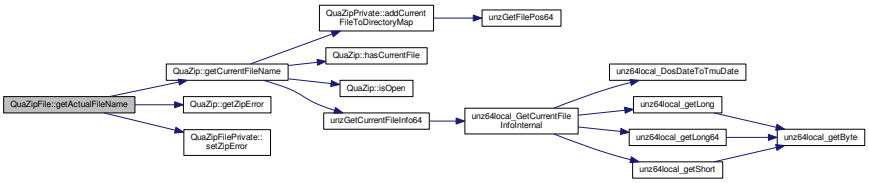
getZipName(), getFileName(), QuaZip::CaseSensitivity

Definition at line 155 of file quazipfile.cpp.

References QuaZip::getCurrentFileName(), QuaZip::getZipError(), p, QuaZipFilePrivate::setZipError(), UNZ_OK, and QuaZipFilePrivate::zip.

```
156 {
157   p->setZipError(UNZ_OK);
158   if (p->zip == NULL || (openMode() & WriteOnly))
159     return QString();
160   QString name=p->zip->getCurrentFileName();
161   if(name.isNull())
162     p->setZipError(p->zip->getZipError());
163   return name;
164 }
```

Here is the call graph for this function:



12.73.4.6 QuaZip::CaseSensitivity QuaZipFile::getCaseSensitivity ( ) const

This function returns case sensitivity argument you passed to this object either by using QuaZipFile(const QString&,const QString&,QuaZip::CaseSensitivity,QObject*) or by calling setFileName().

Returns unpredictable value if getFileName() returns null string (this is the case when you did not used setFileName() or constructor above).

See Also

getFileName

Definition at line 484 of file quazipfile.cpp.

References QuaZipFilePrivate::caseSensitivity, and p.

```
485 {
486   return p->caseSensitivity;
487 }
```

12.73.4.7 bool QuaZipFile::getFileInfo (QuaZipFileInfo * *info*)

This function does the same thing as calling QuaZip::getCurrentFileInfo() on the associated QuaZip object, but you can not call getCurrentFileInfo() if the associated QuaZip is internal (because you do not have access to it), while you still can call this function in that case.

File must be open for reading before calling this function.

Returns

`false` in the case of an error.

This function doesn't support zip64, but will still work fine on zip64 archives if file sizes are below 4 GB, otherwise the values will be set as if converted using QuaZipFileInfo64::toQuaZipFileInfo().

See Also

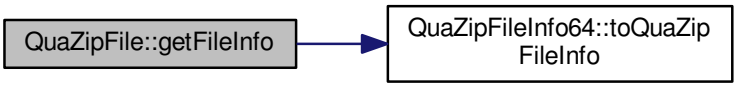
getFileInfo(QuaZipFileInfo64*)

Definition at line 413 of file quazipfile.cpp.

References QuaZipFileInfo64::toQuaZipFileInfo().

```
414 {
415     QuaZipFileInfo64 info64;
416     if (getFileInfo(&info64)) {
417         info64.toQuaZipFileInfo(*info);
418         return true;
419     } else {
420         return false;
421     }
422 }
```

Here is the call graph for this function:



12.73.4.8 bool QuaZipFile::getFileInfo (QuaZipFileInfo64 * *info*)

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts.

See Also

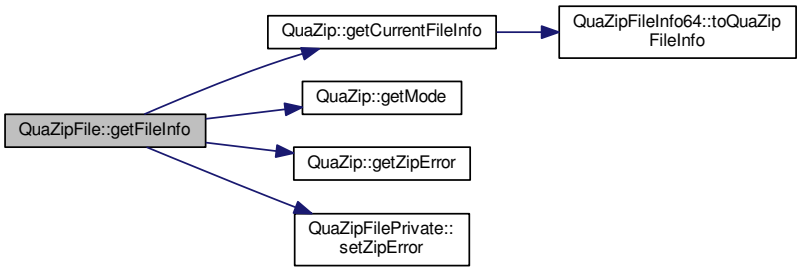
getFileInfo(QuaZipFileInfo*)

Definition at line 424 of file quazipfile.cpp.

References QuaZip::getCurrentFileInfo(), QuaZip::getMode(), QuaZip::getZipError(), QuaZip::mdUnzip, p, QuaZipFilePrivate::setZipError(), UNZ_OK, QuaZipFilePrivate::zip, and QuaZipFilePrivate::zipError.

```
425 {
426     if(p->zip==NULL||p->zip->getMode()!=QuaZip::mdUnzip) return false;
427     p->zip->getCurrentFileInfo(info);
428     p->setZipError(p->zip->getZipError());
429     return p->zipError==UNZ_OK;
430 }
```

Here is the call graph for this function:



12.73.4.9 QString QuaZipFile::getFileName ( ) const

This function returns file name you passed to this object either by using QuaZipFile(const QString&,const QString&,-QuaZip::CaseSensitivity,QObject*) or by calling setFileName(). Real name of the file may differ in case if you used case-insensitivity.

Returns null string if there is no file name set yet. This is the case when this QuaZipFile operates on the existing QuaZip object (constructor QuaZipFile(QuaZip*,QObject*) or setZip() was used).

See Also

getActualFileName

Definition at line 479 of file quazipfile.cpp.

References QuaZipFilePrivate::fileName, and p.

```
480 {
481   return p->fileName;
482 }
```

12.73.4.10 QuaZip * QuaZipFile::getZip ( ) const

Returns NULL if there is no associated QuaZip or it is internal (so you will not mess with it).

Definition at line 150 of file quazipfile.cpp.

References QuaZipFilePrivate::internal, p, and QuaZipFilePrivate::zip.

```
151 {
152     return p->internal ? NULL : p->zip;
153 }
```

12.73.4.11 int QuaZipFile::getZipError ( ) const

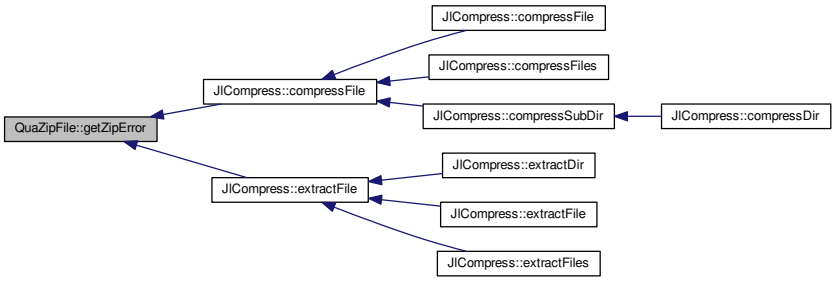
Definition at line 494 of file quazipfile.cpp.

References p, and QuaZipFilePrivate::zipError.

Referenced by JlCompress::compressFile(), and JlCompress::extractFile().

```
495 {
496   return p->zipError;
497 }
```

Here is the caller graph for this function:



12.73.4.12 QString QuaZipFile::getZipName ( ) const

If this object was created by passing QuaZip pointer to the constructor, this function will return that QuaZip's file name (or null string if that object does not have file name yet).

Otherwise, returns associated ZIP archive file name or null string if there are no name set yet.

See Also

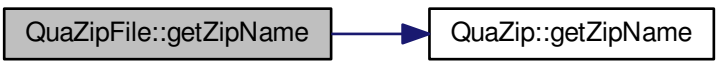
setZipName() getFileName()

Definition at line 145 of file quazipfile.cpp.

References QuaZip::getZipName(), p, and QuaZipFilePrivate::zip.

```
146 {
147   return p->zip==NULL ? QString() : p->zip->getZipName();
148 }
```

Here is the call graph for this function:



12.73.4.13 bool QuaZipFile::isRaw ( ) const

If the file is not open, the returned value is undefined.

See Also

open(OpenMode,int*,int*,bool,const char*)

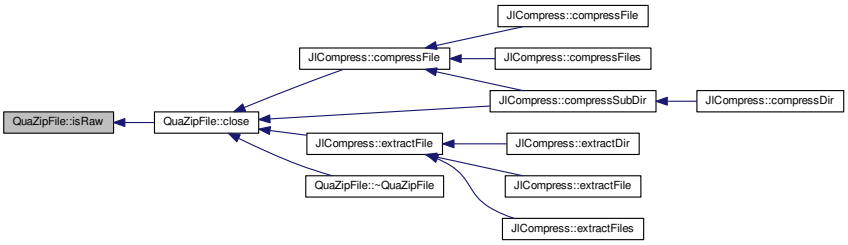
Definition at line 489 of file quazipfile.cpp.

References p, and QuaZipFilePrivate::raw.

Referenced by close().

```
490 {
491   return p->raw;
492 }
```

Here is the caller graph for this function:



12.73.4.14 bool QuaZipFile::isSequential ( ) const [virtual]

Definition at line 337 of file quazipfile.cpp.

```
338 {
339   return true;
340 }
```

12.73.4.15 bool QuaZipFile::open (OpenMode *mode*) [virtual]

Returns `true` on success, `false` otherwise. Call getZipError() to get error code.

Note

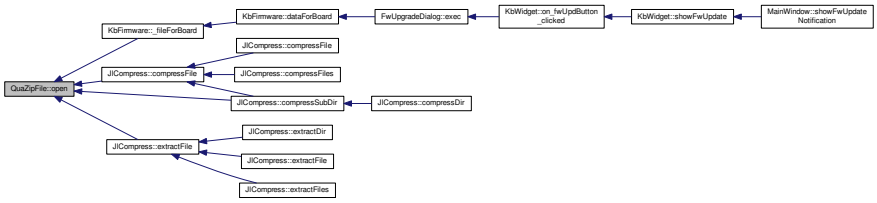
Since ZIP/UNZIP API provides buffered reading only, QuaZipFile does not support unbuffered reading. So do not pass QIODevice::Unbuffered flag in *mode*, or open will fail.

Definition at line 221 of file quazipfile.cpp.

Referenced by KbFirmware::_fileForBoard(), JICompress::compressFile(), JICompress::compressSubDir(), JICompress::extractFile().

```
222 {
223   return open(mode, NULL);
224 }
```

Here is the caller graph for this function:



12.73.4.16 bool QuaZipFile::open (OpenMode *mode*, const char * *password*) [inline]

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts. Argument *password* specifies a password to decrypt the file. If it is NULL then this function behaves just like open(OpenMode).

Definition at line 298 of file quazipfile.h.

```
299     {return open(mode, NULL, NULL, false, password);}
```

12.73.4.17 bool QuaZipFile::open (OpenMode *mode*, int * *method*, int * *level*, bool *raw*, const char * *password* = NULL)

This is an overloaded member function, provided for convenience. It differs from the above function only in what argument(s) it accepts. Argument *password* specifies a password to decrypt the file.

An integers pointed by *method* and *level* will receive codes of the compression method and level used. See unzip.h.

If raw is `true` then no decompression is performed.

method should not be `NULL`. *level* can be `NULL` if you don't want to know the compression level.

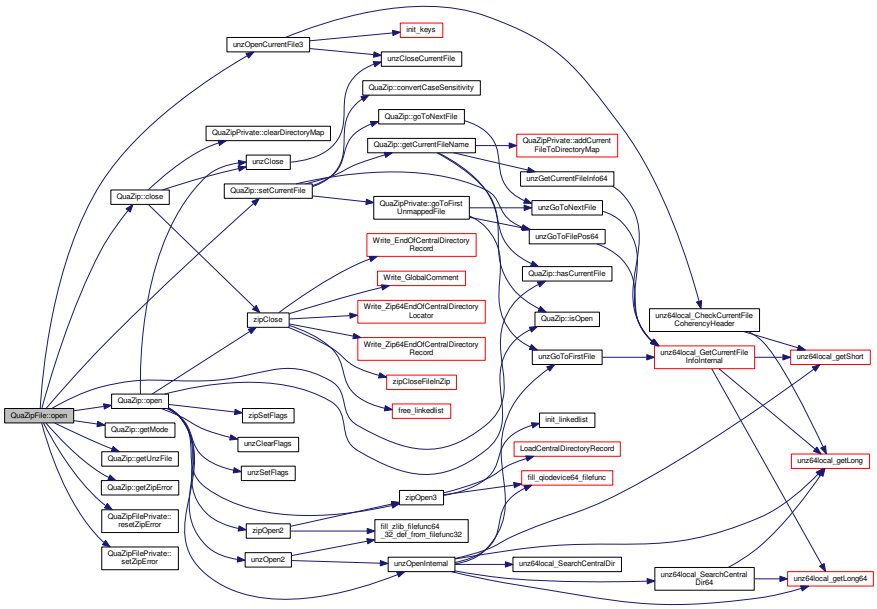
Definition at line 226 of file quazipfile.cpp.

References QuaZipFilePrivate::caseSensitivity, QuaZip::close(), QuaZipFilePrivate::fileName, QuaZip::getMode(), QuaZip::getUnzFile(), QuaZip::getZipError(), QuaZip::hasCurrentFile(), QuaZipFilePrivate::internal, QuaZip::mdUnzip, QuaZip::open(), p, QuaZipFilePrivate::raw, QuaZipFilePrivate::resetZipError(), QuaZip::setCurrentFile(), QuaZipFilePrivate::setZipError(), UNZ_OK, unzOpenCurrentFile3(), QuaZipFilePrivate::zip, and QuaZipFilePrivate::zipError.

```
227 {
228   p->resetZipError();
229   if(isOpen()) {
230     qWarning("QuaZipFile::open(): already opened");
231     return false;
232   }
233   if(mode&Unbuffered) {
234     qWarning("QuaZipFile::open(): Unbuffered mode is not supported");
235     return false;
236   }
237   if((mode&ReadOnly)&&!(mode&WriteOnly)) {
238     if(p->internal) {
239       if(!p->zip->open(QuaZip::mdUnzip)) {
240         p->setZipError(p->zip->getZipError());
241         return false;
242       }
243       if(!p->zip->setCurrentFile(p->fileName, p->
      caseSensitivity)) {
244         p->setZipError(p->zip->getZipError());
245         p->zip->close();
246         return false;
247       }
248     } else {
249       if(p->zip==NULL) {
250         qWarning("QuaZipFile::open(): zip is NULL");
251         return false;
```

```
252       }
253       if(p->zip->getMode()!=QuaZip::mdUnzip) {
254         qWarning("QuaZipFile::open(): file open mode %d incompatible with ZIP open mode %d",
255             (int)mode, (int)p->zip->getMode());
256         return false;
257       }
258       if(!p->zip->hasCurrentFile()) {
259         qWarning("QuaZipFile::open(): zip does not have current file");
260         return false;
261       }
262     }
263     p->setZipError(unzOpenCurrentFile3(p->zip->
    getUnzFile(), method, level, (int)raw, password));
264     if(p->zipError==UNZ_OK) {
265       setOpenMode(mode);
266       p->raw=raw;
267       return true;
268     } else
269       return false;
270   }
271   qWarning("QuaZipFile::open(): open mode %d not supported by this function", (int)mode);
272   return false;
273 }
```

Here is the call graph for this function:



12.73.4.18 bool QuaZipFile::open (OpenMode *mode*, const QuaZipNewInfo & *info*, const char * *password* = NULL, quint32 *crc* = 0, int *method* = Z_DEFLATED, int *level* = Z_DEFAULT_COMPRESSION, bool *raw* = false, int *windowBits* = -MAX_WBITS, int *memLevel* = MAX_MEM_LEVEL, int *strategy* = Z_DEFAULT_STRATEGY)

info argument specifies information about file. It should at least specify a correct file name. Also, it is a good idea to specify correct timestamp (by default, current time will be used). See QuaZipNewInfo.

The *password* argument specifies the password for crypting. Pass NULL if you don't need any crypting. The *crc* argument was supposed to be used for crypting too, but then it turned out that it's false information, so you need to set it to 0 unless you want to use the raw mode (see below).

Arguments *method* and *level* specify compression method and level. The only method supported is Z_DEFLATED, but you may also specify 0 for no compression. If all of the files in the archive use both method 0 and either level 0 is explicitly specified or data descriptor writing is disabled with QuaZip::setDataDescriptorWritingEnabled(), then the resulting archive is supposed to be compatible with the 1.0 ZIP format version, should you need that. Except for this, *level* has no other effects with method 0.

If *raw* is `true`, no compression is performed. In this case, *crc* and uncompressedSize field of the *info* are required.

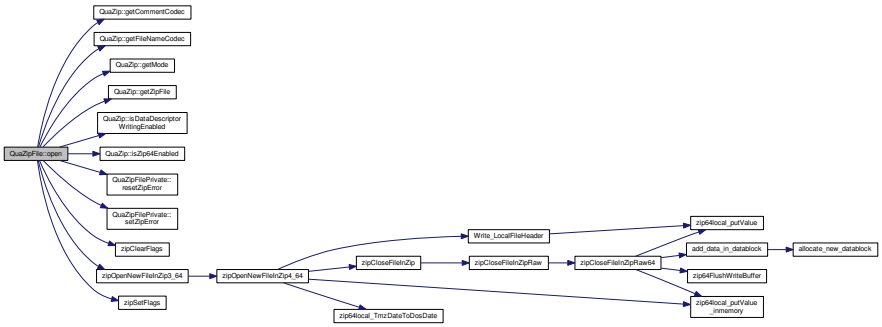
Arguments *windowBits*, *memLevel*, *strategy* provide zlib algorithms tuning. See deflateInit2() in zlib.

Definition at line 275 of file quazipfile.cpp.

References QuaZipNewInfo::comment, QuaZipFilePrivate::crc, QuaZipNewInfo::dateTime, zip_fileinfo::dosDate, zip_fileinfo::external_fa, QuaZipNewInfo::externalAttr, QuaZipNewInfo::extraGlobal, QuaZipNewInfo::extraLocal, QuaZip::getCommentCodec(), QuaZip::getFileNameCodec(), QuaZip::getMode(), QuaZip::getZipFile(), QuaZipFilePrivate::internal, zip_fileinfo::internal_fa, QuaZipNewInfo::internalAttr, QuaZip::isDataDescriptorWritingEnabled(), QuaZip::isZip64Enabled(), QuaZip::mdAdd, QuaZip::mdAppend, QuaZip::mdCreate, QuaZipNewInfo::name, p, QuaZipFilePrivate::raw, QuaZipFilePrivate::resetZipError(), QuaZipFilePrivate::setZipError(), tm_zip_s::tm_hour, tm_zip_s::tm_mday, tm_zip_s::tm_min, tm_zip_s::tm_mon, tm_zip_s::tm_sec, tm_zip_s::tm_year, zip_fileinfo::tmz_date, QuaZipFilePrivate::uncompressedSize, QuaZipNewInfo::uncompressedSize, UNZ_OK, QuaZipFilePrivate::writePos, QuaZipFilePrivate::zip, ZIP_WRITE_DATA_DESCRIPTOR, zipClearFlags(), QuaZipFilePrivate::zipError, zipOpenNewFileInZip3_64(), and zipSetFlags().

```
279 {
280   zip_fileinfo info_z;
281   p->resetZipError();
282   if(isOpen()) {
283     qWarning("QuaZipFile::open(): already opened");
284     return false;
285   }
286   if((mode&WriteOnly)&&!(mode&ReadOnly)) {
287     if(p->internal) {
288       qWarning("QuaZipFile::open(): write mode is incompatible with internal QuaZip approach");
289       return false;
290     }
291     if(p->zip==NULL) {
292       qWarning("QuaZipFile::open(): zip is NULL");
293       return false;
294     }
295     if(p->zip->getMode()!=QuaZip::mdCreate&&p->zip->
    getMode()!=QuaZip::mdAppend&&p->zip->getMode()!=
    QuaZip::mdAdd) {
296       qWarning("QuaZipFile::open(): file open mode %d incompatible with ZIP open mode %d",
297           (int)mode, (int)p->zip->getMode());
298       return false;
299     }
300     info_z.tmz_date.tm_year=info.dateTime.date().year();
301     info_z.tmz_date.tm_mon=info.dateTime.date().month() - 1;
302     info_z.tmz_date.tm_mday=info.dateTime.date().day();
303     info_z.tmz_date.tm_hour=info.dateTime.time().hour();
304     info_z.tmz_date.tm_min=info.dateTime.time().minute();
305     info_z.tmz_date.tm_sec=info.dateTime.time().second();
306     info_z.dosDate = 0;
307     info_z.internal_fa=(uLong)info.internalAttr;
308     info_z.external_fa=(uLong)info.externalAttr;
309     if (p->zip->isDataDescriptorWritingEnabled())
310       zipSetFlags(p->zip->getZipFile(),
    ZIP_WRITE_DATA_DESCRIPTOR);
311     else
312       zipClearFlags(p->zip->getZipFile(),
    ZIP_WRITE_DATA_DESCRIPTOR);
313     p->setZipError(zipOpenNewFileInZip3_64(p->
    zip->getZipFile(),
314         p->zip->getFileNameCodec()->fromUnicode(info.name).constData(), &info_z,
315         info.extraLocal.constData(), info.extraLocal.length(),
316         info.extraGlobal.constData(), info.extraGlobal.length(),
317         p->zip->getCommentCodec()->fromUnicode(info.comment).constData(),
318         method, level, (int)raw,
319         windowBits, memLevel, strategy,
320         password, (uLong)crc, p->zip->isZip64Enabled()));
321     if(p->zipError==UNZ_OK) {
322       p->writePos=0;
323       setOpenMode(mode);
324       p->raw=raw;
325       if(raw) {
326         p->crc=crc;
327         p->uncompressedSize=info.uncompressedSize;
328       }
329       return true;
330     } else
331       return false;
332   }
333   qWarning("QuaZipFile::open(): open mode %d not supported by this function", (int)mode);
334   return false;
335 }
```

Here is the call graph for this function:



12.73.4.19 QuaZipFile& QuaZipFile::operator= (const QuaZipFile & *that*) [private]

12.73.4.20 qint64 QuaZipFile::pos ( ) const [virtual]

Implementation of the QIODevice::pos(). When reading, this function is a wrapper to the ZIP/UNZIP unztell(), therefore it is unable to keep track of the ungetChar() calls (which is non-virtual and therefore is dangerous to reimplement). So if you are using ungetChar() feature of the QIODevice, this function reports incorrect value until you get back characters which you ungot.

When writing, pos() returns number of bytes already written (uncompressed unless you use raw mode).

Note

Although QuaZipFile is a sequential device and therefore pos() should always return zero, it does not, because it would be misguiding. Keep this in mind.

This function returns -1 if the file or archive is not open.

Error code returned by getZipError() is not affected by this function call.

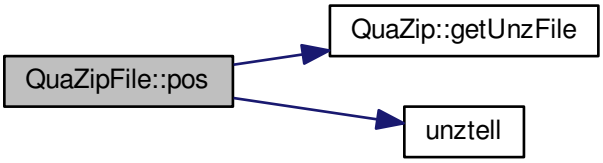
Definition at line 342 of file quazipfile.cpp.

References QuaZip::getUnzFile(), p, unztell(), QuaZipFilePrivate::writePos, and QuaZipFilePrivate::zip.

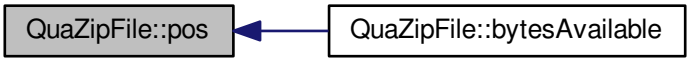
Referenced by bytesAvailable().

```
343 {
344   if(p->zip==NULL) {
345     qWarning("QuaZipFile::pos(): call setZipName() or setZip() first");
346     return -1;
347   }
348   if(!isOpen()) {
349     qWarning("QuaZipFile::pos(): file is not open");
350     return -1;
351   }
352   if(openMode()&ReadOnly)
353       // QIODevice::pos() is broken for sequential devices,
354       // but thankfully bytesAvailable() returns the number of
355       // bytes buffered, so we know how far ahead we are.
356     return unztell(p->zip->getUnzFile()) - QIODevice::bytesAvailable();
357   else
358     return p->writePos;
359 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



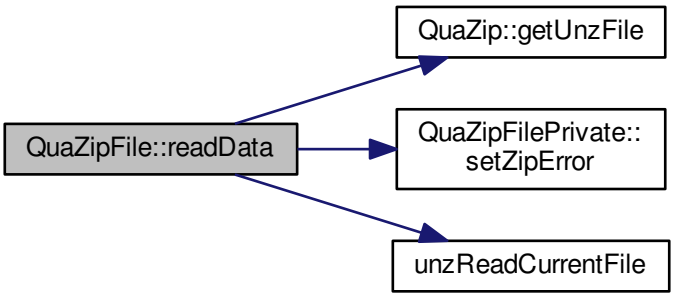
12.73.4.21 qint64 QuaZipFile::readData (char * *data*, qint64 *maxSize*) [protected]

Definition at line 457 of file quazipfile.cpp.

References QuaZip::getUnzFile(), p, QuaZipFilePrivate::setZipError(), UNZ_OK, unzReadCurrentFile(), and QuaZipFilePrivate::zip.

```
458 {
459   p->setZipError(UNZ_OK);
460   qint64 bytesRead=unzReadCurrentFile(p->zip->getUnzFile(), data, (unsigned
      )maxSize);
461   if (bytesRead < 0) {
462     p->setZipError((int) bytesRead);
463     return -1;
464   }
465   return bytesRead;
466 }
```

Here is the call graph for this function:



12.73.4.22 void QuaZipFile::setFileName (const QString & *fileName,* QuaZip::CaseSensitivity *cs* = QuaZip::csDefault)

Will do nothing if at least one of the following conditions is met:

- ZIP name has not been set yet (getZipName() returns null string).
- This QuaZipFile is associated with external QuaZip. In this case you should call that QuaZip's setCurrentFile() function instead!
- File is already open so setting the name is meaningless.

See Also

QuaZip::setCurrentFile

Definition at line 191 of file quazipfile.cpp.

References QuaZipFilePrivate::caseSensitivity, QuaZipFilePrivate::fileName, QuaZipFilePrivate::internal, p, and QuaZipFilePrivate::zip.

```
192 {
193   if(p->zip==NULL) {
194     qWarning("QuaZipFile::setFileName(): call setZipName() first");
195     return;
196   }
197   if(!p->internal) {
198     qWarning("QuaZipFile::setFileName(): should not be used when not using internal QuaZip");
199     return;
200   }
201   if(isOpen()) {
202     qWarning("QuaZipFile::setFileName(): can not set file name for already opened file");
203     return;
204   }
205   p->fileName=fileName;
206   if (p->fileName.startsWith('/'))
207       p->fileName = p->fileName.mid(1);
208   p->caseSensitivity=cs;
209 }
```

12.73.4.23 void QuaZipFile::setZip (QuaZip * *zip*)

This function destroys internal QuaZip object, if any, and makes this QuaZipFile to use current file in the *zip* object for any further operations. See QuaZipFile(QuaZip*,QObject*) for the possible pitfalls.

Will do nothing if the file is currently open. You must close() it first.

Definition at line 178 of file quazipfile.cpp.

References QuaZipFilePrivate::fileName, QuaZipFilePrivate::internal, p, and QuaZipFilePrivate::zip.

```
179 {
180   if(isOpen()) {
181     qWarning("QuaZipFile::setZip(): file is already open - can not set ZIP");
182     return;
183   }
184   if(p->zip!=NULL && p->internal)
185     delete p->zip;
186   p->zip=zip;
187   p->fileName=QString();
188   p->internal=false;
189 }
```

12.73.4.24 void QuaZipFile::setZipName (const QString & *zipName*)

Automatically creates internal QuaZip object and destroys previously created internal QuaZip object, if any.

Will do nothing if this file is already open. You must close() it first.

Definition at line 166 of file quazipfile.cpp.

References QuaZipFilePrivate::internal, p, and QuaZipFilePrivate::zip.

```
167 {
168   if(isOpen()) {
169     qWarning("QuaZipFile::setZipName(): file is already open - can not set ZIP name");
170     return;
171   }
172   if(p->zip!=NULL && p->internal)
173     delete p->zip;
174   p->zip=new QuaZip(zipName);
175   p->internal=true;
176 }
```

12.73.4.25 qint64 QuaZipFile::size ( ) const [virtual]

This function returns csize() if the file is open for reading in raw mode, usize() if it is open for reading in normal mode and pos() if it is open for writing.

Returns -1 on error, call getZipError() to get error code.

Note

> This function returns file size despite that QuaZipFile is considered to be sequential device, for which size() should return bytesAvailable() instead. But its name would be very misguiding otherwise, so just keep in mind this inconsistence.

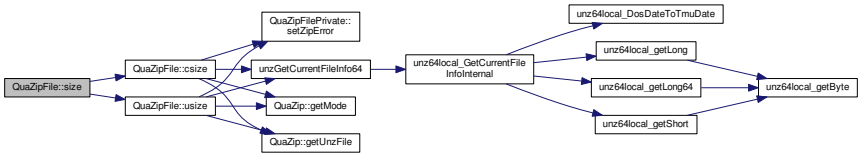
Definition at line 379 of file quazipfile.cpp.

References csize(), p, QuaZipFilePrivate::raw, usize(), and QuaZipFilePrivate::writePos.

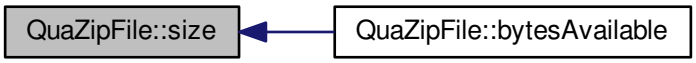
Referenced by bytesAvailable().

```
380 {
381   if(!isOpen()) {
382     qWarning("QuaZipFile::atEnd(): file is not open");
383     return -1;
384   }
385   if(openMode()&ReadOnly)
386     return p->raw?csize():usize();
387   else
388     return p->writePos;
389 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.73.4.26 qint64 QuaZipFile::usize ( ) const

Equivalent to calling getFileInfo() and then getting uncompressedSize field, but more convenient and faster. See getFileInfo() for a warning.

File must be open for reading before calling this function.

Returns -1 on error, call getZipError() to get error code.

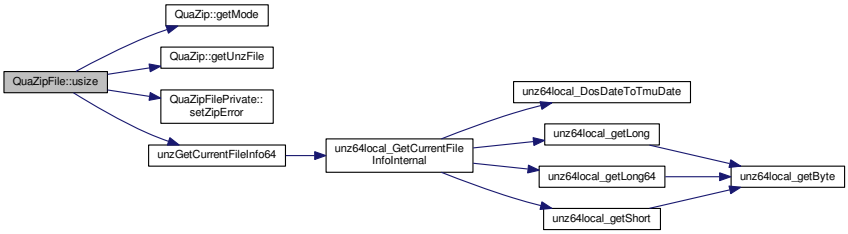
Definition at line 402 of file quazipfile.cpp.

References QuaZip::getMode(), QuaZip::getUnzFile(), QuaZip::mdUnzip, p, QuaZipFilePrivate::setZipError(), unz_file_info64_s::uncompressed_size, UNZ_OK, unzGetCurrentFileInfo64(), QuaZipFilePrivate::zip, and QuaZipFilePrivate::zipError.

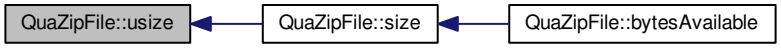
Referenced by size().

```
403 {
404   unz_file_info64 info_z;
405   p->setZipError(UNZ_OK);
406   if(p->zip==NULL||p->zip->getMode()!=QuaZip::mdUnzip) return -1;
407   p->setZipError(unzGetCurrentFileInfo64(p->
      zip->getUnzFile(), &info_z, NULL, 0, NULL, 0, NULL, 0));
408   if(p->zipError!=UNZ_OK)
409     return -1;
410   return info_z.uncompressed_size;
411 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



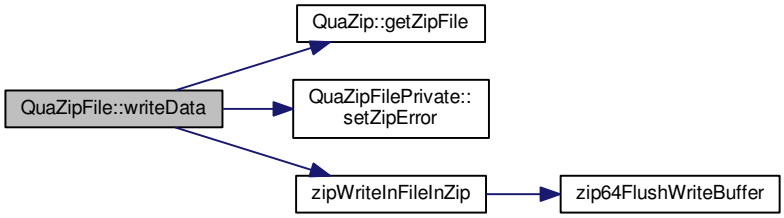
12.73.4.27 qint64 QuaZipFile::writeData (const char * *data*, qint64 *maxSize*) [protected]

Definition at line 468 of file quazipfile.cpp.

References QuaZip::getZipFile(), p, QuaZipFilePrivate::setZipError(), QuaZipFilePrivate::writePos, QuaZipFilePrivate::zip, ZIP_OK, QuaZipFilePrivate::zipError, and zipWriteInFileInZip().

```
469 {
470   p->setZipError(ZIP_OK);
471   p->setZipError(zipWriteInFileInZip(p->zip->
      getZipFile(), data, (uint)maxSize));
472   if(p->zipError!=ZIP_OK) return -1;
473   else {
474     p->writePos+=maxSize;
475     return maxSize;
476   }
477 }
```

Here is the call graph for this function:



12.73.5 Friends And Related Function Documentation

12.73.5.1 friend class QuaZipFilePrivate [friend]

Definition at line 75 of file quazipfile.h.

12.73.6 Field Documentation

12.73.6.1 QuaZipFilePrivate* QuaZipFile::p [private]

Definition at line 78 of file quazipfile.h.

Referenced by atEnd(), close(), csize(), getActualFileName(), getCaseSensitivity(), getFileInfo(), getFileName(), getZip(), getZipError(), getZipName(), isRaw(), open(), pos(), readData(), setFileName(), setZip(), setZipName(), size(), usize(), writeData(), and ~QuaZipFile().

The documentation for this class was generated from the following files:

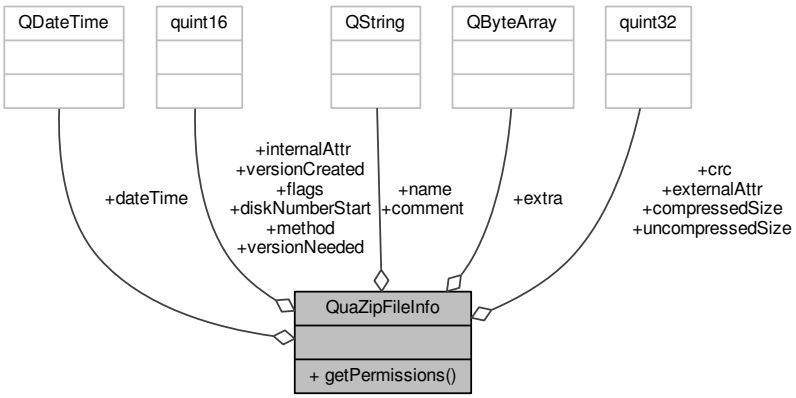
- src/ckb/quazip/quazipfile.h
- src/ckb/quazip/quazipfile.cpp

12.74 QuaZipFileInfo Struct Reference

Information about a file inside archive.

`#include <src/ckb/quazip/quazipfileinfo.h>`

Collaboration diagram for QuaZipFileInfo:



Public Member Functions

- QFile::Permissions getPermissions () const

  Get the file permissions.

Data Fields

- QString name

  File name.
- quint16 versionCreated

Version created by.

- quint16 versionNeeded

  Version needed to extract.

- quint16 flags

  General purpose flags.

- quint16 method

  Compression method.

- QDateTime dateTime

  Last modification date and time.

- quint32 crc

  CRC.

- quint32 compressedSize

  Compressed file size.

- quint32 uncompressedSize

  Uncompressed file size.

- quint16 diskNumberStart

  Disk number start.

- quint16 internalAttr

  Internal file attributes.

- quint32 externalAttr

  External file attributes.

- QString comment

  Comment.

- QByteArray extra

  Extra field.

12.74.1 Detailed Description

Deprecated Use QuaZipFileInfo64 instead. Not only it supports large files, but also more convenience methods as well.

Call QuaZip::getCurrentFileInfo() or QuaZipFile::getFileInfo() to fill this structure.

Definition at line 41 of file quazipfileinfo.h.

12.74.2 Member Function Documentation

12.74.2.1 QFile::Permissions QuaZipFileInfo::getPermissions ( ) const

Returns the high 16 bits of external attributes converted to QFile::Permissions.

Definition at line 52 of file quazipfileinfo.cpp.

References externalAttr, and permissionsFromExternalAttr().

```
53 {
54     return permissionsFromExternalAttr(externalAttr);
55 }
```

Here is the call graph for this function:

12.74.3 Field Documentation

12.74.3.1 QString QuaZipFileInfo::comment

Definition at line 67 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.2 quint32 QuaZipFileInfo::compressedSize

Definition at line 57 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.3 quint32 QuaZipFileInfo::crc

Definition at line 55 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.4 QDateTime QuaZipFileInfo::dateTime

Definition at line 53 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.5 quint16 QuaZipFileInfo::diskNumberStart

Definition at line 61 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.6 quint32 QuaZipFileInfo::externalAttr

Definition at line 65 of file quazipfileinfo.h.

Referenced by getPermissions(), and QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.7 QByteArray QuaZipFileInfo::extra

Definition at line 69 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.8 quint16 QuaZipFileInfo::flags

Definition at line 49 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.9 quint16 QuaZipFileInfo::internalAttr

Definition at line 63 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.10 quint16 QuaZipFileInfo::method

Definition at line 51 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.11 QString QuaZipFileInfo::name

Definition at line 43 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.12 quint32 QuaZipFileInfo::uncompressedSize

Definition at line 59 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.13 quint16 QuaZipFileInfo::versionCreated

Definition at line 45 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

12.74.3.14 quint16 QuaZipFileInfo::versionNeeded

Definition at line 47 of file quazipfileinfo.h.

Referenced by QuaZipFileInfo64::toQuaZipFileInfo().

The documentation for this struct was generated from the following files:

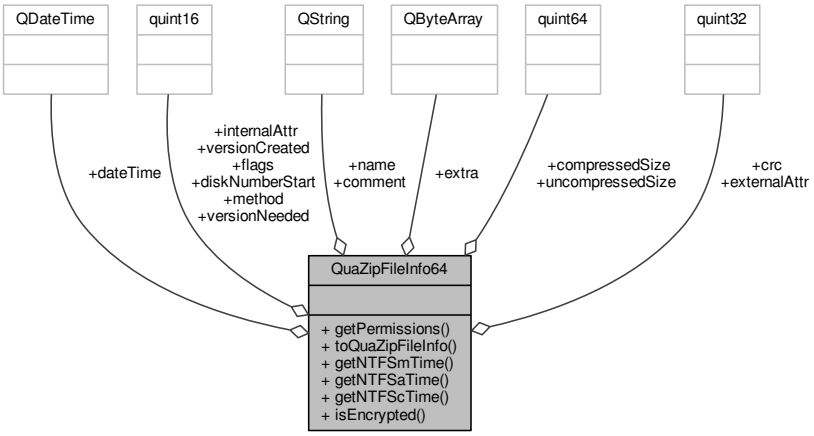
- src/ckb/quazip/quazipfileinfo.h
- src/ckb/quazip/quazipfileinfo.cpp

12.75 QuaZipFileInfo64 Struct Reference

Information about a file inside archive (with zip64 support).

`#include <src/ckb/quazip/quazipfileinfo.h>`

Collaboration diagram for QuaZipFileInfo64:



Public Member Functions

- QFile::Permissions getPermissions () const

  Get the file permissions.
- bool toQuaZipFileInfo (QuaZipFileInfo &info) const

  Converts to QuaZipFileInfo.
- QDateTime getNTFSmTime (int *fineTicks=NULL) const

  Returns the NTFS modification time.
- QDateTime getNTFSaTime (int *fineTicks=NULL) const

  Returns the NTFS access time.
- QDateTime getNTFScTime (int *fineTicks=NULL) const

  Returns the NTFS creation time.
- bool isEncrypted () const

  Checks whether the file is encrypted.

Data Fields

- QString name

  File name.
- quint16 versionCreated

  Version created by.
- quint16 versionNeeded

  Version needed to extract.
- quint16 flags

  General purpose flags.
- quint16 method

  Compression method.
- QDateTime dateTime

  Last modification date and time.
- quint32 crc

  CRC.

- quint64 compressedSize

  Compressed file size.
- quint64 uncompressedSize

  Uncompressed file size.
- quint16 diskNumberStart

  Disk number start.
- quint16 internalAttr

  Internal file attributes.
- quint32 externalAttr

  External file attributes.
- QString comment

  Comment.
- QByteArray extra

  Extra field.

12.75.1 Detailed Description

Call QuaZip::getCurrentFileInfo() or QuaZipFile::getFileInfo() to fill this structure.

Definition at line 81 of file quazipfileinfo.h.

12.75.2 Member Function Documentation

12.75.2.1 QDateTime QuaZipFileInfo64::getNTFSaTime (int * *fineTicks* = NULL) const

The getNTFS*Time() functions only work if there is an NTFS extra field present. Otherwise, they all return invalid null timestamps.

Parameters

fineTicks	If not NULL, the fractional part of milliseconds returned there, measured in 100-nanosecond ticks. Will be set to zero if there is no NTFS extra field.

See Also

dateTime
getNTFSmTime()
getNTFScTime()

Returns

The NTFS access time, UTC

Definition at line 168 of file quazipfileinfo.cpp.

References extra, and getNTFSTime().

```
169 {
170     return getNTFSTime(extra, 8, fineTicks);
171 }
```

Here is the call graph for this function:

12.75.2.2 QDateTime QuaZipFileInfo64::getNTFScTime (int * *fineTicks* = NULL) const

The getNTFS*Time() functions only work if there is an NTFS extra field present. Otherwise, they all return invalid null timestamps.

Parameters

fineTicks	If not NULL, the fractional part of milliseconds returned there, measured in 100-nanosecond ticks. Will be set to zero if there is no NTFS extra field.

See Also

dateTime
getNTFSmTime()
getNTFSaTime()

Returns

The NTFS creation time, UTC

Definition at line 173 of file quazipfileinfo.cpp.

References extra, and getNTFSTime().

```
174 {
175     return getNTFSTime(extra, 16, fineTicks);
176 }
```

Here is the call graph for this function:

12.75.2.3 QDateTime QuaZipFileInfo64::getNTFSmTime (int * *fineTicks* = NULL) const

The getNTFS*Time() functions only work if there is an NTFS extra field present. Otherwise, they all return invalid null timestamps.

Parameters

fineTicks	If not NULL, the fractional part of milliseconds returned there, measured in 100-nanosecond ticks. Will be set to zero if there is no NTFS extra field.

See Also

dateTime
getNTFSaTime()
getNTFScTime()

Returns

The NTFS modification time, UTC

Definition at line 163 of file quazipfileinfo.cpp.

References extra, and getNTFSTime().

```
164 {
165     return getNTFSTime(extra, 0, fineTicks);
166 }
```

Here is the call graph for this function:

12.75.2.4 QFile::Permissions QuaZipFileInfo64::getPermissions ( ) const

Returns the high 16 bits of external attributes converted to QFile::Permissions.

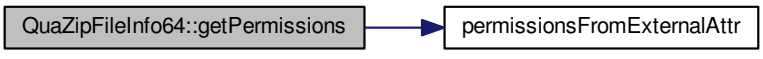
Definition at line 57 of file quazipfileinfo.cpp.

References externalAttr, and permissionsFromExternalAttr().

Referenced by JlCompress::extractFile().

```
58 {
59     return permissionsFromExternalAttr(externalAttr);
60 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.75.2.5 bool QuaZipFileInfo64::isEncrypted ( ) const [inline]

Definition at line 175 of file quazipfileinfo.h.

```
175 {return (flags & 1) != 0;}
```

12.75.2.6 bool QuaZipFileInfo64::toQuaZipFileInfo (QuaZipFileInfo & *info*) const

If any of the fields are greater than 0xFFFFFFFFu, they are set to 0xFFFFFFFFu exactly, not just truncated. This function should be mainly used for compatibility with the old code expecting QuaZipFileInfo, in the cases when it's impossible or otherwise unadvisable (due to ABI compatibility reasons, for example) to modify that old code to use QuaZipFileInfo64.

Returns

`true` if all fields converted correctly, `false` if an overflow occured.

Definition at line 62 of file quazipfileinfo.cpp.

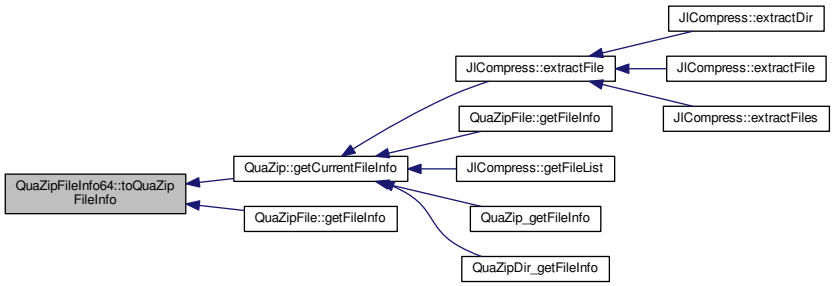
References QuaZipFileInfo::comment, comment, QuaZipFileInfo::compressedSize, compressedSize, QuaZipFileInfo::crc, crc, QuaZipFileInfo::dateTime, dateTime, QuaZipFileInfo::diskNumberStart, diskNumberStart, QuaZipFileInfo::externalAttr, externalAttr, QuaZipFileInfo::extra, extra, QuaZipFileInfo::flags, flags, QuaZipFileInfo::internalAttr, internalAttr, QuaZipFileInfo::method, method, QuaZipFileInfo::name, name, QuaZipFileInfo::uncompressedSize, uncompressedSize, QuaZipFileInfo::versionCreated, versionCreated, QuaZipFileInfo::versionNeeded, and versionNeeded.

Referenced by QuaZip::getCurrentFileInfo(), and QuaZipFile::getFileInfo().

```
63 {
64     bool noOverflow = true;
65     info.name = name;
66     info.versionCreated = versionCreated;
67     info.versionNeeded = versionNeeded;
68     info.flags = flags;
69     info.method = method;
70     info.dateTime = dateTime;
71     info.crc = crc;
72     if (compressedSize > 0xFFFFFFFFu) {
73         info.compressedSize = 0xFFFFFFFFu;
74         noOverflow = false;
75     } else {
76         info.compressedSize = compressedSize;
77     }
78     if (uncompressedSize > 0xFFFFFFFFu) {
79         info.uncompressedSize = 0xFFFFFFFFu;
80         noOverflow = false;
81     } else {
82         info.uncompressedSize = uncompressedSize;
83     }
84     info.diskNumberStart = diskNumberStart;
85     info.internalAttr = internalAttr;
```

```
86      info.externalAttr = externalAttr;
87      info.comment = comment;
88      info.extra = extra;
89      return noOverflow;
90  }
```

Here is the caller graph for this function:



12.75.3 Field Documentation

12.75.3.1 QString QuaZipFileInfo64::comment

Definition at line 114 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), and toQuaZipFileInfo().

12.75.3.2 quint64 QuaZipFileInfo64::compressedSize

Definition at line 104 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.3 quint32 QuaZipFileInfo64::crc

Definition at line 102 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.4 QDateTime QuaZipFileInfo64::dateTime

This is the time stored in the standard ZIP header. This format only allows to store time with 2-second precision, so the seconds will always be even and the milliseconds will always be zero. If you need more precise date and time, you can try to call the getNTFSmTime() function or its siblings, provided that the archive itself contains these NTFS times.

Definition at line 100 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), and toQuaZipFileInfo().

12.75.3.5 quint16 QuaZipFileInfo64::diskNumberStart

Definition at line 108 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.6 quint32 QuaZipFileInfo64::externalAttr

Definition at line 112 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), getPermissions(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.7 QByteArray QuaZipFileInfo64::extra

Definition at line 116 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), getNTFSaTime(), getNTFScTime(), getNTFSmTime(), and toQuaZipFileInfo().

12.75.3.8 quint16 QuaZipFileInfo64::flags

Definition at line 89 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.9 quint16 QuaZipFileInfo64::internalAttr

Definition at line 110 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.10 quint16 QuaZipFileInfo64::method

Definition at line 91 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.11 QString QuaZipFileInfo64::name

Definition at line 83 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), JlCompress::getFileList(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.12 quint64 QuaZipFileInfo64::uncompressedSize

Definition at line 106 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.13 quint16 QuaZipFileInfo64::versionCreated

Definition at line 85 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

12.75.3.14 quint16 QuaZipFileInfo64::versionNeeded

Definition at line 87 of file quazipfileinfo.h.

Referenced by QuaZip::getCurrentFileInfo(), QuaZipDir_getFileInfo(), and toQuaZipFileInfo().

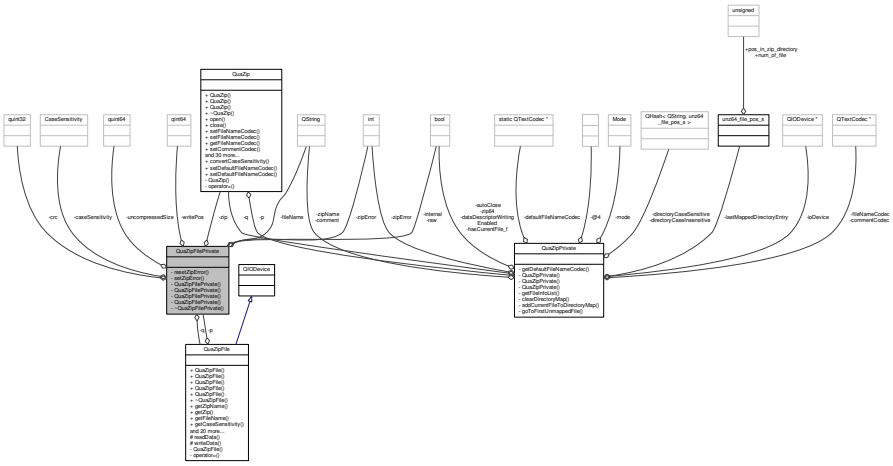
The documentation for this struct was generated from the following files:

- src/ckb/quazip/quazipfileinfo.h
- src/ckb/quazip/quazipfileinfo.cpp

12.76 QuaZipFilePrivate Class Reference

The implementation class for QuaZip.

Collaboration diagram for QuaZipFilePrivate:



Private Member Functions

- void resetZipError () const

  Resets zipError.
- void setZipError (int zipError) const

  Sets the zip error.
- QuaZipFilePrivate (QuaZipFile *q)

  The constructor for the corresponding QuaZipFile constructor.
- QuaZipFilePrivate (QuaZipFile *q, const QString &zipName)

  The constructor for the corresponding QuaZipFile constructor.
- QuaZipFilePrivate (QuaZipFile *q, const QString &zipName, const QString &fileName, QuaZip::CaseSensitivity cs)

  The constructor for the corresponding QuaZipFile constructor.
- QuaZipFilePrivate (QuaZipFile *q, QuaZip *zip)

  The constructor for the QuaZipFile constructor accepting a file name.
- ~QuaZipFilePrivate ()

  The destructor.

Private Attributes

- QuaZipFile * q

  The pointer to the associated QuaZipFile instance.
- QuaZip * zip

  The QuaZip object to work with.
- QString fileName

  The file name.

- QuaZip::CaseSensitivity caseSensitivity

  Case sensitivity mode.
- bool raw

  Whether this file is opened in the raw mode.
- qint64 writePos

  Write position to keep track of.
- quint64 uncompressedSize

  Uncompressed size to write along with a raw file.
- quint32 crc

  CRC to write along with a raw file.
- bool internal

  Whether zip points to an internal QuaZip instance.
- int zipError

  The last error.

Friends

- class QuaZipFile

12.76.1 Detailed Description

This class contains all the private stuff for the QuaZipFile class, thus allowing to preserve binary compatibility between releases, the technique known as the Pimpl (private implementation) idiom.

Definition at line 37 of file quazipfile.cpp.

12.76.2 Constructor & Destructor Documentation

12.76.2.1 QuaZipFilePrivate::QuaZipFilePrivate (QuaZipFile * *q*) [inline], [private]

Definition at line 78 of file quazipfile.cpp.

```
78                                          :
79       q(q), zip(NULL), internal(true), zipError(UNZ_OK) {}
```

12.76.2.2 QuaZipFilePrivate::QuaZipFilePrivate (QuaZipFile * *q*, const QString & *zipName*) [inline], [private]

Definition at line 81 of file quazipfile.cpp.

```
81                                                                  :
82       q(q), internal(true), zipError(UNZ_OK)
83       {
84         zip=new QuaZip(zipName);
85       }
```

12.76.2.3 QuaZipFilePrivate::QuaZipFilePrivate (QuaZipFile * *q*, const QString & *zipName*, const QString & *fileName*, QuaZip::CaseSensitivity *cs*) [inline], [private]

Definition at line 87 of file quazipfile.cpp.

```
88                                  :
89       q(q), internal(true), zipError(UNZ_OK)
90       {
91         zip=new QuaZip(zipName);
92         this->fileName=fileName;
93         if (this->fileName.startsWith('/'))
94             this->fileName = this->fileName.mid(1);
95         this->caseSensitivity=cs;
96       }
```

12.76.2.4 QuaZipFilePrivate::QuaZipFilePrivate (QuaZipFile * *q*, QuaZip * *zip*) [inline], [private]

Definition at line 98 of file quazipfile.cpp.

```
98                                                          :
99       q(q), zip(zip), internal(false), zipError(UNZ_OK) {}
```

12.76.2.5 QuaZipFilePrivate::~QuaZipFilePrivate ( ) [inline], [private]

Definition at line 101 of file quazipfile.cpp.

```
102     {
103       if (internal)
104         delete zip;
105     }
```

12.76.3 Member Function Documentation

12.76.3.1 void QuaZipFilePrivate::resetZipError ( ) const [inline], [private]

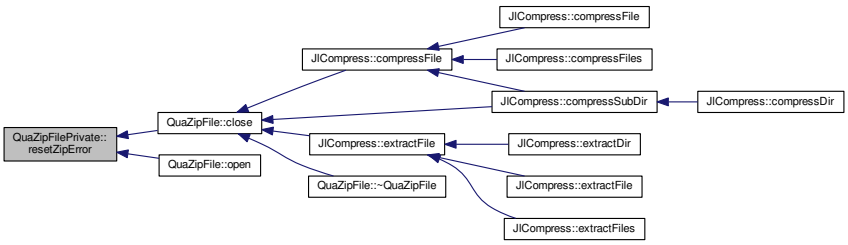
Definition at line 69 of file quazipfile.cpp.

References UNZ_OK.

Referenced by QuaZipFile::close(), and QuaZipFile::open().

```
69 {setZipError(UNZ_OK);}
```

Here is the caller graph for this function:



12.76.3.2 void QuaZipFilePrivate::setZipError (int *zipError*) const [private]

This function is marked as const although it changes one field. This allows to call it from const functions that don't change anything by themselves.

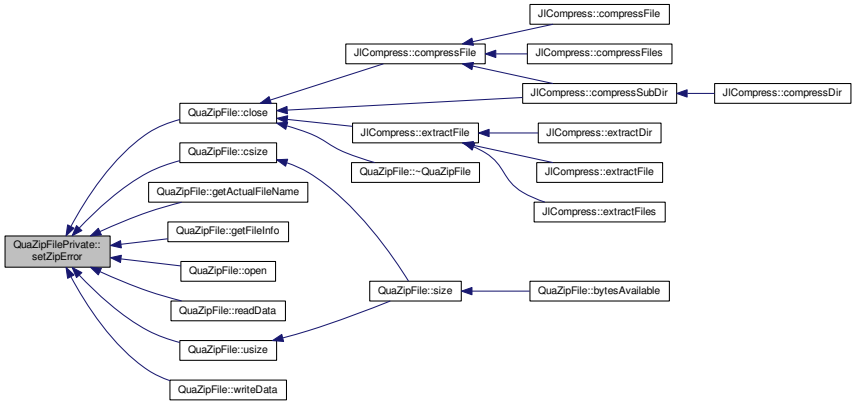
Definition at line 211 of file quazipfile.cpp.

References q, UNZ_OK, and zipError.

Referenced by QuaZipFile::close(), QuaZipFile::csize(), QuaZipFile::getActualFileName(), QuaZipFile::getFileInfo(), QuaZipFile::open(), QuaZipFile::readData(), QuaZipFile::usize(), and QuaZipFile::writeData().

```
212 {
213   QuaZipFilePrivate *fakeThis = const_cast<QuaZipFilePrivate*>(this); //
       non-const
214   fakeThis->zipError=zipError;
215   if(zipError==UNZ_OK)
216     q->setErrorString(QString());
217   else
218     q->setErrorString(QuaZipFile::tr("ZIP/UNZIP API error %1").arg(zipError));
219 }
```

Here is the caller graph for this function:



12.76.4 Friends And Related Function Documentation

12.76.4.1 friend class QuaZipFile [friend]

Definition at line 38 of file quazipfile.cpp.

12.76.5 Field Documentation

12.76.5.1 QuaZip::CaseSensitivity QuaZipFilePrivate::caseSensitivity [private]

Definition at line 47 of file quazipfile.cpp.

Referenced by QuaZipFile::getCaseSensitivity(), QuaZipFile::open(), and QuaZipFile::setFileName().

12.76.5.2 quint32 QuaZipFilePrivate::crc [private]

Definition at line 59 of file quazipfile.cpp.

Referenced by QuaZipFile::close(), and QuaZipFile::open().

12.76.5.3 QString QuaZipFilePrivate::fileName [private]

Definition at line 45 of file quazipfile.cpp.

Referenced by QuaZipFile::getFileName(), QuaZipFile::open(), QuaZipFile::setFileName(), and QuaZipFile::setZip().

12.76.5.4 bool QuaZipFilePrivate::internal [private]

This is true if the archive was opened by name, rather than by supplying an existing QuaZip instance.

Definition at line 65 of file quazipfile.cpp.

Referenced by QuaZipFile::close(), QuaZipFile::getZip(), QuaZipFile::open(), QuaZipFile::setFileName(), QuaZipFile::setZip(), and QuaZipFile::setZipName().

12.76.5.5 QuaZipFile* QuaZipFilePrivate::q [private]

Definition at line 41 of file quazipfile.cpp.

Referenced by setZipError().

12.76.5.6 bool QuaZipFilePrivate::raw [private]

Definition at line 49 of file quazipfile.cpp.

Referenced by QuaZipFile::isRaw(), QuaZipFile::open(), and QuaZipFile::size().

12.76.5.7 quint64 QuaZipFilePrivate::uncompressedSize [private]

Definition at line 57 of file quazipfile.cpp.

Referenced by QuaZipFile::close(), and QuaZipFile::open().

12.76.5.8 qint64 QuaZipFilePrivate::writePos [private]

QIODevice::pos() is broken for non-seekable devices, so we need our own position.

Definition at line 55 of file quazipfile.cpp.

Referenced by QuaZipFile::open(), QuaZipFile::pos(), QuaZipFile::size(), and QuaZipFile::writeData().

12.76.5.9 QuaZip* QuaZipFilePrivate::zip [private]

Definition at line 43 of file quazipfile.cpp.

Referenced by QuaZipFile::atEnd(), QuaZipFile::close(), QuaZipFile::csize(), QuaZipFile::getActualFileName(), QuaZipFile::getFileInfo(), QuaZipFile::getZip(), QuaZipFile::getZipName(), QuaZipFile::open(), QuaZipFile::pos(), QuaZipFile::readData(), QuaZipFile::setFileName(), QuaZipFile::setZip(), QuaZipFile::setZipName(), QuaZipFile::usize(), and QuaZipFile::writeData().

12.76.5.10 int QuaZipFilePrivate::zipError [private]

Definition at line 67 of file quazipfile.cpp.

Referenced by QuaZipFile::close(), QuaZipFile::csize(), QuaZipFile::getFileInfo(), QuaZipFile::getZipError(), QuaZipFile::open(), setZipError(), QuaZipFile::usize(), and QuaZipFile::writeData().

The documentation for this class was generated from the following file:

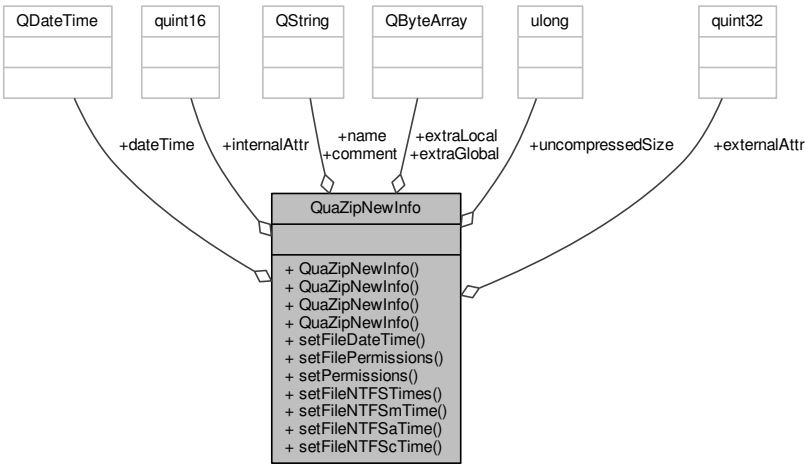
- src/ckb/quazip/quazipfile.cpp

12.77 QuaZipNewInfo Struct Reference

Information about a file to be created.

`#include <src/ckb/quazip/quazipnewinfo.h>`

Collaboration diagram for QuaZipNewInfo:



Public Member Functions

- QuaZipNewInfo (const QString &name)

  Constructs QuaZipNewInfo instance.
- QuaZipNewInfo (const QString &name, const QString &file)

  Constructs QuaZipNewInfo instance.
- QuaZipNewInfo (const QuaZipFileInfo &existing)

  Initializes the new instance from existing file info.
- QuaZipNewInfo (const QuaZipFileInfo64 &existing)

  Initializes the new instance from existing file info.
- void setFileDateTime (const QString &file)

  Sets the file timestamp from the existing file.
- void setFilePermissions (const QString &file)

  Sets the file permissions from the existing file.
- void setPermissions (QFile::Permissions permissions)

  Sets the file permissions.
- void setFileNTFSTimes (const QString &fileName)

  Sets the NTFS times from an existing file.
- void setFileNTFSmTime (const QDateTime &mTime, int fineTicks=0)

  Sets the NTFS modification time.
- void setFileNTFSaTime (const QDateTime &aTime, int fineTicks=0)

  Sets the NTFS access time.
- void setFileNTFScTime (const QDateTime &cTime, int fineTicks=0)

  Sets the NTFS creation time.

Data Fields

- QString name

  File name.
- QDateTime dateTime

  File timestamp.
- quint16 internalAttr

  File internal attributes.
- quint32 externalAttr

  File external attributes.
- QString comment

  File comment.
- QByteArray extraLocal

  File local extra field.
- QByteArray extraGlobal

  File global extra field.
- ulong uncompressedSize

  Uncompressed file size.

12.77.1 Detailed Description

This structure holds information about a file to be created inside ZIP archive. At least name should be set to something correct before passing this structure to QuaZipFile::open(OpenMode,const QuaZipNewInfo&,int,int,bool).

Zip64 support of this structure is slightly limited: in the raw mode (when a pre-compressed file is written into a ZIP file as-is), it is necessary to specify the uncompressed file size and the appropriate field is 32 bit. Since the raw mode is used extremely rare, there is no real need to have a separate QuaZipNewInfo64 structure like QuaZipFileInfo64. It may be added in the future though, if there is a demand for the raw mode with zip64 archives.

Definition at line 50 of file quazipnewinfo.h.

12.77.2 Constructor & Destructor Documentation

12.77.2.1 QuaZipNewInfo::QuaZipNewInfo (const QString & *name*)

Initializes name with *name*, dateTime with current date and time. Attributes are initialized with zeros, comment and extra field with null values.

Definition at line 79 of file quazipnewinfo.cpp.

```
79                                                :
80   name(name), dateTime(QDateTime::currentDateTime()),
      internalAttr(0), externalAttr(0),
81   uncompressedSize(0)
82 {
83 }
```

12.77.2.2 QuaZipNewInfo::QuaZipNewInfo (const QString & *name*, const QString & *file*)

Initializes name with *name*. Timestamp and permissions are taken from the specified file. If the *file* does not exists or its timestamp is inaccessible (e. g. you do not have read permission for the directory file in), uses current time and zero permissions. Other attributes are initialized with zeros, comment and extra field with null values.

See Also

setFileDateTime()

Definition at line 85 of file quazipnewinfo.cpp.

References dateTime, and QuaZipNewInfo_setPermissions().

```
85                                                                    :
86   name(name), internalAttr(0), externalAttr(0),
      uncompressedSize(0)
87 {
88   QFileInfo info(file);
89   QDateTime lm = info.lastModified();
90   if (!info.exists()) {
91     dateTime = QDateTime::currentDateTime();
92   } else {
93     dateTime = lm;
94     QuaZipNewInfo_setPermissions(this, info.permissions(), info.isDir());
95   }
96 }
```

Here is the call graph for this function:

12.77.2.3 QuaZipNewInfo::QuaZipNewInfo (const QuaZipFileInfo & *existing*)

Mainly used when copying files between archives.

Both extra fields are initialized to existing.extra. QuaZipNewInfo

Parameters

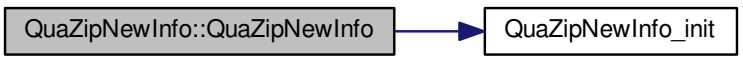
existing	

Definition at line 69 of file quazipnewinfo.cpp.

References QuaZipNewInfo_init().

```
70 {
71     QuaZipNewInfo_init(*this, existing);
72 }
```

Here is the call graph for this function:



12.77.2.4 QuaZipNewInfo::QuaZipNewInfo (const QuaZipFileInfo64 & *existing*)

Mainly used when copying files between archives.

Both extra fields are initialized to existing.extra. QuaZipNewInfo

Parameters

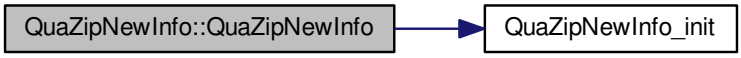
existing	

Definition at line 74 of file quazipnewinfo.cpp.

References QuaZipNewInfo_init().

```
75 {
76     QuaZipNewInfo_init(*this, existing);
77 }
```

Here is the call graph for this function:



12.77.3 Member Function Documentation

12.77.3.1 void QuaZipNewInfo::setFileDateTime (const QString & *file*)

Use this function to set the file timestamp from the existing file. Use it like this:

```
QuaZipFile zipFile(&zip);
QFile file("file-to-add");
file.open(QIODevice::ReadOnly);
QuaZipNewInfo info("file-name-in-archive");
info.setFileDateTime("file-to-add"); // take the timestamp from file
zipFile.open(QIODevice::WriteOnly, info);
```

This function does not change dateTime if some error occured (e. g. file is inaccessible).

Definition at line 98 of file quazipnewinfo.cpp.

References dateTime.

```
99 {
100   QFileInfo info(file);
101   QDateTime lm = info.lastModified();
102   if (info.exists())
103     dateTime = lm;
104 }
```

12.77.3.2 void QuaZipNewInfo::setFileNTFSaTime (const QDateTime & *aTime*, int *fineTicks* = 0)

The time is written into the NTFS record in both the local and the global extra fields, updating the existing record if there is one, or creating a new one and appending it to the end of each extra field. When updating an existing record, all other fields are left intact.

Parameters

aTime	The new access time.
fineTicks	The fractional part of milliseconds, in 100-nanosecond ticks (i. e. 9999 ticks = 999.9 microsecond). Values greater than 9999 will add milliseconds or even seconds, but this can be confusing and therefore is discouraged.

Definition at line 267 of file quazipnewinfo.cpp.

References extraGlobal, extraLocal, and setNTFSTime().

Referenced by setFileNTFSTimes().

```
268 {
269     setNTFSTime(extraLocal, aTime, 8, fineTicks);
270     setNTFSTime(extraGlobal, aTime, 8, fineTicks);
271 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.77.3.3 void QuaZipNewInfo::setFileNTFScTime (const QDateTime & *cTime*, int *fineTicks* = 0)

The time is written into the NTFS record in both the local and the global extra fields, updating the existing record if there is one, or creating a new one and appending it to the end of each extra field. When updating an existing record, all other fields are left intact.

Parameters

cTime	The new creation time.
fineTicks	The fractional part of milliseconds, in 100-nanosecond ticks (i. e. 9999 ticks = 999.9 microsecond). Values greater than 9999 will add milliseconds or even seconds, but this can be confusing and therefore is discouraged.

Definition at line 273 of file quazipnewinfo.cpp.

References extraGlobal, extraLocal, and setNTFSTime().

Referenced by setFileNTFSTimes().

```
274 {
275     setNTFSTime(extraLocal, cTime, 16, fineTicks);
276     setNTFSTime(extraGlobal, cTime, 16, fineTicks);
277 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.77.3.4 void QuaZipNewInfo::setFileNTFSmTime (const QDateTime & *mTime*, int *fineTicks* = 0)

The time is written into the NTFS record in both the local and the global extra fields, updating the existing record if there is one, or creating a new one and appending it to the end of each extra field. When updating an existing record, all other fields are left intact.

Parameters

mTime	The new modification time.
fineTicks	The fractional part of milliseconds, in 100-nanosecond ticks (i. e. 9999 ticks = 999.9 microsecond). Values greater than 9999 will add milliseconds or even seconds, but this can be confusing and therefore is discouraged.

Definition at line 261 of file quazipnewinfo.cpp.

References extraGlobal, extraLocal, and setNTFSTime().

Referenced by setFileNTFSTimes().

```
262 {
263     setNTFSTime(extraLocal, mTime, 0, fineTicks);
264     setNTFSTime(extraGlobal, mTime, 0, fineTicks);
265 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

12.77.3.5 void QuaZipNewInfo::setFileNTFSTimes (const QString & *fileName*)

If the file doesn't exist, a warning is printed to the stderr and nothing is done. Otherwise, all three times, as reported by QFileInfo::lastModified(), QFileInfo::lastRead() and QFileInfo::created(), are written to the NTFS extra field record.

The NTFS record is written to both the local and the global extra fields, updating the existing record if there is one, or creating a new one and appending it to the end of each extra field.

The microseconds will be zero, as they aren't reported by QFileInfo.

Parameters

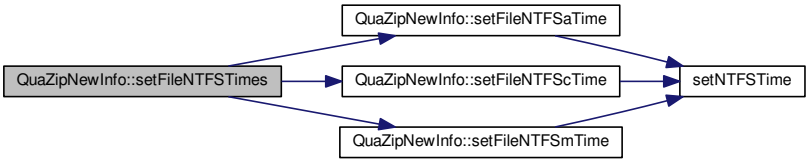
fileName	

Definition at line 118 of file quazipnewinfo.cpp.

References setFileNTFSaTime(), setFileNTFScTime(), and setFileNTFSmTime().

```
119 {
120     QFileInfo fi(fileName);
121     if (!fi.exists()) {
122         qWarning("QuaZipNewInfo::setFileNTFSTimes(): '%s' doesn't exist",
123                  fileName.toUtf8().constData());
124         return;
125     }
126     setFileNTFSmTime(fi.lastModified());
127     setFileNTFSaTime(fi.lastRead());
128     setFileNTFScTime(fi.created());
129 }
```

Here is the call graph for this function:



12.77.3.6 void QuaZipNewInfo::setFilePermissions (const QString & *file*)

Takes permissions from the file and sets the high 16 bits of external attributes. Uses QFileInfo to get permissions on all platforms.

Definition at line 106 of file quazipnewinfo.cpp.

References QuaZipNewInfo_setPermissions().

```
107 {
108     QFileInfo info = QFileInfo(file);
109     QFile::Permissions perm = info.permissions();
110     QuaZipNewInfo_setPermissions(this, perm, info.isDir());
111 }
```

Here is the call graph for this function:

12.77.3.7 void QuaZipNewInfo::setPermissions (QFile::Permissions *permissions*)

Modifies the highest 16 bits of external attributes. The type part is set to dir if the name ends with a slash, and to regular file otherwise.

Definition at line 113 of file quazipnewinfo.cpp.

References name, and QuaZipNewInfo_setPermissions().

```
114 {
115     QuaZipNewInfo_setPermissions(this, permissions,
    name.endsWith('/'));
116 }
```

Here is the call graph for this function:

12.77.4 Field Documentation

12.77.4.1 QString QuaZipNewInfo::comment

Will be encoded using QuaZip::getCommentCodec().

Definition at line 75 of file quazipnewinfo.h.

Referenced by QuaZipFile::open().

12.77.4.2 QDateTime QuaZipNewInfo::dateTime

This is the last file modification date and time. Will be stored in the archive central directory. It is a good practice to set it to the source file timestamp instead of archive creating time. Use setFileDateTime() or QuaZipNewInfo(const QString&, const QString&).

Definition at line 62 of file quazipnewinfo.h.

Referenced by QuaZipFile::open(), QuaZipNewInfo(), and setFileDateTime().

12.77.4.3 quint32 QuaZipNewInfo::externalAttr

The highest 16 bits contain Unix file permissions and type (dir or file). The constructor QuaZipNewInfo(const QString&, const QString&) takes permissions from the provided file.

Definition at line 71 of file quazipnewinfo.h.

Referenced by QuaZipFile::open(), and QuaZipNewInfo_setPermissions().

12.77.4.4 QByteArray QuaZipNewInfo::extraGlobal

Definition at line 79 of file quazipnewinfo.h.

Referenced by QuaZipFile::open(), setFileNTFSaTime(), setFileNTFScTime(), and setFileNTFSmTime().

12.77.4.5 QByteArray QuaZipNewInfo::extraLocal

Definition at line 77 of file quazipnewinfo.h.

Referenced by QuaZipFile::open(), setFileNTFSaTime(), setFileNTFScTime(), and setFileNTFSmTime().

12.77.4.6 quint16 QuaZipNewInfo::internalAttr

Definition at line 64 of file quazipnewinfo.h.

Referenced by QuaZipFile::open().

12.77.4.7 QString QuaZipNewInfo::name

This field holds file name inside archive, including path relative to archive root.

Definition at line 55 of file quazipnewinfo.h.

Referenced by QuaZipFile::open(), and setPermissions().

12.77.4.8 ulong QuaZipNewInfo::uncompressedSize

This is only needed if you are using raw file zipping mode, i. e. adding precompressed file in the zip archive.

Definition at line 84 of file quazipnewinfo.h.

Referenced by QuaZipFile::open().

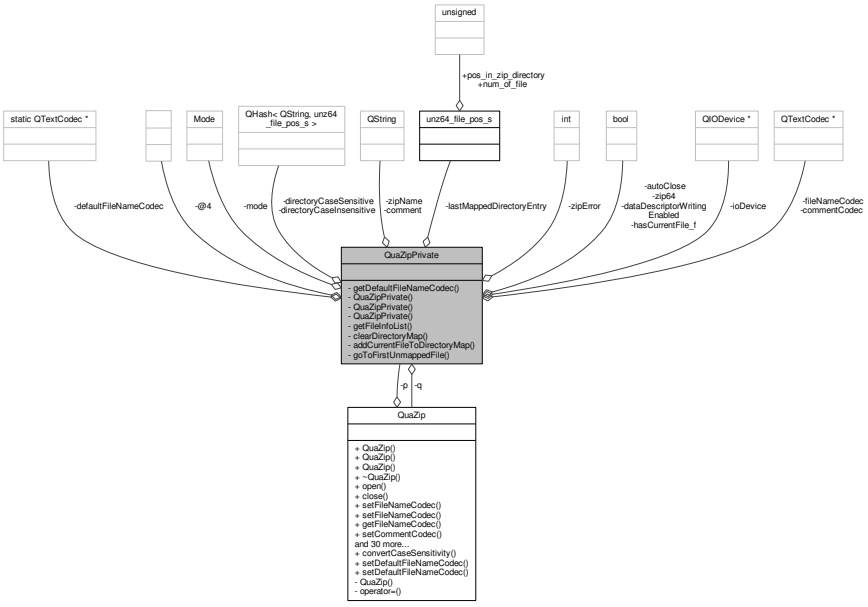
The documentation for this struct was generated from the following files:

- src/ckb/quazip/quazipnewinfo.h
- src/ckb/quazip/quazipnewinfo.cpp

12.78 QuaZipPrivate Class Reference

All the internal stuff for the QuaZip class.

Collaboration diagram for QuaZipPrivate:



Private Member Functions

- QTextCodec * getDefaultFileNameCodec ()
- QuaZipPrivate (QuaZip *q)

  The constructor for the corresponding QuaZip constructor.
- QuaZipPrivate (QuaZip *q, const QString &zipName)

  The constructor for the corresponding QuaZip constructor.
- QuaZipPrivate (QuaZip *q, QIODevice *ioDevice)

  The constructor for the corresponding QuaZip constructor.
- template<typename TFileInfo >
  bool getFileInfoList (QList< TFileInfo > *result) const

  Returns either a list of file names or a list of QuaZipFileInfo.
- void clearDirectoryMap ()

  Stores map of filenames and file locations for unzipping.
- void addCurrentFileToDirectoryMap (const QString &fileName)
- bool goToFirstUnmappedFile ()

Private Attributes

- QuaZip * q

  The pointer to the corresponding QuaZip instance.
- QTextCodec * fileNameCodec

  The codec for file names.
- QTextCodec * commentCodec

  The codec for comments.
- QString zipName

  The archive file name.
- QIODevice * ioDevice

  The device to access the archive.

- QString comment

  The global comment.
- QuaZip::Mode mode

  The open mode.
- union {
  unzFile **unzFile_f**
  The internal handle for UNZIP modes.
  zipFile **zipFile_f**
  The internal handle for ZIP modes.
  };

- bool hasCurrentFile_f

  Whether a current file is set.
- int zipError

  The last error.
- bool dataDescriptorWritingEnabled

  Whether the data descriptor writing mode is enabled.
- bool zip64

  The zip64 mode.
- bool autoClose

  The auto-close flag.
- QHash< QString, unz64_file_pos > directoryCaseSensitive
- QHash< QString, unz64_file_pos > directoryCaseInsensitive
- unz64_file_pos lastMappedDirectoryEntry

Static Private Attributes

- static QTextCodec * defaultFileNameCodec = NULL

Friends

- class QuaZip

12.78.1 Detailed Description

This class keeps all the private stuff for the QuaZip class so it can be changed without breaking binary compatibility, according to the Pimpl idiom.

Definition at line 39 of file quazip.cpp.

12.78.2 Constructor & Destructor Documentation

12.78.2.1 QuaZipPrivate::QuaZipPrivate (QuaZip * *q*) [inline], [private]

Definition at line 81 of file quazip.cpp.

References lastMappedDirectoryEntry, unz64_file_pos_s::num_of_file, and unz64_file_pos_s::pos_in_zip_directory.

```
81                                  :
82       q(q),
83       fileNameCodec(getDefaultFileNameCodec()),
84       commentCodec(QTextCodec::codecForLocale()),
85       ioDevice(NULL),
86       mode(QuaZip::mdNotOpen),
```

```
87        hasCurrentFile_f(false),
88        zipError(UNZ_OK),
89        dataDescriptorWritingEnabled(true),
90        zip64(false),
91        autoClose(true)
92    {
93        lastMappedDirectoryEntry.num_of_file = 0;
94        lastMappedDirectoryEntry.pos_in_zip_directory = 0;
95    }
```

12.78.2.2 QuaZipPrivate::QuaZipPrivate (QuaZip * *q*, const QString & *zipName*) [inline], [private]

Definition at line 97 of file quazip.cpp.

References lastMappedDirectoryEntry, unz64_file_pos_s::num_of_file, and unz64_file_pos_s::pos_in_zip_directory.

```
97                                                    :
98        q(q),
99        fileNameCodec(getDefaultFileNameCodec()),
100       commentCodec(QTextCodec::codecForLocale()),
101       zipName(zipName),
102       ioDevice(NULL),
103       mode(QuaZip::mdNotOpen),
104       hasCurrentFile_f(false),
105       zipError(UNZ_OK),
106       dataDescriptorWritingEnabled(true),
107       zip64(false),
108       autoClose(true)
109   {
110       lastMappedDirectoryEntry.num_of_file = 0;
111       lastMappedDirectoryEntry.pos_in_zip_directory = 0;
112   }
```

12.78.2.3 QuaZipPrivate::QuaZipPrivate (QuaZip * *q*, QIODevice * *ioDevice*) [inline], [private]

Definition at line 114 of file quazip.cpp.

References lastMappedDirectoryEntry, unz64_file_pos_s::num_of_file, and unz64_file_pos_s::pos_in_zip_directory.

```
114                                                    :
115       q(q),
116       fileNameCodec(getDefaultFileNameCodec()),
117       commentCodec(QTextCodec::codecForLocale()),
118       ioDevice(ioDevice),
119       mode(QuaZip::mdNotOpen),
120       hasCurrentFile_f(false),
121       zipError(UNZ_OK),
122       dataDescriptorWritingEnabled(true),
123       zip64(false),
124       autoClose(true)
125   {
126       lastMappedDirectoryEntry.num_of_file = 0;
127       lastMappedDirectoryEntry.pos_in_zip_directory = 0;
128   }
```

12.78.3 Member Function Documentation

12.78.3.1 void QuaZipPrivate::addCurrentFileToDirectoryMap (const QString & *fileName*) [inline], [private]

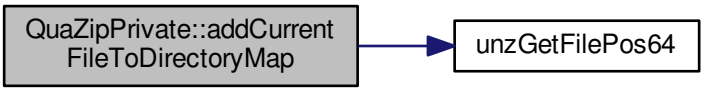
Definition at line 153 of file quazip.cpp.

References directoryCaseInsensitive, directoryCaseSensitive, hasCurrentFile_f, lastMappedDirectoryEntry, unz64_file_pos_s::pos_in_zip_directory, and unzGetFilePos64().

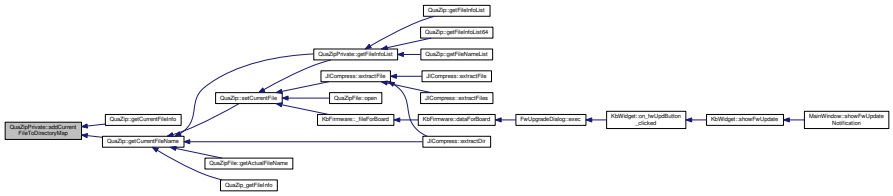
Referenced by QuaZip::getCurrentFileInfo(), and QuaZip::getCurrentFileName().

```
154 {
155     if (!hasCurrentFile_f || fileName.isEmpty()) {
156         return;
157     }
158     // Adds current file to filename map as fileName
159     unz64_file_pos fileDirectoryPos;
160     unzGetFilePos64(unzFile_f, &fileDirectoryPos);
161     directoryCaseSensitive.insert(fileName, fileDirectoryPos);
162     // Only add lowercase to directory map if not already there
163     // ensures only map the first one seen
164     QString lower = fileName.toLower();
165     if (!directoryCaseInsensitive.contains(lower))
166         directoryCaseInsensitive.insert(lower, fileDirectoryPos);
167     // Mark last one
168     if (fileDirectoryPos.pos_in_zip_directory >
      lastMappedDirectoryEntry.pos_in_zip_directory)
169         lastMappedDirectoryEntry = fileDirectoryPos;
170 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.78.3.2 void QuaZipPrivate::clearDirectoryMap ( ) [inline], [private]

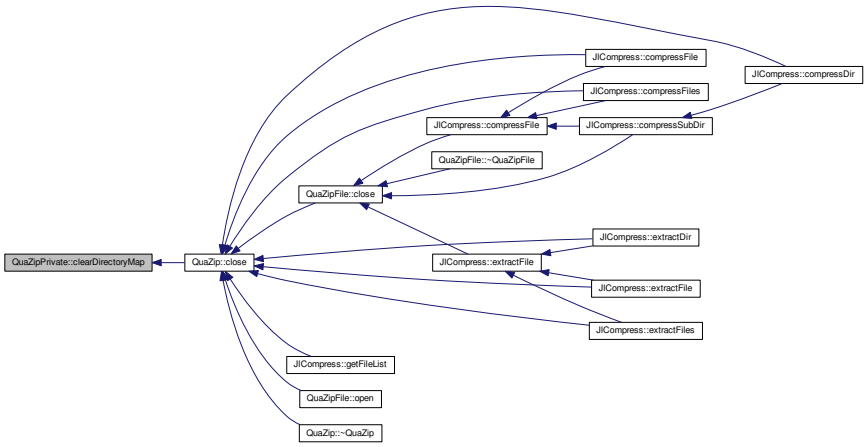
Definition at line 145 of file quazip.cpp.

References directoryCaseInsensitive, directoryCaseSensitive, lastMappedDirectoryEntry, unz64_file_pos_s::num_of_file, and unz64_file_pos_s::pos_in_zip_directory.

Referenced by QuaZip::close().

```
146 {
147     directoryCaseInsensitive.clear();
148     directoryCaseSensitive.clear();
149     lastMappedDirectoryEntry.num_of_file = 0;
150     lastMappedDirectoryEntry.pos_in_zip_directory = 0;
151 }
```

Here is the caller graph for this function:



12.78.3.3 QTextCodec* QuaZipPrivate::getDefaultFileNameCodec ( ) [inline], [private]

Definition at line 72 of file quazip.cpp.

References defaultFileNameCodec.

```
73     {
74         if (defaultFileNameCodec == NULL) {
75             return QTextCodec::codecForLocale();
76         } else {
77             return defaultFileNameCodec;
78         }
79     }
```

12.78.3.4 template<typename TFileInfo > bool QuaZipPrivate::getFileInfoList (QList< TFileInfo > * *result*) const [private]

Definition at line 687 of file quazip.cpp.

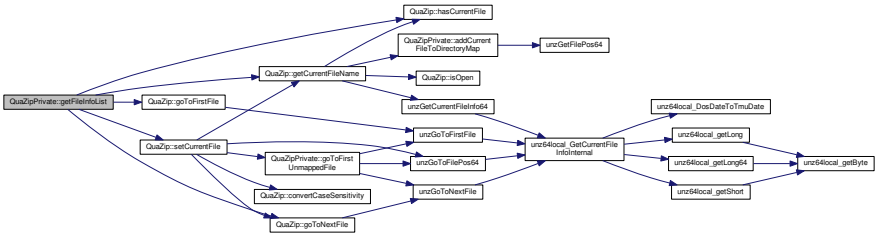
References QuaZip::getCurrentFileName(), QuaZip::goToFirstFile(), QuaZip::goToNextFile(), QuaZip::hasCurrentFile(), QuaZip::mdUnzip, mode, q, QuaZip::setCurrentFile(), UNZ_OK, and zipError.

Referenced by QuaZip::getFileInfoList(), QuaZip::getFileInfoList64(), and QuaZip::getFileNameList().

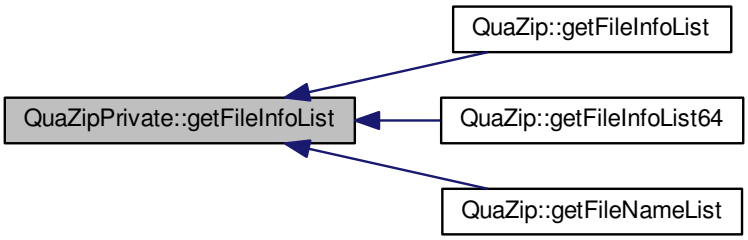
```
688 {
689   QuaZipPrivate *fakeThis=const_cast<QuaZipPrivate*>(this);
690   fakeThis->zipError=UNZ_OK;
691   if (mode!=QuaZip::mdUnzip) {
692     qWarning("QuaZip::getFileNameList/getFileInfoList(): "
693              "ZIP is not open in mdUnzip mode");
694     return false;
695   }
696   QString currentFile;
697   if (q->hasCurrentFile()) {
698       currentFile = q->getCurrentFileName();
699   }
700   if (q->goToFirstFile()) {
701       do {
702           bool ok;
703           result->append(QuaZip_getFileInfo<TFileInfo>(q, &ok));
704           if (!ok)
705               return false;
706       } while (q->goToNextFile());
707   }
708   if (zipError != UNZ_OK)
709       return false;
```

```
710   if (currentFile.isEmpty()) {
711       if (!q->goToFirstFile())
712           return false;
713   } else {
714       if (!q->setCurrentFile(currentFile))
715           return false;
716   }
717   return true;
718 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.78.3.5 bool QuaZipPrivate::goToFirstUnmappedFile ( ) [private]

Definition at line 172 of file quazip.cpp.

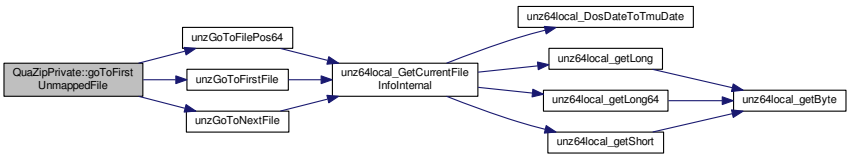
References hasCurrentFile_f, lastMappedDirectoryEntry, QuaZip::mdUnzip, mode, unz64_file_pos_s::pos_in_zip_-directory, UNZ_END_OF_LIST_OF_FILE, UNZ_OK, unzGoToFilePos64(), unzGoToFirstFile(), unzGoToNextFile(), and zipError.

Referenced by QuaZip::setCurrentFile().

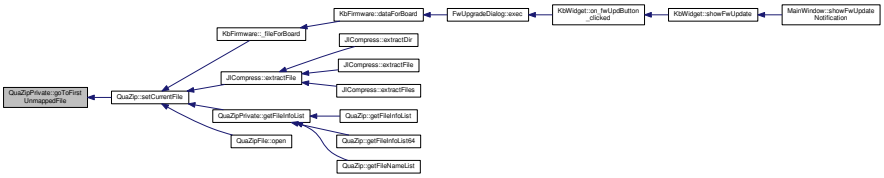
```
173 {
174     zipError = UNZ_OK;
175     if (mode != QuaZip::mdUnzip) {
176         qWarning("QuaZipPrivate::goToNextUnmappedFile(): ZIP is not open in mdUnzip mode");
177         return false;
178     }
179     // If not mapped anything, go to beginning
180     if (lastMappedDirectoryEntry.pos_in_zip_directory == 0) {
181         unzGoToFirstFile(unzFile_f);
182     } else {
183         // Goto the last one mapped, plus one
184         unzGoToFilePos64(unzFile_f, &lastMappedDirectoryEntry);
185         unzGoToNextFile(unzFile_f);
186     }
```

```
187     hasCurrentFile_f=zipError==UNZ_OK;
188     if(zipError==UNZ_END_OF_LIST_OF_FILE)
189       zipError=UNZ_OK;
190     return hasCurrentFile_f;
191 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.78.4 Friends And Related Function Documentation

12.78.4.1 friend class QuaZip [friend]

Definition at line 40 of file quazip.cpp.

12.78.5 Field Documentation

12.78.5.1 union { ... } [private]

12.78.5.2 bool QuaZipPrivate::autoClose [private]

Definition at line 71 of file quazip.cpp.

Referenced by QuaZip::isAutoClose(), QuaZip::open(), and QuaZip::setAutoClose().

12.78.5.3 QString QuaZipPrivate::comment [private]

Definition at line 53 of file quazip.cpp.

Referenced by QuaZip::close(), and QuaZip::setComment().

12.78.5.4 QTextCodec* QuaZipPrivate::commentCodec [private]

Definition at line 47 of file quazip.cpp.

Referenced by QuaZip::close(), QuaZip::getComment(), QuaZip::getCommentCodec(), QuaZip::getCurrentFileInfo(), and QuaZip::setCommentCodec().

12.78.5.5 bool QuaZipPrivate::dataDescriptorWritingEnabled [private]

Definition at line 67 of file quazip.cpp.

Referenced by QuaZip::isDataDescriptorWritingEnabled(), QuaZip::open(), and QuaZip::setDataDescriptorWritingEnabled().

12.78.5.6 QTextCodec * QuaZipPrivate::defaultFileNameCodec = NULL [static], [private]

Definition at line 140 of file quazip.cpp.

Referenced by getDefaultFileNameCodec(), and QuaZip::setDefaultFileNameCodec().

12.78.5.7 QHash<QString, unz64_file_pos> QuaZipPrivate::directoryCaseInsensitive [private]

Definition at line 138 of file quazip.cpp.

Referenced by addCurrentFileToDirectoryMap(), clearDirectoryMap(), and QuaZip::setCurrentFile().

12.78.5.8 QHash<QString, unz64_file_pos> QuaZipPrivate::directoryCaseSensitive [private]

Definition at line 137 of file quazip.cpp.

Referenced by addCurrentFileToDirectoryMap(), clearDirectoryMap(), and QuaZip::setCurrentFile().

12.78.5.9 QTextCodec* QuaZipPrivate::fileNameCodec [private]

Definition at line 45 of file quazip.cpp.

Referenced by QuaZip::getCurrentFileInfo(), QuaZip::getCurrentFileName(), QuaZip::getFileNameCodec(), and QuaZip::setFileNameCodec().

12.78.5.10 bool QuaZipPrivate::hasCurrentFile_f [private]

Definition at line 63 of file quazip.cpp.

Referenced by addCurrentFileToDirectoryMap(), QuaZip::goToFirstFile(), goToFirstUnmappedFile(), QuaZip::goToNextFile(), QuaZip::hasCurrentFile(), and QuaZip::setCurrentFile().

12.78.5.11 QIODevice* QuaZipPrivate::ioDevice [private]

Definition at line 51 of file quazip.cpp.

Referenced by QuaZip::close(), QuaZip::getIoDevice(), QuaZip::open(), QuaZip::setIoDevice(), and QuaZip::setZipName().

12.78.5.12 unz64_file_pos QuaZipPrivate::lastMappedDirectoryEntry [private]

Definition at line 139 of file quazip.cpp.

Referenced by addCurrentFileToDirectoryMap(), clearDirectoryMap(), goToFirstUnmappedFile(), and QuaZipPrivate().

12.78.5.13 QuaZip::Mode QuaZipPrivate::mode [private]

Definition at line 55 of file quazip.cpp.

Referenced by QuaZip::close(), QuaZip::getComment(), QuaZip::getCurrentFileInfo(), QuaZip::getCurrentFileName(), QuaZip::getEntriesCount(), getFileInfoList(), QuaZip::getMode(), QuaZip::goToFirstFile(), goToFirstUnmappedFile(), QuaZip::goToNextFile(), QuaZip::isOpen(), QuaZip::open(), and QuaZip::setCurrentFile().

12.78.5.14 QuaZip* QuaZipPrivate::q [private]

Definition at line 43 of file quazip.cpp.

Referenced by getFileInfoList().

12.78.5.15 bool QuaZipPrivate::zip64 [private]

Definition at line 69 of file quazip.cpp.

Referenced by QuaZip::isZip64Enabled(), and QuaZip::setZip64Enabled().

12.78.5.16 int QuaZipPrivate::zipError [private]

Definition at line 65 of file quazip.cpp.

Referenced by QuaZip::close(), QuaZip::getComment(), QuaZip::getCurrentFileInfo(), QuaZip::getCurrentFileName(), QuaZip::getEntriesCount(), getFileInfoList(), QuaZip::getZipError(), QuaZip::goToFirstFile(), goToFirstUnmappedFile(), QuaZip::goToNextFile(), QuaZip::open(), and QuaZip::setCurrentFile().

12.78.5.17 QString QuaZipPrivate::zipName [private]

Definition at line 49 of file quazip.cpp.

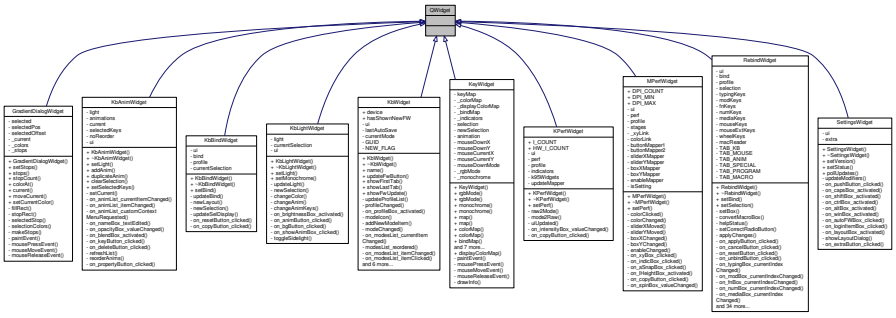
Referenced by QuaZip::close(), QuaZip::getIoDevice(), QuaZip::getZipName(), QuaZip::open(), QuaZip::setIoDevice(), and QuaZip::setZipName().

The documentation for this class was generated from the following file:

- src/ckb/quazip/quazip.cpp

12.79 QWidget Class Reference

Inheritance diagram for QWidget:



Collaboration diagram for QWidget:

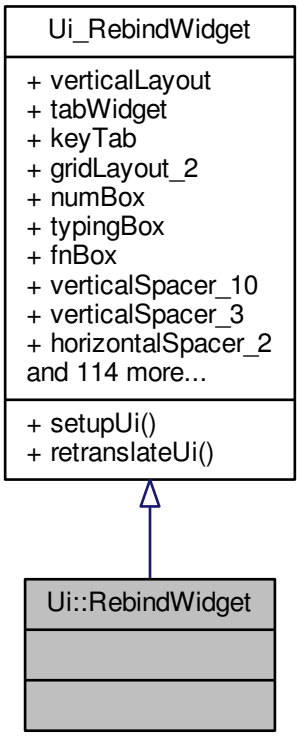
The documentation for this class was generated from the following file:

- src/ckb/keywidget.h

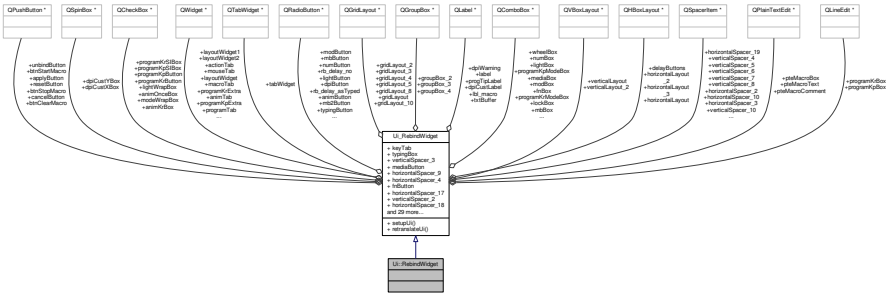
12.80 Ui::RebindWidget Class Reference

`#include <src/ckb/ui_rebindwidget.h>`

Inheritance diagram for Ui::RebindWidget:



Collaboration diagram for Ui::RebindWidget:



Public Member Functions

- void setupUi (QWidget *RebindWidget)
- void retranslateUi (QWidget *RebindWidget)

Data Fields

- QVBoxLayout * verticalLayout
- QTabWidget * tabWidget
- QWidget * keyTab
- QGridLayout * gridLayout_2
- QComboBox * numBox
- QComboBox * typingBox
- QComboBox * fnBox
- QSpacerItem * verticalSpacer_10
- QSpacerItem * verticalSpacer_3
- QSpacerItem * horizontalSpacer_2
- QRadioButton * typingButton
- QComboBox * modBox
- QSpacerItem * horizontalSpacer_3
- QRadioButton * mediaButton
- QSpacerItem * verticalSpacer_4
- QSpacerItem * horizontalSpacer_9
- QSpacerItem * horizontalSpacer_4
- QRadioButton * modButton
- QRadioButton * fnButton
- QComboBox * mediaBox
- QRadioButton * numButton
- QSpacerItem * horizontalSpacer_17
- QWidget * mouseTab
- QGridLayout * gridLayout
- QRadioButton * dpiButton
- QSpacerItem * verticalSpacer_2
- QSpacerItem * verticalSpacer_8
- QSpacerItem * horizontalSpacer_18
- QSpacerItem * horizontalSpacer_20
- QComboBox * mb2Box
- QComboBox * dpiBox
- QSpinBox * dpiCustYBox
- QComboBox * mbBox

- QComboBox * wheelBox
- QRadioButton * mbButton
- QSpinBox * dpiCustXBox
- QLabel * dpiWarning
- QRadioButton * wheelButton
- QSpacerItem * horizontalSpacer_22
- QRadioButton * mb2Button
- QLabel * dpiCustLabel
- QSpacerItem * horizontalSpacer_19
- QSpacerItem * horizontalSpacer_21
- QWidget * animTab
- QGridLayout * gridLayout_5
- QSpacerItem * verticalSpacer_11
- QComboBox * animBox
- QSpacerItem * horizontalSpacer_24
- QSpacerItem * horizontalSpacer_25
- QCheckBox * animKrBox
- QCheckBox * animOnceBox
- QSpacerItem * horizontalSpacer_26
- QRadioButton * animButton
- QSpacerItem * horizontalSpacer_23
- QWidget * actionTab
- QGridLayout * gridLayout_3
- QSpacerItem * horizontalSpacer_5
- QRadioButton * modeButton
- QCheckBox * modeWrapBox
- QCheckBox * lightWrapBox
- QSpacerItem * verticalSpacer_7
- QSpacerItem * verticalSpacer_6
- QRadioButton * lockButton
- QSpacerItem * verticalSpacer_5
- QComboBox * lightBox
- QComboBox * lockBox
- QRadioButton * lightButton
- QComboBox * modeBox
- QSpacerItem * horizontalSpacer_8
- QSpacerItem * horizontalSpacer_10
- QSpacerItem * horizontalSpacer_7
- QSpacerItem * horizontalSpacer_6
- QWidget * programTab
- QGridLayout * gridLayout_4
- QSpacerItem * verticalSpacer
- QSpacerItem * horizontalSpacer
- QCheckBox * programKpButton
- QLineEdit * programKpBox
- QSpacerItem * horizontalSpacer_11
- QSpacerItem * horizontalSpacer_13
- QLineEdit * programKrBox
- QCheckBox * programKrButton
- QSpacerItem * horizontalSpacer_12
- QWidget * programKpExtra
- QHBoxLayout * horizontalLayout_2
- QCheckBox * programKpSIBox
- QComboBox * programKpModeBox
- QSpacerItem * horizontalSpacer_15

- QWidget * programKrExtra
- QHBoxLayout * horizontalLayout_3
- QCheckBox * programKrSIBox
- QComboBox * programKrModeBox
- QSpacerItem * horizontalSpacer_16
- QLabel * progTipLabel
- QWidget * macroTab
- QWidget * layoutWidget1
- QGridLayout * gridLayout_8
- QGroupBox * groupBox_2
- QPlainTextEdit * pteMacroBox
- QPlainTextEdit * pteMacroComment
- QPlainTextEdit * pteMacroText
- QWidget * layoutWidget
- QVBoxLayout * verticalLayout_2
- QGroupBox * groupBox_3
- QGroupBox * groupBox_4
- QWidget * layoutWidget_2
- QGridLayout * gridLayout_10
- QPushButton * btnStopMacro
- QPushButton * btnClearMacro
- QPushButton * btnStartMacro
- QLabel * label
- QLabel * lbl_macro
- QWidget * layoutWidget2
- QHBoxLayout * delayButtons
- QRadioButton * rb_delay_no
- QRadioButton * rb_delay_default
- QRadioButton * rb_delay_asTyped
- QLabel * txtBuffer
- QHBoxLayout * horizontalLayout
- QSpacerItem * horizontalSpacer_14
- QPushButton * unbindButton
- QPushButton * resetButton
- QPushButton * cancelButton
- QPushButton * applyButton

12.80.1 Detailed Description

Definition at line 1056 of file ui_rebindwidget.h.

12.80.2 Member Function Documentation

12.80.2.1 void Ui_RebindWidget::retranslateUi (QWidget * *RebindWidget*) [inline], [inherited]

Definition at line 897 of file ui_rebindwidget.h.

References Ui_RebindWidget::actionTab, Ui_RebindWidget::animBox, Ui_RebindWidget::animButton, Ui_RebindWidget::animKrBox, Ui_RebindWidget::animOnceBox, Ui_RebindWidget::animTab, Ui_RebindWidget::applyButton, Ui_RebindWidget::btnClearMacro, Ui_RebindWidget::btnStartMacro, Ui_RebindWidget::btnStopMacro, Ui_RebindWidget::cancelButton, Ui_RebindWidget::dpiBox, Ui_RebindWidget::dpiButton, Ui_RebindWidget::dpiCustLabel, Ui_RebindWidget::dpiWarning, Ui_RebindWidget::fnBox, Ui_RebindWidget::fnButton, Ui_RebindWidget::groupBox_2, Ui_RebindWidget::groupBox_3, Ui_RebindWidget::groupBox_4, Ui_RebindWidget::keyTab, Ui_RebindWidget::label, Ui_RebindWidget::lbl_macro, Ui_RebindWidget::lightBox, Ui_RebindWidget::lightButton,

Ui_RebindWidget::lightWrapBox, Ui_RebindWidget::lockBox, Ui_RebindWidget::lockButton, Ui_RebindWidget::macroTab, Ui_RebindWidget::mb2Box, Ui_RebindWidget::mb2Button, Ui_RebindWidget::mbBox, Ui_RebindWidget::mbButton, Ui_RebindWidget::mediaBox, Ui_RebindWidget::mediaButton, Ui_RebindWidget::modBox, Ui_RebindWidget::modButton, Ui_RebindWidget::modeBox, Ui_RebindWidget::modeButton, Ui_RebindWidget::modeWrapBox, Ui_RebindWidget::mouseTab, Ui_RebindWidget::numBox, Ui_RebindWidget::numButton, Ui_RebindWidget::programKpButton, Ui_RebindWidget::programKpModeBox, Ui_RebindWidget::programKpSIBox, Ui_RebindWidget::programKrButton, Ui_RebindWidget::programKrModeBox, Ui_RebindWidget::programKrSIBox, Ui_RebindWidget::programTab, Ui_RebindWidget::progTipLabel, Ui_RebindWidget::pteMacroComment, Ui_RebindWidget::pteMacroText, Ui_RebindWidget::rb_delay_asTyped, Ui_RebindWidget::rb_delay_default, Ui_RebindWidget::rb_delay_no, Ui_RebindWidget::resetButton, Ui_RebindWidget::tabWidget, Ui_RebindWidget::txtBuffer, Ui_RebindWidget::typingBox, Ui_RebindWidget::typingButton, Ui_RebindWidget::unbindButton, Ui_RebindWidget::wheelBox, and Ui_RebindWidget::wheelButton.

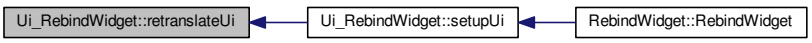
Referenced by Ui_RebindWidget::setupUi().

```
898     {
899         numBox->clear();
900         numBox->insertItems(0, QStringList()
901          << QString()
902         );
903         typingBox->clear();
904         typingBox->insertItems(0, QStringList()
905          << QString()
906         );
907         fnBox->clear();
908         fnBox->insertItems(0, QStringList()
909          << QString()
910         );
911         typingButton->setText(QApplication::translate("RebindWidget", "Typing:", Q_NULLPTR));
912         modBox->clear();
913         modBox->insertItems(0, QStringList()
914          << QString()
915         );
916         mediaButton->setText(QApplication::translate("RebindWidget", "Media:", Q_NULLPTR));
917         modButton->setText(QApplication::translate("RebindWidget", "Modifier:", Q_NULLPTR));
918         fnButton->setText(QApplication::translate("RebindWidget", "Miscellaneous:", Q_NULLPTR));
919         mediaBox->clear();
920         mediaBox->insertItems(0, QStringList()
921          << QString()
922         );
923         numButton->setText(QApplication::translate("RebindWidget", "Number pad:", Q_NULLPTR));
924         tabWidget->setTabText(tabWidget->indexOf(keyTab), QApplication::translate("
    RebindWidget", "Keyboard", Q_NULLPTR));
925         dpiButton->setText(QApplication::translate("RebindWidget", "Change DPI:", Q_NULLPTR));
926         mb2Box->clear();
927         mb2Box->insertItems(0, QStringList()
928          << QString()
929          << QApplication::translate("RebindWidget", "4 (Back)", Q_NULLPTR)
930          << QApplication::translate("RebindWidget", "5 (Forward)", Q_NULLPTR)
931          << QApplication::translate("RebindWidget", "6", Q_NULLPTR)
932          << QApplication::translate("RebindWidget", "7", Q_NULLPTR)
933          << QApplication::translate("RebindWidget", "8", Q_NULLPTR)
934         );
935         dpiBox->clear();
936         dpiBox->insertItems(0, QStringList()
937          << QString()
938          << QApplication::translate("RebindWidget", "(Up)", Q_NULLPTR)
939          << QApplication::translate("RebindWidget", "(Down)", Q_NULLPTR)
940          << QApplication::translate("RebindWidget", "Sniper", Q_NULLPTR)
941          << QApplication::translate("RebindWidget", "1:", Q_NULLPTR)
942          << QApplication::translate("RebindWidget", "2:", Q_NULLPTR)
943          << QApplication::translate("RebindWidget", "3:", Q_NULLPTR)
944          << QApplication::translate("RebindWidget", "4:", Q_NULLPTR)
945          << QApplication::translate("RebindWidget", "5:", Q_NULLPTR)
946          << QApplication::translate("RebindWidget", "Custom:", Q_NULLPTR)
947         );
948         mbBox->clear();
949         mbBox->insertItems(0, QStringList()
950          << QString()
951          << QApplication::translate("RebindWidget", "Left", Q_NULLPTR)
952          << QApplication::translate("RebindWidget", "Right", Q_NULLPTR)
953          << QApplication::translate("RebindWidget", "Middle", Q_NULLPTR)
954         );
955         wheelBox->clear();
956         wheelBox->insertItems(0, QStringList()
957          << QString()
958          << QApplication::translate("RebindWidget", "Up", Q_NULLPTR)
959          << QApplication::translate("RebindWidget", "Down", Q_NULLPTR)
960         );
961         mbButton->setText(QApplication::translate("RebindWidget", "Standard button:", Q_NULLPTR));
962         dpiWarning->setText(QApplication::translate("RebindWidget", "DPI is only available for
```

```
 mice.", Q_NULLPTR));
963         wheelButton->setText(QApplication::translate("RebindWidget", "Wheel:", Q_NULLPTR));
964         mb2Button->setText(QApplication::translate("RebindWidget", "Special button:", Q_NULLPTR));
965         dpiCustLabel->setText(QApplication::translate("RebindWidget", "x", Q_NULLPTR));
966         tabWidget->setTabText(tabWidget->indexOf(mouseTab),
    QApplication::translate("RebindWidget", "Mouse", Q_NULLPTR));
967         animBox->clear();
968         animBox->insertItems(0, QStringList()
969          << QString()
970         );
971         animKrBox->setText(QApplication::translate("RebindWidget", "Stop on key release",
    Q_NULLPTR));
972         animOnceBox->setText(QApplication::translate("RebindWidget", "Restart every time",
    Q_NULLPTR));
973         animButton->setText(QApplication::translate("RebindWidget", "Start animation on keypress:
    ", Q_NULLPTR));
974         tabWidget->setTabText(tabWidget->indexOf(animTab), QApplication::translate
    ("RebindWidget", "Animation", Q_NULLPTR));
975         modeButton->setText(QApplication::translate("RebindWidget", "Switch to mode:", Q_NULLPTR)
    );
976         modeWrapBox->setText(QApplication::translate("RebindWidget", "Wrap-around", Q_NULLPTR));
977         lightWrapBox->setText(QApplication::translate("RebindWidget", "Wrap-around", Q_NULLPTR)
    );
978         lockButton->setText(QApplication::translate("RebindWidget", "Windows lock:", Q_NULLPTR));
979         lightBox->clear();
980         lightBox->insertItems(0, QStringList()
981          << QString()
982          << QApplication::translate("RebindWidget", "Up", Q_NULLPTR)
983          << QApplication::translate("RebindWidget", "Down", Q_NULLPTR)
984         );
985         lockBox->clear();
986         lockBox->insertItems(0, QStringList()
987          << QString()
988          << QApplication::translate("RebindWidget", "Toggle", Q_NULLPTR)
989          << QApplication::translate("RebindWidget", "On", Q_NULLPTR)
990          << QApplication::translate("RebindWidget", "Off", Q_NULLPTR)
991         );
992         lightButton->setText(QApplication::translate("RebindWidget", "Brightness:", Q_NULLPTR));
993         modeBox->clear();
994         modeBox->insertItems(0, QStringList()
995          << QString()
996          << QApplication::translate("RebindWidget", "(Previous)", Q_NULLPTR)
997          << QApplication::translate("RebindWidget", "(Next)", Q_NULLPTR)
998         );
999         tabWidget->setTabText(tabWidget->indexOf(actionTab),
    QApplication::translate("RebindWidget", "Special", Q_NULLPTR));
1000          programKpButton->setText(QApplication::translate("RebindWidget", "Launch program on
     key press:", Q_NULLPTR));
1001          programKrButton->setText(QApplication::translate("RebindWidget", "Launch program on
     key release:", Q_NULLPTR));
1002          programKpSIBox->setText(QApplication::translate("RebindWidget", "Single instance",
    Q_NULLPTR));
1003          programKpModeBox->clear();
1004          programKpModeBox->insertItems(0, QStringList()
1005           << QApplication::translate("RebindWidget", "Run indefinitely", Q_NULLPTR)
1006           << QApplication::translate("RebindWidget", "Stop on release", Q_NULLPTR)
1007           << QApplication::translate("RebindWidget", "Stop on re-press", Q_NULLPTR)
1008          );
1009          programKrSIBox->setText(QApplication::translate("RebindWidget", "Single instance",
    Q_NULLPTR));
1010          programKrModeBox->clear();
1011          programKrModeBox->insertItems(0, QStringList()
1012           << QApplication::translate("RebindWidget", "Run indefinitely", Q_NULLPTR)
1013           << QApplication::translate("RebindWidget", "Stop on re-press", Q_NULLPTR)
1014          );
1015          progTipLabel->setText(QApplication::translate("RebindWidget", "Tip", Q_NULLPTR));
1016          tabWidget->setTabText(tabWidget->indexOf(programTab),
    QApplication::translate("RebindWidget", "Program", Q_NULLPTR));
1017          groupBox_2->setTitle(QApplication::translate("RebindWidget", "Macro Key Actions",
    Q_NULLPTR));
1018 #ifndef QT_NO_TOOLTIP
1019          pteMacroComment->setToolTip(QApplication::translate("RebindWidget", "What is this
     macro for?", Q_NULLPTR));
1020 #endif // QT_NO_TOOLTIP
1021          pteMacroComment->setDocumentTitle(QString());
1022          pteMacroComment->setPlainText(QString());
1023          pteMacroText->setDocumentTitle(QString());
1024          pteMacroText->setPlainText(QString());
1025          groupBox_3->setTitle(QApplication::translate("RebindWidget", "Macro Comment", Q_NULLPTR))
    ;
1026          groupBox_4->setTitle(QApplication::translate("RebindWidget", "Macro Text", Q_NULLPTR));
1027          btnStopMacro->setText(QApplication::translate("RebindWidget", "Stop", Q_NULLPTR));
1028          btnClearMacro->setText(QApplication::translate("RebindWidget", "Clear", Q_NULLPTR));
1029          btnStartMacro->setText(QApplication::translate("RebindWidget", "Start", Q_NULLPTR));
1030          label->setText(QApplication::translate("RebindWidget", "Record macro ", Q_NULLPTR));
1031          lbl_macro->setText(QApplication::translate("RebindWidget", "Comment label for help",
    Q_NULLPTR));
```

```
1032 #ifndef QT_NO_WHATSTHIS
1033         rb_delay_no->setWhatsThis(QApplication::translate("RebindWidget", "configure delays
       between keystrokes: Disable delay", Q_NULLPTR));
1034 #endif // QT_NO_WHATSTHIS
1035         rb_delay_no->setText(QApplication::translate("RebindWidget", "No delay", Q_NULLPTR));
1036 #ifndef QT_NO_WHATSTHIS
1037         rb_delay_default->setWhatsThis(QApplication::translate("RebindWidget", "configure
       delays between keystrokes: Set delay to default values: 20us up to 15 chars, 200us above", Q_NULLPTR));
1038 #endif // QT_NO_WHATSTHIS
1039         rb_delay_default->setText(QApplication::translate("RebindWidget", "default",
      Q_NULLPTR));
1040 #ifndef QT_NO_WHATSTHIS
1041         rb_delay_asTyped->setWhatsThis(QApplication::translate("RebindWidget", "configure
       delays between keystrokes: Remember delays as they had been typed while the macro definition process",
      Q_NULLPTR));
1042 #endif // QT_NO_WHATSTHIS
1043         rb_delay_asTyped->setText(QApplication::translate("RebindWidget", "as typed",
      Q_NULLPTR));
1044         txtBuffer->setText(QString());
1045         tabWidget->setTabText(tabWidget->indexOf(macroTab),
      QApplication::translate("RebindWidget", "Macro", Q_NULLPTR));
1046         unbindButton->setText(QApplication::translate("RebindWidget", "Unbind", Q_NULLPTR));
1047         resetButton->setText(QApplication::translate("RebindWidget", "Reset to Default",
      Q_NULLPTR));
1048         cancelButton->setText(QApplication::translate("RebindWidget", "Cancel", Q_NULLPTR));
1049         applyButton->setText(QApplication::translate("RebindWidget", "Apply", Q_NULLPTR));
1050         Q_UNUSED(RebindWidget);
1051     } // retranslateUi
```

Here is the caller graph for this function:



12.80.2.2 void Ui_RebindWidget::setupUi (QWidget * *RebindWidget*) [inline],[inherited]

Definition at line 163 of file ui_rebindwidget.h.

References Ui_RebindWidget::actionTab, Ui_RebindWidget::animBox, Ui_RebindWidget::animButton, Ui_RebindWidget::animKrBox, Ui_RebindWidget::animOnceBox, Ui_RebindWidget::animTab, Ui_RebindWidget::applyButton, Ui_RebindWidget::btnClearMacro, Ui_RebindWidget::btnStartMacro, Ui_RebindWidget::btnStopMacro, Ui_RebindWidget::cancelButton, Ui_RebindWidget::delayButtons, Ui_RebindWidget::dpiBox, Ui_RebindWidget::dpiButton, Ui_RebindWidget::dpiCustLabel, Ui_RebindWidget::dpiCustXBox, Ui_RebindWidget::dpiCustYBox, Ui_RebindWidget::dpiWarning, Ui_RebindWidget::fnBox, Ui_RebindWidget::fnButton, Ui_RebindWidget::gridLayout, Ui_RebindWidget::gridLayout_10, Ui_RebindWidget::gridLayout_2, Ui_RebindWidget::gridLayout_3, Ui_RebindWidget::gridLayout_4, Ui_RebindWidget::gridLayout_5, Ui_RebindWidget::gridLayout_8, Ui_RebindWidget::groupBox_2, Ui_RebindWidget::groupBox_3, Ui_RebindWidget::groupBox_4, Ui_RebindWidget::horizontalLayout, Ui_RebindWidget::horizontalLayout_2, Ui_RebindWidget::horizontalLayout_3, Ui_RebindWidget::horizontalSpacer, Ui_RebindWidget::horizontalSpacer_10, Ui_RebindWidget::horizontalSpacer_11, Ui_RebindWidget::horizontalSpacer_12, Ui_RebindWidget::horizontalSpacer_13, Ui_RebindWidget::horizontalSpacer_14, Ui_RebindWidget::horizontalSpacer_15, Ui_RebindWidget::horizontalSpacer_16, Ui_RebindWidget::horizontalSpacer_17, Ui_RebindWidget::horizontalSpacer_18, Ui_RebindWidget::horizontalSpacer_19, Ui_RebindWidget::horizontalSpacer_2, Ui_RebindWidget::horizontalSpacer_20, Ui_RebindWidget::horizontalSpacer_21, Ui_RebindWidget::horizontalSpacer_22, Ui_RebindWidget::horizontalSpacer_23, Ui_RebindWidget::horizontalSpacer_24, Ui_RebindWidget::horizontalSpacer_25, Ui_RebindWidget::horizontalSpacer_26, Ui_RebindWidget::horizontalSpacer_3, Ui_RebindWidget::horizontalSpacer_4, Ui_RebindWidget::horizontalSpacer_5, Ui_RebindWidget::horizontalSpacer_6, Ui_RebindWidget::horizontalSpacer_7, Ui_RebindWidget::horizontalSpacer_8, Ui_RebindWidget::horizontalSpacer_9, Ui_RebindWidget::keyTab, Ui_RebindWidget::label, Ui_RebindWidget::layoutWidget, Ui_RebindWidget::layoutWidget1, Ui_RebindWidget::layoutWidget2, Ui_RebindWidget::layoutWidget_2, Ui_RebindWidget::lbl_macro, Ui_RebindWidget::lightBox, Ui_RebindWidget::lightButton, Ui_RebindWidget::lightWrapBox, Ui_RebindWidget::lockBox, Ui_RebindWidget::lockButton, Ui_RebindWidget::macroTab, Ui_RebindWidget::mb2Box, Ui_RebindWidget::mb2Button, Ui_RebindWidget::mbBox, Ui_RebindWidget::mbButton, Ui_Rebind-

Widget::mediaBox, Ui_RebindWidget::mediaButton, Ui_RebindWidget::modBox, Ui_RebindWidget::modButton, Ui_RebindWidget::modeBox, Ui_RebindWidget::modeButton, Ui_RebindWidget::modeWrapBox, Ui_RebindWidget::mouseTab, Ui_RebindWidget::numBox, Ui_RebindWidget::numButton, Ui_RebindWidget::programKpBox, Ui_RebindWidget::programKpButton, Ui_RebindWidget::programKpExtra, Ui_RebindWidget::programKpModeBox, Ui_RebindWidget::programKpSIBox, Ui_RebindWidget::programKrBox, Ui_RebindWidget::programKrButton, Ui_RebindWidget::programKrExtra, Ui_RebindWidget::programKrModeBox, Ui_RebindWidget::programKrSIBox, Ui_RebindWidget::programTab, Ui_RebindWidget::progTipLabel, Ui_RebindWidget::pteMacroBox, Ui_RebindWidget::pteMacroComment, Ui_RebindWidget::pteMacroText, Ui_RebindWidget::rb_delay_asTyped, Ui_RebindWidget::rb_delay_default, Ui_RebindWidget::rb_delay_no, Ui_RebindWidget::resetButton, Ui_RebindWidget::retranslateUi(), Ui_RebindWidget::tabWidget, Ui_RebindWidget::txtBuffer, Ui_RebindWidget::typingBox, Ui_RebindWidget::typingButton, Ui_RebindWidget::unbindButton, Ui_RebindWidget::verticalLayout, Ui_RebindWidget::verticalLayout_2, Ui_RebindWidget::verticalSpacer, Ui_RebindWidget::verticalSpacer_10, Ui_RebindWidget::verticalSpacer_11, Ui_RebindWidget::verticalSpacer_2, Ui_RebindWidget::verticalSpacer_3, Ui_RebindWidget::verticalSpacer_4, Ui_RebindWidget::verticalSpacer_5, Ui_RebindWidget::verticalSpacer_6, Ui_RebindWidget::verticalSpacer_7, Ui_RebindWidget::verticalSpacer_8, Ui_RebindWidget::wheelBox, and Ui_RebindWidget::wheelButton.

Referenced by RebindWidget::RebindWidget().

```
164     {
165         if (RebindWidget->objectName().isEmpty())
166             RebindWidget->setObjectName(QStringLiteral("RebindWidget"));
167         RebindWidget->resize(687, 342);
168         QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
169         sizePolicy.setHorizontalStretch(0);
170         sizePolicy.setVerticalStretch(0);
171         sizePolicy.setHeightForWidth(RebindWidget->sizePolicy().hasHeightForWidth());
172         RebindWidget->setSizePolicy(sizePolicy);
173         RebindWidget->setStyleSheet(QStringLiteral("font-size: 12px ;"));
174         verticalLayout = new QVBoxLayout(RebindWidget);
175         verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
176         tabWidget = new QTabWidget(RebindWidget);
177         tabWidget->setObjectName(QStringLiteral("tabWidget"));
178         tabWidget->setStyleSheet(QStringLiteral(""));
179         tabWidget->setUsesScrollButtons(false);
180         tabWidget->setDocumentMode(false);
181         keyTab = new QWidget();
182         keyTab->setObjectName(QStringLiteral("keyTab"));
183         sizePolicy.setHeightForWidth(keyTab->sizePolicy().hasHeightForWidth());
184         keyTab->setSizePolicy(sizePolicy);
185         gridLayout_2 = new QGridLayout(keyTab);
186         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
187         gridLayout_2->setContentsMargins(-1, -1, -1, 0);
188         numBox = new QComboBox(keyTab);
189         numBox->setObjectName(QStringLiteral("numBox"));
190         QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Fixed);
191         sizePolicy1.setHorizontalStretch(0);
192         sizePolicy1.setVerticalStretch(0);
193         sizePolicy1.setHeightForWidth(numBox->sizePolicy().hasHeightForWidth());
194         numBox->setSizePolicy(sizePolicy1);
195 
196         gridLayout_2->addWidget(numBox, 6, 4, 1, 1);
197 
198         typingBox = new QComboBox(keyTab);
199         typingBox->setObjectName(QStringLiteral("typingBox"));
200         sizePolicy1.setHeightForWidth(typingBox->sizePolicy().hasHeightForWidth());
201         typingBox->setSizePolicy(sizePolicy1);
202 
203         gridLayout_2->addWidget(typingBox, 1, 1, 1, 1);
204 
205         fnBox = new QComboBox(keyTab);
206         fnBox->setObjectName(QStringLiteral("fnBox"));
207         sizePolicy1.setHeightForWidth(fnBox->sizePolicy().hasHeightForWidth());
208         fnBox->setSizePolicy(sizePolicy1);
209 
210         gridLayout_2->addWidget(fnBox, 6, 1, 1, 1);
211 
212         verticalSpacer_10 = new QSpacerItem(0, 5, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
213 
214         gridLayout_2->addItem(verticalSpacer_10, 9, 1, 1, 1);
215 
216         verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
217 
218         gridLayout_2->addItem(verticalSpacer_3, 15, 2, 1, 1);
219 
220         horizontalSpacer_2 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
221 
222         gridLayout_2->addItem(horizontalSpacer_2, 1, 3, 1, 1);
```

```
223
224         typingButton = new QRadioButton(keyTab);
225         typingButton->setObjectName(QStringLiteral("typingButton"));
226         typingButton->setAutoExclusive(false);
227
228         gridLayout_2->addWidget(typingButton, 0, 0, 1, 2);
229
230         modBox = new QComboBox(keyTab);
231         modBox->setObjectName(QStringLiteral("modBox"));
232         sizePolicy1.setHeightForWidth(modBox->sizePolicy().hasHeightForWidth());
233         modBox->setSizePolicy(sizePolicy1);
234
235         gridLayout_2->addWidget(modBox, 1, 4, 1, 1);
236
237         horizontalSpacer_3 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
238
239         gridLayout_2->addItem(horizontalSpacer_3, 1, 0, 1, 1);
240
241         mediaButton = new QRadioButton(keyTab);
242         mediaButton->setObjectName(QStringLiteral("mediaButton"));
243         mediaButton->setAutoExclusive(false);
244
245         gridLayout_2->addWidget(mediaButton, 10, 0, 1, 2);
246
247         verticalSpacer_4 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
248
249         gridLayout_2->addItem(verticalSpacer_4, 2, 1, 1, 1);
250
251         horizontalSpacer_9 = new QSpacerItem(0, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
252
253         gridLayout_2->addItem(horizontalSpacer_9, 1, 5, 1, 2);
254
255         horizontalSpacer_4 = new QSpacerItem(0, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
256
257         gridLayout_2->addItem(horizontalSpacer_4, 1, 2, 1, 1);
258
259         modButton = new QRadioButton(keyTab);
260         modButton->setObjectName(QStringLiteral("modButton"));
261
262         gridLayout_2->addWidget(modButton, 0, 3, 1, 2);
263
264         fnButton = new QRadioButton(keyTab);
265         fnButton->setObjectName(QStringLiteral("fnButton"));
266         fnButton->setAutoExclusive(false);
267
268         gridLayout_2->addWidget(fnButton, 5, 0, 1, 2);
269
270         mediaBox = new QComboBox(keyTab);
271         mediaBox->setObjectName(QStringLiteral("mediaBox"));
272         sizePolicy1.setHeightForWidth(mediaBox->sizePolicy().hasHeightForWidth());
273         mediaBox->setSizePolicy(sizePolicy1);
274
275         gridLayout_2->addWidget(mediaBox, 11, 1, 1, 1);
276
277         numButton = new QRadioButton(keyTab);
278         numButton->setObjectName(QStringLiteral("numButton"));
279         numButton->setAutoExclusive(false);
280
281         gridLayout_2->addWidget(numButton, 5, 3, 1, 2);
282
283         horizontalSpacer_17 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
284
285         gridLayout_2->addItem(horizontalSpacer_17, 1, 7, 1, 1);
286
287         tabWidget->addTab(keyTab, QString());
288         mouseTab = new QWidget();
289         mouseTab->setObjectName(QStringLiteral("mouseTab"));
290         gridLayout = new QGridLayout(mouseTab);
291         gridLayout->setObjectName(QStringLiteral("gridLayout"));
292         dpiButton = new QRadioButton(mouseTab);
293         dpiButton->setObjectName(QStringLiteral("dpiButton"));
294         dpiButton->setAutoExclusive(false);
295
296         gridLayout->addWidget(dpiButton, 3, 3, 1, 5);
297
298         verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
299
300         gridLayout->addItem(verticalSpacer_2, 5, 1, 1, 1);
301
302         verticalSpacer_8 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
```

```
303
304         gridLayout->addItem(verticalSpacer_8, 2, 1, 1, 1);
305
306         horizontalSpacer_18 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
307
308         gridLayout->addItem(horizontalSpacer_18, 1, 0, 1, 1);
309
310         horizontalSpacer_20 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
311
312         gridLayout->addItem(horizontalSpacer_20, 1, 3, 1, 1);
313
314         mb2Box = new QComboBox(mouseTab);
315         mb2Box->setObjectName(QStringLiteral("mb2Box"));
316         sizePolicy1.setHeightForWidth(mb2Box->sizePolicy().hasHeightForWidth());
317         mb2Box->setSizePolicy(sizePolicy1);
318
319         gridLayout->addWidget(mb2Box, 1, 4, 1, 4);
320
321         dpiBox = new QComboBox(mouseTab);
322         dpiBox->setObjectName(QStringLiteral("dpiBox"));
323
324         gridLayout->addWidget(dpiBox, 4, 4, 1, 1);
325
326         dpiCustYBox = new QSpinBox(mouseTab);
327         dpiCustYBox->setObjectName(QStringLiteral("dpiCustYBox"));
328         dpiCustYBox->setMinimum(400);
329         dpiCustYBox->setMaximum(8500);
330         dpiCustYBox->setSingleStep(50);
331
332         gridLayout->addWidget(dpiCustYBox, 4, 7, 1, 1);
333
334         mbBox = new QComboBox(mouseTab);
335         mbBox->setObjectName(QStringLiteral("mbBox"));
336         sizePolicy1.setHeightForWidth(mbBox->sizePolicy().hasHeightForWidth());
337         mbBox->setSizePolicy(sizePolicy1);
338
339         gridLayout->addWidget(mbBox, 1, 1, 1, 1);
340
341         wheelBox = new QComboBox(mouseTab);
342         wheelBox->setObjectName(QStringLiteral("wheelBox"));
343
344         gridLayout->addWidget(wheelBox, 4, 1, 1, 1);
345
346         mbButton = new QRadioButton(mouseTab);
347         mbButton->setObjectName(QStringLiteral("mbButton"));
348         mbButton->setAutoExclusive(false);
349
350         gridLayout->addWidget(mbButton, 0, 0, 1, 2);
351
352         dpiCustXBox = new QSpinBox(mouseTab);
353         dpiCustXBox->setObjectName(QStringLiteral("dpiCustXBox"));
354         dpiCustXBox->setMinimum(400);
355         dpiCustXBox->setMaximum(8500);
356         dpiCustXBox->setSingleStep(50);
357
358         gridLayout->addWidget(dpiCustXBox, 4, 5, 1, 1);
359
360         dpiWarning = new QLabel(mouseTab);
361         dpiWarning->setObjectName(QStringLiteral("dpiWarning"));
362         QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Fixed);
363         sizePolicy2.setHorizontalStretch(0);
364         sizePolicy2.setVerticalStretch(0);
365         sizePolicy2.setHeightForWidth(dpiWarning->sizePolicy().hasHeightForWidth());
366         dpiWarning->setSizePolicy(sizePolicy2);
367
368         gridLayout->addWidget(dpiWarning, 6, 0, 1, 10);
369
370         wheelButton = new QRadioButton(mouseTab);
371         wheelButton->setObjectName(QStringLiteral("wheelButton"));
372
373         gridLayout->addWidget(wheelButton, 3, 0, 1, 2);
374
375         horizontalSpacer_22 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
376
377         gridLayout->addItem(horizontalSpacer_22, 1, 8, 1, 1);
378
379         mb2Button = new QRadioButton(mouseTab);
380         mb2Button->setObjectName(QStringLiteral("mb2Button"));
381         mb2Button->setAutoExclusive(false);
382
383         gridLayout->addWidget(mb2Button, 0, 3, 1, 5);
384
385         dpiCustLabel = new QLabel(mouseTab);
386         dpiCustLabel->setObjectName(QStringLiteral("dpiCustLabel"));
```

```
387
388         gridLayout->addWidget(dpiCustLabel, 4, 6, 1, 1);
389
390         horizontalSpacer_19 = new QSpacerItem(0, 0, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
391
392         gridLayout->addItem(horizontalSpacer_19, 1, 2, 1, 1);
393
394         horizontalSpacer_21 = new QSpacerItem(0, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
395
396         gridLayout->addItem(horizontalSpacer_21, 1, 9, 1, 1);
397
398         tabWidget->addTab(mouseTab, QString());
399         animTab = new QWidget();
400         animTab->setObjectName(QStringLiteral("animTab"));
401         gridLayout_5 = new QGridLayout(animTab);
402         gridLayout_5->setObjectName(QStringLiteral("gridLayout_5"));
403         verticalSpacer_11 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
404
405         gridLayout_5->addItem(verticalSpacer_11, 6, 2, 1, 1);
406
407         animBox = new QComboBox(animTab);
408         animBox->setObjectName(QStringLiteral("animBox"));
409         sizePolicy1.setHeightForWidth(animBox->sizePolicy().hasHeightForWidth());
410         animBox->setSizePolicy(sizePolicy1);
411
412         gridLayout_5->addWidget(animBox, 4, 2, 1, 1);
413
414         horizontalSpacer_24 = new QSpacerItem(20, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
415
416         gridLayout_5->addItem(horizontalSpacer_24, 4, 3, 1, 1);
417
418         horizontalSpacer_25 = new QSpacerItem(438, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
419
420         gridLayout_5->addItem(horizontalSpacer_25, 4, 7, 1, 1);
421
422         animKrBox = new QCheckBox(animTab);
423         animKrBox->setObjectName(QStringLiteral("animKrBox"));
424
425         gridLayout_5->addWidget(animKrBox, 4, 6, 1, 1);
426
427         animOnceBox = new QCheckBox(animTab);
428         animOnceBox->setObjectName(QStringLiteral("animOnceBox"));
429
430         gridLayout_5->addWidget(animOnceBox, 4, 4, 1, 1);
431
432         horizontalSpacer_26 = new QSpacerItem(20, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
433
434         gridLayout_5->addItem(horizontalSpacer_26, 4, 5, 1, 1);
435
436         animButton = new QRadioButton(animTab);
437         animButton->setObjectName(QStringLiteral("animButton"));
438         sizePolicy1.setHeightForWidth(animButton->sizePolicy().hasHeightForWidth());
439         animButton->setSizePolicy(sizePolicy1);
440
441         gridLayout_5->addWidget(animButton, 0, 1, 1, 2);
442
443         horizontalSpacer_23 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
444
445         gridLayout_5->addItem(horizontalSpacer_23, 4, 1, 1, 1);
446
447         tabWidget->addTab(animTab, QString());
448         actionTab = new QWidget();
449         actionTab->setObjectName(QStringLiteral("actionTab"));
450         sizePolicy.setHeightForWidth(actionTab->sizePolicy().hasHeightForWidth());
451         actionTab->setSizePolicy(sizePolicy);
452         gridLayout_3 = new QGridLayout(actionTab);
453         gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
454         gridLayout_3->setContentsMargins(-1, -1, -1, 0);
455         horizontalSpacer_5 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
456
457         gridLayout_3->addItem(horizontalSpacer_5, 1, 0, 1, 1);
458
459         modeButton = new QRadioButton(actionTab);
460         modeButton->setObjectName(QStringLiteral("modeButton"));
461         modeButton->setAutoExclusive(false);
462
463         gridLayout_3->addWidget(modeButton, 0, 0, 1, 2);
464
465         modeWrapBox = new QCheckBox(actionTab);
```

```
466         modeWrapBox->setObjectName(QStringLiteral("modeWrapBox"));
467         modeWrapBox->setChecked(true);
468 
469         gridLayout_3->addWidget(modeWrapBox, 1, 3, 1, 1);
470 
471         lightWrapBox = new QCheckBox(actionTab);
472         lightWrapBox->setObjectName(QStringLiteral("lightWrapBox"));
473         lightWrapBox->setChecked(true);
474 
475         gridLayout_3->addWidget(lightWrapBox, 4, 3, 1, 1);
476 
477         verticalSpacer_7 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
478 
479         gridLayout_3->addItem(verticalSpacer_7, 2, 1, 1, 1);
480 
481         verticalSpacer_6 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
482 
483         gridLayout_3->addItem(verticalSpacer_6, 5, 1, 1, 1);
484 
485         lockButton = new QRadioButton(actionTab);
486         lockButton->setObjectName(QStringLiteral("lockButton"));
487         lockButton->setAutoExclusive(false);
488 
489         gridLayout_3->addWidget(lockButton, 6, 0, 1, 2);
490 
491         verticalSpacer_5 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
492 
493         gridLayout_3->addItem(verticalSpacer_5, 8, 1, 1, 1);
494 
495         lightBox = new QComboBox(actionTab);
496         lightBox->setObjectName(QStringLiteral("lightBox"));
497         sizePolicy1.setHeightForWidth(lightBox->sizePolicy().hasHeightForWidth());
498         lightBox->setSizePolicy(sizePolicy1);
499 
500         gridLayout_3->addWidget(lightBox, 4, 1, 1, 1);
501 
502         lockBox = new QComboBox(actionTab);
503         lockBox->setObjectName(QStringLiteral("lockBox"));
504         sizePolicy1.setHeightForWidth(lockBox->sizePolicy().hasHeightForWidth());
505         lockBox->setSizePolicy(sizePolicy1);
506 
507         gridLayout_3->addWidget(lockBox, 7, 1, 1, 1);
508 
509         lightButton = new QRadioButton(actionTab);
510         lightButton->setObjectName(QStringLiteral("lightButton"));
511         lightButton->setAutoExclusive(false);
512 
513         gridLayout_3->addWidget(lightButton, 3, 0, 1, 2);
514 
515         modeBox = new QComboBox(actionTab);
516         modeBox->setObjectName(QStringLiteral("modeBox"));
517         sizePolicy1.setHeightForWidth(modeBox->sizePolicy().hasHeightForWidth());
518         modeBox->setSizePolicy(sizePolicy1);
519 
520         gridLayout_3->addWidget(modeBox, 1, 1, 1, 1);
521 
522         horizontalSpacer_8 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
523 
524         gridLayout_3->addItem(horizontalSpacer_8, 1, 2, 1, 1);
525 
526         horizontalSpacer_10 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
527 
528         gridLayout_3->addItem(horizontalSpacer_10, 7, 3, 1, 1);
529 
530         horizontalSpacer_7 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
531 
532         gridLayout_3->addItem(horizontalSpacer_7, 1, 4, 1, 1);
533 
534         horizontalSpacer_6 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
535 
536         gridLayout_3->addItem(horizontalSpacer_6, 1, 5, 1, 1);
537 
538         tabWidget->addTab(actionTab, QString());
539         programTab = new QWidget();
540         programTab->setObjectName(QStringLiteral("programTab"));
541         gridLayout_4 = new QGridLayout(programTab);
542         gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
543         verticalSpacer = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);
544 
545         gridLayout_4->addItem(verticalSpacer, 2, 1, 1, 1);
```

```
546
547         horizontalSpacer = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum)
    ;
548
549         gridLayout_4->addItem(horizontalSpacer, 1, 0, 1, 1);
550
551         programKpButton = new QCheckBox(programTab);
552         programKpButton->setObjectName(QStringLiteral("programKpButton"));
553
554         gridLayout_4->addWidget(programKpButton, 0, 0, 1, 2);
555
556         programKpBox = new QLineEdit(programTab);
557         programKpBox->setObjectName(QStringLiteral("programKpBox"));
558
559         gridLayout_4->addWidget(programKpBox, 1, 1, 1, 1);
560
561         horizontalSpacer_11 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
562
563         gridLayout_4->addItem(horizontalSpacer_11, 0, 2, 1, 2);
564
565         horizontalSpacer_13 = new QSpacerItem(20, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
566
567         gridLayout_4->addItem(horizontalSpacer_13, 1, 2, 1, 1);
568
569         programKrBox = new QLineEdit(programTab);
570         programKrBox->setObjectName(QStringLiteral("programKrBox"));
571
572         gridLayout_4->addWidget(programKrBox, 4, 1, 1, 1);
573
574         programKrButton = new QCheckBox(programTab);
575         programKrButton->setObjectName(QStringLiteral("programKrButton"));
576
577         gridLayout_4->addWidget(programKrButton, 3, 0, 1, 2);
578
579         horizontalSpacer_12 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
580
581         gridLayout_4->addItem(horizontalSpacer_12, 0, 4, 1, 1);
582
583         programKpExtra = new QWidget(programTab);
584         programKpExtra->setObjectName(QStringLiteral("programKpExtra"));
585         horizontalLayout_2 = new QHBoxLayout(programKpExtra);
586         horizontalLayout_2->setSpacing(12);
587         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
588         horizontalLayout_2->setContentsMargins(0, 0, 0, 0);
589         programKpSIBox = new QCheckBox(programKpExtra);
590         programKpSIBox->setObjectName(QStringLiteral("programKpSIBox"));
591
592         horizontalLayout_2->addWidget(programKpSIBox);
593
594         programKpModeBox = new QComboBox(programKpExtra);
595         programKpModeBox->setObjectName(QStringLiteral("programKpModeBox"));
596
597         horizontalLayout_2->addWidget(programKpModeBox);
598
599         horizontalSpacer_15 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
600
601         horizontalLayout_2->addItem(horizontalSpacer_15);
602
603
604         gridLayout_4->addWidget(programKpExtra, 1, 3, 1, 2);
605
606         programKrExtra = new QWidget(programTab);
607         programKrExtra->setObjectName(QStringLiteral("programKrExtra"));
608         horizontalLayout_3 = new QHBoxLayout(programKrExtra);
609         horizontalLayout_3->setSpacing(12);
610         horizontalLayout_3->setObjectName(QStringLiteral("horizontalLayout_3"));
611         horizontalLayout_3->setContentsMargins(0, 0, 0, 0);
612         programKrSIBox = new QCheckBox(programKrExtra);
613         programKrSIBox->setObjectName(QStringLiteral("programKrSIBox"));
614
615         horizontalLayout_3->addWidget(programKrSIBox);
616
617         programKrModeBox = new QComboBox(programKrExtra);
618         programKrModeBox->setObjectName(QStringLiteral("programKrModeBox"));
619
620         horizontalLayout_3->addWidget(programKrModeBox);
621
622         horizontalSpacer_16 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
623
624         horizontalLayout_3->addItem(horizontalSpacer_16);
625
626
```

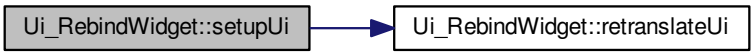
```
627         gridLayout_4->addWidget(programKrExtra, 4, 3, 1, 2);
628 
629         progTipLabel = new QLabel(programTab);
630         progTipLabel->setObjectName(QStringLiteral("progTipLabel"));
631         QSizePolicy sizePolicy3(QSizePolicy::Preferred, QSizePolicy::Expanding);
632         sizePolicy3.setHorizontalStretch(0);
633         sizePolicy3.setVerticalStretch(0);
634         sizePolicy3.setHeightForWidth(progTipLabel->sizePolicy().hasHeightForWidth());
635         progTipLabel->setSizePolicy(sizePolicy3);
636         progTipLabel->setTextInteractionFlags(Qt::LinksAccessibleByMouse|
    Qt::TextSelectableByMouse);
637 
638         gridLayout_4->addWidget(progTipLabel, 5, 1, 1, 4);
639 
640         tabWidget->addTab(programTab, QString());
641         macroTab = new QWidget();
642         macroTab->setObjectName(QStringLiteral("macroTab"));
643         layoutWidget1 = new QWidget(macroTab);
644         layoutWidget1->setObjectName(QStringLiteral("layoutWidget1"));
645         layoutWidget1->setGeometry(QRect(40, 12, 241, 161));
646         gridLayout_8 = new QGridLayout(layoutWidget1);
647         gridLayout_8->setObjectName(QStringLiteral("gridLayout_8"));
648         gridLayout_8->setSizeConstraint(QLayout::SetNoConstraint);
649         gridLayout_8->setContentsMargins(0, 0, 0, 0);
650         groupBox_2 = new QGroupBox(layoutWidget1);
651         groupBox_2->setObjectName(QStringLiteral("groupBox_2"));
652         pteMacroBox = new QPlainTextEdit(groupBox_2);
653         pteMacroBox->setObjectName(QStringLiteral("pteMacroBox"));
654         pteMacroBox->setGeometry(QRect(0, 20, 241, 131));
655         pteMacroBox->setFocusPolicy(Qt::WheelFocus);
656         pteMacroBox->setTabChangesFocus(true);
657 
658         gridLayout_8->addWidget(groupBox_2, 0, 0, 1, 1);
659 
660         pteMacroComment = new QPlainTextEdit(macroTab);
661         pteMacroComment->setObjectName(QStringLiteral("pteMacroComment"));
662         pteMacroComment->setEnabled(true);
663         pteMacroComment->setGeometry(QRect(410, 10, 311, 31));
664         pteMacroComment->setFocusPolicy(Qt::WheelFocus);
665         pteMacroComment->setContextMenuPolicy(Qt::NoContextMenu);
666         pteMacroComment->setAcceptDrops(true);
667         pteMacroComment->setToolTipDuration(1);
668         pteMacroComment->setInputMethodHints(Qt::ImhNone);
669         pteMacroComment->setVerticalScrollBarPolicy(Qt::ScrollBarAlwaysOff);
670         pteMacroComment->setTabChangesFocus(true);
671         pteMacroComment->setUndoRedoEnabled(true);
672         pteMacroComment->setReadOnly(false);
673         pteMacroComment->setTabStopWidth(1);
674         pteMacroText = new QPlainTextEdit(macroTab);
675         pteMacroText->setObjectName(QStringLiteral("pteMacroText"));
676         pteMacroText->setGeometry(QRect(410, 50, 311, 66));
677         pteMacroText->setFocusPolicy(Qt::StrongFocus);
678         pteMacroText->setContextMenuPolicy(Qt::NoContextMenu);
679         pteMacroText->setAcceptDrops(false);
680         pteMacroText->setInputMethodHints(Qt::ImhNoAutoUppercase);
681         pteMacroText->setUndoRedoEnabled(false);
682         pteMacroText->setReadOnly(false);
683         pteMacroText->setTabStopWidth(1);
684         layoutWidget = new QWidget(macroTab);
685         layoutWidget->setObjectName(QStringLiteral("layoutWidget"));
686         layoutWidget->setGeometry(QRect(300, 10, 111, 71));
687         verticalLayout_2 = new QVBoxLayout(layoutWidget);
688         verticalLayout_2->setObjectName(QStringLiteral("verticalLayout_2"));
689         verticalLayout_2->setSizeConstraint(QLayout::SetNoConstraint);
690         verticalLayout_2->setContentsMargins(0, 0, 0, 0);
691         groupBox_3 = new QGroupBox(layoutWidget);
692         groupBox_3->setObjectName(QStringLiteral("groupBox_3"));
693 
694         verticalLayout_2->addWidget(groupBox_3);
695 
696         groupBox_4 = new QGroupBox(layoutWidget);
697         groupBox_4->setObjectName(QStringLiteral("groupBox_4"));
698 
699         verticalLayout_2->addWidget(groupBox_4);
700 
701         layoutWidget_2 = new QWidget(macroTab);
702         layoutWidget_2->setObjectName(QStringLiteral("layoutWidget_2"));
703         layoutWidget_2->setGeometry(QRect(300, 160, 407, 36));
704         gridLayout_10 = new QGridLayout(layoutWidget_2);
705         gridLayout_10->setObjectName(QStringLiteral("gridLayout_10"));
706         gridLayout_10->setContentsMargins(0, 0, 0, 0);
707         btnStopMacro = new QPushButton(layoutWidget_2);
708         btnStopMacro->setObjectName(QStringLiteral("btnStopMacro"));
709         btnStopMacro->setEnabled(false);
710 
711         gridLayout_10->addWidget(btnStopMacro, 0, 2, 1, 1);
712 
```

```
713         btnClearMacro = new QPushButton(layoutWidget_2);
714         btnClearMacro->setObjectName(QStringLiteral("btnClearMacro"));
715 
716         gridLayout_10->addWidget(btnClearMacro, 0, 3, 1, 1);
717 
718         btnStartMacro = new QPushButton(layoutWidget_2);
719         btnStartMacro->setObjectName(QStringLiteral("btnStartMacro"));
720 
721         gridLayout_10->addWidget(btnStartMacro, 0, 1, 1, 1);
722 
723         label = new QLabel(layoutWidget_2);
724         label->setObjectName(QStringLiteral("label"));
725         label->setStyleSheet(QLatin1String("font: 75 10pt ; \n"
726 ""));
727 
728         gridLayout_10->addWidget(label, 0, 0, 1, 1);
729 
730         lbl_macro = new QLabel(macroTab);
731         lbl_macro->setObjectName(QStringLiteral("lbl_macro"));
732         lbl_macro->setGeometry(QRect(300, 130, 431, 27));
733         lbl_macro->setStyleSheet(QStringLiteral("font: 75 11pt ; color: darkblue;"));
734         layoutWidget2 = new QWidget(macroTab);
735         layoutWidget2->setObjectName(QStringLiteral("layoutWidget2"));
736         layoutWidget2->setGeometry(QRect(40, 170, 238, 28));
737         delayButtons = new QHBoxLayout(layoutWidget2);
738         delayButtons->setSpacing(0);
739         delayButtons->setObjectName(QStringLiteral("delayButtons"));
740         delayButtons->setSizeConstraint(QLayout::SetMinimumSize);
741         delayButtons->setContentsMargins(0, 0, 0, 0);
742         rb_delay_no = new QRadioButton(layoutWidget2);
743         rb_delay_no->setObjectName(QStringLiteral("rb_delay_no"));
744         rb_delay_no->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
745 
746         delayButtons->addWidget(rb_delay_no);
747 
748         rb_delay_default = new QRadioButton(layoutWidget2);
749         rb_delay_default->setObjectName(QStringLiteral("rb_delay_default"));
750         rb_delay_default->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
751         rb_delay_default->setChecked(false);
752         rb_delay_default->setAutoExclusive(true);
753 
754         delayButtons->addWidget(rb_delay_default);
755 
756         rb_delay_asTyped = new QRadioButton(layoutWidget2);
757         rb_delay_asTyped->setObjectName(QStringLiteral("rb_delay_asTyped"));
758         rb_delay_asTyped->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
759         rb_delay_asTyped->setChecked(true);
760 
761         delayButtons->addWidget(rb_delay_asTyped);
762 
763         txtBuffer = new QLabel(macroTab);
764         txtBuffer->setObjectName(QStringLiteral("txtBuffer"));
765         txtBuffer->setEnabled(false);
766         txtBuffer->setGeometry(QRect(300, 100, 0, 0));
767         QSizePolicy sizePolicy4(QSizePolicy::Fixed, QSizePolicy::Fixed);
768         sizePolicy4.setHorizontalStretch(0);
769         sizePolicy4.setVerticalStretch(0);
770         sizePolicy4.setHeightForWidth(txtBuffer->sizePolicy().hasHeightForWidth());
771         txtBuffer->setSizePolicy(sizePolicy4);
772         txtBuffer->setMaximumSize(QSize(0, 0));
773         txtBuffer->setContextMenuPolicy(Qt::NoContextMenu);
774 #ifndef QT_NO_TOOLTIP
775         txtBuffer->setToolTip(QStringLiteral(""));
776 #endif // QT_NO_TOOLTIP
777         txtBuffer->setToolTipDuration(0);
778 #ifndef QT_NO_STATUSTIP
779         txtBuffer->setStatusTip(QStringLiteral(""));
780 #endif // QT_NO_STATUSTIP
781 #ifndef QT_NO_WHATSTHIS
782         txtBuffer->setWhatsThis(QStringLiteral(""));
783 #endif // QT_NO_WHATSTHIS
784         txtBuffer->setFrameShadow(QFrame::Plain);
785         txtBuffer->setLineWidth(0);
786         txtBuffer->setTextFormat(Qt::PlainText);
787         txtBuffer->setIndent(0);
788         txtBuffer->setTextInteractionFlags(Qt::NoTextInteraction);
789         tabWidget->addTab(macroTab, QString());
790         layoutWidget->raise();
791         layoutWidget1->raise();
792         layoutWidget->raise();
793         pteMacroText->raise();
794         layoutWidget_2->raise();
795         lbl_macro->raise();
796         txtBuffer->raise();
797 
798         verticalLayout->addWidget(tabWidget);
799 
```

```
800         horizontalLayout = new QHBoxLayout();
801         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
802         horizontalSpacer_14 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
803 
804         horizontalLayout->addItem(horizontalSpacer_14);
805 
806         unbindButton = new QPushButton(RebindWidget);
807         unbindButton->setObjectName(QStringLiteral("unbindButton"));
808 
809         horizontalLayout->addWidget(unbindButton);
810 
811         resetButton = new QPushButton(RebindWidget);
812         resetButton->setObjectName(QStringLiteral("resetButton"));
813 
814         horizontalLayout->addWidget(resetButton);
815 
816         cancelButton = new QPushButton(RebindWidget);
817         cancelButton->setObjectName(QStringLiteral("cancelButton"));
818 
819         horizontalLayout->addWidget(cancelButton);
820 
821         applyButton = new QPushButton(RebindWidget);
822         applyButton->setObjectName(QStringLiteral("applyButton"));
823 
824         horizontalLayout->addWidget(applyButton);
825 
826 
827         verticalLayout->addLayout(horizontalLayout);
828 
829         QWidget::setTabOrder(tabWidget, pteMacroComment);
830         QWidget::setTabOrder(pteMacroComment, pteMacroBox);
831         QWidget::setTabOrder(pteMacroBox, dpiButton);
832         QWidget::setTabOrder(dpiButton, mb2Box);
833         QWidget::setTabOrder(mb2Box, btnStartMacro);
834         QWidget::setTabOrder(btnStartMacro, fnBox);
835         QWidget::setTabOrder(fnBox, dpiCustYBox);
836         QWidget::setTabOrder(dpiCustYBox, dpiBox);
837         QWidget::setTabOrder(dpiBox, applyButton);
838         QWidget::setTabOrder(applyButton, mbBox);
839         QWidget::setTabOrder(mbBox, cancelButton);
840         QWidget::setTabOrder(cancelButton, wheelBox);
841         QWidget::setTabOrder(wheelBox, btnStopMacro);
842         QWidget::setTabOrder(btnStopMacro, mbButton);
843         QWidget::setTabOrder(mbButton, dpiCustXBox);
844         QWidget::setTabOrder(dpiCustXBox, btnClearMacro);
845         QWidget::setTabOrder(btnClearMacro, wheelButton);
846         QWidget::setTabOrder(wheelButton, mb2Button);
847         QWidget::setTabOrder(mb2Button, animBox);
848         QWidget::setTabOrder(animBox, animKrBox);
849         QWidget::setTabOrder(animKrBox, animOnceBox);
850         QWidget::setTabOrder(animOnceBox, animButton);
851         QWidget::setTabOrder(animButton, modeButton);
852         QWidget::setTabOrder(modeButton, modeWrapBox);
853         QWidget::setTabOrder(modeWrapBox, lightWrapBox);
854         QWidget::setTabOrder(lightWrapBox, lockButton);
855         QWidget::setTabOrder(lockButton, lightBox);
856         QWidget::setTabOrder(lightBox, resetButton);
857         QWidget::setTabOrder(resetButton, lockBox);
858         QWidget::setTabOrder(lockBox, lightButton);
859         QWidget::setTabOrder(lightButton, modeBox);
860         QWidget::setTabOrder(modeBox, unbindButton);
861         QWidget::setTabOrder(unbindButton, programKpButton);
862         QWidget::setTabOrder(programKpButton, programKpBox);
863         QWidget::setTabOrder(programKpBox, programKrBox);
864         QWidget::setTabOrder(programKrBox, programKrButton);
865         QWidget::setTabOrder(programKrButton, programKpSIBox);
866         QWidget::setTabOrder(programKpSIBox, programKpModeBox);
867         QWidget::setTabOrder(programKpModeBox, programKrSIBox);
868         QWidget::setTabOrder(programKrSIBox, programKrModeBox);
869         QWidget::setTabOrder(programKrModeBox, typingBox);
870         QWidget::setTabOrder(typingBox, numBox);
871         QWidget::setTabOrder(numBox, pteMacroText);
872         QWidget::setTabOrder(pteMacroText, typingButton);
873         QWidget::setTabOrder(typingButton, mediaButton);
874         QWidget::setTabOrder(mediaButton, modBox);
875         QWidget::setTabOrder(modBox, modButton);
876         QWidget::setTabOrder(modButton, fnButton);
877         QWidget::setTabOrder(fnButton, mediaBox);
878         QWidget::setTabOrder(mediaBox, numButton);
879 
880         retranslateUi(RebindWidget);
881         QObject::connect(btnClearMacro, SIGNAL(clicked()),
    pteMacroText, SLOT(clear()));
882         QObject::connect(btnClearMacro, SIGNAL(clicked()),
    pteMacroComment, SLOT(clear()));
883         QObject::connect(btnClearMacro, SIGNAL(clicked()),
```

```
      btnStopMacro, SLOT(animateClick()));
884         QObject::connect(cancelButton, SIGNAL(clicked()), txtBuffer, SLOT(clear()));
885         QObject::connect(btnClearMacro, SIGNAL(clicked()),
      txtBuffer, SLOT(clear()));
886         QObject::connect(btnStartMacro, SIGNAL(clicked()),
      txtBuffer, SLOT(clear()));
887         QObject::connect(unbindButton, SIGNAL(clicked()), txtBuffer, SLOT(clear()));
888         QObject::connect(resetButton, SIGNAL(clicked()), txtBuffer, SLOT(clear()));
889
890         tabWidget->setCurrentIndex(0);
891         applyButton->setDefault(true);
892
893
894         QMetaObject::connectSlotsByName(RebindWidget);
895     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.80.3 Field Documentation

12.80.3.1 QWidget* Ui_RebindWidget::actionTab [inherited]

Definition at line 92 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.2 QComboBox* Ui_RebindWidget::animBox [inherited]

Definition at line 84 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_animBox_currentIndexChanged(), RebindWidget::on_animButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.3 QRadioButton* Ui_RebindWidget::animButton [inherited]

Definition at line 90 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_animBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.4 QCheckBox* Ui_RebindWidget::animKrBox [inherited]

Definition at line 87 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.5 QCheckBox* Ui_RebindWidget::animOnceBox [inherited]

Definition at line 88 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.6 QWidget* Ui_RebindWidget::animTab [inherited]

Definition at line 81 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.7 QPushButton* Ui_RebindWidget::applyButton [inherited]

Definition at line 161 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.8 QPushButton* Ui_RebindWidget::btnClearMacro [inherited]

Definition at line 146 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.9 QPushButton* Ui_RebindWidget::btnStartMacro [inherited]

Definition at line 147 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.10 QPushButton* Ui_RebindWidget::btnStopMacro [inherited]

Definition at line 145 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.11 QPushButton* Ui_RebindWidget::cancelButton [inherited]

Definition at line 160 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.12 QHBoxLayout* Ui_RebindWidget::delayButtons [inherited]

Definition at line 151 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.13 QComboBox* Ui_RebindWidget::dpiBox [inherited]

Definition at line 68 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_dpiBox_currentIndexChanged(), RebindWidget::on_dpiButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.14 QRadioButton* Ui_RebindWidget::dpiButton [inherited]

Definition at line 62 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_dpiBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), and Ui_RebindWidget::setupUi().

12.80.3.15 QLabel* Ui_RebindWidget::dpiCustLabel [inherited]

Definition at line 78 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_dpiBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), and Ui_RebindWidget::setupUi().

12.80.3.16 QSpinBox* Ui_RebindWidget::dpiCustXBox [inherited]

Definition at line 73 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_dpiBox_currentIndexChanged(), RebindWidget::setBind(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.17 QSpinBox* Ui_RebindWidget::dpiCustYBox [inherited]

Definition at line 69 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_dpiBox_currentIndexChanged(), RebindWidget::setBind(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.18 QLabel* Ui_RebindWidget::dpiWarning [inherited]

Definition at line 74 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), and Ui_RebindWidget::setupUi().

12.80.3.19 QComboBox* Ui_RebindWidget::fnBox [inherited]

Definition at line 44 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_fnBox_currentIndexChanged(), RebindWidget::on_fnButton_clicked(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.20 QRadioButton* Ui_RebindWidget::fnButton [inherited]

Definition at line 56 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_fnBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_-RebindWidget::setupUi().

12.80.3.21 QGridLayout* Ui_RebindWidget::gridLayout [inherited]

Definition at line 61 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.22 QGridLayout* Ui_RebindWidget::gridLayout_10 [inherited]

Definition at line 144 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.23 QGridLayout* Ui_RebindWidget::gridLayout_2 [inherited]

Definition at line 41 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.24 QGridLayout* Ui_RebindWidget::gridLayout_3 [inherited]

Definition at line 93 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.25 QGridLayout* Ui_RebindWidget::gridLayout_4 [inherited]

Definition at line 111 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.26 QGridLayout* Ui_RebindWidget::gridLayout_5 [inherited]

Definition at line 82 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.27 QGridLayout* Ui_RebindWidget::gridLayout_8 [inherited]

Definition at line 134 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.28 QGroupBox* Ui_RebindWidget::groupBox_2 [inherited]

Definition at line 135 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.29 QGroupBox* Ui_RebindWidget::groupBox_3 [inherited]

Definition at line 141 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.30 QGroupBox* Ui_RebindWidget::groupBox_4 [inherited]

Definition at line 142 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.31 QHBoxLayout* Ui_RebindWidget::horizontalLayout [inherited]

Definition at line 156 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.32 QHBoxLayout* Ui_RebindWidget::horizontalLayout_2 [inherited]

Definition at line 122 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.33 QHBoxLayout* Ui_RebindWidget::horizontalLayout_3 [inherited]

Definition at line 127 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.34 QSpacerItem* Ui_RebindWidget::horizontalSpacer [inherited]

Definition at line 113 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.35 QSpacerItem* Ui_RebindWidget::horizontalSpacer_10 [inherited]

Definition at line 107 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.36 QSpacerItem* Ui_RebindWidget::horizontalSpacer_11 [inherited]

Definition at line 116 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.37 QSpacerItem* Ui_RebindWidget::horizontalSpacer_12 [inherited]

Definition at line 120 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.38 QSpacerItem* Ui_RebindWidget::horizontalSpacer_13 [inherited]

Definition at line 117 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.39 QSpacerItem* Ui_RebindWidget::horizontalSpacer_14 [inherited]

Definition at line 157 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.40 QSpacerItem* Ui_RebindWidget::horizontalSpacer_15 [inherited]

Definition at line 125 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.41 QSpacerItem* Ui_RebindWidget::horizontalSpacer_16 [inherited]

Definition at line 130 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.42 QSpacerItem* Ui_RebindWidget::horizontalSpacer_17 [inherited]

Definition at line 59 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.43 QSpacerItem* Ui_RebindWidget::horizontalSpacer_18 [inherited]

Definition at line 65 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.44 QSpacerItem* Ui_RebindWidget::horizontalSpacer_19 [inherited]

Definition at line 79 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.45 QSpacerItem* Ui_RebindWidget::horizontalSpacer_2 [inherited]

Definition at line 47 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.46 QSpacerItem* Ui_RebindWidget::horizontalSpacer_20 [inherited]

Definition at line 66 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.47 QSpacerItem* Ui_RebindWidget::horizontalSpacer_21 [inherited]

Definition at line 80 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.48 QSpacerItem* Ui_RebindWidget::horizontalSpacer_22 [inherited]

Definition at line 76 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.49 QSpacerItem* Ui_RebindWidget::horizontalSpacer_23 [inherited]

Definition at line 91 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.50 QSpacerItem* Ui_RebindWidget::horizontalSpacer_24 [inherited]

Definition at line 85 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.51 QSpacerItem* Ui_RebindWidget::horizontalSpacer_25 [inherited]

Definition at line 86 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.52 QSpacerItem* Ui_RebindWidget::horizontalSpacer_26 [inherited]

Definition at line 89 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.53 QSpacerItem* Ui_RebindWidget::horizontalSpacer_3 [inherited]

Definition at line 50 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.54 QSpacerItem* Ui_RebindWidget::horizontalSpacer_4 [inherited]

Definition at line 54 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.55 QSpacerItem* Ui_RebindWidget::horizontalSpacer_5 [inherited]

Definition at line 94 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.56 QSpacerItem* Ui_RebindWidget::horizontalSpacer_6 [inherited]

Definition at line 109 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.57 QSpacerItem* Ui_RebindWidget::horizontalSpacer_7 [inherited]

Definition at line 108 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.58 QSpacerItem* Ui_RebindWidget::horizontalSpacer_8 [inherited]

Definition at line 106 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.59 QSpacerItem* Ui_RebindWidget::horizontalSpacer_9 [inherited]

Definition at line 53 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.60 QWidget* Ui_RebindWidget::keyTab [inherited]

Definition at line 40 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.61 QLabel* Ui_RebindWidget::label [inherited]

Definition at line 148 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.62 QWidget* Ui_RebindWidget::layoutWidget [inherited]

Definition at line 139 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.63 QWidget* Ui_RebindWidget::layoutWidget1 [inherited]

Definition at line 133 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.64 QWidget* Ui_RebindWidget::layoutWidget2 [inherited]

Definition at line 150 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.65 QWidget* Ui_RebindWidget::layoutWidget_2 [inherited]

Definition at line 143 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.66 QLabel* Ui_RebindWidget::lbl_macro [inherited]

Definition at line 149 of file ui_rebindwidget.h.

Referenced by RebindWidget::helpStatus(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.67 QComboBox* Ui_RebindWidget::lightBox [inherited]

Definition at line 102 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lightBox_currentIndexChanged(), RebindWidget::on_lightButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.68 QRadioButton* Ui_RebindWidget::lightButton [inherited]

Definition at line 104 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_lightBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.69 QCheckBox* Ui_RebindWidget::lightWrapBox [inherited]

Definition at line 97 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lightBox_currentIndexChanged(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.70 QComboBox* Ui_RebindWidget::lockBox [inherited]

Definition at line 103 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lockBox_currentIndexChanged(), RebindWidget::on_lockButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.71 QRadioButton* Ui_RebindWidget::lockButton [inherited]

Definition at line 100 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_lockBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.72 QWidget* Ui_RebindWidget::macroTab [inherited]

Definition at line 132 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.73 QComboBox* Ui_RebindWidget::mb2Box [inherited]

Definition at line 67 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mb2Box_currentIndexChanged(), RebindWidget::on_mb2Button_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.74 QRadioButton* Ui_RebindWidget::mb2Button [inherited]

Definition at line 77 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mb2Box_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.75 QComboBox* Ui_RebindWidget::mbBox [inherited]

Definition at line 70 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mbBox_currentIndexChanged(), RebindWidget::on_mbButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.76 QRadioButton* Ui_RebindWidget::mbButton [inherited]

Definition at line 72 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mbBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.77 QComboBox* Ui_RebindWidget::mediaBox [inherited]

Definition at line 57 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mediaBox_currentIndexChanged(), RebindWidget::on_mediaButton_clicked(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.78 QRadioButton* Ui_RebindWidget::mediaButton [inherited]

Definition at line 51 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mediaBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.79 QComboBox* Ui_RebindWidget::modBox [inherited]

Definition at line 49 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modBox_currentIndexChanged(), RebindWidget::on_modButton_clicked(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.80 QRadioButton* Ui_RebindWidget::modButton [inherited]

Definition at line 55 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_modBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.81 QComboBox* Ui_RebindWidget::modeBox [inherited]

Definition at line 105 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modeBox_currentIndexChanged(), RebindWidget::on_modeButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.82 QRadioButton* Ui_RebindWidget::modeButton [inherited]

Definition at line 95 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_modeBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.83 QCheckBox* Ui_RebindWidget::modeWrapBox [inherited]

Definition at line 96 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modeBox_currentIndexChanged(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.84 QWidget* Ui_RebindWidget::mouseTab [inherited]

Definition at line 60 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.85 QComboBox* Ui_RebindWidget::numBox [inherited]

Definition at line 42 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_numBox_currentIndexChanged(), RebindWidget::on_numButton_clicked(), RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.86 QRadioButton* Ui_RebindWidget::numButton [inherited]

Definition at line 58 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_numBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.87 QLineEdit* Ui_RebindWidget::programKpBox [inherited]

Definition at line 115 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKpBox_textChanged(), RebindWidget::on_programKpButton_clicked(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.88 QCheckBox* Ui_RebindWidget::programKpButton [inherited]

Definition at line 114 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKpBox_textChanged(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), and Ui_RebindWidget::setupUi().

12.80.3.89 QWidget* Ui_RebindWidget::programKpExtra [inherited]

Definition at line 121 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKpBox_textChanged(), RebindWidget::RebindWidget(), and Ui_RebindWidget::setupUi().

12.80.3.90 QComboBox* Ui_RebindWidget::programKpModeBox [inherited]

Definition at line 124 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKpSIBox_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.91 QCheckBox* Ui_RebindWidget::programKpSIBox [inherited]

Definition at line 123 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.92 QLineEdit* Ui_RebindWidget::programKrBox [inherited]

Definition at line 118 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKrBox_textChanged(), RebindWidget::on_programKrButton_clicked(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.93 QCheckBox* Ui_RebindWidget::programKrButton [inherited]

Definition at line 119 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKrBox_textChanged(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), and Ui_RebindWidget::setupUi().

12.80.3.94 QWidget* Ui_RebindWidget::programKrExtra [inherited]

Definition at line 126 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKrBox_textChanged(), RebindWidget::RebindWidget(), and Ui_RebindWidget::setupUi().

12.80.3.95 QComboBox* Ui_RebindWidget::programKrModeBox [inherited]

Definition at line 129 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKrSIBox_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.96 QCheckBox* Ui_RebindWidget::programKrSIBox [inherited]

Definition at line 128 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.97 QWidget* Ui_RebindWidget::programTab [inherited]

Definition at line 110 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.98 QLabel* Ui_RebindWidget::progTipLabel [inherited]

Definition at line 131 of file ui_rebindwidget.h.

Referenced by RebindWidget::RebindWidget(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.99 QPlainTextEdit* Ui_RebindWidget::pteMacroBox [inherited]

Definition at line 136 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::convertMacroBox(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_pteMacroBox_textChanged(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.100 QPlainTextEdit* Ui_RebindWidget::pteMacroComment [inherited]

Definition at line 137 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.101 QPlainTextEdit* Ui_RebindWidget::pteMacroText [inherited]

Definition at line 138 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_btnStartMacro_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.102 QRadioButton* Ui_RebindWidget::rb_delay_asTyped [inherited]

Definition at line 154 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setCorrectRadioButton(), and Ui_RebindWidget::setupUi().

12.80.3.103 QRadioButton* Ui_RebindWidget::rb_delay_default [inherited]

Definition at line 153 of file ui_rebindwidget.h.

Referenced by RebindWidget::convertMacroBox(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setCorrectRadioButton(), and Ui_RebindWidget::setupUi().

12.80.3.104 QRadioButton* Ui_RebindWidget::rb_delay_no [inherited]

Definition at line 152 of file ui_rebindwidget.h.

Referenced by RebindWidget::convertMacroBox(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setCorrectRadioButton(), and Ui_RebindWidget::setupUi().

12.80.3.105 QPushButton* Ui_RebindWidget::resetButton [inherited]

Definition at line 159 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.106 QTabWidget* Ui_RebindWidget::tabWidget [inherited]

Definition at line 39 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::retranslateUi(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.107 QLabel* Ui_RebindWidget::txtBuffer [inherited]

Definition at line 155 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::convertMacroBox(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.108 QComboBox* Ui_RebindWidget::typingBox [inherited]

Definition at line 43 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_typingBox_currentIndexChanged(), RebindWidget::on_typingButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBind(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.109 QRadioButton* Ui_RebindWidget::typingButton [inherited]

Definition at line 48 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_typingBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.110 QPushButton* Ui_RebindWidget::unbindButton [inherited]

Definition at line 158 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

12.80.3.111 QVBoxLayout* Ui_RebindWidget::verticalLayout [inherited]

Definition at line 38 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.112 QVBoxLayout* Ui_RebindWidget::verticalLayout_2 [inherited]

Definition at line 140 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.113 QSpacerItem* Ui_RebindWidget::verticalSpacer [inherited]

Definition at line 112 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.114 QSpacerItem* Ui_RebindWidget::verticalSpacer_10 [inherited]

Definition at line 45 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.115 QSpacerItem* Ui_RebindWidget::verticalSpacer_11 [inherited]

Definition at line 83 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.116 QSpacerItem* Ui_RebindWidget::verticalSpacer_2 [inherited]

Definition at line 63 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.117 QSpacerItem* Ui_RebindWidget::verticalSpacer_3 [inherited]

Definition at line 46 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.118 QSpacerItem* Ui_RebindWidget::verticalSpacer_4 [inherited]

Definition at line 52 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.119 QSpacerItem* Ui_RebindWidget::verticalSpacer_5 [inherited]

Definition at line 101 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.120 QSpacerItem* Ui_RebindWidget::verticalSpacer_6 [inherited]

Definition at line 99 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.121 QSpacerItem* Ui_RebindWidget::verticalSpacer_7 [inherited]

Definition at line 98 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.122 QSpacerItem* Ui_RebindWidget::verticalSpacer_8 [inherited]

Definition at line 64 of file ui_rebindwidget.h.

Referenced by Ui_RebindWidget::setupUi().

12.80.3.123 QComboBox* Ui_RebindWidget::wheelBox [inherited]

Definition at line 71 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_wheelBox_currentIndexChanged(), RebindWidget::on_wheelButton_clicked(), Ui_RebindWidget::retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and Ui_RebindWidget::setupUi().

12.80.3.124 QRadioButton* Ui_RebindWidget::wheelButton [inherited]

Definition at line 75 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_wheelBox_currentIndexChanged(), Ui_RebindWidget::retranslateUi(), and Ui_RebindWidget::setupUi().

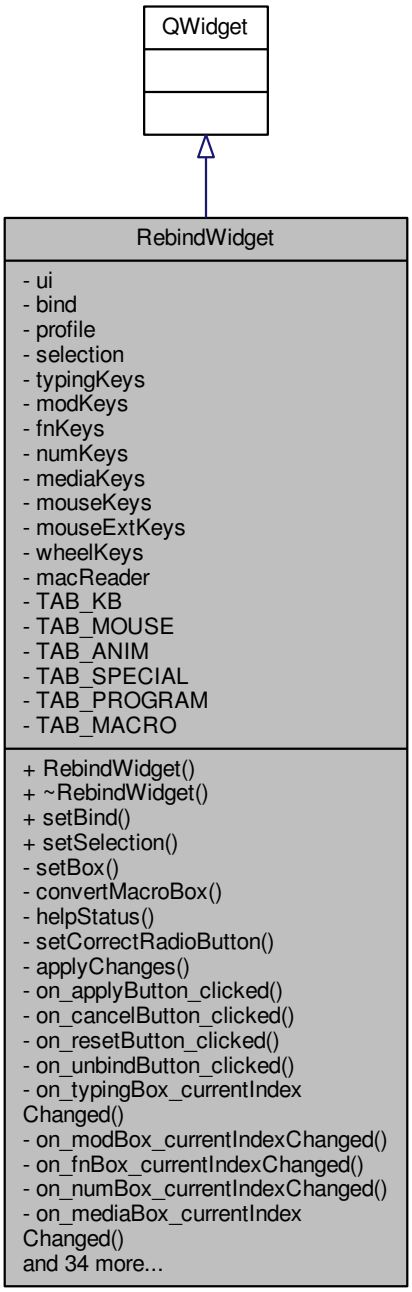
The documentation for this class was generated from the following file:

- src/ckb/ui_rebindwidget.h

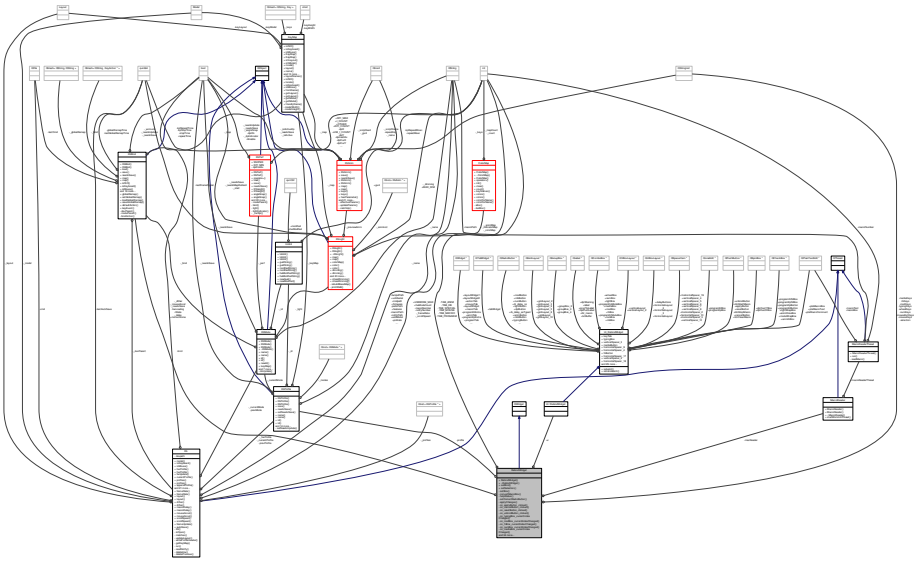
12.81 RebindWidget Class Reference

`#include <src/ckb/rebindwidget.h>`

Inheritance diagram for RebindWidget:



Collaboration diagram for RebindWidget:



Public Member Functions

- RebindWidget (QWidget *parent)
- ~RebindWidget ()
- void setBind (KbBind *newBind, KbProfile *newProfile)
- void setSelection (const QStringList &newSelection, bool applyPrevious=false)

Private Slots

- void applyChanges (const QStringList &keys, bool doUnbind)
- void on_applyButton_clicked ()
- void on_cancelButton_clicked ()
- void on_resetButton_clicked ()
- void on_unbindButton_clicked ()
- void on_typingBox_currentIndexChanged (int index)
- void on_modBox_currentIndexChanged (int index)
- void on_fnBox_currentIndexChanged (int index)
- void on_numBox_currentIndexChanged (int index)
- void on_mediaBox_currentIndexChanged (int index)
- void on_mbBox_currentIndexChanged (int index)
- void on_mb2Box_currentIndexChanged (int index)
- void on_wheelBox_currentIndexChanged (int index)
- void on_dpiBox_currentIndexChanged (int index)
- void on_modeBox_currentIndexChanged (int index)
- void on_lightBox_currentIndexChanged (int index)
- void on_lockBox_currentIndexChanged (int index)
- void on_programKpBox_textChanged (const QString &arg1)
- void on_programKrBox_textChanged (const QString &arg1)
- void on_animBox_currentIndexChanged (int index)
- void on_typingButton_clicked (bool checked)
- void on_modButton_clicked (bool checked)
- void on_fnButton_clicked (bool checked)
- void on_numButton_clicked (bool checked)

- void on_mediaButton_clicked (bool checked)
- void on_mbButton_clicked (bool checked)
- void on_mb2Button_clicked (bool checked)
- void on_wheelButton_clicked (bool checked)
- void on_dpiButton_clicked (bool checked)
- void on_modeButton_clicked (bool checked)
- void on_lightButton_clicked (bool checked)
- void on_lockButton_clicked (bool checked)
- void on_programKpButton_clicked (bool checked)
- void on_programKrButton_clicked (bool checked)
- void on_programKpSIBox_clicked (bool checked)
- void on_programKrSIBox_clicked (bool checked)
- void on_animButton_clicked (bool checked)
- void on_pteMacroBox_textChanged ()
- void on_btnStartMacro_clicked ()

  RebindWidget::on_btnStartMacro_clicked starts macro recording. A new notification channel and MacroReader are created to do the job.
- void on_btnStopMacro_clicked ()

  RebindWidget::on_btnStopMacro_clicked ends the macro recording. Notify channel ist closed, the ReaderThread is deleted when the notification is really down.
- void on_btnClearMacro_clicked ()

  RebindWidget::on_btnClearMacro_clicked changes the help info an the panel. The job of clearing the input panels is triggerd with signal/slot via the RebindWidget.ui file.
- void on_rb_delay_no_toggled (bool checked)

  RebindWidget::on_rb_delay_no_toggled.
- void on_rb_delay_asTyped_toggled (bool checked)

  RebindWidget::on_rb_delay_asTyped_toggled.
- void on_rb_delay_default_toggled (bool checked)

  RebindWidget::on_rb_delay_default_toggled.

Private Member Functions

- void setBox (QWidget *box)
- void convertMacroBox ()

  RebindWidget::convertMacroBox converts the macroBox content. The KB sends each keypress as "key [+|-]<keyname><newline>" This is followed by timing information (delays between keystrokes).
- void helpStatus (int status)

  RebindWidget::helpStatus shows a help line in the ui.
- void setCorrectRadioButton (QString macdef)

  RebindWidget::setCorrectRadioButton.

Private Attributes

- Ui::RebindWidget * ui
- KbBind * bind
- KbProfile * profile
- QStringList selection
- QStringList typingKeys
- QStringList modKeys
- QStringList fnKeys
- QStringList numKeys
- QStringList mediaKeys
- QStringList mouseKeys

- QStringList mouseExtKeys
- QStringList wheelKeys
- MacroReader * macReader

  macReader holds the MacroReader when macro recording starts.

Static Private Attributes

- static const int TAB_KB = 0
- static const int TAB_MOUSE = 1
- static const int TAB_ANIM = 2
- static const int TAB_SPECIAL = 3
- static const int TAB_PROGRAM = 4
- static const int TAB_MACRO = 5

12.81.1 Detailed Description

Definition at line 15 of file rebindwidget.h.

12.81.2 Constructor & Destructor Documentation

12.81.2.1 RebindWidget::RebindWidget (QWidget * *parent*) [explicit]

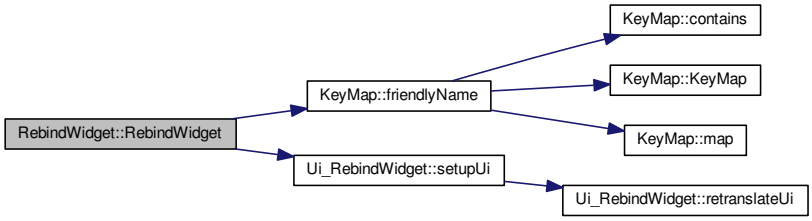
Definition at line 9 of file rebindwidget.cpp.

References Ui_RebindWidget::fnBox, fnKeys, KeyMap::friendlyName(), Ui_RebindWidget::lightWrapBox, Ui_RebindWidget::mediaBox, mediaKeys, Ui_RebindWidget::modBox, Ui_RebindWidget::modeWrapBox, modKeys, mouseExtKeys, mouseKeys, Ui_RebindWidget::numBox, numKeys, Ui_RebindWidget::programKpExtra, Ui_RebindWidget::programKrExtra, Ui_RebindWidget::progTipLabel, Ui_RebindWidget::setupUi(), ui, and wheelKeys.

```
9                                           :
10      QWidget(parent),
11      ui(new Ui::RebindWidget),
12      bind(0), profile(0), macReader(0)
13  {
14      ui->setupUi(this);
15      ui->lightWrapBox->hide();
16      ui->modeWrapBox->hide();
17      ui->programKpExtra->hide();
18      ui->programKrExtra->hide();
19
20      // Populate key lists
21      modKeys << "caps" << "lshift" << "rshift" << "lctrl" << "rctrl" << "lwin" << "rwin" << "lalt" <<
        "ralt" << "rmenu" << "fn";
22      fnKeys << "esc" << "f1" << "f2" << "f3" << "f4" << "f5" << "f6" << "f7" << "f8" << "f9" << "f10"
       << "f11" << "f12" << "prtscn" << "scroll" << "pause" << "f13" << "f14" << "f15" << "f16" << "f17" << "f18" <
       < "f19" << "f20" << "ins" << "del" << "home" << "end" << "pgup" << "pgdn" << "power" << "lightup" << "
       lightdn" << "up" << "down" << "left" << "right";
23      numKeys << "numlock" << "num0" << "num1" << "num2" << "num3" << "num4" << "num5" << "num6" << "
       num7" << "num8" << "num9" << "numslash" << "numstar" << "numminus" << "numplus" << "numdot" << "numenter";
24      mediaKeys << "stop" << "prev" << "play" << "next" << "volup" << "voldn" << "mute" << "eject";
25      mouseKeys << "mouse1" << "mouse2" << "mouse3";
26      mouseExtKeys << "mouse4" << "mouse5" << "mouse6" << "mouse7" << "mouse8";
27      wheelKeys << "wheelup" << "wheeldn";
28      // Populate boxes
29      foreach(const QString& key, modKeys)
30          ui->modBox->addItem(KeyMap::friendlyName(key));
31      foreach(const QString& key, fnKeys)
32          ui->fnBox->addItem(KeyMap::friendlyName(key).replace("\n", " / "));
33      foreach(const QString& key, numKeys)
34          ui->numBox->addItem(KeyMap::friendlyName(key).remove("NumPad "));
35      foreach(const QString& key, mediaKeys)
36          ui->mediaBox->addItem(KeyMap::friendlyName(key));
37  #ifdef Q_OS_MACX
38      // Replace some OSX keys with their actual meanings
39      ui->modBox->setItemText(modKeys.indexOf("lwin") + 1, "Left Cmd");
40      ui->modBox->setItemText(modKeys.indexOf("rwin") + 1, "Right Cmd");
41      ui->modBox->setItemText(modKeys.indexOf("lalt") + 1, "Left Option");
42      ui->modBox->setItemText(modKeys.indexOf("ralt") + 1, "Right Option");
```

```
43     ui->fnBox->setItemText(fnKeys.indexOf("prtscn") + 1, "F13");
44     ui->fnBox->setItemText(fnKeys.indexOf("scroll") + 1, "F14");
45     ui->fnBox->setItemText(fnKeys.indexOf("pause") + 1, "F15");
46     ui->fnBox->setItemText(fnKeys.indexOf("f13") + 1, "F13 (Windows/Linux)");
47     ui->fnBox->setItemText(fnKeys.indexOf("f14") + 1, "F14 (Windows/Linux)");
48     ui->fnBox->setItemText(fnKeys.indexOf("f15") + 1, "F15 (Windows/Linux)");
49     ui->fnBox->setItemText(fnKeys.indexOf("ins") + 1, "Help");
50     ui->numBox->setItemText(numKeys.indexOf("numlock") + 1, "Clear");
51
52     // Add tip label
53     ui->progTipLabel->setText("<p style=\"line-height:150%\">Tip: use the <font face=\"
       monospace\">open</font> command to launch a file, directory, or app. For instance, to start Safari:<br /><font
        face=\"monospace\">  open /Applications/Safari.app</font></p>");
54 #else
55     ui->progTipLabel->setText("<p style=\"line-height:150%\">Tip: use <font face=\"monospace
       \">xdg-open</font> to launch a file or directory. For instance, to open your home folder:<br /><font face=\"
       monospace\">  xdg-open " + QStandardPaths::writableLocation(QStandardPaths::HomeLocation) + "
       </font></p>");
56 #endif
57 }
```

Here is the call graph for this function:



12.81.2.2 RebindWidget::~RebindWidget ( )

Definition at line 59 of file rebindwidget.cpp.

References ui.

```
59                              {
60     delete ui;
61 }
```

12.81.3 Member Function Documentation

12.81.3.1 void RebindWidget::applyChanges (const QStringList & *keys*, bool *doUnbind*) [private], [slot]

G-key macro handling: Set the macro definiton for all keys selected (indeed, it may be multiple keys). First, concat the Macro Key Definion and the Macro plain text after escaping possible colos in the parts for Macro Text and Macro Comment.

But first, there is a special condition to handle: You have recorded a macro with timing infos. Afterwards you changed manually the timing infos in the pteMacroBox and press Apply. In that case we must overwrite the txtBuffer to remember your changes.

Todo There is still a bug in the state machine: If you record a macro in asTyped-mode, switch to another mode and change the vontent of the pteMacroBox manually, then the changes are not saved in the timing buffer. But anyhow, let's do more relevant things...

Definition at line 334 of file rebindwidget.cpp.

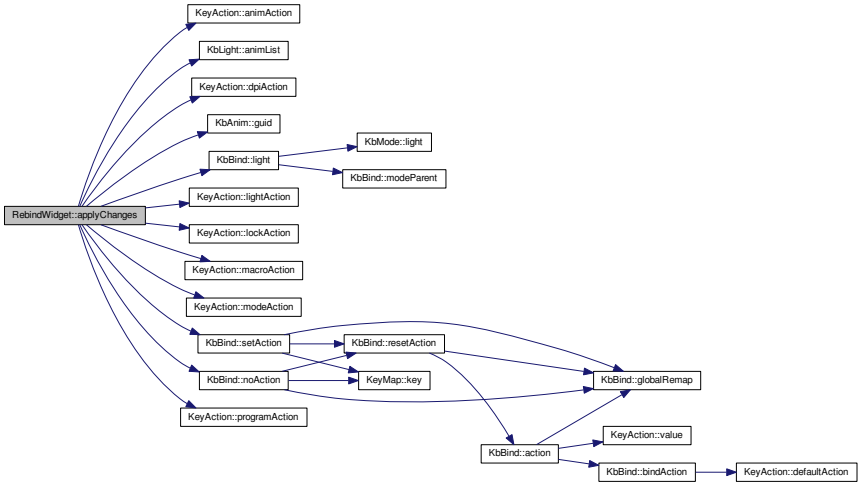
References anim, KeyAction::animAction(), Ui_RebindWidget::animBox, Ui_RebindWidget::animKrBox, KbLight::animList(), Ui_RebindWidget::animOnceBox, bind, DPI_OFFSET, KeyAction::dpiAction(), Ui_RebindWidget::dpiBox, Ui_RebindWidget::dpiCustXBox, Ui_RebindWidget::dpiCustYBox, Ui_RebindWidget::fnBox, fnKeys, KbAnim::guid(), KbBind::light(), KeyAction::lightAction(), Ui_RebindWidget::lightBox, Ui_RebindWidget::lightWrapBox, KeyAction::lockAction(), Ui_RebindWidget::lockBox, KeyAction::macroAction(), Ui_RebindWidget::mb2Box, Ui_RebindWidget::mbBox, Ui_RebindWidget::mediaBox, mediaKeys, Ui_RebindWidget::modBox, KeyAction::modeAction(), Ui_RebindWidget::modeBox, Ui_RebindWidget::modeWrapBox, modKeys, mouseExtKeys, mouseKeys, KbBind::noAction(), Ui_RebindWidget::numBox, numKeys, KeyAction::PROGRAM_PR_MULTI, KeyAction::PROGRAM_RE_INDEF, KeyAction::PROGRAM_RE_KPSTOP, KeyAction::PROGRAM_RE_MULTI, KeyAction::programAction(), Ui_RebindWidget::programKpBox, Ui_RebindWidget::programKpModeBox, Ui_RebindWidget::programKpSIBox, Ui_RebindWidget::programKrBox, Ui_RebindWidget::programKrModeBox, Ui_RebindWidget::programKrSIBox, Ui_RebindWidget::pteMacroBox, Ui_RebindWidget::pteMacroComment, Ui_RebindWidget::pteMacroText, Ui_RebindWidget::rb_delay_asTyped, KbBind::setAction(), Ui_RebindWidget::txtBuffer, Ui_RebindWidget::typingBox, typingKeys, ui, Ui_RebindWidget::wheelBox, and wheelKeys.

Referenced by on_applyButton_clicked(), and setSelection().

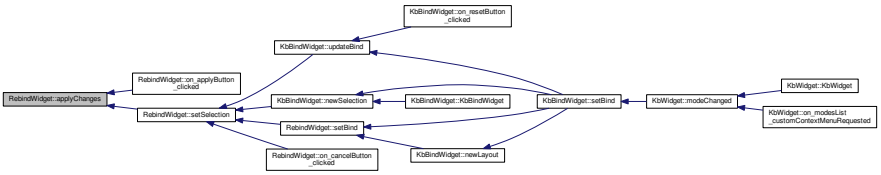
```
334                                                                         {
335     if(ui->typingBox->currentIndex() > 0)
336         bind->setAction(keys, typingKeys[ui->typingBox->currentIndex() -
    1]);
337     else if(ui->modBox->currentIndex() > 0)
338         bind->setAction(keys, modKeys[ui->modBox->currentIndex() - 1]);
339     else if(ui->fnBox->currentIndex() > 0)
340         bind->setAction(keys, fnKeys[ui->fnBox->currentIndex() - 1]);
341     else if(ui->numBox->currentIndex() > 0)
342         bind->setAction(keys, numKeys[ui->numBox->currentIndex() - 1]);
343     else if(ui->mediaBox->currentIndex() > 0)
344         bind->setAction(keys, mediaKeys[ui->mediaBox->currentIndex() - 1]);
345     else if(ui->mbBox->currentIndex() > 0)
346         bind->setAction(keys, mouseKeys[ui->mbBox->currentIndex() - 1]);
347     else if(ui->mb2Box->currentIndex() > 0)
348         bind->setAction(keys, mouseExtKeys[ui->mb2Box->currentIndex() - 1]
    );
349     else if(ui->wheelBox->currentIndex() > 0)
350         bind->setAction(keys, wheelKeys[ui->wheelBox->currentIndex() - 1]);
351     else if(ui->dpiBox->currentIndex() > 0)
352         bind->setAction(keys, KeyAction::dpiAction(
    ui->dpiBox->currentIndex() - DPI_OFFSET, ui->dpiCustXBox->value(),
    ui->dpiCustYBox->value()));
353     else if(ui->modeBox->currentIndex() > 0)
354         bind->setAction(keys, KeyAction::modeAction(
    ui->modeBox->currentIndex() - 3 - (ui->modeWrapBox->isChecked() &&
    ui->modeBox->currentIndex() < 3 ? 2 : 0)));
355     else if(ui->lightBox->currentIndex() > 0)
356         bind->setAction(keys, KeyAction::lightAction(
    ui->lightBox->currentIndex() - 1 + (ui->lightWrapBox->isChecked() ? 2 : 0)));
357     else if(ui->lockBox->currentIndex() > 0)
358         bind->setAction(keys, KeyAction::lockAction(
    ui->lockBox->currentIndex() - 1));
359     else if(ui->animBox->currentIndex() > 0){
360         KbAnim* anim = bind->light()->animList().at(
    ui->animBox->currentIndex() - 1);
361         bind->setAction(keys, KeyAction::animAction(anim->
    guid(), !ui->animOnceBox->isChecked(), ui->animKrBox->isChecked()));
362     } else if(!ui->programKpBox->text().isEmpty() || !ui->
    programKrBox->text().isEmpty()){
363         int kpStop = 0, krStop = 0;
364         if(!ui->programKpBox->text().isEmpty()){
365             if(!ui->programKpSIBox->isChecked())
366                 kpStop = KeyAction::PROGRAM_PR_MULTI;
367             else
368                 kpStop = ui->programKpModeBox->currentIndex();
369         }
370         if(!ui->programKrBox->text().isEmpty()){
371             if(!ui->programKrSIBox->isChecked())
372                 krStop = KeyAction::PROGRAM_RE_MULTI;
373             else if(ui->programKrModeBox->currentIndex() == 0)
374                 krStop = KeyAction::PROGRAM_RE_INDEF;
375             else
376                 krStop = KeyAction::PROGRAM_RE_KPSTOP;
377         }
378         bind->setAction(keys, KeyAction::programAction(
    ui->programKpBox->text(), ui->programKrBox->text(), kpStop | krStop));
379     } else if (ui->pteMacroBox->toPlainText().length() > 0) {
384
389         if (ui->rb_delay_asTyped->isChecked()) ui->txtBuffer->setText(
    ui->pteMacroBox->toPlainText());
390
396         QString mac;
```

```
397         mac = ui->txtBuffer->text();
398         mac = ui->pteMacroComment->toPlainText().replace(":", "&das_IST_31N_col0n;") + ":"
      + mac;
399         mac = ui->pteMacroText->toPlainText().replace(":", "&das_IST_31N_col0n;") + ":" + mac
    ;
400         mac = ui->pteMacroBox->toPlainText() + ":" + mac;
401         bind->setAction(keys, KeyAction::macroAction(mac));
402     } else if(doUnbind)
403         bind->noAction(keys);
404 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.81.3.2 void RebindWidget::convertMacroBox ( ) [private]

The ckb-daemon needs a shorter format, only " [+|-]<keyname>=<delay>", multiple entries are separated by comma.

That function does the conversion.

Definition at line 808 of file rebindwidget.cpp.

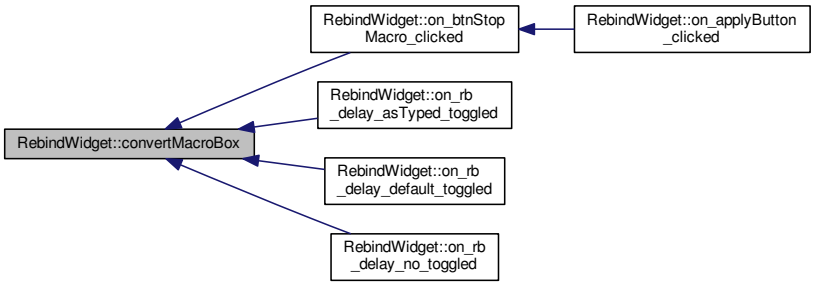
References Ui_RebindWidget::pteMacroBox, Ui_RebindWidget::rb_delay_default, Ui_RebindWidget::rb_delay_no, Ui_RebindWidget::txtBuffer, and ui.

Referenced by on_btnStopMacro_clicked(), on_rb_delay_asTyped_toggled(), on_rb_delay_default_toggled(), and on_rb_delay_no_toggled().

```
808                                 {
809     QString in;
810
811     // Remember the original input stream before it is converted.
```

```
812     // In case of new choice of delay mode we have to restore it.
813     if (ui->txtBuffer->text() == "") {
814         ui->txtBuffer->setText(ui->pteMacroBox->toPlainText());
815         in = ui->pteMacroBox->toPlainText();
816     } else in = ui->txtBuffer->text();
817
818     in.replace (QRegExp("\n"), ",");    // first join all in one line
819     in.replace (QRegExp("key "), "");   // then delete keyword "key" followed by space
820     in.replace (QRegExp(",="), "=");    // at last join each keystroke with its delay parameter
821
822     // How to deal with the delay params?
823     // Because the three radio buttons are mututally exclusive,
824     // we can run through the if-chain w/o conflicts.
825     // If rb_delay_asTyped is checked, do nothing, because that's the standard.
826
827     if (ui->rb_delay_default->isChecked()) {
828         in.replace(QRegExp("=\\d+,"), ",");  // Delete the timing infos, use default value
829         in.replace(QRegExp("=\\d+$"), "");   // The last entry is without comma
830     }
831     if (ui->rb_delay_no->isChecked()) {
832         in.replace(QRegExp("=\\d+,"), "=0,");  // Set timing infos to zero for no delay
833         in.replace(QRegExp("=\\d+$"), "=0");   // Again the last entry w/o comma
834         in.replace(QRegExp("([\\+\\-]\\w+),"), "\\1=0,");  // If no delay is given, force it to zero
835         in.replace(QRegExp("([\\+\\-]\\w+)$"), "\\1=0");
836     }
837
838     // Show the new format by replacing the older one.
839     ui->pteMacroBox->setPlainText(in);
840 }
```

Here is the caller graph for this function:



12.81.3.3 void RebindWidget::helpStatus (int *status*) [private]

Parameters

status	determines what to display.

Definition at line 782 of file rebindwidget.cpp.

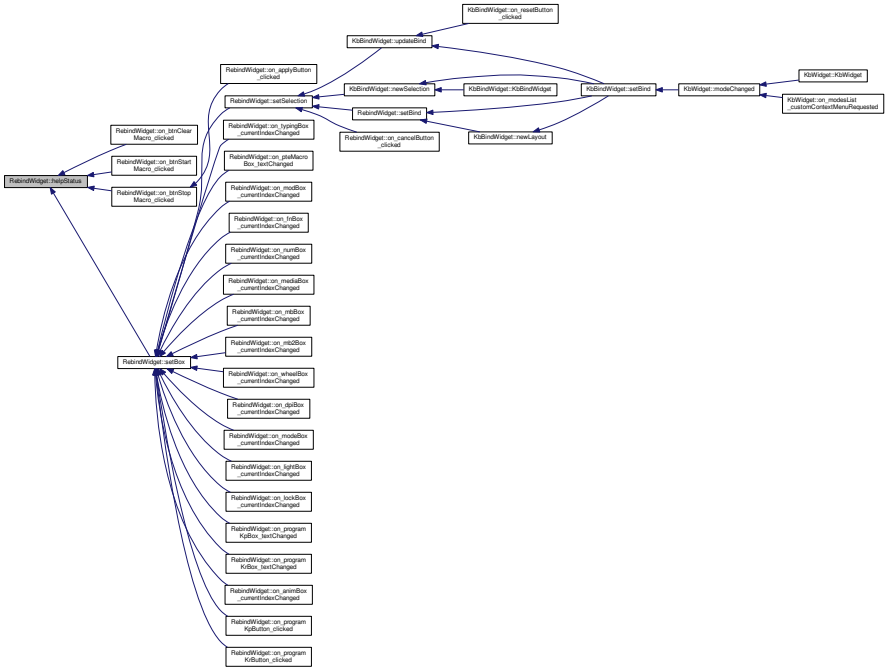
References Ui_RebindWidget::lbl_macro, and ui.

Referenced by on_btnClearMacro_clicked(), on_btnStartMacro_clicked(), on_btnStopMacro_clicked(), and setBox().

```
782                                         {
783     switch (status) {
784     case 1:
785         ui->lbl_macro->setText("Type in a macro name in the comment box and click start.");
786         break;
787     case 2:
788         ui->lbl_macro->setText("Type your macro and click stop when finished.");
789         break;
790     case 3:
791         ui->lbl_macro->setText("Click Apply or change values in Macro Key Actions in advance.");
792         break;
793     default:
```

```
794         ui->lbl_macro->setText(QString("Oops: Some magic in RebindWidget::helpStatus (%1)").arg(
      status));
795     }
796 }
```

Here is the caller graph for this function:



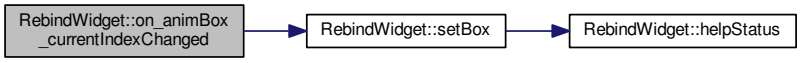
12.81.3.4 void RebindWidget::on_animBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 613 of file rebindwidget.cpp.

References Ui_RebindWidget::animBox, Ui_RebindWidget::animButton, setBox(), and ui.

```
613                                                     {
614     if(index == 0)
615         ui->animButton->setChecked(false);
616     else {
617         ui->animButton->setChecked(true);
618         setBox(ui->animBox);
619     }
620 }
```

Here is the call graph for this function:



12.81.3.5 void RebindWidget::on_animButton_clicked (bool *checked*) [private], [slot]

Definition at line 710 of file rebindwidget.cpp.

References Ui_RebindWidget::animBox, and ui.

```
710                                                 {
711     if(checked && ui->animBox->currentIndex() == 0)
712         ui->animBox->setCurrentIndex(1);
713 }
```

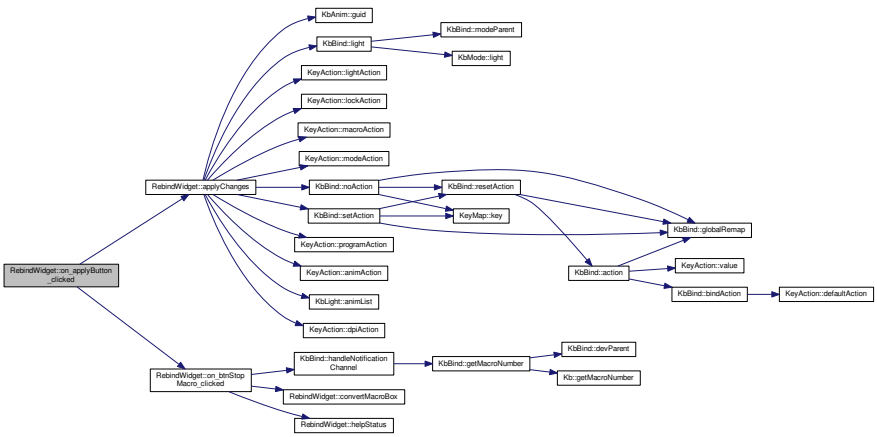
12.81.3.6 void RebindWidget::on_applyButton_clicked ( ) [private], [slot]

Definition at line 406 of file rebindwidget.cpp.

References applyChanges(), on_btnStopMacro_clicked(), and selection.

```
406                                         {
407     // Normally, this should be done via signalling.
408     // Because there is no serarate thread, we have to call it directly
409     // (otherwise we could do Key char conversion step by step,
410     // but so it is more easy to change the key definition):
411     on_btnStopMacro_clicked();
412     applyChanges(selection, true);
413 }
```

Here is the call graph for this function:



12.81.3.7 void RebindWidget::on_btnClearMacro_clicked ( ) [private], [slot]

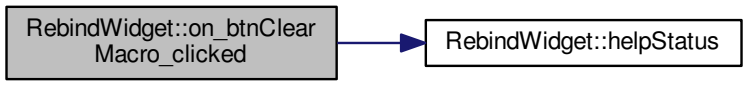
Todo I do not know what is the better solution with the delay-buttons in case of clicking clear: Reset the button to the default value or do not touch it? Not clear is ignored.

Definition at line 774 of file rebindwidget.cpp.

References helpStatus().

```
774                                             {
775     helpStatus(1);
776 }
```

Here is the call graph for this function:



12.81.3.8 void RebindWidget::on_btnStartMacro_clicked ( ) [private], [slot]

The UI is protected against false clicking (e.g. if you type start and than Apply, the channel is closed in wrong order).

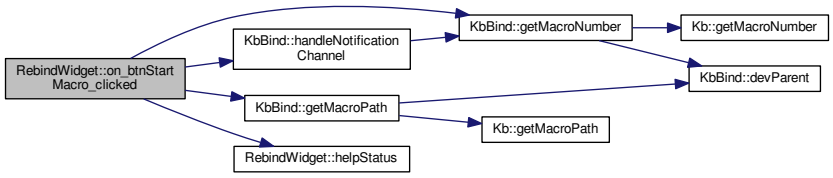
At this time, all neccessary params like macroNumber, macroPath, cmdFile etc. had been cached.

Definition at line 724 of file rebindwidget.cpp.

References Ui_RebindWidget::applyButton, bind, Ui_RebindWidget::btnStartMacro, Ui_RebindWidget::btnStopMacro, KbBind::getMacroNumber(), KbBind::getMacroPath(), KbBind::handleNotificationChannel(), helpStatus(), macReader, Ui_RebindWidget::pteMacroBox, Ui_RebindWidget::pteMacroText, Ui_RebindWidget::rb_delay_asTyped, Ui_RebindWidget::rb_delay_default, Ui_RebindWidget::rb_delay_no, Ui_RebindWidget::resetButton, ui, and Ui_RebindWidget::unbindButton.

```
724                                             {
725     if (!macReader) {
726         bind->handleNotificationChannel(true);
727         macReader = new MacroReader(bind->getMacroNumber(),
      bind->getMacroPath(), ui->pteMacroBox, ui->
      pteMacroText);
728         // because of the second thread we need to disable three of the four bottom buttons.
729         // Clicking "Stop" will enable them again.
730         ui->applyButton->setEnabled(false);
731         ui->resetButton->setEnabled(false);
732         ui->unbindButton->setEnabled(false);
733         ui->btnStartMacro->setEnabled(false);
734         ui->btnStopMacro->setEnabled(true);
735         ui->rb_delay_asTyped->setEnabled(false);
736         ui->rb_delay_no->setEnabled(false);
737         ui->rb_delay_default->setEnabled(false);
738         helpStatus(2);
739     }
740 }
```

Here is the call graph for this function:



12.81.3.9 void RebindWidget::on_btnStopMacro_clicked ( ) [private], [slot]

Afterwards, the characters in the MacroBox are changed from KB-out format to cmd-in format. At last the UI changes to the new state.

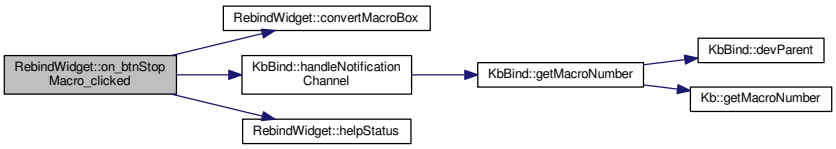
Definition at line 749 of file rebindwidget.cpp.

References Ui_RebindWidget::applyButton, bind, Ui_RebindWidget::btnStartMacro, Ui_RebindWidget::btnStopMacro, convertMacroBox(), KbBind::handleNotificationChannel(), helpStatus(), macReader, Ui_RebindWidget::rb_delay_asTyped, Ui_RebindWidget::rb_delay_default, Ui_RebindWidget::rb_delay_no, Ui_RebindWidget::resetButton, ui, and Ui_RebindWidget::unbindButton.

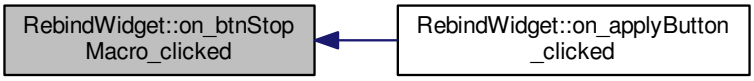
Referenced by on_applyButton_clicked().

```
749                                         {
750     if (macReader) {
751         bind->handleNotificationChannel(false);
752         delete macReader;
753         macReader = 0;
754         convertMacroBox();
755         ui->applyButton->setEnabled(true);
756         ui->resetButton->setEnabled(true);
757         ui->unbindButton->setEnabled(true);
758         ui->btnStartMacro->setEnabled(true);
759         ui->btnStopMacro->setEnabled(false);
760         ui->rb_delay_asTyped->setEnabled(true);
761         ui->rb_delay_no->setEnabled(true);
762         ui->rb_delay_default->setEnabled(true);
763         helpStatus(3);
764     }
765 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



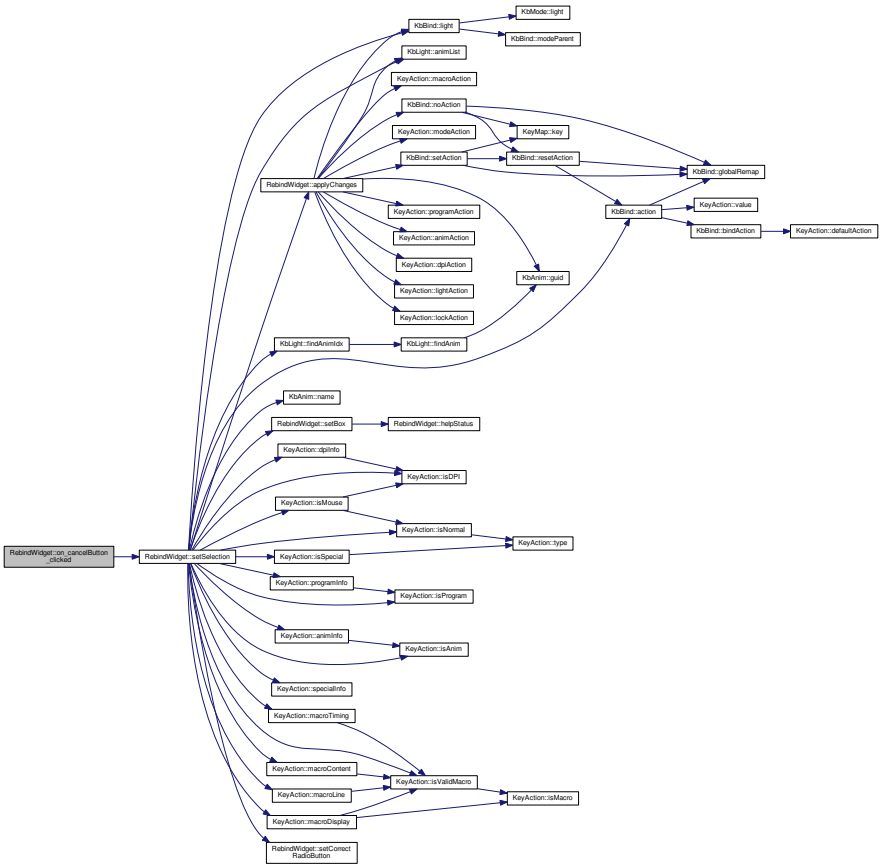
12.81.3.10 void RebindWidget::on_cancelButton_clicked ( ) [private], [slot]

Definition at line 415 of file rebindwidget.cpp.

References selection, and setSelection().

```
415                                         {
416     // Re-load selection
417     setSelection(selection);
418 }
```

Here is the call graph for this function:



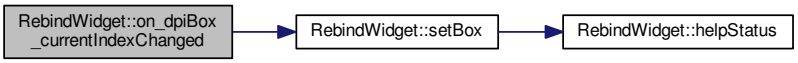
12.81.3.11 void RebindWidget::on_dpiBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 539 of file rebindwidget.cpp.

References DPI_CUST_IDX, Ui_RebindWidget::dpiBox, Ui_RebindWidget::dpiButton, Ui_RebindWidget::dpiCustLabel, Ui_RebindWidget::dpiCustXBox, Ui_RebindWidget::dpiCustYBox, setBox(), and ui.

```
539                                                     {
540     if(index != DPI_CUST_IDX){
541         // Clear custom DPI
542         ui->dpiCustXBox->setEnabled(false);
543         ui->dpiCustYBox->setEnabled(false);
544         ui->dpiCustLabel->setEnabled(false);
545     } else {
546         ui->dpiCustXBox->setEnabled(true);
547         ui->dpiCustYBox->setEnabled(true);
548         ui->dpiCustLabel->setEnabled(true);
549     }
550     if(index == 0)
551         ui->dpiButton->setChecked(false);
552     else {
553         ui->dpiButton->setChecked(true);
554         setBox(ui->dpiBox);
555     }
556 }
```

Here is the call graph for this function:



12.81.3.12 void RebindWidget::on_dpiButton_clicked (bool *checked*) [private], [slot]

Definition at line 695 of file rebindwidget.cpp.

References Ui_RebindWidget::dpiBox, and ui.

```
695                                                 {
696     if(checked && ui->dpiBox->currentIndex() == 0)
697         ui->dpiBox->setCurrentIndex(1);
698 }
```

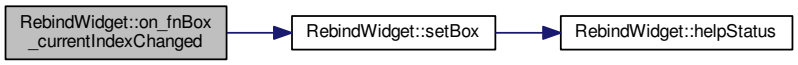
12.81.3.13 void RebindWidget::on_fnBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 485 of file rebindwidget.cpp.

References Ui_RebindWidget::fnBox, Ui_RebindWidget::fnButton, setBox(), and ui.

```
485                                                     {
486     if(index == 0)
487         ui->fnButton->setChecked(false);
488     else {
489         ui->fnButton->setChecked(true);
490         setBox(ui->fnBox);
491     }
492 }
```

Here is the call graph for this function:



12.81.3.14 void RebindWidget::on_fnButton_clicked (bool *checked*) [private], [slot]

Definition at line 632 of file rebindwidget.cpp.

References Ui_RebindWidget::fnBox, and ui.

```
632                                                 {
633     if(checked && ui->fnBox->currentIndex() == 0)
634         ui->fnBox->setCurrentIndex(1);
635 }
```

12.81.3.15 void RebindWidget::on_lightBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 571 of file rebindwidget.cpp.

References Ui_RebindWidget::lightBox, Ui_RebindWidget::lightButton, Ui_RebindWidget::lightWrapBox, setBox(), and ui.

```
571                                                         {
572     if(index == 0){
573         ui->lightButton->setChecked(false);
574         ui->lightWrapBox->hide();
575     } else {
576         ui->lightWrapBox->show();
577         ui->lightButton->setChecked(true);
578         setBox(ui->lightBox);
579     }
580 }
```

Here is the call graph for this function:

12.81.3.16 void RebindWidget::on_lightButton_clicked (bool *checked*) [private], [slot]

Definition at line 652 of file rebindwidget.cpp.

References Ui_RebindWidget::lightBox, and ui.

```
652                                                 {
653     if(checked && ui->lightBox->currentIndex() == 0)
654         ui->lightBox->setCurrentIndex(1);
655 }
```

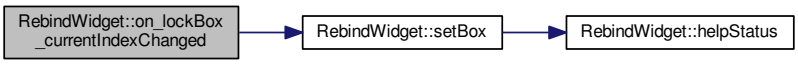
12.81.3.17 void RebindWidget::on_lockBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 582 of file rebindwidget.cpp.

References Ui_RebindWidget::lockBox, Ui_RebindWidget::lockButton, setBox(), and ui.

```
582                                                         {
583     if(index == 0)
584         ui->lockButton->setChecked(false);
585     else {
586         ui->lockButton->setChecked(true);
587         setBox(ui->lockBox);
588     }
589 }
```

Here is the call graph for this function:



12.81.3.18 void RebindWidget::on_lockButton_clicked (bool *checked*) [private], [slot]

Definition at line 657 of file rebindwidget.cpp.

References Ui_RebindWidget::lockBox, and ui.

```
657                                                 {
658     if(checked && ui->lockBox->currentIndex() == 0)
659         ui->lockBox->setCurrentIndex(1);
660 }
```

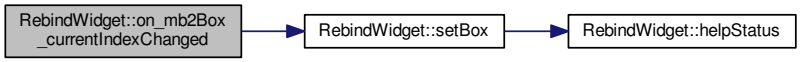
12.81.3.19 void RebindWidget::on_mb2Box_currentIndexChanged (int *index*) [private], [slot]

Definition at line 521 of file rebindwidget.cpp.

References Ui_RebindWidget::mb2Box, Ui_RebindWidget::mb2Button, setBox(), and ui.

```
521                                                     {
522     if(index == 0)
523         ui->mb2Button->setChecked(false);
524     else {
525         ui->mb2Button->setChecked(true);
526         setBox(ui->mb2Box);
527     }
528 }
```

Here is the call graph for this function:



12.81.3.20 void RebindWidget::on_mb2Button_clicked (bool *checked*) [private], [slot]

Definition at line 685 of file rebindwidget.cpp.

References Ui_RebindWidget::mb2Box, and ui.

```
685                                                 {
686     if(checked && ui->mb2Box->currentIndex() == 0)
687         ui->mb2Box->setCurrentIndex(1);
688 }
```

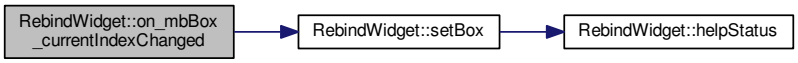
12.81.3.21 void RebindWidget::on_mbBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 512 of file rebindwidget.cpp.

References Ui_RebindWidget::mbBox, Ui_RebindWidget::mbButton, setBox(), and ui.

```
512                                                     {
513     if(index == 0)
514         ui->mbButton->setChecked(false);
515     else {
516         ui->mbButton->setChecked(true);
517         setBox(ui->mbBox);
518     }
519 }
```

Here is the call graph for this function:



12.81.3.22 void RebindWidget::on_mbButton_clicked (bool *checked*) [private], [slot]

Definition at line 680 of file rebindwidget.cpp.

References Ui_RebindWidget::mbBox, and ui.

```
680                                                 {
681     if(checked && ui->mbBox->currentIndex() == 0)
682         ui->mbBox->setCurrentIndex(1);
683 }
```

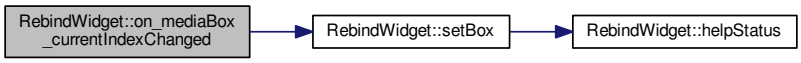
12.81.3.23 void RebindWidget::on_mediaBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 503 of file rebindwidget.cpp.

References Ui_RebindWidget::mediaBox, Ui_RebindWidget::mediaButton, setBox(), and ui.

```
503                                                     {
504     if(index == 0)
505         ui->mediaButton->setChecked(false);
506     else {
507         ui->mediaButton->setChecked(true);
508         setBox(ui->mediaBox);
509     }
510 }
```

Here is the call graph for this function:



12.81.3.24 void RebindWidget::on_mediaButton_clicked (bool *checked*) [private], [slot]

Definition at line 642 of file rebindwidget.cpp.

References Ui_RebindWidget::mediaBox, and ui.

```
642                                                 {
643     if(checked && ui->mediaBox->currentIndex() == 0)
644         ui->mediaBox->setCurrentIndex(1);
645 }
```

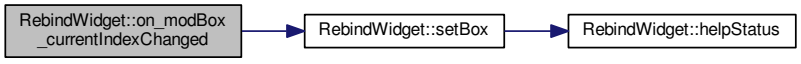
12.81.3.25 void RebindWidget::on_modBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 476 of file rebindwidget.cpp.

References Ui_RebindWidget::modBox, Ui_RebindWidget::modButton, setBox(), and ui.

```
476                                                     {
477     if(index == 0)
478         ui->modButton->setChecked(false);
479     else {
480         ui->modButton->setChecked(true);
481         setBox(ui->modBox);
482     }
483 }
```

Here is the call graph for this function:



12.81.3.26 void RebindWidget::on_modButton_clicked (bool *checked*) [private], [slot]

Definition at line 627 of file rebindwidget.cpp.

References Ui_RebindWidget::modBox, and ui.

```
627                                                 {
628     if(checked && ui->modBox->currentIndex() == 0)
629         ui->modBox->setCurrentIndex(1);
630 }
```

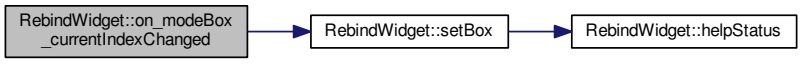
12.81.3.27 void RebindWidget::on_modeBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 558 of file rebindwidget.cpp.

References Ui_RebindWidget::modeBox, Ui_RebindWidget::modeButton, Ui_RebindWidget::modeWrapBox, setBox(), and ui.

```
558                                                     {
559     if(index == 1 || index == 2)
560         ui->modeWrapBox->show();
561     else
562         ui->modeWrapBox->hide();
563     if(index == 0)
564         ui->modeButton->setChecked(false);
565     else {
566         ui->modeButton->setChecked(true);
567         setBox(ui->modeBox);
568     }
569 }
```

Here is the call graph for this function:



12.81.3.28 void RebindWidget::on_modeButton_clicked (bool *checked*) [private], [slot]

Definition at line 647 of file rebindwidget.cpp.

References Ui_RebindWidget::modeBox, and ui.

```
647                                                 {
648     if(checked && ui->modeBox->currentIndex() == 0)
649         ui->modeBox->setCurrentIndex(1);
650 }
```

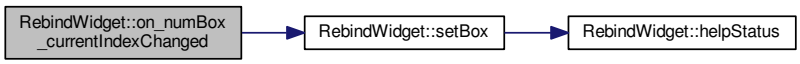
12.81.3.29 void RebindWidget::on_numBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 494 of file rebindwidget.cpp.

References Ui_RebindWidget::numBox, Ui_RebindWidget::numButton, setBox(), and ui.

```
494                                                     {
495     if(index == 0)
496         ui->numButton->setChecked(false);
497     else {
498         ui->numButton->setChecked(true);
499         setBox(ui->numBox);
500     }
501 }
```

Here is the call graph for this function:



12.81.3.30 void RebindWidget::on_numButton_clicked (bool *checked*) [private], [slot]

Definition at line 637 of file rebindwidget.cpp.

References Ui_RebindWidget::numBox, and ui.

```
637                                                 {
638     if(checked && ui->numBox->currentIndex() == 0)
639         ui->numBox->setCurrentIndex(1);
640 }
```

12.81.3.31 void RebindWidget::on_programKpBox_textChanged (const QString & *arg1*) [private], [slot]

Definition at line 591 of file rebindwidget.cpp.

References Ui_RebindWidget::programKpBox, Ui_RebindWidget::programKpButton, Ui_RebindWidget::programKpExtra, setBox(), and ui.

```
591                                                         {
592     if(arg1.isEmpty()){
593         ui->programKpButton->setChecked(false);
594         ui->programKpExtra->hide();
595     } else {
596         ui->programKpButton->setChecked(true);
597         setBox(ui->programKpBox);
598         ui->programKpExtra->show();
599     }
600 }
```

Here is the call graph for this function:

12.81.3.32 void RebindWidget::on_programKpButton_clicked (bool *checked*) [private], [slot]

Definition at line 662 of file rebindwidget.cpp.

References Ui_RebindWidget::programKpBox, setBox(), and ui.

```
662                                                    {
663     if(!checked){
664         ui->programKpBox->setText("");
665     } else if(ui->programKpBox->text().isEmpty()){
666         ui->programKpBox->setFocus();
667         setBox(ui->programKpBox);
668     }
669 }
```

Here is the call graph for this function:

12.81.3.33 void RebindWidget::on_programKpSlBox_clicked (bool *checked*) [private], [slot]

Definition at line 700 of file rebindwidget.cpp.

References Ui_RebindWidget::programKpModeBox, and ui.

```
700                                                    {
701     ui->programKpModeBox->setCurrentIndex(0);
702     ui->programKpModeBox->setEnabled(checked);
703 }
```

12.81.3.34 void RebindWidget::on_programKrBox_textChanged (const QString & *arg1*) [private], [slot]

Definition at line 602 of file rebindwidget.cpp.

References Ui_RebindWidget::programKrBox, Ui_RebindWidget::programKrButton, Ui_RebindWidget::programKrExtra, setBox(), and ui.

```
602                                                    {
603     if(arg1.isEmpty()){
604         ui->programKrButton->setChecked(false);
605         ui->programKrExtra->hide();
606     } else {
607         ui->programKrButton->setChecked(true);
608         setBox(ui->programKrBox);
609         ui->programKrExtra->show();
610     }
611 }
```

Here is the call graph for this function:

12.81.3.35 void RebindWidget::on_programKrButton_clicked (bool *checked*) [private], [slot]

Definition at line 671 of file rebindwidget.cpp.

References Ui_RebindWidget::programKrBox, setBox(), and ui.

```
671                                                     {
672     if(!checked){
673         ui->programKrBox->setText("");
674     } else if(ui->programKrBox->text().isEmpty()){
675         ui->programKrBox->setFocus();
676         setBox(ui->programKrBox);
677     }
678 }
```

Here is the call graph for this function:

12.81.3.36 void RebindWidget::on_programKrSlBox_clicked (bool *checked*) [private], [slot]

Definition at line 705 of file rebindwidget.cpp.

References Ui_RebindWidget::programKrModeBox, and ui.

```
705                                                     {
706     ui->programKrModeBox->setCurrentIndex(0);
707     ui->programKrModeBox->setEnabled(checked);
708 }
```

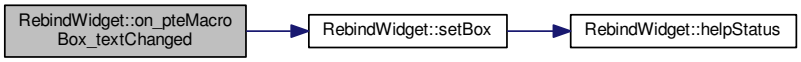
12.81.3.37 void RebindWidget::on_pteMacroBox_textChanged ( ) [private], [slot]

Definition at line 470 of file rebindwidget.cpp.

References Ui_RebindWidget::pteMacroBox, setBox(), and ui.

```
470                                             {
471     if (ui->pteMacroBox->toPlainText().length() > 0) {
472         setBox(ui->pteMacroBox);
473     }
474 }
```

Here is the call graph for this function:



12.81.3.38 void RebindWidget::on_rb_delay_asTyped_toggled (bool *checked*) [private], [slot]

Parameters

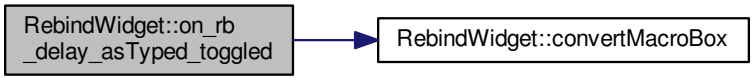
checked	This button ist clicked to use the delay times, as they are recorded. Returs a warning message, if we are not in the recording phase, because then we don't have the delay times any more.

Definition at line 862 of file rebindwidget.cpp.

References convertMacroBox().

```
863 {
864     convertMacroBox();
865 }
```

Here is the call graph for this function:



12.81.3.39 void RebindWidget::on_rb_delay_default_toggled (bool *checked*) [private], [slot]

Parameters

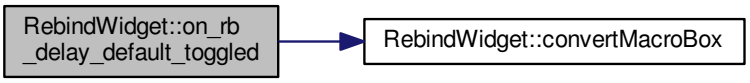
checked	This is as easy as the no-delay-button, because this means take the default values.

Definition at line 873 of file rebindwidget.cpp.

References convertMacroBox().

```
874 {
875     convertMacroBox();
876 }
```

Here is the call graph for this function:



12.81.3.40 void RebindWidget::on_rb_delay_no_toggled (bool *checked*) [private], [slot]

Parameters

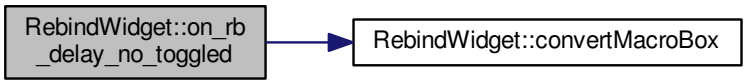
checked	The following slots are triggerd by changing the mutual exclusive radio buttons when choosing the delay. They are called, if the button ist enabled. This first one should disable all delay.

Definition at line 850 of file rebindwidget.cpp.

References convertMacroBox().

```
851 {
852     convertMacroBox();
853 }
```

Here is the call graph for this function:



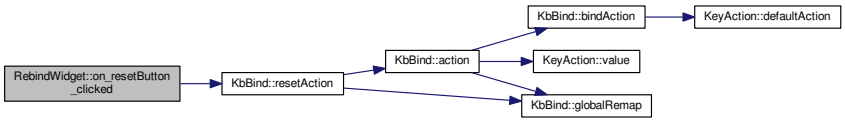
12.81.3.41 void RebindWidget::on_resetButton_clicked ( ) [private], [slot]

Definition at line 420 of file rebindwidget.cpp.

References bind, KbBind::resetAction(), and selection.

```
420                                         {
421     bind->resetAction(selection);
422 }
```

Here is the call graph for this function:



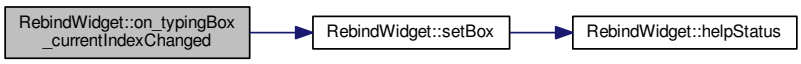
12.81.3.42 void RebindWidget::on_typingBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 461 of file rebindwidget.cpp.

References setBox(), Ui_RebindWidget::typingBox, Ui_RebindWidget::typingButton, and ui.

```
461                                                         {
462     if(index == 0)
463         ui->typingButton->setChecked(false);
464     else {
465         ui->typingButton->setChecked(true);
466         setBox(ui->typingBox);
467     }
468 }
```

Here is the call graph for this function:



12.81.3.43 void RebindWidget::on_typingButton_clicked (bool *checked*) [private], [slot]

Definition at line 622 of file rebindwidget.cpp.

References Ui_RebindWidget::typingBox, and ui.

```
622                                                     {
623     if(checked && ui->typingBox->currentIndex() == 0)
624         ui->typingBox->setCurrentIndex(1);
625 }
```

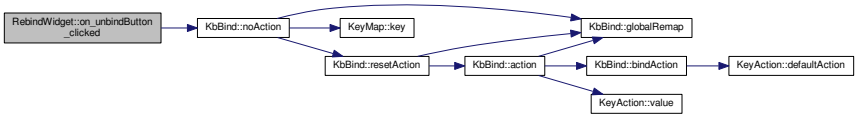
12.81.3.44 void RebindWidget::on_unbindButton_clicked ( ) [private], [slot]

Definition at line 424 of file rebindwidget.cpp.

References bind, KbBind::noAction(), and selection.

```
424                                             {
425     bind->noAction(selection);
426 }
```

Here is the call graph for this function:



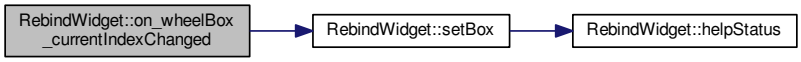
12.81.3.45 void RebindWidget::on_wheelBox_currentIndexChanged (int *index*) [private], [slot]

Definition at line 530 of file rebindwidget.cpp.

References setBox(), ui, Ui_RebindWidget::wheelBox, and Ui_RebindWidget::wheelButton.

```
530                                                          {
531     if(index == 0)
532         ui->wheelButton->setChecked(false);
533     else {
534         ui->wheelButton->setChecked(true);
535         setBox(ui->wheelBox);
536     }
537 }
```

Here is the call graph for this function:



12.81.3.46 void RebindWidget::on_wheelButton_clicked (bool *checked*) [private], [slot]

Definition at line 690 of file rebindwidget.cpp.

References ui, and Ui_RebindWidget::wheelBox.

```
690                                                      {
691     if(checked && ui->wheelBox->currentIndex() == 0)
692         ui->wheelBox->setCurrentIndex(1);
693 }
```

12.81.3.47 void RebindWidget::setBind (KbBind * *newBind*, KbProfile * *newProfile*)

Definition at line 63 of file rebindwidget.cpp.

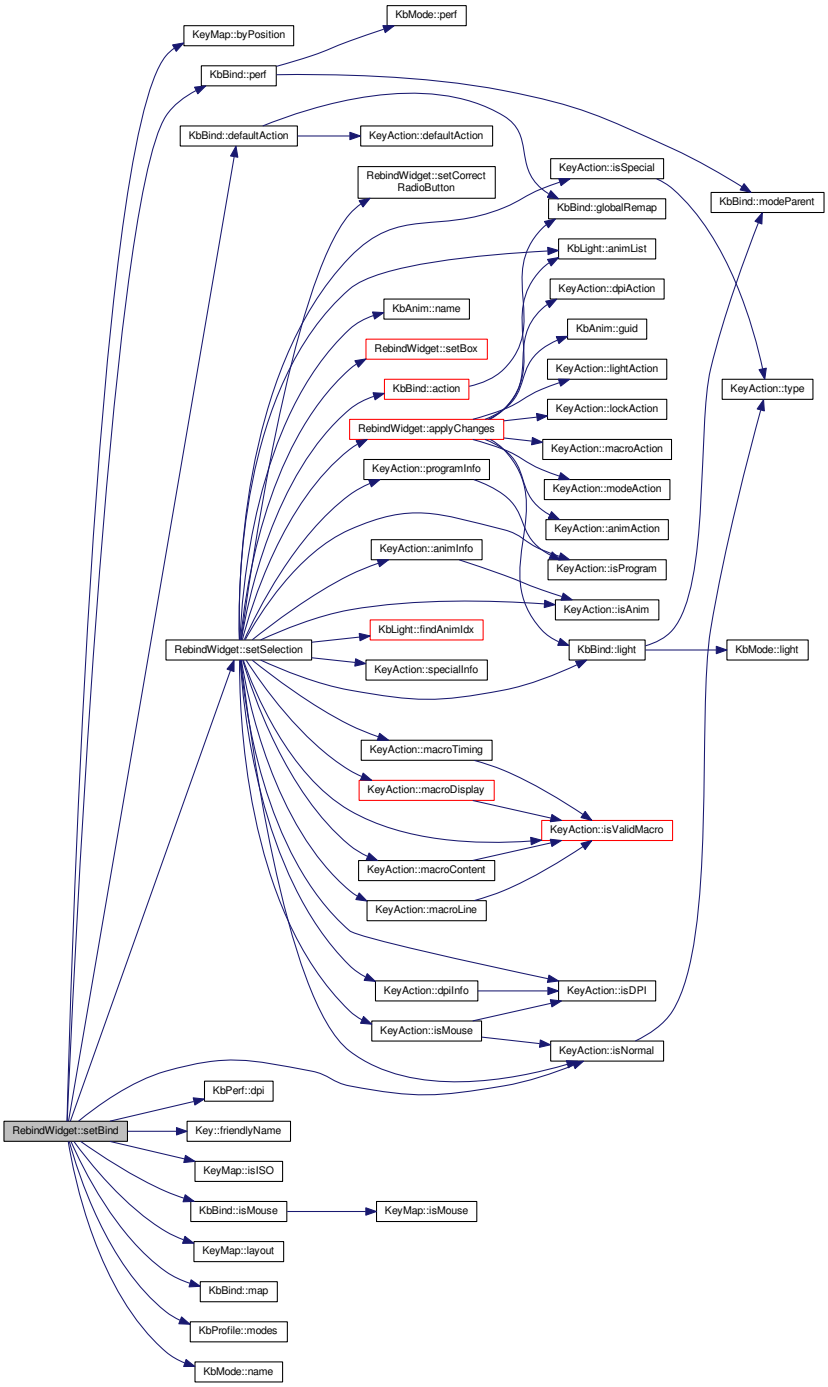
References bind, KeyMap::byPosition(), KbBind::defaultAction(), KbPerf::dpi(), KbPerf::DPI_COUNT, Ui_RebindWidget::dpiBox, Ui_RebindWidget::dpiButton, Ui_RebindWidget::dpiCustLabel, Ui_RebindWidget::dpiCustXBox, Ui_RebindWidget::dpiCustYBox, Ui_RebindWidget::dpiWarning, fnKeys, Key::friendlyName(), KeyMap::isISO(), KbBind::isMouse(), KeyAction::isNormal(), KeyMap::K95, KeyMap::layout(), KbBind::map(), mediaKeys, Ui_RebindWidget::modeBox, KbProfile::modes(), modKeys, KbMode::name(), numKeys, KbBind::perf(), profile, setSelection(), Ui_RebindWidget::typingBox, typingKeys, and ui.

Referenced by KbBindWidget::newLayout(), and KbBindWidget::setBind().

```
63                                                          {
64     bind = newBind;
65     profile = newProfile;
66     setSelection(QStringList());
67
68     // Populate typing keys by position
69     ui->typingBox->clear();
70     ui->typingBox->addItem(" ");
71     typingKeys.clear();
72     // Use the K95 map as it has all keys
73     const KeyMap& map = KeyMap(KeyMap::K95, bind->map().
       layout());
74     foreach(const QString& name, map.byPosition()){
75         KeyAction action(KbBind::defaultAction(name));
76         if(action.isNormal() && !modKeys.contains(name) && !fnKeys.contains(name) && !
       numKeys.contains(name) && !mediaKeys.contains(name) && name != "enter" && name != "tab" &&
       name != "bspace"){
```

```
77              const Key& pos = map[name];
78              QString friendly = pos.friendlyName();
79              ui->typingBox->addItem(friendly);
80              typingKeys.append(name);
81          }
82      }
83      typingKeys << "enter" << "tab" << "bspace";
84      ui->typingBox->addItem("Enter");
85      ui->typingBox->addItem("Tab");
86      ui->typingBox->addItem("Backspace");
87      if(!map.isISO()){
88          // Add ISO backslash (aka KEY_102ND) to ANSI options
89          typingKeys << "bslash_iso";
90          ui->typingBox->addItem("Backslash (ISO layout)");
91      }
92
93      // Populate mode list
94      ui->modeBox->clear();
95      ui->modeBox->addItem(" ");
96      ui->modeBox->addItem("(Previous)");
97      ui->modeBox->addItem("(Next)");
98      int idx = 1;
99      foreach(KbMode* mode, newProfile->modes())
100         ui->modeBox->addItem(QString("%1: %2").arg(idx++).arg(mode->
    name()));
101
102     // Enable/disable DPI based on device
103     if(bind->isMouse()){
104         ui->dpiButton->setEnabled(true);
105         ui->dpiBox->setEnabled(true);
106         ui->dpiWarning->hide();
107         // Fill DPI slots
108         const KbPerf* perf = bind->perf();
109         for(int i = 0; i < KbPerf::DPI_COUNT; i++){
110             bool sniper = (i == 0);
111             int boxIdx = i + 3;
112             QPoint dpi = perf->dpi(i);
113             QString text = tr(sniper ? "Sniper:\t%1 x %2" : "%3:\t%1 x %2").arg(dpi.x()).arg(dpi.y());
114             if(!sniper) text = text.arg(i);
115             ui->dpiBox->setItemText(boxIdx, text);
116         }
117     } else {
118         ui->dpiButton->setEnabled(false);
119         ui->dpiBox->setEnabled(false);
120         ui->dpiWarning->show();
121     }
122     // Always disable custom DPI boxes until selected
123     ui->dpiCustXBox->setEnabled(false);
124     ui->dpiCustYBox->setEnabled(false);
125     ui->dpiCustLabel->setEnabled(false);
126 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.81.3.48 void RebindWidget::setBox (QWidget * box) [private]

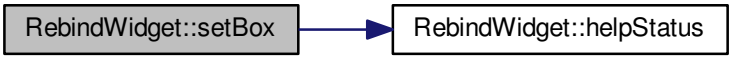
Definition at line 428 of file rebindwidget.cpp.

References Ui_RebindWidget::animBox, Ui_RebindWidget::dpiBox, Ui_RebindWidget::fnBox, helpStatus(), Ui_RebindWidget::lightBox, Ui_RebindWidget::lockBox, Ui_RebindWidget::mb2Box, Ui_RebindWidget::mbBox, Ui_RebindWidget::mediaBox, Ui_RebindWidget::modBox, Ui_RebindWidget::modeBox, Ui_RebindWidget::numBox, Ui_RebindWidget::programKpBox, Ui_RebindWidget::programKpButton, Ui_RebindWidget::programKrBox, Ui_RebindWidget::programKrButton, Ui_RebindWidget::pteMacroBox, Ui_RebindWidget::txtBuffer, Ui_RebindWidget::typingBox, ui, and Ui_RebindWidget::wheelBox.

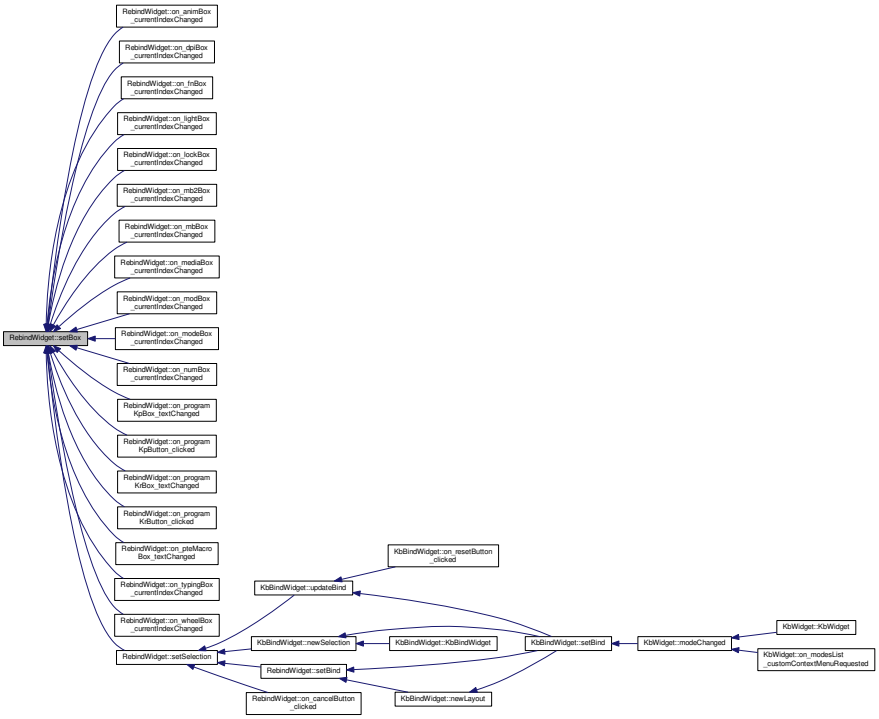
Referenced by on_animBox_currentIndexChanged(), on_dpiBox_currentIndexChanged(), on_fnBox_currentIndexChanged(), on_lightBox_currentIndexChanged(), on_lockBox_currentIndexChanged(), on_mb2Box_currentIndexChanged(), on_mbBox_currentIndexChanged(), on_mediaBox_currentIndexChanged(), on_modBox_currentIndexChanged(), on_modeBox_currentIndexChanged(), on_numBox_currentIndexChanged(), on_programKpBox_textChanged(), on_programKpButton_clicked(), on_programKrBox_textChanged(), on_programKrButton_clicked(), on_pteMacroBox_textChanged(), on_typingBox_currentIndexChanged(), on_wheelBox_currentIndexChanged(), and setSelection().

```
428                                     {
429     // Un-select every item except for the current one.
430     // on_*_currentIndexChanged will take care of deselecting the checkbox.
431     // Key
432     if(box != ui->typingBox) ui->typingBox->setCurrentIndex(0);
433     if(box != ui->modBox) ui->modBox->setCurrentIndex(0);
434     if(box != ui->fnBox) ui->fnBox->setCurrentIndex(0);
435     if(box != ui->numBox) ui->numBox->setCurrentIndex(0);
436     if(box != ui->mediaBox) ui->mediaBox->setCurrentIndex(0);
437     // Mouse
438     if(box != ui->mbBox) ui->mbBox->setCurrentIndex(0);
439     if(box != ui->mb2Box) ui->mb2Box->setCurrentIndex(0);
440     if(box != ui->wheelBox) ui->wheelBox->setCurrentIndex(0);
441     if(box != ui->dpiBox) ui->dpiBox->setCurrentIndex(0);
442     // Anim
443     if(box != ui->animBox) ui->animBox->setCurrentIndex(0);
444     // Special
445     if(box != ui->modeBox) ui->modeBox->setCurrentIndex(0);
446     if(box != ui->lightBox) ui->lightBox->setCurrentIndex(0);
447     if(box != ui->lockBox) ui->lockBox->setCurrentIndex(0);
448     // Program
449     if(box != ui->programKpBox && box != ui->programKrBox){
450         ui->programKpButton->setChecked(false);
451         ui->programKrButton->setChecked(false);
452     }
453     // Clear macro panel
454     if (box != ui->pteMacroBox) {
455         ui->pteMacroBox->setPlainText("");
456         ui->txtBuffer->setText("");
457         helpStatus(1);
458     }
459 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.81.3.49 void RebindWidget::setCorrectRadioButton (QString *macdef*) [private]

Parameters

macdef	Set the radiobutton for timing paramters according to the context. If no "=" followed by a number and comma can be found, it is the default button. If "=" can be found and numbers with more than one digit (means: $>$ 9), it is the "asTyped" button Otherwise it is the "no" button.

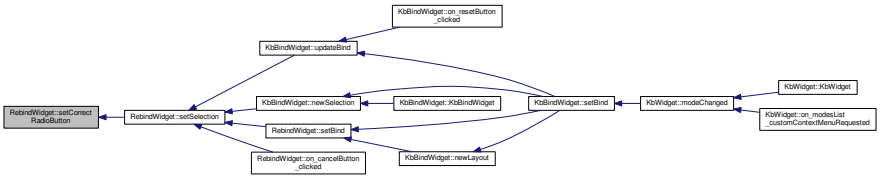
Definition at line 887 of file rebindwidget.cpp.

References Ui_RebindWidget::rb_delay_asTyped, Ui_RebindWidget::rb_delay_default, Ui_RebindWidget::rb_delay_no, and ui.

Referenced by setSelection().

```
887                                                     {
888     if (!macdef.contains(QRegExp("=\\d+,"))) {
889         ui->rb_delay_default->setChecked(true);
890         return;
891     }
892     if (macdef.contains(QRegExp("=\\d\\d+,"))) {
893         ui->rb_delay_asTyped->setChecked(true);
894         return;
895     }
896     ui->rb_delay_no->setChecked(true);
897 }
```

Here is the caller graph for this function:



12.81.3.50 void RebindWidget::setSelection (const QStringList & *newSelection,* bool *applyPrevious* = `false`)

Definition at line 128 of file rebindwidget.cpp.

References KbBind::action(), anim, Ui_RebindWidget::animBox, KeyAction::animInfo(), Ui_RebindWidget::animKrBox, KbLight::animList(), Ui_RebindWidget::animOnceBox, applyChanges(), bind, KeyAction::DPI_CUSTOM, DPI_OFFSET, Ui_RebindWidget::dpiBox, Ui_RebindWidget::dpiCustXBox, Ui_RebindWidget::dpiCustYBox, KeyAction::dpiInfo(), KbLight::findAnimIdx(), Ui_RebindWidget::fnBox, fnKeys, KeyAction::isAnim(), KeyAction::isDPI(), KeyAction::isMouse(), KeyAction::isNormal(), KeyAction::isProgram(), KeyAction::isSpecial(), KeyAction::isValidMacro(), KbBind::light(), KeyAction::LIGHT_DOWN, KeyAction::LIGHT_DOWN_WRAP, KeyAction::LIGHT_UP, KeyAction::LIGHT_UP_WRAP, Ui_RebindWidget::lightBox, Ui_RebindWidget::lightWrapBox, Ui_RebindWidget::lockBox, KeyAction::macroContent(), KeyAction::macroDisplay(), KeyAction::macroLine(), KeyAction::macroTiming(), Ui_RebindWidget::mb2Box, Ui_RebindWidget::mbBox, Ui_RebindWidget::mediaBox, mediaKeys, Ui_RebindWidget::modBox, KeyAction::MODE_NEXT, KeyAction::MODE_NEXT_WRAP, KeyAction::MODE_PREV, KeyAction::MODE_PREV_WRAP, Ui_RebindWidget::modeBox, Ui_RebindWidget::modeWrapBox, modKeys, mouseExtKeys, mouseKeys, KbAnim::name(), Ui_RebindWidget::numBox, numKeys, KeyAction::PROGRAM_PR_MULTI, KeyAction::PROGRAM_RE_INDEF, KeyAction::PROGRAM_RE_KPSTOP, KeyAction::PROGRAM_RE_MULTI, KeyAction::programInfo(), Ui_RebindWidget::programKpBox, Ui_RebindWidget::programKpModeBox, Ui_RebindWidget::programKpSIBox, Ui_RebindWidget::programKrBox, Ui_RebindWidget::programKrModeBox, Ui_RebindWidget::programKrSIBox, Ui_RebindWidget::pteMacroBox, Ui_RebindWidget::pteMacroComment, Ui_RebindWidget::pteMacroText, selection, setBox(), setCorrectRadioButton(), KeyAction::specialInfo(), TAB_ANIM, TAB_KB, TAB_MACRO, TAB_MOUSE, TAB_PROGRAM, TAB_SPECIAL, Ui_RebindWidget::tabWidget, Ui_RebindWidget::txtBuffer, Ui_RebindWidget::typingBox, typingKeys, ui, Ui_RebindWidget::wheelBox, and wheelKeys.

Referenced by KbBindWidget::newSelection(), on_cancelButton_clicked(), setBind(), and KbBindWidget::updateBind().

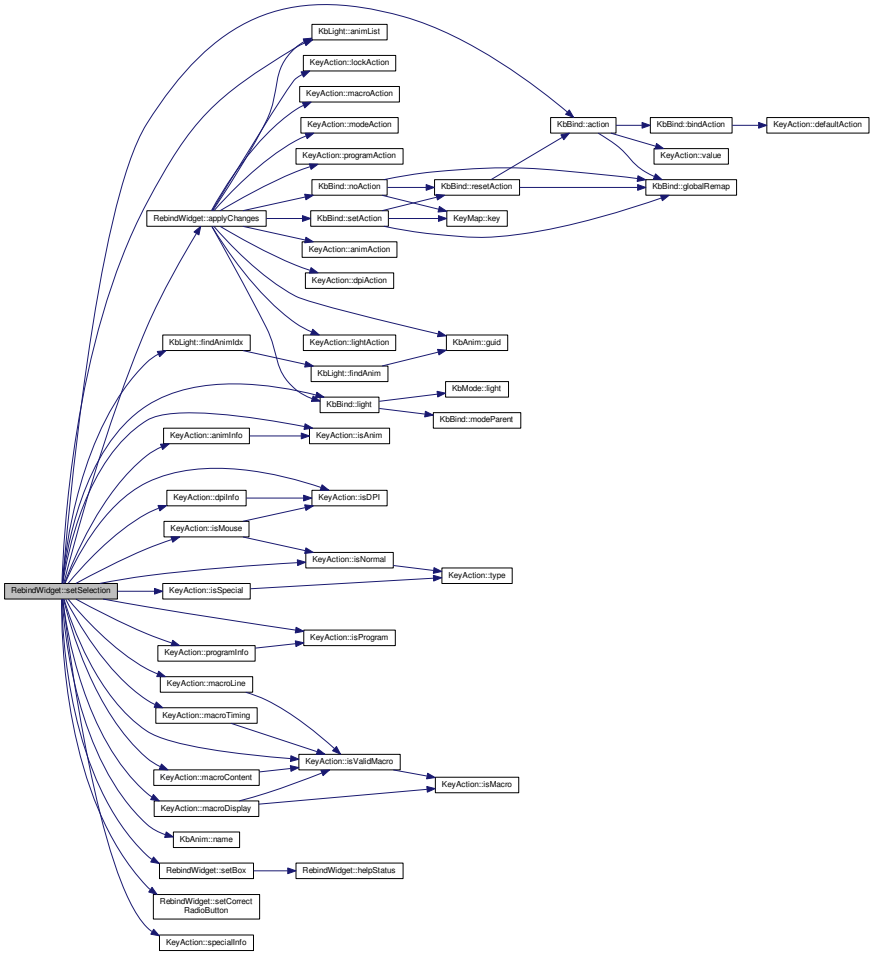
```
128                                                                                 {
129     if(bind){
130         // Populate animation list
131         // FIXME: There should be a trigger to update this whenever an animation is added/removed, even if
        the key selection hasn't changed
132         ui->animBox->clear();
133         ui->animBox->addItem(" ");
134         foreach(KbAnim* anim, bind->light()->animList())
135             ui->animBox->addItem(anim->name());
136     }
137
138     // Apply changes to previous selection (if any)
139     if(!selection.isEmpty() && applyPrevious){
140         QStringList previous = selection;
141         selection = QStringList();
142         applyChanges(previous, false);
143     }
144
145     selection = newSelection;
146     if(newSelection.isEmpty()){
147         hide();
148         return;
149     } else
150         show();
151
152     bool hasAction = false;
153     QString action;
154     if(selection.count() == 1){
```

```
155         // Select action from the UI
156         action = bind->action(selection.first());
157         if(!action.isEmpty())
158             hasAction = true;
159     } else {
160         // Select an action from the UI if all keys are the same.
161         // Select nothing if any are unbound or different
162         foreach(const QString& key, selection){
163             QString keyAction = bind->action(key);
164             if(keyAction.isEmpty() || (hasAction && keyAction != action)){
165                 hasAction = false;
166                 break;
167             } else if(action.isEmpty()){
168                 action = keyAction;
169                 hasAction = true;
170             }
171         }
172     }
173 
174     if(!hasAction)
175         action = "";
176     KeyAction act(action);
177     // Clear everything
178     setBox(0);
179     ui->dpiCustXBox->setValue(400);
180     ui->dpiCustYBox->setValue(400);
181     ui->animOnceBox->setChecked(false);
182     ui->animKrBox->setChecked(false);
183     ui->programKpBox->setText("");
184     ui->programKrBox->setText("");
185     ui->programKpSIBox->setChecked(false);
186     ui->programKrSIBox->setChecked(false);
187     ui->programKpModeBox->setCurrentIndex(0);
188     ui->programKrModeBox->setCurrentIndex(0);
189     ui->programKpModeBox->setEnabled(false);
190     ui->programKrModeBox->setEnabled(false);
191     // Clear neu UI elements in MacroTab
192     ui->pteMacroBox->setPlainText("");
193     ui->pteMacroText->setPlainText("");
194     ui->pteMacroComment->setPlainText("");
195     ui->txtBuffer->setText("");
196     // Fill in field and select tab according to action type
197     bool mouse = act.isMouse();
198     if(mouse){
199         // Mouse buttons
200         ui->tabWidget->setCurrentIndex(TAB_MOUSE);
201         // Set mouse buttons (indexOf returns -1 if not found, index zero is blank)
202         ui->mbBox->setCurrentIndex(mouseKeys.indexOf(action) + 1);
203         ui->mb2Box->setCurrentIndex(mouseExtKeys.indexOf(action) + 1);
204         ui->wheelBox->setCurrentIndex(wheelKeys.indexOf(action) + 1);
205         if(act.isDPI()){
206             QPoint custom;
207             int value = act.dpiInfo(custom);
208             if(value <= -DPI_OFFSET || value > KeyAction::DPI_CUSTOM)
209                 return;
210             ui->dpiBox->setCurrentIndex(value + DPI_OFFSET);
211             if(value == KeyAction::DPI_CUSTOM){
212                 ui->dpiCustXBox->setValue(custom.x());
213                 ui->dpiCustYBox->setValue(custom.y());
214             }
215         }
216     } else if(act.isNormal()){
217         // Standard key
218         ui->tabWidget->setCurrentIndex(TAB_KB);
219         ui->typingBox->setCurrentIndex(typingKeys.indexOf(action) + 1);
220         ui->modBox->setCurrentIndex(modKeys.indexOf(action) + 1);
221         ui->fnBox->setCurrentIndex(fnKeys.indexOf(action) + 1);
222         ui->numBox->setCurrentIndex(numKeys.indexOf(action) + 1);
223         ui->mediaBox->setCurrentIndex(mediaKeys.indexOf(action) + 1);
224     } else if(act.isProgram()){
225         // Program key
226         ui->tabWidget->setCurrentIndex(TAB_PROGRAM);
227         QString onPress, onRelease;
228         int stop = act.programInfo(onPress, onRelease);
229         ui->programKpBox->setText(onPress);
230         ui->programKrBox->setText(onRelease);
231         switch(stop & 0x0F){
232         case KeyAction::PROGRAM_PR_MULTI:
233             ui->programKpSIBox->setChecked(false);
234             ui->programKpModeBox->setCurrentIndex(0);
235             ui->programKpModeBox->setEnabled(false);
236             break;
237         default:
238             ui->programKpSIBox->setChecked(true);
239             ui->programKpModeBox->setCurrentIndex(stop & 0x0F);
240             ui->programKpModeBox->setEnabled(true);
241             break;
```

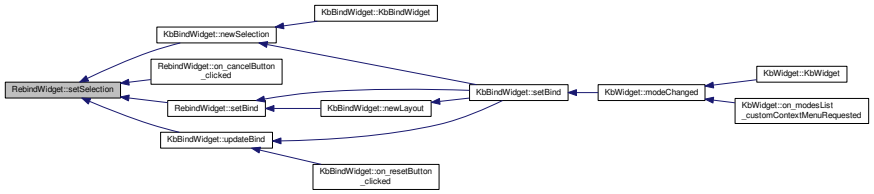
```
242         }
243         switch(stop & 0xF0){
244         case KeyAction::PROGRAM_RE_MULTI:
245             ui->programKrSIBox->setChecked(false);
246             ui->programKrModeBox->setCurrentIndex(0);
247             ui->programKrModeBox->setEnabled(false);
248             break;
249         case KeyAction::PROGRAM_RE_INDEF:
250             ui->programKrSIBox->setChecked(true);
251             ui->programKrModeBox->setCurrentIndex(0);
252             ui->programKrModeBox->setEnabled(true);
253             break;
254         case KeyAction::PROGRAM_RE_KPSTOP:
255             ui->programKrSIBox->setChecked(true);
256             ui->programKrModeBox->setCurrentIndex(1);
257             ui->programKrModeBox->setEnabled(true);
258             break;
259         }
260     } else if(act.isAnim()){
261         // Animation key
262         ui->tabWidget->setCurrentIndex(TAB_ANIM);
263         bool onlyOnce = false, stopOnRelease = false;
264         QUuid id = act.animInfo(onlyOnce, stopOnRelease);
265         // Find this animation in the list. If not found, -1 will be returned, resulting in the blank space
    being selected
266         int index = bind->light()->findAnimIdx(id);
267         ui->animBox->setCurrentIndex(index + 1);
268         ui->animOnceBox->setChecked(!onlyOnce);
269         ui->animKrBox->setChecked(stopOnRelease);
270     } else if(act.isSpecial()){
271         // Other special keys
272         ui->tabWidget->setCurrentIndex(TAB_SPECIAL);
273         int param;
274         QString sAction = act.specialInfo(param);
275         // Mode selection. Check wrap-around flag
276         ui->modeWrapBox->setChecked(true);
277         if(sAction == "mode"){
278             ui->modeWrapBox->setChecked(true);
279             if(param == KeyAction::MODE_PREV_WRAP)
280                 param = KeyAction::MODE_PREV;
281             else if(param == KeyAction::MODE_NEXT_WRAP)
282                 param = KeyAction::MODE_NEXT;
283             else if(param < 0)
284                 ui->modeWrapBox->setChecked(false);
285             // Set mode box to current selection, or to mode 1 if invalid
286             param += 3;
287             if(param >= 0 && param < ui->modeBox->count())
288                 ui->modeBox->setCurrentIndex(param);
289             else
290                 // 0 -> "", 1 -> Prev, 2 -> Next, 3 -> Mode 1
291                 ui->modeBox->setCurrentIndex(3);
292         } else if (sAction == "macro") {
293             ui->tabWidget->setCurrentIndex(TAB_MACRO);
294             if (act.isValidMacro()) {
295                 ui->pteMacroBox->setPlainText(act.macroContent());
296                 ui->pteMacroText->setPlainText(act.macroLine()[1].replace("
    &das_IST_31N_col0n;", ":"));
297                 ui->pteMacroComment->setPlainText(act.macroLine()[2].replace("
    &das_IST_31N_col0n;", ":"));
298                 // Set the invisible Buffer to the original timing information.
299                 // For convenience / Migration from older versions:
300                 // If the timing information is only "x", then ignore it by setting it to an empty QString.
301                 ui->txtBuffer->setText("");
302                 if (act.macroTiming() != "x") ui->txtBuffer->setText(act.macroTiming());
303                 setCorrectRadioButton(act.macroContent());
304             } else {
305                 qDebug("RebindWidget::setSelection found invalid macro definition.");
306                 act.macroDisplay();
307             }
308         } else
309             ui->modeBox->setCurrentIndex(0);
310         // Brightness control. Also check wrap
311         if(sAction == "light"){
312             ui->lightWrapBox->setChecked(true);
313             if(param == KeyAction::LIGHT_DOWN_WRAP)
314                 param = KeyAction::LIGHT_DOWN;
315             else if(param == KeyAction::LIGHT_UP_WRAP)
316                 param = KeyAction::LIGHT_UP;
317             else
318                 ui->lightWrapBox->setChecked(false);
319             if(param < 0 || param > 1)
320                 param = -1;
321             ui->lightBox->setCurrentIndex(param + 1);
322         } else
323             ui->lightBox->setCurrentIndex(0);
324         // Win lock
325         if(sAction == "lock"){
```

```
326             if(param < 0 || param > 2)
327                 param = -1;
328             ui->lockBox->setCurrentIndex(param + 1);
329         } else
330             ui->lockBox->setCurrentIndex(0);
331     }
332 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.81.4 Field Documentation

12.81.4.1 KbBind* RebindWidget::bind [private]

Definition at line 94 of file rebindwidget.h.

Referenced by applyChanges(), on_btnStartMacro_clicked(), on_btnStopMacro_clicked(), on_resetButton_clicked(), on_unbindButton_clicked(), setBind(), and setSelection().

12.81.4.2 QStringList RebindWidget::fnKeys [private]

Definition at line 100 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), setBind(), and setSelection().

12.81.4.3 MacroReader* RebindWidget::macReader [private]

Definition at line 106 of file rebindwidget.h.

Referenced by on_btnStartMacro_clicked(), and on_btnStopMacro_clicked().

12.81.4.4 QStringList RebindWidget::mediaKeys [private]

Definition at line 102 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), setBind(), and setSelection().

12.81.4.5 QStringList RebindWidget::modKeys [private]

Definition at line 99 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), setBind(), and setSelection().

12.81.4.6 QStringList RebindWidget::mouseExtKeys [private]

Definition at line 104 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), and setSelection().

12.81.4.7 QStringList RebindWidget::mouseKeys [private]

Definition at line 103 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), and setSelection().

12.81.4.8 QStringList RebindWidget::numKeys [private]

Definition at line 101 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), setBind(), and setSelection().

12.81.4.9 KbProfile* RebindWidget::profile [private]

Definition at line 95 of file rebindwidget.h.

Referenced by setBind().

12.81.4.10 QStringList RebindWidget::selection [private]

Definition at line 96 of file rebindwidget.h.

Referenced by on_applyButton_clicked(), on_cancelButton_clicked(), on_resetButton_clicked(), on_unbindButton_clicked(), and setSelection().

12.81.4.11 const int RebindWidget::TAB_ANIM = 2 [static], [private]

Definition at line 83 of file rebindwidget.h.

Referenced by setSelection().

12.81.4.12 const int RebindWidget::TAB_KB = 0 [static], [private]

Definition at line 83 of file rebindwidget.h.

Referenced by setSelection().

12.81.4.13 const int RebindWidget::TAB_MACRO = 5 [static], [private]

Definition at line 83 of file rebindwidget.h.

Referenced by setSelection().

12.81.4.14 const int RebindWidget::TAB_MOUSE = 1 [static], [private]

Definition at line 83 of file rebindwidget.h.

Referenced by setSelection().

12.81.4.15 const int RebindWidget::TAB_PROGRAM = 4 [static], [private]

Definition at line 83 of file rebindwidget.h.

Referenced by setSelection().

12.81.4.16 const int RebindWidget::TAB_SPECIAL = 3 [static], [private]

Definition at line 83 of file rebindwidget.h.

Referenced by setSelection().

12.81.4.17 QStringList RebindWidget::typingKeys [private]

Definition at line 98 of file rebindwidget.h.

Referenced by applyChanges(), setBind(), and setSelection().

12.81.4.18 Ui::RebindWidget* RebindWidget::ui [private]

Definition at line 80 of file rebindwidget.h.

Referenced by applyChanges(), convertMacroBox(), helpStatus(), on_animBox_currentIndexChanged(), on_animButton_clicked(), on_btnStartMacro_clicked(), on_btnStopMacro_clicked(), on_dpiBox_currentIndexChanged(),

on_dpiButton_clicked(), on_fnBox_currentIndexChanged(), on_fnButton_clicked(), on_lightBox_currentIndexChanged(), on_lightButton_clicked(), on_lockBox_currentIndexChanged(), on_lockButton_clicked(), on_mb2Box_currentIndexChanged(), on_mb2Button_clicked(), on_mbBox_currentIndexChanged(), on_mbButton_clicked(), on_mediaBox_currentIndexChanged(), on_mediaButton_clicked(), on_modBox_currentIndexChanged(), on_modButton_clicked(), on_modeBox_currentIndexChanged(), on_modeButton_clicked(), on_numBox_currentIndexChanged(), on_numButton_clicked(), on_programKpBox_textChanged(), on_programKpButton_clicked(), on_programKpSIBox_clicked(), on_programKrBox_textChanged(), on_programKrButton_clicked(), on_programKrSIBox_clicked(), on_pteMacroBox_textChanged(), on_typingBox_currentIndexChanged(), on_typingButton_clicked(), on_wheelBox_currentIndexChanged(), on_wheelButton_clicked(), RebindWidget(), setBind(), setBox(), setCorrectRadioButton(), setSelection(), and ~RebindWidget().

12.81.4.19 QStringList RebindWidget::wheelKeys [private]

Definition at line 105 of file rebindwidget.h.

Referenced by applyChanges(), RebindWidget(), and setSelection().

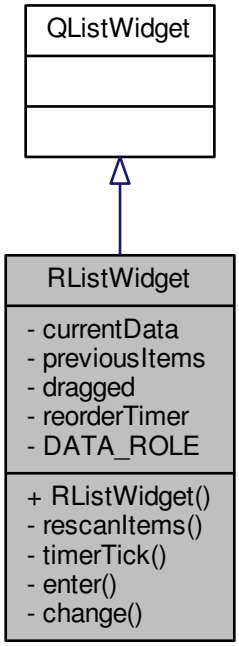
The documentation for this class was generated from the following files:

- src/ckb/rebindwidget.h
- src/ckb/rebindwidget.cpp

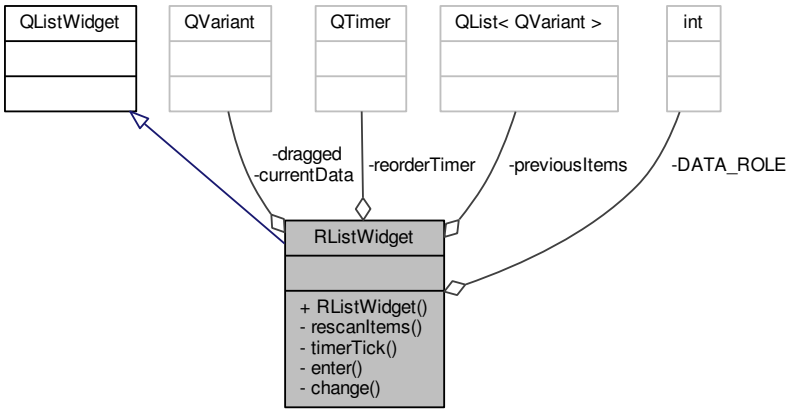
12.82 RListWidget Class Reference

`#include <src/ckb/rlistwidget.h>`

Inheritance diagram for RListWidget:



Collaboration diagram for RListWidget:



Signals

- void orderChanged ()

Public Member Functions

- RListWidget (QWidget ∗parent=0)

Private Slots

- void timerTick ()
- void enter (QListWidgetItem ∗item)
- void change (QListWidgetItem ∗item)

Private Member Functions

- void rescanItems ()

Private Attributes

- QVariant currentData
- QList< QVariant > previousItems
- QVariant dragged
- QTimer reorderTimer

Static Private Attributes

- static const int DATA_ROLE = Qt::UserRole + 100

12.82.1 Detailed Description

Definition at line 9 of file rlistwidget.h.

12.82.2 Constructor & Destructor Documentation

12.82.2.1 RListWidget::RListWidget (QWidget * *parent* = 0) [explicit]

Definition at line 4 of file rlistwidget.cpp.

References change(), enter(), reorderTimer, and timerTick().

```
4                                          :
5     QListWidget(parent)
6 {
7     setDragDropMode(QAbstractItemView::InternalMove);
8     setMovement(QListView::Snap);
9
10     reorderTimer.setSingleShot(true);
11     reorderTimer.setInterval(100);
12     connect(&reorderTimer, SIGNAL(timeout()), this, SLOT(timerTick()));
13
14     connect(this, SIGNAL(itemEntered(QListWidgetItem*)), this, SLOT(enter(QListWidgetItem*)));
15     connect(this, SIGNAL(itemChanged(QListWidgetItem*)), this, SLOT(change(QListWidgetItem*)));
16 }
```

Here is the call graph for this function:

12.82.3 Member Function Documentation

12.82.3.1 void RListWidget::change (QListWidgetItem * *item*) [private], [slot]

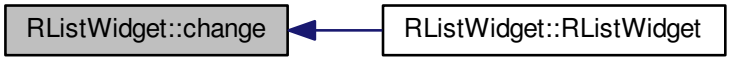
Definition at line 54 of file rlistwidget.cpp.

References reorderTimer.

Referenced by RListWidget().

```
54                                                {
55     reorderTimer.stop();
56     reorderTimer.start();
57 }
```

Here is the caller graph for this function:



12.82.3.2 void RListWidget::enter (QListWidgetItem * *item*) [private],[slot]

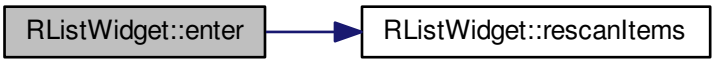
Definition at line 47 of file rlistwidget.cpp.

References DATA_ROLE, dragged, and rescanItems().

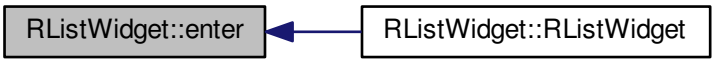
Referenced by RListWidget().

```
47                                              {
48     rescanItems();
49     // Check for drag+drop setup
50     if(item)
51         dragged = item->data(DATA_ROLE);
52 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



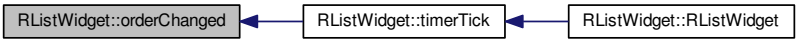
12.82.3.3 void RListWidget::orderChanged ( ) [signal]

Definition at line 141 of file moc_rlistwidget.cpp.

Referenced by timerTick().

```
142 {
143     QMetaObject::activate(this, &staticMetaObject, 0, Q_NULLPTR);
144 }
```

Here is the caller graph for this function:



12.82.3.4 void RListWidget::rescanItems ( ) [private]

Definition at line 59 of file rlistwidget.cpp.

References DATA_ROLE, and previousItems.

Referenced by enter().

```
59                              {
60      QList<QVariant> newItems;
61      int c = count();
62      for(int i = 0; i < c; i++){
63          QVariant data = this->item(i)->data(DATA_ROLE);
64          if(data.isNull()){
65              // Generate the ID for this item if it doesn't already exist
66              data = QUuid::createUuid();
67              this->item(i)->setData(DATA_ROLE, data);
68          }
69          newItems.append(data);
70      }
71      previousItems = newItems;
72  }
```

Here is the caller graph for this function:

12.82.3.5 void RListWidget::timerTick ( ) [private], [slot]

Definition at line 18 of file rlistwidget.cpp.

References DATA_ROLE, dragged, orderChanged(), and previousItems.

Referenced by RListWidget().

```
18                            {
19      bool reordered = false;
20      QListWidgetItem* reselect = 0;
21      QList<QVariant> newItems;
22      // Scan the item list to see if they changed
23      int c = count();
24      for(int i = 0; i < c; i++){
25          QListWidgetItem* itm = item(i);
26          QVariant data = itm->data(DATA_ROLE);
27          newItems.append(data);
28          if(i >= previousItems.count() || data != previousItems[i])
29              reordered = true;
30          // Re-select the dragged item (if any)
31          if(data == dragged)
32              reselect = itm;
33      }
34      if(previousItems.length() != newItems.length())
35          return;
36      if(reordered){
37          previousItems = newItems;
38          emit orderChanged();
39          if(reselect){
40              reselect->setSelected(true);
41              setCurrentItem(reselect);
42              dragged = QVariant();
43          }
44      }
45  }
```

Here is the caller graph for this function:

12.82.4 Field Documentation

12.82.4.1 QVariant RListWidget::currentData [private]

Definition at line 24 of file rlistwidget.h.

12.82.4.2 const int RListWidget::DATA_ROLE = Qt::UserRole + 100 [static], [private]

Definition at line 29 of file rlistwidget.h.

Referenced by enter(), rescanItems(), and timerTick().

12.82.4.3 QVariant RListWidget::dragged [private]

Definition at line 26 of file rlistwidget.h.

Referenced by enter(), and timerTick().

12.82.4.4 QList<QVariant> RListWidget::previousItems [private]

Definition at line 25 of file rlistwidget.h.

Referenced by rescanItems(), and timerTick().

12.82.4.5 QTimer RListWidget::reorderTimer [private]

Definition at line 27 of file rlistwidget.h.

Referenced by change(), and RListWidget().

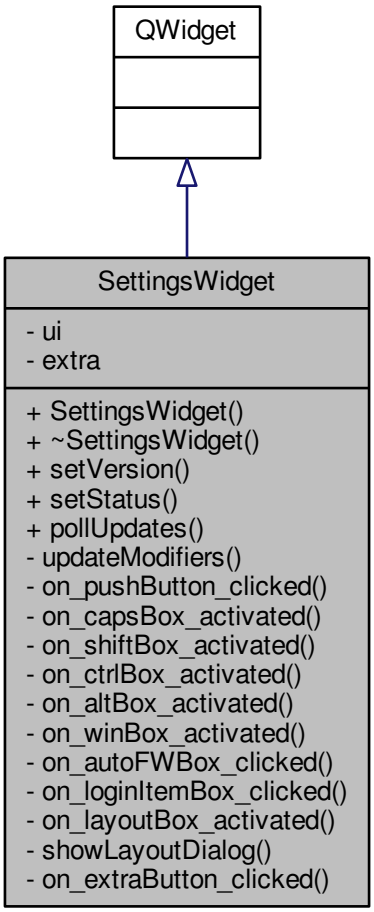
The documentation for this class was generated from the following files:

- src/ckb/rlistwidget.h
- src/ckb/release/moc_rlistwidget.cpp
- src/ckb/rlistwidget.cpp

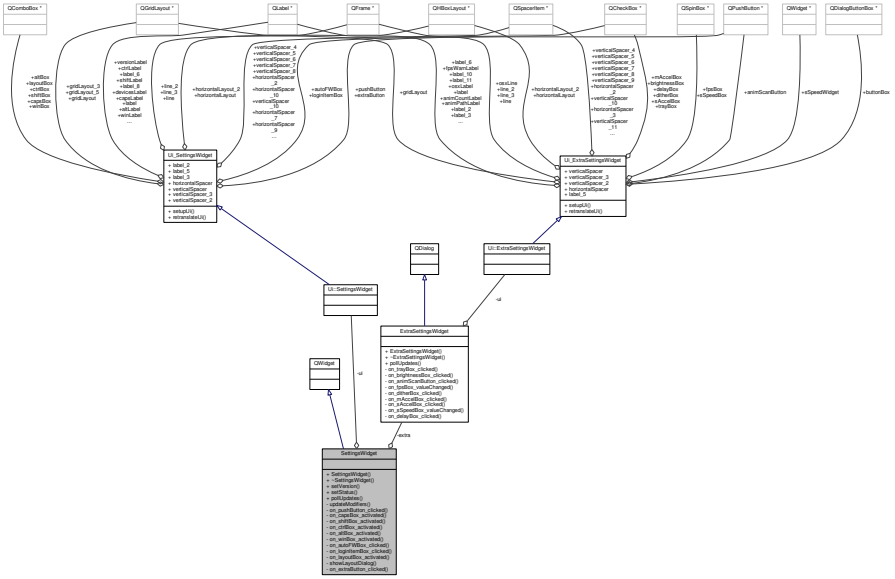
12.83 SettingsWidget Class Reference

`#include <src/ckb/settingswidget.h>`

Inheritance diagram for SettingsWidget:



Collaboration diagram for SettingsWidget:



Public Member Functions

- SettingsWidget (QWidget ∗parent=0)
- ∼SettingsWidget ()
- void setVersion (const QString &version)
- void setStatus (const QString &text)
- void pollUpdates ()

Private Slots

- void on_pushButton_clicked ()
- void on_capsBox_activated (int index)
- void on_shiftBox_activated (int index)
- void on_ctrlBox_activated (int index)
- void on_altBox_activated (int index)
- void on_winBox_activated (int index)
- void on_autoFWBox_clicked (bool checked)
- void on_loginItemBox_clicked (bool checked)
- void on_layoutBox_activated (int index)
- void showLayoutDialog ()
- void on_extraButton_clicked ()

Private Member Functions

- void updateModifiers ()

Private Attributes

- Ui::SettingsWidget ∗ ui
- ExtraSettingsWidget ∗ extra

Friends

- class MainWindow

12.83.1 Detailed Description

Definition at line 11 of file settingswidget.h.

12.83.2 Constructor & Destructor Documentation

12.83.2.1 SettingsWidget::SettingsWidget (QWidget * *parent* = 0) [explicit]

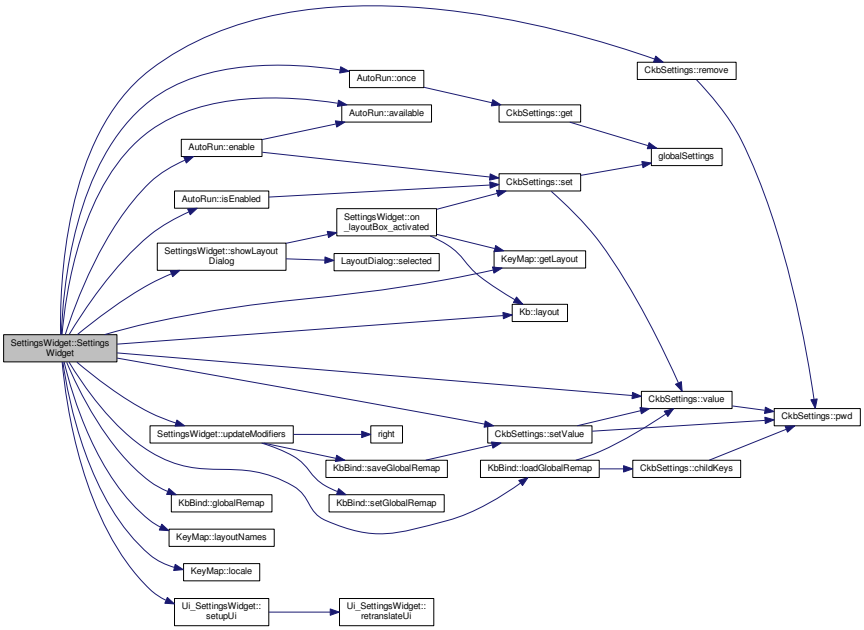
Definition at line 15 of file settingswidget.cpp.

References Ui_SettingsWidget::altBox, Ui_SettingsWidget::autoFWBox, AutoRun::available(), Ui_SettingsWidget::capsBox, Ui_SettingsWidget::ctrlBox, AutoRun::enable(), extra, KeyMap::getLayout(), KbBind::globalRemap(), AutoRun::isEnabled(), Kb::layout(), Ui_SettingsWidget::layoutBox, KeyMap::layoutNames(), KbBind::loadGlobalRemap(), KeyMap::locale(), Ui_SettingsWidget::loginItemBox, modKeys, modNames, KeyMap::NO_LAYOUT, AutoRun::once(), CkbSettings::remove(), Ui_SettingsWidget::setupUi(), CkbSettings::setValue(), Ui_SettingsWidget::shiftBox, showLayoutDialog(), ui, updateModifiers(), CkbSettings::value(), and Ui_SettingsWidget::winBox.

```
15                                                  :
16     QWidget(parent),
17     ui(new Ui::SettingsWidget)
18 {
19     ui->setupUi(this);
20     CkbSettings settings("Program");
21
22     // Read keyboard layout
23     ui->layoutBox->addItems(KeyMap::layoutNames());
24     KeyMap::Layout layout = KeyMap::getLayout(settings.value("KbdLayout").
       toString());
25     if(layout == KeyMap::NO_LAYOUT){
26         // If the layout hasn't been set yet, show a dialog to let the user choose it
27         layout = KeyMap::locale();
28         QTimer::singleShot(1000, this, SLOT(showLayoutDialog()));   // Run the function
       after a delay as the dialog may not appear correctly otherwise
29         settings.setValue("KbdLayout", KeyMap::getLayout(layout));
30     }
31     Kb::layout(layout);
32     ui->layoutBox->setCurrentIndex((int)layout);
33
34     // Load modifier remap
35     KbBind::loadGlobalRemap();
36     if(modKeys.isEmpty()){
37         modKeys << "caps" << "lshift" << "lctrl" << "lalt" << "lwin";
38 #ifdef Q_OS_MACX
39         modNames << "Caps Lock" << "Shift" << "Control ()" << "Option ()" << "Command ()";
40 #else
41         modNames << "Caps Lock" << "Shift" << "Control" << "Alt" << "Super";
42 #endif
43     }
44     foreach(const QString& name, modNames){
45         ui->capsBox->addItem(name);
46         ui->shiftBox->addItem(name);
47         ui->ctrlBox->addItem(name);
48         ui->altBox->addItem(name);
49         ui->winBox->addItem(name);
50     }
51
52     int idx = modKeys.indexOf(KbBind::globalRemap("caps"));
53     if(idx >= 0)
54         ui->capsBox->setCurrentIndex(idx);
55     idx = modKeys.indexOf(KbBind::globalRemap("lshift"));
56     if(idx >= 0)
57         ui->shiftBox->setCurrentIndex(idx);
58     idx = modKeys.indexOf(KbBind::globalRemap("lctrl"));
59     if(idx >= 0)
60         ui->ctrlBox->setCurrentIndex(idx);
61     idx = modKeys.indexOf(KbBind::globalRemap("lwin"));
62     if(idx >= 0)
63         ui->winBox->setCurrentIndex(idx);
64     idx = modKeys.indexOf(KbBind::globalRemap("lalt"));
65     if(idx >= 0)
66         ui->altBox->setCurrentIndex(idx);
```

```
67 #ifdef Q_OS_MACX
68     if(settings.value("osxCmdSwap").toBool()){
69         // ckb <0.0.41
70         settings.remove("osxCmdSwap");
71         ui->ctrlBox->setCurrentIndex(modKeys.indexOf("lwin"));
72         ui->winBox->setCurrentIndex(modKeys.indexOf("lctrl"));
73         updateModifiers();
74     }
75 #endif
76
77     // Read auto update settings
78     ui->autoFWBox->setChecked(!settings.value("DisableAutoFWCheck").toBool());
79
80     // Read auto run settings
81     if(!AutoRun::available())
82         ui->loginItemBox->hide();
83     else {
84         if(!AutoRun::once())
85             // If this is the first time running the app, enable auto run by default
86             AutoRun::enable();
87         ui->loginItemBox->setChecked(AutoRun::isEnabled());
88     }
89
90     // Prepare extra settings
91     extra = new ExtraSettingsWidget(this);
92 }
```

Here is the call graph for this function:



12.83.2.2 SettingsWidget::~SettingsWidget ( )

Definition at line 94 of file settingswidget.cpp.

References ui.

```
94                                {
95     delete ui;
96 }
```

12.83.3 Member Function Documentation

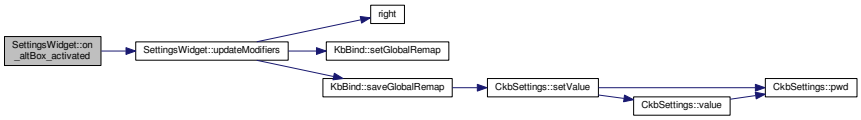
12.83.3.1 void SettingsWidget::on_altBox_activated (int *index*) [private],[slot]

Definition at line 155 of file settingswidget.cpp.

References updateModifiers().

```
155                                                {
156     updateModifiers();
157 }
```

Here is the call graph for this function:



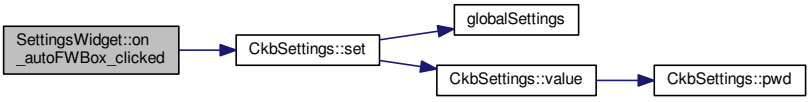
12.83.3.2 void SettingsWidget::on_autoFWBox_clicked (bool *checked*) [private],[slot]

Definition at line 163 of file settingswidget.cpp.

References CkbSettings::set().

```
163                                                    {
164     CkbSettings::set("Program/DisableAutoFWCheck", !checked);
165 }
```

Here is the call graph for this function:



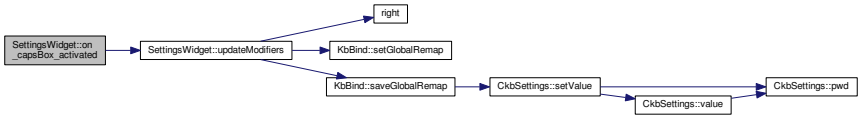
12.83.3.3 void SettingsWidget::on_capsBox_activated (int *index*) [private],[slot]

Definition at line 143 of file settingswidget.cpp.

References updateModifiers().

```
143                                                {
144     updateModifiers();
145 }
```

Here is the call graph for this function:



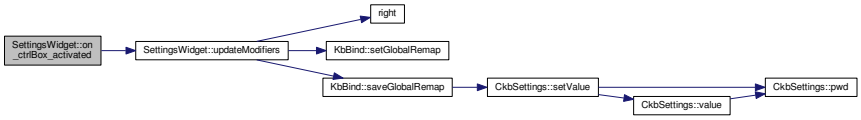
12.83.3.4 void SettingsWidget::on_ctrlBox_activated (int *index*) [private], [slot]

Definition at line 151 of file settingswidget.cpp.

References updateModifiers().

```
151                                                 {
152     updateModifiers();
153 }
```

Here is the call graph for this function:



12.83.3.5 void SettingsWidget::on_extraButton_clicked ( ) [private], [slot]

Definition at line 180 of file settingswidget.cpp.

References extra.

```
180                                             {
181     extra->exec();
182 }
```

12.83.3.6 void SettingsWidget::on_layoutBox_activated (int *index*) [private], [slot]

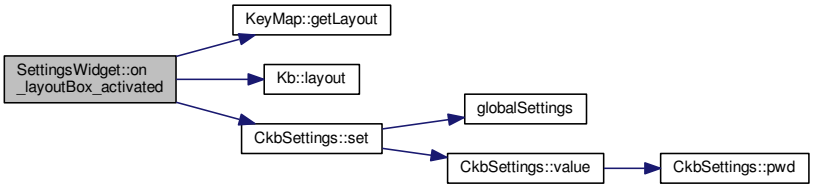
Definition at line 174 of file settingswidget.cpp.

References KeyMap::getLayout(), Kb::layout(), and CkbSettings::set().

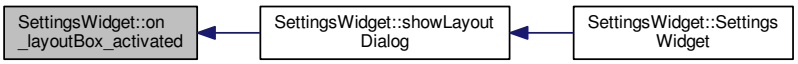
Referenced by showLayoutDialog().

```
174                                                 {
175     KeyMap::Layout layout = (KeyMap::Layout)index;
176     CkbSettings::set("Program/KbdLayout", KeyMap::getLayout(layout));
177     Kb::layout(layout);
178 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.83.3.7 void SettingsWidget::on_loginItemBox_clicked (bool *checked*) [private],[slot]

Definition at line 167 of file settingswidget.cpp.

References AutoRun::disable(), and AutoRun::enable().

```
167                                                     {
168     if(checked)
169         AutoRun::enable();
170     else
171         AutoRun::disable();
172 }
```

Here is the call graph for this function:

12.83.3.8 void SettingsWidget::on_pushButton_clicked ( ) [private],[slot]

Definition at line 139 of file settingswidget.cpp.

```
139                                         {
140     qApp->quit();
141 }
```

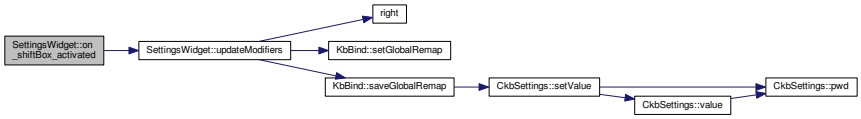
12.83.3.9 void SettingsWidget::on_shiftBox_activated (int *index*) [private],[slot]

Definition at line 147 of file settingswidget.cpp.

References updateModifiers().

```
147                                                 {
148     updateModifiers();
149 }
```

Here is the call graph for this function:



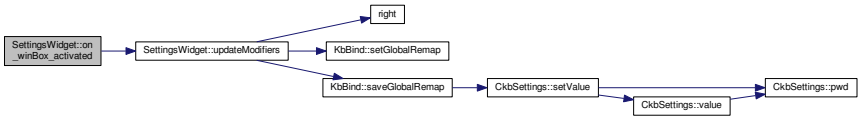
12.83.3.10 void SettingsWidget::on_winBox_activated (int *index*) [private], [slot]

Definition at line 159 of file settingswidget.cpp.

References updateModifiers().

```
159                                                {
160     updateModifiers();
161 }
```

Here is the call graph for this function:



12.83.3.11 void SettingsWidget::pollUpdates ( )

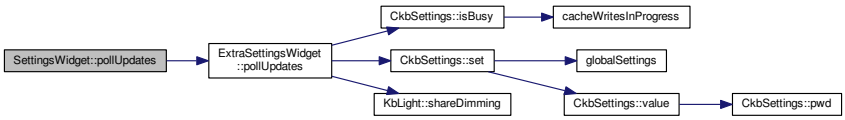
Definition at line 106 of file settingswidget.cpp.

References extra, and ExtraSettingsWidget::pollUpdates().

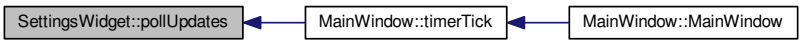
Referenced by MainWindow::timerTick().

```
106                                  {
107     extra->pollUpdates();
108 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.83.3.12 void SettingsWidget::setStatus (const QString & *text*)

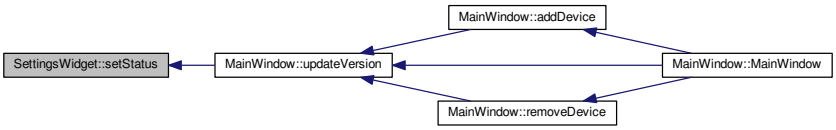
Definition at line 110 of file settingswidget.cpp.

References Ui_SettingsWidget::devicesLabel, and ui.

Referenced by MainWindow::updateVersion().

```
110                                                 {
111     ui->devicesLabel->setText(text);
112 }
```

Here is the caller graph for this function:



12.83.3.13 void SettingsWidget::setVersion (const QString & *version*)

Definition at line 114 of file settingswidget.cpp.

References ui, and Ui_SettingsWidget::versionLabel.

Referenced by MainWindow::MainWindow().

```
114                                                 {
115     ui->versionLabel->setText(version);
116 }
```

Here is the caller graph for this function:

12.83.3.14 void SettingsWidget::showLayoutDialog ( ) [private], [slot]

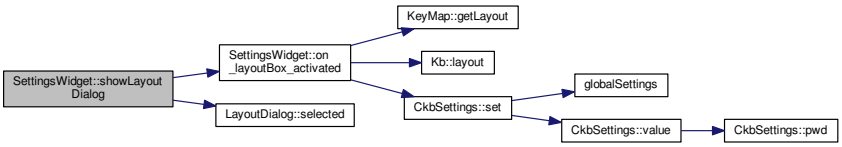
Definition at line 98 of file settingswidget.cpp.

References Ui_SettingsWidget::layoutBox, on_layoutBox_activated(), LayoutDialog::selected(), and ui.

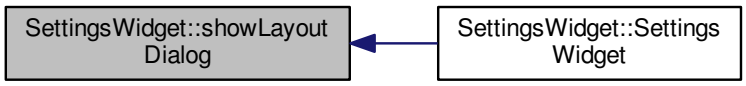
Referenced by SettingsWidget().

```
98                                      {
99     LayoutDialog dialog(this);
100     dialog.exec();
101     // Set selected layout
102     ui->layoutBox->setCurrentIndex((int)dialog.selected());
103     on_layoutBox_activated((int)dialog.selected());         // Call activated()
        signal manually to trigger save
104 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.83.3.15 void SettingsWidget::updateModifiers ( ) [private]

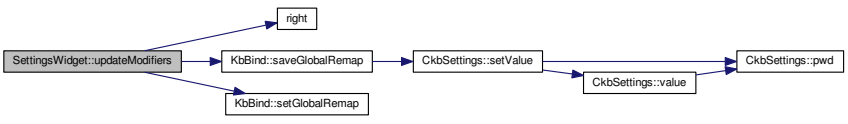
Definition at line 124 of file settingswidget.cpp.

References Ui_SettingsWidget::altBox, Ui_SettingsWidget::capsBox, Ui_SettingsWidget::ctrlBox, modKeys, right(), KbBind::saveGlobalRemap(), KbBind::setGlobalRemap(), Ui_SettingsWidget::shiftBox, ui, and Ui_SettingsWidget-::winBox.

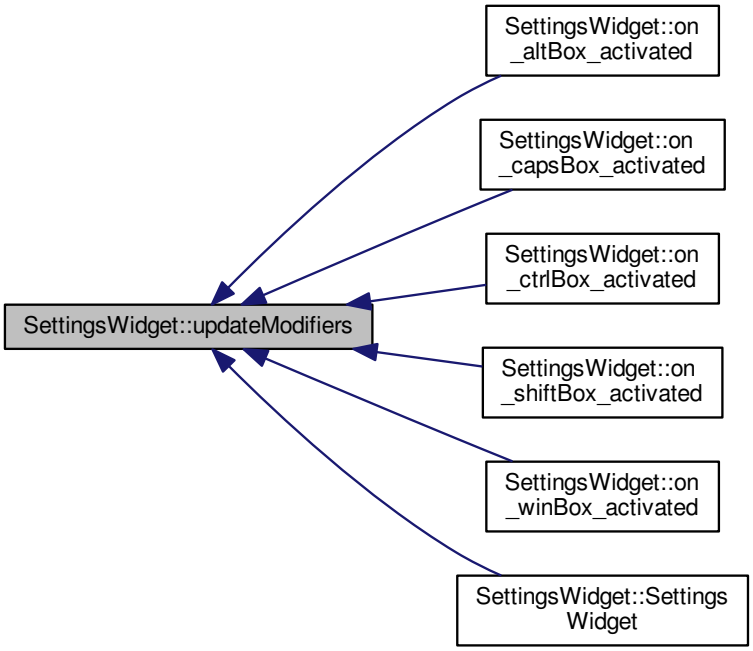
Referenced by on_altBox_activated(), on_capsBox_activated(), on_ctrlBox_activated(), on_shiftBox_activated(), on_winBox_activated(), and SettingsWidget().

```
124                                  {
125     QHash<QString, QString> newMods;
126     newMods["caps"] = modKeys[ui->capsBox->currentIndex()];
127     newMods["lshift"] = modKeys[ui->shiftBox->currentIndex()];
128     newMods["rshift"] = right(modKeys[ui->shiftBox->currentIndex()]);
129     newMods["lctrl"] = modKeys[ui->ctrlBox->currentIndex()];
130     newMods["rctrl"] = right(modKeys[ui->ctrlBox->currentIndex()]);
131     newMods["lalt"] = modKeys[ui->altBox->currentIndex()];
132     newMods["ralt"] = right(modKeys[ui->altBox->currentIndex()]);
133     newMods["lwin"] = modKeys[ui->winBox->currentIndex()];
134     newMods["rwin"] = right(modKeys[ui->winBox->currentIndex()]);
135     KbBind::setGlobalRemap(newMods);
136     KbBind::saveGlobalRemap();
137 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.83.4 Friends And Related Function Documentation

12.83.4.1 friend class MainWindow [friend]

Definition at line 44 of file settingswidget.h.

12.83.5 Field Documentation

12.83.5.1 ExtraSettingsWidget* SettingsWidget::extra [private]

Definition at line 46 of file settingswidget.h.

Referenced by on_extraButton_clicked(), pollUpdates(), and SettingsWidget().

12.83.5.2 Ui::SettingsWidget* SettingsWidget::ui [private]

Definition at line 43 of file settingswidget.h.

Referenced by setStatus(), SettingsWidget(), setVersion(), showLayoutDialog(), updateModifiers(), and ~SettingsWidget().

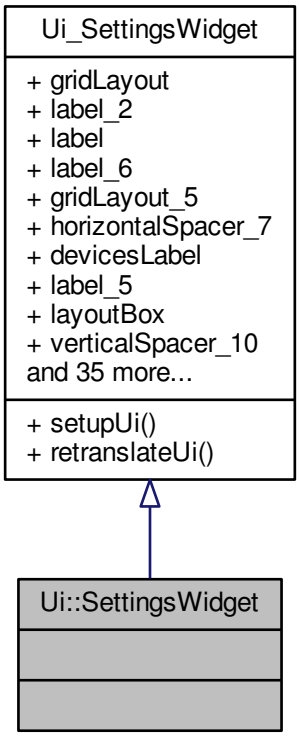
The documentation for this class was generated from the following files:

- src/ckb/settingswidget.h
- src/ckb/settingswidget.cpp

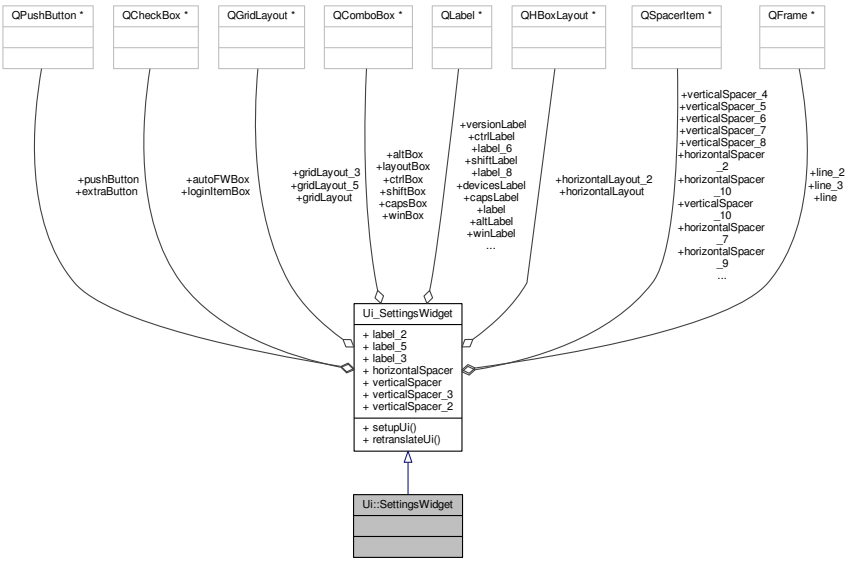
12.84 Ui::SettingsWidget Class Reference

`#include <src/ckb/ui_settingswidget.h>`

Inheritance diagram for Ui::SettingsWidget:



Collaboration diagram for Ui::SettingsWidget:



Public Member Functions

- void setupUi (QWidget *SettingsWidget)
- void retranslateUi (QWidget *SettingsWidget)

Data Fields

- QGridLayout * gridLayout
- QLabel * label_2
- QLabel * label
- QLabel * label_6
- QGridLayout * gridLayout_5
- QSpacerItem * horizontalSpacer_7
- QLabel * devicesLabel
- QLabel * label_5
- QComboBox * layoutBox
- QSpacerItem * verticalSpacer_10
- QHBoxLayout * horizontalLayout_2
- QLabel * label_3
- QSpacerItem * horizontalSpacer
- QPushButton * pushButton
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_8
- QCheckBox * loginItemBox
- QSpacerItem * verticalSpacer_6
- QCheckBox * autoFWBox
- QFrame * line_2
- QLabel * label_8
- QGridLayout * gridLayout_3
- QLabel * shiftLabel
- QLabel * capsLabel

- QSpacerItem * horizontalSpacer_10
- QComboBox * capsBox
- QLabel * ctrlLabel
- QSpacerItem * horizontalSpacer_9
- QComboBox * ctrlBox
- QComboBox * shiftBox
- QLabel * winLabel
- QComboBox * winBox
- QComboBox * altBox
- QLabel * altLabel
- QFrame * line
- QSpacerItem * verticalSpacer_3
- QSpacerItem * verticalSpacer_5
- QFrame * line_3
- QSpacerItem * verticalSpacer_4
- QSpacerItem * verticalSpacer_2
- QLabel * versionLabel
- QHBoxLayout * horizontalLayout
- QPushButton * extraButton
- QSpacerItem * horizontalSpacer_2
- QSpacerItem * verticalSpacer_7

12.84.1 Detailed Description

Definition at line 378 of file ui_settingswidget.h.

12.84.2 Member Function Documentation

12.84.2.1 void Ui_SettingsWidget::retranslateUi (QWidget * *SettingsWidget*) [inline], [inherited]

Definition at line 347 of file ui_settingswidget.h.

References Ui_SettingsWidget::altLabel, Ui_SettingsWidget::autoFWBox, Ui_SettingsWidget::capsLabel, Ui_SettingsWidget::ctrlLabel, Ui_SettingsWidget::devicesLabel, Ui_SettingsWidget::extraButton, Ui_SettingsWidget::label, Ui_SettingsWidget::label_2, Ui_SettingsWidget::label_3, Ui_SettingsWidget::label_5, Ui_SettingsWidget::label_6, Ui_SettingsWidget::label_8, Ui_SettingsWidget::loginItemBox, Ui_SettingsWidget::pushButton, Ui_SettingsWidget::shiftLabel, Ui_SettingsWidget::versionLabel, and Ui_SettingsWidget::winLabel.

Referenced by Ui_SettingsWidget::setupUi().

```
348     {
349         SettingsWidget->setWindowTitle(QApplication::translate("SettingsWidget", "Form", Q_NULLPTR));
350         label_2->setText(QApplication::translate("SettingsWidget", "\302\251 2014-2016 <a href=\"
      https://github.com/ccMSC/\" style=\"text-decoration:none;\">ccMSC</a>.<br/>\302\251 2017 <a href=\"
      https://github.com/mattanger/ckb-next/graphs/contributors\" style=\"text-decoration:none;\">The ckb-next development
       team</a>.", Q_NULLPTR));
351         label->setText(QApplication::translate("SettingsWidget", "Modifier keys", Q_NULLPTR));
352         label_6->setText(QApplication::translate("SettingsWidget", "Application", Q_NULLPTR));
353         devicesLabel->setText(QApplication::translate("SettingsWidget", "No devices connected",
       Q_NULLPTR));
354         label_5->setText(QApplication::translate("SettingsWidget", "Keyboard layout:", Q_NULLPTR));
355         label_3->setText(QApplication::translate("SettingsWidget", "<a href=\"
      https://github.com/mattanger/ckb-next\" style=\"text-decoration:none;\">https://github.com/mattanger/ckb-next</a>", Q_NU
356         pushButton->setText(QApplication::translate("SettingsWidget", "Quit", Q_NULLPTR));
357 #ifndef QT_NO_TOOLTIP
358         loginItemBox->setToolTip(QApplication::translate("SettingsWidget", "ckb-next will be
      started when you log in to your computer.", Q_NULLPTR));
359 #endif // QT_NO_TOOLTIP
360         loginItemBox->setText(QApplication::translate("SettingsWidget", "Start ckb-next at
      login", Q_NULLPTR));
361 #ifndef QT_NO_TOOLTIP
362         autoFWBox->setToolTip(QApplication::translate("SettingsWidget", "You will be notified when
      new firmware versions are available. You'll have the option to install them immediately or wait until
      later.", Q_NULLPTR));
```

```
363 #endif // QT_NO_TOOLTIP
364         autoFWBox->setText(QApplication::translate("SettingsWidget", "Check for new firmware
    automatically", Q_NULLPTR));
365         label_8->setText(QApplication::translate("SettingsWidget", "These will override the keyboard
    profile. See \"Binding\" tab for more settings.", Q_NULLPTR));
366         shiftLabel->setText(QApplication::translate("SettingsWidget", "Shift:", Q_NULLPTR));
367         capsLabel->setText(QApplication::translate("SettingsWidget", "Caps Lock:", Q_NULLPTR));
368         ctrlLabel->setText(QApplication::translate("SettingsWidget", "Ctrl:", Q_NULLPTR));
369         winLabel->setText(QApplication::translate("SettingsWidget", "Windows:", Q_NULLPTR));
370         altLabel->setText(QApplication::translate("SettingsWidget", "Alt:", Q_NULLPTR));
371         versionLabel->setText(QApplication::translate("SettingsWidget", "ckb-next", Q_NULLPTR))
    ;
372         extraButton->setText(QApplication::translate("SettingsWidget", "More settings",
    Q_NULLPTR));
373     } // retranslateUi
```

Here is the caller graph for this function:

12.84.2.2 void Ui_SettingsWidget::setupUi (QWidget * *SettingsWidget*) [inline],[inherited]

Definition at line 78 of file ui_settingswidget.h.

References Ui_SettingsWidget::altBox, Ui_SettingsWidget::altLabel, Ui_SettingsWidget::autoFWBox, Ui_SettingsWidget::capsBox, Ui_SettingsWidget::capsLabel, Ui_SettingsWidget::ctrlBox, Ui_SettingsWidget::ctrlLabel, Ui_SettingsWidget::devicesLabel, Ui_SettingsWidget::extraButton, Ui_SettingsWidget::gridLayout, Ui_SettingsWidget::gridLayout_3, Ui_SettingsWidget::gridLayout_5, Ui_SettingsWidget::horizontalLayout, Ui_SettingsWidget::horizontalLayout_2, Ui_SettingsWidget::horizontalSpacer, Ui_SettingsWidget::horizontalSpacer_10, Ui_SettingsWidget::horizontalSpacer_2, Ui_SettingsWidget::horizontalSpacer_7, Ui_SettingsWidget::horizontalSpacer_9, Ui_SettingsWidget::label, Ui_SettingsWidget::label_2, Ui_SettingsWidget::label_3, Ui_SettingsWidget::label_5, Ui_SettingsWidget::label_6, Ui_SettingsWidget::label_8, Ui_SettingsWidget::layoutBox, Ui_SettingsWidget::line, Ui_SettingsWidget::line_2, Ui_SettingsWidget::line_3, Ui_SettingsWidget::loginItemBox, Ui_SettingsWidget::pushButton, Ui_SettingsWidget::retranslateUi(), Ui_SettingsWidget::shiftBox, Ui_SettingsWidget::shiftLabel, Ui_SettingsWidget::versionLabel, Ui_SettingsWidget::verticalSpacer, Ui_SettingsWidget::verticalSpacer_10, Ui_SettingsWidget::verticalSpacer_2, Ui_SettingsWidget::verticalSpacer_3, Ui_SettingsWidget::verticalSpacer_4, Ui_SettingsWidget::verticalSpacer_5, Ui_SettingsWidget::verticalSpacer_6, Ui_SettingsWidget::verticalSpacer_7, Ui_SettingsWidget::verticalSpacer_8, Ui_SettingsWidget::winBox, and Ui_SettingsWidget::winLabel.

Referenced by SettingsWidget::SettingsWidget().

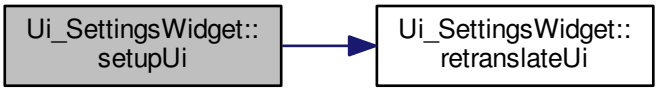
```
79     {
80         if (SettingsWidget->objectName().isEmpty())
81             SettingsWidget->setObjectName(QStringLiteral("SettingsWidget"));
82         SettingsWidget->resize(827, 654);
83         gridLayout = new QGridLayout(SettingsWidget);
84         gridLayout->setObjectName(QStringLiteral("gridLayout"));
85         label_2 = new QLabel(SettingsWidget);
86         label_2->setObjectName(QStringLiteral("label_2"));
87         label_2->setOpenExternalLinks(true);
88         label_2->setAlignment(Qt::AlignLeading|Qt::AlignLeft|Qt::AlignVCenter);
89
90         gridLayout->addWidget(label_2, 20, 0, 1, 2);
91
92         label = new QLabel(SettingsWidget);
93         label->setObjectName(QStringLiteral("label"));
94         QFont font;
95         font.setBold(true);
96         font.setWeight(75);
97         label->setFont(font);
98
99         gridLayout->addWidget(label, 6, 0, 1, 2);
100
```

```
101         label_6 = new QLabel(SettingsWidget);
102         label_6->setObjectName(QStringLiteral("label_6"));
103         label_6->setFont(font);
104 
105         gridLayout->addWidget(label_6, 12, 0, 1, 2);
106 
107         gridLayout_5 = new QGridLayout();
108         gridLayout_5->setObjectName(QStringLiteral("gridLayout_5"));
109         horizontalSpacer_7 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
110 
111         gridLayout_5->addItem(horizontalSpacer_7, 2, 2, 1, 1);
112 
113         devicesLabel = new QLabel(SettingsWidget);
114         devicesLabel->setObjectName(QStringLiteral("devicesLabel"));
115 
116         gridLayout_5->addWidget(devicesLabel, 0, 0, 1, 3);
117 
118         label_5 = new QLabel(SettingsWidget);
119         label_5->setObjectName(QStringLiteral("label_5"));
120 
121         gridLayout_5->addWidget(label_5, 2, 0, 1, 1);
122 
123         layoutBox = new QComboBox(SettingsWidget);
124         layoutBox->setObjectName(QStringLiteral("layoutBox"));
125 
126         gridLayout_5->addWidget(layoutBox, 2, 1, 1, 1);
127 
128         verticalSpacer_10 = new QSpacerItem(20, 6, QSizePolicy::Minimum,
    QSizePolicy::Fixed);
129 
130         gridLayout_5->addItem(verticalSpacer_10, 1, 0, 1, 1);
131 
132 
133         gridLayout->addLayout(gridLayout_5, 4, 1, 1, 1);
134 
135         horizontalLayout_2 = new QHBoxLayout();
136         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
137         label_3 = new QLabel(SettingsWidget);
138         label_3->setObjectName(QStringLiteral("label_3"));
139         label_3->setOpenExternalLinks(true);
140 
141         horizontalLayout_2->addWidget(label_3);
142 
143         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
144 
145         horizontalLayout_2->addItem(horizontalSpacer);
146 
147         pushButton = new QPushButton(SettingsWidget);
148         pushButton->setObjectName(QStringLiteral("pushButton"));
149         pushButton->setFlat(false);
150 
151         horizontalLayout_2->addWidget(pushButton);
152 
153 
154         gridLayout->addLayout(horizontalLayout_2, 21, 0, 1, 2);
155 
156         verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
157 
158         gridLayout->addItem(verticalSpacer, 19, 0, 1, 2);
159 
160         verticalSpacer_8 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
161 
162         gridLayout->addItem(verticalSpacer_8, 16, 0, 1, 1);
163 
164         loginItemBox = new QCheckBox(SettingsWidget);
165         loginItemBox->setObjectName(QStringLiteral("loginItemBox"));
166 
167         gridLayout->addWidget(loginItemBox, 16, 1, 1, 1);
168 
169         verticalSpacer_6 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
170 
171         gridLayout->addItem(verticalSpacer_6, 15, 0, 1, 1);
172 
173         autoFWBox = new QCheckBox(SettingsWidget);
174         autoFWBox->setObjectName(QStringLiteral("autoFWBox"));
175         autoFWBox->setChecked(true);
176 
177         gridLayout->addWidget(autoFWBox, 15, 1, 1, 1);
178 
179         line_2 = new QFrame(SettingsWidget);
180         line_2->setObjectName(QStringLiteral("line_2"));
181         line_2->setFrameShape(QFrame::HLine);
```

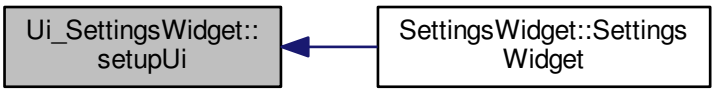
```
182         line_2->setFrameShadow(QFrame::Sunken);
183 
184         gridLayout->addWidget(line_2, 13, 0, 1, 2);
185 
186         label_8 = new QLabel(SettingsWidget);
187         label_8->setObjectName(QStringLiteral("label_8"));
188         QFont font1;
189         font1.setItalic(true);
190         label_8->setFont(font1);
191 
192         gridLayout->addWidget(label_8, 8, 1, 1, 1);
193 
194         gridLayout_3 = new QGridLayout();
195         gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
196         shiftLabel = new QLabel(SettingsWidget);
197         shiftLabel->setObjectName(QStringLiteral("shiftLabel"));
198         QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
199         sizePolicy.setHorizontalStretch(0);
200         sizePolicy.setVerticalStretch(0);
201         sizePolicy.setHeightForWidth(shiftLabel->sizePolicy().hasHeightForWidth());
202         shiftLabel->setSizePolicy(sizePolicy);
203         shiftLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
204 
205         gridLayout_3->addWidget(shiftLabel, 0, 3, 1, 1);
206 
207         capsLabel = new QLabel(SettingsWidget);
208         capsLabel->setObjectName(QStringLiteral("capsLabel"));
209         capsLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
210 
211         gridLayout_3->addWidget(capsLabel, 0, 1, 1, 1);
212 
213         horizontalSpacer_10 = new QSpacerItem(0, 0, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
214 
215         gridLayout_3->addItem(horizontalSpacer_10, 0, 0, 1, 1);
216 
217         capsBox = new QComboBox(SettingsWidget);
218         capsBox->setObjectName(QStringLiteral("capsBox"));
219         QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Fixed);
220         sizePolicy1.setHorizontalStretch(0);
221         sizePolicy1.setVerticalStretch(0);
222         sizePolicy1.setHeightForWidth(capsBox->sizePolicy().hasHeightForWidth());
223         capsBox->setSizePolicy(sizePolicy1);
224 
225         gridLayout_3->addWidget(capsBox, 0, 2, 1, 1);
226 
227         ctrlLabel = new QLabel(SettingsWidget);
228         ctrlLabel->setObjectName(QStringLiteral("ctrlLabel"));
229         ctrlLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
230 
231         gridLayout_3->addWidget(ctrlLabel, 1, 1, 1, 1);
232 
233         horizontalSpacer_9 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
234 
235         gridLayout_3->addItem(horizontalSpacer_9, 1, 7, 1, 1);
236 
237         ctrlBox = new QComboBox(SettingsWidget);
238         ctrlBox->setObjectName(QStringLiteral("ctrlBox"));
239 
240         gridLayout_3->addWidget(ctrlBox, 1, 2, 1, 1);
241 
242         shiftBox = new QComboBox(SettingsWidget);
243         shiftBox->setObjectName(QStringLiteral("shiftBox"));
244         sizePolicy1.setHeightForWidth(shiftBox->sizePolicy().hasHeightForWidth());
245         shiftBox->setSizePolicy(sizePolicy1);
246 
247         gridLayout_3->addWidget(shiftBox, 0, 4, 1, 1);
248 
249         winLabel = new QLabel(SettingsWidget);
250         winLabel->setObjectName(QStringLiteral("winLabel"));
251         sizePolicy.setHeightForWidth(winLabel->sizePolicy().hasHeightForWidth());
252         winLabel->setSizePolicy(sizePolicy);
253         winLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
254 
255         gridLayout_3->addWidget(winLabel, 1, 3, 1, 1);
256 
257         winBox = new QComboBox(SettingsWidget);
258         winBox->setObjectName(QStringLiteral("winBox"));
259         sizePolicy1.setHeightForWidth(winBox->sizePolicy().hasHeightForWidth());
260         winBox->setSizePolicy(sizePolicy1);
261 
262         gridLayout_3->addWidget(winBox, 1, 4, 1, 1);
263 
264         altBox = new QComboBox(SettingsWidget);
265         altBox->setObjectName(QStringLiteral("altBox"));
266         sizePolicy1.setHeightForWidth(altBox->sizePolicy().hasHeightForWidth());
```

```
267         altBox->setSizePolicy(sizePolicy1);
268
269         gridLayout_3->addWidget(altBox, 1, 6, 1, 1);
270
271         altLabel = new QLabel(SettingsWidget);
272         altLabel->setObjectName(QStringLiteral("altLabel"));
273         sizePolicy.setHeightForWidth(altLabel->sizePolicy().hasHeightForWidth());
274         altLabel->setSizePolicy(sizePolicy);
275         altLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
276
277         gridLayout_3->addWidget(altLabel, 1, 5, 1, 1);
278
279
280         gridLayout->addLayout(gridLayout_3, 10, 1, 1, 1);
281
282         line = new QFrame(SettingsWidget);
283         line->setObjectName(QStringLiteral("line"));
284         line->setFrameShape(QFrame::HLine);
285         line->setFrameShadow(QFrame::Sunken);
286
287         gridLayout->addWidget(line, 1, 0, 1, 2);
288
289         verticalSpacer_3 = new QSpacerItem(0, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);
290
291         gridLayout->addItem(verticalSpacer_3, 2, 1, 1, 1);
292
293         verticalSpacer_5 = new QSpacerItem(20, 12, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
294
295         gridLayout->addItem(verticalSpacer_5, 11, 1, 1, 1);
296
297         line_3 = new QFrame(SettingsWidget);
298         line_3->setObjectName(QStringLiteral("line_3"));
299         QSizePolicy sizePolicy2(QSizePolicy::Minimum, QSizePolicy::Fixed);
300         sizePolicy2.setHorizontalStretch(0);
301         sizePolicy2.setVerticalStretch(0);
302         sizePolicy2.setHeightForWidth(line_3->sizePolicy().hasHeightForWidth());
303         line_3->setSizePolicy(sizePolicy2);
304         line_3->setFrameShape(QFrame::HLine);
305         line_3->setFrameShadow(QFrame::Sunken);
306
307         gridLayout->addWidget(line_3, 7, 0, 1, 2);
308
309         verticalSpacer_4 = new QSpacerItem(20, 6, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
310
311         gridLayout->addItem(verticalSpacer_4, 9, 1, 1, 1);
312
313         verticalSpacer_2 = new QSpacerItem(20, 12, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
314
315         gridLayout->addItem(verticalSpacer_2, 5, 1, 1, 1);
316
317         versionLabel = new QLabel(SettingsWidget);
318         versionLabel->setObjectName(QStringLiteral("versionLabel"));
319         versionLabel->setFont(font);
320
321         gridLayout->addWidget(versionLabel, 0, 0, 1, 2);
322
323         horizontalLayout = new QHBoxLayout();
324         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
325         extraButton = new QPushButton(SettingsWidget);
326         extraButton->setObjectName(QStringLiteral("extraButton"));
327
328         horizontalLayout->addWidget(extraButton);
329
330         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
331
332         horizontalLayout->addItem(horizontalSpacer_2);
333
334
335         gridLayout->addLayout(horizontalLayout, 17, 1, 1, 1);
336
337         verticalSpacer_7 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
338
339         gridLayout->addItem(verticalSpacer_7, 17, 0, 1, 1);
340
341
342         retranslateUi(SettingsWidget);
343
344         QMetaObject::connectSlotsByName(SettingsWidget);
345     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.84.3 Field Documentation

12.84.3.1 QComboBox* Ui_SettingsWidget::altBox [inherited]

Definition at line 64 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), Ui_SettingsWidget::setupUi(), and SettingsWidget::updateModifiers().

12.84.3.2 QLabel* Ui_SettingsWidget::altLabel [inherited]

Definition at line 65 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.3 QCheckBox* Ui_SettingsWidget::autoFWBox [inherited]

Definition at line 50 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), SettingsWidget::SettingsWidget(), and Ui_SettingsWidget::setupUi().

12.84.3.4 QComboBox* Ui_SettingsWidget::capsBox [inherited]

Definition at line 57 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), Ui_SettingsWidget::setupUi(), and SettingsWidget::updateModifiers().

12.84.3.5 QLabel* Ui_SettingsWidget::capsLabel [inherited]

Definition at line 55 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.6 QComboBox* Ui_SettingsWidget::ctrlBox [inherited]

Definition at line 60 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), Ui_SettingsWidget::setupUi(), and SettingsWidget::updateModifiers().

12.84.3.7 QLabel* Ui_SettingsWidget::ctrlLabel [inherited]

Definition at line 58 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.8 QLabel* Ui_SettingsWidget::devicesLabel [inherited]

Definition at line 38 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), SettingsWidget::setStatus(), and Ui_SettingsWidget::setupUi().

12.84.3.9 QPushButton* Ui_SettingsWidget::extraButton [inherited]

Definition at line 74 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.10 QGridLayout* Ui_SettingsWidget::gridLayout [inherited]

Definition at line 32 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.11 QGridLayout* Ui_SettingsWidget::gridLayout_3 [inherited]

Definition at line 53 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.12 QGridLayout* Ui_SettingsWidget::gridLayout_5 [inherited]

Definition at line 36 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.13 QHBoxLayout* Ui_SettingsWidget::horizontalLayout [inherited]

Definition at line 73 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.14 QHBoxLayout* Ui_SettingsWidget::horizontalLayout_2 [inherited]

Definition at line 42 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.15 QSpacerItem* Ui_SettingsWidget::horizontalSpacer [inherited]

Definition at line 44 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.16 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_10 [inherited]

Definition at line 56 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.17 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_2 [inherited]

Definition at line 75 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.18 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_7 [inherited]

Definition at line 37 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.19 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_9 [inherited]

Definition at line 59 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.20 QLabel* Ui_SettingsWidget::label [inherited]

Definition at line 34 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.21 QLabel* Ui_SettingsWidget::label_2 [inherited]

Definition at line 33 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.22 QLabel* Ui_SettingsWidget::label_3 [inherited]

Definition at line 43 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.23 QLabel* Ui_SettingsWidget::label_5 [inherited]

Definition at line 39 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.24 QLabel* Ui_SettingsWidget::label_6 [inherited]

Definition at line 35 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.25 QLabel* Ui_SettingsWidget::label_8 [inherited]

Definition at line 52 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.26 QComboBox* Ui_SettingsWidget::layoutBox [inherited]

Definition at line 40 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), Ui_SettingsWidget::setupUi(), and SettingsWidget::showLayout-Dialog().

12.84.3.27 QFrame* Ui_SettingsWidget::line [inherited]

Definition at line 66 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.28 QFrame* Ui_SettingsWidget::line_2 [inherited]

Definition at line 51 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.29 QFrame* Ui_SettingsWidget::line_3 [inherited]

Definition at line 69 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.30 QCheckBox* Ui_SettingsWidget::loginItemBox [inherited]

Definition at line 48 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), SettingsWidget::SettingsWidget(), and Ui_SettingsWidget-::setupUi().

12.84.3.31 QPushButton* Ui_SettingsWidget::pushButton [inherited]

Definition at line 45 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.32 QComboBox* Ui_SettingsWidget::shiftBox [inherited]

Definition at line 61 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), Ui_SettingsWidget::setupUi(), and SettingsWidget::updateModifiers().

12.84.3.33 QLabel* Ui_SettingsWidget::shiftLabel [inherited]

Definition at line 54 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

12.84.3.34 QLabel* Ui_SettingsWidget::versionLabel [inherited]

Definition at line 72 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), Ui_SettingsWidget::setupUi(), and SettingsWidget::setVersion().

12.84.3.35 QSpacerItem* Ui_SettingsWidget::verticalSpacer [inherited]

Definition at line 46 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.36 QSpacerItem* Ui_SettingsWidget::verticalSpacer_10 [inherited]

Definition at line 41 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.37 QSpacerItem* Ui_SettingsWidget::verticalSpacer_2 [inherited]

Definition at line 71 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.38 QSpacerItem* Ui_SettingsWidget::verticalSpacer_3 [inherited]

Definition at line 67 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.39 QSpacerItem* Ui_SettingsWidget::verticalSpacer_4 [inherited]

Definition at line 70 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.40 QSpacerItem* Ui_SettingsWidget::verticalSpacer_5 [inherited]

Definition at line 68 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.41 QSpacerItem* Ui_SettingsWidget::verticalSpacer_6 [inherited]

Definition at line 49 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.42 QSpacerItem* Ui_SettingsWidget::verticalSpacer_7 [inherited]

Definition at line 76 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.43 QSpacerItem* Ui_SettingsWidget::verticalSpacer_8 [inherited]

Definition at line 47 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::setupUi().

12.84.3.44 QComboBox* Ui_SettingsWidget::winBox [inherited]

Definition at line 63 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), Ui_SettingsWidget::setupUi(), and SettingsWidget::updateModifiers().

12.84.3.45 QLabel* Ui_SettingsWidget::winLabel [inherited]

Definition at line 62 of file ui_settingswidget.h.

Referenced by Ui_SettingsWidget::retranslateUi(), and Ui_SettingsWidget::setupUi().

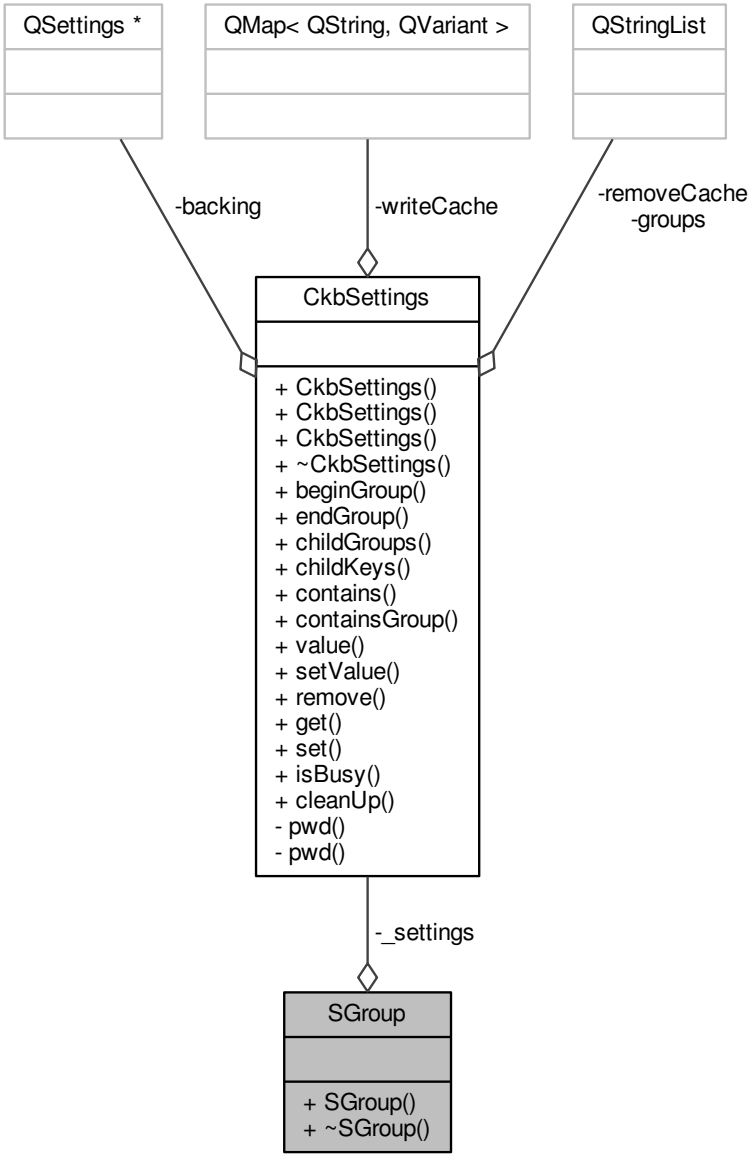
The documentation for this class was generated from the following file:

- src/ckb/ui_settingswidget.h

12.85 SGroup Class Reference

`#include <src/ckb/ckbsettings.h>`

Collaboration diagram for SGroup:



Public Member Functions

- SGroup (CkbSettings &settings, const QString &prefix)
- ~SGroup ()

Private Attributes

- CkbSettings & _settings

12.85.1 Detailed Description

Definition at line 57 of file ckbsettings.h.

12.85.2 Constructor & Destructor Documentation

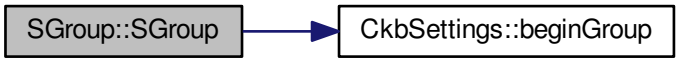
12.85.2.1 SGroup::SGroup (CkbSettings & *settings*, const QString & *prefix*) [inline]

Definition at line 60 of file ckbsettings.h.

References CkbSettings::beginGroup().

```
60 : _settings(settings) { settings.beginGroup(prefix); }
```

Here is the call graph for this function:



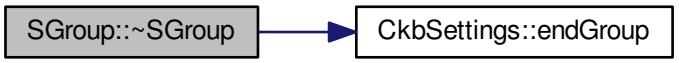
12.85.2.2 SGroup::~SGroup ( ) [inline]

Definition at line 61 of file ckbsettings.h.

References _settings, and CkbSettings::endGroup().

```
61 { _settings.endGroup(); }
```

Here is the call graph for this function:



12.85.3 Field Documentation

12.85.3.1 CkbSettings& SGroup::_settings [private]

Definition at line 64 of file ckbsettings.h.

Referenced by ~SGroup().

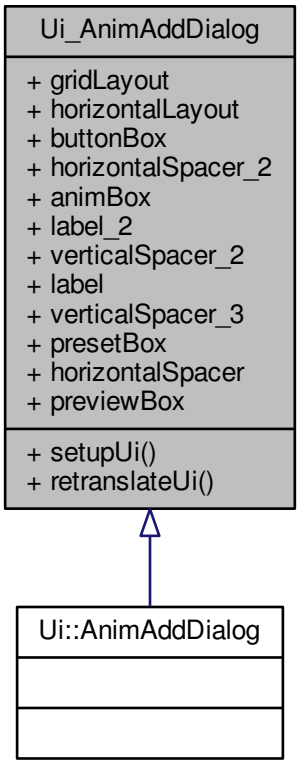
The documentation for this class was generated from the following file:

- src/ckb/ckbsettings.h

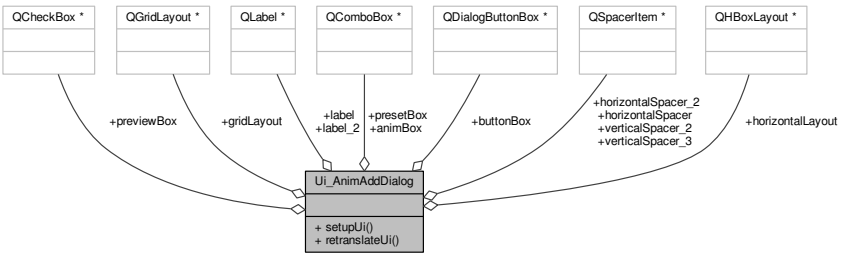
12.86 Ui_AnimAddDialog Class Reference

`#include <src/ckb/ui_animadddialog.h>`

Inheritance diagram for Ui_AnimAddDialog:



Collaboration diagram for Ui_AnimAddDialog:



Public Member Functions

- void setupUi (QDialog *AnimAddDialog)
- void retranslateUi (QDialog *AnimAddDialog)

Data Fields

- QGridLayout * gridLayout
- QHBoxLayout * horizontalLayout
- QDialogButtonBox * buttonBox
- QSpacerItem * horizontalSpacer_2
- QComboBox * animBox
- QLabel * label_2
- QSpacerItem * verticalSpacer_2
- QLabel * label
- QSpacerItem * verticalSpacer_3
- QComboBox * presetBox
- QSpacerItem * horizontalSpacer
- QCheckBox * previewBox

12.86.1 Detailed Description

Definition at line 28 of file ui_animadddialog.h.

12.86.2 Member Function Documentation

12.86.2.1 void Ui_AnimAddDialog::retranslateUi (QDialog * *AnimAddDialog*) [inline]

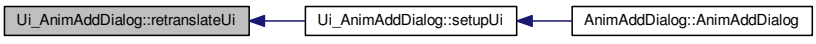
Definition at line 135 of file ui_animadddialog.h.

References label, label_2, and previewBox.

Referenced by setupUi().

```
136     {
137         AnimAddDialog->setWindowTitle(QApplication::translate("AnimAddDialog", "Add Animation", Q_NULLPTR))
    ;
138         label_2->setText(QApplication::translate("AnimAddDialog", "Preset:", Q_NULLPTR));
139         label->setText(QApplication::translate("AnimAddDialog", "Animation:", Q_NULLPTR));
140         previewBox->setText(QApplication::translate("AnimAddDialog", "Show preview", Q_NULLPTR));
141     } // retranslateUi
```

Here is the caller graph for this function:



12.86.2.2 void Ui_AnimAddDialog::setupUi (QDialog * *AnimAddDialog*) [inline]

Definition at line 44 of file ui_animadddialog.h.

References animBox, buttonBox, gridLayout, horizontalLayout, horizontalSpacer, horizontalSpacer_2, label, label_2, presetBox, previewBox, retranslateUi(), verticalSpacer_2, and verticalSpacer_3.

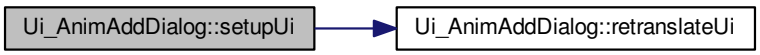
Referenced by AnimAddDialog::AnimAddDialog().

```
45     {
46         if (AnimAddDialog->objectName().isEmpty())
47             AnimAddDialog->setObjectName(QStringLiteral("AnimAddDialog"));
48         AnimAddDialog->resize(350, 205);
```

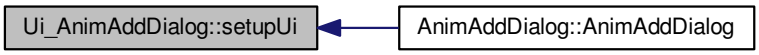
```
49          QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
50          sizePolicy.setHorizontalStretch(0);
51          sizePolicy.setVerticalStretch(0);
52          sizePolicy.setHeightForWidth(AnimAddDialog->sizePolicy().hasHeightForWidth());
53          AnimAddDialog->setSizePolicy(sizePolicy);
54          gridLayout = new QGridLayout(AnimAddDialog);
55          gridLayout->setObjectName(QStringLiteral("gridLayout"));
56          horizontalLayout = new QHBoxLayout();
57          horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
58          buttonBox = new QDialogButtonBox(AnimAddDialog);
59          buttonBox->setObjectName(QStringLiteral("buttonBox"));
60          buttonBox->setOrientation(Qt::Horizontal);
61          buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
62          buttonBox->setCenterButtons(false);
63
64          horizontalLayout->addWidget(buttonBox);
65
66
67          gridLayout->addLayout(horizontalLayout, 5, 0, 1, 4);
68
69          horizontalSpacer_2 = new QSpacerItem(50, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
70
71          gridLayout->addItem(horizontalSpacer_2, 1, 3, 1, 1);
72
73          animBox = new QComboBox(AnimAddDialog);
74          animBox->setObjectName(QStringLiteral("animBox"));
75          QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Fixed);
76          sizePolicy1.setHorizontalStretch(0);
77          sizePolicy1.setVerticalStretch(0);
78          sizePolicy1.setHeightForWidth(animBox->sizePolicy().hasHeightForWidth());
79          animBox->setSizePolicy(sizePolicy1);
80
81          gridLayout->addWidget(animBox, 1, 2, 1, 1);
82
83          label_2 = new QLabel(AnimAddDialog);
84          label_2->setObjectName(QStringLiteral("label_2"));
85          QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Preferred);
86          sizePolicy2.setHorizontalStretch(0);
87          sizePolicy2.setVerticalStretch(0);
88          sizePolicy2.setHeightForWidth(label_2->sizePolicy().hasHeightForWidth());
89          label_2->setSizePolicy(sizePolicy2);
90          label_2->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
91
92          gridLayout->addWidget(label_2, 2, 1, 1, 1);
93
94          verticalSpacer_2 = new QSpacerItem(20, 0, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
95
96          gridLayout->addItem(verticalSpacer_2, 4, 2, 1, 1);
97
98          label = new QLabel(AnimAddDialog);
99          label->setObjectName(QStringLiteral("label"));
100          sizePolicy2.setHeightForWidth(label->sizePolicy().hasHeightForWidth());
101          label->setSizePolicy(sizePolicy2);
102          label->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
103
104          gridLayout->addWidget(label, 1, 1, 1, 1);
105
106          verticalSpacer_3 = new QSpacerItem(20, 0, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
107
108          gridLayout->addItem(verticalSpacer_3, 0, 2, 1, 1);
109
110          presetBox = new QComboBox(AnimAddDialog);
111          presetBox->setObjectName(QStringLiteral("presetBox"));
112          sizePolicy1.setHeightForWidth(presetBox->sizePolicy().hasHeightForWidth());
113          presetBox->setSizePolicy(sizePolicy1);
114
115          gridLayout->addWidget(presetBox, 2, 2, 1, 1);
116
117          horizontalSpacer = new QSpacerItem(50, 20, QSizePolicy::Fixed, QSizePolicy::Minimum
    );
118
119          gridLayout->addItem(horizontalSpacer, 1, 0, 1, 1);
120
121          previewBox = new QCheckBox(AnimAddDialog);
122          previewBox->setObjectName(QStringLiteral("previewBox"));
123          previewBox->setChecked(true);
124
125          gridLayout->addWidget(previewBox, 3, 2, 1, 1);
126
127
128          retranslateUi(AnimAddDialog);
129          QObject::connect(buttonBox, SIGNAL(accepted()), AnimAddDialog, SLOT(accept()));
130          QObject::connect(buttonBox, SIGNAL(rejected()), AnimAddDialog, SLOT(reject()));
131
```

```
132         QMetaObject::connectSlotsByName(AnimAddDialog);
133     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.86.3 Field Documentation

12.86.3.1 QComboBox* Ui_AnimAddDialog::animBox

Definition at line 35 of file ui_animadddialog.h.

Referenced by AnimAddDialog::AnimAddDialog(), AnimAddDialog::chosenScript(), and setupUi().

12.86.3.2 QDialogButtonBox* Ui_AnimAddDialog::buttonBox

Definition at line 33 of file ui_animadddialog.h.

Referenced by setupUi().

12.86.3.3 QGridLayout* Ui_AnimAddDialog::gridLayout

Definition at line 31 of file ui_animadddialog.h.

Referenced by setupUi().

12.86.3.4 QHBoxLayout* Ui_AnimAddDialog::horizontalLayout

Definition at line 32 of file ui_animadddialog.h.

Referenced by setupUi().

12.86.3.5 QSpacerItem* Ui_AnimAddDialog::horizontalSpacer

Definition at line 41 of file ui_animadddialog.h.

Referenced by setupUi().

12.86.3.6 QSpacerItem* Ui_AnimAddDialog::horizontalSpacer_2

Definition at line 34 of file ui_animadddialog.h.

Referenced by setupUi().

12.86.3.7 QLabel* Ui_AnimAddDialog::label

Definition at line 38 of file ui_animadddialog.h.

Referenced by retranslateUi(), and setupUi().

12.86.3.8 QLabel* Ui_AnimAddDialog::label_2

Definition at line 36 of file ui_animadddialog.h.

Referenced by retranslateUi(), and setupUi().

12.86.3.9 QComboBox* Ui_AnimAddDialog::presetBox

Definition at line 40 of file ui_animadddialog.h.

Referenced by AnimAddDialog::chosenPreset(), AnimAddDialog::on_animBox_activated(), AnimAddDialog::on_previewBox_clicked(), and setupUi().

12.86.3.10 QCheckBox* Ui_AnimAddDialog::previewBox

Definition at line 42 of file ui_animadddialog.h.

Referenced by retranslateUi(), and setupUi().

12.86.3.11 QSpacerItem* Ui_AnimAddDialog::verticalSpacer_2

Definition at line 37 of file ui_animadddialog.h.

Referenced by setupUi().

12.86.3.12 QSpacerItem* Ui_AnimAddDialog::verticalSpacer_3

Definition at line 39 of file ui_animadddialog.h.

Referenced by setupUi().

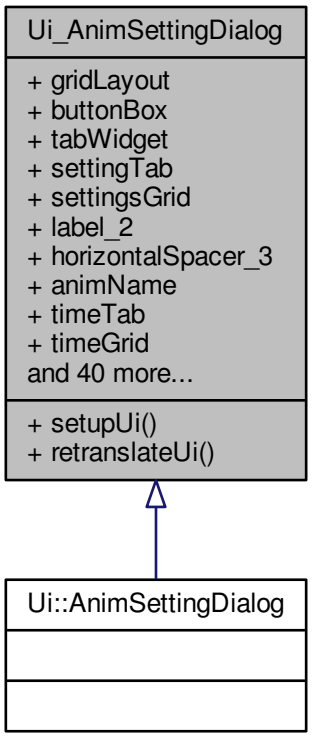
The documentation for this class was generated from the following file:

- src/ckb/ui_animadddialog.h

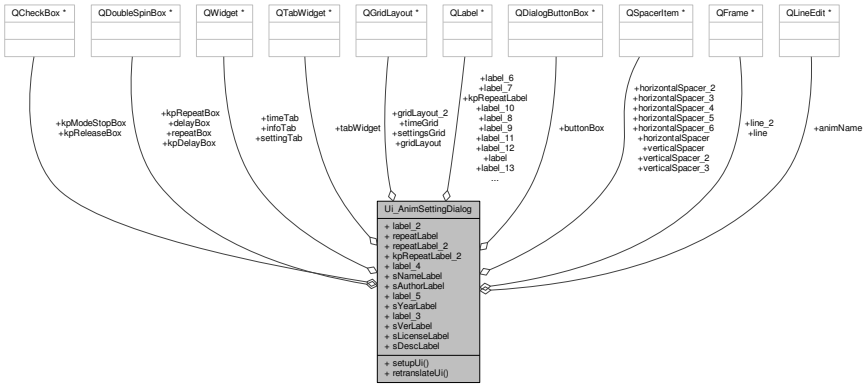
12.87 Ui_AnimSettingDialog Class Reference

`#include <src/ckb/ui_animsettingdialog.h>`

Inheritance diagram for Ui_AnimSettingDialog:



Collaboration diagram for Ui_AnimSettingDialog:



Public Member Functions

- void setupUi (QDialog *AnimSettingDialog)
- void retranslateUi (QDialog *AnimSettingDialog)

Data Fields

- QGridLayout * gridLayout
- QDialogButtonBox * buttonBox
- QTabWidget * tabWidget
- QWidget * settingTab
- QGridLayout * settingsGrid
- QLabel * label_2
- QSpacerItem * horizontalSpacer_3
- QLineEdit * animName
- QWidget * timeTab
- QGridLayout * timeGrid
- QSpacerItem * horizontalSpacer_5
- QLabel * kpRepeatLabel
- QLabel * repeatLabel
- QDoubleSpinBox * repeatBox
- QLabel * repeatLabel_2
- QFrame * line
- QLabel * kpRepeatLabel_2
- QLabel * label_4
- QLabel * label_8
- QDoubleSpinBox * kpDelayBox
- QLabel * label_13
- QLabel * label_12
- QDoubleSpinBox * delayBox
- QCheckBox * kpModeStopBox
- QLabel * label_10
- QSpacerItem * verticalSpacer_3
- QSpacerItem * horizontalSpacer_4
- QCheckBox * kpReleaseBox
- QLabel * label_6
- QDoubleSpinBox * kpRepeatBox
- QSpacerItem * verticalSpacer_2
- QFrame * line_2
- QSpacerItem * horizontalSpacer_6
- QWidget * infoTab
- QGridLayout * gridLayout_2
- QLabel * sNameLabel
- QLabel * label_7
- QLabel * label_11
- QLabel * sAuthorLabel
- QLabel * label_9
- QLabel * label_5
- QLabel * sYearLabel
- QLabel * label_3
- QSpacerItem * horizontalSpacer
- QSpacerItem * horizontalSpacer_2
- QLabel * sVerLabel
- QLabel * sLicenseLabel
- QLabel * label
- QSpacerItem * verticalSpacer
- QLabel * sDescLabel

12.87.1 Detailed Description

Definition at line 31 of file ui_animsettingdialog.h.

12.87.2 Member Function Documentation

12.87.2.1 void Ui_AnimSettingDialog::retranslateUi (QDialog * *AnimSettingDialog*) [inline]

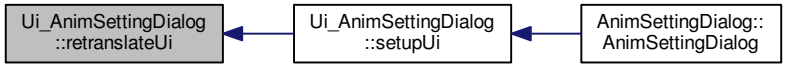
Definition at line 349 of file ui_animsettingdialog.h.

References infoTab, kpModeStopBox, kpReleaseBox, kpRepeatLabel, kpRepeatLabel_2, label, label_10, label_11, label_12, label_13, label_2, label_3, label_4, label_5, label_6, label_7, label_8, label_9, repeatLabel, repeatLabel_2, sAuthorLabel, sDescLabel, settingTab, sLicenseLabel, sNameLabel, sVerLabel, sYearLabel, tabWidget, and timeTab.

Referenced by setupUi().

```
350     {
351         AnimSettingDialog->setWindowTitle(QApplication::translate("AnimSettingDialog", "Dialog", Q_NULLPTR)
    );
352         label_2->setText(QApplication::translate("AnimSettingDialog", "Name:", Q_NULLPTR));
353         tabWidget->setTabText(tabWidget->indexOf(settingTab),
    QApplication::translate("AnimSettingDialog", "Settings", Q_NULLPTR));
354         kpRepeatLabel->setText(QApplication::translate("AnimSettingDialog", "Repeat every:",
    Q_NULLPTR));
355         repeatLabel->setText(QApplication::translate("AnimSettingDialog", "Repeat every:",
    Q_NULLPTR));
356         repeatLabel_2->setText(QApplication::translate("AnimSettingDialog", "seconds",
    Q_NULLPTR));
357         kpRepeatLabel_2->setText(QApplication::translate("AnimSettingDialog", "seconds",
    Q_NULLPTR));
358         label_4->setText(QApplication::translate("AnimSettingDialog", "<b>On mode start</b>",
    Q_NULLPTR));
359         label_8->setText(QApplication::translate("AnimSettingDialog", "seconds", Q_NULLPTR));
360         label_13->setText(QApplication::translate("AnimSettingDialog", "seconds", Q_NULLPTR));
361         label_12->setText(QApplication::translate("AnimSettingDialog", "Start delay:", Q_NULLPTR));
362         kpModeStopBox->setText(QApplication::translate("AnimSettingDialog", "Stop on key press
    ", Q_NULLPTR));
363         label_10->setText(QApplication::translate("AnimSettingDialog", "Start delay:", Q_NULLPTR));
364         kpReleaseBox->setText(QApplication::translate("AnimSettingDialog", "Stop on key release
    ", Q_NULLPTR));
365         label_6->setText(QApplication::translate("AnimSettingDialog", "<b>On key press</b>",
    Q_NULLPTR));
366         tabWidget->setTabText(tabWidget->indexOf(timeTab), QApplication::translate
    ("AnimSettingDialog", "Timing", Q_NULLPTR));
367         sNameLabel->setText(QApplication::translate("AnimSettingDialog", "Name", Q_NULLPTR));
368         label_7->setText(QApplication::translate("AnimSettingDialog", "Year:", Q_NULLPTR));
369         label_11->setText(QApplication::translate("AnimSettingDialog", "Description:", Q_NULLPTR));
370         sAuthorLabel->setText(QApplication::translate("AnimSettingDialog", "Author", Q_NULLPTR)
    );
371         label_9->setText(QApplication::translate("AnimSettingDialog", "License:", Q_NULLPTR));
372         label_5->setText(QApplication::translate("AnimSettingDialog", "Version:", Q_NULLPTR));
373         sYearLabel->setText(QApplication::translate("AnimSettingDialog", "Year", Q_NULLPTR));
374         label_3->setText(QApplication::translate("AnimSettingDialog", "Author:", Q_NULLPTR));
375         sVerLabel->setText(QApplication::translate("AnimSettingDialog", "Version", Q_NULLPTR));
376         sLicenseLabel->setText(QApplication::translate("AnimSettingDialog", "License",
    Q_NULLPTR));
377         label->setText(QApplication::translate("AnimSettingDialog", "Script name:", Q_NULLPTR));
378         sDescLabel->setText(QApplication::translate("AnimSettingDialog", "Description", Q_NULLPTR
    ));
379         tabWidget->setTabText(tabWidget->indexOf(infoTab), QApplication::translate
    ("AnimSettingDialog", "About", Q_NULLPTR));
380     } // retranslateUi
```

Here is the caller graph for this function:



12.87.2.2 void Ui_AnimSettingDialog::setupUi (QDialog * *AnimSettingDialog*) [inline]

Definition at line 85 of file ui_animsettingdialog.h.

References animName, buttonBox, delayBox, gridLayout, gridLayout_2, horizontalSpacer, horizontalSpacer_2, horizontalSpacer_3, horizontalSpacer_4, horizontalSpacer_5, horizontalSpacer_6, infoTab, kpDelayBox, kpModeStopBox, kpReleaseBox, kpRepeatBox, kpRepeatLabel, kpRepeatLabel_2, label, label_10, label_11, label_12, label_13, label_2, label_3, label_4, label_5, label_6, label_7, label_8, label_9, line, line_2, repeatBox, repeatLabel, repeatLabel_2, retranslateUi(), sAuthorLabel, sDescLabel, settingsGrid, settingTab, sLicenseLabel, sNameLabel, sVerLabel, sYearLabel, tabWidget, timeGrid, timeTab, verticalSpacer, verticalSpacer_2, and verticalSpacer_3.

Referenced by AnimSettingDialog::AnimSettingDialog().

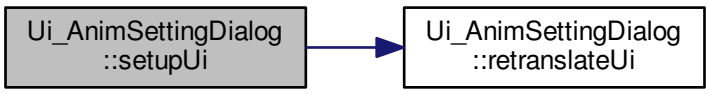
```
86     {
87         if (AnimSettingDialog->objectName().isEmpty())
88             AnimSettingDialog->setObjectName(QStringLiteral("AnimSettingDialog"));
89         AnimSettingDialog->resize(480, 457);
90         AnimSettingDialog->setMinimumSize(QSize(480, 0));
91         AnimSettingDialog->setFocusPolicy(Qt::ClickFocus);
92         gridLayout = new QGridLayout(AnimSettingDialog);
93         gridLayout->setObjectName(QStringLiteral("gridLayout"));
94         buttonBox = new QDialogButtonBox(AnimSettingDialog);
95         buttonBox->setObjectName(QStringLiteral("buttonBox"));
96         buttonBox->setOrientation(Qt::Horizontal);
97         buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
98 
99         gridLayout->addWidget(buttonBox, 2, 0, 1, 1);
100 
101         tabWidget = new QTabWidget(AnimSettingDialog);
102         tabWidget->setObjectName(QStringLiteral("tabWidget"));
103         settingTab = new QWidget();
104         settingTab->setObjectName(QStringLiteral("settingTab"));
105         settingsGrid = new QGridLayout(settingTab);
106         settingsGrid->setSpacing(12);
107         settingsGrid->setObjectName(QStringLiteral("settingsGrid"));
108         settingsGrid->setContentsMargins(12, 12, 12, 12);
109         label_2 = new QLabel(settingTab);
110         label_2->setObjectName(QStringLiteral("label_2"));
111 
112         settingsGrid->addWidget(label_2, 0, 1, 1, 1);
113 
114         horizontalSpacer_3 = new QSpacerItem(5, 0, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
115 
116         settingsGrid->addItem(horizontalSpacer_3, 0, 2, 1, 1);
117 
118         animName = new QLineEdit(settingTab);
119         animName->setObjectName(QStringLiteral("animName"));
120 
121         settingsGrid->addWidget(animName, 0, 3, 1, 3);
122 
123         tabWidget->addTab(settingTab, QString());
124         timeTab = new QWidget();
125         timeTab->setObjectName(QStringLiteral("timeTab"));
126         timeGrid = new QGridLayout(timeTab);
127         timeGrid->setSpacing(12);
128         timeGrid->setObjectName(QStringLiteral("timeGrid"));
129         timeGrid->setContentsMargins(12, 12, 12, 12);
130         horizontalSpacer_5 = new QSpacerItem(15, 0, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
131 
132         timeGrid->addItem(horizontalSpacer_5, 3, 2, 1, 1);
133 
134         kpRepeatLabel = new QLabel(timeTab);
135         kpRepeatLabel->setObjectName(QStringLiteral("kpRepeatLabel"));
136 
137         timeGrid->addWidget(kpRepeatLabel, 11, 1, 1, 1);
138 
139         repeatLabel = new QLabel(timeTab);
140         repeatLabel->setObjectName(QStringLiteral("repeatLabel"));
141 
142         timeGrid->addWidget(repeatLabel, 3, 1, 1, 1);
143 
144         repeatBox = new QDoubleSpinBox(timeTab);
145         repeatBox->setObjectName(QStringLiteral("repeatBox"));
146         repeatBox->setDecimals(1);
147         repeatBox->setMinimum(0.1);
148         repeatBox->setMaximum(86400);
149 
150         timeGrid->addWidget(repeatBox, 3, 3, 1, 1);
151 
152         repeatLabel_2 = new QLabel(timeTab);
153         repeatLabel_2->setObjectName(QStringLiteral("repeatLabel_2"));
```

```
154
155         timeGrid->addWidget(repeatLabel_2, 3, 4, 1, 1);
156
157         line = new QFrame(timeTab);
158         line->setObjectName(QStringLiteral("line"));
159         line->setFrameShape(QFrame::HLine);
160         line->setFrameShadow(QFrame::Sunken);
161
162         timeGrid->addWidget(line, 1, 0, 1, 6);
163
164         kpRepeatLabel_2 = new QLabel(timeTab);
165         kpRepeatLabel_2->setObjectName(QStringLiteral("kpRepeatLabel_2"));
166
167         timeGrid->addWidget(kpRepeatLabel_2, 11, 4, 1, 1);
168
169         label_4 = new QLabel(timeTab);
170         label_4->setObjectName(QStringLiteral("label_4"));
171
172         timeGrid->addWidget(label_4, 0, 0, 1, 6);
173
174         label_8 = new QLabel(timeTab);
175         label_8->setObjectName(QStringLiteral("label_8"));
176
177         timeGrid->addWidget(label_8, 2, 4, 1, 1);
178
179         kpDelayBox = new QDoubleSpinBox(timeTab);
180         kpDelayBox->setObjectName(QStringLiteral("kpDelayBox"));
181         kpDelayBox->setDecimals(1);
182         kpDelayBox->setMaximum(86400);
183
184         timeGrid->addWidget(kpDelayBox, 10, 3, 1, 1);
185
186         label_13 = new QLabel(timeTab);
187         label_13->setObjectName(QStringLiteral("label_13"));
188
189         timeGrid->addWidget(label_13, 10, 4, 1, 1);
190
191         label_12 = new QLabel(timeTab);
192         label_12->setObjectName(QStringLiteral("label_12"));
193
194         timeGrid->addWidget(label_12, 10, 1, 1, 1);
195
196         delayBox = new QDoubleSpinBox(timeTab);
197         delayBox->setObjectName(QStringLiteral("delayBox"));
198         delayBox->setDecimals(1);
199         delayBox->setMaximum(86400);
200
201         timeGrid->addWidget(delayBox, 2, 3, 1, 1);
202
203         kpModeStopBox = new QCheckBox(timeTab);
204         kpModeStopBox->setObjectName(QStringLiteral("kpModeStopBox"));
205
206         timeGrid->addWidget(kpModeStopBox, 5, 1, 1, 3);
207
208         label_10 = new QLabel(timeTab);
209         label_10->setObjectName(QStringLiteral("label_10"));
210
211         timeGrid->addWidget(label_10, 2, 1, 1, 1);
212
213         verticalSpacer_3 = new QSpacerItem(0, 10, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
214
215         timeGrid->addItem(verticalSpacer_3, 7, 1, 1, 1);
216
217         horizontalSpacer_4 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
218
219         timeGrid->addItem(horizontalSpacer_4, 2, 5, 1, 1);
220
221         kpReleaseBox = new QCheckBox(timeTab);
222         kpReleaseBox->setObjectName(QStringLiteral("kpReleaseBox"));
223
224         timeGrid->addWidget(kpReleaseBox, 14, 1, 1, 3);
225
226         label_6 = new QLabel(timeTab);
227         label_6->setObjectName(QStringLiteral("label_6"));
228
229         timeGrid->addWidget(label_6, 8, 0, 1, 6);
230
231         kpRepeatBox = new QDoubleSpinBox(timeTab);
232         kpRepeatBox->setObjectName(QStringLiteral("kpRepeatBox"));
233         kpRepeatBox->setDecimals(1);
234         kpRepeatBox->setMinimum(0.1);
235         kpRepeatBox->setMaximum(86400);
236
237         timeGrid->addWidget(kpRepeatBox, 11, 3, 1, 1);
238
```

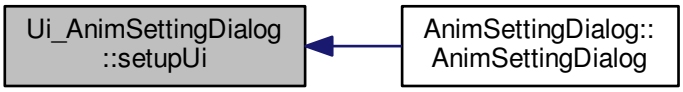
```
239         verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
240
241         timeGrid->addItem(verticalSpacer_2, 15, 1, 1, 1);
242
243         line_2 = new QFrame(timeTab);
244         line_2->setObjectName(QStringLiteral("line_2"));
245         line_2->setFrameShape(QFrame::HLine);
246         line_2->setFrameShadow(QFrame::Sunken);
247
248         timeGrid->addWidget(line_2, 9, 0, 1, 6);
249
250         horizontalSpacer_6 = new QSpacerItem(0, 0, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
251
252         timeGrid->addItem(horizontalSpacer_6, 12, 2, 1, 1);
253
254         tabWidget->addTab(timeTab, QString());
255         infoTab = new QWidget();
256         infoTab->setObjectName(QStringLiteral("infoTab"));
257         gridLayout_2 = new QGridLayout(infoTab);
258         gridLayout_2->setSpacing(12);
259         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
260         gridLayout_2->setContentsMargins(12, 12, 12, 12);
261         sNameLabel = new QLabel(infoTab);
262         sNameLabel->setObjectName(QStringLiteral("sNameLabel"));
263
264         gridLayout_2->addWidget(sNameLabel, 0, 2, 1, 1);
265
266         label_7 = new QLabel(infoTab);
267         label_7->setObjectName(QStringLiteral("label_7"));
268
269         gridLayout_2->addWidget(label_7, 3, 0, 1, 1);
270
271         label_11 = new QLabel(infoTab);
272         label_11->setObjectName(QStringLiteral("label_11"));
273
274         gridLayout_2->addWidget(label_11, 5, 0, 1, 1);
275
276         sAuthorLabel = new QLabel(infoTab);
277         sAuthorLabel->setObjectName(QStringLiteral("sAuthorLabel"));
278
279         gridLayout_2->addWidget(sAuthorLabel, 2, 2, 1, 1);
280
281         label_9 = new QLabel(infoTab);
282         label_9->setObjectName(QStringLiteral("label_9"));
283
284         gridLayout_2->addWidget(label_9, 4, 0, 1, 1);
285
286         label_5 = new QLabel(infoTab);
287         label_5->setObjectName(QStringLiteral("label_5"));
288
289         gridLayout_2->addWidget(label_5, 1, 0, 1, 1);
290
291         sYearLabel = new QLabel(infoTab);
292         sYearLabel->setObjectName(QStringLiteral("sYearLabel"));
293
294         gridLayout_2->addWidget(sYearLabel, 3, 2, 1, 1);
295
296         label_3 = new QLabel(infoTab);
297         label_3->setObjectName(QStringLiteral("label_3"));
298
299         gridLayout_2->addWidget(label_3, 2, 0, 1, 1);
300
301         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
302
303         gridLayout_2->addItem(horizontalSpacer, 0, 3, 1, 1);
304
305         horizontalSpacer_2 = new QSpacerItem(20, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
306
307         gridLayout_2->addItem(horizontalSpacer_2, 0, 1, 1, 1);
308
309         sVerLabel = new QLabel(infoTab);
310         sVerLabel->setObjectName(QStringLiteral("sVerLabel"));
311
312         gridLayout_2->addWidget(sVerLabel, 1, 2, 1, 1);
313
314         sLicenseLabel = new QLabel(infoTab);
315         sLicenseLabel->setObjectName(QStringLiteral("sLicenseLabel"));
316
317         gridLayout_2->addWidget(sLicenseLabel, 4, 2, 1, 1);
318
319         label = new QLabel(infoTab);
320         label->setObjectName(QStringLiteral("label"));
321
```

```
322         gridLayout_2->addWidget(label, 0, 0, 1, 1);
323
324         verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
325
326         gridLayout_2->addItem(verticalSpacer, 6, 0, 1, 1);
327
328         sDescLabel = new QLabel(infoTab);
329         sDescLabel->setObjectName(QStringLiteral("sDescLabel"));
330         sDescLabel->setAlignment(Qt::AlignLeading|Qt::AlignLeft|Qt::AlignTop);
331
332         gridLayout_2->addWidget(sDescLabel, 5, 2, 2, 2);
333
334         tabWidget->addTab(infoTab, QString());
335
336         gridLayout->addWidget(tabWidget, 0, 0, 1, 1);
337
338
339         retranslateUi(AnimSettingDialog);
340         QObject::connect(buttonBox, SIGNAL(accepted()), AnimSettingDialog, SLOT(accept()));
341         QObject::connect(buttonBox, SIGNAL(rejected()), AnimSettingDialog, SLOT(reject()));
342
343         tabWidget->setCurrentIndex(0);
344
345
346         QMetaObject::connectSlotsByName(AnimSettingDialog);
347     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.87.3 Field Documentation

12.87.3.1 QLineEdit* Ui_AnimSettingDialog::animName

Definition at line 41 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), AnimSettingDialog::name(), and setupUi().

12.87.3.2 QDialogButtonBox* Ui_AnimSettingDialog::buttonBox

Definition at line 35 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.3 QDoubleSpinBox* Ui_AnimSettingDialog::delayBox

Definition at line 56 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and setupUi().

12.87.3.4 QGridLayout* Ui_AnimSettingDialog::gridLayout

Definition at line 34 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.5 QGridLayout* Ui_AnimSettingDialog::gridLayout_2

Definition at line 68 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.6 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer

Definition at line 77 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.7 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_2

Definition at line 78 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.8 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_3

Definition at line 40 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.9 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_4

Definition at line 60 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.10 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_5

Definition at line 44 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.11 QSpacerItem* Ui_AnimSettingDialog::horizontalSpacer_6

Definition at line 66 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.12 QWidget* Ui_AnimSettingDialog::infoTab

Definition at line 67 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.13 QDoubleSpinBox* Ui_AnimSettingDialog::kpDelayBox

Definition at line 53 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and setupUi().

12.87.3.14 QCheckBox* Ui_AnimSettingDialog::kpModeStopBox

Definition at line 57 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.15 QCheckBox* Ui_AnimSettingDialog::kpReleaseBox

Definition at line 61 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.16 QDoubleSpinBox* Ui_AnimSettingDialog::kpRepeatBox

Definition at line 63 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and setupUi().

12.87.3.17 QLabel* Ui_AnimSettingDialog::kpRepeatLabel

Definition at line 45 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.18 QLabel* Ui_AnimSettingDialog::kpRepeatLabel_2

Definition at line 50 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.19 QLabel* Ui_AnimSettingDialog::label

Definition at line 81 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.20 QLabel* Ui_AnimSettingDialog::label_10

Definition at line 58 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.21 QLabel* Ui_AnimSettingDialog::label_11

Definition at line 71 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.22 QLabel* Ui_AnimSettingDialog::label_12

Definition at line 55 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.23 QLabel* Ui_AnimSettingDialog::label_13

Definition at line 54 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.24 QLabel* Ui_AnimSettingDialog::label_2

Definition at line 39 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.25 QLabel* Ui_AnimSettingDialog::label_3

Definition at line 76 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.26 QLabel* Ui_AnimSettingDialog::label_4

Definition at line 51 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.27 QLabel* Ui_AnimSettingDialog::label_5

Definition at line 74 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.28 QLabel* Ui_AnimSettingDialog::label_6

Definition at line 62 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.29 QLabel* Ui_AnimSettingDialog::label_7

Definition at line 70 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.30 QLabel* Ui_AnimSettingDialog::label_8

Definition at line 52 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.31 QLabel* Ui_AnimSettingDialog::label_9

Definition at line 73 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.32 QFrame* Ui_AnimSettingDialog::line

Definition at line 49 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.33 QFrame* Ui_AnimSettingDialog::line_2

Definition at line 65 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.34 QDoubleSpinBox* Ui_AnimSettingDialog::repeatBox

Definition at line 47 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and setupUi().

12.87.3.35 QLabel* Ui_AnimSettingDialog::repeatLabel

Definition at line 46 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.36 QLabel* Ui_AnimSettingDialog::repeatLabel_2

Definition at line 48 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.37 QLabel* Ui_AnimSettingDialog::sAuthorLabel

Definition at line 72 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.38 QLabel* Ui_AnimSettingDialog::sDescLabel

Definition at line 83 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.39 QGridLayout* Ui_AnimSettingDialog::settingsGrid

Definition at line 38 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and setupUi().

12.87.3.40 QWidget* Ui_AnimSettingDialog::settingTab

Definition at line 37 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.41 QLabel* Ui_AnimSettingDialog::sLicenseLabel

Definition at line 80 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.42 QLabel* Ui_AnimSettingDialog::sNameLabel

Definition at line 69 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.43 QLabel* Ui_AnimSettingDialog::sVerLabel

Definition at line 79 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.44 QLabel* Ui_AnimSettingDialog::sYearLabel

Definition at line 75 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), retranslateUi(), and setupUi().

12.87.3.45 QTabWidget* Ui_AnimSettingDialog::tabWidget

Definition at line 36 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.46 QGridLayout* Ui_AnimSettingDialog::timeGrid

Definition at line 43 of file ui_animsettingdialog.h.

Referenced by AnimSettingDialog::AnimSettingDialog(), and setupUi().

12.87.3.47 QWidget* Ui_AnimSettingDialog::timeTab

Definition at line 42 of file ui_animsettingdialog.h.

Referenced by retranslateUi(), and setupUi().

12.87.3.48 QSpacerItem* Ui_AnimSettingDialog::verticalSpacer

Definition at line 82 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.49 QSpacerItem* Ui_AnimSettingDialog::verticalSpacer_2

Definition at line 64 of file ui_animsettingdialog.h.

Referenced by setupUi().

12.87.3.50 QSpacerItem* Ui_AnimSettingDialog::verticalSpacer_3

Definition at line 59 of file ui_animsettingdialog.h.

Referenced by setupUi().

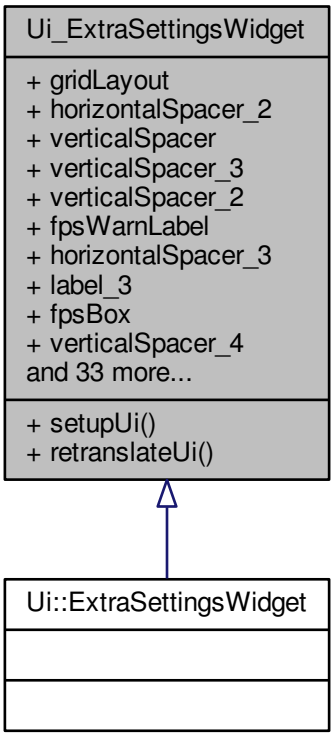
The documentation for this class was generated from the following file:

- src/ckb/ui_animsettingdialog.h

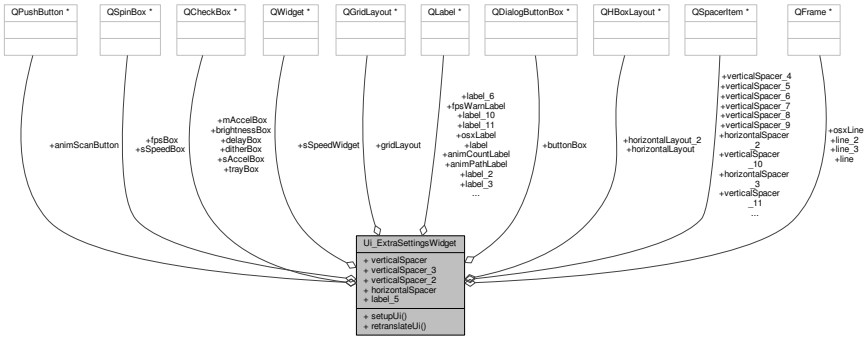
12.88 Ui_ExtraSettingsWidget Class Reference

`#include <src/ckb/ui_extrasettingswidget.h>`

Inheritance diagram for Ui_ExtraSettingsWidget:



Collaboration diagram for Ui_ExtraSettingsWidget:



Public Member Functions

- void setupUi (QDialog *ExtraSettingsWidget)
- void retranslateUi (QDialog *ExtraSettingsWidget)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer_2
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_3
- QSpacerItem * verticalSpacer_2
- QLabel * fpsWarnLabel
- QSpacerItem * horizontalSpacer_3
- QLabel * label_3
- QSpinBox * fpsBox
- QSpacerItem * verticalSpacer_4
- QSpacerItem * verticalSpacer_9
- QLabel * label_6
- QSpacerItem * verticalSpacer_6
- QSpacerItem * verticalSpacer_5
- QCheckBox * sAccelBox
- QSpacerItem * verticalSpacer_7
- QSpacerItem * verticalSpacer_8
- QSpacerItem * verticalSpacer_10
- QSpacerItem * verticalSpacer_11
- QSpacerItem * horizontalSpacer
- QFrame * line_2
- QHBoxLayout * horizontalLayout
- QLabel * animPathLabel
- QLabel * animCountLabel
- QPushButton * animScanButton
- QCheckBox * brightnessBox
- QCheckBox * trayBox
- QLabel * label
- QFrame * line
- QLabel * label_5
- QFrame * line_3
- QLabel * label_2
- QCheckBox * ditherBox
- QCheckBox * delayBox
- QLabel * osxLabel
- QFrame * osxLine
- QCheckBox * mAccelBox
- QWidget * sSpeedWidget
- QHBoxLayout * horizontalLayout_2
- QLabel * label_10
- QSpinBox * sSpeedBox
- QLabel * label_11
- QDialogButtonBox * buttonBox

12.88.1 Detailed Description

Definition at line 31 of file ui_extrasettingswidget.h.

12.88.2 Member Function Documentation

12.88.2.1 void Ui_ExtraSettingsWidget::retranslateUi (QDialog * *ExtraSettingsWidget*) [inline]

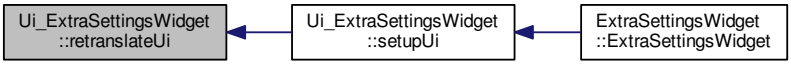
Definition at line 322 of file ui_extrasettingswidget.h.

References animCountLabel, animPathLabel, animScanButton, brightnessBox, delayBox, ditherBox, fpsWarnLabel, label, label_10, label_11, label_2, label_3, label_5, label_6, mAccelBox, osxLabel, sAccelBox, and trayBox.

Referenced by setupUi().

```
323     {
324         ExtraSettingsWidget->setWindowTitle(QApplication::translate("ExtraSettingsWidget", "Application
      Settings", Q_NULLPTR));
325         fpsWarnLabel->setText(QApplication::translate("ExtraSettingsWidget", "Warning: high
      frame rates may cause stability issues", Q_NULLPTR));
326         label_3->setText(QApplication::translate("ExtraSettingsWidget", "Frame rate (FPS):",
     Q_NULLPTR));
327         label_6->setText(QApplication::translate("ExtraSettingsWidget", "Location:", Q_NULLPTR));
328 #ifndef QT_NO_TOOLTIP
329         sAccelBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "Try this if you're
      having problems with the scroll wheel.", Q_NULLPTR));
330 #endif // QT_NO_TOOLTIP
331         sAccelBox->setText(QApplication::translate("ExtraSettingsWidget", "Disable scroll
     acceleration", Q_NULLPTR));
332         animPathLabel->setText(QApplication::translate("ExtraSettingsWidget", "
     /path/to/animations", Q_NULLPTR));
333         animCountLabel->setText(QApplication::translate("ExtraSettingsWidget", "0 animations
     found", Q_NULLPTR));
334         animScanButton->setText(QApplication::translate("ExtraSettingsWidget", "Re-scan",
     Q_NULLPTR));
335 #ifndef QT_NO_TOOLTIP
336         brightnessBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "By default,
      the same brightness level will be applied to all profiles and all devices. Enable this to store it with the
      lighting mode instead.", Q_NULLPTR));
337 #endif // QT_NO_TOOLTIP
338         brightnessBox->setText(QApplication::translate("ExtraSettingsWidget", "Set brightness
     per-mode", Q_NULLPTR));
339 #ifndef QT_NO_TOOLTIP
340         trayBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "The tray icon will not
     be displayed. The application will still run in the background; re-launch the app to see the GUI again.",
     Q_NULLPTR));
341 #endif // QT_NO_TOOLTIP
342         trayBox->setText(QApplication::translate("ExtraSettingsWidget", "Hide tray icon", Q_NULLPTR)
    );
343         label->setText(QApplication::translate("ExtraSettingsWidget", "Behavior", Q_NULLPTR));
344         label_5->setText(QApplication::translate("ExtraSettingsWidget", "Animation scripts",
     Q_NULLPTR));
345         label_2->setText(QApplication::translate("ExtraSettingsWidget", "Hardware", Q_NULLPTR));
346 #ifndef QT_NO_TOOLTIP
347         ditherBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "May improve
     appearance on some keyboards.", Q_NULLPTR));
348 #endif // QT_NO_TOOLTIP
349         ditherBox->setText(QApplication::translate("ExtraSettingsWidget", "Use spatial dithering
     to simulate extra color resolution", Q_NULLPTR));
350 #ifndef QT_NO_TOOLTIP
351         delayBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "When using macros with
      strings longer than 25 chars, some OS may lose characters (e.g. Mint 17.2). Select to prevent that bug.",
     Q_NULLPTR));
352 #endif // QT_NO_TOOLTIP
353         delayBox->setText(QApplication::translate("ExtraSettingsWidget", "Use delay for very long
     macros", Q_NULLPTR));
354         osxLabel->setText(QApplication::translate("ExtraSettingsWidget", "OS X tweaks", Q_NULLPTR))
    ;
355 #ifndef QT_NO_TOOLTIP
356         mAccelBox->setToolTip(QApplication::translate("ExtraSettingsWidget", "Try this if you're
     having problems with mouse movement.", Q_NULLPTR));
357 #endif // QT_NO_TOOLTIP
358         mAccelBox->setText(QApplication::translate("ExtraSettingsWidget", "Disable mouse
     acceleration", Q_NULLPTR));
359         label_10->setText(QApplication::translate("ExtraSettingsWidget", "Scroll", Q_NULLPTR));
360         label_11->setText(QApplication::translate("ExtraSettingsWidget", "line(s) at a time",
     Q_NULLPTR));
361     } // retranslateUi
```

Here is the caller graph for this function:



12.88.2.2 void Ui_ExtraSettingsWidget::setupUi (QDialog * *ExtraSettingsWidget*) [inline]

Definition at line 78 of file ui_extrasettingswidget.h.

References animCountLabel, animPathLabel, animScanButton, brightnessBox, buttonBox, delayBox, ditherBox, fpsBox, fpsWarnLabel, gridLayout, horizontalLayout, horizontalLayout_2, horizontalSpacer, horizontalSpacer_2, horizontalSpacer_3, label, label_10, label_11, label_2, label_3, label_5, label_6, line, line_2, line_3, mAccelBox, osxLabel, osxLine, retranslateUi(), sAccelBox, sSpeedBox, sSpeedWidget, trayBox, verticalSpacer, verticalSpacer_10, verticalSpacer_11, verticalSpacer_2, verticalSpacer_3, verticalSpacer_4, verticalSpacer_5, verticalSpacer_6, verticalSpacer_7, verticalSpacer_8, and verticalSpacer_9.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget().

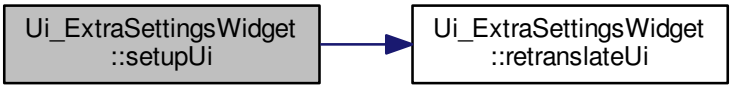
```
79     {
80         if (ExtraSettingsWidget->objectName().isEmpty())
81             ExtraSettingsWidget->setObjectName(QStringLiteral("ExtraSettingsWidget"));
82         ExtraSettingsWidget->resize(650, 515);
83         gridLayout = new QGridLayout(ExtraSettingsWidget);
84         gridLayout->setObjectName(QStringLiteral("gridLayout"));
85         horizontalSpacer_2 = new QSpacerItem(30, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
86
87         gridLayout->addItem(horizontalSpacer_2, 12, 2, 1, 1);
88
89         verticalSpacer = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed);
90
91         gridLayout->addItem(verticalSpacer, 2, 0, 1, 1);
92
93         verticalSpacer_3 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
94
95         gridLayout->addItem(verticalSpacer_3, 3, 0, 1, 1);
96
97         verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
98
99         gridLayout->addItem(verticalSpacer_2, 19, 5, 1, 1);
100
101         fpsWarnLabel = new QLabel(ExtraSettingsWidget);
102         fpsWarnLabel->setObjectName(QStringLiteral("fpsWarnLabel"));
103         QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
104         sizePolicy.setHorizontalStretch(0);
105         sizePolicy.setVerticalStretch(0);
106         sizePolicy.setHeightForWidth(fpsWarnLabel->sizePolicy().hasHeightForWidth());
107         fpsWarnLabel->setSizePolicy(sizePolicy);
108
109         gridLayout->addWidget(fpsWarnLabel, 12, 5, 1, 1);
110
111         horizontalSpacer_3 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
112
113         gridLayout->addItem(horizontalSpacer_3, 12, 4, 1, 1);
114
115         label_3 = new QLabel(ExtraSettingsWidget);
116         label_3->setObjectName(QStringLiteral("label_3"));
117
118         gridLayout->addWidget(label_3, 12, 1, 1, 1);
119
120         fpsBox = new QSpinBox(ExtraSettingsWidget);
121         fpsBox->setObjectName(QStringLiteral("fpsBox"));
122         fpsBox->setMinimum(5);
123         fpsBox->setMaximum(60);
124         fpsBox->setValue(30);
125
```

```
126         gridLayout->addWidget(fpsBox, 12, 3, 1, 1);
127 
128         verticalSpacer_4 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
129 
130         gridLayout->addItem(verticalSpacer_4, 7, 0, 1, 1);
131 
132         verticalSpacer_9 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
133 
134         gridLayout->addItem(verticalSpacer_9, 12, 0, 1, 1);
135 
136         label_6 = new QLabel(ExtraSettingsWidget);
137         label_6->setObjectName(QStringLiteral("label_6"));
138 
139         gridLayout->addWidget(label_6, 7, 1, 1, 1);
140 
141         verticalSpacer_6 = new QSpacerItem(20, 10, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
142 
143         gridLayout->addItem(verticalSpacer_6, 8, 1, 1, 1);
144 
145         verticalSpacer_5 = new QSpacerItem(20, 10, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
146 
147         gridLayout->addItem(verticalSpacer_5, 4, 1, 1, 1);
148 
149         sAccelBox = new QCheckBox(ExtraSettingsWidget);
150         sAccelBox->setObjectName(QStringLiteral("sAccelBox"));
151 
152         gridLayout->addWidget(sAccelBox, 18, 1, 1, 4);
153 
154         verticalSpacer_7 = new QSpacerItem(20, 10, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
155 
156         gridLayout->addItem(verticalSpacer_7, 14, 1, 1, 1);
157 
158         verticalSpacer_8 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
159 
160         gridLayout->addItem(verticalSpacer_8, 13, 0, 1, 1);
161 
162         verticalSpacer_10 = new QSpacerItem(0, 28, QSizePolicy::Minimum,
    QSizePolicy::Fixed);
163 
164         gridLayout->addItem(verticalSpacer_10, 17, 0, 1, 1);
165 
166         verticalSpacer_11 = new QSpacerItem(0, 28, QSizePolicy::Minimum,
    QSizePolicy::Fixed);
167 
168         gridLayout->addItem(verticalSpacer_11, 18, 0, 1, 1);
169 
170         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
171 
172         gridLayout->addItem(horizontalSpacer, 12, 6, 1, 1);
173 
174         line_2 = new QFrame(ExtraSettingsWidget);
175         line_2->setObjectName(QStringLiteral("line_2"));
176         line_2->setFrameShape(QFrame::HLine);
177         line_2->setFrameShadow(QFrame::Sunken);
178 
179         gridLayout->addWidget(line_2, 10, 0, 1, 7);
180 
181         horizontalLayout = new QHBoxLayout();
182         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
183         animPathLabel = new QLabel(ExtraSettingsWidget);
184         animPathLabel->setObjectName(QStringLiteral("animPathLabel"));
185 
186         horizontalLayout->addWidget(animPathLabel);
187 
188         animCountLabel = new QLabel(ExtraSettingsWidget);
189         animCountLabel->setObjectName(QStringLiteral("animCountLabel"));
190         sizePolicy.setHeightForWidth(animCountLabel->sizePolicy().hasHeightForWidth());
191         animCountLabel->setSizePolicy(sizePolicy);
192         animCountLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
193 
194         horizontalLayout->addWidget(animCountLabel);
195 
196         animScanButton = new QPushButton(ExtraSettingsWidget);
197         animScanButton->setObjectName(QStringLiteral("animScanButton"));
198 
199         horizontalLayout->addWidget(animScanButton);
200 
201 
202         gridLayout->addLayout(horizontalLayout, 7, 3, 1, 4);
203 
```

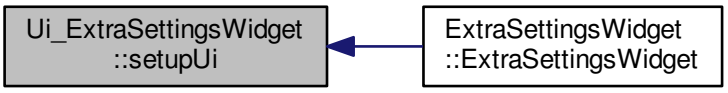
```
204         brightnessBox = new QCheckBox(ExtraSettingsWidget);
205         brightnessBox->setObjectName(QStringLiteral("brightnessBox"));
206 
207         gridLayout->addWidget(brightnessBox, 3, 1, 1, 6);
208 
209         trayBox = new QCheckBox(ExtraSettingsWidget);
210         trayBox->setObjectName(QStringLiteral("trayBox"));
211 
212         gridLayout->addWidget(trayBox, 2, 1, 1, 6);
213 
214         label = new QLabel(ExtraSettingsWidget);
215         label->setObjectName(QStringLiteral("label"));
216         QFont font;
217         font.setBold(true);
218         font.setWeight(75);
219         label->setFont(font);
220 
221         gridLayout->addWidget(label, 0, 0, 1, 7);
222 
223         line = new QFrame(ExtraSettingsWidget);
224         line->setObjectName(QStringLiteral("line"));
225         line->setFrameShape(QFrame::HLine);
226         line->setFrameShadow(QFrame::Sunken);
227 
228         gridLayout->addWidget(line, 1, 0, 1, 7);
229 
230         label_5 = new QLabel(ExtraSettingsWidget);
231         label_5->setObjectName(QStringLiteral("label_5"));
232         label_5->setFont(font);
233 
234         gridLayout->addWidget(label_5, 5, 0, 1, 7);
235 
236         line_3 = new QFrame(ExtraSettingsWidget);
237         line_3->setObjectName(QStringLiteral("line_3"));
238         line_3->setFrameShape(QFrame::HLine);
239         line_3->setFrameShadow(QFrame::Sunken);
240 
241         gridLayout->addWidget(line_3, 6, 0, 1, 7);
242 
243         label_2 = new QLabel(ExtraSettingsWidget);
244         label_2->setObjectName(QStringLiteral("label_2"));
245         label_2->setFont(font);
246 
247         gridLayout->addWidget(label_2, 9, 0, 1, 7);
248 
249         ditherBox = new QCheckBox(ExtraSettingsWidget);
250         ditherBox->setObjectName(QStringLiteral("ditherBox"));
251 
252         gridLayout->addWidget(ditherBox, 13, 1, 1, 6);
253 
254         delayBox = new QCheckBox(ExtraSettingsWidget);
255         delayBox->setObjectName(QStringLiteral("delayBox"));
256 
257         gridLayout->addWidget(delayBox, 14, 1, 1, 6);
258 
259         osxLabel = new QLabel(ExtraSettingsWidget);
260         osxLabel->setObjectName(QStringLiteral("osxLabel"));
261         osxLabel->setFont(font);
262 
263         gridLayout->addWidget(osxLabel, 15, 0, 1, 7);
264 
265         osxLine = new QFrame(ExtraSettingsWidget);
266         osxLine->setObjectName(QStringLiteral("osxLine"));
267         osxLine->setFrameShape(QFrame::HLine);
268         osxLine->setFrameShadow(QFrame::Sunken);
269 
270         gridLayout->addWidget(osxLine, 16, 0, 1, 7);
271 
272         mAccelBox = new QCheckBox(ExtraSettingsWidget);
273         mAccelBox->setObjectName(QStringLiteral("mAccelBox"));
274 
275         gridLayout->addWidget(mAccelBox, 17, 1, 1, 6);
276 
277         sSpeedWidget = new QWidget(ExtraSettingsWidget);
278         sSpeedWidget->setObjectName(QStringLiteral("sSpeedWidget"));
279         sizePolicy.setHeightForWidth(sSpeedWidget->sizePolicy().hasHeightForWidth());
280         sSpeedWidget->setSizePolicy(sizePolicy);
281         horizontalLayout_2 = new QHBoxLayout(sSpeedWidget);
282         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
283         horizontalLayout_2->setContentsMargins(0, 0, 0, 0);
284         label_10 = new QLabel(sSpeedWidget);
285         label_10->setObjectName(QStringLiteral("label_10"));
286 
287         horizontalLayout_2->addWidget(label_10);
288 
289         sSpeedBox = new QSpinBox(sSpeedWidget);
290         sSpeedBox->setObjectName(QStringLiteral("sSpeedBox"));
```

```
291         sSpeedBox->setMinimum(1);
292         sSpeedBox->setMaximum(10);
293         sSpeedBox->setValue(3);
294 
295         horizontalLayout_2->addWidget(sSpeedBox);
296 
297         label_11 = new QLabel(sSpeedWidget);
298         label_11->setObjectName(QStringLiteral("label_11"));
299         sizePolicy.setHeightForWidth(label_11->sizePolicy().hasHeightForWidth());
300         label_11->setSizePolicy(sizePolicy);
301 
302         horizontalLayout_2->addWidget(label_11);
303 
304 
305         gridLayout->addWidget(sSpeedWidget, 18, 5, 1, 2);
306 
307         buttonBox = new QDialogButtonBox(ExtraSettingsWidget);
308         buttonBox->setObjectName(QStringLiteral("buttonBox"));
309         buttonBox->setOrientation(Qt::Horizontal);
310         buttonBox->setStandardButtons(QDialogButtonBox::Ok);
311 
312         gridLayout->addWidget(buttonBox, 20, 0, 1, 7);
313 
314 
315         retranslateUi(ExtraSettingsWidget);
316         QObject::connect(buttonBox, SIGNAL(accepted()), ExtraSettingsWidget, SLOT(accept()));
317         QObject::connect(buttonBox, SIGNAL(rejected()), ExtraSettingsWidget, SLOT(reject()));
318 
319         QMetaObject::connectSlotsByName(ExtraSettingsWidget);
320     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.88.3 Field Documentation

12.88.3.1 QLabel* Ui_ExtraSettingsWidget::animCountLabel

Definition at line 57 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::on_animScanButton_clicked(), retranslateUi(), and setupUi().

12.88.3.2 QLabel* Ui_ExtraSettingsWidget::animPathLabel

Definition at line 56 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), retranslateUi(), and setupUi().

12.88.3.3 QPushButton* Ui_ExtraSettingsWidget::animScanButton

Definition at line 58 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.4 QCheckBox* Ui_ExtraSettingsWidget::brightnessBox

Definition at line 59 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), retranslateUi(), and setupUi().

12.88.3.5 QDialogButtonBox* Ui_ExtraSettingsWidget::buttonBox

Definition at line 76 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.6 QCheckBox* Ui_ExtraSettingsWidget::delayBox

Definition at line 67 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), retranslateUi(), and setupUi().

12.88.3.7 QCheckBox* Ui_ExtraSettingsWidget::ditherBox

Definition at line 66 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), retranslateUi(), and setupUi().

12.88.3.8 QSpinBox* Ui_ExtraSettingsWidget::fpsBox

Definition at line 42 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and setupUi().

12.88.3.9 QLabel* Ui_ExtraSettingsWidget::fpsWarnLabel

Definition at line 39 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_fpsBox_valueChanged(), retranslateUi(), and setupUi().

12.88.3.10 QGridLayout* Ui_ExtraSettingsWidget::gridLayout

Definition at line 34 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.11 QHBoxLayout* Ui_ExtraSettingsWidget::horizontalLayout

Definition at line 55 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.12 QHBoxLayout* Ui_ExtraSettingsWidget::horizontalLayout_2

Definition at line 72 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.13 QSpacerItem* Ui_ExtraSettingsWidget::horizontalSpacer

Definition at line 53 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.14 QSpacerItem* Ui_ExtraSettingsWidget::horizontalSpacer_2

Definition at line 35 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.15 QSpacerItem* Ui_ExtraSettingsWidget::horizontalSpacer_3

Definition at line 40 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.16 QLabel* Ui_ExtraSettingsWidget::label

Definition at line 61 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.17 QLabel* Ui_ExtraSettingsWidget::label_10

Definition at line 73 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.18 QLabel* Ui_ExtraSettingsWidget::label_11

Definition at line 75 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.19 QLabel* Ui_ExtraSettingsWidget::label_2

Definition at line 65 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.20 QLabel* Ui_ExtraSettingsWidget::label_3

Definition at line 41 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.21 QLabel* Ui_ExtraSettingsWidget::label_5

Definition at line 63 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.22 QLabel* Ui_ExtraSettingsWidget::label_6

Definition at line 45 of file ui_extrasettingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.88.3.23 QFrame* Ui_ExtraSettingsWidget::line

Definition at line 62 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.24 QFrame* Ui_ExtraSettingsWidget::line_2

Definition at line 54 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.25 QFrame* Ui_ExtraSettingsWidget::line_3

Definition at line 64 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.26 QCheckBox* Ui_ExtraSettingsWidget::mAccelBox

Definition at line 70 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), retranslateUi(), and setupUi().

12.88.3.27 QLabel* Ui_ExtraSettingsWidget::osxLabel

Definition at line 68 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), retranslateUi(), and setupUi().

12.88.3.28 QFrame* Ui_ExtraSettingsWidget::osxLine

Definition at line 69 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and setupUi().

12.88.3.29 QCheckBox* Ui_ExtraSettingsWidget::sAccelBox

Definition at line 48 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_sSpeedBox_valueChanged(), retranslateUi(), and setupUi().

12.88.3.30 QSpinBox* Ui_ExtraSettingsWidget::sSpeedBox

Definition at line 74 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_sAccelBox_clicked(), and setupUi().

12.88.3.31 QWidget* Ui_ExtraSettingsWidget::sSpeedWidget

Definition at line 71 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), ExtraSettingsWidget::on_sAccelBox_clicked(), and setupUi().

12.88.3.32 QCheckBox* Ui_ExtraSettingsWidget::trayBox

Definition at line 60 of file ui_extrasettingswidget.h.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), retranslateUi(), and setupUi().

12.88.3.33 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer

Definition at line 36 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.34 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_10

Definition at line 51 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.35 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_11

Definition at line 52 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.36 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_2

Definition at line 38 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.37 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_3

Definition at line 37 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.38 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_4

Definition at line 43 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.39 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_5

Definition at line 47 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.40 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_6

Definition at line 46 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.41 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_7

Definition at line 49 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.42 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_8

Definition at line 50 of file ui_extrasettingswidget.h.

Referenced by setupUi().

12.88.3.43 QSpacerItem* Ui_ExtraSettingsWidget::verticalSpacer_9

Definition at line 44 of file ui_extrasettingswidget.h.

Referenced by setupUi().

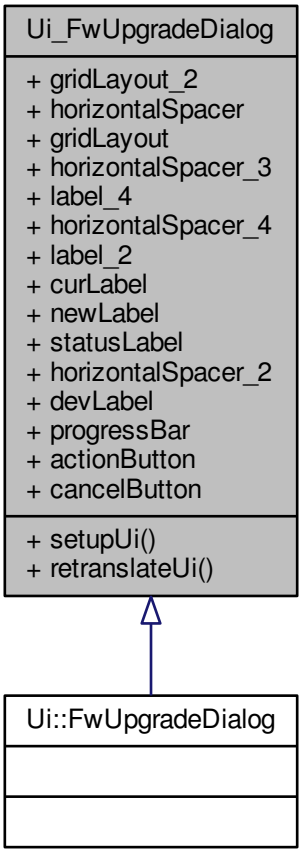
The documentation for this class was generated from the following file:

- src/ckb/ui_extrasettingswidget.h

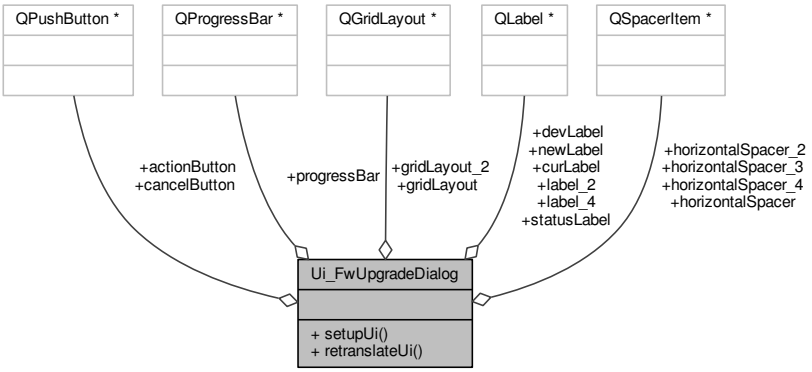
12.89 Ui_FwUpgradeDialog Class Reference

`#include <src/ckb/ui_fwupgradedialog.h>`

Inheritance diagram for Ui_FwUpgradeDialog:



Collaboration diagram for Ui_FwUpgradeDialog:



Public Member Functions

- void setupUi (QDialog *FwUpgradeDialog)
- void retranslateUi (QDialog *FwUpgradeDialog)

Data Fields

- QGridLayout * gridLayout_2
- QSpacerItem * horizontalSpacer
- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer_3
- QLabel * label_4
- QSpacerItem * horizontalSpacer_4
- QLabel * label_2
- QLabel * curLabel
- QLabel * newLabel
- QLabel * statusLabel
- QSpacerItem * horizontalSpacer_2
- QLabel * devLabel
- QProgressBar * progressBar
- QPushButton * actionButton
- QPushButton * cancelButton

12.89.1 Detailed Description

Definition at line 26 of file ui_fwupgradedialog.h.

12.89.2 Member Function Documentation

12.89.2.1 void Ui_FwUpgradeDialog::retranslateUi (QDialog * *FwUpgradeDialog*) [inline]

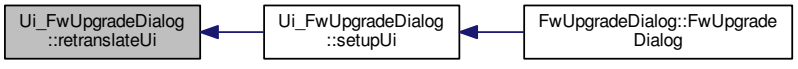
Definition at line 155 of file ui_fwupgradedialog.h.

References actionButton, cancelButton, curLabel, devLabel, label_2, label_4, newLabel, and statusLabel.

Referenced by setupUi().

```
156     {
157         FwUpgradeDialog->setWindowTitle(QApplication::translate("FwUpgradeDialog", "Firmware update",
    Q_NULLPTR));
158         label_4->setText(QApplication::translate("FwUpgradeDialog", "New:", Q_NULLPTR));
159         label_2->setText(QApplication::translate("FwUpgradeDialog", "Current:", Q_NULLPTR));
160         curLabel->setText(QApplication::translate("FwUpgradeDialog", "0.00", Q_NULLPTR));
161         newLabel->setText(QApplication::translate("FwUpgradeDialog", "0.00", Q_NULLPTR));
162         statusLabel->setText(QApplication::translate("FwUpgradeDialog", "Downloading new
     firmware, please wait...", Q_NULLPTR));
163         devLabel->setText(QApplication::translate("FwUpgradeDialog", "Device", Q_NULLPTR));
164         actionButton->setText(QApplication::translate("FwUpgradeDialog", "Start", Q_NULLPTR));
165         cancelButton->setText(QApplication::translate("FwUpgradeDialog", "Cancel", Q_NULLPTR));
166     } // retranslateUi
```

Here is the caller graph for this function:



12.89.2.2 void Ui_FwUpgradeDialog::setupUi (QDialog * *FwUpgradeDialog*) [inline]

Definition at line 45 of file ui_fwupgradedialog.h.

References actionButton, cancelButton, curLabel, devLabel, gridLayout, gridLayout_2, horizontalSpacer, horizontalSpacer_2, horizontalSpacer_3, horizontalSpacer_4, label_2, label_4, newLabel, progressBar, retranslateUi(), and statusLabel.

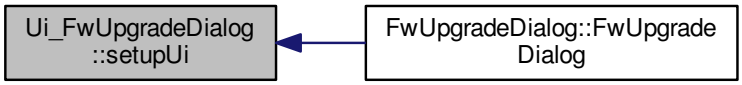
Referenced by FwUpgradeDialog::FwUpgradeDialog().

```
46     {
47         if (FwUpgradeDialog->objectName().isEmpty())
48             FwUpgradeDialog->setObjectName(QStringLiteral("FwUpgradeDialog"));
49         FwUpgradeDialog->resize(420, 240);
50         QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
51         sizePolicy.setHorizontalStretch(0);
52         sizePolicy.setVerticalStretch(0);
53         sizePolicy.setHeightForWidth(FwUpgradeDialog->sizePolicy().hasHeightForWidth());
54         FwUpgradeDialog->setSizePolicy(sizePolicy);
55         gridLayout_2 = new QGridLayout(FwUpgradeDialog);
56         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
57         horizontalSpacer = new QSpacerItem(127, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
58
59         gridLayout_2->addItem(horizontalSpacer, 1, 0, 1, 1);
60
61         gridLayout = new QGridLayout();
62         gridLayout->setObjectName(QStringLiteral("gridLayout"));
63         horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
64
65         gridLayout->addItem(horizontalSpacer_3, 1, 0, 1, 1);
66
67         label_4 = new QLabel(FwUpgradeDialog);
68         label_4->setObjectName(QStringLiteral("label_4"));
69         QFont font;
70         font.setBold(true);
71         font.setWeight(75);
72         label_4->setFont(font);
73
74         gridLayout->addWidget(label_4, 1, 4, 1, 1);
75
76         horizontalSpacer_4 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
77
78         gridLayout->addItem(horizontalSpacer_4, 1, 6, 1, 1);
79
80         label_2 = new QLabel(FwUpgradeDialog);
81         label_2->setObjectName(QStringLiteral("label_2"));
82         label_2->setFont(font);
83
84         gridLayout->addWidget(label_2, 1, 1, 1, 1);
85
86         curLabel = new QLabel(FwUpgradeDialog);
87         curLabel->setObjectName(QStringLiteral("curLabel"));
88
89         gridLayout->addWidget(curLabel, 1, 2, 1, 1);
90
91         newLabel = new QLabel(FwUpgradeDialog);
92         newLabel->setObjectName(QStringLiteral("newLabel"));
93
94         gridLayout->addWidget(newLabel, 1, 5, 1, 1);
95
96         statusLabel = new QLabel(FwUpgradeDialog);
97         statusLabel->setObjectName(QStringLiteral("statusLabel"));
98         QSizePolicy sizePolicy1(QSizePolicy::Preferred, QSizePolicy::Expanding);
99         sizePolicy1.setHorizontalStretch(0);
100         sizePolicy1.setVerticalStretch(0);
101         sizePolicy1.setHeightForWidth(statusLabel->sizePolicy().hasHeightForWidth());
102         statusLabel->setSizePolicy(sizePolicy1);
103         statusLabel->setAlignment(Qt::AlignCenter);
104         statusLabel->setWordWrap(true);
105
106         gridLayout->addWidget(statusLabel, 2, 0, 1, 7);
107
108         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
109
110         gridLayout->addItem(horizontalSpacer_2, 1, 3, 1, 1);
111
112         devLabel = new QLabel(FwUpgradeDialog);
113         devLabel->setObjectName(QStringLiteral("devLabel"));
114         QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Minimum);
115         sizePolicy2.setHorizontalStretch(0);
```

```
116         sizePolicy2.setVerticalStretch(0);
117         sizePolicy2.setHeightForWidth(devLabel->sizePolicy().hasHeightForWidth());
118         devLabel->setSizePolicy(sizePolicy2);
119         devLabel->setFont(font);
120         devLabel->setAlignment(Qt::AlignCenter);
121
122         gridLayout->addWidget(devLabel, 0, 0, 1, 7);
123
124         progressBar = new QProgressBar(FwUpgradeDialog);
125         progressBar->setObjectName(QStringLiteral("progressBar"));
126         progressBar->setMaximum(0);
127         progressBar->setValue(0);
128
129         gridLayout->addWidget(progressBar, 3, 0, 1, 7);
130
131
132         gridLayout_2->addLayout(gridLayout, 0, 0, 1, 3);
133
134         actionButton = new QPushButton(FwUpgradeDialog);
135         actionButton->setObjectName(QStringLiteral("actionButton"));
136         actionButton->setEnabled(false);
137
138         gridLayout_2->addWidget(actionButton, 1, 2, 1, 1);
139
140         cancelButton = new QPushButton(FwUpgradeDialog);
141         cancelButton->setObjectName(QStringLiteral("cancelButton"));
142         cancelButton->setEnabled(false);
143
144         gridLayout_2->addWidget(cancelButton, 1, 1, 1, 1);
145
146
147         retranslateUi(FwUpgradeDialog);
148
149         actionButton->setDefault(true);
150
151
152         QMetaObject::connectSlotsByName(FwUpgradeDialog);
153     } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.89.3 Field Documentation

12.89.3.1 QPushButton* Ui_FwUpgradeDialog::actionButton

Definition at line 42 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::fwUpdateFinished(), FwUpgradeDialog::on_actionButton_clicked(), retranslateUi(), and setupUi().

12.89.3.2 QPushButton* Ui_FwUpgradeDialog::cancelButton

Definition at line 43 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::on_actionButton_clicked(), retranslateUi(), and setupUi().

12.89.3.3 QLabel* Ui_FwUpgradeDialog::curLabel

Definition at line 36 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::FwUpgradeDialog(), retranslateUi(), and setupUi().

12.89.3.4 QLabel* Ui_FwUpgradeDialog::devLabel

Definition at line 40 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::FwUpgradeDialog(), retranslateUi(), and setupUi().

12.89.3.5 QGridLayout* Ui_FwUpgradeDialog::gridLayout

Definition at line 31 of file ui_fwupgradedialog.h.

Referenced by setupUi().

12.89.3.6 QGridLayout* Ui_FwUpgradeDialog::gridLayout_2

Definition at line 29 of file ui_fwupgradedialog.h.

Referenced by setupUi().

12.89.3.7 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer

Definition at line 30 of file ui_fwupgradedialog.h.

Referenced by setupUi().

12.89.3.8 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_2

Definition at line 39 of file ui_fwupgradedialog.h.

Referenced by setupUi().

12.89.3.9 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_3

Definition at line 32 of file ui_fwupgradedialog.h.

Referenced by setupUi().

12.89.3.10 QSpacerItem* Ui_FwUpgradeDialog::horizontalSpacer_4

Definition at line 34 of file ui_fwupgradedialog.h.

Referenced by setupUi().

12.89.3.11 QLabel* Ui_FwUpgradeDialog::label_2

Definition at line 35 of file ui_fwupgradedialog.h.

Referenced by retranslateUi(), and setupUi().

12.89.3.12 QLabel* Ui_FwUpgradeDialog::label_4

Definition at line 33 of file ui_fwupgradedialog.h.

Referenced by retranslateUi(), and setupUi().

12.89.3.13 QLabel* Ui_FwUpgradeDialog::newLabel

Definition at line 37 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::FwUpgradeDialog(), retranslateUi(), and setupUi().

12.89.3.14 QProgressBar* Ui_FwUpgradeDialog::progressBar

Definition at line 41 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::fwUpdateFinished(), FwUpgradeDialog::fwUpdateProgress(), FwUpgradeDialog::on_actionButton_clicked(), and setupUi().

12.89.3.15 QLabel* Ui_FwUpgradeDialog::statusLabel

Definition at line 38 of file ui_fwupgradedialog.h.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::fwUpdateFinished(), FwUpgradeDialog::on_actionButton_clicked(), retranslateUi(), and setupUi().

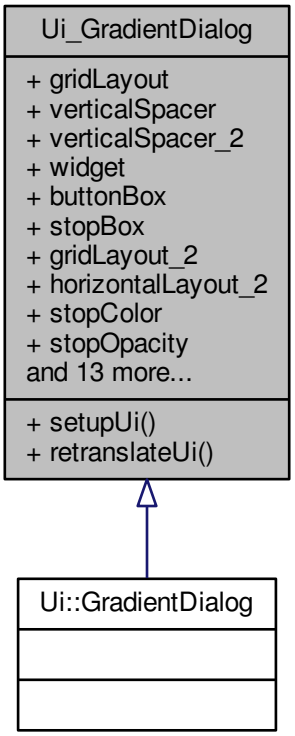
The documentation for this class was generated from the following file:

- src/ckb/ui_fwupgradedialog.h

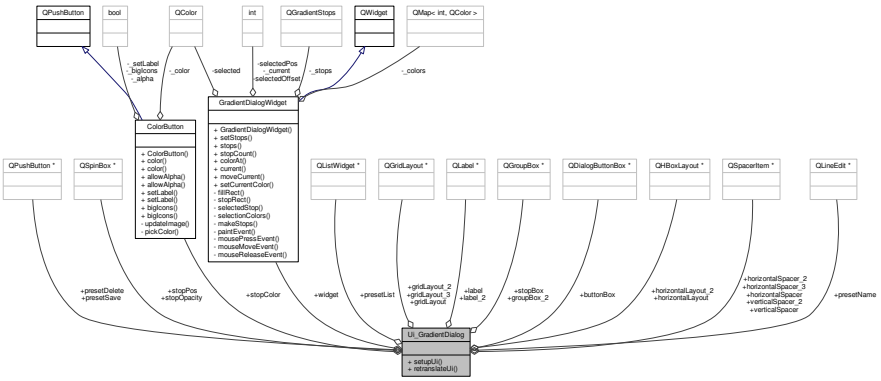
12.90 Ui_GradientDialog Class Reference

`#include <src/ckb/ui_gradientdialog.h>`

Inheritance diagram for Ui_GradientDialog:



Collaboration diagram for Ui_GradientDialog:



Public Member Functions

- void setupUi (QDialog *GradientDialog)
- void retranslateUi (QDialog *GradientDialog)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_2
- GradientDialogWidget * widget
- QDialogButtonBox * buttonBox
- QGroupBox * stopBox
- QGridLayout * gridLayout_2
- QHBoxLayout * horizontalLayout_2
- ColorButton * stopColor
- QSpinBox * stopOpacity
- QSpacerItem * horizontalSpacer_2
- QLabel * label
- QHBoxLayout * horizontalLayout
- QSpinBox * stopPos
- QSpacerItem * horizontalSpacer
- QLabel * label_2
- QSpacerItem * horizontalSpacer_3
- QGroupBox * groupBox_2
- QGridLayout * gridLayout_3
- QListWidget * presetList
- QLineEdit * presetName
- QPushButton * presetSave
- QPushButton * presetDelete

12.90.1 Detailed Description

Definition at line 33 of file ui_gradientdialog.h.

12.90.2 Member Function Documentation

12.90.2.1 void Ui_GradientDialog::retranslateUi (QDialog * *GradientDialog*) [inline]

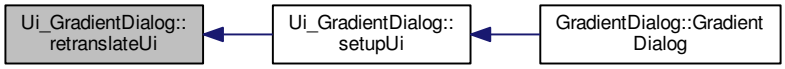
Definition at line 207 of file ui_gradientdialog.h.

References groupBox_2, label, label_2, presetDelete, presetName, presetSave, stopBox, stopColor, stopOpacity, and stopPos.

Referenced by setupUi().

```
208     {
209         GradientDialog->setWindowTitle(QApplication::translate("GradientDialog", "Pick Gradient", Q_NULLPTR
    ));
210         stopBox->setTitle(QApplication::translate("GradientDialog", "Point X of Y", Q_NULLPTR));
211         stopColor->setText(QApplication::translate("GradientDialog", "Pick Color...", Q_NULLPTR));
212         stopOpacity->setSuffix(QApplication::translate("GradientDialog", "%", Q_NULLPTR));
213         label->setText(QApplication::translate("GradientDialog", "Position:", Q_NULLPTR));
214         stopPos->setSuffix(QApplication::translate("GradientDialog", "%", Q_NULLPTR));
215         label_2->setText(QApplication::translate("GradientDialog", "Color:", Q_NULLPTR));
216         groupBox_2->setTitle(QApplication::translate("GradientDialog", "Presets", Q_NULLPTR));
217         presetName->setPlaceholderText(QApplication::translate("GradientDialog", "Name",
    Q_NULLPTR));
218         presetSave->setText(QApplication::translate("GradientDialog", "Save", Q_NULLPTR));
219         presetDelete->setText(QApplication::translate("GradientDialog", "Delete", Q_NULLPTR));
220     } // retranslateUi
```

Here is the caller graph for this function:



12.90.2.2 void Ui_GradientDialog::setupUi (QDialog * *GradientDialog*) [inline]

Definition at line 60 of file ui_gradientdialog.h.

References buttonBox, gridLayout, gridLayout_2, gridLayout_3, groupBox_2, horizontalLayout, horizontalLayout_2, horizontalSpacer, horizontalSpacer_2, horizontalSpacer_3, label, label_2, presetDelete, presetList, presetName, presetSave, retranslateUi(), stopBox, stopColor, stopOpacity, stopPos, verticalSpacer, verticalSpacer_2, and widget.

Referenced by GradientDialog::GradientDialog().

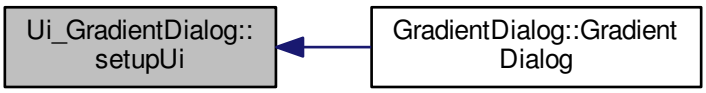
```
61     {
62         if (GradientDialog->objectName().isEmpty())
63             GradientDialog->setObjectName(QStringLiteral("GradientDialog"));
64         GradientDialog->resize(400, 440);
65         GradientDialog->setMinimumSize(QSize(400, 440));
66         GradientDialog->setMaximumSize(QSize(400, 440));
67         GradientDialog->setFocusPolicy(Qt::ClickFocus);
68         gridLayout = new QGridLayout(GradientDialog);
69         gridLayout->setObjectName(QStringLiteral("gridLayout"));
70         verticalSpacer = new QSpacerItem(0, 0, QSizePolicy::Minimum, QSizePolicy::Expanding);
71 
72         gridLayout->addItem(verticalSpacer, 1, 0, 1, 1);
73 
74         verticalSpacer_2 = new QSpacerItem(0, 15, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
75 
76         gridLayout->addItem(verticalSpacer_2, 3, 0, 1, 1);
77 
78         widget = new GradientDialogWidget(GradientDialog);
79         widget->setObjectName(QStringLiteral("widget"));
80         QSizePolicy sizePolicy(QSizePolicy::Preferred, QSizePolicy::Fixed);
81         sizePolicy.setHorizontalStretch(0);
82         sizePolicy.setVerticalStretch(0);
83         sizePolicy.setHeightForWidth(widget->sizePolicy().hasHeightForWidth());
84         widget->setSizePolicy(sizePolicy);
85         widget->setMinimumSize(QSize(0, 74));
86         widget->setMaximumSize(QSize(16777215, 74));
87 
88         gridLayout->addWidget(widget, 2, 0, 1, 1);
89 
90         buttonBox = new QDialogButtonBox(GradientDialog);
91         buttonBox->setObjectName(QStringLiteral("buttonBox"));
92         buttonBox->setOrientation(Qt::Horizontal);
93         buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
94 
95         gridLayout->addWidget(buttonBox, 5, 0, 1, 1);
96 
97         stopBox = new QGroupBox(GradientDialog);
98         stopBox->setObjectName(QStringLiteral("stopBox"));
99         sizePolicy.setHeightForWidth(stopBox->sizePolicy().hasHeightForWidth());
100         stopBox->setSizePolicy(sizePolicy);
101         gridLayout_2 = new QGridLayout(stopBox);
102         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
103         horizontalLayout_2 = new QHBoxLayout();
104         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
105         stopColor = new ColorButton(stopBox);
106         stopColor->setObjectName(QStringLiteral("stopColor"));
107 
108         horizontalLayout_2->addWidget(stopColor);
109 
110         stopOpacity = new QSpinBox(stopBox);
111         stopOpacity->setObjectName(QStringLiteral("stopOpacity"));
112         stopOpacity->setMaximum(100);
113 
```

```
114         horizontalLayout_2->addWidget(stopOpacity);
115 
116         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
117 
118         horizontalLayout_2->addItem(horizontalSpacer_2);
119 
120 
121         gridLayout_2->addLayout(horizontalLayout_2, 1, 2, 1, 1);
122 
123         label = new QLabel(stopBox);
124         label->setObjectName(QStringLiteral("label"));
125 
126         gridLayout_2->addWidget(label, 0, 0, 1, 1);
127 
128         horizontalLayout = new QHBoxLayout();
129         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
130         stopPos = new QSpinBox(stopBox);
131         stopPos->setObjectName(QStringLiteral("stopPos"));
132         stopPos->setMaximum(100);
133 
134         horizontalLayout->addWidget(stopPos);
135 
136         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
137 
138         horizontalLayout->addItem(horizontalSpacer);
139 
140 
141         gridLayout_2->addLayout(horizontalLayout, 0, 2, 1, 1);
142 
143         label_2 = new QLabel(stopBox);
144         label_2->setObjectName(QStringLiteral("label_2"));
145 
146         gridLayout_2->addWidget(label_2, 1, 0, 1, 1);
147 
148         horizontalSpacer_3 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
149 
150         gridLayout_2->addItem(horizontalSpacer_3, 0, 1, 1, 1);
151 
152 
153         gridLayout->addWidget(stopBox, 4, 0, 1, 1);
154 
155         groupBox_2 = new QGroupBox(GradientDialog);
156         groupBox_2->setObjectName(QStringLiteral("groupBox_2"));
157         sizePolicy.setHeightForWidth(groupBox_2->sizePolicy().hasHeightForWidth());
158         groupBox_2->setSizePolicy(sizePolicy);
159         gridLayout_3 = new QGridLayout(groupBox_2);
160         gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
161         presetList = new QListWidget(groupBox_2);
162         presetList->setObjectName(QStringLiteral("presetList"));
163         QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Preferred);
164         sizePolicy1.setHorizontalStretch(0);
165         sizePolicy1.setVerticalStretch(0);
166         sizePolicy1.setHeightForWidth(presetList->sizePolicy().hasHeightForWidth());
167         presetList->setSizePolicy(sizePolicy1);
168         presetList->setFrameShadow(QFrame::Plain);
169         presetList->setHorizontalScrollBarPolicy(Qt::ScrollBarAlwaysOn);
170         presetList->setIconSize(QSize(64, 64));
171         presetList->setHorizontalScrollMode(QAbstractItemView::ScrollPerPixel);
172         presetList->setFlow(QListView::TopToBottom);
173         presetList->setViewMode(QListView::IconMode);
174         presetList->setUniformItemSizes(true);
175 
176         gridLayout_3->addWidget(presetList, 0, 0, 3, 1);
177 
178         presetName = new QLineEdit(groupBox_2);
179         presetName->setObjectName(QStringLiteral("presetName"));
180         presetName->setMaxLength(30);
181 
182         gridLayout_3->addWidget(presetName, 0, 1, 1, 1);
183 
184         presetSave = new QPushButton(groupBox_2);
185         presetSave->setObjectName(QStringLiteral("presetSave"));
186         presetSave->setAutoDefault(false);
187 
188         gridLayout_3->addWidget(presetSave, 1, 1, 1, 1);
189 
190         presetDelete = new QPushButton(groupBox_2);
191         presetDelete->setObjectName(QStringLiteral("presetDelete"));
192         presetDelete->setAutoDefault(false);
193 
194         gridLayout_3->addWidget(presetDelete, 2, 1, 1, 1);
195 
196 
197         gridLayout->addWidget(groupBox_2, 0, 0, 1, 1);
```

```
198
199
200         retranslateUi(GradientDialog);
201         QObject::connect(buttonBox, SIGNAL(accepted()), GradientDialog, SLOT(accept()));
202         QObject::connect(buttonBox, SIGNAL(rejected()), GradientDialog, SLOT(reject()));
203
204         QMetaObject::connectSlotsByName(GradientDialog);
205     } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.90.3 Field Documentation

12.90.3.1 QDialogButtonBox* Ui_GradientDialog::buttonBox

Definition at line 40 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.2 QGridLayout* Ui_GradientDialog::gridLayout

Definition at line 36 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.3 QGridLayout* Ui_GradientDialog::gridLayout_2

Definition at line 42 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.4 QGridLayout* Ui_GradientDialog::gridLayout_3

Definition at line 54 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.5 QGroupBox* Ui_GradientDialog::groupBox_2

Definition at line 53 of file ui_gradientdialog.h.

Referenced by retranslateUi(), and setupUi().

12.90.3.6 QHBoxLayout* Ui_GradientDialog::horizontalLayout

Definition at line 48 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.7 QHBoxLayout* Ui_GradientDialog::horizontalLayout_2

Definition at line 43 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.8 QSpacerItem* Ui_GradientDialog::horizontalSpacer

Definition at line 50 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.9 QSpacerItem* Ui_GradientDialog::horizontalSpacer_2

Definition at line 46 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.10 QSpacerItem* Ui_GradientDialog::horizontalSpacer_3

Definition at line 52 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.11 QLabel* Ui_GradientDialog::label

Definition at line 47 of file ui_gradientdialog.h.

Referenced by retranslateUi(), and setupUi().

12.90.3.12 QLabel* Ui_GradientDialog::label_2

Definition at line 51 of file ui_gradientdialog.h.

Referenced by retranslateUi(), and setupUi().

12.90.3.13 QPushButton* Ui_GradientDialog::presetDelete

Definition at line 58 of file ui_gradientdialog.h.

Referenced by GradientDialog::getGradient(), GradientDialog::on_presetDelete_clicked(), GradientDialog::on_presetSave_clicked(), retranslateUi(), GradientDialog::setPreset(), and setupUi().

12.90.3.14 QListWidget* Ui_GradientDialog::presetList

Definition at line 55 of file ui_gradientdialog.h.

Referenced by GradientDialog::setPreset(), setupUi(), and GradientDialog::updatePresets().

12.90.3.15 QLineEdit* Ui_GradientDialog::presetName

Definition at line 56 of file ui_gradientdialog.h.

Referenced by GradientDialog::on_presetSave_clicked(), retranslateUi(), GradientDialog::setPreset(), and setupUi().

12.90.3.16 QPushButton* Ui_GradientDialog::presetSave

Definition at line 57 of file ui_gradientdialog.h.

Referenced by GradientDialog::getGradient(), GradientDialog::on_presetDelete_clicked(), GradientDialog::on_presetSave_clicked(), retranslateUi(), GradientDialog::setPreset(), and setupUi().

12.90.3.17 QGroupBox* Ui_GradientDialog::stopBox

Definition at line 41 of file ui_gradientdialog.h.

Referenced by GradientDialog::currentChanged(), retranslateUi(), and setupUi().

12.90.3.18 ColorButton* Ui_GradientDialog::stopColor

Definition at line 44 of file ui_gradientdialog.h.

Referenced by GradientDialog::currentChanged(), GradientDialog::GradientDialog(), GradientDialog::on_stopOpacity_valueChanged(), retranslateUi(), and setupUi().

12.90.3.19 QSpinBox* Ui_GradientDialog::stopOpacity

Definition at line 45 of file ui_gradientdialog.h.

Referenced by GradientDialog::colorChanged(), GradientDialog::currentChanged(), retranslateUi(), and setupUi().

12.90.3.20 QSpinBox* Ui_GradientDialog::stopPos

Definition at line 49 of file ui_gradientdialog.h.

Referenced by GradientDialog::currentChanged(), GradientDialog::on_stopPos_valueChanged(), retranslateUi(), and setupUi().

12.90.3.21 QSpacerItem* Ui_GradientDialog::verticalSpacer

Definition at line 37 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.22 QSpacerItem* Ui_GradientDialog::verticalSpacer_2

Definition at line 38 of file ui_gradientdialog.h.

Referenced by setupUi().

12.90.3.23 GradientDialogWidget* Ui_GradientDialog::widget

Definition at line 39 of file ui_gradientdialog.h.

Referenced by GradientDialog::colorChanged(), GradientDialog::currentChanged(), GradientDialog::getGradient(), GradientDialog::GradientDialog(), GradientDialog::on_presetSave_clicked(), GradientDialog::on_stopPos_valueChanged(), GradientDialog::setPreset(), and setupUi().

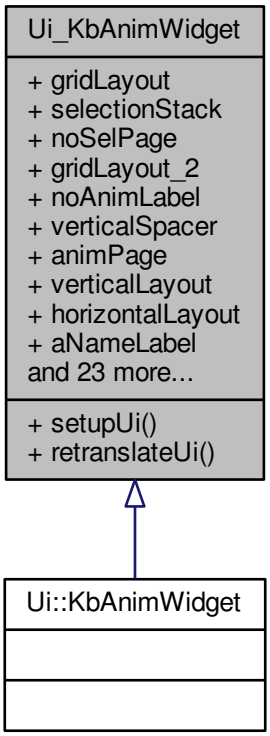
The documentation for this class was generated from the following file:

- src/ckb/ui_gradientdialog.h

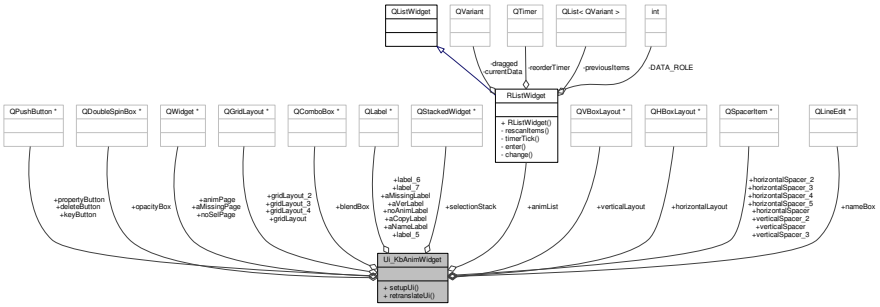
12.91 Ui_KbAnimWidget Class Reference

`#include <src/ckb/ui_kbanimwidget.h>`

Inheritance diagram for Ui_KbAnimWidget:



Collaboration diagram for Ui_KbAnimWidget:



Public Member Functions

- void setupUi (QWidget *KbAnimWidget)
- void retranslateUi (QWidget *KbAnimWidget)

Data Fields

- QGridLayout * gridLayout
- QStackedWidget * selectionStack
- QWidget * noSelPage
- QGridLayout * gridLayout_2
- QLabel * noAnimLabel
- QSpacerItem * verticalSpacer
- QWidget * animPage
- QVBoxLayout * verticalLayout
- QHBoxLayout * horizontalLayout
- QLabel * aNameLabel
- QLabel * aVerLabel
- QSpacerItem * horizontalSpacer
- QLabel * aCopyLabel
- QSpacerItem * verticalSpacer_3
- QGridLayout * gridLayout_3
- QLineEdit * nameBox
- QDoubleSpinBox * opacityBox
- QComboBox * blendBox
- QLabel * label_6
- QSpacerItem * horizontalSpacer_4
- QSpacerItem * horizontalSpacer_2
- QLabel * label_5
- QSpacerItem * horizontalSpacer_3
- QLabel * label_7
- QPushButton * keyButton
- QPushButton * deleteButton
- QPushButton * propertyButton
- QSpacerItem * horizontalSpacer_5
- QSpacerItem * verticalSpacer_2
- QWidget * aMissingPage
- QGridLayout * gridLayout_4
- QLabel * aMissingLabel
- RListWidget * animList

12.91.1 Detailed Description

Definition at line 32 of file ui_kbanimwidget.h.

12.91.2 Member Function Documentation

12.91.2.1 void Ui_KbAnimWidget::retranslateUi (QWidget * *KbAnimWidget*) [inline]

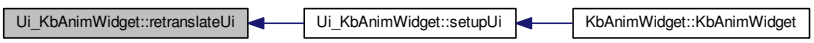
Definition at line 241 of file ui_kbanimwidget.h.

References aCopyLabel, aMissingLabel, aNameLabel, aVerLabel, blendBox, deleteButton, keyButton, label_5, label_6, label_7, noAnimLabel, opacityBox, and propertyButton.

Referenced by setupUi().

```
242     {
243         KbAnimWidget->setWindowTitle(QApplication::translate("KbAnimWidget", "Form", Q_NULLPTR));
244         noAnimLabel->setText(QApplication::translate("KbAnimWidget", "No animations in this mode
    ", Q_NULLPTR));
245         aNameLabel->setText(QApplication::translate("KbAnimWidget", "Animation name", Q_NULLPTR))
    ;
246         aVerLabel->setText(QApplication::translate("KbAnimWidget", "v0.0", Q_NULLPTR));
247         aCopyLabel->setText(QApplication::translate("KbAnimWidget", "Copyright \302\251",
    Q_NULLPTR));
248         opacityBox->setSuffix(QApplication::translate("KbAnimWidget", "%", Q_NULLPTR));
249         blendBox->clear();
250         blendBox->insertItems(0, QStringList()
251          << QApplication::translate("KbAnimWidget", "Normal", Q_NULLPTR)
252          << QApplication::translate("KbAnimWidget", "Add", Q_NULLPTR)
253          << QApplication::translate("KbAnimWidget", "Subtract", Q_NULLPTR)
254          << QApplication::translate("KbAnimWidget", "Multiply", Q_NULLPTR)
255          << QApplication::translate("KbAnimWidget", "Divide", Q_NULLPTR)
256         );
257         label_6->setText(QApplication::translate("KbAnimWidget", "Blend mode:", Q_NULLPTR));
258         label_5->setText(QApplication::translate("KbAnimWidget", "Opacity:", Q_NULLPTR));
259         label_7->setText(QApplication::translate("KbAnimWidget", "Name:", Q_NULLPTR));
260         keyButton->setText(QApplication::translate("KbAnimWidget", "Set keys", Q_NULLPTR));
261         deleteButton->setText(QApplication::translate("KbAnimWidget", "Delete animation",
    Q_NULLPTR));
262         propertyButton->setText(QApplication::translate("KbAnimWidget", "Edit properties",
    Q_NULLPTR));
263         aMissingLabel->setText(QApplication::translate("KbAnimWidget", "Mising animation",
    Q_NULLPTR));
264     } // retranslateUi
```

Here is the caller graph for this function:



12.91.2.2 void Ui_KbAnimWidget::setupUi (QWidget * *KbAnimWidget*) [inline]

Definition at line 69 of file ui_kbanimwidget.h.

References aCopyLabel, aMissingLabel, aMissingPage, aNameLabel, animList, animPage, aVerLabel, blendBox, deleteButton, gridLayout, gridLayout_2, gridLayout_3, gridLayout_4, horizontalLayout, horizontalSpacer, horizontalSpacer_2, horizontalSpacer_3, horizontalSpacer_4, horizontalSpacer_5, keyButton, label_5, label_6, label_7, nameBox, noAnimLabel, noSelPage, opacityBox, propertyButton, retranslateUi(), selectionStack, verticalLayout, verticalSpacer, verticalSpacer_2, and verticalSpacer_3.

Referenced by KbAnimWidget::KbAnimWidget().

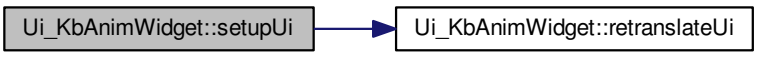
```
70     {
```

```
71          if (KbAnimWidget->objectName().isEmpty())
72              KbAnimWidget->setObjectName(QStringLiteral("KbAnimWidget"));
73          KbAnimWidget->resize(613, 300);
74          gridLayout = new QGridLayout(KbAnimWidget);
75          gridLayout->setObjectName(QStringLiteral("gridLayout"));
76          gridLayout->setContentsMargins(0, 0, 0, 0);
77          selectionStack = new QStackedWidget(KbAnimWidget);
78          selectionStack->setObjectName(QStringLiteral("selectionStack"));
79          noSelPage = new QWidget();
80          noSelPage->setObjectName(QStringLiteral("noSelPage"));
81          gridLayout_2 = new QGridLayout(noSelPage);
82          gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
83          gridLayout_2->setContentsMargins(6, 6, 6, 6);
84          noAnimLabel = new QLabel(noSelPage);
85          noAnimLabel->setObjectName(QStringLiteral("noAnimLabel"));
86
87          gridLayout_2->addWidget(noAnimLabel, 0, 0, 1, 1);
88
89          verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
90
91          gridLayout_2->addItem(verticalSpacer, 1, 0, 1, 1);
92
93          selectionStack->addWidget(noSelPage);
94          animPage = new QWidget();
95          animPage->setObjectName(QStringLiteral("animPage"));
96          verticalLayout = new QVBoxLayout(animPage);
97          verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
98          verticalLayout->setContentsMargins(6, 0, 0, 0);
99          horizontalLayout = new QHBoxLayout();
100         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
101         aNameLabel = new QLabel(animPage);
102         aNameLabel->setObjectName(QStringLiteral("aNameLabel"));
103         QFont font;
104         font.setBold(true);
105         font.setWeight(75);
106         aNameLabel->setFont(font);
107
108         horizontalLayout->addWidget(aNameLabel);
109
110         aVerLabel = new QLabel(animPage);
111         aVerLabel->setObjectName(QStringLiteral("aVerLabel"));
112
113         horizontalLayout->addWidget(aVerLabel);
114
115         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
116
117         horizontalLayout->addItem(horizontalSpacer);
118
119         aCopyLabel = new QLabel(animPage);
120         aCopyLabel->setObjectName(QStringLiteral("aCopyLabel"));
121
122         horizontalLayout->addWidget(aCopyLabel);
123
124
125         verticalLayout->addLayout(horizontalLayout);
126
127         verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
128
129         verticalLayout->addItem(verticalSpacer_3);
130
131         gridLayout_3 = new QGridLayout();
132         gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
133         nameBox = new QLineEdit(animPage);
134         nameBox->setObjectName(QStringLiteral("nameBox"));
135         QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
136         sizePolicy.setHorizontalStretch(0);
137         sizePolicy.setVerticalStretch(0);
138         sizePolicy.setHeightForWidth(nameBox->sizePolicy().hasHeightForWidth());
139         nameBox->setSizePolicy(sizePolicy);
140         nameBox->setMinimumSize(QSize(150, 0));
141         nameBox->setMaximumSize(QSize(150, 16777215));
142
143         gridLayout_3->addWidget(nameBox, 0, 3, 1, 2);
144
145         opacityBox = new QDoubleSpinBox(animPage);
146         opacityBox->setObjectName(QStringLiteral("opacityBox"));
147         opacityBox->setDecimals(1);
148         opacityBox->setValue(100);
149
150         gridLayout_3->addWidget(opacityBox, 1, 3, 1, 1);
151
152         blendBox = new QComboBox(animPage);
153         blendBox->setObjectName(QStringLiteral("blendBox"));
154
```

```
155         gridLayout_3->addWidget(blendBox, 2, 3, 1, 2);
156 
157         label_6 = new QLabel(animPage);
158         label_6->setObjectName(QStringLiteral("label_6"));
159 
160         gridLayout_3->addWidget(label_6, 2, 1, 1, 1);
161 
162         horizontalSpacer_4 = new QSpacerItem(0, 0, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
163 
164         gridLayout_3->addItem(horizontalSpacer_4, 0, 0, 1, 1);
165 
166         horizontalSpacer_2 = new QSpacerItem(30, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
167 
168         gridLayout_3->addItem(horizontalSpacer_2, 0, 2, 1, 1);
169 
170         label_5 = new QLabel(animPage);
171         label_5->setObjectName(QStringLiteral("label_5"));
172 
173         gridLayout_3->addWidget(label_5, 1, 1, 1, 1);
174 
175         horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
176 
177         gridLayout_3->addItem(horizontalSpacer_3, 0, 5, 1, 1);
178 
179         label_7 = new QLabel(animPage);
180         label_7->setObjectName(QStringLiteral("label_7"));
181 
182         gridLayout_3->addWidget(label_7, 0, 1, 1, 1);
183 
184         keyButton = new QPushButton(animPage);
185         keyButton->setObjectName(QStringLiteral("keyButton"));
186 
187         gridLayout_3->addWidget(keyButton, 1, 6, 1, 1);
188 
189         deleteButton = new QPushButton(animPage);
190         deleteButton->setObjectName(QStringLiteral("deleteButton"));
191 
192         gridLayout_3->addWidget(deleteButton, 2, 6, 1, 1);
193 
194         propertyButton = new QPushButton(animPage);
195         propertyButton->setObjectName(QStringLiteral("propertyButton"));
196 
197         gridLayout_3->addWidget(propertyButton, 0, 6, 1, 1);
198 
199         horizontalSpacer_5 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
200 
201         gridLayout_3->addItem(horizontalSpacer_5, 1, 4, 1, 1);
202 
203 
204         verticalLayout->addLayout(gridLayout_3);
205 
206         verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
207 
208         verticalLayout->addItem(verticalSpacer_2);
209 
210         selectionStack->addWidget(animPage);
211         aMissingPage = new QWidget();
212         aMissingPage->setObjectName(QStringLiteral("aMissingPage"));
213         gridLayout_4 = new QGridLayout(aMissingPage);
214         gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
215         aMissingLabel = new QLabel(aMissingPage);
216         aMissingLabel->setObjectName(QStringLiteral("aMissingLabel"));
217         aMissingLabel->setFont(font);
218 
219         gridLayout_4->addWidget(aMissingLabel, 0, 0, 1, 1);
220 
221         selectionStack->addWidget(aMissingPage);
222 
223         gridLayout->addWidget(selectionStack, 0, 2, 2, 1);
224 
225         animList = new RListWidget(KbAnimWidget);
226         animList->setObjectName(QStringLiteral("animList"));
227         animList->setMaximumSize(QSize(130, 16777215));
228         animList->setContextMenuPolicy(Qt::CustomContextMenu);
229         animList->setFrameShadow(QFrame::Plain);
230         animList->setDragDropMode(QAbstractItemView::InternalMove);
231         animList->setMovement(QListView::Snap);
232 
233         gridLayout->addWidget(animList, 0, 0, 2, 1);
234 
235 
236         retranslateUi(KbAnimWidget);
```

```
237
238         QMetaObject::connectSlotsByName(KbAnimWidget);
239     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.91.3 Field Documentation

12.91.3.1 QLabel* Ui_KbAnimWidget::aCopyLabel

Definition at line 47 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), KbAnimWidget::setCurrent(), and setupUi().

12.91.3.2 QLabel* Ui_KbAnimWidget::aMissingLabel

Definition at line 66 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), KbAnimWidget::setCurrent(), and setupUi().

12.91.3.3 QWidget* Ui_KbAnimWidget::aMissingPage

Definition at line 64 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.4 QLabel* Ui_KbAnimWidget::aNameLabel

Definition at line 44 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), KbAnimWidget::setCurrent(), and setupUi().

12.91.3.5 RListWidget* Ui_KbAnimWidget::animList

Definition at line 67 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::addAnim(), KbAnimWidget::clearSelection(), KbAnimWidget::duplicateAnim(), KbAnimWidget::KbAnimWidget(), KbAnimWidget::on_animList_customContextMenuRequested(), KbAnimWidget::on_deleteButton_clicked(), KbAnimWidget::on_nameBox_textEdited(), KbAnimWidget::refreshList(), KbAnimWidget::reorderAnims(), and setupUi().

12.91.3.6 QWidget* Ui_KbAnimWidget::animPage

Definition at line 41 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.7 QLabel* Ui_KbAnimWidget::aVerLabel

Definition at line 45 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), KbAnimWidget::setCurrent(), and setupUi().

12.91.3.8 QComboBox* Ui_KbAnimWidget::blendBox

Definition at line 52 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), KbAnimWidget::setCurrent(), and setupUi().

12.91.3.9 QPushButton* Ui_KbAnimWidget::deleteButton

Definition at line 60 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), and setupUi().

12.91.3.10 QGridLayout* Ui_KbAnimWidget::gridLayout

Definition at line 35 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.11 QGridLayout* Ui_KbAnimWidget::gridLayout_2

Definition at line 38 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.12 QGridLayout* Ui_KbAnimWidget::gridLayout_3

Definition at line 49 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.13 QGridLayout* Ui_KbAnimWidget::gridLayout_4

Definition at line 65 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.14 QHBoxLayout* Ui_KbAnimWidget::horizontalLayout

Definition at line 43 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.15 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer

Definition at line 46 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.16 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_2

Definition at line 55 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.17 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_3

Definition at line 57 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.18 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_4

Definition at line 54 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.19 QSpacerItem* Ui_KbAnimWidget::horizontalSpacer_5

Definition at line 62 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.20 QPushButton* Ui_KbAnimWidget::keyButton

Definition at line 59 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), KbAnimWidget::setSelectedKeys(), and setupUi().

12.91.3.21 QLabel* Ui_KbAnimWidget::label_5

Definition at line 56 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), and setupUi().

12.91.3.22 QLabel* Ui_KbAnimWidget::label_6

Definition at line 53 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), and setupUi().

12.91.3.23 QLabel* Ui_KbAnimWidget::label_7

Definition at line 58 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), and setupUi().

12.91.3.24 QLineEdit* Ui_KbAnimWidget::nameBox

Definition at line 50 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::on_animList_itemChanged(), KbAnimWidget::on_propertyButton_clicked(), KbAnimWidget::setCurrent(), and setupUi().

12.91.3.25 QLabel* Ui_KbAnimWidget::noAnimLabel

Definition at line 39 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::addAnim(), KbAnimWidget::duplicateAnim(), KbAnimWidget::on_deleteButton_clicked(), KbAnimWidget::refreshList(), retranslateUi(), and setupUi().

12.91.3.26 QWidget* Ui_KbAnimWidget::noSelPage

Definition at line 37 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.27 QDoubleSpinBox* Ui_KbAnimWidget::opacityBox

Definition at line 51 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), KbAnimWidget::setCurrent(), and setupUi().

12.91.3.28 QPushButton* Ui_KbAnimWidget::propertyButton

Definition at line 61 of file ui_kbanimwidget.h.

Referenced by retranslateUi(), and setupUi().

12.91.3.29 QStackedWidget* Ui_KbAnimWidget::selectionStack

Definition at line 36 of file ui_kbanimwidget.h.

Referenced by KbAnimWidget::setCurrent(), and setupUi().

12.91.3.30 QVBoxLayout* Ui_KbAnimWidget::verticalLayout

Definition at line 42 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.31 QSpacerItem* Ui_KbAnimWidget::verticalSpacer

Definition at line 40 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.32 QSpacerItem* Ui_KbAnimWidget::verticalSpacer_2

Definition at line 63 of file ui_kbanimwidget.h.

Referenced by setupUi().

12.91.3.33 QSpacerItem* Ui_KbAnimWidget::verticalSpacer_3

Definition at line 48 of file ui_kbanimwidget.h.

Referenced by setupUi().

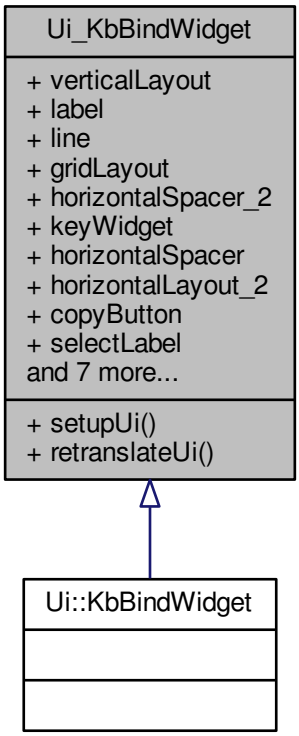
The documentation for this class was generated from the following file:

- src/ckb/ui_kbanimwidget.h

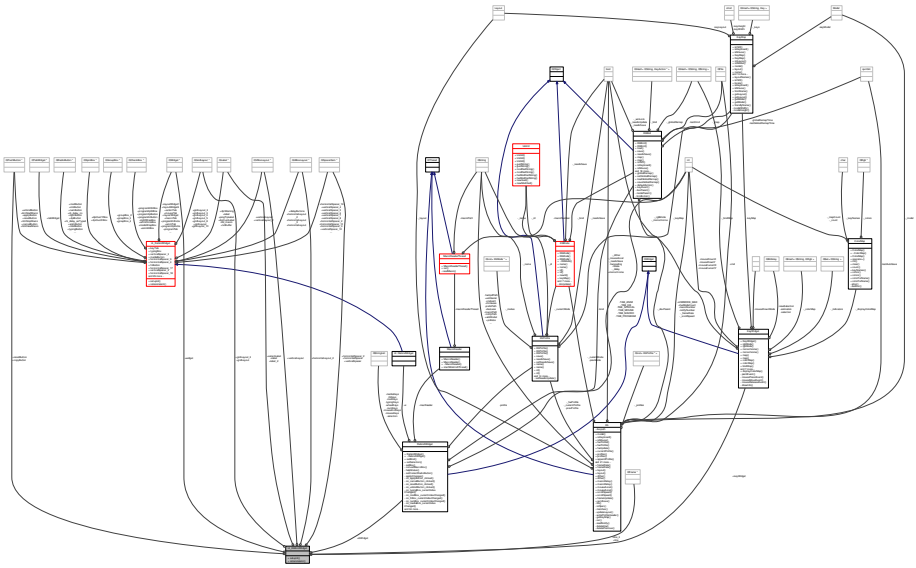
12.92 Ui_KbBindWidget Class Reference

`#include <src/ckb/ui_kbbindwidget.h>`

Inheritance diagram for Ui_KbBindWidget:



Collaboration diagram for Ui_KbBindWidget:



Public Member Functions

- void setupUi (QWidget *KbBindWidget)
- void retranslateUi (QWidget *KbBindWidget)

Data Fields

- QVBoxLayout * verticalLayout
- QLabel * label
- QFrame * line
- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer_2
- KeyWidget * keyWidget
- QSpacerItem * horizontalSpacer
- QHBoxLayout * horizontalLayout_2
- QPushButton * copyButton
- QLabel * selectLabel
- QPushButton * resetButton
- QSpacerItem * verticalSpacer
- QLabel * label_2
- QFrame * line_2
- QWidget * widget
- QGridLayout * gridLayout_2
- RebindWidget * rbWidget

12.92.1 Detailed Description

Definition at line 30 of file ui_kbbindwidget.h.

12.92.2 Member Function Documentation

12.92.2.1 void Ui_KbBindWidget::retranslateUi (QWidget * *KbBindWidget*) [inline]

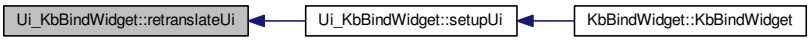
Definition at line 193 of file ui_kbbindwidget.h.

References copyButton, label, label_2, resetButton, and selectLabel.

Referenced by setupUi().

```
194     {
195         KbBindWidget->setWindowTitle(QApplication::translate("KbBindWidget", "Form", Q_NULLPTR));
196         label->setText(QApplication::translate("KbBindWidget", "Keys", Q_NULLPTR));
197         copyButton->setText(QApplication::translate("KbBindWidget", "Copy to mode...", Q_NULLPTR)
    );
198         selectLabel->setText(QApplication::translate("KbBindWidget", "Click to select keys",
    Q_NULLPTR));
199         resetButton->setText(QApplication::translate("KbBindWidget", "Reset", Q_NULLPTR));
200         label_2->setText(QApplication::translate("KbBindWidget", "Binding", Q_NULLPTR));
201     } // retranslateUi
```

Here is the caller graph for this function:



12.92.2.2 void Ui_KbBindWidget::setupUi (QWidget * *KbBindWidget*) [inline]

Definition at line 51 of file ui_kbbindwidget.h.

References copyButton, gridLayout, gridLayout_2, horizontalLayout_2, horizontalSpacer, horizontalSpacer_2, keyWidget, label, label_2, line, line_2, rbWidget, resetButton, retranslateUi(), selectLabel, verticalLayout, verticalSpacer, and widget.

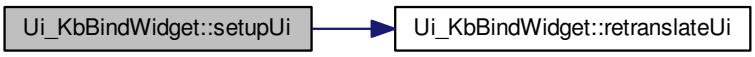
Referenced by KbBindWidget::KbBindWidget().

```
52     {
53         if (KbBindWidget->objectName().isEmpty())
54             KbBindWidget->setObjectName(QStringLiteral("KbBindWidget"));
55         KbBindWidget->resize(581, 473);
56         verticalLayout = new QVBoxLayout(KbBindWidget);
57         verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
58         verticalLayout->setContentsMargins(0, 0, 0, -1);
59         label = new QLabel(KbBindWidget);
60         label->setObjectName(QStringLiteral("label"));
61         QFont font;
62         font.setBold(true);
63         font.setWeight(75);
64         label->setFont(font);
65
66         verticalLayout->addWidget(label);
67
68         line = new QFrame(KbBindWidget);
69         line->setObjectName(QStringLiteral("line"));
70         line->setFrameShape(QFrame::HLine);
71         line->setFrameShadow(QFrame::Sunken);
72
73         verticalLayout->addWidget(line);
74
75         gridLayout = new QGridLayout();
76         gridLayout->setObjectName(QStringLiteral("gridLayout"));
77         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
78
79         gridLayout->addItem(horizontalSpacer_2, 0, 4, 1, 1);
80
81         keyWidget = new KeyWidget(KbBindWidget);
82         keyWidget->setObjectName(QStringLiteral("keyWidget"));
```

```
83          QSizePolicy sizePolicy(QSizePolicy::Preferred, QSizePolicy::Preferred);
84          sizePolicy.setHorizontalStretch(0);
85          sizePolicy.setVerticalStretch(0);
86          sizePolicy.setHeightForWidth(keyWidget->sizePolicy().hasHeightForWidth());
87          keyWidget->setSizePolicy(sizePolicy);
88
89          gridLayout->addWidget(keyWidget, 0, 1, 1, 3);
90
91          horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
92
93          gridLayout->addItem(horizontalSpacer, 0, 0, 1, 1);
94
95          horizontalLayout_2 = new QHBoxLayout();
96          horizontalLayout_2->setSpacing(0);
97          horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
98          copyButton = new QPushButton(KbBindWidget);
99          copyButton->setObjectName(QStringLiteral("copyButton"));
100          QSizePolicy sizePolicy1(QSizePolicy::Fixed, QSizePolicy::Fixed);
101          sizePolicy1.setHorizontalStretch(0);
102          sizePolicy1.setVerticalStretch(0);
103          sizePolicy1.setHeightForWidth(copyButton->sizePolicy().hasHeightForWidth());
104          copyButton->setSizePolicy(sizePolicy1);
105          copyButton->setMinimumSize(QSize(140, 0));
106          copyButton->setMaximumSize(QSize(140, 16777215));
107
108          horizontalLayout_2->addWidget(copyButton);
109
110          selectLabel = new QLabel(KbBindWidget);
111          selectLabel->setObjectName(QStringLiteral("selectLabel"));
112          QSizePolicy sizePolicy2(QSizePolicy::Expanding, QSizePolicy::Preferred);
113          sizePolicy2.setHorizontalStretch(0);
114          sizePolicy2.setVerticalStretch(0);
115          sizePolicy2.setHeightForWidth(selectLabel->sizePolicy().hasHeightForWidth());
116          selectLabel->setSizePolicy(sizePolicy2);
117          selectLabel->setAlignment(Qt::AlignCenter);
118
119          horizontalLayout_2->addWidget(selectLabel);
120
121          resetButton = new QPushButton(KbBindWidget);
122          resetButton->setObjectName(QStringLiteral("resetButton"));
123          QSizePolicy sizePolicy3(QSizePolicy::Expanding, QSizePolicy::Fixed);
124          sizePolicy3.setHorizontalStretch(0);
125          sizePolicy3.setVerticalStretch(0);
126          sizePolicy3.setHeightForWidth(resetButton->sizePolicy().hasHeightForWidth());
127          resetButton->setSizePolicy(sizePolicy3);
128          resetButton->setMinimumSize(QSize(140, 0));
129          resetButton->setMaximumSize(QSize(140, 16777215));
130
131          horizontalLayout_2->addWidget(resetButton);
132
133
134          gridLayout->addLayout(horizontalLayout_2, 1, 1, 1, 3);
135
136
137          verticalLayout->addLayout(gridLayout);
138
139          verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
140
141          verticalLayout->addItem(verticalSpacer);
142
143          label_2 = new QLabel(KbBindWidget);
144          label_2->setObjectName(QStringLiteral("label_2"));
145          label_2->setFont(font);
146
147          verticalLayout->addWidget(label_2);
148
149          line_2 = new QFrame(KbBindWidget);
150          line_2->setObjectName(QStringLiteral("line_2"));
151          line_2->setFrameShape(QFrame::HLine);
152          line_2->setFrameShadow(QFrame::Sunken);
153
154          verticalLayout->addWidget(line_2);
155
156          widget = new QWidget(KbBindWidget);
157          widget->setObjectName(QStringLiteral("widget"));
158          QSizePolicy sizePolicy4(QSizePolicy::Preferred, QSizePolicy::Fixed);
159          sizePolicy4.setHorizontalStretch(0);
160          sizePolicy4.setVerticalStretch(0);
161          sizePolicy4.setHeightForWidth(widget->sizePolicy().hasHeightForWidth());
162          widget->setSizePolicy(sizePolicy4);
163          widget->setMinimumSize(QSize(0, 280));
164          widget->setMaximumSize(QSize(16777215, 280));
165          gridLayout_2 = new QGridLayout(widget);
166          gridLayout_2->setSpacing(0);
167          gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
```

```
168         gridLayout_2->setContentsMargins(0, 0, 0, 0);
169         rbWidget = new RebindWidget(widget);
170         rbWidget->setObjectName(QStringLiteral("rbWidget"));
171         QSizePolicy sizePolicy5(QSizePolicy::Expanding, QSizePolicy::Expanding);
172         sizePolicy5.setHorizontalStretch(0);
173         sizePolicy5.setVerticalStretch(0);
174         sizePolicy5.setHeightForWidth(rbWidget->sizePolicy().hasHeightForWidth());
175         rbWidget->setSizePolicy(sizePolicy5);
176
177         gridLayout_2->addWidget(rbWidget, 0, 0, 1, 1);
178
179
180         verticalLayout->addWidget(widget);
181
182         label->raise();
183         line->raise();
184         label_2->raise();
185         line_2->raise();
186         widget->raise();
187
188         retranslateUi(KbBindWidget);
189
190         QMetaObject::connectSlotsByName(KbBindWidget);
191     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.92.3 Field Documentation

12.92.3.1 QPushButton* Ui_KbBindWidget::copyButton

Definition at line 41 of file ui_kbbindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.92.3.2 QGridLayout* Ui_KbBindWidget::gridLayout

Definition at line 36 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.3 QGridLayout* Ui_KbBindWidget::gridLayout_2

Definition at line 48 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.4 QHBoxLayout* Ui_KbBindWidget::horizontalLayout_2

Definition at line 40 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.5 QSpacerItem* Ui_KbBindWidget::horizontalSpacer

Definition at line 39 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.6 QSpacerItem* Ui_KbBindWidget::horizontalSpacer_2

Definition at line 37 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.7 KeyWidget* Ui_KbBindWidget::keyWidget

Definition at line 38 of file ui_kbbindwidget.h.

Referenced by KbBindWidget::KbBindWidget(), KbBindWidget::newLayout(), KbBindWidget::setBind(), setupUi(), and KbBindWidget::updateBind().

12.92.3.8 QLabel* Ui_KbBindWidget::label

Definition at line 34 of file ui_kbbindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.92.3.9 QLabel* Ui_KbBindWidget::label_2

Definition at line 45 of file ui_kbbindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.92.3.10 QFrame* Ui_KbBindWidget::line

Definition at line 35 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.11 QFrame* Ui_KbBindWidget::line_2

Definition at line 46 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.12 RebindWidget* Ui_KbBindWidget::rbWidget

Definition at line 49 of file ui_kbbindwidget.h.

Referenced by KbBindWidget::newLayout(), KbBindWidget::newSelection(), KbBindWidget::setBind(), setupUi(), and KbBindWidget::updateBind().

12.92.3.13 QPushButton* Ui_KbBindWidget::resetButton

Definition at line 43 of file ui_kbbindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.92.3.14 QLabel* Ui_KbBindWidget::selectLabel

Definition at line 42 of file ui_kbbindwidget.h.

Referenced by retranslateUi(), setupUi(), and KbBindWidget::updateSelDisplay().

12.92.3.15 QVBoxLayout* Ui_KbBindWidget::verticalLayout

Definition at line 33 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.16 QSpacerItem* Ui_KbBindWidget::verticalSpacer

Definition at line 44 of file ui_kbbindwidget.h.

Referenced by setupUi().

12.92.3.17 QWidget* Ui_KbBindWidget::widget

Definition at line 47 of file ui_kbbindwidget.h.

Referenced by setupUi().

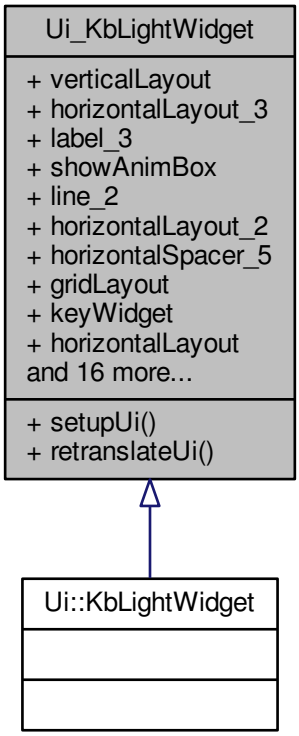
The documentation for this class was generated from the following file:

- src/ckb/ui_kbbindwidget.h

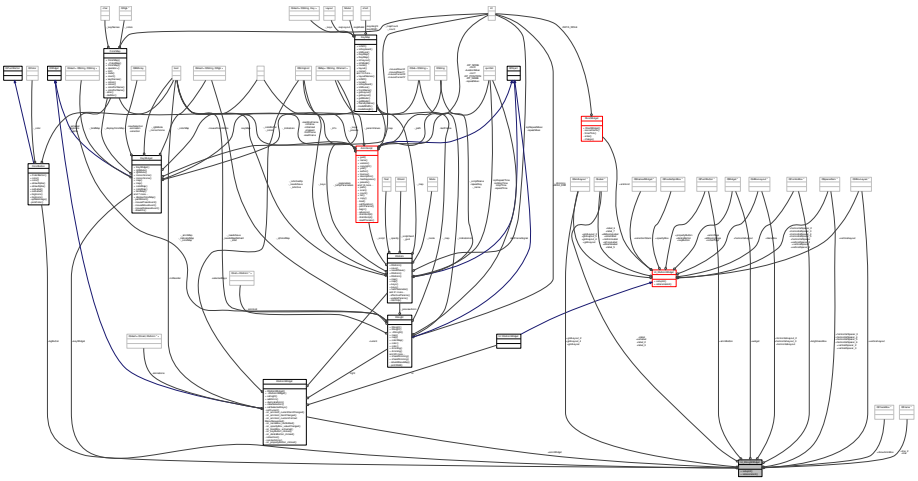
12.93 Ui_KbLightWidget Class Reference

`#include <src/ckb/ui_kblightwidget.h>`

Inheritance diagram for Ui_KbLightWidget:



Collaboration diagram for Ui_KbLightWidget:



Public Member Functions

- void setupUi (QWidget *KbLightWidget)
- void retranslateUi (QWidget *KbLightWidget)

Data Fields

- QVBoxLayout * verticalLayout
- QHBoxLayout * horizontalLayout_3
- QLabel * label_3
- QCheckBox * showAnimBox
- QFrame * line_2
- QHBoxLayout * horizontalLayout_2
- QSpacerItem * horizontalSpacer_5
- QGridLayout * gridLayout
- KeyWidget * keyWidget
- QHBoxLayout * horizontalLayout
- ColorButton * bgButton
- QLabel * selLabel
- QPushButton * animButton
- QSpacerItem * horizontalSpacer_6
- QSpacerItem * verticalSpacer_2
- QGridLayout * gridLayout_2
- QComboBox * brightnessBox
- QLabel * label
- QSpacerItem * horizontalSpacer_3
- QSpacerItem * horizontalSpacer_4
- QSpacerItem * verticalSpacer_3
- QLabel * label_2
- QFrame * line
- QWidget * widget
- QGridLayout * gridLayout_4
- KbAnimWidget * animWidget

12.93.1 Detailed Description

Definition at line 33 of file ui_kblightwidget.h.

12.93.2 Member Function Documentation

12.93.2.1 void Ui_KbLightWidget::retranslateUi (QWidget * *KbLightWidget*) [inline]

Definition at line 238 of file ui_kblightwidget.h.

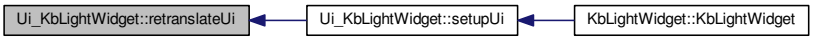
References animButton, bgButton, brightnessBox, label, label_2, label_3, selLabel, and showAnimBox.

Referenced by setupUi().

```
239     {
240         KbLightWidget->setWindowTitle(QApplication::translate("KbLightWidget", "Form", Q_NULLPTR));
241         label_3->setText(QApplication::translate("KbLightWidget", "Colors", Q_NULLPTR));
242 #ifndef QT_NO_TOOLTIP
243         showAnimBox->setToolTip(QApplication::translate("KbLightWidget", "If enabled, the same
      colors will be displayed here as on the keyboard. If disabled, the base colors will be shown.", Q_NULLPTR));
244 #endif // QT_NO_TOOLTIP
245         showAnimBox->setText(QApplication::translate("KbLightWidget", "Show animated", Q_NULLPTR
    ));
246         bgButton->setText(QApplication::translate("KbLightWidget", "Change color...", Q_NULLPTR));
247         selLabel->setText(QApplication::translate("KbLightWidget", "Click to select", Q_NULLPTR));
248         animButton->setText(QApplication::translate("KbLightWidget", "New animation...",
    Q_NULLPTR));
249         brightnessBox->clear();
250         brightnessBox->insertItems(0, QStringList()
251          << QApplication::translate("KbLightWidget", "100%", Q_NULLPTR)
252          << QApplication::translate("KbLightWidget", "67%", Q_NULLPTR)
253          << QApplication::translate("KbLightWidget", "33%", Q_NULLPTR)
254          << QApplication::translate("KbLightWidget", "Off", Q_NULLPTR)
```

```
255         );
256         label->setText(QApplication::translate("KbLightWidget", "\342\230\274", Q_NULLPTR));
257         label_2->setText(QApplication::translate("KbLightWidget", "Animations", Q_NULLPTR));
258     } // retranslateUi
```

Here is the caller graph for this function:



12.93.2.2 void Ui_KbLightWidget::setupUi (QWidget * *KbLightWidget*) [inline]

Definition at line 63 of file ui_kblightwidget.h.

References animButton, animWidget, bgButton, brightnessBox, gridLayout, gridLayout_2, gridLayout_4, horizontalLayout, horizontalLayout_2, horizontalLayout_3, horizontalSpacer_3, horizontalSpacer_4, horizontalSpacer_5, horizontalSpacer_6, keyWidget, label, label_2, label_3, line, line_2, retranslateUi(), selLabel, showAnimBox, verticalLayout, verticalSpacer_2, verticalSpacer_3, and widget.

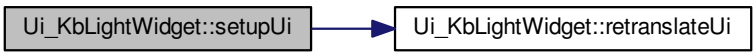
Referenced by KbLightWidget::KbLightWidget().

```
64     {
65         if (KbLightWidget->objectName().isEmpty())
66             KbLightWidget->setObjectName(QStringLiteral("KbLightWidget"));
67         KbLightWidget->resize(632, 540);
68         KbLightWidget->setFocusPolicy(Qt::ClickFocus);
69         verticalLayout = new QVBoxLayout(KbLightWidget);
70         verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
71         verticalLayout->setContentsMargins(0, 0, 0, -1);
72         horizontalLayout_3 = new QHBoxLayout();
73         horizontalLayout_3->setObjectName(QStringLiteral("horizontalLayout_3"));
74         label_3 = new QLabel(KbLightWidget);
75         label_3->setObjectName(QStringLiteral("label_3"));
76         QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
77         sizePolicy.setHorizontalStretch(0);
78         sizePolicy.setVerticalStretch(0);
79         sizePolicy.setHeightForWidth(label_3->sizePolicy().hasHeightForWidth());
80         label_3->setSizePolicy(sizePolicy);
81         QFont font;
82         font.setBold(true);
83         font.setWeight(75);
84         label_3->setFont(font);
85
86         horizontalLayout_3->addWidget(label_3);
87
88         showAnimBox = new QCheckBox(KbLightWidget);
89         showAnimBox->setObjectName(QStringLiteral("showAnimBox"));
90         showAnimBox->setChecked(true);
91
92         horizontalLayout_3->addWidget(showAnimBox);
93
94
95         verticalLayout->addLayout(horizontalLayout_3);
96
97         line_2 = new QFrame(KbLightWidget);
98         line_2->setObjectName(QStringLiteral("line_2"));
99         line_2->setFrameShape(QFrame::HLine);
100         line_2->setFrameShadow(QFrame::Sunken);
101
102         verticalLayout->addWidget(line_2);
103
104         horizontalLayout_2 = new QHBoxLayout();
105         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
106         horizontalSpacer_5 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
107
108         horizontalLayout_2->addItem(horizontalSpacer_5);
109
110         gridLayout = new QGridLayout();
111         gridLayout->setObjectName(QStringLiteral("gridLayout"));
112         keyWidget = new KeyWidget(KbLightWidget);
```

```
113         keyWidget->setObjectName(QStringLiteral("keyWidget"));
114         QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Expanding);
115         sizePolicy1.setHorizontalStretch(0);
116         sizePolicy1.setVerticalStretch(0);
117         sizePolicy1.setHeightForWidth(keyWidget->sizePolicy().hasHeightForWidth());
118         keyWidget->setSizePolicy(sizePolicy1);
119         keyWidget->setMinimumSize(QSize(100, 100));
120         keyWidget->setFocusPolicy(Qt::ClickFocus);
121 
122         gridLayout->addWidget(keyWidget, 0, 0, 1, 3);
123 
124         horizontalLayout = new QHBoxLayout();
125         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
126         bgButton = new ColorButton(KbLightWidget);
127         bgButton->setObjectName(QStringLiteral("bgButton"));
128         QSizePolicy sizePolicy2(QSizePolicy::Fixed, QSizePolicy::Fixed);
129         sizePolicy2.setHorizontalStretch(0);
130         sizePolicy2.setVerticalStretch(0);
131         sizePolicy2.setHeightForWidth(bgButton->sizePolicy().hasHeightForWidth());
132         bgButton->setSizePolicy(sizePolicy2);
133         bgButton->setMinimumSize(QSize(140, 0));
134         bgButton->setMaximumSize(QSize(140, 16777215));
135 
136         horizontalLayout->addWidget(bgButton);
137 
138         selLabel = new QLabel(KbLightWidget);
139         selLabel->setObjectName(QStringLiteral("selLabel"));
140         sizePolicy.setHeightForWidth(selLabel->sizePolicy().hasHeightForWidth());
141         selLabel->setSizePolicy(sizePolicy);
142         selLabel->setAlignment(Qt::AlignCenter);
143 
144         horizontalLayout->addWidget(selLabel);
145 
146         animButton = new QPushButton(KbLightWidget);
147         animButton->setObjectName(QStringLiteral("animButton"));
148         sizePolicy2.setHeightForWidth(animButton->sizePolicy().hasHeightForWidth());
149         animButton->setSizePolicy(sizePolicy2);
150         animButton->setMinimumSize(QSize(140, 0));
151         animButton->setMaximumSize(QSize(140, 16777215));
152 
153         horizontalLayout->addWidget(animButton);
154 
155 
156         gridLayout->addLayout(horizontalLayout, 1, 0, 1, 3);
157 
158 
159         horizontalLayout_2->addLayout(gridLayout);
160 
161         horizontalSpacer_6 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
162 
163         horizontalLayout_2->addItem(horizontalSpacer_6);
164 
165 
166         verticalLayout->addLayout(horizontalLayout_2);
167 
168         verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
169 
170         verticalLayout->addItem(verticalSpacer_2);
171 
172         gridLayout_2 = new QGridLayout();
173         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
174         brightnessBox = new QComboBox(KbLightWidget);
175         brightnessBox->setObjectName(QStringLiteral("brightnessBox"));
176         sizePolicy2.setHeightForWidth(brightnessBox->sizePolicy().hasHeightForWidth());
177         brightnessBox->setSizePolicy(sizePolicy2);
178 
179         gridLayout_2->addWidget(brightnessBox, 1, 3, 1, 1);
180 
181         label = new QLabel(KbLightWidget);
182         label->setObjectName(QStringLiteral("label"));
183         QFont font1;
184         font1.setPointSize(20);
185         label->setFont(font1);
186         label->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
187 
188         gridLayout_2->addWidget(label, 1, 2, 1, 1);
189 
190         horizontalSpacer_3 = new QSpacerItem(0, 0, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
191 
192         gridLayout_2->addItem(horizontalSpacer_3, 0, 4, 1, 1);
193 
194         horizontalSpacer_4 = new QSpacerItem(0, 0, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
195 
```

```
196         gridLayout_2->addItem(horizontalSpacer_4, 0, 2, 1, 1);
197
198
199         verticalLayout->addLayout(gridLayout_2);
200
201         verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
202
203         verticalLayout->addItem(verticalSpacer_3);
204
205         label_2 = new QLabel(KbLightWidget);
206         label_2->setObjectName(QStringLiteral("label_2"));
207         label_2->setFont(font);
208
209         verticalLayout->addWidget(label_2);
210
211         line = new QFrame(KbLightWidget);
212         line->setObjectName(QStringLiteral("line"));
213         line->setFrameShape(QFrame::HLine);
214         line->setFrameShadow(QFrame::Sunken);
215
216         verticalLayout->addWidget(line);
217
218         widget = new QWidget(KbLightWidget);
219         widget->setObjectName(QStringLiteral("widget"));
220         widget->setMinimumSize(QSize(0, 170));
221         gridLayout_4 = new QGridLayout(widget);
222         gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
223         gridLayout_4->setContentsMargins(-1, 0, -1, 0);
224         animWidget = new KbAnimWidget(widget);
225         animWidget->setObjectName(QStringLiteral("animWidget"));
226
227         gridLayout_4->addWidget(animWidget, 0, 0, 1, 1);
228
229
230         verticalLayout->addWidget(widget);
231
232
233         retranslateUi(KbLightWidget);
234
235         QMetaObject::connectSlotsByName(KbLightWidget);
236     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.93.3 Field Documentation

12.93.3.1 QPushButton* Ui_KbLightWidget::animButton

Definition at line 48 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), retranslateUi(), and setupUi().

12.93.3.2 KbAnimWidget* Ui_KbLightWidget::animWidget

Definition at line 61 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), KbLightWidget::newSelection(), KbLightWidget::on_animButton_clicked(), KbLightWidget::setLight(), and setupUi().

12.93.3.3 ColorButton* Ui_KbLightWidget::bgButton

Definition at line 46 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), KbLightWidget::newSelection(), retranslateUi(), and setupUi().

12.93.3.4 QComboBox* Ui_KbLightWidget::brightnessBox

Definition at line 52 of file ui_kblightwidget.h.

Referenced by retranslateUi(), setupUi(), and KbLightWidget::updateLight().

12.93.3.5 QGridLayout* Ui_KbLightWidget::gridLayout

Definition at line 43 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.6 QGridLayout* Ui_KbLightWidget::gridLayout_2

Definition at line 51 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.7 QGridLayout* Ui_KbLightWidget::gridLayout_4

Definition at line 60 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.8 QHBoxLayout* Ui_KbLightWidget::horizontalLayout

Definition at line 45 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.9 QHBoxLayout* Ui_KbLightWidget::horizontalLayout_2

Definition at line 41 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.10 QHBoxLayout* Ui_KbLightWidget::horizontalLayout_3

Definition at line 37 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.11 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_3

Definition at line 54 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.12 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_4

Definition at line 55 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.13 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_5

Definition at line 42 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.14 QSpacerItem* Ui_KbLightWidget::horizontalSpacer_6

Definition at line 49 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.15 KeyWidget* Ui_KbLightWidget::keyWidget

Definition at line 44 of file ui_kblightwidget.h.

Referenced by KbLightWidget::changeAnim(), KbLightWidget::changeAnimKeys(), KbLightWidget::changeColor(), KbLightWidget::KbLightWidget(), KbLightWidget::on_animButton_clicked(), KbLightWidget::on_bgButton_clicked(), KbLightWidget::on_showAnimBox_clicked(), KbLightWidget::setLight(), KbLightWidget::setMonochrome(), setupUi(), KbLightWidget::toggleSidelight(), and KbLightWidget::updateLight().

12.93.3.16 QLabel* Ui_KbLightWidget::label

Definition at line 53 of file ui_kblightwidget.h.

Referenced by retranslateUi(), and setupUi().

12.93.3.17 QLabel* Ui_KbLightWidget::label_2

Definition at line 57 of file ui_kblightwidget.h.

Referenced by retranslateUi(), and setupUi().

12.93.3.18 QLabel* Ui_KbLightWidget::label_3

Definition at line 38 of file ui_kblightwidget.h.

Referenced by retranslateUi(), and setupUi().

12.93.3.19 QFrame* Ui_KbLightWidget::line

Definition at line 58 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.20 QFrame* Ui_KbLightWidget::line_2

Definition at line 40 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.21 QLabel* Ui_KbLightWidget::selLabel

Definition at line 47 of file ui_kblightwidget.h.

Referenced by KbLightWidget::newSelection(), retranslateUi(), and setupUi().

12.93.3.22 QCheckBox* Ui_KbLightWidget::showAnimBox

Definition at line 39 of file ui_kblightwidget.h.

Referenced by KbLightWidget::KbLightWidget(), retranslateUi(), KbLightWidget::setLight(), and setupUi().

12.93.3.23 QVBoxLayout* Ui_KbLightWidget::verticalLayout

Definition at line 36 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.24 QSpacerItem* Ui_KbLightWidget::verticalSpacer_2

Definition at line 50 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.25 QSpacerItem* Ui_KbLightWidget::verticalSpacer_3

Definition at line 56 of file ui_kblightwidget.h.

Referenced by setupUi().

12.93.3.26 QWidget* Ui_KbLightWidget::widget

Definition at line 59 of file ui_kblightwidget.h.

Referenced by setupUi().

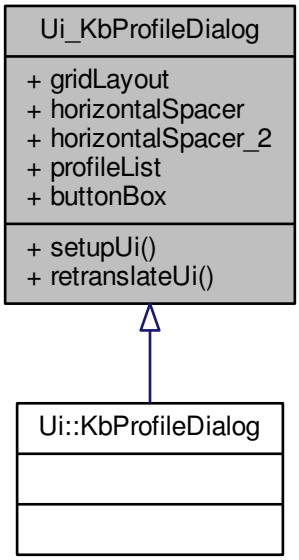
The documentation for this class was generated from the following file:

- src/ckb/ui_kblightwidget.h

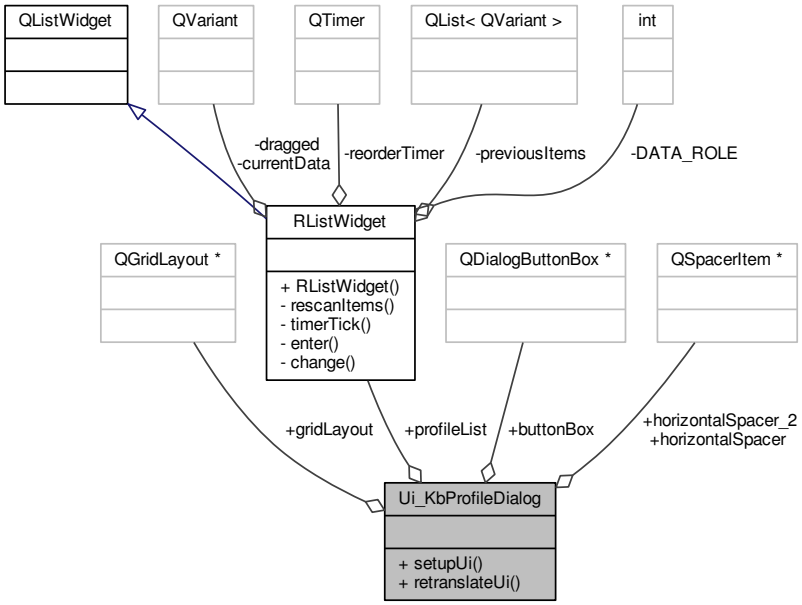
12.94 Ui_KbProfileDialog Class Reference

`#include <src/ckb/ui_kbprofiledialog.h>`

Inheritance diagram for Ui_KbProfileDialog:



Collaboration diagram for Ui_KbProfileDialog:



Public Member Functions

- void setupUi (QDialog *KbProfileDialog)
- void retranslateUi (QDialog *KbProfileDialog)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * horizontalSpacer
- QSpacerItem * horizontalSpacer_2
- RListWidget * profileList
- QDialogButtonBox * buttonBox

12.94.1 Detailed Description

Definition at line 25 of file ui_kbprofiledialog.h.

12.94.2 Member Function Documentation

12.94.2.1 void Ui_KbProfileDialog::retranslateUi (QDialog * *KbProfileDialog*) [inline]

Definition at line 73 of file ui_kbprofiledialog.h.

Referenced by setupUi().

```
74     {
75         KbProfileDialog->setWindowTitle(QApplication::translate("KbProfileDialog", "Keyboard Profiles",
       Q_NULLPTR));
76     } // retranslateUi
```

Here is the caller graph for this function:

12.94.2.2 void Ui_KbProfileDialog::setupUi (QDialog * *KbProfileDialog*) [inline]

Definition at line 34 of file ui_kbprofiledialog.h.

References buttonBox, gridLayout, horizontalSpacer, horizontalSpacer_2, profileList, and retranslateUi().

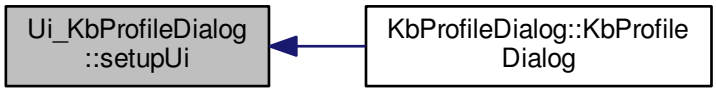
Referenced by KbProfileDialog::KbProfileDialog().

```
35     {
36         if (KbProfileDialog->objectName().isEmpty())
37             KbProfileDialog->setObjectName(QStringLiteral("KbProfileDialog"));
38         KbProfileDialog->resize(400, 300);
39         KbProfileDialog->setFocusPolicy(Qt::ClickFocus);
40         gridLayout = new QGridLayout(KbProfileDialog);
41         gridLayout->setObjectName(QStringLiteral("gridLayout"));
42         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
       QSizePolicy::Minimum);
43
44         gridLayout->addItem(horizontalSpacer, 0, 0, 1, 1);
```

```
45
46          horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
47
48          gridLayout->addItem(horizontalSpacer_2, 0, 2, 1, 1);
49
50          profileList = new RListWidget(KbProfileDialog);
51          profileList->setObjectName(QStringLiteral("profileList"));
52          profileList->setContextMenuPolicy(Qt::CustomContextMenu);
53          profileList->setFrameShadow(QFrame::Plain);
54          profileList->setIconSize(QSize(24, 24));
55
56          gridLayout->addWidget(profileList, 0, 1, 1, 1);
57
58          buttonBox = new QDialogButtonBox(KbProfileDialog);
59          buttonBox->setObjectName(QStringLiteral("buttonBox"));
60          buttonBox->setOrientation(Qt::Horizontal);
61          buttonBox->setStandardButtons(QDialogButtonBox::Ok);
62
63          gridLayout->addWidget(buttonBox, 1, 0, 1, 3);
64
65
66          retranslateUi(KbProfileDialog);
67          QObject::connect(buttonBox, SIGNAL(accepted()), KbProfileDialog, SLOT(accept()));
68          QObject::connect(buttonBox, SIGNAL(rejected()), KbProfileDialog, SLOT(reject()));
69
70          QMetaObject::connectSlotsByName(KbProfileDialog);
71      } // setupUi
```

Here is the call graph for this function:

Here is the caller graph for this function:



12.94.3 Field Documentation

12.94.3.1 QDialogButtonBox* Ui_KbProfileDialog::buttonBox

Definition at line 32 of file ui_kbprofiledialog.h.

Referenced by setupUi().

12.94.3.2 QGridLayout* Ui_KbProfileDialog::gridLayout

Definition at line 28 of file ui_kbprofiledialog.h.

Referenced by setupUi().

12.94.3.3 QSpacerItem* Ui_KbProfileDialog::horizontalSpacer

Definition at line 29 of file ui_kbprofiledialog.h.

Referenced by setupUi().

12.94.3.4 QSpacerItem* Ui_KbProfileDialog::horizontalSpacer_2

Definition at line 30 of file ui_kbprofiledialog.h.

Referenced by setupUi().

12.94.3.5 RListWidget* Ui_KbProfileDialog::profileList

Definition at line 31 of file ui_kbprofiledialog.h.

Referenced by KbProfileDialog::addNewProfileItem(), KbProfileDialog::KbProfileDialog(), KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::on_profileList_itemClicked(), KbProfileDialog::profileList_reordered(), KbProfileDialog::repopulate(), and setupUi().

The documentation for this class was generated from the following file:

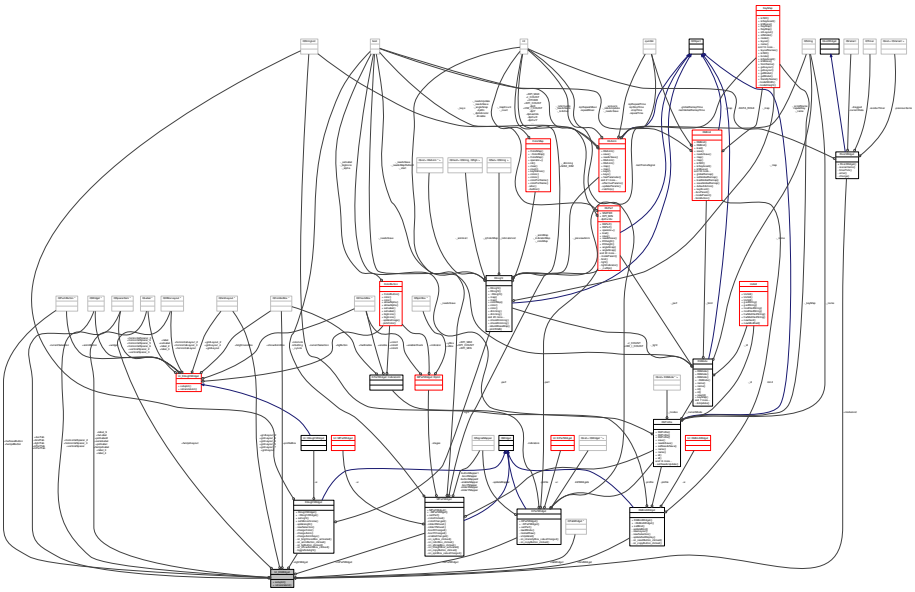
- src/ckb/ui_kbprofiledialog.h

12.95 Ui_KbWidget Class Reference

`#include <src/ckb/ui_kbwidget.h>`

Inheritance diagram for Ui_KbWidget:

Collaboration diagram for Ui_KbWidget:



Public Member Functions

- void setupUi (QWidget *KbWidget)
- void retranslateUi (QWidget *KbWidget)

Data Fields

- QGridLayout * gridLayout
- QComboBox * profileBox
- QTabWidget * tabWidget
- QWidget * lightTab
- QGridLayout * gridLayout_2
- KbLightWidget * lightWidget
- QLabel * label_3
- QWidget * bindTab
- QGridLayout * gridLayout_5
- KbBindWidget * bindWidget
- QWidget * kPerfTab
- QGridLayout * gridLayout_4
- KPerfWidget * kPerfWidget
- QWidget * mPerfTab
- QGridLayout * gridLayout_7
- MPerfWidget * mPerfWidget
- QWidget * devTab
- QGridLayout * gridLayout_3
- QLabel * fwUpdLabel
- QSpacerItem * verticalSpacer
- QLabel * fwLabel
- QLabel * label_4
- QSpacerItem * horizontalSpacer_2
- QLabel * label_9
- QLabel * serialLabel
- QHBoxLayout * fwUpdLayout
- QPushButton * fwUpdButton
- QSpacerItem * horizontalSpacer_3
- QLabel * pollLabel2
- QLabel * pollLabel
- RListWidget * modesList
- QPushButton * hwSaveButton

12.95.1 Detailed Description

Definition at line 33 of file ui_kbwidget.h.

12.95.2 Member Function Documentation

12.95.2.1 void Ui_KbWidget::retranslateUi (QWidget * *KbWidget*) [inline]

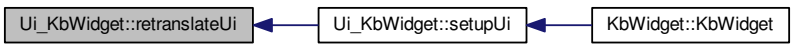
Definition at line 268 of file ui_kbwidget.h.

References bindTab, devTab, fwLabel, fwUpdButton, fwUpdLabel, hwSaveButton, kPerfTab, label_3, label_4, label_9, lightTab, mPerfTab, pollLabel, pollLabel2, serialLabel, and tabWidget.

Referenced by setupUi().

```
269     {
270         KbWidget->setWindowTitle(QApplication::translate("KbWidget", "Form", Q_NULLPTR));
271         label_3->setText(QApplication::translate("KbWidget", "Tip: Drag+drop items to reorder.
     Right-click for menu.", Q_NULLPTR));
272         tabWidget->setTabText(tabWidget->indexOf(lightTab),
    QApplication::translate("KbWidget", "Lighting", Q_NULLPTR));
273         tabWidget->setTabText(tabWidget->indexOf(bindTab), QApplication::translate
    ("KbWidget", "Binding", Q_NULLPTR));
274         tabWidget->setTabText(tabWidget->indexOf(kPerfTab),
    QApplication::translate("KbWidget", "Performance", Q_NULLPTR));
275         tabWidget->setTabText(tabWidget->indexOf(mPerfTab),
    QApplication::translate("KbWidget", "Performance", Q_NULLPTR));
276         fwUpdLabel->setText(QApplication::translate("KbWidget", "Status:", Q_NULLPTR));
277         fwLabel->setText(QApplication::translate("KbWidget", "N/A", Q_NULLPTR));
278         label_4->setText(QApplication::translate("KbWidget", "USB device ID:", Q_NULLPTR));
279         label_9->setText(QApplication::translate("KbWidget", "Firmware version:", Q_NULLPTR));
280         serialLabel->setText(QApplication::translate("KbWidget", "N/A", Q_NULLPTR));
281         fwUpdButton->setText(QApplication::translate("KbWidget", "Check for updates", Q_NULLPTR)
    );
282         pollLabel2->setText(QApplication::translate("KbWidget", "Poll rate:", Q_NULLPTR));
283         pollLabel->setText(QApplication::translate("KbWidget", "N/A", Q_NULLPTR));
284         tabWidget->setTabText(tabWidget->indexOf(devTab), QApplication::translate("
    KbWidget", "Device", Q_NULLPTR));
285         hwSaveButton->setText(QApplication::translate("KbWidget", "Save to hardware", Q_NULLPTR
    ));
286     } // retranslateUi
```

Here is the caller graph for this function:



12.95.2.2 void Ui_KbWidget::setupUi (QWidget * *KbWidget*) [inline]

Definition at line 69 of file ui_kbwidget.h.

References bindTab, bindWidget, devTab, fwLabel, fwUpdButton, fwUpdLabel, fwUpdLayout, gridLayout, gridLayout_2, gridLayout_3, gridLayout_4, gridLayout_5, gridLayout_7, horizontalSpacer_2, horizontalSpacer_3, hwSaveButton, kPerfTab, kPerfWidget, label_3, label_4, label_9, lightTab, lightWidget, modesList, mPerfTab, mPerfWidget, pollLabel, pollLabel2, profileBox, retranslateUi(), serialLabel, tabWidget, and verticalSpacer.

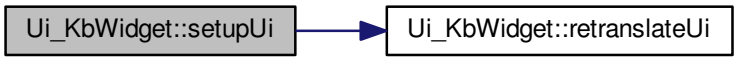
Referenced by KbWidget::KbWidget().

```
70     {
71         if (KbWidget->objectName().isEmpty())
72             KbWidget->setObjectName(QStringLiteral("KbWidget"));
73         KbWidget->resize(773, 539);
74         gridLayout = new QGridLayout(KbWidget);
75         gridLayout->setSpacing(9);
76         gridLayout->setObjectName(QStringLiteral("gridLayout"));
77         gridLayout->setContentsMargins(9, -1, 9, 9);
78         profileBox = new QComboBox(KbWidget);
79         profileBox->setObjectName(QStringLiteral("profileBox"));
80         QSizePolicy sizePolicy(QSizePolicy::Preferred, QSizePolicy::Fixed);
81         sizePolicy.setHorizontalStretch(18);
82         sizePolicy.setVerticalStretch(0);
83         sizePolicy.setHeightForWidth(profileBox->sizePolicy().hasHeightForWidth());
84         profileBox->setSizePolicy(sizePolicy);
85         profileBox->setIconSize(QSize(24, 24));
86
87         gridLayout->addWidget(profileBox, 0, 0, 1, 1);
88
89         tabWidget = new QTabWidget(KbWidget);
90         tabWidget->setObjectName(QStringLiteral("tabWidget"));
91         QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Expanding);
92         sizePolicy1.setHorizontalStretch(82);
93         sizePolicy1.setVerticalStretch(0);
94         sizePolicy1.setHeightForWidth(tabWidget->sizePolicy().hasHeightForWidth());
95         tabWidget->setSizePolicy(sizePolicy1);
96         lightTab = new QWidget();
```

```
97          lightTab->setObjectName(QStringLiteral("lightTab"));
98          gridLayout_2 = new QGridLayout(lightTab);
99          gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
100          gridLayout_2->setHorizontalSpacing(0);
101          gridLayout_2->setVerticalSpacing(6);
102          gridLayout_2->setContentsMargins(6, 6, 6, 6);
103          lightWidget = new KbLightWidget(lightTab);
104          lightWidget->setObjectName(QStringLiteral("lightWidget"));
105          QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Expanding);
106          sizePolicy2.setHorizontalStretch(0);
107          sizePolicy2.setVerticalStretch(0);
108          sizePolicy2.setHeightForWidth(lightWidget->sizePolicy().hasHeightForWidth());
109          lightWidget->setSizePolicy(sizePolicy2);
110
111          gridLayout_2->addWidget(lightWidget, 0, 0, 1, 1);
112
113          label_3 = new QLabel(lightTab);
114          label_3->setObjectName(QStringLiteral("label_3"));
115          QSizePolicy sizePolicy3(QSizePolicy::Preferred, QSizePolicy::Minimum);
116          sizePolicy3.setHorizontalStretch(0);
117          sizePolicy3.setVerticalStretch(0);
118          sizePolicy3.setHeightForWidth(label_3->sizePolicy().hasHeightForWidth());
119          label_3->setSizePolicy(sizePolicy3);
120
121          gridLayout_2->addWidget(label_3, 1, 0, 1, 1);
122
123          tabWidget->addTab(lightTab, QString());
124          bindTab = new QWidget();
125          bindTab->setObjectName(QStringLiteral("bindTab"));
126          gridLayout_5 = new QGridLayout(bindTab);
127          gridLayout_5->setSpacing(0);
128          gridLayout_5->setObjectName(QStringLiteral("gridLayout_5"));
129          gridLayout_5->setContentsMargins(6, 6, 6, 6);
130          bindWidget = new KbBindWidget(bindTab);
131          bindWidget->setObjectName(QStringLiteral("bindWidget"));
132          sizePolicy2.setHeightForWidth(bindWidget->sizePolicy().hasHeightForWidth());
133          bindWidget->setSizePolicy(sizePolicy2);
134
135          gridLayout_5->addWidget(bindWidget, 0, 0, 1, 1);
136
137          tabWidget->addTab(bindTab, QString());
138          kPerfTab = new QWidget();
139          kPerfTab->setObjectName(QStringLiteral("kPerfTab"));
140          gridLayout_4 = new QGridLayout(kPerfTab);
141          gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
142          gridLayout_4->setContentsMargins(6, 6, 6, 6);
143          kPerfWidget = new KPerfWidget(kPerfTab);
144          kPerfWidget->setObjectName(QStringLiteral("kPerfWidget"));
145
146          gridLayout_4->addWidget(kPerfWidget, 0, 0, 1, 1);
147
148          tabWidget->addTab(kPerfTab, QString());
149          mPerfTab = new QWidget();
150          mPerfTab->setObjectName(QStringLiteral("mPerfTab"));
151          gridLayout_7 = new QGridLayout(mPerfTab);
152          gridLayout_7->setObjectName(QStringLiteral("gridLayout_7"));
153          gridLayout_7->setContentsMargins(6, 6, 6, 6);
154          mPerfWidget = new MPerfWidget(mPerfTab);
155          mPerfWidget->setObjectName(QStringLiteral("mPerfWidget"));
156
157          gridLayout_7->addWidget(mPerfWidget, 0, 0, 1, 1);
158
159          tabWidget->addTab(mPerfTab, QString());
160          devTab = new QWidget();
161          devTab->setObjectName(QStringLiteral("devTab"));
162          gridLayout_3 = new QGridLayout(devTab);
163          gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
164          gridLayout_3->setContentsMargins(6, 6, 6, 6);
165          fwUpdLabel = new QLabel(devTab);
166          fwUpdLabel->setObjectName(QStringLiteral("fwUpdLabel"));
167          fwUpdLabel->setMinimumSize(QSize(0, 34));
168
169          gridLayout_3->addWidget(fwUpdLabel, 4, 0, 1, 1);
170
171          verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
172
173          gridLayout_3->addItem(verticalSpacer, 6, 2, 1, 1);
174
175          fwLabel = new QLabel(devTab);
176          fwLabel->setObjectName(QStringLiteral("fwLabel"));
177          fwLabel->setCursor(QCursor(Qt::IBeamCursor));
178          fwLabel->setTextInteractionFlags(Qt::LinksAccessibleByMouse|Qt::TextSelectableByMouse);
179
180          gridLayout_3->addWidget(fwLabel, 2, 2, 1, 1);
181
182          label_4 = new QLabel(devTab);
```

```
183         label_4->setObjectName(QStringLiteral("label_4"));
184         label_4->setMinimumSize(QSize(0, 34));
185 
186         gridLayout_3->addWidget(label_4, 0, 0, 1, 1);
187 
188         horizontalSpacer_2 = new QSpacerItem(40, 1, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
189 
190         gridLayout_3->addItem(horizontalSpacer_2, 2, 1, 1, 1);
191 
192         label_9 = new QLabel(devTab);
193         label_9->setObjectName(QStringLiteral("label_9"));
194         label_9->setMinimumSize(QSize(0, 34));
195 
196         gridLayout_3->addWidget(label_9, 2, 0, 1, 1);
197 
198         serialLabel = new QLabel(devTab);
199         serialLabel->setObjectName(QStringLiteral("serialLabel"));
200         serialLabel->setCursor(QCursor(Qt::IBeamCursor));
201         serialLabel->setTextInteractionFlags(Qt::LinksAccessibleByMouse|
    Qt::TextSelectableByMouse);
202 
203         gridLayout_3->addWidget(serialLabel, 0, 2, 1, 1);
204 
205         fwUpdLayout = new QHBoxLayout();
206         fwUpdLayout->setObjectName(QStringLiteral("fwUpdLayout"));
207         fwUpdButton = new QPushButton(devTab);
208         fwUpdButton->setObjectName(QStringLiteral("fwUpdButton"));
209 
210         fwUpdLayout->addWidget(fwUpdButton);
211 
212         horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
213 
214         fwUpdLayout->addItem(horizontalSpacer_3);
215 
216 
217         gridLayout_3->addLayout(fwUpdLayout, 4, 2, 1, 1);
218 
219         pollLabel2 = new QLabel(devTab);
220         pollLabel2->setObjectName(QStringLiteral("pollLabel2"));
221         pollLabel2->setMinimumSize(QSize(0, 34));
222 
223         gridLayout_3->addWidget(pollLabel2, 1, 0, 1, 1);
224 
225         pollLabel = new QLabel(devTab);
226         pollLabel->setObjectName(QStringLiteral("pollLabel"));
227 
228         gridLayout_3->addWidget(pollLabel, 1, 2, 1, 1);
229 
230         tabWidget->addTab(devTab, QString());
231 
232         gridLayout->addWidget(tabWidget, 0, 1, 3, 1);
233 
234         modesList = new RListWidget(KbWidget);
235         modesList->setObjectName(QStringLiteral("modesList"));
236         QSizePolicy sizePolicy4(QSizePolicy::Expanding, QSizePolicy::Expanding);
237         sizePolicy4.setHorizontalStretch(18);
238         sizePolicy4.setVerticalStretch(0);
239         sizePolicy4.setHeightForWidth(modesList->sizePolicy().hasHeightForWidth());
240         modesList->setSizePolicy(sizePolicy4);
241         modesList->setContextMenuPolicy(Qt::CustomContextMenu);
242         modesList->setFrameShadow(QFrame::Plain);
243         modesList->setDragDropMode(QAbstractItemView::InternalMove);
244         modesList->setIconSize(QSize(24, 24));
245         modesList->setMovement(QListView::Snap);
246 
247         gridLayout->addWidget(modesList, 1, 0, 1, 1);
248 
249         hwSaveButton = new QPushButton(KbWidget);
250         hwSaveButton->setObjectName(QStringLiteral("hwSaveButton"));
251         QSizePolicy sizePolicy5(QSizePolicy::Minimum, QSizePolicy::Fixed);
252         sizePolicy5.setHorizontalStretch(18);
253         sizePolicy5.setVerticalStretch(0);
254         sizePolicy5.setHeightForWidth(hwSaveButton->sizePolicy().hasHeightForWidth());
255         hwSaveButton->setSizePolicy(sizePolicy5);
256 
257         gridLayout->addWidget(hwSaveButton, 2, 0, 1, 1);
258 
259 
260         retranslateUi(KbWidget);
261 
262         tabWidget->setCurrentIndex(0);
263 
264 
265         QMetaObject::connectSlotsByName(KbWidget);
266     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.95.3 Field Documentation

12.95.3.1 QWidget* Ui_KbWidget::bindTab

Definition at line 43 of file ui_kbwidget.h.

Referenced by retranslateUi(), and setupUi().

12.95.3.2 KbBindWidget* Ui_KbWidget::bindWidget

Definition at line 45 of file ui_kbwidget.h.

Referenced by KbWidget::modeChanged(), and setupUi().

12.95.3.3 QWidget* Ui_KbWidget::devTab

Definition at line 52 of file ui_kbwidget.h.

Referenced by retranslateUi(), and setupUi().

12.95.3.4 QLabel* Ui_KbWidget::fwLabel

Definition at line 56 of file ui_kbwidget.h.

Referenced by KbWidget::devUpdate(), retranslateUi(), and setupUi().

12.95.3.5 QPushButton* Ui_KbWidget::fwUpdButton

Definition at line 62 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), KbWidget::on_fwUpdButton_clicked(), retranslateUi(), setupUi(), and KbWidget::updateFwButton().

12.95.3.6 QLabel* Ui_KbWidget::fwUpdLabel

Definition at line 54 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), retranslateUi(), and setupUi().

12.95.3.7 QHBoxLayout* Ui_KbWidget::fwUpdLayout

Definition at line 61 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), and setupUi().

12.95.3.8 QGridLayout* Ui_KbWidget::gridLayout

Definition at line 36 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.9 QGridLayout* Ui_KbWidget::gridLayout_2

Definition at line 40 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.10 QGridLayout* Ui_KbWidget::gridLayout_3

Definition at line 53 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.11 QGridLayout* Ui_KbWidget::gridLayout_4

Definition at line 47 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.12 QGridLayout* Ui_KbWidget::gridLayout_5

Definition at line 44 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.13 QGridLayout* Ui_KbWidget::gridLayout_7

Definition at line 50 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.14 QSpacerItem* Ui_KbWidget::horizontalSpacer_2

Definition at line 58 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.15 QSpacerItem* Ui_KbWidget::horizontalSpacer_3

Definition at line 63 of file ui_kbwidget.h.

Referenced by setupUi().

12.95.3.16 QPushButton* Ui_KbWidget::hwSaveButton

Definition at line 67 of file ui_kbwidget.h.

Referenced by retranslateUi(), and setupUi().

12.95.3.17 QWidget* Ui_KbWidget::kPerfTab

Definition at line 46 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), retranslateUi(), and setupUi().

12.95.3.18 KPerfWidget* Ui_KbWidget::kPerfWidget

Definition at line 48 of file ui_kbwidget.h.

Referenced by KbWidget::modeChanged(), and setupUi().

12.95.3.19 QLabel* Ui_KbWidget::label_3

Definition at line 42 of file ui_kbwidget.h.

Referenced by retranslateUi(), and setupUi().

12.95.3.20 QLabel* Ui_KbWidget::label_4

Definition at line 57 of file ui_kbwidget.h.

Referenced by retranslateUi(), and setupUi().

12.95.3.21 QLabel* Ui_KbWidget::label_9

Definition at line 59 of file ui_kbwidget.h.

Referenced by retranslateUi(), and setupUi().

12.95.3.22 QWidget* Ui_KbWidget::lightTab

Definition at line 39 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), retranslateUi(), and setupUi().

12.95.3.23 KbLightWidget* Ui_KbWidget::lightWidget

Definition at line 41 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), KbWidget::modeChanged(), and setupUi().

12.95.3.24 RListWidget* Ui_KbWidget::modesList

Definition at line 66 of file ui_kbwidget.h.

Referenced by KbWidget::addNewModeItem(), KbWidget::KbWidget(), KbWidget::modeChanged(), KbWidget::modesList_reordered(), KbWidget::on_modesList_customContextMenuRequested(), KbWidget::on_modesList_itemClicked(), KbWidget::profileChanged(), and setupUi().

12.95.3.25 QWidget* Ui_KbWidget::mPerfTab

Definition at line 49 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), retranslateUi(), and setupUi().

12.95.3.26 MPerfWidget* Ui_KbWidget::mPerfWidget

Definition at line 51 of file ui_kbwidget.h.

Referenced by KbWidget::modeChanged(), and setupUi().

12.95.3.27 QLabel* Ui_KbWidget::pollLabel

Definition at line 65 of file ui_kbwidget.h.

Referenced by KbWidget::devUpdate(), KbWidget::KbWidget(), retranslateUi(), and setupUi().

12.95.3.28 QLabel* Ui_KbWidget::pollLabel2

Definition at line 64 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), retranslateUi(), and setupUi().

12.95.3.29 QComboBox* Ui_KbWidget::profileBox

Definition at line 37 of file ui_kbwidget.h.

Referenced by setupUi(), and KbWidget::updateProfileList().

12.95.3.30 QLabel* Ui_KbWidget::serialLabel

Definition at line 60 of file ui_kbwidget.h.

Referenced by KbWidget::devUpdate(), retranslateUi(), and setupUi().

12.95.3.31 QTabWidget* Ui_KbWidget::tabWidget

Definition at line 38 of file ui_kbwidget.h.

Referenced by KbWidget::KbWidget(), KbWidget::on_tabWidget_currentChanged(), retranslateUi(), setupUi(), KbWidget::showFirstTab(), and KbWidget::showLastTab().

12.95.3.32 QSpacerItem* Ui_KbWidget::verticalSpacer

Definition at line 55 of file ui_kbwidget.h.

Referenced by setupUi().

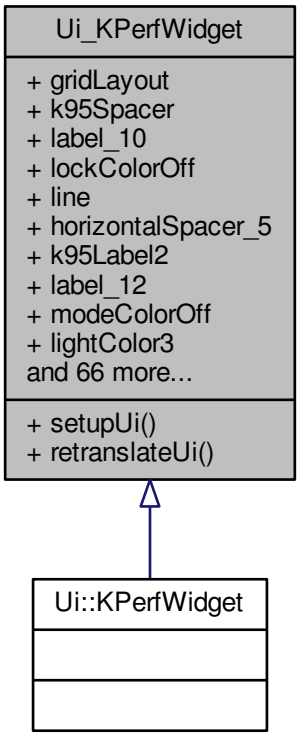
The documentation for this class was generated from the following file:

- src/ckb/ui_kbwidget.h

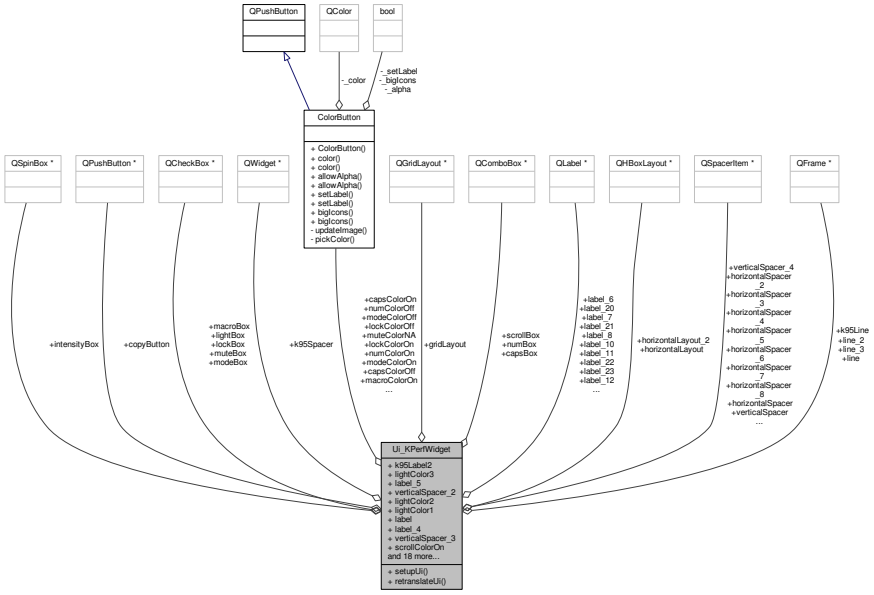
12.96 Ui_KPerfWidget Class Reference

`#include <src/ckb/ui_kperfwidget.h>`

Inheritance diagram for Ui_KPerfWidget:



Collaboration diagram for Ui_KPerfWidget:



Public Member Functions

- void setupUi (QWidget *KPerfWidget)
- void retranslateUi (QWidget *KPerfWidget)

Data Fields

- QGridLayout * gridLayout
- QWidget * k95Spacer
- QLabel * label_10
- ColorButton * lockColorOff
- QFrame * line
- QSpacerItem * horizontalSpacer_5
- QLabel * k95Label2
- QLabel * label_12
- ColorButton * modeColorOff
- ColorButton * lightColor3
- QSpacerItem * horizontalSpacer
- QCheckBox * lockBox
- ColorButton * modeColorOn
- QCheckBox * macroBox
- ColorButton * numColorOn
- QComboBox * numBox
- QLabel * label_5
- QSpacerItem * verticalSpacer_2
- ColorButton * lightColor2
- QSpacerItem * horizontalSpacer_7
- QLabel * label_8
- QCheckBox * lightBox
- ColorButton * lightColor1

- QSpacerItem * verticalSpacer_4
- QLabel * label_6
- QLabel * label
- QSpacerItem * horizontalSpacer_6
- ColorButton * lockColorOn
- QLabel * label_4
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_3
- QCheckBox * modeBox
- ColorButton * capsColorOff
- ColorButton * numColorOff
- ColorButton * capsColorOn
- QFrame * line_3
- QLabel * label_22
- QComboBox * scrollBox
- QLabel * label_7
- ColorButton * scrollColorOn
- QComboBox * capsBox
- ColorButton * scrollColorOff
- QCheckBox * muteBox
- ColorButton * muteColorOn
- ColorButton * macroColorOff
- QLabel * label_3
- ColorButton * muteColorOff
- QLabel * k95Label3
- ColorButton * macroColorOn
- ColorButton * muteColorNA
- QLabel * label_19
- QFrame * k95Line
- QLabel * label_21
- QLabel * label_24
- QLabel * label_20
- QLabel * label_16
- QLabel * label_14
- QLabel * label_18
- QSpacerItem * horizontalSpacer_2
- QLabel * label_15
- QLabel * k95Label4
- QLabel * label_17
- QLabel * label_11
- QLabel * label_23
- QLabel * k95Label1
- QHBoxLayout * horizontalLayout_2
- QPushButton * copyButton
- QSpacerItem * horizontalSpacer_8
- QHBoxLayout * horizontalLayout
- QLabel * label_2
- QSpacerItem * horizontalSpacer_4
- QSpinBox * intensityBox
- QSpacerItem * horizontalSpacer_3
- QLabel * k95Label5
- QFrame * line_2
- QLabel * k95Label6

12.96.1 Detailed Description

Definition at line 31 of file ui_kperfwidget.h.

12.96.2 Member Function Documentation

12.96.2.1 void Ui_KPerfWidget::retranslateUi (QWidget * *KPerfWidget*) [inline]

Definition at line 589 of file ui_kperfwidget.h.

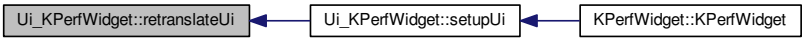
References capsBox, capsColorOff, capsColorOn, copyButton, intensityBox, k95Label1, k95Label2, k95Label3, k95Label4, k95Label5, k95Label6, label, label_10, label_11, label_12, label_14, label_15, label_16, label_17, label_18, label_19, label_2, label_20, label_21, label_22, label_23, label_24, label_3, label_4, label_5, label_6, label_7, label_8, lightBox, lightColor1, lightColor2, lightColor3, lockBox, lockColorOff, lockColorOn, macroBox, macroColorOff, macroColorOn, modeBox, modeColorOff, modeColorOn, muteBox, muteColorNA, muteColorOff, muteColorOn, numBox, numColorOff, numColorOn, scrollBox, scrollColorOff, and scrollColorOn.

Referenced by setupUi().

```
590     {
591         KPerfWidget->setWindowTitle(QApplication::translate("KPerfWidget", "Form", Q_NULLPTR));
592         label_10->setText(QApplication::translate("KPerfWidget", "100%", Q_NULLPTR));
593         lockColorOff->setText(QString());
594         k95Label2->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
595         label_12->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
596         modeColorOff->setText(QString());
597         lightColor3->setText(QString());
598         lockBox->setText(QApplication::translate("KPerfWidget", "Indicate Windows Lock:", Q_NULLPTR)
    );
599         modeColorOn->setText(QString());
600         macroBox->setText(QApplication::translate("KPerfWidget", "Indicate macro recording:",
    Q_NULLPTR));
601         numColorOn->setText(QString());
602         numBox->clear();
603         numBox->insertItems(0, QStringList()
604          << QApplication::translate("KPerfWidget", "Normal", Q_NULLPTR)
605          << QApplication::translate("KPerfWidget", "Always on", Q_NULLPTR)
606          << QApplication::translate("KPerfWidget", "Always off", Q_NULLPTR)
607          << QApplication::translate("KPerfWidget", "RGB indicator", Q_NULLPTR)
608          << QApplication::translate("KPerfWidget", "RGB + normal", Q_NULLPTR)
609         );
610         label_5->setText(QApplication::translate("KPerfWidget", "Num lock:", Q_NULLPTR));
611         lightColor2->setText(QString());
612         label_8->setText(QApplication::translate("KPerfWidget", "Note: many desktop environments do
     not use scroll lock. The indicator may not turn on even when enabled.", Q_NULLPTR));
613         lightBox->setText(QApplication::translate("KPerfWidget", "Indicate brightness:", Q_NULLPTR)
    );
614         lightColor1->setText(QString());
615         label_6->setText(QApplication::translate("KPerfWidget", "Caps lock:", Q_NULLPTR));
616         label->setText(QApplication::translate("KPerfWidget", "Miscellaneous", Q_NULLPTR));
617         lockColorOn->setText(QString());
618         label_4->setText(QApplication::translate("KPerfWidget", "Lock lights", Q_NULLPTR));
619         modeBox->setText(QApplication::translate("KPerfWidget", "Indicate current mode:", Q_NULLPTR)
    );
620         capsColorOff->setText(QString());
621         numColorOff->setText(QString());
622         capsColorOn->setText(QString());
623         label_22->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
624         scrollBox->clear();
625         scrollBox->insertItems(0, QStringList()
626          << QApplication::translate("KPerfWidget", "Normal", Q_NULLPTR)
627          << QApplication::translate("KPerfWidget", "Always on", Q_NULLPTR)
628          << QApplication::translate("KPerfWidget", "Always off", Q_NULLPTR)
629          << QApplication::translate("KPerfWidget", "RGB indicator", Q_NULLPTR)
630          << QApplication::translate("KPerfWidget", "RGB + normal", Q_NULLPTR)
631         );
632         label_7->setText(QApplication::translate("KPerfWidget", "Scroll lock:", Q_NULLPTR));
633         scrollColorOn->setText(QString());
634         capsBox->clear();
635         capsBox->insertItems(0, QStringList()
636          << QApplication::translate("KPerfWidget", "Normal", Q_NULLPTR)
637          << QApplication::translate("KPerfWidget", "Always on", Q_NULLPTR)
638          << QApplication::translate("KPerfWidget", "Always off", Q_NULLPTR)
639          << QApplication::translate("KPerfWidget", "RGB indicator", Q_NULLPTR)
640          << QApplication::translate("KPerfWidget", "RGB + normal", Q_NULLPTR)
641         );
642         scrollColorOff->setText(QString());
643         muteBox->setText(QApplication::translate("KPerfWidget", "Indicate mute:", Q_NULLPTR));
```

```
644         muteColorOn->setText(QString());
645         macroColorOff->setText(QString());
646         label_3->setText(QApplication::translate("KPerfWidget", "Top row", Q_NULLPTR));
647         muteColorOff->setText(QString());
648         k95Label3->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
649         macroColorOn->setText(QString());
650 #ifndef QT_NO_TOOLTIP
651         muteColorNA->setToolTip(QApplication::translate("KPerfWidget", "If the sound device does
      not support muting, or if mute status is unknown, this color will be displayed.", Q_NULLPTR));
652 #endif // QT_NO_TOOLTIP
653         muteColorNA->setText(QString());
654         label_19->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
655         label_21->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
656         label_24->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
657         label_20->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
658         label_16->setText(QApplication::translate("KPerfWidget", "67%", Q_NULLPTR));
659         label_14->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
660         label_18->setText(QApplication::translate("KPerfWidget", "33%", Q_NULLPTR));
661         label_15->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
662         k95Label4->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
663         label_17->setText(QApplication::translate("KPerfWidget", "Unknown", Q_NULLPTR));
664         label_11->setText(QApplication::translate("KPerfWidget", "On", Q_NULLPTR));
665         label_23->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
666         k95Label1->setText(QApplication::translate("KPerfWidget", "K95 buttons", Q_NULLPTR));
667         copyButton->setText(QApplication::translate("KPerfWidget", "Copy to mode...", Q_NULLPTR))
    ;
668         label_2->setText(QApplication::translate("KPerfWidget", "Indicator intensity:", Q_NULLPTR));
669         intensityBox->setSuffix(QApplication::translate("KPerfWidget", "%", Q_NULLPTR));
670         k95Label5->setText(QApplication::translate("KPerfWidget", "Off", Q_NULLPTR));
671         k95Label6->setText(QApplication::translate("KPerfWidget", "Note: macro recording not yet
     implemented. Indicator will always display \"off\".", Q_NULLPTR));
672     } // retranslateUi
```

Here is the caller graph for this function:



12.96.2.2 void Ui_KPerfWidget::setupUi (QWidget * *KPerfWidget*) [inline]

Definition at line 111 of file ui_kperfwidget.h.

References capsBox, capsColorOff, capsColorOn, copyButton, gridLayout, horizontalLayout, horizontalLayout_2, horizontalSpacer, horizontalSpacer_2, horizontalSpacer_3, horizontalSpacer_4, horizontalSpacer_5, horizontalSpacer_6, horizontalSpacer_7, horizontalSpacer_8, intensityBox, k95Label1, k95Label2, k95Label3, k95Label4, k95Label5, k95Label6, k95Line, k95Spacer, label, label_10, label_11, label_12, label_14, label_15, label_16, label_17, label_18, label_19, label_2, label_20, label_21, label_22, label_23, label_24, label_3, label_4, label_5, label_6, label_7, label_8, lightBox, lightColor1, lightColor2, lightColor3, line, line_2, line_3, lockBox, lockColorOff, lockColorOn, macroBox, macroColorOff, macroColorOn, modeBox, modeColorOff, modeColorOn, muteBox, muteColorNA, muteColorOff, muteColorOn, numBox, numColorOff, numColorOn, retranslateUi(), scrollBox, scrollColorOff, scrollColorOn, verticalSpacer, verticalSpacer_2, verticalSpacer_3, and verticalSpacer_4.

Referenced by KPerfWidget::KPerfWidget().

```
112     {
113         if (KPerfWidget->objectName().isEmpty())
114             KPerfWidget->setObjectName(QStringLiteral("KPerfWidget"));
115         KPerfWidget->resize(840, 679);
116         gridLayout = new QGridLayout(KPerfWidget);
117         gridLayout->setObjectName(QStringLiteral("gridLayout"));
118         k95Spacer = new QWidget(KPerfWidget);
119         k95Spacer->setObjectName(QStringLiteral("k95Spacer"));
120         QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
121         sizePolicy.setHorizontalStretch(0);
122         sizePolicy.setVerticalStretch(0);
123         sizePolicy.setHeightForWidth(k95Spacer->sizePolicy().hasHeightForWidth());
124         k95Spacer->setSizePolicy(sizePolicy);
125         k95Spacer->setMinimumSize(QSize(15, 10));
```

```
126         k95Spacer->setMaximumSize(QSize(15, 10));
127 
128         gridLayout->addWidget(k95Spacer, 12, 4, 1, 1);
129 
130         label_10 = new QLabel(KPerfWidget);
131         label_10->setObjectName(QStringLiteral("label_10"));
132 
133         gridLayout->addWidget(label_10, 15, 5, 1, 1);
134 
135         lockColorOff = new ColorButton(KPerfWidget);
136         lockColorOff->setObjectName(QStringLiteral("lockColorOff"));
137         sizePolicy.setHeightForWidth(lockColorOff->sizePolicy().hasHeightForWidth());
138         lockColorOff->setSizePolicy(sizePolicy);
139         lockColorOff->setMinimumSize(QSize(0, 40));
140         lockColorOff->setMaximumSize(QSize(16777215, 40));
141 
142         gridLayout->addWidget(lockColorOff, 16, 7, 1, 1);
143 
144         line = new QFrame(KPerfWidget);
145         line->setObjectName(QStringLiteral("line"));
146         line->setFrameShape(QFrame::HLine);
147         line->setFrameShadow(QFrame::Sunken);
148 
149         gridLayout->addWidget(line, 2, 0, 1, 13);
150 
151         horizontalSpacer_5 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
152 
153         gridLayout->addItem(horizontalSpacer_5, 17, 6, 1, 1);
154 
155         k95Label2 = new QLabel(KPerfWidget);
156         k95Label2->setObjectName(QStringLiteral("k95Label2"));
157 
158         gridLayout->addWidget(k95Label2, 9, 5, 1, 1);
159 
160         label_12 = new QLabel(KPerfWidget);
161         label_12->setObjectName(QStringLiteral("label_12"));
162 
163         gridLayout->addWidget(label_12, 17, 5, 1, 1);
164 
165         modeColorOff = new ColorButton(KPerfWidget);
166         modeColorOff->setObjectName(QStringLiteral("modeColorOff"));
167         sizePolicy.setHeightForWidth(modeColorOff->sizePolicy().hasHeightForWidth());
168         modeColorOff->setSizePolicy(sizePolicy);
169         modeColorOff->setMinimumSize(QSize(0, 40));
170         modeColorOff->setMaximumSize(QSize(16777215, 40));
171 
172         gridLayout->addWidget(modeColorOff, 9, 7, 1, 1);
173 
174         lightColor3 = new ColorButton(KPerfWidget);
175         lightColor3->setObjectName(QStringLiteral("lightColor3"));
176         sizePolicy.setHeightForWidth(lightColor3->sizePolicy().hasHeightForWidth());
177         lightColor3->setSizePolicy(sizePolicy);
178         lightColor3->setMinimumSize(QSize(0, 40));
179         lightColor3->setMaximumSize(QSize(16777215, 40));
180 
181         gridLayout->addWidget(lightColor3, 15, 4, 1, 1);
182 
183         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
184 
185         gridLayout->addItem(horizontalSpacer, 15, 12, 1, 1);
186 
187         lockBox = new QCheckBox(KPerfWidget);
188         lockBox->setObjectName(QStringLiteral("lockBox"));
189 
190         gridLayout->addWidget(lockBox, 16, 1, 1, 2);
191 
192         modeColorOn = new ColorButton(KPerfWidget);
193         modeColorOn->setObjectName(QStringLiteral("modeColorOn"));
194         sizePolicy.setHeightForWidth(modeColorOn->sizePolicy().hasHeightForWidth());
195         modeColorOn->setSizePolicy(sizePolicy);
196         modeColorOn->setMinimumSize(QSize(0, 40));
197         modeColorOn->setMaximumSize(QSize(16777215, 40));
198 
199         gridLayout->addWidget(modeColorOn, 9, 4, 1, 1);
200 
201         macroBox = new QCheckBox(KPerfWidget);
202         macroBox->setObjectName(QStringLiteral("macroBox"));
203 
204         gridLayout->addWidget(macroBox, 10, 1, 1, 2);
205 
206         numColorOn = new ColorButton(KPerfWidget);
207         numColorOn->setObjectName(QStringLiteral("numColorOn"));
208         sizePolicy.setHeightForWidth(numColorOn->sizePolicy().hasHeightForWidth());
209         numColorOn->setSizePolicy(sizePolicy);
210         numColorOn->setMinimumSize(QSize(0, 40));
```

```
211         numColorOn->setMaximumSize(QSize(16777215, 40));
212
213         gridLayout->addWidget(numColorOn, 21, 4, 1, 1);
214
215         numBox = new QComboBox(KPerfWidget);
216         numBox->setObjectName(QStringLiteral("numBox"));
217
218         gridLayout->addWidget(numBox, 21, 2, 1, 1);
219
220         label_5 = new QLabel(KPerfWidget);
221         label_5->setObjectName(QStringLiteral("label_5"));
222
223         gridLayout->addWidget(label_5, 21, 1, 1, 1);
224
225         verticalSpacer_2 = new QSpacerItem(20, 20, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
226
227         gridLayout->addItem(verticalSpacer_2, 4, 1, 1, 1);
228
229         lightColor2 = new ColorButton(KPerfWidget);
230         lightColor2->setObjectName(QStringLiteral("lightColor2"));
231         sizePolicy.setHeightForWidth(lightColor2->sizePolicy().hasHeightForWidth());
232         lightColor2->setSizePolicy(sizePolicy);
233         lightColor2->setMinimumSize(QSize(0, 40));
234         lightColor2->setMaximumSize(QSize(16777215, 40));
235
236         gridLayout->addWidget(lightColor2, 15, 7, 1, 1);
237
238         horizontalSpacer_7 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
239
240         gridLayout->addItem(horizontalSpacer_7, 17, 3, 1, 1);
241
242         label_8 = new QLabel(KPerfWidget);
243         label_8->setObjectName(QStringLiteral("label_8"));
244         QFont font;
245         font.setPointSize(8);
246         font.setItalic(true);
247         label_8->setFont(font);
248
249         gridLayout->addWidget(label_8, 25, 1, 1, 12);
250
251         lightBox = new QCheckBox(KPerfWidget);
252         lightBox->setObjectName(QStringLiteral("lightBox"));
253
254         gridLayout->addWidget(lightBox, 15, 1, 1, 2);
255
256         lightColor1 = new ColorButton(KPerfWidget);
257         lightColor1->setObjectName(QStringLiteral("lightColor1"));
258         sizePolicy.setHeightForWidth(lightColor1->sizePolicy().hasHeightForWidth());
259         lightColor1->setSizePolicy(sizePolicy);
260         lightColor1->setMinimumSize(QSize(0, 40));
261         lightColor1->setMaximumSize(QSize(16777215, 40));
262
263         gridLayout->addWidget(lightColor1, 15, 10, 1, 1);
264
265         verticalSpacer_4 = new QSpacerItem(0, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);
266
267         gridLayout->addItem(verticalSpacer_4, 24, 4, 1, 1);
268
269         label_6 = new QLabel(KPerfWidget);
270         label_6->setObjectName(QStringLiteral("label_6"));
271
272         gridLayout->addWidget(label_6, 22, 1, 1, 1);
273
274         label = new QLabel(KPerfWidget);
275         label->setObjectName(QStringLiteral("label"));
276         QFont font1;
277         font1.setBold(true);
278         font1.setWeight(75);
279         label->setFont(font1);
280
281         gridLayout->addWidget(label, 1, 0, 1, 13);
282
283         horizontalSpacer_6 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
284
285         gridLayout->addItem(horizontalSpacer_6, 17, 9, 1, 1);
286
287         lockColorOn = new ColorButton(KPerfWidget);
288         lockColorOn->setObjectName(QStringLiteral("lockColorOn"));
289         sizePolicy.setHeightForWidth(lockColorOn->sizePolicy().hasHeightForWidth());
290         lockColorOn->setSizePolicy(sizePolicy);
291         lockColorOn->setMinimumSize(QSize(0, 40));
292         lockColorOn->setMaximumSize(QSize(16777215, 40));
293
294         gridLayout->addWidget(lockColorOn, 16, 4, 1, 1);
```

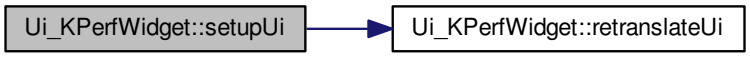
```
295
296         label_4 = new QLabel(KPerfWidget);
297         label_4->setObjectName(QStringLiteral("label_4"));
298         label_4->setFont(font1);
299
300         gridLayout->addWidget(label_4, 19, 0, 1, 13);
301
302         verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
303
304         gridLayout->addItem(verticalSpacer, 26, 2, 1, 1);
305
306         verticalSpacer_3 = new QSpacerItem(20, 20, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
307
308         gridLayout->addItem(verticalSpacer_3, 18, 4, 1, 1);
309
310         modeBox = new QCheckBox(KPerfWidget);
311         modeBox->setObjectName(QStringLiteral("modeBox"));
312
313         gridLayout->addWidget(modeBox, 9, 1, 1, 2);
314
315         capsColorOff = new ColorButton(KPerfWidget);
316         capsColorOff->setObjectName(QStringLiteral("capsColorOff"));
317         sizePolicy.setHeightForWidth(capsColorOff->sizePolicy().hasHeightForWidth());
318         capsColorOff->setSizePolicy(sizePolicy);
319         capsColorOff->setMinimumSize(QSize(0, 40));
320         capsColorOff->setMaximumSize(QSize(16777215, 40));
321
322         gridLayout->addWidget(capsColorOff, 22, 7, 1, 1);
323
324         numColorOff = new ColorButton(KPerfWidget);
325         numColorOff->setObjectName(QStringLiteral("numColorOff"));
326         QSizePolicy sizePolicy1(QSizePolicy::Fixed, QSizePolicy::Fixed);
327         sizePolicy1.setHorizontalStretch(0);
328         sizePolicy1.setVerticalStretch(40);
329         sizePolicy1.setHeightForWidth(numColorOff->sizePolicy().hasHeightForWidth());
330         numColorOff->setSizePolicy(sizePolicy1);
331         numColorOff->setMaximumSize(QSize(16777215, 40));
332
333         gridLayout->addWidget(numColorOff, 21, 7, 1, 1);
334
335         capsColorOn = new ColorButton(KPerfWidget);
336         capsColorOn->setObjectName(QStringLiteral("capsColorOn"));
337         sizePolicy.setHeightForWidth(capsColorOn->sizePolicy().hasHeightForWidth());
338         capsColorOn->setSizePolicy(sizePolicy);
339         capsColorOn->setMinimumSize(QSize(0, 40));
340         capsColorOn->setMaximumSize(QSize(16777215, 40));
341
342         gridLayout->addWidget(capsColorOn, 22, 4, 1, 1);
343
344         line_3 = new QFrame(KPerfWidget);
345         line_3->setObjectName(QStringLiteral("line_3"));
346         line_3->setFrameShape(QFrame::HLine);
347         line_3->setFrameShadow(QFrame::Sunken);
348
349         gridLayout->addWidget(line_3, 20, 0, 1, 13);
350
351         label_22 = new QLabel(KPerfWidget);
352         label_22->setObjectName(QStringLiteral("label_22"));
353
354         gridLayout->addWidget(label_22, 21, 8, 1, 1);
355
356         scrollBox = new QComboBox(KPerfWidget);
357         scrollBox->setObjectName(QStringLiteral("scrollBox"));
358
359         gridLayout->addWidget(scrollBox, 23, 2, 1, 1);
360
361         label_7 = new QLabel(KPerfWidget);
362         label_7->setObjectName(QStringLiteral("label_7"));
363
364         gridLayout->addWidget(label_7, 23, 1, 1, 1);
365
366         scrollColorOn = new ColorButton(KPerfWidget);
367         scrollColorOn->setObjectName(QStringLiteral("scrollColorOn"));
368         sizePolicy.setHeightForWidth(scrollColorOn->sizePolicy().hasHeightForWidth());
369         scrollColorOn->setSizePolicy(sizePolicy);
370         scrollColorOn->setMinimumSize(QSize(0, 40));
371         scrollColorOn->setMaximumSize(QSize(16777215, 40));
372
373         gridLayout->addWidget(scrollColorOn, 23, 4, 1, 1);
374
375         capsBox = new QComboBox(KPerfWidget);
376         capsBox->setObjectName(QStringLiteral("capsBox"));
377
378         gridLayout->addWidget(capsBox, 22, 2, 1, 1);
379
```

```
380         scrollColorOff = new ColorButton(KPerfWidget);
381         scrollColorOff->setObjectName(QStringLiteral("scrollColorOff"));
382         sizePolicy.setHeightForWidth(scrollColorOff->sizePolicy().hasHeightForWidth());
383         scrollColorOff->setSizePolicy(sizePolicy);
384         scrollColorOff->setMinimumSize(QSize(0, 40));
385         scrollColorOff->setMaximumSize(QSize(16777215, 40));
386 
387         gridLayout->addWidget(scrollColorOff, 23, 7, 1, 1);
388 
389         muteBox = new QCheckBox(KPerfWidget);
390         muteBox->setObjectName(QStringLiteral("muteBox"));
391 
392         gridLayout->addWidget(muteBox, 17, 1, 1, 2);
393 
394         muteColorOn = new ColorButton(KPerfWidget);
395         muteColorOn->setObjectName(QStringLiteral("muteColorOn"));
396         sizePolicy.setHeightForWidth(muteColorOn->sizePolicy().hasHeightForWidth());
397         muteColorOn->setSizePolicy(sizePolicy);
398         muteColorOn->setMinimumSize(QSize(0, 40));
399         muteColorOn->setMaximumSize(QSize(16777215, 40));
400 
401         gridLayout->addWidget(muteColorOn, 17, 4, 1, 1);
402 
403         macroColorOff = new ColorButton(KPerfWidget);
404         macroColorOff->setObjectName(QStringLiteral("macroColorOff"));
405         QSizePolicy sizePolicy2(QSizePolicy::Minimum, QSizePolicy::Fixed);
406         sizePolicy2.setHorizontalStretch(0);
407         sizePolicy2.setVerticalStretch(40);
408         sizePolicy2.setHeightForWidth(macroColorOff->sizePolicy().hasHeightForWidth());
409         macroColorOff->setSizePolicy(sizePolicy2);
410         macroColorOff->setMinimumSize(QSize(0, 40));
411 
412         gridLayout->addWidget(macroColorOff, 10, 7, 1, 1);
413 
414         label_3 = new QLabel(KPerfWidget);
415         label_3->setObjectName(QStringLiteral("label_3"));
416         label_3->setFont(font1);
417 
418         gridLayout->addWidget(label_3, 13, 0, 1, 3);
419 
420         muteColorOff = new ColorButton(KPerfWidget);
421         muteColorOff->setObjectName(QStringLiteral("muteColorOff"));
422         sizePolicy.setHeightForWidth(muteColorOff->sizePolicy().hasHeightForWidth());
423         muteColorOff->setSizePolicy(sizePolicy);
424         muteColorOff->setMinimumSize(QSize(0, 40));
425         muteColorOff->setMaximumSize(QSize(16777215, 40));
426 
427         gridLayout->addWidget(muteColorOff, 17, 7, 1, 1);
428 
429         k95Label3 = new QLabel(KPerfWidget);
430         k95Label3->setObjectName(QStringLiteral("k95Label3"));
431 
432         gridLayout->addWidget(k95Label3, 9, 8, 1, 1);
433 
434         macroColorOn = new ColorButton(KPerfWidget);
435         macroColorOn->setObjectName(QStringLiteral("macroColorOn"));
436         sizePolicy2.setHeightForWidth(macroColorOn->sizePolicy().hasHeightForWidth());
437         macroColorOn->setSizePolicy(sizePolicy2);
438         macroColorOn->setMinimumSize(QSize(0, 40));
439 
440         gridLayout->addWidget(macroColorOn, 10, 4, 1, 1);
441 
442         muteColorNA = new ColorButton(KPerfWidget);
443         muteColorNA->setObjectName(QStringLiteral("muteColorNA"));
444         muteColorNA->setMinimumSize(QSize(0, 40));
445         muteColorNA->setMaximumSize(QSize(16777215, 40));
446 
447         gridLayout->addWidget(muteColorNA, 17, 10, 1, 1);
448 
449         label_19 = new QLabel(KPerfWidget);
450         label_19->setObjectName(QStringLiteral("label_19"));
451 
452         gridLayout->addWidget(label_19, 21, 5, 1, 1);
453 
454         k95Line = new QFrame(KPerfWidget);
455         k95Line->setObjectName(QStringLiteral("k95Line"));
456         k95Line->setFrameShape(QFrame::HLine);
457         k95Line->setFrameShadow(QFrame::Sunken);
458 
459         gridLayout->addWidget(k95Line, 8, 0, 1, 13);
460 
461         label_21 = new QLabel(KPerfWidget);
462         label_21->setObjectName(QStringLiteral("label_21"));
463 
464         gridLayout->addWidget(label_21, 23, 5, 1, 1);
465 
466         label_24 = new QLabel(KPerfWidget);
```

```
467         label_24->setObjectName(QStringLiteral("label_24"));
468
469         gridLayout->addWidget(label_24, 23, 8, 1, 1);
470
471         label_20 = new QLabel(KPerfWidget);
472         label_20->setObjectName(QStringLiteral("label_20"));
473
474         gridLayout->addWidget(label_20, 22, 5, 1, 1);
475
476         label_16 = new QLabel(KPerfWidget);
477         label_16->setObjectName(QStringLiteral("label_16"));
478
479         gridLayout->addWidget(label_16, 15, 8, 1, 1);
480
481         label_14 = new QLabel(KPerfWidget);
482         label_14->setObjectName(QStringLiteral("label_14"));
483
484         gridLayout->addWidget(label_14, 17, 8, 1, 1);
485
486         label_18 = new QLabel(KPerfWidget);
487         label_18->setObjectName(QStringLiteral("label_18"));
488
489         gridLayout->addWidget(label_18, 15, 11, 1, 1);
490
491         horizontalSpacer_2 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
492
493         gridLayout->addItem(horizontalSpacer_2, 15, 0, 1, 1);
494
495         label_15 = new QLabel(KPerfWidget);
496         label_15->setObjectName(QStringLiteral("label_15"));
497
498         gridLayout->addWidget(label_15, 16, 8, 1, 1);
499
500         k95Label4 = new QLabel(KPerfWidget);
501         k95Label4->setObjectName(QStringLiteral("k95Label4"));
502
503         gridLayout->addWidget(k95Label4, 10, 5, 1, 1);
504
505         label_17 = new QLabel(KPerfWidget);
506         label_17->setObjectName(QStringLiteral("label_17"));
507
508         gridLayout->addWidget(label_17, 17, 11, 1, 1);
509
510         label_11 = new QLabel(KPerfWidget);
511         label_11->setObjectName(QStringLiteral("label_11"));
512
513         gridLayout->addWidget(label_11, 16, 5, 1, 1);
514
515         label_23 = new QLabel(KPerfWidget);
516         label_23->setObjectName(QStringLiteral("label_23"));
517
518         gridLayout->addWidget(label_23, 22, 8, 1, 1);
519
520         k95Label1 = new QLabel(KPerfWidget);
521         k95Label1->setObjectName(QStringLiteral("k95Label1"));
522         k95Label1->setFont(font1);
523
524         gridLayout->addWidget(k95Label1, 7, 0, 1, 5);
525
526         horizontalLayout_2 = new QHBoxLayout();
527         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
528         copyButton = new QPushButton(KPerfWidget);
529         copyButton->setObjectName(QStringLiteral("copyButton"));
530
531         horizontalLayout_2->addWidget(copyButton);
532
533         horizontalSpacer_8 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
534
535         horizontalLayout_2->addItem(horizontalSpacer_8);
536
537
538         gridLayout->addLayout(horizontalLayout_2, 3, 10, 1, 3);
539
540         horizontalLayout = new QHBoxLayout();
541         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
542         label_2 = new QLabel(KPerfWidget);
543         label_2->setObjectName(QStringLiteral("label_2"));
544
545         horizontalLayout->addWidget(label_2);
546
547         horizontalSpacer_4 = new QSpacerItem(10, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
548
549         horizontalLayout->addItem(horizontalSpacer_4);
550
```

```
551         intensityBox = new QSpinBox(KPerfWidget);
552         intensityBox->setObjectName(QStringLiteral("intensityBox"));
553         intensityBox->setMaximum(100);
554         intensityBox->setValue(100);
555 
556         horizontalLayout->addWidget(intensityBox);
557 
558         horizontalSpacer_3 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
559 
560         horizontalLayout->addItem(horizontalSpacer_3);
561 
562 
563         gridLayout->addLayout(horizontalLayout, 3, 1, 1, 9);
564 
565         k95Label5 = new QLabel(KPerfWidget);
566         k95Label5->setObjectName(QStringLiteral("k95Label5"));
567 
568         gridLayout->addWidget(k95Label5, 10, 8, 1, 1);
569 
570         line_2 = new QFrame(KPerfWidget);
571         line_2->setObjectName(QStringLiteral("line_2"));
572         line_2->setFrameShape(QFrame::HLine);
573         line_2->setFrameShadow(QFrame::Sunken);
574 
575         gridLayout->addWidget(line_2, 14, 0, 1, 13);
576 
577         k95Label6 = new QLabel(KPerfWidget);
578         k95Label6->setObjectName(QStringLiteral("k95Label6"));
579         k95Label6->setFont(font);
580 
581         gridLayout->addWidget(k95Label6, 11, 1, 1, 10);
582 
583 
584         retranslateUi(KPerfWidget);
585 
586         QMetaObject::connectSlotsByName(KPerfWidget);
587     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.96.3 Field Documentation

12.96.3.1 QComboBox* Ui_KPerfWidget::capsBox

Definition at line 74 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.2 ColorButton* Ui_KPerfWidget::capsColorOff

Definition at line 66 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.3 ColorButton* Ui_KPerfWidget::capsColorOn

Definition at line 68 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.4 QPushButton* Ui_KPerfWidget::copyButton

Definition at line 100 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.5 QGridLayout* Ui_KPerfWidget::gridLayout

Definition at line 34 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.6 QHBoxLayout* Ui_KPerfWidget::horizontalLayout

Definition at line 102 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.7 QHBoxLayout* Ui_KPerfWidget::horizontalLayout_2

Definition at line 99 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.8 QSpacerItem* Ui_KPerfWidget::horizontalSpacer

Definition at line 44 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.9 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_2

Definition at line 92 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.10 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_3

Definition at line 106 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.11 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_4

Definition at line 104 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.12 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_5

Definition at line 39 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.13 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_6

Definition at line 60 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.14 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_7

Definition at line 53 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.15 QSpacerItem* Ui_KPerfWidget::horizontalSpacer_8

Definition at line 101 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.16 QSpinBox* Ui_KPerfWidget::intensityBox

Definition at line 105 of file ui_kperfwidget.h.

Referenced by retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.17 QLabel* Ui_KPerfWidget::k95Label1

Definition at line 98 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.18 QLabel* Ui_KPerfWidget::k95Label2

Definition at line 40 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.19 QLabel* Ui_KPerfWidget::k95Label3

Definition at line 81 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.20 QLabel* Ui_KPerfWidget::k95Label4

Definition at line 94 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.21 QLabel* Ui_KPerfWidget::k95Label5

Definition at line 107 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.22 QLabel* Ui_KPerfWidget::k95Label6

Definition at line 109 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.23 QFrame* Ui_KPerfWidget::k95Line

Definition at line 85 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), and setupUi().

12.96.3.24 QWidget* Ui_KPerfWidget::k95Spacer

Definition at line 35 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), and setupUi().

12.96.3.25 QLabel* Ui_KPerfWidget::label

Definition at line 59 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.26 QLabel* Ui_KPerfWidget::label_10

Definition at line 36 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.27 QLabel* Ui_KPerfWidget::label_11

Definition at line 96 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.28 QLabel* Ui_KPerfWidget::label_12

Definition at line 41 of file ui_kperfwidget.h.

Referenced by retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.29 QLabel* Ui_KPerfWidget::label_14

Definition at line 90 of file ui_kperfwidget.h.

Referenced by retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.30 QLabel* Ui_KPerfWidget::label_15

Definition at line 93 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.31 QLabel* Ui_KPerfWidget::label_16

Definition at line 89 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.32 QLabel* Ui_KPerfWidget::label_17

Definition at line 95 of file ui_kperfwidget.h.

Referenced by retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.33 QLabel* Ui_KPerfWidget::label_18

Definition at line 91 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.34 QLabel* Ui_KPerfWidget::label_19

Definition at line 84 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.35 QLabel* Ui_KPerfWidget::label_2

Definition at line 103 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.36 QLabel* Ui_KPerfWidget::label_20

Definition at line 88 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.37 QLabel* Ui_KPerfWidget::label_21

Definition at line 86 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.38 QLabel* Ui_KPerfWidget::label_22

Definition at line 70 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.39 QLabel* Ui_KPerfWidget::label_23

Definition at line 97 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.40 QLabel* Ui_KPerfWidget::label_24

Definition at line 87 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.41 QLabel* Ui_KPerfWidget::label_3

Definition at line 79 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.42 QLabel* Ui_KPerfWidget::label_4

Definition at line 62 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.43 QLabel* Ui_KPerfWidget::label_5

Definition at line 50 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.44 QLabel* Ui_KPerfWidget::label_6

Definition at line 58 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.45 QLabel* Ui_KPerfWidget::label_7

Definition at line 72 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.46 QLabel* Ui_KPerfWidget::label_8

Definition at line 54 of file ui_kperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.96.3.47 QCheckBox* Ui_KPerfWidget::lightBox

Definition at line 55 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.48 ColorButton* Ui_KPerfWidget::lightColor1

Definition at line 56 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.49 ColorButton* Ui_KPerfWidget::lightColor2

Definition at line 52 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.50 ColorButton* Ui_KPerfWidget::lightColor3

Definition at line 43 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.51 QFrame* Ui_KPerfWidget::line

Definition at line 38 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.52 QFrame* Ui_KPerfWidget::line_2

Definition at line 108 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.53 QFrame* Ui_KPerfWidget::line_3

Definition at line 69 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.54 QCheckBox* Ui_KPerfWidget::lockBox

Definition at line 45 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.55 ColorButton* Ui_KPerfWidget::lockColorOff

Definition at line 37 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.56 ColorButton* Ui_KPerfWidget::lockColorOn

Definition at line 61 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.57 QCheckBox* Ui_KPerfWidget::macroBox

Definition at line 47 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.58 ColorButton* Ui_KPerfWidget::macroColorOff

Definition at line 78 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.59 ColorButton* Ui_KPerfWidget::macroColorOn

Definition at line 82 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.60 QCheckBox* Ui_KPerfWidget::modeBox

Definition at line 65 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.61 ColorButton* Ui_KPerfWidget::modeColorOff

Definition at line 42 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.62 ColorButton* Ui_KPerfWidget::modeColorOn

Definition at line 46 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.63 QCheckBox* Ui_KPerfWidget::muteBox

Definition at line 76 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.64 ColorButton* Ui_KPerfWidget::muteColorNA

Definition at line 83 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.65 ColorButton* Ui_KPerfWidget::muteColorOff

Definition at line 80 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.66 ColorButton* Ui_KPerfWidget::muteColorOn

Definition at line 77 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), KPerfWidget::setPerf(), and setupUi().

12.96.3.67 QComboBox* Ui_KPerfWidget::numBox

Definition at line 49 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.68 ColorButton* Ui_KPerfWidget::numColorOff

Definition at line 67 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.69 ColorButton* Ui_KPerfWidget::numColorOn

Definition at line 48 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.70 QComboBox* Ui_KPerfWidget::scrollBox

Definition at line 71 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.71 ColorButton* Ui_KPerfWidget::scrollColorOff

Definition at line 75 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.72 ColorButton* Ui_KPerfWidget::scrollColorOn

Definition at line 73 of file ui_kperfwidget.h.

Referenced by KPerfWidget::KPerfWidget(), retranslateUi(), and setupUi().

12.96.3.73 QSpacerItem* Ui_KPerfWidget::verticalSpacer

Definition at line 63 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.74 QSpacerItem* Ui_KPerfWidget::verticalSpacer_2

Definition at line 51 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.75 QSpacerItem* Ui_KPerfWidget::verticalSpacer_3

Definition at line 64 of file ui_kperfwidget.h.

Referenced by setupUi().

12.96.3.76 QSpacerItem* Ui_KPerfWidget::verticalSpacer_4

Definition at line 57 of file ui_kperfwidget.h.

Referenced by setupUi().

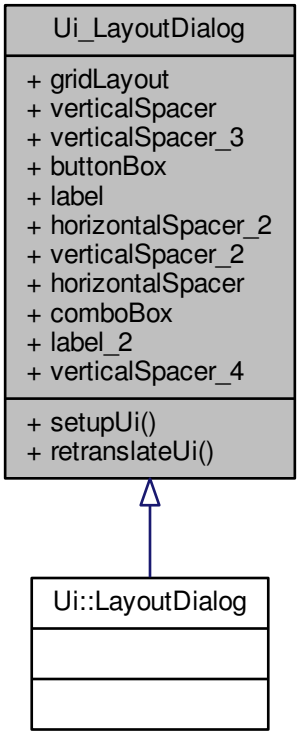
The documentation for this class was generated from the following file:

- src/ckb/ui_kperfwidget.h

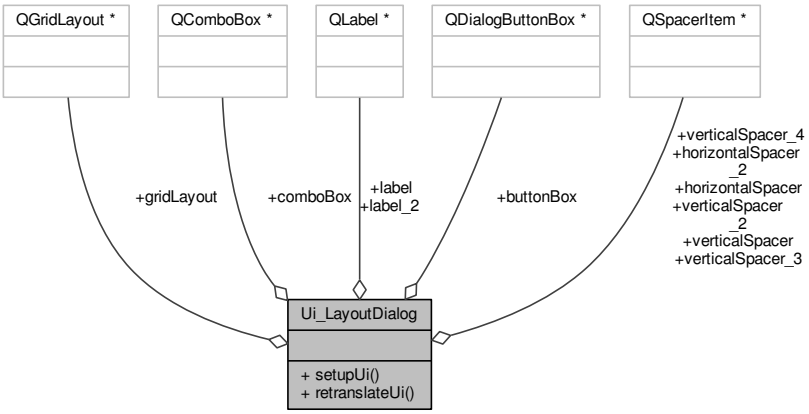
12.97 Ui_LayoutDialog Class Reference

`#include <src/ckb/ui_layoutdialog.h>`

Inheritance diagram for Ui_LayoutDialog:



Collaboration diagram for Ui_LayoutDialog:



Public Member Functions

- void setupUi (QDialog *LayoutDialog)

- void retranslateUi (QDialog *LayoutDialog)

Data Fields

- QGridLayout * gridLayout
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_3
- QDialogButtonBox * buttonBox
- QLabel * label
- QSpacerItem * horizontalSpacer_2
- QSpacerItem * verticalSpacer_2
- QSpacerItem * horizontalSpacer
- QComboBox * comboBox
- QLabel * label_2
- QSpacerItem * verticalSpacer_4

12.97.1 Detailed Description

Definition at line 26 of file ui_layoutdialog.h.

12.97.2 Member Function Documentation

12.97.2.1 void Ui_LayoutDialog::retranslateUi (QDialog * *LayoutDialog*) [inline]

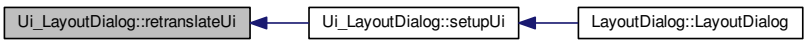
Definition at line 109 of file ui_layoutdialog.h.

References label, and label_2.

Referenced by setupUi().

```
110     {
111         LayoutDialog->setWindowTitle(QApplication::translate("LayoutDialog", "Keyboard Layout", Q_NULLPTR))
    ;
112         label->setText(QApplication::translate("LayoutDialog", "Please select your keyboard layout:",
    Q_NULLPTR));
113         label_2->setText(QApplication::translate("LayoutDialog", "Note: this only controls the
     layout within the ckb application. If your keys are typing the wrong characters, check your system preferences.",
     Q_NULLPTR));
114     } // retranslateUi
```

Here is the caller graph for this function:



12.97.2.2 void Ui_LayoutDialog::setupUi (QDialog * *LayoutDialog*) [inline]

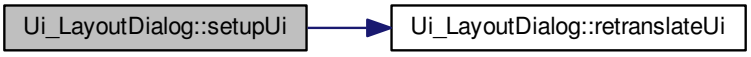
Definition at line 41 of file ui_layoutdialog.h.

References buttonBox, comboBox, gridLayout, horizontalSpacer, horizontalSpacer_2, label, label_2, retranslateUi(), verticalSpacer, verticalSpacer_2, verticalSpacer_3, and verticalSpacer_4.

Referenced by LayoutDialog::LayoutDialog().

```
42      {
43          if (LayoutDialog->objectName().isEmpty())
44              LayoutDialog->setObjectName(QStringLiteral("LayoutDialog"));
45          LayoutDialog->resize(400, 240);
46          gridLayout = new QGridLayout(LayoutDialog);
47          gridLayout->setObjectName(QStringLiteral("gridLayout"));
48          verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
49
50          gridLayout->addItem(verticalSpacer, 6, 0, 1, 3);
51
52          verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
53
54          gridLayout->addItem(verticalSpacer_3, 0, 1, 1, 1);
55
56          buttonBox = new QDialogButtonBox(LayoutDialog);
57          buttonBox->setObjectName(QStringLiteral("buttonBox"));
58          buttonBox->setOrientation(Qt::Horizontal);
59          buttonBox->setStandardButtons(QDialogButtonBox::Ok);
60
61          gridLayout->addWidget(buttonBox, 7, 0, 1, 3);
62
63          label = new QLabel(LayoutDialog);
64          label->setObjectName(QStringLiteral("label"));
65          label->setAlignment(Qt::AlignCenter);
66
67          gridLayout->addWidget(label, 1, 0, 1, 3);
68
69          horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
70
71          gridLayout->addItem(horizontalSpacer_2, 3, 2, 1, 1);
72
73          verticalSpacer_2 = new QSpacerItem(20, 15, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
74
75          gridLayout->addItem(verticalSpacer_2, 4, 1, 1, 1);
76
77          horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
78
79          gridLayout->addItem(horizontalSpacer, 3, 0, 1, 1);
80
81          comboBox = new QComboBox(LayoutDialog);
82          comboBox->setObjectName(QStringLiteral("comboBox"));
83
84          gridLayout->addWidget(comboBox, 3, 1, 1, 1);
85
86          label_2 = new QLabel(LayoutDialog);
87          label_2->setObjectName(QStringLiteral("label_2"));
88          QFont font;
89          font.setPointSize(8);
90          font.setItalic(true);
91          label_2->setFont(font);
92          label_2->setAlignment(Qt::AlignCenter);
93          label_2->setWordWrap(true);
94
95          gridLayout->addWidget(label_2, 5, 0, 1, 3);
96
97          verticalSpacer_4 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
98
99          gridLayout->addItem(verticalSpacer_4, 2, 1, 1, 1);
100
101
102          retranslateUi(LayoutDialog);
103          QObject::connect(buttonBox, SIGNAL(accepted()), LayoutDialog, SLOT(accept()));
104          QObject::connect(buttonBox, SIGNAL(rejected()), LayoutDialog, SLOT(reject()));
105
106          QMetaObject::connectSlotsByName(LayoutDialog);
107      } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.97.3 Field Documentation

12.97.3.1 QDialogButtonBox* Ui_LayoutDialog::buttonBox

Definition at line 32 of file ui_layoutdialog.h.

Referenced by setupUi().

12.97.3.2 QComboBox* Ui_LayoutDialog::comboBox

Definition at line 37 of file ui_layoutdialog.h.

Referenced by LayoutDialog::LayoutDialog(), LayoutDialog::selected(), and setupUi().

12.97.3.3 QGridLayout* Ui_LayoutDialog::gridLayout

Definition at line 29 of file ui_layoutdialog.h.

Referenced by setupUi().

12.97.3.4 QSpacerItem* Ui_LayoutDialog::horizontalSpacer

Definition at line 36 of file ui_layoutdialog.h.

Referenced by setupUi().

12.97.3.5 QSpacerItem* Ui_LayoutDialog::horizontalSpacer_2

Definition at line 34 of file ui_layoutdialog.h.

Referenced by setupUi().

12.97.3.6 QLabel* Ui_LayoutDialog::label

Definition at line 33 of file ui_layoutdialog.h.

Referenced by retranslateUi(), and setupUi().

12.97.3.7 QLabel* Ui_LayoutDialog::label_2

Definition at line 38 of file ui_layoutdialog.h.

Referenced by retranslateUi(), and setupUi().

12.97.3.8 QSpacerItem* Ui_LayoutDialog::verticalSpacer

Definition at line 30 of file ui_layoutdialog.h.

Referenced by setupUi().

12.97.3.9 QSpacerItem* Ui_LayoutDialog::verticalSpacer_2

Definition at line 35 of file ui_layoutdialog.h.

Referenced by setupUi().

12.97.3.10 QSpacerItem* Ui_LayoutDialog::verticalSpacer_3

Definition at line 31 of file ui_layoutdialog.h.

Referenced by setupUi().

12.97.3.11 QSpacerItem* Ui_LayoutDialog::verticalSpacer_4

Definition at line 39 of file ui_layoutdialog.h.

Referenced by setupUi().

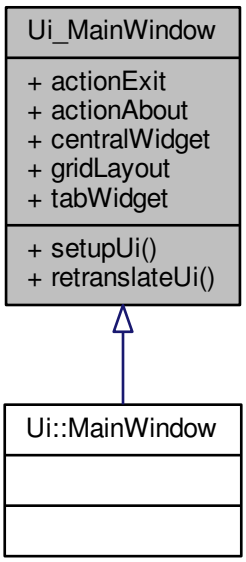
The documentation for this class was generated from the following file:

- src/ckb/ui_layoutdialog.h

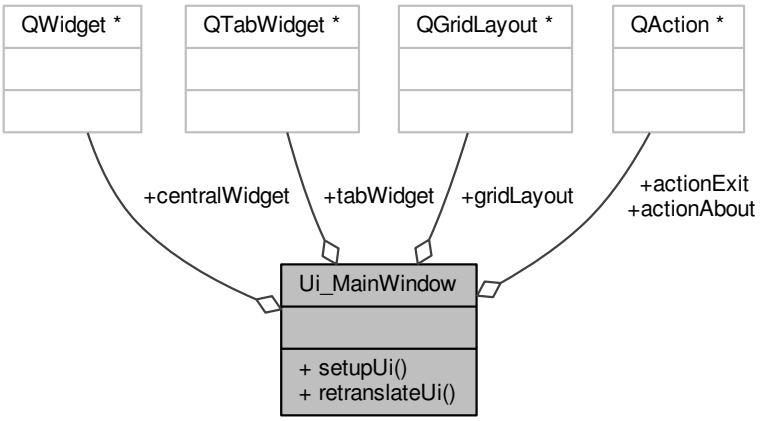
12.98 Ui_MainWindow Class Reference

`#include <src/ckb/ui_mainwindow.h>`

Inheritance diagram for Ui_MainWindow:



Collaboration diagram for Ui_MainWindow:



Public Member Functions

- void setupUi (QMainWindow *MainWindow)
- void retranslateUi (QMainWindow *MainWindow)

Data Fields

- QAction * actionExit
- QAction * actionAbout
- QWidget * centralWidget
- QGridLayout * gridLayout
- QTabWidget * tabWidget

12.98.1 Detailed Description

Definition at line 24 of file ui_mainwindow.h.

12.98.2 Member Function Documentation

12.98.2.1 void Ui_MainWindow::retranslateUi (QMainWindow * *MainWindow*) [inline]

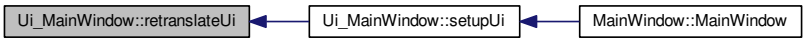
Definition at line 68 of file ui_mainwindow.h.

References actionAbout, and actionExit.

Referenced by setupUi().

```
69     {
70         MainWindow->setWindowTitle(QApplication::translate("MainWindow", "ckb-next", Q_NULLPTR));
71         actionExit->setText(QApplication::translate("MainWindow", "Exit", Q_NULLPTR));
72         actionExit->setShortcut(QApplication::translate("MainWindow", "Ctrl+Q", Q_NULLPTR));
73         actionAbout->setText(QApplication::translate("MainWindow", "About", Q_NULLPTR));
74     } // retranslateUi
```

Here is the caller graph for this function:



12.98.2.2 void Ui_MainWindow::setupUi (QMainWindow * *MainWindow*) [inline]

Definition at line 33 of file ui_mainwindow.h.

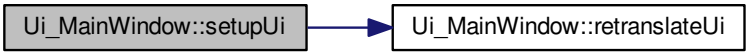
References actionAbout, actionExit, centralWidget, gridLayout, retranslateUi(), and tabWidget.

Referenced by MainWindow::MainWindow().

```
34     {
35         if (MainWindow->objectName().isEmpty())
36             MainWindow->setObjectName(QStringLiteral("MainWindow"));
37         MainWindow->resize(1000, 750);
38         MainWindow->setMinimumSize(QSize(1000, 750));
39         QIcon icon;
40         icon.addFile(QStringLiteral(":/img/ckb-logo.png"), QSize(), QIcon::Normal, QIcon::Off);
41         MainWindow->setWindowIcon(icon);
42         MainWindow->setUnifiedTitleAndToolBarOnMac(true);
43         actionExit = new QAction(MainWindow);
44         actionExit->setObjectName(QStringLiteral("actionExit"));
45         actionAbout = new QAction(MainWindow);
46         actionAbout->setObjectName(QStringLiteral("actionAbout"));
47         centralWidget = new QWidget(MainWindow);
48         centralWidget->setObjectName(QStringLiteral("centralWidget"));
49         gridLayout = new QGridLayout(centralWidget);
50         gridLayout->setSpacing(6);
```

```
51          gridLayout->setContentsMargins(11, 11, 11, 11);
52          gridLayout->setObjectName(QStringLiteral("gridLayout"));
53          tabWidget = new QTabWidget(centralWidget);
54          tabWidget->setObjectName(QStringLiteral("tabWidget"));
55
56          gridLayout->addWidget(tabWidget, 0, 0, 1, 1);
57
58          MainWindow->setCentralWidget(centralWidget);
59
60          retranslateUi(MainWindow);
61
62          tabWidget->setCurrentIndex(-1);
63
64
65          QMetaObject::connectSlotsByName(MainWindow);
66      } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.98.3 Field Documentation

12.98.3.1 QAction* Ui_MainWindow::actionAbout

Definition at line 28 of file ui_mainwindow.h.

Referenced by retranslateUi(), and setupUi().

12.98.3.2 QAction* Ui_MainWindow::actionExit

Definition at line 27 of file ui_mainwindow.h.

Referenced by MainWindow::MainWindow(), retranslateUi(), and setupUi().

12.98.3.3 QWidget* Ui_MainWindow::centralWidget

Definition at line 29 of file ui_mainwindow.h.

Referenced by setupUi().

12.98.3.4 QGridLayout* Ui_MainWindow::gridLayout

Definition at line 30 of file ui_mainwindow.h.

Referenced by setupUi().

12.98.3.5 QTabWidget* Ui_MainWindow::tabWidget

Definition at line 31 of file ui_mainwindow.h.

Referenced by MainWindow::addDevice(), MainWindow::MainWindow(), MainWindow::removeDevice(), setupUi(), and MainWindow::showFwUpdateNotification().

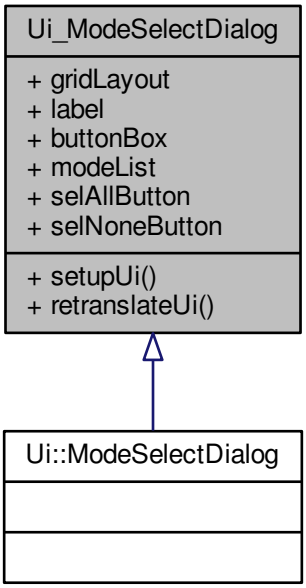
The documentation for this class was generated from the following file:

- src/ckb/ui_mainwindow.h

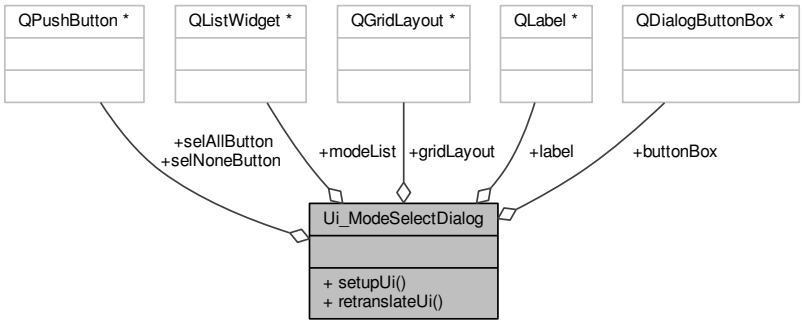
12.99 Ui_ModeSelectDialog Class Reference

`#include <src/ckb/ui_modeselectdialog.h>`

Inheritance diagram for Ui_ModeSelectDialog:



Collaboration diagram for Ui_ModeSelectDialog:



Public Member Functions

- void setupUi (QDialog *ModeSelectDialog)
- void retranslateUi (QDialog *ModeSelectDialog)

Data Fields

- QGridLayout * gridLayout
- QLabel * label
- QDialogButtonBox * buttonBox
- QListWidget * modeList
- QPushButton * selAllButton
- QPushButton * selNoneButton

12.99.1 Detailed Description

Definition at line 26 of file ui_modeselectdialog.h.

12.99.2 Member Function Documentation

12.99.2.1 void Ui_ModeSelectDialog::retranslateUi (QDialog * *ModeSelectDialog*) [inline]

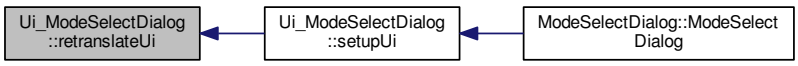
Definition at line 82 of file ui_modeselectdialog.h.

References label, selAllButton, and selNoneButton.

Referenced by setupUi().

```
83     {
84         ModeSelectDialog->setWindowTitle(QApplication::translate("ModeSelectDialog", "Select Modes",
       Q_NULLPTR));
85         label->setText(QApplication::translate("ModeSelectDialog", "TextLabel", Q_NULLPTR));
86         selAllButton->setText(QApplication::translate("ModeSelectDialog", "Select All",
       Q_NULLPTR));
87         selNoneButton->setText(QApplication::translate("ModeSelectDialog", "Select None",
       Q_NULLPTR));
88     } // retranslateUi
```

Here is the caller graph for this function:



12.99.2.2 void Ui_ModeSelectDialog::setupUi (QDialog * *ModeSelectDialog*) [inline]

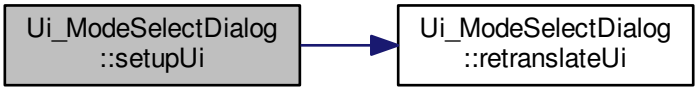
Definition at line 36 of file ui_modeselectdialog.h.

References buttonBox, gridLayout, label, modeList, retranslateUi(), selAllButton, and selNoneButton.

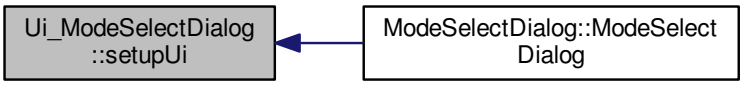
Referenced by ModeSelectDialog::ModeSelectDialog().

```
37     {
38         if (ModeSelectDialog->objectName().isEmpty())
39             ModeSelectDialog->setObjectName(QStringLiteral("ModeSelectDialog"));
40         ModeSelectDialog->resize(320, 320);
41         gridLayout = new QGridLayout(ModeSelectDialog);
42         gridLayout->setObjectName(QStringLiteral("gridLayout"));
43         label = new QLabel(ModeSelectDialog);
44         label->setObjectName(QStringLiteral("label"));
45         label->setAlignment(Qt::AlignLeading|Qt::AlignLeft|Qt::AlignTop);
46 
47         gridLayout->addWidget(label, 0, 0, 1, 2);
48 
49         buttonBox = new QDialogButtonBox(ModeSelectDialog);
50         buttonBox->setObjectName(QStringLiteral("buttonBox"));
51         buttonBox->setOrientation(Qt::Vertical);
52         buttonBox->setStandardButtons(QDialogButtonBox::Cancel|QDialogButtonBox::Ok);
53         buttonBox->setCenterButtons(false);
54 
55         gridLayout->addWidget(buttonBox, 0, 2, 3, 1);
56 
57         modeList = new QListWidget(ModeSelectDialog);
58         modeList->setObjectName(QStringLiteral("modeList"));
59         modeList->setFrameShadow(QFrame::Plain);
60         modeList->setSelectionMode(QAbstractItemView::ExtendedSelection);
61 
62         gridLayout->addWidget(modeList, 1, 0, 1, 2);
63 
64         selAllButton = new QPushButton(ModeSelectDialog);
65         selAllButton->setObjectName(QStringLiteral("selAllButton"));
66 
67         gridLayout->addWidget(selAllButton, 2, 0, 1, 1);
68 
69         selNoneButton = new QPushButton(ModeSelectDialog);
70         selNoneButton->setObjectName(QStringLiteral("selNoneButton"));
71 
72         gridLayout->addWidget(selNoneButton, 2, 1, 1, 1);
73 
74 
75         retranslateUi(ModeSelectDialog);
76         QObject::connect(buttonBox, SIGNAL(accepted()), ModeSelectDialog, SLOT(accept()));
77         QObject::connect(buttonBox, SIGNAL(rejected()), ModeSelectDialog, SLOT(reject()));
78 
79         QMetaObject::connectSlotsByName(ModeSelectDialog);
80     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.99.3 Field Documentation

12.99.3.1 QDialogButtonBox* Ui_ModeSelectDialog::buttonBox

Definition at line 31 of file ui_modeselectdialog.h.

Referenced by setupUi().

12.99.3.2 QGridLayout* Ui_ModeSelectDialog::gridLayout

Definition at line 29 of file ui_modeselectdialog.h.

Referenced by setupUi().

12.99.3.3 QLabel* Ui_ModeSelectDialog::label

Definition at line 30 of file ui_modeselectdialog.h.

Referenced by ModeSelectDialog::ModeSelectDialog(), retranslateUi(), and setupUi().

12.99.3.4 QListWidget* Ui_ModeSelectDialog::modeList

Definition at line 32 of file ui_modeselectdialog.h.

Referenced by ModeSelectDialog::ModeSelectDialog(), ModeSelectDialog::on_selAllButton_clicked(), ModeSelectDialog::on_selNoneButton_clicked(), ModeSelectDialog::selection(), and setupUi().

12.99.3.5 QPushButton* Ui_ModeSelectDialog::selAllButton

Definition at line 33 of file ui_modeselectdialog.h.

Referenced by retranslateUi(), and setupUi().

12.99.3.6 QPushButton* Ui_ModeSelectDialog::selNoneButton

Definition at line 34 of file ui_modeselectdialog.h.

Referenced by retranslateUi(), and setupUi().

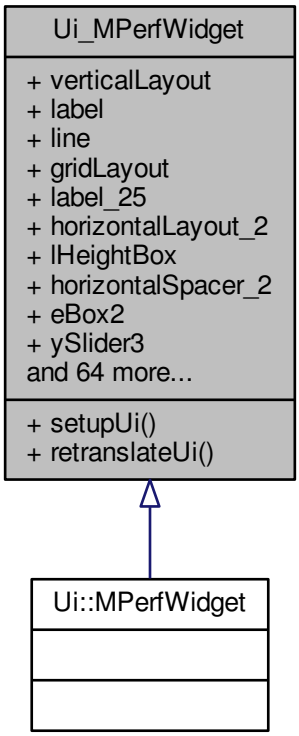
The documentation for this class was generated from the following file:

- src/ckb/ui_modeselectdialog.h

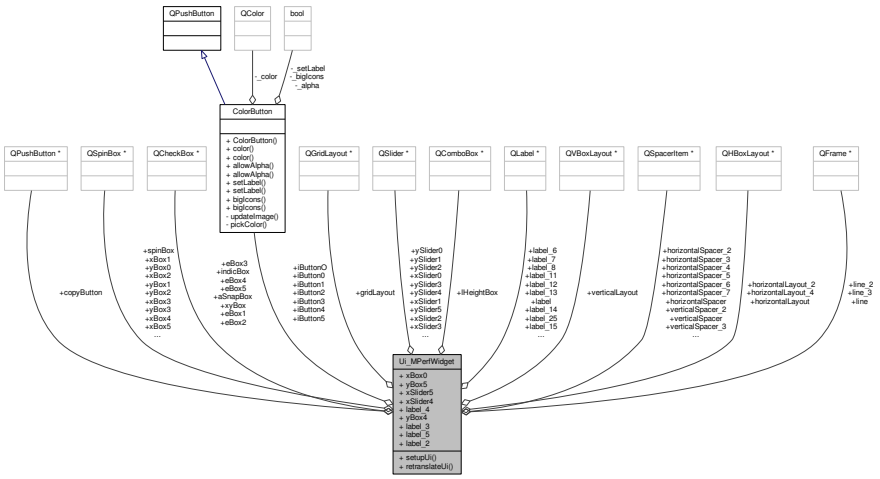
12.100 Ui_MPerfWidget Class Reference

`#include <src/ckb/ui_mperfwidget.h>`

Inheritance diagram for Ui_MPerfWidget:



Collaboration diagram for Ui_MPerfWidget:



Public Member Functions

- void setupUi (QWidget *MPerfWidget)
- void retranslateUi (QWidget *MPerfWidget)

Data Fields

- QVBoxLayout * verticalLayout
- QLabel * label
- QFrame * line
- QGridLayout * gridLayout
- QLabel * label_25
- QHBoxLayout * horizontalLayout_2
- QComboBox * lHeightBox
- QSpacerItem * horizontalSpacer_2
- QCheckBox * eBox2
- QSlider * ySlider3
- QSlider * xSlider2
- QSpinBox * xBox3
- QSpinBox * yBox0
- QSlider * ySlider0
- ColorButton * iButton4
- ColorButton * iButton5
- QSpacerItem * horizontalSpacer_4
- QSpacerItem * verticalSpacer_3
- QSpacerItem * horizontalSpacer_5
- ColorButton * iButton3
- QLabel * label_12
- QSpinBox * xBox4
- QSpinBox * xBox0
- QSpinBox * yBox5
- QCheckBox * eBox5
- QSlider * xSlider5
- QSpinBox * xBox1

- QSpinBox * yBox2
- QSpinBox * yBox3
- QSlider * xSlider4
- QLabel * label_4
- QSlider * xSlider0
- ColorButton * iButton2
- QFrame * line_3
- ColorButton * iButtonO
- QSpinBox * yBox1
- QSlider * ySlider2
- QSpinBox * xBox2
- QSlider * xSlider1
- QSpacerItem * horizontalSpacer
- QSpinBox * yBox4
- ColorButton * iButton1
- QSlider * ySlider4
- QSlider * ySlider1
- ColorButton * iButton0
- QSlider * xSlider3
- QSpinBox * xBox5
- QLabel * label_3
- QLabel * label_6
- QSlider * ySlider5
- QLabel * label_7
- QLabel * label_8
- QLabel * label_5
- QLabel * label_15
- QLabel * label_13
- QLabel * label_14
- QCheckBox * eBox4
- QLabel * label_11
- QCheckBox * eBox3
- QCheckBox * eBox1
- QLabel * label_2
- QSpacerItem * verticalSpacer
- QCheckBox * aSnapBox
- QFrame * line_2
- QHBoxLayout * horizontalLayout_4
- QCheckBox * indicBox
- QSpacerItem * horizontalSpacer_3
- QSpinBox * spinBox
- QSpacerItem * horizontalSpacer_7
- QCheckBox * xyBox
- QSpacerItem * verticalSpacer_2
- QHBoxLayout * horizontalLayout
- QPushButton * copyButton
- QSpacerItem * horizontalSpacer_6

12.100.1 Detailed Description

Definition at line 33 of file ui_mperfwidget.h.

12.100.2 Member Function Documentation

12.100.2.1 void Ui_MPerfWidget::retranslateUi (QWidget * *MPerfWidget*) [inline]

Definition at line 641 of file ui_mperfwidget.h.

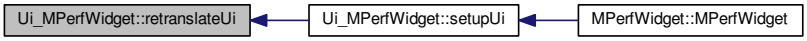
References aSnapBox, copyButton, eBox1, eBox2, eBox3, eBox4, eBox5, iButton0, iButton1, iButton2, iButton3, iButton4, iButton5, iButtonO, indicBox, label, label_11, label_12, label_13, label_14, label_15, label_2, label_25, label_3, label_4, label_5, label_6, label_7, label_8, lHeightBox, spinBox, and xyBox.

Referenced by setupUi().

```
642     {
643         MPerfWidget->setWindowTitle(QApplication::translate("MPerfWidget", "Form", Q_NULLPTR));
644         label->setText(QApplication::translate("MPerfWidget", "DPI", Q_NULLPTR));
645         label_25->setText(QApplication::translate("MPerfWidget", "Lift height:", Q_NULLPTR));
646         lHeightBox->clear();
647         lHeightBox->insertItems(0, QStringList()
648          << QApplication::translate("MPerfWidget", "Low", Q_NULLPTR)
649          << QApplication::translate("MPerfWidget", "Medium-low", Q_NULLPTR)
650          << QApplication::translate("MPerfWidget", "Medium", Q_NULLPTR)
651          << QApplication::translate("MPerfWidget", "Medium-high", Q_NULLPTR)
652          << QApplication::translate("MPerfWidget", "High", Q_NULLPTR)
653         );
654 #ifndef QT_NO_TOOLTIP
655         eBox2->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage
       while moving up or down.", Q_NULLPTR));
656 #endif // QT_NO_TOOLTIP
657         eBox2->setText(QString());
658 #ifndef QT_NO_TOOLTIP
659         iButton4->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all
       colors at once", Q_NULLPTR));
660 #endif // QT_NO_TOOLTIP
661         iButton4->setText(QString());
662 #ifndef QT_NO_TOOLTIP
663         iButton5->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all
       colors at once", Q_NULLPTR));
664 #endif // QT_NO_TOOLTIP
665         iButton5->setText(QString());
666 #ifndef QT_NO_TOOLTIP
667         iButton3->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all
       colors at once", Q_NULLPTR));
668 #endif // QT_NO_TOOLTIP
669         iButton3->setText(QString());
670         label_12->setText(QApplication::translate("MPerfWidget", "X Value:", Q_NULLPTR));
671 #ifndef QT_NO_TOOLTIP
672         eBox5->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage
       while moving up or down.", Q_NULLPTR));
673 #endif // QT_NO_TOOLTIP
674         eBox5->setText(QString());
675         label_4->setText(QApplication::translate("MPerfWidget", "Y Value:", Q_NULLPTR));
676 #ifndef QT_NO_TOOLTIP
677         iButton2->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all
       colors at once", Q_NULLPTR));
678 #endif // QT_NO_TOOLTIP
679         iButton2->setText(QString());
680 #ifndef QT_NO_TOOLTIP
681         iButtonO->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all
       colors at once", Q_NULLPTR));
682 #endif // QT_NO_TOOLTIP
683         iButtonO->setText(QString());
684 #ifndef QT_NO_TOOLTIP
685         iButton1->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all
       colors at once", Q_NULLPTR));
686 #endif // QT_NO_TOOLTIP
687         iButton1->setText(QString());
688 #ifndef QT_NO_TOOLTIP
689         iButton0->setToolTip(QApplication::translate("MPerfWidget", "Tip: alt+click to set all
       colors at once", Q_NULLPTR));
690 #endif // QT_NO_TOOLTIP
691         iButton0->setText(QString());
692         label_3->setText(QApplication::translate("MPerfWidget", "You can assign other DPIs in the
       Binding tab.", Q_NULLPTR));
693         label_6->setText(QApplication::translate("MPerfWidget", "2:", Q_NULLPTR));
694         label_7->setText(QApplication::translate("MPerfWidget", "3:", Q_NULLPTR));
695         label_8->setText(QApplication::translate("MPerfWidget", "4:", Q_NULLPTR));
696         label_5->setText(QApplication::translate("MPerfWidget", "1:", Q_NULLPTR));
697         label_15->setText(QApplication::translate("MPerfWidget", "Other:", Q_NULLPTR));
698         label_13->setText(QApplication::translate("MPerfWidget", "5:", Q_NULLPTR));
699         label_14->setText(QApplication::translate("MPerfWidget", "Sniper:", Q_NULLPTR));
700 #ifndef QT_NO_TOOLTIP
701         eBox4->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage
       while moving up or down.", Q_NULLPTR));
```

```
702 #endif // QT_NO_TOOLTIP
703         eBox4->setText(QString());
704         label_11->setText(QApplication::translate("MPerfWidget", "DPI Stage:", Q_NULLPTR));
705 #ifndef QT_NO_TOOLTIP
706         eBox3->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage
      while moving up or down.", Q_NULLPTR));
707 #endif // QT_NO_TOOLTIP
708         eBox3->setText(QString());
709 #ifndef QT_NO_TOOLTIP
710         eBox1->setToolTip(QApplication::translate("MPerfWidget", "Uncheck this box to skip the stage
      while moving up or down.", Q_NULLPTR));
711 #endif // QT_NO_TOOLTIP
712         eBox1->setText(QString());
713         label_2->setText(QApplication::translate("MPerfWidget", "Movement", Q_NULLPTR));
714         aSnapBox->setText(QApplication::translate("MPerfWidget", "Angle snap", Q_NULLPTR));
715         indicBox->setText(QApplication::translate("MPerfWidget", "Use DPI indicator:", Q_NULLPTR));
716 #ifndef QT_NO_TOOLTIP
717         spinBox->setToolTip(QApplication::translate("MPerfWidget", "Indicator intensity", Q_NULLPTR)
    );
718 #endif // QT_NO_TOOLTIP
719         spinBox->setSuffix(QApplication::translate("MPerfWidget", "%", Q_NULLPTR));
720         xyBox->setText(QApplication::translate("MPerfWidget", "Independent X/Y states", Q_NULLPTR));
721         copyButton->setText(QApplication::translate("MPerfWidget", "Copy to mode...", Q_NULLPTR))
    ;
722     } // retranslateUi
```

Here is the caller graph for this function:



12.100.2.2 void Ui_MPerfWidget::setupUi (QWidget * *MPerfWidget*) [inline]

Definition at line 111 of file ui_mperfwidget.h.

References aSnapBox, copyButton, eBox1, eBox2, eBox3, eBox4, eBox5, gridLayout, horizontalLayout, horizontalLayout_2, horizontalLayout_4, horizontalSpacer, horizontalSpacer_2, horizontalSpacer_3, horizontalSpacer_4, horizontalSpacer_5, horizontalSpacer_6, horizontalSpacer_7, iButton0, iButton1, iButton2, iButton3, iButton4, iButton5, iButtonO, indicBox, label, label_11, label_12, label_13, label_14, label_15, label_2, label_25, label_3, label_4, label_5, label_6, label_7, label_8, lHeightBox, line, line_2, line_3, retranslateUi(), spinBox, verticalLayout, verticalSpacer, verticalSpacer_2, verticalSpacer_3, xBox0, xBox1, xBox2, xBox3, xBox4, xBox5, xSlider0, xSlider1, xSlider2, xSlider3, xSlider4, xSlider5, xyBox, yBox0, yBox1, yBox2, yBox3, yBox4, yBox5, ySlider0, ySlider1, ySlider2, ySlider3, ySlider4, and ySlider5.

Referenced by MPerfWidget::MPerfWidget().

```
112     {
113         if (MPerfWidget->objectName().isEmpty())
114             MPerfWidget->setObjectName(QStringLiteral("MPerfWidget"));
115         MPerfWidget->resize(932, 637);
116         verticalLayout = new QVBoxLayout(MPerfWidget);
117         verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
118         label = new QLabel(MPerfWidget);
119         label->setObjectName(QStringLiteral("label"));
120         QFont font;
121         font.setBold(true);
122         font.setWeight(75);
123         label->setFont(font);
124
125         verticalLayout->addWidget(label);
126
127         line = new QFrame(MPerfWidget);
128         line->setObjectName(QStringLiteral("line"));
129         line->setFrameShape(QFrame::HLine);
130         line->setFrameShadow(QFrame::Sunken);
131
132         verticalLayout->addWidget(line);
133
134         gridLayout = new QGridLayout();
```

```
135         gridLayout->setObjectName(QStringLiteral("gridLayout"));
136         label_25 = new QLabel(MPerfWidget);
137         label_25->setObjectName(QStringLiteral("label_25"));
138         label_25->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
139 
140         gridLayout->addWidget(label_25, 16, 5, 1, 2);
141 
142         horizontalLayout_2 = new QHBoxLayout();
143         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
144         lHeightBox = new QComboBox(MPerfWidget);
145         lHeightBox->setObjectName(QStringLiteral("lHeightBox"));
146 
147         horizontalLayout_2->addWidget(lHeightBox);
148 
149         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
150 
151         horizontalLayout_2->addItem(horizontalSpacer_2);
152 
153 
154         gridLayout->addLayout(horizontalLayout_2, 16, 8, 1, 3);
155 
156         eBox2 = new QCheckBox(MPerfWidget);
157         eBox2->setObjectName(QStringLiteral("eBox2"));
158 
159         gridLayout->addWidget(eBox2, 7, 1, 1, 1);
160 
161         ySlider3 = new QSlider(MPerfWidget);
162         ySlider3->setObjectName(QStringLiteral("ySlider3"));
163         ySlider3->setMinimum(0);
164         ySlider3->setMaximum(1000);
165         ySlider3->setSingleStep(10);
166         ySlider3->setPageStep(50);
167         ySlider3->setValue(0);
168         ySlider3->setOrientation(Qt::Horizontal);
169 
170         gridLayout->addWidget(ySlider3, 8, 8, 1, 1);
171 
172         xSlider2 = new QSlider(MPerfWidget);
173         xSlider2->setObjectName(QStringLiteral("xSlider2"));
174         xSlider2->setMinimum(0);
175         xSlider2->setMaximum(1000);
176         xSlider2->setSingleStep(10);
177         xSlider2->setPageStep(50);
178         xSlider2->setValue(0);
179         xSlider2->setOrientation(Qt::Horizontal);
180 
181         gridLayout->addWidget(xSlider2, 7, 5, 1, 1);
182 
183         xBox3 = new QSpinBox(MPerfWidget);
184         xBox3->setObjectName(QStringLiteral("xBox3"));
185         xBox3->setMinimum(100);
186         xBox3->setMaximum(12000);
187         xBox3->setSingleStep(50);
188 
189         gridLayout->addWidget(xBox3, 8, 6, 1, 1);
190 
191         yBox0 = new QSpinBox(MPerfWidget);
192         yBox0->setObjectName(QStringLiteral("yBox0"));
193         yBox0->setMinimum(100);
194         yBox0->setMaximum(12000);
195         yBox0->setSingleStep(50);
196 
197         gridLayout->addWidget(yBox0, 11, 9, 1, 1);
198 
199         ySlider0 = new QSlider(MPerfWidget);
200         ySlider0->setObjectName(QStringLiteral("ySlider0"));
201         ySlider0->setMinimum(0);
202         ySlider0->setMaximum(1000);
203         ySlider0->setSingleStep(10);
204         ySlider0->setPageStep(50);
205         ySlider0->setValue(0);
206         ySlider0->setOrientation(Qt::Horizontal);
207 
208         gridLayout->addWidget(ySlider0, 11, 8, 1, 1);
209 
210         iButton4 = new ColorButton(MPerfWidget);
211         iButton4->setObjectName(QStringLiteral("iButton4"));
212         QSizePolicy sizePolicy(QSizePolicy::Fixed, QSizePolicy::Fixed);
213         sizePolicy.setHorizontalStretch(0);
214         sizePolicy.setVerticalStretch(0);
215         sizePolicy.setHeightForWidth(iButton4->sizePolicy().hasHeightForWidth());
216         iButton4->setSizePolicy(sizePolicy);
217         iButton4->setMinimumSize(QSize(0, 40));
218 
219         gridLayout->addWidget(iButton4, 9, 2, 1, 1);
220 
```

```
221         iButton5 = new ColorButton(MPerfWidget);
222         iButton5->setObjectName(QStringLiteral("iButton5"));
223         sizePolicy.setHeightForWidth(iButton5->sizePolicy().hasHeightForWidth());
224         iButton5->setSizePolicy(sizePolicy);
225         iButton5->setMinimumSize(QSize(0, 40));
226 
227         gridLayout->addWidget(iButton5, 10, 2, 1, 1);
228 
229         horizontalSpacer_4 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
230 
231         gridLayout->addItem(horizontalSpacer_4, 4, 4, 1, 1);
232 
233         verticalSpacer_3 = new QSpacerItem(20, 15, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
234 
235         gridLayout->addItem(verticalSpacer_3, 3, 2, 1, 1);
236 
237         horizontalSpacer_5 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
238 
239         gridLayout->addItem(horizontalSpacer_5, 4, 7, 1, 1);
240 
241         iButton3 = new ColorButton(MPerfWidget);
242         iButton3->setObjectName(QStringLiteral("iButton3"));
243         sizePolicy.setHeightForWidth(iButton3->sizePolicy().hasHeightForWidth());
244         iButton3->setSizePolicy(sizePolicy);
245         iButton3->setMinimumSize(QSize(0, 40));
246 
247         gridLayout->addWidget(iButton3, 8, 2, 1, 1);
248 
249         label_12 = new QLabel(MPerfWidget);
250         label_12->setObjectName(QStringLiteral("label_12"));
251         QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Preferred);
252         sizePolicy1.setHorizontalStretch(0);
253         sizePolicy1.setVerticalStretch(0);
254         sizePolicy1.setHeightForWidth(label_12->sizePolicy().hasHeightForWidth());
255         label_12->setSizePolicy(sizePolicy1);
256 
257         gridLayout->addWidget(label_12, 4, 5, 1, 1);
258 
259         xBox4 = new QSpinBox(MPerfWidget);
260         xBox4->setObjectName(QStringLiteral("xBox4"));
261         xBox4->setMinimum(100);
262         xBox4->setMaximum(12000);
263         xBox4->setSingleStep(50);
264 
265         gridLayout->addWidget(xBox4, 9, 6, 1, 1);
266 
267         xBox0 = new QSpinBox(MPerfWidget);
268         xBox0->setObjectName(QStringLiteral("xBox0"));
269         xBox0->setMinimum(100);
270         xBox0->setMaximum(12000);
271         xBox0->setSingleStep(50);
272 
273         gridLayout->addWidget(xBox0, 11, 6, 1, 1);
274 
275         yBox5 = new QSpinBox(MPerfWidget);
276         yBox5->setObjectName(QStringLiteral("yBox5"));
277         yBox5->setMinimum(100);
278         yBox5->setMaximum(12000);
279         yBox5->setSingleStep(50);
280 
281         gridLayout->addWidget(yBox5, 10, 9, 1, 1);
282 
283         eBox5 = new QCheckBox(MPerfWidget);
284         eBox5->setObjectName(QStringLiteral("eBox5"));
285 
286         gridLayout->addWidget(eBox5, 10, 1, 1, 1);
287 
288         xSlider5 = new QSlider(MPerfWidget);
289         xSlider5->setObjectName(QStringLiteral("xSlider5"));
290         xSlider5->setMinimum(0);
291         xSlider5->setMaximum(1000);
292         xSlider5->setSingleStep(10);
293         xSlider5->setPageStep(50);
294         xSlider5->setValue(0);
295         xSlider5->setOrientation(Qt::Horizontal);
296 
297         gridLayout->addWidget(xSlider5, 10, 5, 1, 1);
298 
299         xBox1 = new QSpinBox(MPerfWidget);
300         xBox1->setObjectName(QStringLiteral("xBox1"));
301         sizePolicy.setHeightForWidth(xBox1->sizePolicy().hasHeightForWidth());
302         xBox1->setSizePolicy(sizePolicy);
303         xBox1->setMinimum(100);
304         xBox1->setMaximum(12000);
```

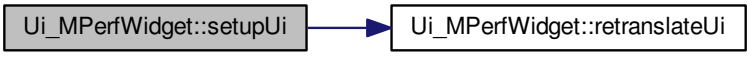
```
305         xBox1->setSingleStep(50);
306
307         gridLayout->addWidget(xBox1, 6, 6, 1, 1);
308
309         yBox2 = new QSpinBox(MPerfWidget);
310         yBox2->setObjectName(QStringLiteral("yBox2"));
311         yBox2->setMinimum(100);
312         yBox2->setMaximum(12000);
313         yBox2->setSingleStep(50);
314
315         gridLayout->addWidget(yBox2, 7, 9, 1, 1);
316
317         yBox3 = new QSpinBox(MPerfWidget);
318         yBox3->setObjectName(QStringLiteral("yBox3"));
319         yBox3->setMinimum(100);
320         yBox3->setMaximum(12000);
321         yBox3->setSingleStep(50);
322
323         gridLayout->addWidget(yBox3, 8, 9, 1, 1);
324
325         xSlider4 = new QSlider(MPerfWidget);
326         xSlider4->setObjectName(QStringLiteral("xSlider4"));
327         xSlider4->setMinimum(0);
328         xSlider4->setMaximum(1000);
329         xSlider4->setSingleStep(10);
330         xSlider4->setPageStep(50);
331         xSlider4->setValue(0);
332         xSlider4->setOrientation(Qt::Horizontal);
333
334         gridLayout->addWidget(xSlider4, 9, 5, 1, 1);
335
336         label_4 = new QLabel(MPerfWidget);
337         label_4->setObjectName(QStringLiteral("label_4"));
338         sizePolicy1.setHeightForWidth(label_4->sizePolicy().hasHeightForWidth());
339         label_4->setSizePolicy(sizePolicy1);
340
341         gridLayout->addWidget(label_4, 4, 8, 1, 1);
342
343         xSlider0 = new QSlider(MPerfWidget);
344         xSlider0->setObjectName(QStringLiteral("xSlider0"));
345         xSlider0->setMinimum(0);
346         xSlider0->setMaximum(1000);
347         xSlider0->setSingleStep(10);
348         xSlider0->setPageStep(50);
349         xSlider0->setValue(0);
350         xSlider0->setOrientation(Qt::Horizontal);
351
352         gridLayout->addWidget(xSlider0, 11, 5, 1, 1);
353
354         iButton2 = new ColorButton(MPerfWidget);
355         iButton2->setObjectName(QStringLiteral("iButton2"));
356         sizePolicy.setHeightForWidth(iButton2->sizePolicy().hasHeightForWidth());
357         iButton2->setSizePolicy(sizePolicy);
358         iButton2->setMinimumSize(QSize(0, 40));
359
360         gridLayout->addWidget(iButton2, 7, 2, 1, 1);
361
362         line_3 = new QFrame(MPerfWidget);
363         line_3->setObjectName(QStringLiteral("line_3"));
364         line_3->setFrameShape(QFrame::HLine);
365         line_3->setFrameShadow(QFrame::Sunken);
366
367         gridLayout->addWidget(line_3, 5, 0, 1, 11);
368
369         iButtonO = new ColorButton(MPerfWidget);
370         iButtonO->setObjectName(QStringLiteral("iButtonO"));
371         sizePolicy.setHeightForWidth(iButtonO->sizePolicy().hasHeightForWidth());
372         iButtonO->setSizePolicy(sizePolicy);
373         iButtonO->setMinimumSize(QSize(0, 40));
374
375         gridLayout->addWidget(iButtonO, 12, 2, 1, 1);
376
377         yBox1 = new QSpinBox(MPerfWidget);
378         yBox1->setObjectName(QStringLiteral("yBox1"));
379         sizePolicy.setHeightForWidth(yBox1->sizePolicy().hasHeightForWidth());
380         yBox1->setSizePolicy(sizePolicy);
381         yBox1->setMinimum(100);
382         yBox1->setMaximum(12000);
383         yBox1->setSingleStep(50);
384
385         gridLayout->addWidget(yBox1, 6, 9, 1, 1);
386
387         ySlider2 = new QSlider(MPerfWidget);
388         ySlider2->setObjectName(QStringLiteral("ySlider2"));
389         ySlider2->setMinimum(0);
390         ySlider2->setMaximum(1000);
391         ySlider2->setSingleStep(10);
```

```
392         ySlider2->setPageStep(50);
393         ySlider2->setValue(0);
394         ySlider2->setOrientation(Qt::Horizontal);
395 
396         gridLayout->addWidget(ySlider2, 7, 8, 1, 1);
397 
398         xBox2 = new QSpinBox(MPerfWidget);
399         xBox2->setObjectName(QStringLiteral("xBox2"));
400         xBox2->setMinimum(100);
401         xBox2->setMaximum(12000);
402         xBox2->setSingleStep(50);
403 
404         gridLayout->addWidget(xBox2, 7, 6, 1, 1);
405 
406         xSlider1 = new QSlider(MPerfWidget);
407         xSlider1->setObjectName(QStringLiteral("xSlider1"));
408         QSizePolicy sizePolicy2(QSizePolicy::Expanding, QSizePolicy::Fixed);
409         sizePolicy2.setHorizontalStretch(0);
410         sizePolicy2.setVerticalStretch(0);
411         sizePolicy2.setHeightForWidth(xSlider1->sizePolicy().hasHeightForWidth());
412         xSlider1->setSizePolicy(sizePolicy2);
413         xSlider1->setMinimum(0);
414         xSlider1->setMaximum(1000);
415         xSlider1->setSingleStep(10);
416         xSlider1->setPageStep(50);
417         xSlider1->setValue(0);
418         xSlider1->setOrientation(Qt::Horizontal);
419 
420         gridLayout->addWidget(xSlider1, 6, 5, 1, 1);
421 
422         horizontalSpacer = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum)
    ;
423 
424         gridLayout->addItem(horizontalSpacer, 0, 0, 1, 1);
425 
426         yBox4 = new QSpinBox(MPerfWidget);
427         yBox4->setObjectName(QStringLiteral("yBox4"));
428         yBox4->setMinimum(100);
429         yBox4->setMaximum(12000);
430         yBox4->setSingleStep(50);
431 
432         gridLayout->addWidget(yBox4, 9, 9, 1, 1);
433 
434         iButton1 = new ColorButton(MPerfWidget);
435         iButton1->setObjectName(QStringLiteral("iButton1"));
436         sizePolicy.setHeightForWidth(iButton1->sizePolicy().hasHeightForWidth());
437         iButton1->setSizePolicy(sizePolicy);
438         iButton1->setMinimumSize(QSize(0, 40));
439 
440         gridLayout->addWidget(iButton1, 6, 2, 1, 1);
441 
442         ySlider4 = new QSlider(MPerfWidget);
443         ySlider4->setObjectName(QStringLiteral("ySlider4"));
444         ySlider4->setMinimum(0);
445         ySlider4->setMaximum(1000);
446         ySlider4->setSingleStep(10);
447         ySlider4->setPageStep(50);
448         ySlider4->setValue(0);
449         ySlider4->setOrientation(Qt::Horizontal);
450 
451         gridLayout->addWidget(ySlider4, 9, 8, 1, 1);
452 
453         ySlider1 = new QSlider(MPerfWidget);
454         ySlider1->setObjectName(QStringLiteral("ySlider1"));
455         ySlider1->setMinimum(0);
456         ySlider1->setMaximum(1000);
457         ySlider1->setSingleStep(10);
458         ySlider1->setPageStep(50);
459         ySlider1->setValue(0);
460         ySlider1->setOrientation(Qt::Horizontal);
461 
462         gridLayout->addWidget(ySlider1, 6, 8, 1, 1);
463 
464         iButton0 = new ColorButton(MPerfWidget);
465         iButton0->setObjectName(QStringLiteral("iButton0"));
466         sizePolicy.setHeightForWidth(iButton0->sizePolicy().hasHeightForWidth());
467         iButton0->setSizePolicy(sizePolicy);
468         iButton0->setMinimumSize(QSize(0, 40));
469 
470         gridLayout->addWidget(iButton0, 11, 2, 1, 1);
471 
472         xSlider3 = new QSlider(MPerfWidget);
473         xSlider3->setObjectName(QStringLiteral("xSlider3"));
474         xSlider3->setMinimum(0);
475         xSlider3->setMaximum(1000);
476         xSlider3->setSingleStep(10);
477         xSlider3->setPageStep(50);
```

```
478         xSlider3->setValue(0);
479         xSlider3->setOrientation(Qt::Horizontal);
480 
481         gridLayout->addWidget(xSlider3, 8, 5, 1, 1);
482 
483         xBox5 = new QSpinBox(MPerfWidget);
484         xBox5->setObjectName(QStringLiteral("xBox5"));
485         xBox5->setMinimum(100);
486         xBox5->setMaximum(12000);
487         xBox5->setSingleStep(50);
488 
489         gridLayout->addWidget(xBox5, 10, 6, 1, 1);
490 
491         label_3 = new QLabel(MPerfWidget);
492         label_3->setObjectName(QStringLiteral("label_3"));
493 
494         gridLayout->addWidget(label_3, 12, 5, 1, 5);
495 
496         label_6 = new QLabel(MPerfWidget);
497         label_6->setObjectName(QStringLiteral("label_6"));
498 
499         gridLayout->addWidget(label_6, 7, 3, 1, 1);
500 
501         ySlider5 = new QSlider(MPerfWidget);
502         ySlider5->setObjectName(QStringLiteral("ySlider5"));
503         ySlider5->setMinimum(0);
504         ySlider5->setMaximum(1000);
505         ySlider5->setSingleStep(10);
506         ySlider5->setPageStep(50);
507         ySlider5->setValue(0);
508         ySlider5->setOrientation(Qt::Horizontal);
509 
510         gridLayout->addWidget(ySlider5, 10, 8, 1, 1);
511 
512         label_7 = new QLabel(MPerfWidget);
513         label_7->setObjectName(QStringLiteral("label_7"));
514 
515         gridLayout->addWidget(label_7, 8, 3, 1, 1);
516 
517         label_8 = new QLabel(MPerfWidget);
518         label_8->setObjectName(QStringLiteral("label_8"));
519 
520         gridLayout->addWidget(label_8, 9, 3, 1, 1);
521 
522         label_5 = new QLabel(MPerfWidget);
523         label_5->setObjectName(QStringLiteral("label_5"));
524 
525         gridLayout->addWidget(label_5, 6, 3, 1, 1);
526 
527         label_15 = new QLabel(MPerfWidget);
528         label_15->setObjectName(QStringLiteral("label_15"));
529 
530         gridLayout->addWidget(label_15, 12, 3, 1, 1);
531 
532         label_13 = new QLabel(MPerfWidget);
533         label_13->setObjectName(QStringLiteral("label_13"));
534 
535         gridLayout->addWidget(label_13, 10, 3, 1, 1);
536 
537         label_14 = new QLabel(MPerfWidget);
538         label_14->setObjectName(QStringLiteral("label_14"));
539 
540         gridLayout->addWidget(label_14, 11, 3, 1, 1);
541 
542         eBox4 = new QCheckBox(MPerfWidget);
543         eBox4->setObjectName(QStringLiteral("eBox4"));
544 
545         gridLayout->addWidget(eBox4, 9, 1, 1, 1);
546 
547         label_11 = new QLabel(MPerfWidget);
548         label_11->setObjectName(QStringLiteral("label_11"));
549 
550         gridLayout->addWidget(label_11, 4, 2, 1, 2);
551 
552         eBox3 = new QCheckBox(MPerfWidget);
553         eBox3->setObjectName(QStringLiteral("eBox3"));
554 
555         gridLayout->addWidget(eBox3, 8, 1, 1, 1);
556 
557         eBox1 = new QCheckBox(MPerfWidget);
558         eBox1->setObjectName(QStringLiteral("eBox1"));
559 
560         gridLayout->addWidget(eBox1, 6, 1, 1, 1);
561 
562         label_2 = new QLabel(MPerfWidget);
563         label_2->setObjectName(QStringLiteral("label_2"));
564         label_2->setFont(font);
```

```
565
566         gridLayout->addWidget(label_2, 14, 0, 1, 10);
567
568         verticalSpacer = new QSpacerItem(20, 30, QSizePolicy::Minimum, QSizePolicy::Fixed);
569
570         gridLayout->addItem(verticalSpacer, 13, 2, 1, 1);
571
572         aSnapBox = new QCheckBox(MPerfWidget);
573         aSnapBox->setObjectName(QStringLiteral("aSnapBox"));
574
575         gridLayout->addWidget(aSnapBox, 16, 1, 1, 4);
576
577         line_2 = new QFrame(MPerfWidget);
578         line_2->setObjectName(QStringLiteral("line_2"));
579         line_2->setFrameShape(QFrame::HLine);
580         line_2->setFrameShadow(QFrame::Sunken);
581
582         gridLayout->addWidget(line_2, 15, 0, 1, 10);
583
584         horizontalLayout_4 = new QHBoxLayout();
585         horizontalLayout_4->setObjectName(QStringLiteral("horizontalLayout_4"));
586         indicBox = new QCheckBox(MPerfWidget);
587         indicBox->setObjectName(QStringLiteral("indicBox"));
588
589         horizontalLayout_4->addWidget(indicBox);
590
591         horizontalSpacer_3 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
592
593         horizontalLayout_4->addItem(horizontalSpacer_3);
594
595         spinBox = new QSpinBox(MPerfWidget);
596         spinBox->setObjectName(QStringLiteral("spinBox"));
597         spinBox->setMaximum(100);
598         spinBox->setValue(100);
599
600         horizontalLayout_4->addWidget(spinBox);
601
602         horizontalSpacer_7 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
603
604         horizontalLayout_4->addItem(horizontalSpacer_7);
605
606
607         gridLayout->addLayout(horizontalLayout_4, 0, 1, 1, 9);
608
609         xyBox = new QCheckBox(MPerfWidget);
610         xyBox->setObjectName(QStringLiteral("xyBox"));
611
612         gridLayout->addWidget(xyBox, 2, 1, 1, 9);
613
614
615         verticalLayout->addLayout(gridLayout);
616
617         verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
618
619         verticalLayout->addItem(verticalSpacer_2);
620
621         horizontalLayout = new QHBoxLayout();
622         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
623         copyButton = new QPushButton(MPerfWidget);
624         copyButton->setObjectName(QStringLiteral("copyButton"));
625
626         horizontalLayout->addWidget(copyButton);
627
628         horizontalSpacer_6 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
629
630         horizontalLayout->addItem(horizontalSpacer_6);
631
632
633         verticalLayout->addLayout(horizontalLayout);
634
635
636         retranslateUi(MPerfWidget);
637
638         QMetaObject::connectSlotsByName(MPerfWidget);
639     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.100.3 Field Documentation

12.100.3.1 QCheckBox* Ui_MPerfWidget::aSnapBox

Definition at line 98 of file ui_mperfwidget.h.

Referenced by retranslateUi(), MPerfWidget::setPerf(), and setupUi().

12.100.3.2 QPushButton* Ui_MPerfWidget::copyButton

Definition at line 108 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.3 QCheckBox* Ui_MPerfWidget::eBox1

Definition at line 95 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.4 QCheckBox* Ui_MPerfWidget::eBox2

Definition at line 44 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.5 QCheckBox* Ui_MPerfWidget::eBox3

Definition at line 94 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.6 QCheckBox* Ui_MPerfWidget::eBox4

Definition at line 92 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.7 QCheckBox* Ui_MPerfWidget::eBox5

Definition at line 60 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.8 QGridLayout* Ui_MPerfWidget::gridLayout

Definition at line 39 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.9 QHBoxLayout* Ui_MPerfWidget::horizontalLayout

Definition at line 107 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.10 QHBoxLayout* Ui_MPerfWidget::horizontalLayout_2

Definition at line 41 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.11 QHBoxLayout* Ui_MPerfWidget::horizontalLayout_4

Definition at line 100 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.12 QSpacerItem* Ui_MPerfWidget::horizontalSpacer

Definition at line 75 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.13 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_2

Definition at line 43 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.14 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_3

Definition at line 102 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.15 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_4

Definition at line 52 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.16 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_5

Definition at line 54 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.17 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_6

Definition at line 109 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.18 QSpacerItem* Ui_MPerfWidget::horizontalSpacer_7

Definition at line 104 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.19 ColorButton* Ui_MPerfWidget::iButton0

Definition at line 80 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.20 ColorButton* Ui_MPerfWidget::iButton1

Definition at line 77 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.21 ColorButton* Ui_MPerfWidget::iButton2

Definition at line 68 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.22 ColorButton* Ui_MPerfWidget::iButton3

Definition at line 55 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.23 ColorButton* Ui_MPerfWidget::iButton4

Definition at line 50 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.24 ColorButton* Ui_MPerfWidget::iButton5

Definition at line 51 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), and setupUi().

12.100.3.25 ColorButton* Ui_MPerfWidget::iButtonO

Definition at line 70 of file ui_mperfwidget.h.

Referenced by MPerfWidget::colorChanged(), MPerfWidget::MPerfWidget(), retranslateUi(), MPerfWidget::setPerf(), and setupUi().

12.100.3.26 QCheckBox* Ui_MPerfWidget::indicBox

Definition at line 101 of file ui_mperfwidget.h.

Referenced by retranslateUi(), MPerfWidget::setPerf(), and setupUi().

12.100.3.27 QLabel* Ui_MPerfWidget::label

Definition at line 37 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.28 QLabel* Ui_MPerfWidget::label_11

Definition at line 93 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.29 QLabel* Ui_MPerfWidget::label_12

Definition at line 56 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.30 QLabel* Ui_MPerfWidget::label_13

Definition at line 90 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.31 QLabel* Ui_MPerfWidget::label_14

Definition at line 91 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.32 QLabel* Ui_MPerfWidget::label_15

Definition at line 89 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.33 QLabel* Ui_MPerfWidget::label_2

Definition at line 96 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.34 QLabel* Ui_MPerfWidget::label_25

Definition at line 40 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.35 QLabel* Ui_MPerfWidget::label_3

Definition at line 83 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.36 QLabel* Ui_MPerfWidget::label_4

Definition at line 66 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.37 QLabel* Ui_MPerfWidget::label_5

Definition at line 88 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.38 QLabel* Ui_MPerfWidget::label_6

Definition at line 84 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.39 QLabel* Ui_MPerfWidget::label_7

Definition at line 86 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.40 QLabel* Ui_MPerfWidget::label_8

Definition at line 87 of file ui_mperfwidget.h.

Referenced by retranslateUi(), and setupUi().

12.100.3.41 QComboBox* Ui_MPerfWidget::lHeightBox

Definition at line 42 of file ui_mperfwidget.h.

Referenced by retranslateUi(), MPerfWidget::setPerf(), and setupUi().

12.100.3.42 QFrame* Ui_MPerfWidget::line

Definition at line 38 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.43 QFrame* Ui_MPerfWidget::line_2

Definition at line 99 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.44 QFrame* Ui_MPerfWidget::line_3

Definition at line 69 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.45 QSpinBox* Ui_MPerfWidget::spinBox

Definition at line 103 of file ui_mperfwidget.h.

Referenced by retranslateUi(), MPerfWidget::setPerf(), and setupUi().

12.100.3.46 QVBoxLayout* Ui_MPerfWidget::verticalLayout

Definition at line 36 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.47 QSpacerItem* Ui_MPerfWidget::verticalSpacer

Definition at line 97 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.48 QSpacerItem* Ui_MPerfWidget::verticalSpacer_2

Definition at line 106 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.49 QSpacerItem* Ui_MPerfWidget::verticalSpacer_3

Definition at line 53 of file ui_mperfwidget.h.

Referenced by setupUi().

12.100.3.50 QSpinBox* Ui_MPerfWidget::xBox0

Definition at line 58 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.51 QSpinBox* Ui_MPerfWidget::xBox1

Definition at line 62 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.52 QSpinBox* Ui_MPerfWidget::xBox2

Definition at line 73 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.53 QSpinBox* Ui_MPerfWidget::xBox3

Definition at line 47 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.54 QSpinBox* Ui_MPerfWidget::xBox4

Definition at line 57 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.55 QSpinBox* Ui_MPerfWidget::xBox5

Definition at line 82 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.56 QSlider* Ui_MPerfWidget::xSlider0

Definition at line 67 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.57 QSlider* Ui_MPerfWidget::xSlider1

Definition at line 74 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.58 QSlider* Ui_MPerfWidget::xSlider2

Definition at line 46 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.59 QSlider* Ui_MPerfWidget::xSlider3

Definition at line 81 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.60 QSlider* Ui_MPerfWidget::xSlider4

Definition at line 65 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.61 QSlider* Ui_MPerfWidget::xSlider5

Definition at line 61 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.62 QCheckBox* Ui_MPerfWidget::xyBox

Definition at line 105 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), retranslateUi(), setupUi(), and MPerfWidget::sliderYMoved().

12.100.3.63 QSpinBox* Ui_MPerfWidget::yBox0

Definition at line 48 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.64 QSpinBox* Ui_MPerfWidget::yBox1

Definition at line 71 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.65 QSpinBox* Ui_MPerfWidget::yBox2

Definition at line 63 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.66 QSpinBox* Ui_MPerfWidget::yBox3

Definition at line 64 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.67 QSpinBox* Ui_MPerfWidget::yBox4

Definition at line 76 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.68 QSpinBox* Ui_MPerfWidget::yBox5

Definition at line 59 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.69 QSlider* Ui_MPerfWidget::ySlider0

Definition at line 49 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.70 QSlider* Ui_MPerfWidget::ySlider1

Definition at line 79 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.71 QSlider* Ui_MPerfWidget::ySlider2

Definition at line 72 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.72 QSlider* Ui_MPerfWidget::ySlider3

Definition at line 45 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.73 QSlider* Ui_MPerfWidget::ySlider4

Definition at line 78 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

12.100.3.74 QSlider* Ui_MPerfWidget::ySlider5

Definition at line 85 of file ui_mperfwidget.h.

Referenced by MPerfWidget::MPerfWidget(), and setupUi().

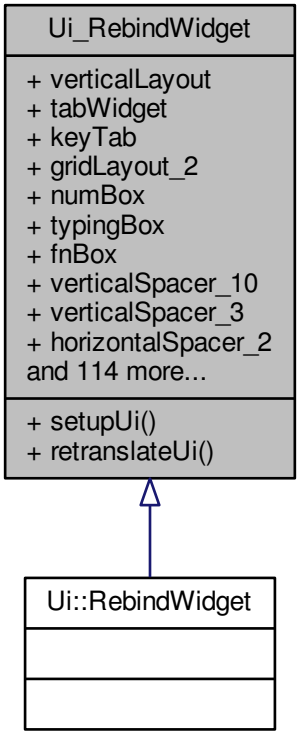
The documentation for this class was generated from the following file:

- src/ckb/ui_mperfwidget.h

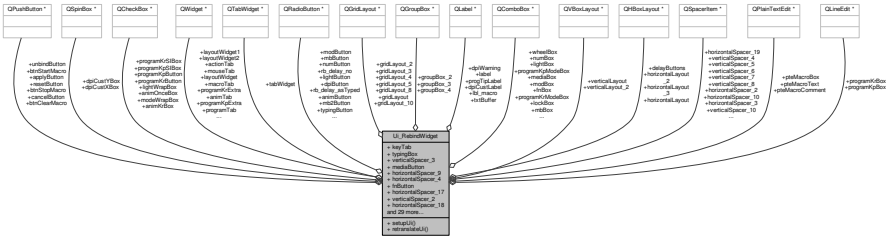
12.101 Ui_RebindWidget Class Reference

`#include <src/ckb/ui_rebindwidget.h>`

Inheritance diagram for Ui_RebindWidget:



Collaboration diagram for Ui_RebindWidget:



Public Member Functions

- void setupUi (QWidget ∗RebindWidget)
- void retranslateUi (QWidget ∗RebindWidget)

Data Fields

- QVBoxLayout ∗ verticalLayout
- QTabWidget ∗ tabWidget
- QWidget ∗ keyTab

- QGridLayout * gridLayout_2
- QComboBox * numBox
- QComboBox * typingBox
- QComboBox * fnBox
- QSpacerItem * verticalSpacer_10
- QSpacerItem * verticalSpacer_3
- QSpacerItem * horizontalSpacer_2
- QRadioButton * typingButton
- QComboBox * modBox
- QSpacerItem * horizontalSpacer_3
- QRadioButton * mediaButton
- QSpacerItem * verticalSpacer_4
- QSpacerItem * horizontalSpacer_9
- QSpacerItem * horizontalSpacer_4
- QRadioButton * modButton
- QRadioButton * fnButton
- QComboBox * mediaBox
- QRadioButton * numButton
- QSpacerItem * horizontalSpacer_17
- QWidget * mouseTab
- QGridLayout * gridLayout
- QRadioButton * dpiButton
- QSpacerItem * verticalSpacer_2
- QSpacerItem * verticalSpacer_8
- QSpacerItem * horizontalSpacer_18
- QSpacerItem * horizontalSpacer_20
- QComboBox * mb2Box
- QComboBox * dpiBox
- QSpinBox * dpiCustYBox
- QComboBox * mbBox
- QComboBox * wheelBox
- QRadioButton * mbButton
- QSpinBox * dpiCustXBox
- QLabel * dpiWarning
- QRadioButton * wheelButton
- QSpacerItem * horizontalSpacer_22
- QRadioButton * mb2Button
- QLabel * dpiCustLabel
- QSpacerItem * horizontalSpacer_19
- QSpacerItem * horizontalSpacer_21
- QWidget * animTab
- QGridLayout * gridLayout_5
- QSpacerItem * verticalSpacer_11
- QComboBox * animBox
- QSpacerItem * horizontalSpacer_24
- QSpacerItem * horizontalSpacer_25
- QCheckBox * animKrBox
- QCheckBox * animOnceBox
- QSpacerItem * horizontalSpacer_26
- QRadioButton * animButton
- QSpacerItem * horizontalSpacer_23
- QWidget * actionTab
- QGridLayout * gridLayout_3
- QSpacerItem * horizontalSpacer_5
- QRadioButton * modeButton

- QCheckBox * modeWrapBox
- QCheckBox * lightWrapBox
- QSpacerItem * verticalSpacer_7
- QSpacerItem * verticalSpacer_6
- QRadioButton * lockButton
- QSpacerItem * verticalSpacer_5
- QComboBox * lightBox
- QComboBox * lockBox
- QRadioButton * lightButton
- QComboBox * modeBox
- QSpacerItem * horizontalSpacer_8
- QSpacerItem * horizontalSpacer_10
- QSpacerItem * horizontalSpacer_7
- QSpacerItem * horizontalSpacer_6
- QWidget * programTab
- QGridLayout * gridLayout_4
- QSpacerItem * verticalSpacer
- QSpacerItem * horizontalSpacer
- QCheckBox * programKpButton
- QLineEdit * programKpBox
- QSpacerItem * horizontalSpacer_11
- QSpacerItem * horizontalSpacer_13
- QLineEdit * programKrBox
- QCheckBox * programKrButton
- QSpacerItem * horizontalSpacer_12
- QWidget * programKpExtra
- QHBoxLayout * horizontalLayout_2
- QCheckBox * programKpSIBox
- QComboBox * programKpModeBox
- QSpacerItem * horizontalSpacer_15
- QWidget * programKrExtra
- QHBoxLayout * horizontalLayout_3
- QCheckBox * programKrSIBox
- QComboBox * programKrModeBox
- QSpacerItem * horizontalSpacer_16
- QLabel * progTipLabel
- QWidget * macroTab
- QWidget * layoutWidget1
- QGridLayout * gridLayout_8
- QGroupBox * groupBox_2
- QPlainTextEdit * pteMacroBox
- QPlainTextEdit * pteMacroComment
- QPlainTextEdit * pteMacroText
- QWidget * layoutWidget
- QVBoxLayout * verticalLayout_2
- QGroupBox * groupBox_3
- QGroupBox * groupBox_4
- QWidget * layoutWidget_2
- QGridLayout * gridLayout_10
- QPushButton * btnStopMacro
- QPushButton * btnClearMacro
- QPushButton * btnStartMacro
- QLabel * label
- QLabel * lbl_macro
- QWidget * layoutWidget2

- QHBoxLayout * delayButtons
- QRadioButton * rb_delay_no
- QRadioButton * rb_delay_default
- QRadioButton * rb_delay_asTyped
- QLabel * txtBuffer
- QHBoxLayout * horizontalLayout
- QSpacerItem * horizontalSpacer_14
- QPushButton * unbindButton
- QPushButton * resetButton
- QPushButton * cancelButton
- QPushButton * applyButton

12.101.1 Detailed Description

Definition at line 35 of file ui_rebindwidget.h.

12.101.2 Member Function Documentation

12.101.2.1 void Ui_RebindWidget::retranslateUi (QWidget * *RebindWidget*) [inline]

Definition at line 897 of file ui_rebindwidget.h.

References actionTab, animBox, animButton, animKrBox, animOnceBox, animTab, applyButton, btnClearMacro, btnStartMacro, btnStopMacro, cancelButton, dpiBox, dpiButton, dpiCustLabel, dpiWarning, fnBox, fnButton, groupBox_2, groupBox_3, groupBox_4, keyTab, label, lbl_macro, lightBox, lightButton, lightWrapBox, lockBox, lockButton, macroTab, mb2Box, mb2Button, mbBox, mbButton, mediaBox, mediaButton, modBox, modButton, modeBox, modeButton, modeWrapBox, mouseTab, numBox, numButton, programKpButton, programKpModeBox, programKpSlBox, programKrButton, programKrModeBox, programKrSlBox, programTab, progTipLabel, pteMacroComment, pteMacroText, rb_delay_asTyped, rb_delay_default, rb_delay_no, resetButton, tabWidget, txtBuffer, typingBox, typingButton, unbindButton, wheelBox, and wheelButton.

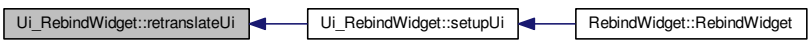
Referenced by setupUi().

```
898     {
899         numBox->clear();
900         numBox->insertItems(0, QStringList()
901          << QString()
902         );
903         typingBox->clear();
904         typingBox->insertItems(0, QStringList()
905          << QString()
906         );
907         fnBox->clear();
908         fnBox->insertItems(0, QStringList()
909          << QString()
910         );
911         typingButton->setText(QApplication::translate("RebindWidget", "Typing:", Q_NULLPTR));
912         modBox->clear();
913         modBox->insertItems(0, QStringList()
914          << QString()
915         );
916         mediaButton->setText(QApplication::translate("RebindWidget", "Media:", Q_NULLPTR));
917         modButton->setText(QApplication::translate("RebindWidget", "Modifier:", Q_NULLPTR));
918         fnButton->setText(QApplication::translate("RebindWidget", "Miscellaneous:", Q_NULLPTR));
919         mediaBox->clear();
920         mediaBox->insertItems(0, QStringList()
921          << QString()
922         );
923         numButton->setText(QApplication::translate("RebindWidget", "Number pad:", Q_NULLPTR));
924         tabWidget->setTabText(tabWidget->indexOf(keyTab), QApplication::translate("
    RebindWidget", "Keyboard", Q_NULLPTR));
925         dpiButton->setText(QApplication::translate("RebindWidget", "Change DPI:", Q_NULLPTR));
926         mb2Box->clear();
927         mb2Box->insertItems(0, QStringList()
928          << QString()
929          << QApplication::translate("RebindWidget", "4 (Back)", Q_NULLPTR)
930          << QApplication::translate("RebindWidget", "5 (Forward)", Q_NULLPTR)
931          << QApplication::translate("RebindWidget", "6", Q_NULLPTR)
```

```
932          << QApplication::translate("RebindWidget", "7", Q_NULLPTR)
933          << QApplication::translate("RebindWidget", "8", Q_NULLPTR)
934         );
935         dpiBox->clear();
936         dpiBox->insertItems(0, QStringList()
937          << QString()
938          << QApplication::translate("RebindWidget", "(Up)", Q_NULLPTR)
939          << QApplication::translate("RebindWidget", "(Down)", Q_NULLPTR)
940          << QApplication::translate("RebindWidget", "Sniper", Q_NULLPTR)
941          << QApplication::translate("RebindWidget", "1:", Q_NULLPTR)
942          << QApplication::translate("RebindWidget", "2:", Q_NULLPTR)
943          << QApplication::translate("RebindWidget", "3:", Q_NULLPTR)
944          << QApplication::translate("RebindWidget", "4:", Q_NULLPTR)
945          << QApplication::translate("RebindWidget", "5:", Q_NULLPTR)
946          << QApplication::translate("RebindWidget", "Custom:", Q_NULLPTR)
947         );
948         mbBox->clear();
949         mbBox->insertItems(0, QStringList()
950          << QString()
951          << QApplication::translate("RebindWidget", "Left", Q_NULLPTR)
952          << QApplication::translate("RebindWidget", "Right", Q_NULLPTR)
953          << QApplication::translate("RebindWidget", "Middle", Q_NULLPTR)
954         );
955         wheelBox->clear();
956         wheelBox->insertItems(0, QStringList()
957          << QString()
958          << QApplication::translate("RebindWidget", "Up", Q_NULLPTR)
959          << QApplication::translate("RebindWidget", "Down", Q_NULLPTR)
960         );
961         mbButton->setText(QApplication::translate("RebindWidget", "Standard button:", Q_NULLPTR));
962         dpiWarning->setText(QApplication::translate("RebindWidget", "DPI is only available for
     mice.", Q_NULLPTR));
963         wheelButton->setText(QApplication::translate("RebindWidget", "Wheel:", Q_NULLPTR));
964         mb2Button->setText(QApplication::translate("RebindWidget", "Special button:", Q_NULLPTR));
965         dpiCustLabel->setText(QApplication::translate("RebindWidget", "x", Q_NULLPTR));
966         tabWidget->setTabText(tabWidget->indexOf(mouseTab),
    QApplication::translate("RebindWidget", "Mouse", Q_NULLPTR));
967         animBox->clear();
968         animBox->insertItems(0, QStringList()
969          << QString()
970         );
971         animKrBox->setText(QApplication::translate("RebindWidget", "Stop on key release",
    Q_NULLPTR));
972         animOnceBox->setText(QApplication::translate("RebindWidget", "Restart every time",
    Q_NULLPTR));
973         animButton->setText(QApplication::translate("RebindWidget", "Start animation on keypress:
    ", Q_NULLPTR));
974         tabWidget->setTabText(tabWidget->indexOf(animTab), QApplication::translate
    ("RebindWidget", "Animation", Q_NULLPTR));
975         modeButton->setText(QApplication::translate("RebindWidget", "Switch to mode:", Q_NULLPTR)
    );
976         modeWrapBox->setText(QApplication::translate("RebindWidget", "Wrap-around", Q_NULLPTR));
977         lightWrapBox->setText(QApplication::translate("RebindWidget", "Wrap-around", Q_NULLPTR)
    );
978         lockButton->setText(QApplication::translate("RebindWidget", "Windows lock:", Q_NULLPTR));
979         lightBox->clear();
980         lightBox->insertItems(0, QStringList()
981          << QString()
982          << QApplication::translate("RebindWidget", "Up", Q_NULLPTR)
983          << QApplication::translate("RebindWidget", "Down", Q_NULLPTR)
984         );
985         lockBox->clear();
986         lockBox->insertItems(0, QStringList()
987          << QString()
988          << QApplication::translate("RebindWidget", "Toggle", Q_NULLPTR)
989          << QApplication::translate("RebindWidget", "On", Q_NULLPTR)
990          << QApplication::translate("RebindWidget", "Off", Q_NULLPTR)
991         );
992         lightButton->setText(QApplication::translate("RebindWidget", "Brightness:", Q_NULLPTR));
993         modeBox->clear();
994         modeBox->insertItems(0, QStringList()
995          << QString()
996          << QApplication::translate("RebindWidget", "(Previous)", Q_NULLPTR)
997          << QApplication::translate("RebindWidget", "(Next)", Q_NULLPTR)
998         );
999         tabWidget->setTabText(tabWidget->indexOf(actionTab),
    QApplication::translate("RebindWidget", "Special", Q_NULLPTR));
1000         programKpButton->setText(QApplication::translate("RebindWidget", "Launch program on
     key press:", Q_NULLPTR));
1001         programKrButton->setText(QApplication::translate("RebindWidget", "Launch program on
     key release:", Q_NULLPTR));
1002         programKpSIBox->setText(QApplication::translate("RebindWidget", "Single instance",
    Q_NULLPTR));
1003         programKpModeBox->clear();
1004         programKpModeBox->insertItems(0, QStringList()
1005          << QApplication::translate("RebindWidget", "Run indefinitely", Q_NULLPTR)
1006          << QApplication::translate("RebindWidget", "Stop on release", Q_NULLPTR)
```

```
1007          << QApplication::translate("RebindWidget", "Stop on re-press", Q_NULLPTR)
1008         );
1009         programKrSIBox->setText(QApplication::translate("RebindWidget", "Single instance",
     Q_NULLPTR));
1010         programKrModeBox->clear();
1011         programKrModeBox->insertItems(0, QStringList()
1012          << QApplication::translate("RebindWidget", "Run indefinitely", Q_NULLPTR)
1013          << QApplication::translate("RebindWidget", "Stop on re-press", Q_NULLPTR)
1014         );
1015         progTipLabel->setText(QApplication::translate("RebindWidget", "Tip", Q_NULLPTR));
1016         tabWidget->setTabText(tabWidget->indexOf(programTab),
     QApplication::translate("RebindWidget", "Program", Q_NULLPTR));
1017         groupBox_2->setTitle(QApplication::translate("RebindWidget", "Macro Key Actions",
     Q_NULLPTR));
1018 #ifndef QT_NO_TOOLTIP
1019         pteMacroComment->setToolTip(QApplication::translate("RebindWidget", "What is this
      macro for?", Q_NULLPTR));
1020 #endif // QT_NO_TOOLTIP
1021         pteMacroComment->setDocumentTitle(QString());
1022         pteMacroComment->setPlainText(QString());
1023         pteMacroText->setDocumentTitle(QString());
1024         pteMacroText->setPlainText(QString());
1025         groupBox_3->setTitle(QApplication::translate("RebindWidget", "Macro Comment", Q_NULLPTR))
     ;
1026         groupBox_4->setTitle(QApplication::translate("RebindWidget", "Macro Text", Q_NULLPTR));
1027         btnStopMacro->setText(QApplication::translate("RebindWidget", "Stop", Q_NULLPTR));
1028         btnClearMacro->setText(QApplication::translate("RebindWidget", "Clear", Q_NULLPTR));
1029         btnStartMacro->setText(QApplication::translate("RebindWidget", "Start", Q_NULLPTR));
1030         label->setText(QApplication::translate("RebindWidget", "Record macro ", Q_NULLPTR));
1031         lbl_macro->setText(QApplication::translate("RebindWidget", "Comment label for help",
     Q_NULLPTR));
1032 #ifndef QT_NO_WHATSTHIS
1033         rb_delay_no->setWhatsThis(QApplication::translate("RebindWidget", "configure delays
      between keystrokes: Disable delay", Q_NULLPTR));
1034 #endif // QT_NO_WHATSTHIS
1035         rb_delay_no->setText(QApplication::translate("RebindWidget", "No delay", Q_NULLPTR));
1036 #ifndef QT_NO_WHATSTHIS
1037         rb_delay_default->setWhatsThis(QApplication::translate("RebindWidget", "configure
      delays between keystrokes: Set delay to default values: 20us up to 15 chars, 200us above", Q_NULLPTR));
1038 #endif // QT_NO_WHATSTHIS
1039         rb_delay_default->setText(QApplication::translate("RebindWidget", "default",
     Q_NULLPTR));
1040 #ifndef QT_NO_WHATSTHIS
1041         rb_delay_asTyped->setWhatsThis(QApplication::translate("RebindWidget", "configure
      delays between keystrokes: Remember delays as they had been typed while the macro definition process",
     Q_NULLPTR));
1042 #endif // QT_NO_WHATSTHIS
1043         rb_delay_asTyped->setText(QApplication::translate("RebindWidget", "as typed",
     Q_NULLPTR));
1044         txtBuffer->setText(QString());
1045         tabWidget->setTabText(tabWidget->indexOf(macroTab),
     QApplication::translate("RebindWidget", "Macro", Q_NULLPTR));
1046         unbindButton->setText(QApplication::translate("RebindWidget", "Unbind", Q_NULLPTR));
1047         resetButton->setText(QApplication::translate("RebindWidget", "Reset to Default",
     Q_NULLPTR));
1048         cancelButton->setText(QApplication::translate("RebindWidget", "Cancel", Q_NULLPTR));
1049         applyButton->setText(QApplication::translate("RebindWidget", "Apply", Q_NULLPTR));
1050         Q_UNUSED(RebindWidget);
1051     } // retranslateUi
```

Here is the caller graph for this function:



12.101.2.2 void Ui_RebindWidget::setupUi (QWidget * *RebindWidget*) [inline]

Definition at line 163 of file ui_rebindwidget.h.

References actionTab, animBox, animButton, animKrBox, animOnceBox, animTab, applyButton, btnClearMacro, btnStartMacro, btnStopMacro, cancelButton, delayButtons, dpiBox, dpiButton, dpiCustLabel, dpiCustXBox, dpiCustYBox, dpiWarning, fnBox, fnButton, gridLayout, gridLayout_10, gridLayout_2, gridLayout_3, gridLayout_4, grid-

Layout_5, gridLayout_8, groupBox_2, groupBox_3, groupBox_4, horizontalLayout, horizontalLayout_2, horizontalLayout_3, horizontalSpacer, horizontalSpacer_10, horizontalSpacer_11, horizontalSpacer_12, horizontalSpacer_13, horizontalSpacer_14, horizontalSpacer_15, horizontalSpacer_16, horizontalSpacer_17, horizontalSpacer_18, horizontalSpacer_19, horizontalSpacer_2, horizontalSpacer_20, horizontalSpacer_21, horizontalSpacer_22, horizontalSpacer_23, horizontalSpacer_24, horizontalSpacer_25, horizontalSpacer_26, horizontalSpacer_3, horizontalSpacer_4, horizontalSpacer_5, horizontalSpacer_6, horizontalSpacer_7, horizontalSpacer_8, horizontalSpacer_9, keyTab, label, layoutWidget, layoutWidget1, layoutWidget2, layoutWidget_2, lbl_macro, lightBox, lightButton, lightWrapBox, lockBox, lockButton, macroTab, mb2Box, mb2Button, mbBox, mbButton, mediaBox, mediaButton, modBox, modButton, modeBox, modeButton, modeWrapBox, mouseTab, numBox, numButton, programKpBox, programKpButton, programKpExtra, programKpModeBox, programKpSIBox, programKrBox, programKrButton, programKrExtra, programKrModeBox, programKrSIBox, programTab, progTipLabel, pteMacroBox, pteMacroComment, pteMacroText, rb_delay_asTyped, rb_delay_default, rb_delay_no, resetButton, retranslateUi(), tabWidget, txtBuffer, typingBox, typingButton, unbindButton, verticalLayout, verticalLayout_2, verticalSpacer, verticalSpacer_10, verticalSpacer_11, verticalSpacer_2, verticalSpacer_3, verticalSpacer_4, verticalSpacer_5, verticalSpacer_6, verticalSpacer_7, verticalSpacer_8, wheelBox, and wheelButton.

Referenced by RebindWidget::RebindWidget().

```
164     {
165         if (RebindWidget->objectName().isEmpty())
166             RebindWidget->setObjectName(QStringLiteral("RebindWidget"));
167         RebindWidget->resize(687, 342);
168         QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
169         sizePolicy.setHorizontalStretch(0);
170         sizePolicy.setVerticalStretch(0);
171         sizePolicy.setHeightForWidth(RebindWidget->sizePolicy().hasHeightForWidth());
172         RebindWidget->setSizePolicy(sizePolicy);
173         RebindWidget->setStyleSheet(QStringLiteral("font-size: 12px ;"));
174         verticalLayout = new QVBoxLayout(RebindWidget);
175         verticalLayout->setObjectName(QStringLiteral("verticalLayout"));
176         tabWidget = new QTabWidget(RebindWidget);
177         tabWidget->setObjectName(QStringLiteral("tabWidget"));
178         tabWidget->setStyleSheet(QStringLiteral(""));
179         tabWidget->setUsesScrollButtons(false);
180         tabWidget->setDocumentMode(false);
181         keyTab = new QWidget();
182         keyTab->setObjectName(QStringLiteral("keyTab"));
183         sizePolicy.setHeightForWidth(keyTab->sizePolicy().hasHeightForWidth());
184         keyTab->setSizePolicy(sizePolicy);
185         gridLayout_2 = new QGridLayout(keyTab);
186         gridLayout_2->setObjectName(QStringLiteral("gridLayout_2"));
187         gridLayout_2->setContentsMargins(-1, -1, -1, 0);
188         numBox = new QComboBox(keyTab);
189         numBox->setObjectName(QStringLiteral("numBox"));
190         QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Fixed);
191         sizePolicy1.setHorizontalStretch(0);
192         sizePolicy1.setVerticalStretch(0);
193         sizePolicy1.setHeightForWidth(numBox->sizePolicy().hasHeightForWidth());
194         numBox->setSizePolicy(sizePolicy1);
195 
196         gridLayout_2->addWidget(numBox, 6, 4, 1, 1);
197 
198         typingBox = new QComboBox(keyTab);
199         typingBox->setObjectName(QStringLiteral("typingBox"));
200         sizePolicy1.setHeightForWidth(typingBox->sizePolicy().hasHeightForWidth());
201         typingBox->setSizePolicy(sizePolicy1);
202 
203         gridLayout_2->addWidget(typingBox, 1, 1, 1, 1);
204 
205         fnBox = new QComboBox(keyTab);
206         fnBox->setObjectName(QStringLiteral("fnBox"));
207         sizePolicy1.setHeightForWidth(fnBox->sizePolicy().hasHeightForWidth());
208         fnBox->setSizePolicy(sizePolicy1);
209 
210         gridLayout_2->addWidget(fnBox, 6, 1, 1, 1);
211 
212         verticalSpacer_10 = new QSpacerItem(0, 5, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
213 
214         gridLayout_2->addItem(verticalSpacer_10, 9, 1, 1, 1);
215 
216         verticalSpacer_3 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
217 
218         gridLayout_2->addItem(verticalSpacer_3, 15, 2, 1, 1);
219 
220         horizontalSpacer_2 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
221 
222         gridLayout_2->addItem(horizontalSpacer_2, 1, 3, 1, 1);
```

```
223
224         typingButton = new QRadioButton(keyTab);
225         typingButton->setObjectName(QStringLiteral("typingButton"));
226         typingButton->setAutoExclusive(false);
227
228         gridLayout_2->addWidget(typingButton, 0, 0, 1, 2);
229
230         modBox = new QComboBox(keyTab);
231         modBox->setObjectName(QStringLiteral("modBox"));
232         sizePolicy1.setHeightForWidth(modBox->sizePolicy().hasHeightForWidth());
233         modBox->setSizePolicy(sizePolicy1);
234
235         gridLayout_2->addWidget(modBox, 1, 4, 1, 1);
236
237         horizontalSpacer_3 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
238
239         gridLayout_2->addItem(horizontalSpacer_3, 1, 0, 1, 1);
240
241         mediaButton = new QRadioButton(keyTab);
242         mediaButton->setObjectName(QStringLiteral("mediaButton"));
243         mediaButton->setAutoExclusive(false);
244
245         gridLayout_2->addWidget(mediaButton, 10, 0, 1, 2);
246
247         verticalSpacer_4 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
248
249         gridLayout_2->addItem(verticalSpacer_4, 2, 1, 1, 1);
250
251         horizontalSpacer_9 = new QSpacerItem(0, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
252
253         gridLayout_2->addItem(horizontalSpacer_9, 1, 5, 1, 2);
254
255         horizontalSpacer_4 = new QSpacerItem(0, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
256
257         gridLayout_2->addItem(horizontalSpacer_4, 1, 2, 1, 1);
258
259         modButton = new QRadioButton(keyTab);
260         modButton->setObjectName(QStringLiteral("modButton"));
261
262         gridLayout_2->addWidget(modButton, 0, 3, 1, 2);
263
264         fnButton = new QRadioButton(keyTab);
265         fnButton->setObjectName(QStringLiteral("fnButton"));
266         fnButton->setAutoExclusive(false);
267
268         gridLayout_2->addWidget(fnButton, 5, 0, 1, 2);
269
270         mediaBox = new QComboBox(keyTab);
271         mediaBox->setObjectName(QStringLiteral("mediaBox"));
272         sizePolicy1.setHeightForWidth(mediaBox->sizePolicy().hasHeightForWidth());
273         mediaBox->setSizePolicy(sizePolicy1);
274
275         gridLayout_2->addWidget(mediaBox, 11, 1, 1, 1);
276
277         numButton = new QRadioButton(keyTab);
278         numButton->setObjectName(QStringLiteral("numButton"));
279         numButton->setAutoExclusive(false);
280
281         gridLayout_2->addWidget(numButton, 5, 3, 1, 2);
282
283         horizontalSpacer_17 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
284
285         gridLayout_2->addItem(horizontalSpacer_17, 1, 7, 1, 1);
286
287         tabWidget->addTab(keyTab, QString());
288         mouseTab = new QWidget();
289         mouseTab->setObjectName(QStringLiteral("mouseTab"));
290         gridLayout = new QGridLayout(mouseTab);
291         gridLayout->setObjectName(QStringLiteral("gridLayout"));
292         dpiButton = new QRadioButton(mouseTab);
293         dpiButton->setObjectName(QStringLiteral("dpiButton"));
294         dpiButton->setAutoExclusive(false);
295
296         gridLayout->addWidget(dpiButton, 3, 3, 1, 5);
297
298         verticalSpacer_2 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
299
300         gridLayout->addItem(verticalSpacer_2, 5, 1, 1, 1);
301
302         verticalSpacer_8 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
```

```
303
304         gridLayout->addItem(verticalSpacer_8, 2, 1, 1, 1);
305
306         horizontalSpacer_18 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
307
308         gridLayout->addItem(horizontalSpacer_18, 1, 0, 1, 1);
309
310         horizontalSpacer_20 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
311
312         gridLayout->addItem(horizontalSpacer_20, 1, 3, 1, 1);
313
314         mb2Box = new QComboBox(mouseTab);
315         mb2Box->setObjectName(QStringLiteral("mb2Box"));
316         sizePolicy1.setHeightForWidth(mb2Box->sizePolicy().hasHeightForWidth());
317         mb2Box->setSizePolicy(sizePolicy1);
318
319         gridLayout->addWidget(mb2Box, 1, 4, 1, 4);
320
321         dpiBox = new QComboBox(mouseTab);
322         dpiBox->setObjectName(QStringLiteral("dpiBox"));
323
324         gridLayout->addWidget(dpiBox, 4, 4, 1, 1);
325
326         dpiCustYBox = new QSpinBox(mouseTab);
327         dpiCustYBox->setObjectName(QStringLiteral("dpiCustYBox"));
328         dpiCustYBox->setMinimum(400);
329         dpiCustYBox->setMaximum(8500);
330         dpiCustYBox->setSingleStep(50);
331
332         gridLayout->addWidget(dpiCustYBox, 4, 7, 1, 1);
333
334         mbBox = new QComboBox(mouseTab);
335         mbBox->setObjectName(QStringLiteral("mbBox"));
336         sizePolicy1.setHeightForWidth(mbBox->sizePolicy().hasHeightForWidth());
337         mbBox->setSizePolicy(sizePolicy1);
338
339         gridLayout->addWidget(mbBox, 1, 1, 1, 1);
340
341         wheelBox = new QComboBox(mouseTab);
342         wheelBox->setObjectName(QStringLiteral("wheelBox"));
343
344         gridLayout->addWidget(wheelBox, 4, 1, 1, 1);
345
346         mbButton = new QRadioButton(mouseTab);
347         mbButton->setObjectName(QStringLiteral("mbButton"));
348         mbButton->setAutoExclusive(false);
349
350         gridLayout->addWidget(mbButton, 0, 0, 1, 2);
351
352         dpiCustXBox = new QSpinBox(mouseTab);
353         dpiCustXBox->setObjectName(QStringLiteral("dpiCustXBox"));
354         dpiCustXBox->setMinimum(400);
355         dpiCustXBox->setMaximum(8500);
356         dpiCustXBox->setSingleStep(50);
357
358         gridLayout->addWidget(dpiCustXBox, 4, 5, 1, 1);
359
360         dpiWarning = new QLabel(mouseTab);
361         dpiWarning->setObjectName(QStringLiteral("dpiWarning"));
362         QSizePolicy sizePolicy2(QSizePolicy::Preferred, QSizePolicy::Fixed);
363         sizePolicy2.setHorizontalStretch(0);
364         sizePolicy2.setVerticalStretch(0);
365         sizePolicy2.setHeightForWidth(dpiWarning->sizePolicy().hasHeightForWidth());
366         dpiWarning->setSizePolicy(sizePolicy2);
367
368         gridLayout->addWidget(dpiWarning, 6, 0, 1, 10);
369
370         wheelButton = new QRadioButton(mouseTab);
371         wheelButton->setObjectName(QStringLiteral("wheelButton"));
372
373         gridLayout->addWidget(wheelButton, 3, 0, 1, 2);
374
375         horizontalSpacer_22 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
376
377         gridLayout->addItem(horizontalSpacer_22, 1, 8, 1, 1);
378
379         mb2Button = new QRadioButton(mouseTab);
380         mb2Button->setObjectName(QStringLiteral("mb2Button"));
381         mb2Button->setAutoExclusive(false);
382
383         gridLayout->addWidget(mb2Button, 0, 3, 1, 5);
384
385         dpiCustLabel = new QLabel(mouseTab);
386         dpiCustLabel->setObjectName(QStringLiteral("dpiCustLabel"));
```

```
387
388         gridLayout->addWidget(dpiCustLabel, 4, 6, 1, 1);
389
390         horizontalSpacer_19 = new QSpacerItem(0, 0, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
391
392         gridLayout->addItem(horizontalSpacer_19, 1, 2, 1, 1);
393
394         horizontalSpacer_21 = new QSpacerItem(0, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
395
396         gridLayout->addItem(horizontalSpacer_21, 1, 9, 1, 1);
397
398         tabWidget->addTab(mouseTab, QString());
399         animTab = new QWidget();
400         animTab->setObjectName(QStringLiteral("animTab"));
401         gridLayout_5 = new QGridLayout(animTab);
402         gridLayout_5->setObjectName(QStringLiteral("gridLayout_5"));
403         verticalSpacer_11 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
404
405         gridLayout_5->addItem(verticalSpacer_11, 6, 2, 1, 1);
406
407         animBox = new QComboBox(animTab);
408         animBox->setObjectName(QStringLiteral("animBox"));
409         sizePolicy1.setHeightForWidth(animBox->sizePolicy().hasHeightForWidth());
410         animBox->setSizePolicy(sizePolicy1);
411
412         gridLayout_5->addWidget(animBox, 4, 2, 1, 1);
413
414         horizontalSpacer_24 = new QSpacerItem(20, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
415
416         gridLayout_5->addItem(horizontalSpacer_24, 4, 3, 1, 1);
417
418         horizontalSpacer_25 = new QSpacerItem(438, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
419
420         gridLayout_5->addItem(horizontalSpacer_25, 4, 7, 1, 1);
421
422         animKrBox = new QCheckBox(animTab);
423         animKrBox->setObjectName(QStringLiteral("animKrBox"));
424
425         gridLayout_5->addWidget(animKrBox, 4, 6, 1, 1);
426
427         animOnceBox = new QCheckBox(animTab);
428         animOnceBox->setObjectName(QStringLiteral("animOnceBox"));
429
430         gridLayout_5->addWidget(animOnceBox, 4, 4, 1, 1);
431
432         horizontalSpacer_26 = new QSpacerItem(20, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
433
434         gridLayout_5->addItem(horizontalSpacer_26, 4, 5, 1, 1);
435
436         animButton = new QRadioButton(animTab);
437         animButton->setObjectName(QStringLiteral("animButton"));
438         sizePolicy1.setHeightForWidth(animButton->sizePolicy().hasHeightForWidth());
439         animButton->setSizePolicy(sizePolicy1);
440
441         gridLayout_5->addWidget(animButton, 0, 1, 1, 2);
442
443         horizontalSpacer_23 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
444
445         gridLayout_5->addItem(horizontalSpacer_23, 4, 1, 1, 1);
446
447         tabWidget->addTab(animTab, QString());
448         actionTab = new QWidget();
449         actionTab->setObjectName(QStringLiteral("actionTab"));
450         sizePolicy.setHeightForWidth(actionTab->sizePolicy().hasHeightForWidth());
451         actionTab->setSizePolicy(sizePolicy);
452         gridLayout_3 = new QGridLayout(actionTab);
453         gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
454         gridLayout_3->setContentsMargins(-1, -1, -1, 0);
455         horizontalSpacer_5 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
456
457         gridLayout_3->addItem(horizontalSpacer_5, 1, 0, 1, 1);
458
459         modeButton = new QRadioButton(actionTab);
460         modeButton->setObjectName(QStringLiteral("modeButton"));
461         modeButton->setAutoExclusive(false);
462
463         gridLayout_3->addWidget(modeButton, 0, 0, 1, 2);
464
465         modeWrapBox = new QCheckBox(actionTab);
```

```
466         modeWrapBox->setObjectName(QStringLiteral("modeWrapBox"));
467         modeWrapBox->setChecked(true);
468 
469         gridLayout_3->addWidget(modeWrapBox, 1, 3, 1, 1);
470 
471         lightWrapBox = new QCheckBox(actionTab);
472         lightWrapBox->setObjectName(QStringLiteral("lightWrapBox"));
473         lightWrapBox->setChecked(true);
474 
475         gridLayout_3->addWidget(lightWrapBox, 4, 3, 1, 1);
476 
477         verticalSpacer_7 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
478 
479         gridLayout_3->addItem(verticalSpacer_7, 2, 1, 1, 1);
480 
481         verticalSpacer_6 = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
482 
483         gridLayout_3->addItem(verticalSpacer_6, 5, 1, 1, 1);
484 
485         lockButton = new QRadioButton(actionTab);
486         lockButton->setObjectName(QStringLiteral("lockButton"));
487         lockButton->setAutoExclusive(false);
488 
489         gridLayout_3->addWidget(lockButton, 6, 0, 1, 2);
490 
491         verticalSpacer_5 = new QSpacerItem(20, 40, QSizePolicy::Minimum,
    QSizePolicy::Expanding);
492 
493         gridLayout_3->addItem(verticalSpacer_5, 8, 1, 1, 1);
494 
495         lightBox = new QComboBox(actionTab);
496         lightBox->setObjectName(QStringLiteral("lightBox"));
497         sizePolicy1.setHeightForWidth(lightBox->sizePolicy().hasHeightForWidth());
498         lightBox->setSizePolicy(sizePolicy1);
499 
500         gridLayout_3->addWidget(lightBox, 4, 1, 1, 1);
501 
502         lockBox = new QComboBox(actionTab);
503         lockBox->setObjectName(QStringLiteral("lockBox"));
504         sizePolicy1.setHeightForWidth(lockBox->sizePolicy().hasHeightForWidth());
505         lockBox->setSizePolicy(sizePolicy1);
506 
507         gridLayout_3->addWidget(lockBox, 7, 1, 1, 1);
508 
509         lightButton = new QRadioButton(actionTab);
510         lightButton->setObjectName(QStringLiteral("lightButton"));
511         lightButton->setAutoExclusive(false);
512 
513         gridLayout_3->addWidget(lightButton, 3, 0, 1, 2);
514 
515         modeBox = new QComboBox(actionTab);
516         modeBox->setObjectName(QStringLiteral("modeBox"));
517         sizePolicy1.setHeightForWidth(modeBox->sizePolicy().hasHeightForWidth());
518         modeBox->setSizePolicy(sizePolicy1);
519 
520         gridLayout_3->addWidget(modeBox, 1, 1, 1, 1);
521 
522         horizontalSpacer_8 = new QSpacerItem(5, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
523 
524         gridLayout_3->addItem(horizontalSpacer_8, 1, 2, 1, 1);
525 
526         horizontalSpacer_10 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
527 
528         gridLayout_3->addItem(horizontalSpacer_10, 7, 3, 1, 1);
529 
530         horizontalSpacer_7 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
531 
532         gridLayout_3->addItem(horizontalSpacer_7, 1, 4, 1, 1);
533 
534         horizontalSpacer_6 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
535 
536         gridLayout_3->addItem(horizontalSpacer_6, 1, 5, 1, 1);
537 
538         tabWidget->addTab(actionTab, QString());
539         programTab = new QWidget();
540         programTab->setObjectName(QStringLiteral("programTab"));
541         gridLayout_4 = new QGridLayout(programTab);
542         gridLayout_4->setObjectName(QStringLiteral("gridLayout_4"));
543         verticalSpacer = new QSpacerItem(20, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);
544 
545         gridLayout_4->addItem(verticalSpacer, 2, 1, 1, 1);
```

```
546
547         horizontalSpacer = new QSpacerItem(5, 20, QSizePolicy::Fixed, QSizePolicy::Minimum)
    ;
548
549         gridLayout_4->addItem(horizontalSpacer, 1, 0, 1, 1);
550
551         programKpButton = new QCheckBox(programTab);
552         programKpButton->setObjectName(QStringLiteral("programKpButton"));
553
554         gridLayout_4->addWidget(programKpButton, 0, 0, 1, 2);
555
556         programKpBox = new QLineEdit(programTab);
557         programKpBox->setObjectName(QStringLiteral("programKpBox"));
558
559         gridLayout_4->addWidget(programKpBox, 1, 1, 1, 1);
560
561         horizontalSpacer_11 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
562
563         gridLayout_4->addItem(horizontalSpacer_11, 0, 2, 1, 2);
564
565         horizontalSpacer_13 = new QSpacerItem(20, 20, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
566
567         gridLayout_4->addItem(horizontalSpacer_13, 1, 2, 1, 1);
568
569         programKrBox = new QLineEdit(programTab);
570         programKrBox->setObjectName(QStringLiteral("programKrBox"));
571
572         gridLayout_4->addWidget(programKrBox, 4, 1, 1, 1);
573
574         programKrButton = new QCheckBox(programTab);
575         programKrButton->setObjectName(QStringLiteral("programKrButton"));
576
577         gridLayout_4->addWidget(programKrButton, 3, 0, 1, 2);
578
579         horizontalSpacer_12 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
580
581         gridLayout_4->addItem(horizontalSpacer_12, 0, 4, 1, 1);
582
583         programKpExtra = new QWidget(programTab);
584         programKpExtra->setObjectName(QStringLiteral("programKpExtra"));
585         horizontalLayout_2 = new QHBoxLayout(programKpExtra);
586         horizontalLayout_2->setSpacing(12);
587         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
588         horizontalLayout_2->setContentsMargins(0, 0, 0, 0);
589         programKpSIBox = new QCheckBox(programKpExtra);
590         programKpSIBox->setObjectName(QStringLiteral("programKpSIBox"));
591
592         horizontalLayout_2->addWidget(programKpSIBox);
593
594         programKpModeBox = new QComboBox(programKpExtra);
595         programKpModeBox->setObjectName(QStringLiteral("programKpModeBox"));
596
597         horizontalLayout_2->addWidget(programKpModeBox);
598
599         horizontalSpacer_15 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
600
601         horizontalLayout_2->addItem(horizontalSpacer_15);
602
603
604         gridLayout_4->addWidget(programKpExtra, 1, 3, 1, 2);
605
606         programKrExtra = new QWidget(programTab);
607         programKrExtra->setObjectName(QStringLiteral("programKrExtra"));
608         horizontalLayout_3 = new QHBoxLayout(programKrExtra);
609         horizontalLayout_3->setSpacing(12);
610         horizontalLayout_3->setObjectName(QStringLiteral("horizontalLayout_3"));
611         horizontalLayout_3->setContentsMargins(0, 0, 0, 0);
612         programKrSIBox = new QCheckBox(programKrExtra);
613         programKrSIBox->setObjectName(QStringLiteral("programKrSIBox"));
614
615         horizontalLayout_3->addWidget(programKrSIBox);
616
617         programKrModeBox = new QComboBox(programKrExtra);
618         programKrModeBox->setObjectName(QStringLiteral("programKrModeBox"));
619
620         horizontalLayout_3->addWidget(programKrModeBox);
621
622         horizontalSpacer_16 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
623
624         horizontalLayout_3->addItem(horizontalSpacer_16);
625
626
```

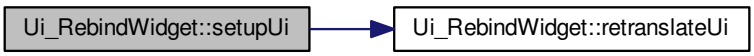
```
627         gridLayout_4->addWidget(programKrExtra, 4, 3, 1, 2);
628 
629         progTipLabel = new QLabel(programTab);
630         progTipLabel->setObjectName(QStringLiteral("progTipLabel"));
631         QSizePolicy sizePolicy3(QSizePolicy::Preferred, QSizePolicy::Expanding);
632         sizePolicy3.setHorizontalStretch(0);
633         sizePolicy3.setVerticalStretch(0);
634         sizePolicy3.setHeightForWidth(progTipLabel->sizePolicy().hasHeightForWidth());
635         progTipLabel->setSizePolicy(sizePolicy3);
636         progTipLabel->setTextInteractionFlags(Qt::LinksAccessibleByMouse|
    Qt::TextSelectableByMouse);
637 
638         gridLayout_4->addWidget(progTipLabel, 5, 1, 1, 4);
639 
640         tabWidget->addTab(programTab, QString());
641         macroTab = new QWidget();
642         macroTab->setObjectName(QStringLiteral("macroTab"));
643         layoutWidget1 = new QWidget(macroTab);
644         layoutWidget1->setObjectName(QStringLiteral("layoutWidget1"));
645         layoutWidget1->setGeometry(QRect(40, 12, 241, 161));
646         gridLayout_8 = new QGridLayout(layoutWidget1);
647         gridLayout_8->setObjectName(QStringLiteral("gridLayout_8"));
648         gridLayout_8->setSizeConstraint(QLayout::SetNoConstraint);
649         gridLayout_8->setContentsMargins(0, 0, 0, 0);
650         groupBox_2 = new QGroupBox(layoutWidget1);
651         groupBox_2->setObjectName(QStringLiteral("groupBox_2"));
652         pteMacroBox = new QPlainTextEdit(groupBox_2);
653         pteMacroBox->setObjectName(QStringLiteral("pteMacroBox"));
654         pteMacroBox->setGeometry(QRect(0, 20, 241, 131));
655         pteMacroBox->setFocusPolicy(Qt::WheelFocus);
656         pteMacroBox->setTabChangesFocus(true);
657 
658         gridLayout_8->addWidget(groupBox_2, 0, 0, 1, 1);
659 
660         pteMacroComment = new QPlainTextEdit(macroTab);
661         pteMacroComment->setObjectName(QStringLiteral("pteMacroComment"));
662         pteMacroComment->setEnabled(true);
663         pteMacroComment->setGeometry(QRect(410, 10, 311, 31));
664         pteMacroComment->setFocusPolicy(Qt::WheelFocus);
665         pteMacroComment->setContextMenuPolicy(Qt::NoContextMenu);
666         pteMacroComment->setAcceptDrops(true);
667         pteMacroComment->setToolTipDuration(1);
668         pteMacroComment->setInputMethodHints(Qt::ImhNone);
669         pteMacroComment->setVerticalScrollBarPolicy(Qt::ScrollBarAlwaysOff);
670         pteMacroComment->setTabChangesFocus(true);
671         pteMacroComment->setUndoRedoEnabled(true);
672         pteMacroComment->setReadOnly(false);
673         pteMacroComment->setTabStopWidth(1);
674         pteMacroText = new QPlainTextEdit(macroTab);
675         pteMacroText->setObjectName(QStringLiteral("pteMacroText"));
676         pteMacroText->setGeometry(QRect(410, 50, 311, 66));
677         pteMacroText->setFocusPolicy(Qt::StrongFocus);
678         pteMacroText->setContextMenuPolicy(Qt::NoContextMenu);
679         pteMacroText->setAcceptDrops(false);
680         pteMacroText->setInputMethodHints(Qt::ImhNoAutoUppercase);
681         pteMacroText->setUndoRedoEnabled(false);
682         pteMacroText->setReadOnly(false);
683         pteMacroText->setTabStopWidth(1);
684         layoutWidget = new QWidget(macroTab);
685         layoutWidget->setObjectName(QStringLiteral("layoutWidget"));
686         layoutWidget->setGeometry(QRect(300, 10, 111, 71));
687         verticalLayout_2 = new QVBoxLayout(layoutWidget);
688         verticalLayout_2->setObjectName(QStringLiteral("verticalLayout_2"));
689         verticalLayout_2->setSizeConstraint(QLayout::SetNoConstraint);
690         verticalLayout_2->setContentsMargins(0, 0, 0, 0);
691         groupBox_3 = new QGroupBox(layoutWidget);
692         groupBox_3->setObjectName(QStringLiteral("groupBox_3"));
693 
694         verticalLayout_2->addWidget(groupBox_3);
695 
696         groupBox_4 = new QGroupBox(layoutWidget);
697         groupBox_4->setObjectName(QStringLiteral("groupBox_4"));
698 
699         verticalLayout_2->addWidget(groupBox_4);
700 
701         layoutWidget_2 = new QWidget(macroTab);
702         layoutWidget_2->setObjectName(QStringLiteral("layoutWidget_2"));
703         layoutWidget_2->setGeometry(QRect(300, 160, 407, 36));
704         gridLayout_10 = new QGridLayout(layoutWidget_2);
705         gridLayout_10->setObjectName(QStringLiteral("gridLayout_10"));
706         gridLayout_10->setContentsMargins(0, 0, 0, 0);
707         btnStopMacro = new QPushButton(layoutWidget_2);
708         btnStopMacro->setObjectName(QStringLiteral("btnStopMacro"));
709         btnStopMacro->setEnabled(false);
710 
711         gridLayout_10->addWidget(btnStopMacro, 0, 2, 1, 1);
712 
```

```
713         btnClearMacro = new QPushButton(layoutWidget_2);
714         btnClearMacro->setObjectName(QStringLiteral("btnClearMacro"));
715 
716         gridLayout_10->addWidget(btnClearMacro, 0, 3, 1, 1);
717 
718         btnStartMacro = new QPushButton(layoutWidget_2);
719         btnStartMacro->setObjectName(QStringLiteral("btnStartMacro"));
720 
721         gridLayout_10->addWidget(btnStartMacro, 0, 1, 1, 1);
722 
723         label = new QLabel(layoutWidget_2);
724         label->setObjectName(QStringLiteral("label"));
725         label->setStyleSheet(QLatin1String("font: 75 10pt ; \n"
726 ""));
727 
728         gridLayout_10->addWidget(label, 0, 0, 1, 1);
729 
730         lbl_macro = new QLabel(macroTab);
731         lbl_macro->setObjectName(QStringLiteral("lbl_macro"));
732         lbl_macro->setGeometry(QRect(300, 130, 431, 27));
733         lbl_macro->setStyleSheet(QStringLiteral("font: 75 11pt ; color: darkblue;"));
734         layoutWidget2 = new QWidget(macroTab);
735         layoutWidget2->setObjectName(QStringLiteral("layoutWidget2"));
736         layoutWidget2->setGeometry(QRect(40, 170, 238, 28));
737         delayButtons = new QHBoxLayout(layoutWidget2);
738         delayButtons->setSpacing(0);
739         delayButtons->setObjectName(QStringLiteral("delayButtons"));
740         delayButtons->setSizeConstraint(QLayout::SetMinimumSize);
741         delayButtons->setContentsMargins(0, 0, 0, 0);
742         rb_delay_no = new QRadioButton(layoutWidget2);
743         rb_delay_no->setObjectName(QStringLiteral("rb_delay_no"));
744         rb_delay_no->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
745 
746         delayButtons->addWidget(rb_delay_no);
747 
748         rb_delay_default = new QRadioButton(layoutWidget2);
749         rb_delay_default->setObjectName(QStringLiteral("rb_delay_default"));
750         rb_delay_default->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
751         rb_delay_default->setChecked(false);
752         rb_delay_default->setAutoExclusive(true);
753 
754         delayButtons->addWidget(rb_delay_default);
755 
756         rb_delay_asTyped = new QRadioButton(layoutWidget2);
757         rb_delay_asTyped->setObjectName(QStringLiteral("rb_delay_asTyped"));
758         rb_delay_asTyped->setStyleSheet(QStringLiteral("font: 10pt ; color:  green;"));
759         rb_delay_asTyped->setChecked(true);
760 
761         delayButtons->addWidget(rb_delay_asTyped);
762 
763         txtBuffer = new QLabel(macroTab);
764         txtBuffer->setObjectName(QStringLiteral("txtBuffer"));
765         txtBuffer->setEnabled(false);
766         txtBuffer->setGeometry(QRect(300, 100, 0, 0));
767         QSizePolicy sizePolicy4(QSizePolicy::Fixed, QSizePolicy::Fixed);
768         sizePolicy4.setHorizontalStretch(0);
769         sizePolicy4.setVerticalStretch(0);
770         sizePolicy4.setHeightForWidth(txtBuffer->sizePolicy().hasHeightForWidth());
771         txtBuffer->setSizePolicy(sizePolicy4);
772         txtBuffer->setMaximumSize(QSize(0, 0));
773         txtBuffer->setContextMenuPolicy(Qt::NoContextMenu);
774 #ifndef QT_NO_TOOLTIP
775         txtBuffer->setToolTip(QStringLiteral(""));
776 #endif // QT_NO_TOOLTIP
777         txtBuffer->setToolTipDuration(0);
778 #ifndef QT_NO_STATUSTIP
779         txtBuffer->setStatusTip(QStringLiteral(""));
780 #endif // QT_NO_STATUSTIP
781 #ifndef QT_NO_WHATSTHIS
782         txtBuffer->setWhatsThis(QStringLiteral(""));
783 #endif // QT_NO_WHATSTHIS
784         txtBuffer->setFrameShadow(QFrame::Plain);
785         txtBuffer->setLineWidth(0);
786         txtBuffer->setTextFormat(Qt::PlainText);
787         txtBuffer->setIndent(0);
788         txtBuffer->setTextInteractionFlags(Qt::NoTextInteraction);
789         tabWidget->addTab(macroTab, QString());
790         layoutWidget->raise();
791         layoutWidget1->raise();
792         layoutWidget->raise();
793         pteMacroText->raise();
794         layoutWidget_2->raise();
795         lbl_macro->raise();
796         txtBuffer->raise();
797 
798         verticalLayout->addWidget(tabWidget);
799 
```

```
800         horizontalLayout = new QHBoxLayout();
801         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
802         horizontalSpacer_14 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
803 
804         horizontalLayout->addItem(horizontalSpacer_14);
805 
806         unbindButton = new QPushButton(RebindWidget);
807         unbindButton->setObjectName(QStringLiteral("unbindButton"));
808 
809         horizontalLayout->addWidget(unbindButton);
810 
811         resetButton = new QPushButton(RebindWidget);
812         resetButton->setObjectName(QStringLiteral("resetButton"));
813 
814         horizontalLayout->addWidget(resetButton);
815 
816         cancelButton = new QPushButton(RebindWidget);
817         cancelButton->setObjectName(QStringLiteral("cancelButton"));
818 
819         horizontalLayout->addWidget(cancelButton);
820 
821         applyButton = new QPushButton(RebindWidget);
822         applyButton->setObjectName(QStringLiteral("applyButton"));
823 
824         horizontalLayout->addWidget(applyButton);
825 
826 
827         verticalLayout->addLayout(horizontalLayout);
828 
829         QWidget::setTabOrder(tabWidget, pteMacroComment);
830         QWidget::setTabOrder(pteMacroComment, pteMacroBox);
831         QWidget::setTabOrder(pteMacroBox, dpiButton);
832         QWidget::setTabOrder(dpiButton, mb2Box);
833         QWidget::setTabOrder(mb2Box, btnStartMacro);
834         QWidget::setTabOrder(btnStartMacro, fnBox);
835         QWidget::setTabOrder(fnBox, dpiCustYBox);
836         QWidget::setTabOrder(dpiCustYBox, dpiBox);
837         QWidget::setTabOrder(dpiBox, applyButton);
838         QWidget::setTabOrder(applyButton, mbBox);
839         QWidget::setTabOrder(mbBox, cancelButton);
840         QWidget::setTabOrder(cancelButton, wheelBox);
841         QWidget::setTabOrder(wheelBox, btnStopMacro);
842         QWidget::setTabOrder(btnStopMacro, mbButton);
843         QWidget::setTabOrder(mbButton, dpiCustXBox);
844         QWidget::setTabOrder(dpiCustXBox, btnClearMacro);
845         QWidget::setTabOrder(btnClearMacro, wheelButton);
846         QWidget::setTabOrder(wheelButton, mb2Button);
847         QWidget::setTabOrder(mb2Button, animBox);
848         QWidget::setTabOrder(animBox, animKrBox);
849         QWidget::setTabOrder(animKrBox, animOnceBox);
850         QWidget::setTabOrder(animOnceBox, animButton);
851         QWidget::setTabOrder(animButton, modeButton);
852         QWidget::setTabOrder(modeButton, modeWrapBox);
853         QWidget::setTabOrder(modeWrapBox, lightWrapBox);
854         QWidget::setTabOrder(lightWrapBox, lockButton);
855         QWidget::setTabOrder(lockButton, lightBox);
856         QWidget::setTabOrder(lightBox, resetButton);
857         QWidget::setTabOrder(resetButton, lockBox);
858         QWidget::setTabOrder(lockBox, lightButton);
859         QWidget::setTabOrder(lightButton, modeBox);
860         QWidget::setTabOrder(modeBox, unbindButton);
861         QWidget::setTabOrder(unbindButton, programKpButton);
862         QWidget::setTabOrder(programKpButton, programKpBox);
863         QWidget::setTabOrder(programKpBox, programKrBox);
864         QWidget::setTabOrder(programKrBox, programKrButton);
865         QWidget::setTabOrder(programKrButton, programKpSIBox);
866         QWidget::setTabOrder(programKpSIBox, programKpModeBox);
867         QWidget::setTabOrder(programKpModeBox, programKrSIBox);
868         QWidget::setTabOrder(programKrSIBox, programKrModeBox);
869         QWidget::setTabOrder(programKrModeBox, typingBox);
870         QWidget::setTabOrder(typingBox, numBox);
871         QWidget::setTabOrder(numBox, pteMacroText);
872         QWidget::setTabOrder(pteMacroText, typingButton);
873         QWidget::setTabOrder(typingButton, mediaButton);
874         QWidget::setTabOrder(mediaButton, modBox);
875         QWidget::setTabOrder(modBox, modButton);
876         QWidget::setTabOrder(modButton, fnButton);
877         QWidget::setTabOrder(fnButton, mediaBox);
878         QWidget::setTabOrder(mediaBox, numButton);
879 
880         retranslateUi(RebindWidget);
881         QObject::connect(btnClearMacro, SIGNAL(clicked()),
    pteMacroText, SLOT(clear()));
882         QObject::connect(btnClearMacro, SIGNAL(clicked()),
    pteMacroComment, SLOT(clear()));
883         QObject::connect(btnClearMacro, SIGNAL(clicked()),
```

```
      btnStopMacro, SLOT(animateClick()));
884         QObject::connect(cancelButton, SIGNAL(clicked()), txtBuffer, SLOT(clear()));
885         QObject::connect(btnClearMacro, SIGNAL(clicked()),
      txtBuffer, SLOT(clear()));
886         QObject::connect(btnStartMacro, SIGNAL(clicked()),
      txtBuffer, SLOT(clear()));
887         QObject::connect(unbindButton, SIGNAL(clicked()), txtBuffer, SLOT(clear()));
888         QObject::connect(resetButton, SIGNAL(clicked()), txtBuffer, SLOT(clear()));
889
890         tabWidget->setCurrentIndex(0);
891         applyButton->setDefault(true);
892
893
894         QMetaObject::connectSlotsByName(RebindWidget);
895     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:

12.101.3 Field Documentation

12.101.3.1 QWidget* Ui_RebindWidget::actionTab

Definition at line 92 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.2 QComboBox* Ui_RebindWidget::animBox

Definition at line 84 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_animBox_currentIndexChanged(), RebindWidget::on_animButton_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.3 QRadioButton* Ui_RebindWidget::animButton

Definition at line 90 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_animBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.4 QCheckBox* Ui_RebindWidget::animKrBox

Definition at line 87 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.5 QCheckBox* Ui_RebindWidget::animOnceBox

Definition at line 88 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.6 QWidget* Ui_RebindWidget::animTab

Definition at line 81 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.7 QPushButton* Ui_RebindWidget::applyButton

Definition at line 161 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), and setupUi().

12.101.3.8 QPushButton* Ui_RebindWidget::btnClearMacro

Definition at line 146 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.9 QPushButton* Ui_RebindWidget::btnStartMacro

Definition at line 147 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), and setupUi().

12.101.3.10 QPushButton* Ui_RebindWidget::btnStopMacro

Definition at line 145 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), and setupUi().

12.101.3.11 QPushButton* Ui_RebindWidget::cancelButton

Definition at line 160 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.12 QHBoxLayout* Ui_RebindWidget::delayButtons

Definition at line 151 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.13 QComboBox* Ui_RebindWidget::dpiBox

Definition at line 68 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_dpiBox_currentIndexChanged(), RebindWidget::on_dpiButton_clicked(), retranslateUi(), RebindWidget::setBind(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.14 QRadioButton* Ui_RebindWidget::dpiButton

Definition at line 62 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_dpiBox_currentIndexChanged(), retranslateUi(), RebindWidget::setBind(), and setupUi().

12.101.3.15 QLabel* Ui_RebindWidget::dpiCustLabel

Definition at line 78 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_dpiBox_currentIndexChanged(), retranslateUi(), RebindWidget::setBind(), and setupUi().

12.101.3.16 QSpinBox* Ui_RebindWidget::dpiCustXBox

Definition at line 73 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_dpiBox_currentIndexChanged(), RebindWidget::setBind(), RebindWidget::setSelection(), and setupUi().

12.101.3.17 QSpinBox* Ui_RebindWidget::dpiCustYBox

Definition at line 69 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_dpiBox_currentIndexChanged(), RebindWidget::setBind(), RebindWidget::setSelection(), and setupUi().

12.101.3.18 QLabel* Ui_RebindWidget::dpiWarning

Definition at line 74 of file ui_rebindwidget.h.

Referenced by retranslateUi(), RebindWidget::setBind(), and setupUi().

12.101.3.19 QComboBox* Ui_RebindWidget::fnBox

Definition at line 44 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_fnBox_currentIndexChanged(), RebindWidget::on_fnButton_clicked(), RebindWidget::RebindWidget(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.20 QRadioButton* Ui_RebindWidget::fnButton

Definition at line 56 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_fnBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.21 QGridLayout* Ui_RebindWidget::gridLayout

Definition at line 61 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.22 QGridLayout* Ui_RebindWidget::gridLayout_10

Definition at line 144 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.23 QGridLayout* Ui_RebindWidget::gridLayout_2

Definition at line 41 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.24 QGridLayout* Ui_RebindWidget::gridLayout_3

Definition at line 93 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.25 QGridLayout* Ui_RebindWidget::gridLayout_4

Definition at line 111 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.26 QGridLayout* Ui_RebindWidget::gridLayout_5

Definition at line 82 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.27 QGridLayout* Ui_RebindWidget::gridLayout_8

Definition at line 134 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.28 QGroupBox* Ui_RebindWidget::groupBox_2

Definition at line 135 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.29 QGroupBox* Ui_RebindWidget::groupBox_3

Definition at line 141 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.30 QGroupBox* Ui_RebindWidget::groupBox_4

Definition at line 142 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.31 QHBoxLayout* Ui_RebindWidget::horizontalLayout

Definition at line 156 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.32 QHBoxLayout* Ui_RebindWidget::horizontalLayout_2

Definition at line 122 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.33 QHBoxLayout* Ui_RebindWidget::horizontalLayout_3

Definition at line 127 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.34 QSpacerItem* Ui_RebindWidget::horizontalSpacer

Definition at line 113 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.35 QSpacerItem* Ui_RebindWidget::horizontalSpacer_10

Definition at line 107 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.36 QSpacerItem* Ui_RebindWidget::horizontalSpacer_11

Definition at line 116 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.37 QSpacerItem* Ui_RebindWidget::horizontalSpacer_12

Definition at line 120 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.38 QSpacerItem* Ui_RebindWidget::horizontalSpacer_13

Definition at line 117 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.39 QSpacerItem* Ui_RebindWidget::horizontalSpacer_14

Definition at line 157 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.40 QSpacerItem* Ui_RebindWidget::horizontalSpacer_15

Definition at line 125 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.41 QSpacerItem* Ui_RebindWidget::horizontalSpacer_16

Definition at line 130 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.42 QSpacerItem* Ui_RebindWidget::horizontalSpacer_17

Definition at line 59 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.43 QSpacerItem* Ui_RebindWidget::horizontalSpacer_18

Definition at line 65 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.44 QSpacerItem* Ui_RebindWidget::horizontalSpacer_19

Definition at line 79 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.45 QSpacerItem* Ui_RebindWidget::horizontalSpacer_2

Definition at line 47 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.46 QSpacerItem* Ui_RebindWidget::horizontalSpacer_20

Definition at line 66 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.47 QSpacerItem* Ui_RebindWidget::horizontalSpacer_21

Definition at line 80 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.48 QSpacerItem* Ui_RebindWidget::horizontalSpacer_22

Definition at line 76 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.49 QSpacerItem* Ui_RebindWidget::horizontalSpacer_23

Definition at line 91 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.50 QSpacerItem* Ui_RebindWidget::horizontalSpacer_24

Definition at line 85 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.51 QSpacerItem* Ui_RebindWidget::horizontalSpacer_25

Definition at line 86 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.52 QSpacerItem* Ui_RebindWidget::horizontalSpacer_26

Definition at line 89 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.53 QSpacerItem* Ui_RebindWidget::horizontalSpacer_3

Definition at line 50 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.54 QSpacerItem* Ui_RebindWidget::horizontalSpacer_4

Definition at line 54 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.55 QSpacerItem* Ui_RebindWidget::horizontalSpacer_5

Definition at line 94 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.56 QSpacerItem* Ui_RebindWidget::horizontalSpacer_6

Definition at line 109 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.57 QSpacerItem* Ui_RebindWidget::horizontalSpacer_7

Definition at line 108 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.58 QSpacerItem* Ui_RebindWidget::horizontalSpacer_8

Definition at line 106 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.59 QSpacerItem* Ui_RebindWidget::horizontalSpacer_9

Definition at line 53 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.60 QWidget* Ui_RebindWidget::keyTab

Definition at line 40 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.61 QLabel* Ui_RebindWidget::label

Definition at line 148 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.62 QWidget* Ui_RebindWidget::layoutWidget

Definition at line 139 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.63 QWidget* Ui_RebindWidget::layoutWidget1

Definition at line 133 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.64 QWidget* Ui_RebindWidget::layoutWidget2

Definition at line 150 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.65 QWidget* Ui_RebindWidget::layoutWidget_2

Definition at line 143 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.66 QLabel* Ui_RebindWidget::lbl_macro

Definition at line 149 of file ui_rebindwidget.h.

Referenced by RebindWidget::helpStatus(), retranslateUi(), and setupUi().

12.101.3.67 QComboBox* Ui_RebindWidget::lightBox

Definition at line 102 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lightBox_currentIndexChanged(), RebindWidget::on_lightButton_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.68 QRadioButton* Ui_RebindWidget::lightButton

Definition at line 104 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_lightBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.69 QCheckBox* Ui_RebindWidget::lightWrapBox

Definition at line 97 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lightBox_currentIndexChanged(), RebindWidget::RebindWidget(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.70 QComboBox* Ui_RebindWidget::lockBox

Definition at line 103 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_lockBox_currentIndexChanged(), RebindWidget::on_lockButton_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.71 QRadioButton* Ui_RebindWidget::lockButton

Definition at line 100 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_lockBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.72 QWidget* Ui_RebindWidget::macroTab

Definition at line 132 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.73 QComboBox* Ui_RebindWidget::mb2Box

Definition at line 67 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mb2Box_currentIndexChanged(), RebindWidget::on_mb2Button_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.74 QRadioButton* Ui_RebindWidget::mb2Button

Definition at line 77 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mb2Box_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.75 QComboBox* Ui_RebindWidget::mbBox

Definition at line 70 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mbBox_currentIndexChanged(), RebindWidget::on_mbButton_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.76 QRadioButton* Ui_RebindWidget::mbButton

Definition at line 72 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mbBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.77 QComboBox* Ui_RebindWidget::mediaBox

Definition at line 57 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_mediaBox_currentIndexChanged(), RebindWidget::on_mediaButton_clicked(), RebindWidget::RebindWidget(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.78 QRadioButton* Ui_RebindWidget::mediaButton

Definition at line 51 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_mediaBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.79 QComboBox* Ui_RebindWidget::modBox

Definition at line 49 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modBox_currentIndexChanged(), RebindWidget::on_modButton_clicked(), RebindWidget::RebindWidget(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.80 QRadioButton* Ui_RebindWidget::modButton

Definition at line 55 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_modBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.81 QComboBox* Ui_RebindWidget::modeBox

Definition at line 105 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modeBox_currentIndexChanged(), RebindWidget::on_modeButton_clicked(), retranslateUi(), RebindWidget::setBind(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.82 QRadioButton* Ui_RebindWidget::modeButton

Definition at line 95 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_modeBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.83 QCheckBox* Ui_RebindWidget::modeWrapBox

Definition at line 96 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_modeBox_currentIndexChanged(), RebindWidget::RebindWidget(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.84 QWidget* Ui_RebindWidget::mouseTab

Definition at line 60 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.85 QComboBox* Ui_RebindWidget::numBox

Definition at line 42 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_numBox_currentIndexChanged(), RebindWidget::on_numButton_clicked(), RebindWidget::RebindWidget(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.86 QRadioButton* Ui_RebindWidget::numButton

Definition at line 58 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_numBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.87 QLineEdit* Ui_RebindWidget::programKpBox

Definition at line 115 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKpBox_textChanged(), RebindWidget::on_programKpButton_clicked(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.88 QCheckBox* Ui_RebindWidget::programKpButton

Definition at line 114 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKpBox_textChanged(), retranslateUi(), RebindWidget::setBox(), and setupUi().

12.101.3.89 QWidget* Ui_RebindWidget::programKpExtra

Definition at line 121 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKpBox_textChanged(), RebindWidget::RebindWidget(), and setupUi().

12.101.3.90 QComboBox* Ui_RebindWidget::programKpModeBox

Definition at line 124 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKpSIBox_clicked(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.91 QCheckBox* Ui_RebindWidget::programKpSIBox

Definition at line 123 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.92 QLineEdit* Ui_RebindWidget::programKrBox

Definition at line 118 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKrBox_textChanged(), RebindWidget::on_programKrButton_clicked(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.93 QCheckBox* Ui_RebindWidget::programKrButton

Definition at line 119 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKrBox_textChanged(), retranslateUi(), RebindWidget::setBox(), and setupUi().

12.101.3.94 QWidget* Ui_RebindWidget::programKrExtra

Definition at line 126 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_programKrBox_textChanged(), RebindWidget::RebindWidget(), and setupUi().

12.101.3.95 QComboBox* Ui_RebindWidget::programKrModeBox

Definition at line 129 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_programKrSIBox_clicked(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.96 QCheckBox* Ui_RebindWidget::programKrSIBox

Definition at line 128 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.97 QWidget* Ui_RebindWidget::programTab

Definition at line 110 of file ui_rebindwidget.h.

Referenced by retranslateUi(), and setupUi().

12.101.3.98 QLabel* Ui_RebindWidget::progTipLabel

Definition at line 131 of file ui_rebindwidget.h.

Referenced by RebindWidget::RebindWidget(), retranslateUi(), and setupUi().

12.101.3.99 QPlainTextEdit* Ui_RebindWidget::pteMacroBox

Definition at line 136 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::convertMacroBox(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_pteMacroBox_textChanged(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.100 QPlainTextEdit* Ui_RebindWidget::pteMacroComment

Definition at line 137 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.101 QPlainTextEdit* Ui_RebindWidget::pteMacroText

Definition at line 138 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_btnStartMacro_clicked(), retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.102 QRadioButton* Ui_RebindWidget::rb_delay_asTyped

Definition at line 154 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), RebindWidget::setCorrectRadioButton(), and setupUi().

12.101.3.103 QRadioButton* Ui_RebindWidget::rb_delay_default

Definition at line 153 of file ui_rebindwidget.h.

Referenced by RebindWidget::convertMacroBox(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), RebindWidget::setCorrectRadioButton(), and setupUi().

12.101.3.104 QRadioButton* Ui_RebindWidget::rb_delay_no

Definition at line 152 of file ui_rebindwidget.h.

Referenced by RebindWidget::convertMacroBox(), RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), RebindWidget::setCorrectRadioButton(), and setupUi().

12.101.3.105 QPushButton* Ui_RebindWidget::resetButton

Definition at line 159 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), and setupUi().

12.101.3.106 QTabWidget* Ui_RebindWidget::tabWidget

Definition at line 39 of file ui_rebindwidget.h.

Referenced by retranslateUi(), RebindWidget::setSelection(), and setupUi().

12.101.3.107 QLabel* Ui_RebindWidget::txtBuffer

Definition at line 155 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::convertMacroBox(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.108 QComboBox* Ui_RebindWidget::typingBox

Definition at line 43 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_typingBox_currentIndexChanged(), RebindWidget::on_typingButton_clicked(), retranslateUi(), RebindWidget::setBind(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.109 QRadioButton* Ui_RebindWidget::typingButton

Definition at line 48 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_typingBox_currentIndexChanged(), retranslateUi(), and setupUi().

12.101.3.110 QPushButton* Ui_RebindWidget::unbindButton

Definition at line 158 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_btnStartMacro_clicked(), RebindWidget::on_btnStopMacro_clicked(), retranslateUi(), and setupUi().

12.101.3.111 QVBoxLayout* Ui_RebindWidget::verticalLayout

Definition at line 38 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.112 QVBoxLayout* Ui_RebindWidget::verticalLayout_2

Definition at line 140 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.113 QSpacerItem* Ui_RebindWidget::verticalSpacer

Definition at line 112 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.114 QSpacerItem* Ui_RebindWidget::verticalSpacer_10

Definition at line 45 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.115 QSpacerItem* Ui_RebindWidget::verticalSpacer_11

Definition at line 83 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.116 QSpacerItem* Ui_RebindWidget::verticalSpacer_2

Definition at line 63 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.117 QSpacerItem* Ui_RebindWidget::verticalSpacer_3

Definition at line 46 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.118 QSpacerItem* Ui_RebindWidget::verticalSpacer_4

Definition at line 52 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.119 QSpacerItem* Ui_RebindWidget::verticalSpacer_5

Definition at line 101 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.120 QSpacerItem* Ui_RebindWidget::verticalSpacer_6

Definition at line 99 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.121 QSpacerItem* Ui_RebindWidget::verticalSpacer_7

Definition at line 98 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.122 QSpacerItem* Ui_RebindWidget::verticalSpacer_8

Definition at line 64 of file ui_rebindwidget.h.

Referenced by setupUi().

12.101.3.123 QComboBox* Ui_RebindWidget::wheelBox

Definition at line 71 of file ui_rebindwidget.h.

Referenced by RebindWidget::applyChanges(), RebindWidget::on_wheelBox_currentIndexChanged(), RebindWidget::on_wheelButton_clicked(), retranslateUi(), RebindWidget::setBox(), RebindWidget::setSelection(), and setupUi().

12.101.3.124 QRadioButton* Ui_RebindWidget::wheelButton

Definition at line 75 of file ui_rebindwidget.h.

Referenced by RebindWidget::on_wheelBox_currentIndexChanged(), retranslateUi(), and setupUi().

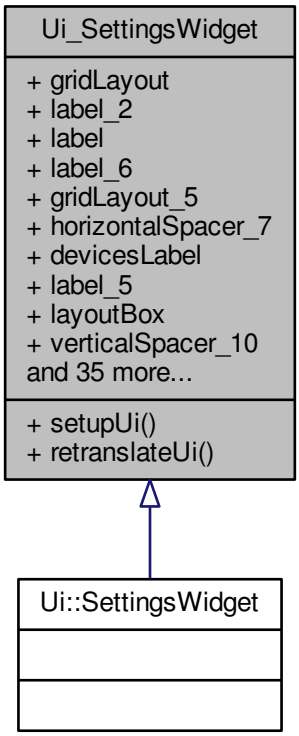
The documentation for this class was generated from the following file:

- src/ckb/ui_rebindwidget.h

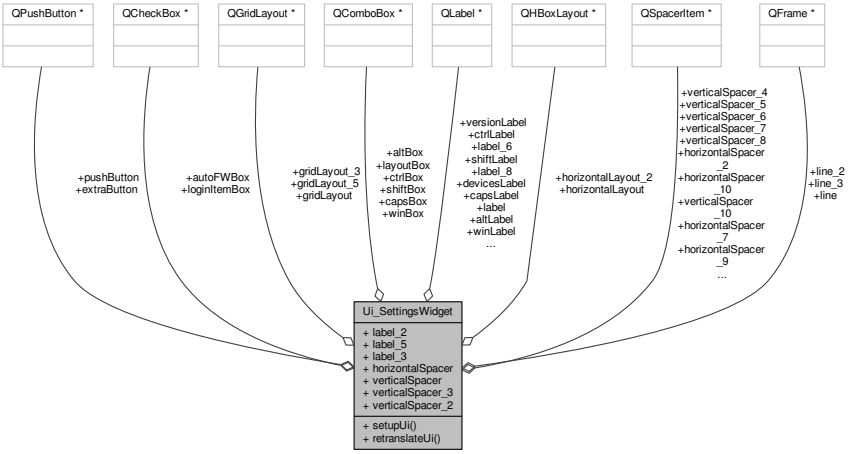
12.102 Ui_SettingsWidget Class Reference

`#include <src/ckb/ui_settingswidget.h>`

Inheritance diagram for Ui_SettingsWidget:



Collaboration diagram for Ui_SettingsWidget:



Public Member Functions

- void setupUi (QWidget *SettingsWidget)
- void retranslateUi (QWidget *SettingsWidget)

Data Fields

- QGridLayout * gridLayout
- QLabel * label_2
- QLabel * label
- QLabel * label_6
- QGridLayout * gridLayout_5
- QSpacerItem * horizontalSpacer_7
- QLabel * devicesLabel
- QLabel * label_5
- QComboBox * layoutBox
- QSpacerItem * verticalSpacer_10
- QHBoxLayout * horizontalLayout_2
- QLabel * label_3
- QSpacerItem * horizontalSpacer
- QPushButton * pushButton
- QSpacerItem * verticalSpacer
- QSpacerItem * verticalSpacer_8
- QCheckBox * loginItemBox
- QSpacerItem * verticalSpacer_6
- QCheckBox * autoFWBox
- QFrame * line_2
- QLabel * label_8
- QGridLayout * gridLayout_3
- QLabel * shiftLabel
- QLabel * capsLabel
- QSpacerItem * horizontalSpacer_10
- QComboBox * capsBox
- QLabel * ctrlLabel

- QSpacerItem * horizontalSpacer_9
- QComboBox * ctrlBox
- QComboBox * shiftBox
- QLabel * winLabel
- QComboBox * winBox
- QComboBox * altBox
- QLabel * altLabel
- QFrame * line
- QSpacerItem * verticalSpacer_3
- QSpacerItem * verticalSpacer_5
- QFrame * line_3
- QSpacerItem * verticalSpacer_4
- QSpacerItem * verticalSpacer_2
- QLabel * versionLabel
- QHBoxLayout * horizontalLayout
- QPushButton * extraButton
- QSpacerItem * horizontalSpacer_2
- QSpacerItem * verticalSpacer_7

12.102.1 Detailed Description

Definition at line 29 of file ui_settingswidget.h.

12.102.2 Member Function Documentation

12.102.2.1 void Ui_SettingsWidget::retranslateUi (QWidget * *SettingsWidget*) [inline]

Definition at line 347 of file ui_settingswidget.h.

References altLabel, autoFWBox, capsLabel, ctrlLabel, devicesLabel, extraButton, label, label_2, label_3, label_5, label_6, label_8, loginItemBox, pushButton, shiftLabel, versionLabel, and winLabel.

Referenced by setupUi().

```
348     {
349         SettingsWidget->setWindowTitle(QApplication::translate("SettingsWidget", "Form", Q_NULLPTR));
350         label_2->setText(QApplication::translate("SettingsWidget", "\302\251 2014-2016 <a href=\"
      https://github.com/ccMSC/\" style=\"text-decoration:none;\">ccMSC</a>.<br/>\302\251 2017 <a href=\"
      https://github.com/mattanger/ckb-next/graphs/contributors\" style=\"text-decoration:none;\">The ckb-next development
       team</a>.", Q_NULLPTR));
351         label->setText(QApplication::translate("SettingsWidget", "Modifier keys", Q_NULLPTR));
352         label_6->setText(QApplication::translate("SettingsWidget", "Application", Q_NULLPTR));
353         devicesLabel->setText(QApplication::translate("SettingsWidget", "No devices connected",
       Q_NULLPTR));
354         label_5->setText(QApplication::translate("SettingsWidget", "Keyboard layout:", Q_NULLPTR));
355         label_3->setText(QApplication::translate("SettingsWidget", "<a href=\"
      https://github.com/mattanger/ckb-next\" style=\"text-decoration:none;\">https://github.com/mattanger/ckb-next</a>", Q_NU
356         pushButton->setText(QApplication::translate("SettingsWidget", "Quit", Q_NULLPTR));
357 #ifndef QT_NO_TOOLTIP
358         loginItemBox->setToolTip(QApplication::translate("SettingsWidget", "ckb-next will be
      started when you log in to your computer.", Q_NULLPTR));
359 #endif // QT_NO_TOOLTIP
360         loginItemBox->setText(QApplication::translate("SettingsWidget", "Start ckb-next at
      login", Q_NULLPTR));
361 #ifndef QT_NO_TOOLTIP
362         autoFWBox->setToolTip(QApplication::translate("SettingsWidget", "You will be notified when
      new firmware versions are available. You'll have the option to install them immediately or wait until
      later.", Q_NULLPTR));
363 #endif // QT_NO_TOOLTIP
364         autoFWBox->setText(QApplication::translate("SettingsWidget", "Check for new firmware
      automatically", Q_NULLPTR));
365         label_8->setText(QApplication::translate("SettingsWidget", "These will override the keyboard
      profile. See \"Binding\" tab for more settings.", Q_NULLPTR));
366         shiftLabel->setText(QApplication::translate("SettingsWidget", "Shift:", Q_NULLPTR));
367         capsLabel->setText(QApplication::translate("SettingsWidget", "Caps Lock:", Q_NULLPTR));
368         ctrlLabel->setText(QApplication::translate("SettingsWidget", "Ctrl:", Q_NULLPTR));
369         winLabel->setText(QApplication::translate("SettingsWidget", "Windows:", Q_NULLPTR));
```

```
370         altLabel->setText(QApplication::translate("SettingsWidget", "Alt:", Q_NULLPTR));
371         versionLabel->setText(QApplication::translate("SettingsWidget", "ckb-next", Q_NULLPTR))
    ;
372         extraButton->setText(QApplication::translate("SettingsWidget", "More settings",
    Q_NULLPTR));
373     } // retranslateUi
```

Here is the caller graph for this function:

12.102.2.2 void Ui_SettingsWidget::setupUi (QWidget * *SettingsWidget*) [inline]

Definition at line 78 of file ui_settingswidget.h.

References altBox, altLabel, autoFWBox, capsBox, capsLabel, ctrlBox, ctrlLabel, devicesLabel, extraButton, gridLayout, gridLayout_3, gridLayout_5, horizontalLayout, horizontalLayout_2, horizontalSpacer, horizontalSpacer_10, horizontalSpacer_2, horizontalSpacer_7, horizontalSpacer_9, label, label_2, label_3, label_5, label_6, label_8, layoutBox, line, line_2, line_3, loginItemBox, pushButton, retranslateUi(), shiftBox, shiftLabel, versionLabel, verticalSpacer, verticalSpacer_10, verticalSpacer_2, verticalSpacer_3, verticalSpacer_4, verticalSpacer_5, verticalSpacer_6, verticalSpacer_7, verticalSpacer_8, winBox, and winLabel.

Referenced by SettingsWidget::SettingsWidget().

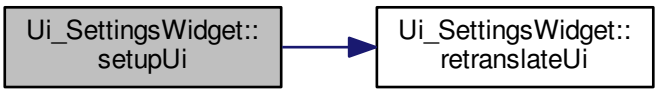
```
79     {
80         if (SettingsWidget->objectName().isEmpty())
81             SettingsWidget->setObjectName(QStringLiteral("SettingsWidget"));
82         SettingsWidget->resize(827, 654);
83         gridLayout = new QGridLayout(SettingsWidget);
84         gridLayout->setObjectName(QStringLiteral("gridLayout"));
85         label_2 = new QLabel(SettingsWidget);
86         label_2->setObjectName(QStringLiteral("label_2"));
87         label_2->setOpenExternalLinks(true);
88         label_2->setAlignment(Qt::AlignLeading|Qt::AlignLeft|Qt::AlignVCenter);
89
90         gridLayout->addWidget(label_2, 20, 0, 1, 2);
91
92         label = new QLabel(SettingsWidget);
93         label->setObjectName(QStringLiteral("label"));
94         QFont font;
95         font.setBold(true);
96         font.setWeight(75);
97         label->setFont(font);
98
99         gridLayout->addWidget(label, 6, 0, 1, 2);
100
101          label_6 = new QLabel(SettingsWidget);
102          label_6->setObjectName(QStringLiteral("label_6"));
103          label_6->setFont(font);
104
105          gridLayout->addWidget(label_6, 12, 0, 1, 2);
106
107          gridLayout_5 = new QGridLayout();
108          gridLayout_5->setObjectName(QStringLiteral("gridLayout_5"));
109          horizontalSpacer_7 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
110
111         gridLayout_5->addItem(horizontalSpacer_7, 2, 2, 1, 1);
112
113         devicesLabel = new QLabel(SettingsWidget);
114         devicesLabel->setObjectName(QStringLiteral("devicesLabel"));
115
116         gridLayout_5->addWidget(devicesLabel, 0, 0, 1, 3);
117
118         label_5 = new QLabel(SettingsWidget);
119         label_5->setObjectName(QStringLiteral("label_5"));
120
```

```
121         gridLayout_5->addWidget(label_5, 2, 0, 1, 1);
122 
123         layoutBox = new QComboBox(SettingsWidget);
124         layoutBox->setObjectName(QStringLiteral("layoutBox"));
125 
126         gridLayout_5->addWidget(layoutBox, 2, 1, 1, 1);
127 
128         verticalSpacer_10 = new QSpacerItem(20, 6, QSizePolicy::Minimum,
    QSizePolicy::Fixed);
129 
130         gridLayout_5->addItem(verticalSpacer_10, 1, 0, 1, 1);
131 
132 
133         gridLayout->addLayout(gridLayout_5, 4, 1, 1, 1);
134 
135         horizontalLayout_2 = new QHBoxLayout();
136         horizontalLayout_2->setObjectName(QStringLiteral("horizontalLayout_2"));
137         label_3 = new QLabel(SettingsWidget);
138         label_3->setObjectName(QStringLiteral("label_3"));
139         label_3->setOpenExternalLinks(true);
140 
141         horizontalLayout_2->addWidget(label_3);
142 
143         horizontalSpacer = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
144 
145         horizontalLayout_2->addItem(horizontalSpacer);
146 
147         pushButton = new QPushButton(SettingsWidget);
148         pushButton->setObjectName(QStringLiteral("pushButton"));
149         pushButton->setFlat(false);
150 
151         horizontalLayout_2->addWidget(pushButton);
152 
153 
154         gridLayout->addLayout(horizontalLayout_2, 21, 0, 1, 2);
155 
156         verticalSpacer = new QSpacerItem(20, 40, QSizePolicy::Minimum, QSizePolicy::Expanding
    );
157 
158         gridLayout->addItem(verticalSpacer, 19, 0, 1, 2);
159 
160         verticalSpacer_8 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
161 
162         gridLayout->addItem(verticalSpacer_8, 16, 0, 1, 1);
163 
164         loginItemBox = new QCheckBox(SettingsWidget);
165         loginItemBox->setObjectName(QStringLiteral("loginItemBox"));
166 
167         gridLayout->addWidget(loginItemBox, 16, 1, 1, 1);
168 
169         verticalSpacer_6 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
170 
171         gridLayout->addItem(verticalSpacer_6, 15, 0, 1, 1);
172 
173         autoFWBox = new QCheckBox(SettingsWidget);
174         autoFWBox->setObjectName(QStringLiteral("autoFWBox"));
175         autoFWBox->setChecked(true);
176 
177         gridLayout->addWidget(autoFWBox, 15, 1, 1, 1);
178 
179         line_2 = new QFrame(SettingsWidget);
180         line_2->setObjectName(QStringLiteral("line_2"));
181         line_2->setFrameShape(QFrame::HLine);
182         line_2->setFrameShadow(QFrame::Sunken);
183 
184         gridLayout->addWidget(line_2, 13, 0, 1, 2);
185 
186         label_8 = new QLabel(SettingsWidget);
187         label_8->setObjectName(QStringLiteral("label_8"));
188         QFont font1;
189         font1.setItalic(true);
190         label_8->setFont(font1);
191 
192         gridLayout->addWidget(label_8, 8, 1, 1, 1);
193 
194         gridLayout_3 = new QGridLayout();
195         gridLayout_3->setObjectName(QStringLiteral("gridLayout_3"));
196         shiftLabel = new QLabel(SettingsWidget);
197         shiftLabel->setObjectName(QStringLiteral("shiftLabel"));
198         QSizePolicy sizePolicy(QSizePolicy::Expanding, QSizePolicy::Preferred);
199         sizePolicy.setHorizontalStretch(0);
200         sizePolicy.setVerticalStretch(0);
201         sizePolicy.setHeightForWidth(shiftLabel->sizePolicy().hasHeightForWidth());
202         shiftLabel->setSizePolicy(sizePolicy);
```

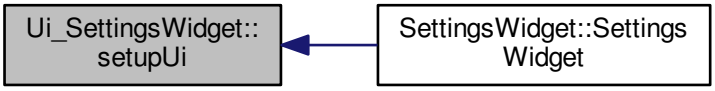
```
203         shiftLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
204
205         gridLayout_3->addWidget(shiftLabel, 0, 3, 1, 1);
206
207         capsLabel = new QLabel(SettingsWidget);
208         capsLabel->setObjectName(QStringLiteral("capsLabel"));
209         capsLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
210
211         gridLayout_3->addWidget(capsLabel, 0, 1, 1, 1);
212
213         horizontalSpacer_10 = new QSpacerItem(0, 0, QSizePolicy::Fixed,
    QSizePolicy::Minimum);
214
215         gridLayout_3->addItem(horizontalSpacer_10, 0, 0, 1, 1);
216
217         capsBox = new QComboBox(SettingsWidget);
218         capsBox->setObjectName(QStringLiteral("capsBox"));
219         QSizePolicy sizePolicy1(QSizePolicy::Expanding, QSizePolicy::Fixed);
220         sizePolicy1.setHorizontalStretch(0);
221         sizePolicy1.setVerticalStretch(0);
222         sizePolicy1.setHeightForWidth(capsBox->sizePolicy().hasHeightForWidth());
223         capsBox->setSizePolicy(sizePolicy1);
224
225         gridLayout_3->addWidget(capsBox, 0, 2, 1, 1);
226
227         ctrlLabel = new QLabel(SettingsWidget);
228         ctrlLabel->setObjectName(QStringLiteral("ctrlLabel"));
229         ctrlLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
230
231         gridLayout_3->addWidget(ctrlLabel, 1, 1, 1, 1);
232
233         horizontalSpacer_9 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
234
235         gridLayout_3->addItem(horizontalSpacer_9, 1, 7, 1, 1);
236
237         ctrlBox = new QComboBox(SettingsWidget);
238         ctrlBox->setObjectName(QStringLiteral("ctrlBox"));
239
240         gridLayout_3->addWidget(ctrlBox, 1, 2, 1, 1);
241
242         shiftBox = new QComboBox(SettingsWidget);
243         shiftBox->setObjectName(QStringLiteral("shiftBox"));
244         sizePolicy1.setHeightForWidth(shiftBox->sizePolicy().hasHeightForWidth());
245         shiftBox->setSizePolicy(sizePolicy1);
246
247         gridLayout_3->addWidget(shiftBox, 0, 4, 1, 1);
248
249         winLabel = new QLabel(SettingsWidget);
250         winLabel->setObjectName(QStringLiteral("winLabel"));
251         sizePolicy.setHeightForWidth(winLabel->sizePolicy().hasHeightForWidth());
252         winLabel->setSizePolicy(sizePolicy);
253         winLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
254
255         gridLayout_3->addWidget(winLabel, 1, 3, 1, 1);
256
257         winBox = new QComboBox(SettingsWidget);
258         winBox->setObjectName(QStringLiteral("winBox"));
259         sizePolicy1.setHeightForWidth(winBox->sizePolicy().hasHeightForWidth());
260         winBox->setSizePolicy(sizePolicy1);
261
262         gridLayout_3->addWidget(winBox, 1, 4, 1, 1);
263
264         altBox = new QComboBox(SettingsWidget);
265         altBox->setObjectName(QStringLiteral("altBox"));
266         sizePolicy1.setHeightForWidth(altBox->sizePolicy().hasHeightForWidth());
267         altBox->setSizePolicy(sizePolicy1);
268
269         gridLayout_3->addWidget(altBox, 1, 6, 1, 1);
270
271         altLabel = new QLabel(SettingsWidget);
272         altLabel->setObjectName(QStringLiteral("altLabel"));
273         sizePolicy.setHeightForWidth(altLabel->sizePolicy().hasHeightForWidth());
274         altLabel->setSizePolicy(sizePolicy);
275         altLabel->setAlignment(Qt::AlignRight|Qt::AlignTrailing|Qt::AlignVCenter);
276
277         gridLayout_3->addWidget(altLabel, 1, 5, 1, 1);
278
279
280         gridLayout->addLayout(gridLayout_3, 10, 1, 1, 1);
281
282         line = new QFrame(SettingsWidget);
283         line->setObjectName(QStringLiteral("line"));
284         line->setFrameShape(QFrame::HLine);
285         line->setFrameShadow(QFrame::Sunken);
286
287         gridLayout->addWidget(line, 1, 0, 1, 2);
```

```
288
289         verticalSpacer_3 = new QSpacerItem(0, 5, QSizePolicy::Minimum, QSizePolicy::Fixed);
290
291         gridLayout->addItem(verticalSpacer_3, 2, 1, 1, 1);
292
293         verticalSpacer_5 = new QSpacerItem(20, 12, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
294
295         gridLayout->addItem(verticalSpacer_5, 11, 1, 1, 1);
296
297         line_3 = new QFrame(SettingsWidget);
298         line_3->setObjectName(QStringLiteral("line_3"));
299         QSizePolicy sizePolicy2(QSizePolicy::Minimum, QSizePolicy::Fixed);
300         sizePolicy2.setHorizontalStretch(0);
301         sizePolicy2.setVerticalStretch(0);
302         sizePolicy2.setHeightForWidth(line_3->sizePolicy().hasHeightForWidth());
303         line_3->setSizePolicy(sizePolicy2);
304         line_3->setFrameShape(QFrame::HLine);
305         line_3->setFrameShadow(QFrame::Sunken);
306
307         gridLayout->addWidget(line_3, 7, 0, 1, 2);
308
309         verticalSpacer_4 = new QSpacerItem(20, 6, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
310
311         gridLayout->addItem(verticalSpacer_4, 9, 1, 1, 1);
312
313         verticalSpacer_2 = new QSpacerItem(20, 12, QSizePolicy::Minimum, QSizePolicy::Fixed
    );
314
315         gridLayout->addItem(verticalSpacer_2, 5, 1, 1, 1);
316
317         versionLabel = new QLabel(SettingsWidget);
318         versionLabel->setObjectName(QStringLiteral("versionLabel"));
319         versionLabel->setFont(font);
320
321         gridLayout->addWidget(versionLabel, 0, 0, 1, 2);
322
323         horizontalLayout = new QHBoxLayout();
324         horizontalLayout->setObjectName(QStringLiteral("horizontalLayout"));
325         extraButton = new QPushButton(SettingsWidget);
326         extraButton->setObjectName(QStringLiteral("extraButton"));
327
328         horizontalLayout->addWidget(extraButton);
329
330         horizontalSpacer_2 = new QSpacerItem(40, 20, QSizePolicy::Expanding,
    QSizePolicy::Minimum);
331
332         horizontalLayout->addItem(horizontalSpacer_2);
333
334
335         gridLayout->addLayout(horizontalLayout, 17, 1, 1, 1);
336
337         verticalSpacer_7 = new QSpacerItem(0, 28, QSizePolicy::Minimum, QSizePolicy::Fixed)
    ;
338
339         gridLayout->addItem(verticalSpacer_7, 17, 0, 1, 1);
340
341
342         retranslateUi(SettingsWidget);
343
344         QMetaObject::connectSlotsByName(SettingsWidget);
345     } // setupUi
```

Here is the call graph for this function:



Here is the caller graph for this function:



12.102.3 Field Documentation

12.102.3.1 QComboBox* Ui_SettingsWidget::altBox

Definition at line 64 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), setupUi(), and SettingsWidget::updateModifiers().

12.102.3.2 QLabel* Ui_SettingsWidget::altLabel

Definition at line 65 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.3 QCheckBox* Ui_SettingsWidget::autoFWBox

Definition at line 50 of file ui_settingswidget.h.

Referenced by retranslateUi(), SettingsWidget::SettingsWidget(), and setupUi().

12.102.3.4 QComboBox* Ui_SettingsWidget::capsBox

Definition at line 57 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), setupUi(), and SettingsWidget::updateModifiers().

12.102.3.5 QLabel* Ui_SettingsWidget::capsLabel

Definition at line 55 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.6 QComboBox* Ui_SettingsWidget::ctrlBox

Definition at line 60 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), setupUi(), and SettingsWidget::updateModifiers().

12.102.3.7 QLabel* Ui_SettingsWidget::ctrlLabel

Definition at line 58 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.8 QLabel* Ui_SettingsWidget::devicesLabel

Definition at line 38 of file ui_settingswidget.h.

Referenced by retranslateUi(), SettingsWidget::setStatus(), and setupUi().

12.102.3.9 QPushButton* Ui_SettingsWidget::extraButton

Definition at line 74 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.10 QGridLayout* Ui_SettingsWidget::gridLayout

Definition at line 32 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.11 QGridLayout* Ui_SettingsWidget::gridLayout_3

Definition at line 53 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.12 QGridLayout* Ui_SettingsWidget::gridLayout_5

Definition at line 36 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.13 QHBoxLayout* Ui_SettingsWidget::horizontalLayout

Definition at line 73 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.14 QHBoxLayout* Ui_SettingsWidget::horizontalLayout_2

Definition at line 42 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.15 QSpacerItem* Ui_SettingsWidget::horizontalSpacer

Definition at line 44 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.16 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_10

Definition at line 56 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.17 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_2

Definition at line 75 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.18 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_7

Definition at line 37 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.19 QSpacerItem* Ui_SettingsWidget::horizontalSpacer_9

Definition at line 59 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.20 QLabel* Ui_SettingsWidget::label

Definition at line 34 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.21 QLabel* Ui_SettingsWidget::label_2

Definition at line 33 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.22 QLabel* Ui_SettingsWidget::label_3

Definition at line 43 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.23 QLabel* Ui_SettingsWidget::label_5

Definition at line 39 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.24 QLabel* Ui_SettingsWidget::label_6

Definition at line 35 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.25 QLabel* Ui_SettingsWidget::label_8

Definition at line 52 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.26 QComboBox* Ui_SettingsWidget::layoutBox

Definition at line 40 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), setupUi(), and SettingsWidget::showLayoutDialog().

12.102.3.27 QFrame* Ui_SettingsWidget::line

Definition at line 66 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.28 QFrame* Ui_SettingsWidget::line_2

Definition at line 51 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.29 QFrame* Ui_SettingsWidget::line_3

Definition at line 69 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.30 QCheckBox* Ui_SettingsWidget::loginItemBox

Definition at line 48 of file ui_settingswidget.h.

Referenced by retranslateUi(), SettingsWidget::SettingsWidget(), and setupUi().

12.102.3.31 QPushButton* Ui_SettingsWidget::pushButton

Definition at line 45 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.32 QComboBox* Ui_SettingsWidget::shiftBox

Definition at line 61 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), setupUi(), and SettingsWidget::updateModifiers().

12.102.3.33 QLabel* Ui_SettingsWidget::shiftLabel

Definition at line 54 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

12.102.3.34 QLabel* Ui_SettingsWidget::versionLabel

Definition at line 72 of file ui_settingswidget.h.

Referenced by retranslateUi(), setupUi(), and SettingsWidget::setVersion().

12.102.3.35 QSpacerItem* Ui_SettingsWidget::verticalSpacer

Definition at line 46 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.36 QSpacerItem* Ui_SettingsWidget::verticalSpacer_10

Definition at line 41 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.37 QSpacerItem* Ui_SettingsWidget::verticalSpacer_2

Definition at line 71 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.38 QSpacerItem* Ui_SettingsWidget::verticalSpacer_3

Definition at line 67 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.39 QSpacerItem* Ui_SettingsWidget::verticalSpacer_4

Definition at line 70 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.40 QSpacerItem* Ui_SettingsWidget::verticalSpacer_5

Definition at line 68 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.41 QSpacerItem* Ui_SettingsWidget::verticalSpacer_6

Definition at line 49 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.42 QSpacerItem* Ui_SettingsWidget::verticalSpacer_7

Definition at line 76 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.43 QSpacerItem* Ui_SettingsWidget::verticalSpacer_8

Definition at line 47 of file ui_settingswidget.h.

Referenced by setupUi().

12.102.3.44 QComboBox* Ui_SettingsWidget::winBox

Definition at line 63 of file ui_settingswidget.h.

Referenced by SettingsWidget::SettingsWidget(), setupUi(), and SettingsWidget::updateModifiers().

12.102.3.45 QLabel* Ui_SettingsWidget::winLabel

Definition at line 62 of file ui_settingswidget.h.

Referenced by retranslateUi(), and setupUi().

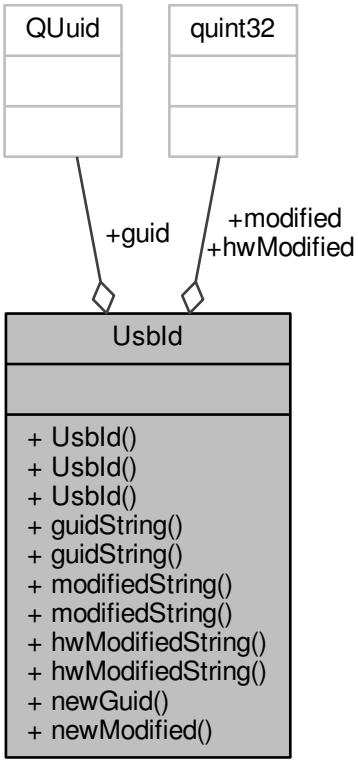
The documentation for this class was generated from the following file:

- src/ckb/ui_settingswidget.h

12.103 UsbId Struct Reference

`#include <src/ckb/kbmode.h>`

Collaboration diagram for UsbId:



Public Member Functions

- UsbId (const QString &_guid, quint32 _modified)

- UsbId (const QString &_guid, const QString &_modified)
- UsbId ()
- QString guidString () const
- void guidString (const QString &newGuid)
- QString modifiedString () const
- void modifiedString (const QString &newModified)
- QString hwModifiedString () const
- void hwModifiedString (const QString &newModified)
- void newGuid ()
- void newModified ()

Data Fields

- QUuid guid
- quint32 modified
- quint32 hwModified

12.103.1 Detailed Description

Definition at line 11 of file kbmode.h.

12.103.2 Constructor & Destructor Documentation

12.103.2.1 UsbId::UsbId (const QString & *_guid*, quint32 *_modified*) [inline]

Definition at line 16 of file kbmode.h.

```
16 : guid(_guid), modified(_modified), hwModified(_modified) {}
```

12.103.2.2 UsbId::UsbId (const QString & *_guid*, const QString & *_modified*) [inline]

Definition at line 17 of file kbmode.h.

```
17 : guid(_guid), modified(_modified.toUInt(0, 16)), hwModified(
      modified) {}
```

12.103.2.3 UsbId::UsbId ( ) [inline]

Definition at line 18 of file kbmode.h.

```
18 : guid(QUuid::createUuid()),modified(0) {}
```

12.103.3 Member Function Documentation

12.103.3.1 QString UsbId::guidString ( ) const [inline]

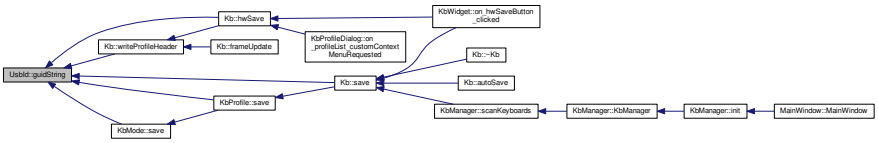
Definition at line 20 of file kbmode.h.

References guid.

Referenced by Kb::hwSave(), KbProfile::save(), KbMode::save(), Kb::save(), and Kb::writeProfileHeader().

```
20 { return guid.toString().toUpper(); }
```

Here is the caller graph for this function:



12.103.3.2 void UsbId::guidString (const QString & *newGuid*) [inline]

Definition at line 21 of file kbmode.h.

References guid, and newGuid().

```
21 { guid = newGuid; }
```

Here is the call graph for this function:

12.103.3.3 QString UsbId::hwModifiedString ( ) const [inline]

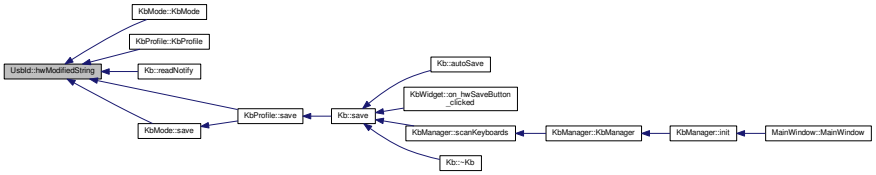
Definition at line 24 of file kbmode.h.

References hwModified.

Referenced by KbMode::KbMode(), KbProfile::KbProfile(), Kb::readNotify(), KbProfile::save(), and KbMode::save().

```
24 { return QString::number(hwModified, 16); }
```

Here is the caller graph for this function:



12.103.3.4 void UsbId::hwModifiedString (const QString & *newModified*) [inline]

Definition at line 25 of file kbmode.h.

References hwModified.

```
25 { hwModified = newModified.toUInt(0, 16); }
```

12.103.3.5 QString UsbId::modifiedString ( ) const [inline]

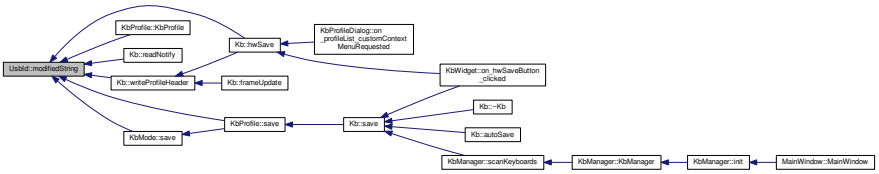
Definition at line 22 of file kbmode.h.

References modified.

Referenced by Kb::hwSave(), KbProfile::KbProfile(), Kb::readNotify(), KbProfile::save(), KbMode::save(), and Kb::writeProfileHeader().

```
22 { return QString::number(modified, 16); }
```

Here is the caller graph for this function:



12.103.3.6 void UsbId::modifiedString (const QString & *newModified*) [inline]

Definition at line 23 of file kbmode.h.

References modified.

```
23 { modified = newModified.toUInt(0, 16); }
```

12.103.3.7 void UsbId::newGuid ( ) [inline]

Definition at line 28 of file kbmode.h.

References guid.

Referenced by guidString().

```
28 { guid = QUuid::createUuid(); }
```

Here is the caller graph for this function:

12.103.3.8 void UsbId::newModified ( ) [inline]

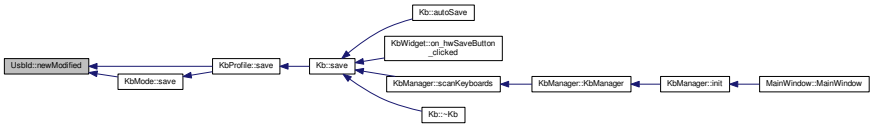
Definition at line 29 of file kbmode.h.

References modified.

Referenced by KbProfile::save(), and KbMode::save().

```
29 { quint32 newMod; do { newMod = qrand(); } while(newMod == modified);
      modified = newMod; }
```

Here is the caller graph for this function:



12.103.4 Field Documentation

12.103.4.1 QUuid UsbId::guid

Definition at line 12 of file kbmode.h.

Referenced by KbProfile::find(), Kb::find(), guidString(), KbMode::KbMode(), KbProfile::KbProfile(), newGuid(), KbWidget::on_modesList_customContextMenuRequested(), KbWidget::on_modesList_itemChanged(), KbWidget::on_modesList_itemClicked(), KbProfileDialog::on_profileList_customContextMenuRequested(), KbProfileDialog::on_profileList_itemChanged(), KbProfileDialog::on_profileList_itemClicked(), KbWidget::profileChanged(), Kb::readNotify(), and KbProfileDialog::repopulate().

12.103.4.2 quint32 UsbId::hwModified

Definition at line 14 of file kbmode.h.

Referenced by hwModifiedString(), Kb::hwSave(), KbMode::KbMode(), and KbProfile::KbProfile().

12.103.4.3 quint32 UsbId::modified

Definition at line 13 of file kbmode.h.

Referenced by Kb::hwSave(), KbMode::KbMode(), KbProfile::KbProfile(), modifiedString(), and newModified().

The documentation for this struct was generated from the following file:

- src/ckb/kbmode.h

Chapter 13

File Documentation

13.1 BUILD.md File Reference

13.2 DAEMON.md File Reference

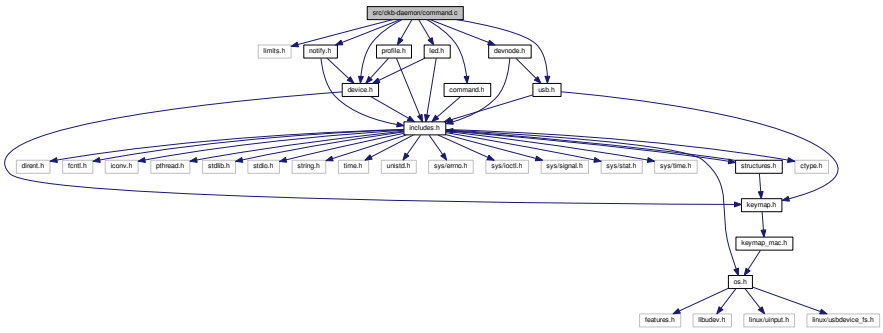
13.3 README.md File Reference

13.4 ROADMAP.md File Reference

13.5 src/ckb-daemon/command.c File Reference

```
#include <limits.h>
#include "command.h"
#include "device.h"
#include "devnode.h"
#include "led.h"
#include "notify.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for command.c:



Macros

- #define TRY_WITH_RESET(action)

Functions

- int readcmd (usbdevice *kb, const char *line)

Variables

- static const char *const cmd_strings [(CMD_LAST-CMD_FIRST+2)-1]

13.5.1 Macro Definition Documentation

13.5.1.1 #define TRY_WITH_RESET(*action*)

Value:

```
while(action){              \
        if(usb_tryreset(kb)){   \
            free(word);         \
            return 1;           \
        }                       \
    }
```

Definition at line 59 of file command.c.

Referenced by readcmd().

13.5.2 Function Documentation

13.5.2.1 int readcmd (usbdevice * *kb*, const char * *line*)

< Because length of word is length of line + 1, there should be no problem with buffer overflow.

Definition at line 68 of file command.c.

References ACCEL, ACTIVE, usbdevice::active, BIND, CMD_COUNT, CMD_FIRST, cmd_strings, usbprofile::currentmode, DELAY, usbdevice::delay, DITHER, usbdevice::dither, devcmd::do_cmd, devcmd::do_io, devcmd::do_macro, DPI, DPISEL, ERASE, ERASEPROFILE, FEAT_ANSI, FEAT_BIND, FEAT_ISO, FEAT_LMASK, FEAT_MOUSEACCEL, FEAT_NOTIFY, usbdevice::features, lighting::forceupdate, FPS, FWUPDATE, GET, HAS_FEATURES, HWLOAD, HWSAVE, IAUTO, ID, IDLE, INDEX_OF, INOTIFY, IOFF, ION, IS_FULLRANGE, IS_MOUSE_DEV, keymap, LAYOUT, left, LIFT, usbmode::light, MACRO, mknotifynode(), MODE, usbprofile::mode, MODE_COUNT, N_KEYS_EXTENDED, NAME, NEEDS_FW_UPDATE, NONE, NOTIFY, NOTIFYOFF, NOTIFYON, OUTFIFO_MAX, POLLRATE, usbdevice::profile, PROFILEID, PROFILENAME, REBIND, RESTART, RGB, right(), rmnotifynode(), SCROLL_ACCELERATED, SCROLL_MAX, SCROLL_MIN, SCROLLSPEED, SNAP, SWITCH, TRY_WITH_RESET, UNBIND, usbdevice::usbdelay, and usbdevice::vtable.

Referenced by devmain().

```
68                                          {
69     char* word = malloc(strlen(line) + 1);
70     int wordlen;
71     const char* newline = 0;
72     const devcmd* vt = kb->vtable;
73     usbprofile* profile = kb->profile;
74     usbmode* mode = 0;
75     int notifynumber = 0;
76     // Read words from the input
77     cmd command = NONE;
78     while(sscanf(line, "%s%n", word, &wordlen) == 1){
79         line += wordlen;
80         // If we passed a newline, reset the context
81         if(line > newline){
82             mode = profile->currentmode;
83             command = NONE;
84             notifynumber = 0;
85             newline = strchr(line, '\n');
86             if(!newline)
87                 newline = line + strlen(line);
```

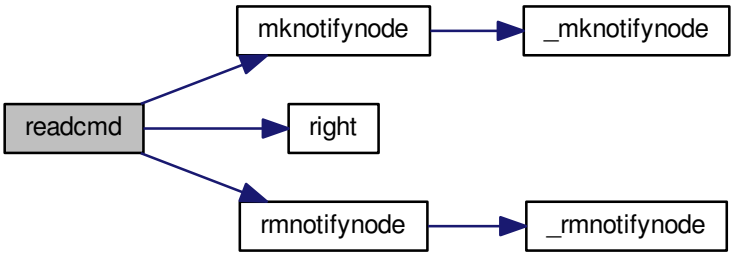
```
88          }
89          // Check for a command word
90          for(int i = 0; i < CMD_COUNT - 1; i++){
91              if(!strcmp(word, cmd_strings[i])){
92                  command = i + CMD_FIRST;
93  #ifndef OS_MAC
94                  // Layout and mouse acceleration aren't used on Linux; ignore
95                  if(command == LAYOUT || command == ACCEL || command ==
      SCROLLSPEED)
96                      command = NONE;
97  #endif
98                  // Most commands require parameters, but a few are actions in and of themselves
99                  if(command != SWITCH
100                         && command != HWLOAD && command != HWSAVE
101                         && command != ACTIVE && command != IDLE
102                         && command != ERASE && command != ERASEPROFILE
103                         && command != RESTART)
104                     goto next_loop;
105                 break;
106             }
107         }
108
109         // Set current notification node when given @number
110         int newnotify;
111         if(sscanf(word, "@%u", &newnotify) == 1 && newnotify < OUTFIFO_MAX){
112             notifynumber = newnotify;
113             continue;
114         }
115
116         // Reject unrecognized commands. Reject bind or notify related commands if the keyboard doesn't
       have the feature enabled.
117         if(command == NONE
118                 || ((!HAS_FEATURES(kb, FEAT_BIND) && (command ==
      BIND || command == UNBIND || command == REBIND || command ==
      MACRO || command == DELAY))
119                         || (!HAS_FEATURES(kb, FEAT_NOTIFY) && command ==
      NOTIFY))){
120             next_loop:
121             continue;
122         }
123         // Reject anything not related to fwupdate if device has a bricked FW
124         if(NEEDS_FW_UPDATE(kb) && command != FWUPDATE && command !=
      NOTIFYON && command != NOTIFYOFF)
125             continue;
126
127         // Specially handled commands - these are available even when keyboard is IDLE
128         switch(command){
129         case NOTIFYON: {
130             // Notification node on
131             int notify;
132             if(sscanf(word, "%u", &notify) == 1)
133                 mknotifynode(kb, notify);
134             continue;
135         } case NOTIFYOFF: {
136             // Notification node off
137             int notify;
138             if(sscanf(word, "%u", &notify) == 1 && notify != 0) // notify0 can't be removed
139                 rmnotifynode(kb, notify);
140             continue;
141         } case GET:
142             // Output data to notification node
143             vt->get(kb, mode, notifynumber, 0, word);
144             continue;
145         case LAYOUT:
146             // OSX: switch ANSI/ISO keyboard layout
147             if(!strcmp(word, "ansi"))
148                 kb->features = (kb->features & ~FEAT_LMASK) |
      FEAT_ANSI;
149             else if(!strcmp(word, "iso"))
150                 kb->features = (kb->features & ~FEAT_LMASK) |
      FEAT_ISO;
151             continue;
152 #ifdef OS_MAC
153         case ACCEL:
154             // OSX mouse acceleration on/off
155             if(!strcmp(word, "on"))
156                 kb->features |= FEAT_MOUSEACCEL;
157             else if(!strcmp(word, "off"))
158                 kb->features &= ~FEAT_MOUSEACCEL;
159             continue;
160         case SCROLLSPEED:{
161             int newscroll;
162             if(sscanf(word, "%d", &newscroll) != 1)
163                 break;
164             if(newscroll < SCROLL_MIN)
165                 newscroll = SCROLL_ACCELERATED;
166             if(newscroll > SCROLL_MAX)
```

```
167                 newscroll = SCROLL_MAX;
168             kb->scroll_rate = newscroll;
169             continue;
170         }
171 #endif
172         case MODE: {
173             // Select a mode number (1 - 6)
174             int newmode;
175             if(sscanf(word, "%u", &newmode) == 1 && newmode > 0 && newmode <=
    MODE_COUNT)
176                 mode = profile->mode + newmode - 1;
177             continue;
178         }
179         case FPS: {
180             // USB command delay (2 - 10ms)
181             uint framerate;
182             if(sscanf(word, "%u", &framerate) == 1 && framerate > 0){
183                 // Not all devices require the same number of messages per frame; select delay
     appropriately
184                 uint per_frame = IS_MOUSE_DEV(kb) ? 2 : IS_FULLRANGE(kb) ? 14 : 5;
185                 uint delay = 1000 / framerate / per_frame;
186                 if(delay < 2)
187                     delay = 2;
188                 else if(delay > 10)
189                     delay = 10;
190                 kb->usbdelay = delay;
191             }
192             continue;
193         }
194         case DITHER: {
195             // 0: No dither, 1: Ordered dither.
196             uint dither;
197             if(sscanf(word, "%u", &dither) == 1 && dither <= 1){
198                 kb->dither = dither;
199                 profile->currentmode->light.forceupdate = 1;
200                 mode->light.forceupdate = 1;
201             }
202             continue;
203         }
204         case DELAY: {
205             long int delay;
206             if(sscanf(word, "%ld", &delay) == 1 && 0 <= delay && delay < UINT_MAX) {
207                 // Add delay of `newdelay` microseconds to macro playback
208                 kb->delay = (unsigned int)delay;
209             } else if(strcmp(word, "on") == 0) {
210                 // allow previous syntax, `delay on` means use old `long macro delay`
211                 kb->delay = UINT_MAX;
212             } else {
213                 // bad parameter to handle false commands like "delay off"
214                 kb->delay = 0; // No delay.
215             }
216             continue;
217         }
218         case RESTART: {
219             char mybuffer[] = "no reason specified";
220             if (sscanf(line, " %[^\n]", word) == -1) {
221                 word = mybuffer;
222             }
223             vt->do_cmd[command](kb, mode, notifynumber, 0, word);
224             continue;
225         }
226         default:;
227         }
228 
229         // If a keyboard is inactive, it must be activated before receiving any other commands
230         if(!kb->active){
231             if(command == ACTIVE)
232                 TRY_WITH_RESET(vt->active(kb, mode, notifynumber, 0, 0));
233             continue;
234         }
235         // Specially handled commands only available when keyboard is ACTIVE
236         switch(command){
237         case IDLE:
238             TRY_WITH_RESET(vt->idle(kb, mode, notifynumber, 0, 0));
239             continue;
240         case SWITCH:
241             if(profile->currentmode != mode){
242                 profile->currentmode = mode;
243                 // Set mode light for non-RGB K95
244                 int index = INDEX_OF(mode, profile->mode);
245                 vt->setmodeindex(kb, index);
246             }
247             continue;
248         case HWLOAD: case HWSAVE:{
249             char delay = kb->usbdelay;
250             // Ensure delay of at least 10ms as the device can get overwhelmed otherwise
251             if(delay < 10)
```

```
252                 kb->usbdelay = 10;
253             // Try to load/save the hardware profile. Reset on failure, disconnect if reset fails.
254             TRY_WITH_RESET(vt->do_io[command](kb, mode, notifynumber, 1, 0));
255             // Re-send the current RGB state as it sometimes gets scrambled
256             TRY_WITH_RESET(vt->updatergb(kb, 1));
257             kb->usbdelay = delay;
258             continue;
259         }
260         case FWUPDATE:
261             // FW update parses a whole word. Unlike hwload/hwsave, there's no try again on failure.
262             if(vt->fwupdate(kb, mode, notifynumber, 0, word)){
263                 free(word);
264                 return 1;
265             }
266             continue;
267         case POLLRATE: {
268             uint rate;
269             if(sscanf(word, "%u", &rate) == 1 && (rate == 1 || rate == 2 || rate == 4 || rate == 8))
270                 TRY_WITH_RESET(vt->pollrate(kb, mode, notifynumber, rate, 0));
271             continue;
272         }
273         case ERASEPROFILE:
274             // Erase the current profile
275             vt->eraseprofile(kb, mode, notifynumber, 0, 0);
276             // Update profile/mode pointers
277             profile = kb->profile;
278             mode = profile->currentmode;
279             continue;
280         case ERASE: case NAME: case IOFF: case ION: case IAUTO: case
    INOTIFY: case PROFILENAME: case ID: case PROFILEID: case
    DPISEL: case LIFT: case SNAP:
281             // All of the above just parse the whole word
282             vt->do_cmd[command](kb, mode, notifynumber, 0, word);
283             continue;
284         case RGB: {
285             // RGB command has a special response for a single hex constant
286             int r, g, b;
287             if(sscanf(word, "%02x%02x%02x", &r, &g, &b) == 3){
288                 // Set all keys
289                 for(int i = 0; i < N_KEYS_EXTENDED; i++)
290                     vt->rgb(kb, mode, notifynumber, i, word);
291                 continue;
292             }
293             break;
294         }
295         case MACRO:
296             if(!strcmp(word, "clear")){
297                 // Macro has a special clear command
298                 vt->macro(kb, mode, notifynumber, 0, 0);
299                 continue;
300             }
301             break;
302         default:;
303         }
304         // For anything else, split the parameter at the colon
305         int left = -1;
306         sscanf(word, "%*[^:]%n", &left);
307         if(left <= 0)
308             continue;
309         const char* right = word + left;
310         if(right[0] == ':')
311             right++;
312         // Macros and DPI have a separate left-side handler
313         if(command == MACRO || command == DPI){
314             word[left] = 0;
315             vt->do_macro[command](kb, mode, notifynumber, word, right);
316             continue;
317         }
318         // Scan the left side for key names and run the requested command
319         int position = 0, field = 0;
320         char keyname[11];
321         while(position < left && sscanf(word + position, "%10[^:,]%n", keyname, &field) == 1){
322             int keycode;
323             if(!strcmp(keyname, "all")){
324                 // Set all keys
325                 for(int i = 0; i < N_KEYS_EXTENDED; i++)
326                     vt->do_cmd[command](kb, mode, notifynumber, i, right);
327             } else if((sscanf(keyname, "#%d", &keycode) && keycode >= 0 && keycode <
    N_KEYS_EXTENDED)
328                       || (sscanf(keyname, "#x%x", &keycode) && keycode >= 0 && keycode <
    N_KEYS_EXTENDED)){
329                 // Set a key numerically
330                 vt->do_cmd[command](kb, mode, notifynumber, keycode, right);
331             } else {
332                 // Find this key in the keymap
333                 for(unsigned i = 0; i < N_KEYS_EXTENDED; i++){
334                     if(keymap[i].name && !strcmp(keyname, keymap[i].name)){
```

```
335                         vt->do_cmd[command](kb, mode, notifynumber, i,
    right);
336                         break;
337                     }
338                 }
339             }
340             if(word[position += field] == ',')
341                 position++;
342         }
343     }
344
345     // Finish up
346     if(!NEEDS_FW_UPDATE(kb)){
347         TRY_WITH_RESET(vt->updatergb(kb, 0));
348         TRY_WITH_RESET(vt->updatedpi(kb, 0));
349     }
350     free(word);
351     return 0;
352 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.5.3 Variable Documentation

13.5.3.1 const char* const cmd_strings[(CMD_LAST-CMD_FIRST+2)-1] [static]

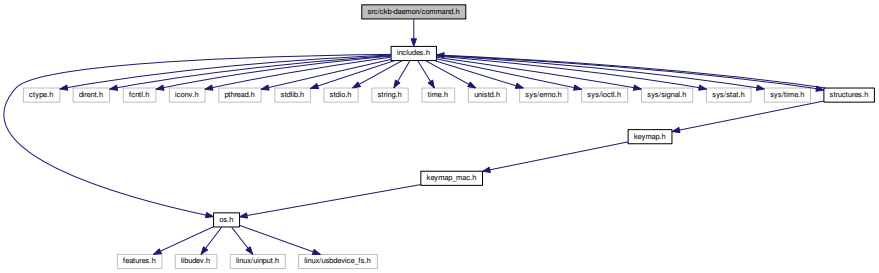
Definition at line 10 of file command.c.

Referenced by readcmd().

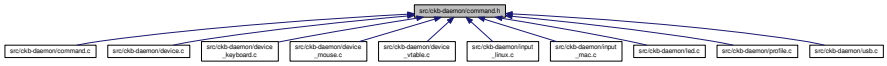
13.6 src/ckb-daemon/command.h File Reference

```
#include "includes.h"
```

Include dependency graph for command.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- union devcmd
- struct devcmd.__unnamed__

Macros

- #define CMD_COUNT (CMD_LAST - CMD_FIRST + 2)
- #define CMD_DEV_COUNT (CMD_LAST - CMD_VT_FIRST + 1)

Typedefs

- typedef void(∗ cmdhandler)(usbdevice ∗kb, usbmode ∗modeidx, int notifyidx, int keyindex, const char ∗parameter)
- typedef int(∗ cmdhandler_io)(usbdevice ∗kb, usbmode ∗modeidx, int notifyidx, int keyindex, const char ∗parameter)
- typedef void(∗ cmdhandler_mac)(usbdevice ∗kb, usbmode ∗modeidx, int notifyidx, const char ∗keys, const char ∗assignment)
- typedef union devcmd devcmd

Enumerations

- enum cmd {
  NONE = -11, DELAY = -10, CMD_FIRST = DELAY, MODE = -9,
  SWITCH = -8, LAYOUT = -7, ACCEL = -6, SCROLLSPEED = -5,
  NOTIFYON = -4, NOTIFYOFF = -3, FPS = -2, DITHER = -1,
  HWLOAD = 0, CMD_VT_FIRST = 0, HWSAVE, FWUPDATE,
  POLLRATE, ACTIVE, IDLE, ERASE,
  ERASEPROFILE, NAME, PROFILENAME, ID,
  PROFILEID, RGB, IOFF, ION,
  IAUTO, BIND, UNBIND, REBIND,
  MACRO, DPI, DPISEL, LIFT,
  SNAP, NOTIFY, INOTIFY, GET,
  RESTART, CMD_LAST = RESTART }

Functions

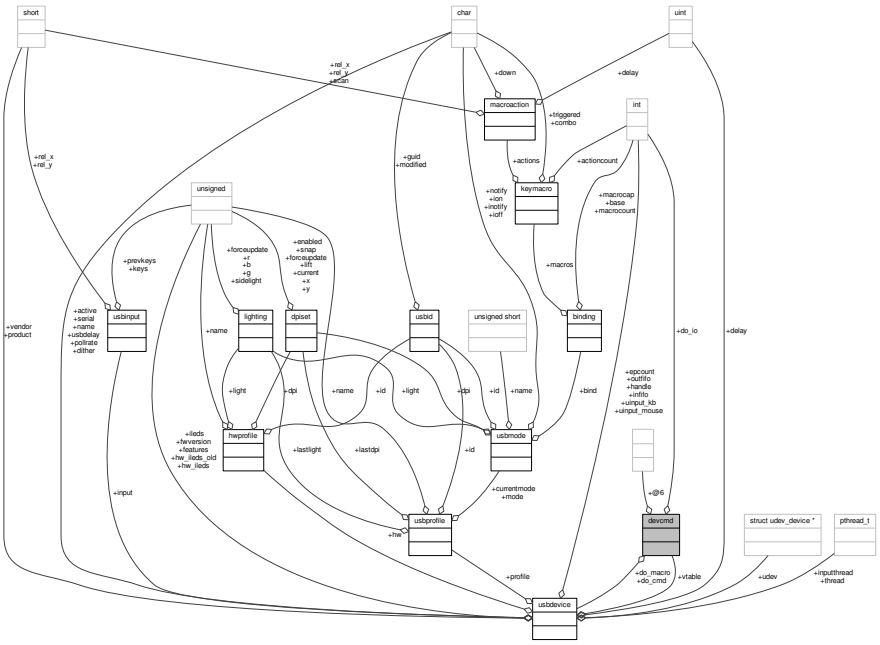
- int readcmd (usbdevice *kb, const char *line)

13.6.1 Data Structure Documentation

13.6.1.1 union devcmd

Definition at line 73 of file command.h.

Collaboration diagram for devcmd:



Data Fields

struct devcmd	__unnamed__	
cmdhandler	do_cmd[(CMD_-LAST-CMD_VT-_FIRST+1)]	
cmdhandler_io	do_io[(CMD_LA-ST-CMD_VT_FI-RST+1)]	
cmdhandler_-mac	do_macro[(CM-D_LAST-CMD_-VT_FIRST+1)]	

13.6.2 Macro Definition Documentation

13.6.2.1 #define CMD_COUNT (CMD_LAST - CMD_FIRST + 2)

Definition at line 65 of file command.h.

Referenced by readcmd().

13.6.2.2 #define CMD_DEV_COUNT (CMD_LAST - CMD_VT_FIRST + 1)

Definition at line 66 of file command.h.

13.6.3 Typedef Documentation

13.6.3.1 typedef void(∗ cmdhandler)(usbdevice ∗kb, usbmode ∗modeidx, int notifyidx, int keyindex, const char ∗parameter)

Definition at line 70 of file command.h.

13.6.3.2 typedef int(∗ cmdhandler_io)(usbdevice ∗kb, usbmode ∗modeidx, int notifyidx, int keyindex, const char ∗parameter)

Definition at line 71 of file command.h.

13.6.3.3 typedef void(∗ cmdhandler_mac)(usbdevice ∗kb, usbmode ∗modeidx, int notifyidx, const char ∗keys, const char ∗assignment)

Definition at line 72 of file command.h.

13.6.3.4 typedef union devcmd devcmd

13.6.4 Enumeration Type Documentation

13.6.4.1 enum cmd

Enumerator

NONE

DELAY

CMD_FIRST

MODE

SWITCH

LAYOUT

ACCEL

SCROLLSPEED

NOTIFYON

NOTIFYOFF

FPS

DITHER

HWLOAD

CMD_VT_FIRST

HWSAVE

FWUPDATE

POLLRATE

ACTIVE

IDLE

ERASE

ERASEPROFILE

NAME

PROFILENAME

ID

PROFILEID

RGB

IOFF

ION

IAUTO

BIND

UNBIND

REBIND

MACRO

DPI

DPISEL

LIFT

SNAP

NOTIFY

INOTIFY

GET

RESTART

CMD_LAST

Definition at line 7 of file command.h.

```
7             {
8     // Special - handled by readcmd, no device functions
9     NONE        = -11,
10     DELAY       = -10,   CMD_FIRST = DELAY,
11     MODE        = -9,
12     SWITCH      = -8,
13     LAYOUT      = -7,
14     ACCEL       = -6,
15     SCROLLSPEED = -5,
16     NOTIFYON    = -4,
17     NOTIFYOFF   = -3,
18     FPS         = -2,
19     DITHER      = -1,
20
21     // Hardware data
22     HWLOAD      = 0,    CMD_VT_FIRST = 0,
23     HWSAVE,
24     FWUPDATE,
25     POLLRATE,
26
27     // Software control on/off
28     ACTIVE,
29     IDLE,
30
31     // Profile/mode metadata
32     ERASE,
33     ERASEPROFILE,
34     NAME,
35     PROFILENAME,
36     ID,
37     PROFILEID,
38
39     // LED control
40     RGB,
41     IOFF,
42     ION,
43     IAUTO,
44
45     // Key binding control
46     BIND,
```

```
47      UNBIND,
48      REBIND,
49      MACRO,
50
51      // DPI control
52      DPI,
53      DPISEL,
54      LIFT,
55      SNAP,
56
57      // Notifications and output
58      NOTIFY,
59      INOTIFY,
60      GET,
61      RESTART,
62
63      CMD_LAST = RESTART
64  } cmd;
```

13.6.5 Function Documentation

13.6.5.1 int readcmd (usbdevice * *kb*, const char * *line*)

< Because length of word is length of line + 1, there should be no problem with buffer overflow.

Definition at line 68 of file command.c.

References ACCEL, ACTIVE, usbdevice::active, BIND, CMD_COUNT, CMD_FIRST, cmd_strings, usbprofile::currentmode, DELAY, usbdevice::delay, DITHER, usbdevice::dither, devcmd::do_cmd, devcmd::do_io, devcmd::do_macro, DPI, DPISEL, ERASE, ERASEPROFILE, FEAT_ANSI, FEAT_BIND, FEAT_ISO, FEAT_LMASK, FEAT_MOUSEACCEL, FEAT_NOTIFY, usbdevice::features, lighting::forceupdate, FPS, FWUPDATE, GET, HAS_FEATURES, HWLOAD, HWSAVE, IAUTO, ID, IDLE, INDEX_OF, INOTIFY, IOFF, ION, IS_FULLRANGE, IS_MOUSE_DEV, keymap, LAYOUT, left, LIFT, usbmode::light, MACRO, mknotifynode(), MODE, usbprofile::mode, MODE_COUNT, N_KEYS_EXTENDED, NAME, NEEDS_FW_UPDATE, NONE, NOTIFY, NOTIFYOFF, NOTIFYON, OUTFIFO_MAX, POLLRATE, usbdevice::profile, PROFILEID, PROFILENAME, REBIND, RESTART, RGB, right(), rmnotifynode(), SCROLL_ACCELERATED, SCROLL_MAX, SCROLL_MIN, SCROLLSPEED, SNAP, SWITCH, TRY_WITH_RESET, UNBIND, usbdevice::usbdelay, and usbdevice::vtable.

Referenced by devmain().

```
68                                          {
69      char* word = malloc(strlen(line) + 1);
70      int wordlen;
71      const char* newline = 0;
72      const devcmd* vt = kb->vtable;
73      usbprofile* profile = kb->profile;
74      usbmode* mode = 0;
75      int notifynumber = 0;
76      // Read words from the input
77      cmd command = NONE;
78      while(sscanf(line, "%s%n", word, &wordlen) == 1){
79          line += wordlen;
80          // If we passed a newline, reset the context
81          if(line > newline){
82              mode = profile->currentmode;
83              command = NONE;
84              notifynumber = 0;
85              newline = strchr(line, '\n');
86              if(!newline)
87                  newline = line + strlen(line);
88          }
89          // Check for a command word
90          for(int i = 0; i < CMD_COUNT - 1; i++){
91              if(!strcmp(word, cmd_strings[i])){
92                  command = i + CMD_FIRST;
93  #ifndef OS_MAC
94                  // Layout and mouse acceleration aren't used on Linux; ignore
95                  if(command == LAYOUT || command == ACCEL || command ==
        SCROLLSPEED)
96                      command = NONE;
97  #endif
98                  // Most commands require parameters, but a few are actions in and of themselves
99                  if(command != SWITCH
100                         && command != HWLOAD && command != HWSAVE
101                         && command != ACTIVE && command != IDLE
102                         && command != ERASE && command != ERASEPROFILE
103                         && command != RESTART)
```

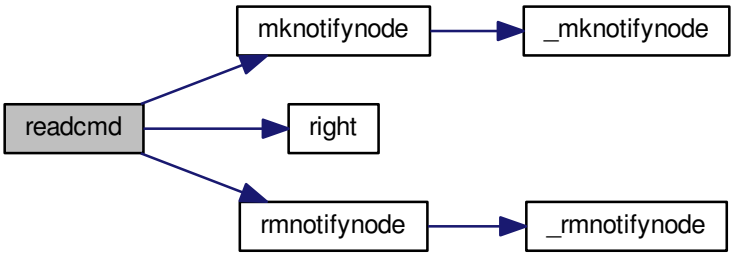
```
104                     goto next_loop;
105                 break;
106             }
107         }
108 
109         // Set current notification node when given @number
110         int newnotify;
111         if(sscanf(word, "@%u", &newnotify) == 1 && newnotify < OUTFIFO_MAX){
112             notifynumber = newnotify;
113             continue;
114         }
115 
116         // Reject unrecognized commands. Reject bind or notify related commands if the keyboard doesn't
     have the feature enabled.
117         if(command == NONE
118                 || ((!HAS_FEATURES(kb, FEAT_BIND) && (command ==
    BIND || command == UNBIND || command == REBIND || command ==
    MACRO || command == DELAY))
119                         || (!HAS_FEATURES(kb, FEAT_NOTIFY) && command ==
    NOTIFY))){
120             next_loop:
121             continue;
122         }
123         // Reject anything not related to fwupdate if device has a bricked FW
124         if(NEEDS_FW_UPDATE(kb) && command != FWUPDATE && command !=
    NOTIFYON && command != NOTIFYOFF)
125             continue;
126 
127         // Specially handled commands - these are available even when keyboard is IDLE
128         switch(command){
129         case NOTIFYON: {
130             // Notification node on
131             int notify;
132             if(sscanf(word, "%u", &notify) == 1)
133                 mknotifynode(kb, notify);
134             continue;
135         } case NOTIFYOFF: {
136             // Notification node off
137             int notify;
138             if(sscanf(word, "%u", &notify) == 1 && notify != 0) // notify0 can't be removed
139                 rmnotifynode(kb, notify);
140             continue;
141         } case GET:
142             // Output data to notification node
143             vt->get(kb, mode, notifynumber, 0, word);
144             continue;
145         case LAYOUT:
146             // OSX: switch ANSI/ISO keyboard layout
147             if(!strcmp(word, "ansi"))
148                 kb->features = (kb->features & ~FEAT_LMASK) |
    FEAT_ANSI;
149             else if(!strcmp(word, "iso"))
150                 kb->features = (kb->features & ~FEAT_LMASK) |
    FEAT_ISO;
151             continue;
152 #ifdef OS_MAC
153         case ACCEL:
154             // OSX mouse acceleration on/off
155             if(!strcmp(word, "on"))
156                 kb->features |= FEAT_MOUSEACCEL;
157             else if(!strcmp(word, "off"))
158                 kb->features &= ~FEAT_MOUSEACCEL;
159             continue;
160         case SCROLLSPEED:{
161             int newscroll;
162             if(sscanf(word, "%d", &newscroll) != 1)
163                 break;
164             if(newscroll < SCROLL_MIN)
165                 newscroll = SCROLL_ACCELERATED;
166             if(newscroll > SCROLL_MAX)
167                 newscroll = SCROLL_MAX;
168             kb->scroll_rate = newscroll;
169             continue;
170         }
171 #endif
172         case MODE: {
173             // Select a mode number (1 - 6)
174             int newmode;
175             if(sscanf(word, "%u", &newmode) == 1 && newmode > 0 && newmode <=
    MODE_COUNT)
176                 mode = profile->mode + newmode - 1;
177             continue;
178         }
179         case FPS: {
180             // USB command delay (2 - 10ms)
181             uint framerate;
182             if(sscanf(word, "%u", &framerate) == 1 && framerate > 0){
```

```
183                 // Not all devices require the same number of messages per frame; select delay
    appropriately
184                 uint per_frame = IS_MOUSE_DEV(kb) ? 2 : IS_FULLRANGE(kb) ? 14 : 5;
185                 uint delay = 1000 / framerate / per_frame;
186                 if(delay < 2)
187                     delay = 2;
188                 else if(delay > 10)
189                     delay = 10;
190                 kb->usbdelay = delay;
191             }
192             continue;
193         }
194         case DITHER: {
195             // 0: No dither, 1: Ordered dither.
196             uint dither;
197             if(sscanf(word, "%u", &dither) == 1 && dither <= 1){
198                 kb->dither = dither;
199                 profile->currentmode->light.forceupdate = 1;
200                 mode->light.forceupdate = 1;
201             }
202             continue;
203         }
204         case DELAY: {
205             long int delay;
206             if(sscanf(word, "%ld", &delay) == 1 && 0 <= delay && delay < UINT_MAX) {
207                 // Add delay of `newdelay` microseconds to macro playback
208                 kb->delay = (unsigned int)delay;
209             } else if(strcmp(word, "on") == 0) {
210                 // allow previous syntax, `delay on` means use old `long macro delay`
211                 kb->delay = UINT_MAX;
212             } else {
213                 // bad parameter to handle false commands like "delay off"
214                 kb->delay = 0; // No delay.
215             }
216             continue;
217         }
218         case RESTART: {
219             char mybuffer[] = "no reason specified";
220             if (sscanf(line, " %[^\n]", word) == -1) {
221                 word = mybuffer;
222             }
223             vt->do_cmd[command](kb, mode, notifynumber, 0, word);
224             continue;
225         }
226         default:;
227         }
228
229         // If a keyboard is inactive, it must be activated before receiving any other commands
230         if(!kb->active){
231             if(command == ACTIVE)
232                 TRY_WITH_RESET(vt->active(kb, mode, notifynumber, 0, 0));
233             continue;
234         }
235         // Specially handled commands only available when keyboard is ACTIVE
236         switch(command){
237         case IDLE:
238             TRY_WITH_RESET(vt->idle(kb, mode, notifynumber, 0, 0));
239             continue;
240         case SWITCH:
241             if(profile->currentmode != mode){
242                 profile->currentmode = mode;
243                 // Set mode light for non-RGB K95
244                 int index = INDEX_OF(mode, profile->mode);
245                 vt->setmodeindex(kb, index);
246             }
247             continue;
248         case HWLOAD: case HWSAVE:{
249             char delay = kb->usbdelay;
250             // Ensure delay of at least 10ms as the device can get overwhelmed otherwise
251             if(delay < 10)
252                 kb->usbdelay = 10;
253             // Try to load/save the hardware profile. Reset on failure, disconnect if reset fails.
254             TRY_WITH_RESET(vt->do_io[command](kb, mode, notifynumber, 1, 0));
255             // Re-send the current RGB state as it sometimes gets scrambled
256             TRY_WITH_RESET(vt->updatergb(kb, 1));
257             kb->usbdelay = delay;
258             continue;
259         }
260         case FWUPDATE:
261             // FW update parses a whole word. Unlike hwload/hwsave, there's no try again on failure.
262             if(vt->fwupdate(kb, mode, notifynumber, 0, word)){
263                 free(word);
264                 return 1;
265             }
266             continue;
267         case POLLRATE: {
268             uint rate;
```

```
269             if(sscanf(word, "%u", &rate) == 1 && (rate == 1 || rate == 2 || rate == 4 || rate == 8))
270                 TRY_WITH_RESET(vt->pollrate(kb, mode, notifynumber, rate, 0));
271             continue;
272         }
273         case ERASEPROFILE:
274             // Erase the current profile
275             vt->eraseprofile(kb, mode, notifynumber, 0, 0);
276             // Update profile/mode pointers
277             profile = kb->profile;
278             mode = profile->currentmode;
279             continue;
280         case ERASE: case NAME: case IOFF: case ION: case IAUTO: case
    INOTIFY: case PROFILENAME: case ID: case PROFILEID: case
    DPISEL: case LIFT: case SNAP:
281             // All of the above just parse the whole word
282             vt->do_cmd[command](kb, mode, notifynumber, 0, word);
283             continue;
284         case RGB: {
285             // RGB command has a special response for a single hex constant
286             int r, g, b;
287             if(sscanf(word, "%02x%02x%02x", &r, &g, &b) == 3){
288                 // Set all keys
289                 for(int i = 0; i < N_KEYS_EXTENDED; i++)
290                     vt->rgb(kb, mode, notifynumber, i, word);
291                 continue;
292             }
293             break;
294         }
295         case MACRO:
296             if(!strcmp(word, "clear")){
297                 // Macro has a special clear command
298                 vt->macro(kb, mode, notifynumber, 0, 0);
299                 continue;
300             }
301             break;
302         default:;
303         }
304         // For anything else, split the parameter at the colon
305         int left = -1;
306         sscanf(word, "%*[^:]%n", &left);
307         if(left <= 0)
308             continue;
309         const char* right = word + left;
310         if(right[0] == ':')
311             right++;
312         // Macros and DPI have a separate left-side handler
313         if(command == MACRO || command == DPI){
314             word[left] = 0;
315             vt->do_macro[command](kb, mode, notifynumber, word, right);
316             continue;
317         }
318         // Scan the left side for key names and run the requested command
319         int position = 0, field = 0;
320         char keyname[11];
321         while(position < left && sscanf(word + position, "%10[^:,]%n", keyname, &field) == 1){
322             int keycode;
323             if(!strcmp(keyname, "all")){
324                 // Set all keys
325                 for(int i = 0; i < N_KEYS_EXTENDED; i++)
326                     vt->do_cmd[command](kb, mode, notifynumber, i, right);
327             } else if((sscanf(keyname, "#%d", &keycode) && keycode >= 0 && keycode <
    N_KEYS_EXTENDED)
328                       || (sscanf(keyname, "#x%x", &keycode) && keycode >= 0 && keycode <
    N_KEYS_EXTENDED)){
329                 // Set a key numerically
330                 vt->do_cmd[command](kb, mode, notifynumber, keycode, right);
331             } else {
332                 // Find this key in the keymap
333                 for(unsigned i = 0; i < N_KEYS_EXTENDED; i++){
334                     if(keymap[i].name && !strcmp(keyname, keymap[i].name)){
335                         vt->do_cmd[command](kb, mode, notifynumber, i,
    right);
336                         break;
337                     }
338                 }
339             }
340             if(word[position += field] == ',')
341                 position++;
342         }
343     }
344
345     // Finish up
346     if(!NEEDS_FW_UPDATE(kb)){
347         TRY_WITH_RESET(vt->updatergb(kb, 0));
348         TRY_WITH_RESET(vt->updatedpi(kb, 0));
349     }
350     free(word);
```

```
351     return 0;
352 }
```

Here is the call graph for this function:

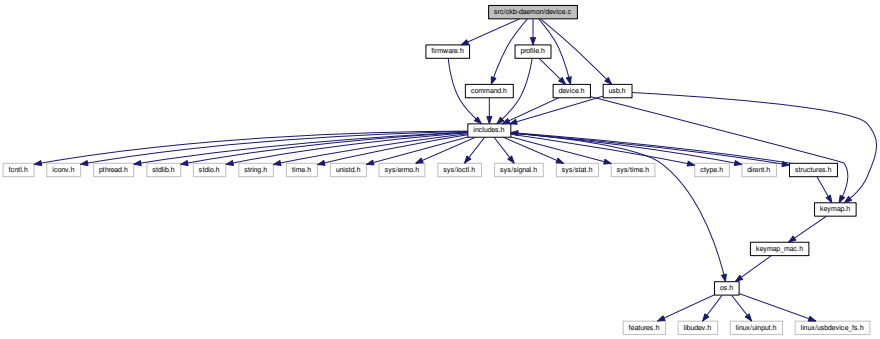


Here is the caller graph for this function:

13.7 src/ckb-daemon/device.c File Reference

```
#include "command.h"
#include "device.h"
#include "firmware.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for device.c:



Functions

- int _start_dev (usbdevice *kb, int makeactive)
- int start_dev (usbdevice *kb, int makeactive)

Variables

- int hwload_mode = 1

  hwload_mode = 1 means read hardware once. should be enough
- usbdevice keyboard [9]

  remember all usb devices. Needed for closeusb().
- pthread_mutex_t devlistmutex = PTHREAD_MUTEX_INITIALIZER
- pthread_mutex_t devmutex [9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

  Mutex for handling the usbdevice structure.
- pthread_mutex_t inputmutex [9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

  Mutex for dealing with usb input frames.
- pthread_mutex_t macromutex [9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

  Protecting macros against lightning: Both use usb_send.
- pthread_mutex_t macromutex2 [9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

  Protecting the single link list of threads and the macrovar.
- pthread_cond_t macrovar [9] = { [0 ... 9 -1] = PTHREAD_COND_INITIALIZER }

  This variable is used to stop and wakeup all macro threads which have to wait.

13.7.1 Function Documentation

13.7.1.1 int _start_dev (usbdevice * *kb*, int *makeactive*)

_start_dev get fw-info and pollrate; if available, install new firmware; get all hardware profiles.

Parameters

kb	the normal kb pointer to the usbdevice. Is also valid for mice.
makeactive	if set to 1, activate the device via setactive()

Returns

0 if success, other else

- This hacker code is tricky in mutliple aspects. What it means is:

  if hwload_mode == 0: just set pollrate to 0 and clear features in the bottom lines of the if-block.

  if hwload_mode == 1: if the device has FEAT_HWLOAD active, call getfwversion(). If it returns true, there was an error while detecting fw-version. Put error message, reset FEAT_HWLOAD and finalize as above.

  if hwload_mode == 2: if the device has FEAT_HWLOAD active, call getfwversion(). If it returns true, there was an error while detecting fw-version. Put error message and return directly from function with error.

  Why do not you just write it down?
- Now check if device needs a firmware update. If so, set it up and leave the function without error.
- Device needs a firmware update. Finish setting up but don't do anything.
- Load profile from device if the hw-pointer is not set yet and hw-loading is possible and allowed.

  return error if mode == 2 (load always) and loading got an error. Else reset HWLOAD feature, because hwload must be 1.

  That is real Horror code.

Definition at line 25 of file device.c.

References usbdevice::active, ckb_info, ckb_warn, FEAT_ADJRATE, FEAT_FWUPDATE, FEAT_FWVERSION, FEAT_HWLOAD, FEAT_POLLRATE, FEAT_RGB, usbdevice::features, usbdevice::fwversion, getfwversion(), HAS_FEATURES, usbdevice::hw, hwload_mode, hwloadprofile, NEEDS_FW_UPDATE, usbdevice::pollrate, and setactive.

Referenced by start_dev().

```
25                                          {
26     // Get the firmware version from the device
27     if(kb->pollrate == 0){
35         if(!hwload_mode || (HAS_FEATURES(kb, FEAT_HWLOAD) &&
       getfwversion(kb))){
36             if(hwload_mode == 2)
37                 // hwload=always. Report setup failure.
38                 return -1;
39             else if(hwload_mode){
40                 // hwload=once. Log failure, prevent trying again, and continue.
41                 ckb_warn("Unable to load firmware version/poll rate\n");
42                 kb->features &= ~FEAT_HWLOAD;
43             }
44             kb->pollrate = 0;
45             kb->features &= ~(FEAT_POLLRATE | FEAT_ADJRATE);
46             if(kb->fwversion == 0)
47                 kb->features &= ~(FEAT_FWVERSION |
       FEAT_FWUPDATE);
48         }
49     }
54     if(NEEDS_FW_UPDATE(kb)){
56         ckb_info("Device needs a firmware update. Please issue a fwupdate command.\n");
57         kb->features = FEAT_RGB | FEAT_FWVERSION |
       FEAT_FWUPDATE;
58         kb->active = 1;
59         return 0;
60     }
66     if(!kb->hw && hwload_mode && HAS_FEATURES(kb,
       FEAT_HWLOAD)){
67         if(hwloadprofile(kb, 1)){
68             if(hwload_mode == 2)
69                 return -1;
70             ckb_warn("Unable to load hardware profile\n");
71             kb->features &= ~FEAT_HWLOAD;
72         }
73     }
74     // Active software mode if requested
75     if(makeactive)
76         return setactive(kb, 1);
77     return 0;
78 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

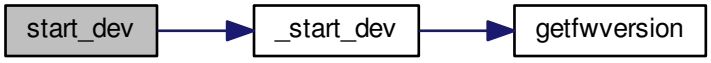
13.7.1.2 int start_dev (usbdevice * *kb*, int *makeactive*)

Definition at line 80 of file device.c.

References _start_dev(), USB_DELAY_DEFAULT, and usbdevice::usbdelay.

```
80                                          {
81     // Force USB interval to 10ms during initial setup phase; return to nominal 5ms after setup completes.
82     kb->usbdelay = 10;
83     int res = _start_dev(kb, makeactive);
84     kb->usbdelay = USB_DELAY_DEFAULT;
85     return res;
86 }
```

Here is the call graph for this function:



13.7.2 Variable Documentation

13.7.2.1 pthread_mutex_t devlistmutex = PTHREAD_MUTEX_INITIALIZER

Definition at line 11 of file device.c.

13.7.2.2 pthread_mutex_t devmutex[9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

Definition at line 12 of file device.c.

Referenced by _updateconnected(), quitWithLock(), and usb_rm_device().

13.7.2.3 int hwload_mode = 1

hwload_mode is defined in device.c

Definition at line 7 of file device.c.

Referenced by _start_dev(), _usbrecv(), _usbsend(), and main().

13.7.2.4 pthread_mutex_t inputmutex[9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

Definition at line 13 of file device.c.

13.7.2.5 usbdevice keyboard[9]

Definition at line 10 of file device.c.

Referenced by _mkdevpath(), _mknotifynode(), _rmnotifynode(), _setupusb(), _updateconnected(), closeusb(), main(), mkfwnode(), os_closeusb(), os_inputmain(), os_inputopen(), os_setupusb(), quitWithLock(), rmdevpath(), usb_rm_device(), and usbadd().

13.7.2.6 pthread_mutex_t macromutex[9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

Definition at line 14 of file device.c.

13.7.2.7 pthread_mutex_t macromutex2[9] = { [0 ... 9 -1] = PTHREAD_MUTEX_INITIALIZER }

Definition at line 15 of file device.c.

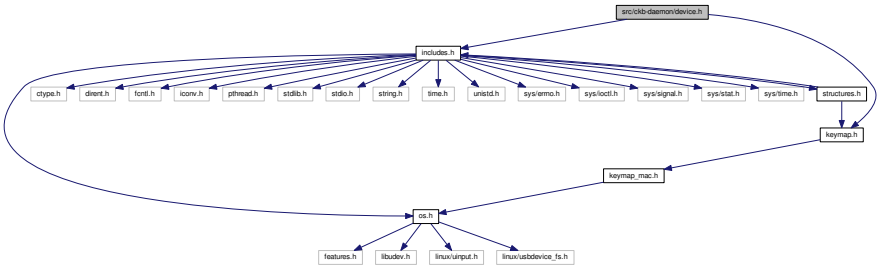
13.7.2.8 pthread_cond_t macrovar[9] = { [0 ... 9 -1] = PTHREAD_COND_INITIALIZER }

Definition at line 16 of file device.c.

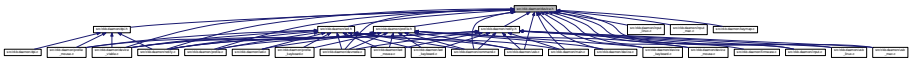
13.8 src/ckb-daemon/device.h File Reference

```
#include "includes.h"
#include "keymap.h"
```

Include dependency graph for device.h:



This graph shows which files directly or indirectly include this file:



Macros

- #define DEV_MAX 9
- #define IS_CONNECTED(kb) ((kb) && (kb)->handle && (kb)->uinput_kb && (kb)->uinput_mouse)
- #define dmutex(kb) (devmutex + INDEX_OF(kb, keyboard))
- #define imutex(kb) (inputmutex + INDEX_OF(kb, keyboard))
- #define mmutex(kb) (macromutex + INDEX_OF(kb, keyboard))
- #define mmutex2(kb) (macromutex2 + INDEX_OF(kb, keyboard))
- #define mvar(kb) (macrovar + INDEX_OF(kb, keyboard))
- #define setactive(kb, makeactive) ((makeactive) ? (kb)->vtable->active((kb), 0, 0, 0, 0) : (kb)->vtable->idle((kb), 0, 0, 0, 0))

  setactive() calls via the corresponding kb->vtable either the active() or the idle() function.
  active() is called if the parameter makeactive is true, idle if it is false.
  What function is called effectively is device dependent. Have a look at device_vtable.c for more information.
- #define IN_HID 0x80
- #define IN_CORSAIR 0x40
- #define ACT_LIGHT 1
- #define ACT_NEXT 3
- #define ACT_NEXT_NOWRAP 5
- #define ACT_LOCK 8
- #define ACT_MR_RING 9

- #define ACT_M1 10
- #define ACT_M2 11
- #define ACT_M3 12

Functions

- int start_dev (usbdevice *kb, int makeactive)
- int start_kb_nrgb (usbdevice *kb, int makeactive)
- int setactive_kb (usbdevice *kb, int active)
- int setactive_mouse (usbdevice *kb, int active)
- int cmd_active_kb (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- int cmd_active_mouse (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- int cmd_idle_kb (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- int cmd_idle_mouse (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- int cmd_pollrate (usbdevice *kb, usbmode *dummy1, int dummy2, int rate, const char *dummy3)
- void setmodeindex_nrgb (usbdevice *kb, int index)

Variables

- usbdevice keyboard [9]

  remember all usb devices. Needed for closeusb().
- pthread_mutex_t devmutex [9]

  Mutex for handling the usbdevice structure.
- pthread_mutex_t inputmutex [9]

  Mutex for dealing with usb input frames.
- pthread_mutex_t macromutex [9]

  Protecting macros against lightning: Both use usb_send.
- pthread_mutex_t macromutex2 [9]

  Protecting the single link list of threads and the macrovar.
- pthread_cond_t macrovar [9]

  This variable is used to stop and wakeup all macro threads which have to wait.

13.8.1 Macro Definition Documentation

13.8.1.1 #define ACT_LIGHT 1

Definition at line 68 of file device.h.

Referenced by setactive_kb().

13.8.1.2 #define ACT_LOCK 8

Definition at line 71 of file device.h.

Referenced by setactive_kb().

13.8.1.3 #define ACT_M1 10

Definition at line 73 of file device.h.

Referenced by setactive_kb().

13.8.1.4 #define ACT_M2 11

Definition at line 74 of file device.h.

Referenced by setactive_kb().

13.8.1.5 #define ACT_M3 12

Definition at line 75 of file device.h.

Referenced by setactive_kb().

13.8.1.6 #define ACT_MR_RING 9

Definition at line 72 of file device.h.

Referenced by setactive_kb().

13.8.1.7 #define ACT_NEXT 3

Definition at line 69 of file device.h.

13.8.1.8 #define ACT_NEXT_NOWRAP 5

Definition at line 70 of file device.h.

13.8.1.9 #define DEV_MAX 9

Definition at line 8 of file device.h.

Referenced by _updateconnected(), quitWithLock(), usb_rm_device(), and usbadd().

13.8.1.10 #define dmutex(*kb*) (devmutex + INDEX_OF(kb, keyboard))

Definition at line 18 of file device.h.

Referenced by _ledthread(), _setupusb(), closeusb(), devmain(), and usbadd().

13.8.1.11 #define imutex(*kb*) (inputmutex + INDEX_OF(kb, keyboard))

Definition at line 22 of file device.h.

Referenced by _setupusb(), closeusb(), cmd_bind(), cmd_erase(), cmd_eraseprofile(), cmd_get(), cmd_macro(), cmd_notify(), cmd_rebind(), cmd_unbind(), os_inputmain(), setactive_kb(), setactive_mouse(), and setupusb().

13.8.1.12 #define IN_CORSAIR 0x40

Definition at line 65 of file device.h.

Referenced by setactive_kb(), and setactive_mouse().

13.8.1.13 #define IN_HID 0x80

Definition at line 64 of file device.h.

Referenced by setactive_kb(), and setactive_mouse().

13.8.1.14 #define IS_CONNECTED(*kb*) ((kb) && (kb)->handle && (kb)->uinput_kb && (kb)->uinput_mouse)

Definition at line 12 of file device.h.

Referenced by _updateconnected(), devmain(), quitWithLock(), and usbadd().

13.8.1.15 #define mmutex(*kb*) (macromutex + INDEX_OF(kb, keyboard))

Definition at line 26 of file device.h.

Referenced by _usbrecv(), _usbsend(), and play_macro().

13.8.1.16 #define mmutex2(*kb*) (macromutex2 + INDEX_OF(kb, keyboard))

Definition at line 28 of file device.h.

Referenced by play_macro().

13.8.1.17 #define mvar(*kb*) (macrovar + INDEX_OF(kb, keyboard))

Definition at line 30 of file device.h.

Referenced by play_macro().

13.8.1.18 #define setactive(*kb, makeactive*) ((makeactive) ? (kb)->vtable->active((kb), 0, 0, 0, 0) : (kb)->vtable->idle((kb), 0, 0, 0, 0))

Definition at line 44 of file device.h.

Referenced by _start_dev(), and revertusb().

13.8.2 Function Documentation

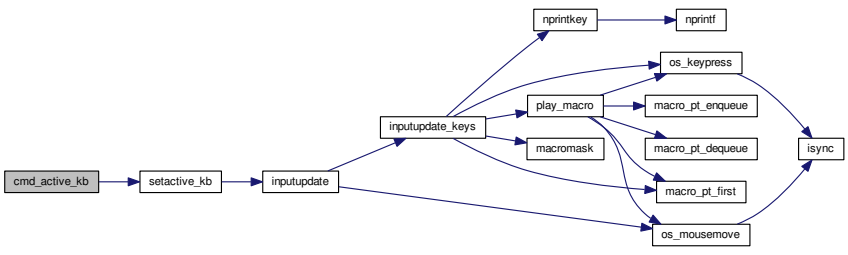
13.8.2.1 int cmd_active_kb (usbdevice * *kb,* usbmode * *dummy1,* int *dummy2,* int *dummy3,* const char * *dummy4*)

Definition at line 112 of file device_keyboard.c.

References setactive_kb().

```
112                                                                                 {
113     return setactive_kb(kb, 1);
114 }
```

Here is the call graph for this function:



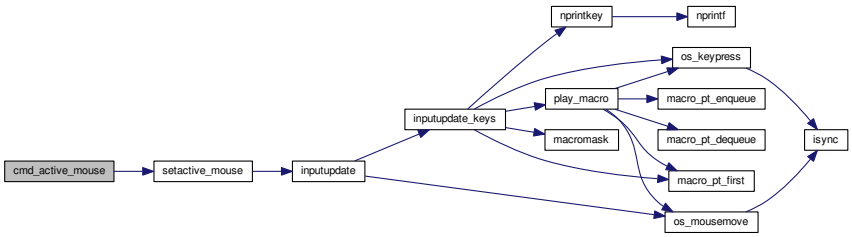
13.8.2.2 int cmd_active_mouse (usbdevice * kb, usbmode * dummy1, int dummy2, int dummy3, const char * dummy4)

Definition at line 44 of file device_mouse.c.

References setactive_mouse().

```
44                                                                                  {
45     return setactive_mouse(kb, 1);
46 }
```

Here is the call graph for this function:



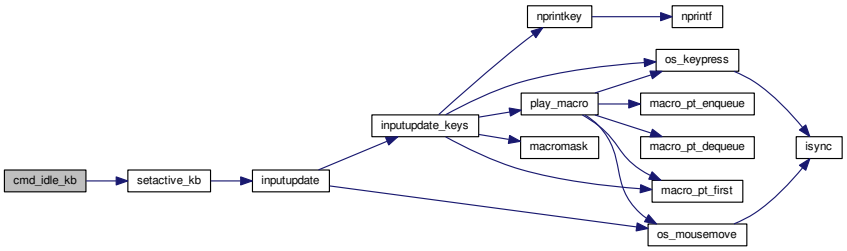
13.8.2.3 int cmd_idle_kb (usbdevice * kb, usbmode * dummy1, int dummy2, int dummy3, const char * dummy4)

Definition at line 116 of file device_keyboard.c.

References setactive_kb().

```
116                                                                                 {
117     return setactive_kb(kb, 0);
118 }
```

Here is the call graph for this function:



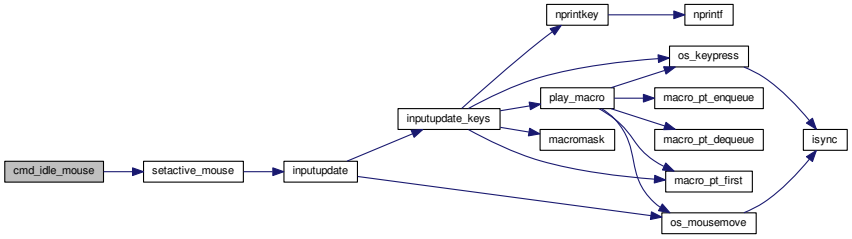
13.8.2.4 int cmd_idle_mouse (usbdevice * kb, usbmode * dummy1, int dummy2, int dummy3, const char * dummy4)

Definition at line 48 of file device_mouse.c.

References setactive_mouse().

```
48                                                                                  {
49     return setactive_mouse(kb, 0);
50 }
```

Here is the call graph for this function:



13.8.2.5 int cmd_pollrate (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *rate*, const char * *dummy3*)

Definition at line 52 of file device_mouse.c.

References MSG_SIZE, usbdevice::pollrate, and usbsend.

```
52                                                                                  {
53     uchar msg[MSG_SIZE] = {
54         0x07, 0x0a, 0, 0, (uchar)rate
55     };
56     if(!usbsend(kb, msg, 1))
57         return -1;
58     // Device should disconnect+reconnect, but update the poll rate field in case it doesn't
59     kb->pollrate = rate;
60     return 0;
61 }
```

13.8.2.6 int setactive_kb (usbdevice * *kb*, int *active*)

Definition at line 18 of file device_keyboard.c.

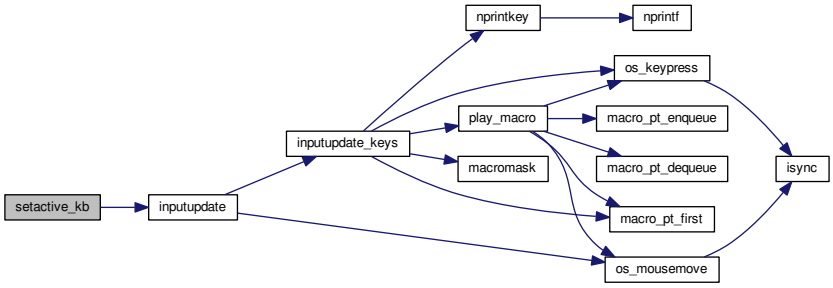
References ACT_LIGHT, ACT_LOCK, ACT_M1, ACT_M2, ACT_M3, ACT_MR_RING, usbdevice::active, DELAY_-MEDIUM, lighting::forceupdate, imutex, IN_CORSAIR, IN_HID, usbdevice::input, inputupdate(), keymap, usbinput-::keys, usbprofile::lastlight, MSG_SIZE, N_KEYS_HW, NEEDS_FW_UPDATE, usbdevice::profile, usbsend, and usbdevice::vtable.

Referenced by cmd_active_kb(), and cmd_idle_kb().

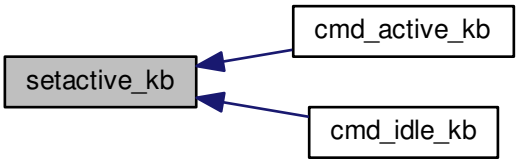
```
18                                          {
19     if(NEEDS_FW_UPDATE(kb))
20         return 0;
21
22     pthread_mutex_lock(imutex(kb));
23     kb->active = !!active;
24     kb->profile->lastlight.forceupdate = 1;
25     // Clear input
26     memset(&kb->input.keys, 0, sizeof(kb->input.keys));
27     inputupdate(kb);
28     pthread_mutex_unlock(imutex(kb));
29
30     uchar msg[3][MSG_SIZE] = {
31         { 0x07, 0x04, 0 },                  // Disables or enables HW control for top row
32         { 0x07, 0x40, 0 },                  // Selects key input
33         { 0x07, 0x05, 2, 0, 0x03, 0x00 }    // Commits key input selection
34     };
35     if(active){
36         // Put the M-keys (K95) as well as the Brightness/Lock keys into software-controlled mode.
37         msg[0][2] = 2;
38         if(!usbsend(kb, msg[0], 1))
39             return -1;
40         DELAY_MEDIUM(kb);
41         // Set input mode on the keys. They must be grouped into packets of 60 bytes (+ 4 bytes header)
42         // Keys are referenced in byte pairs, with the first byte representing the key and the second byte
       representing the mode.
```

```
43          for(int key = 0; key < N_KEYS_HW; ){
44              int pair;
45              for(pair = 0; pair < 30 && key < N_KEYS_HW; pair++, key++){
46                  // Select both standard and Corsair input. The standard input will be ignored except in
    BIOS mode.
47                  uchar action = IN_HID | IN_CORSAIR;
48                  // Additionally, make MR activate the MR ring (this is disabled for now, may be back later)
49                  //if(keymap[key].name && !strcmp(keymap[key].name, "mr"))
50                  //    action |= ACT_MR_RING;
51                  msg[1][4 + pair * 2] = key;
52                  msg[1][5 + pair * 2] = action;
53              }
54              // Byte 2 = pair count (usually 30, less on final message)
55              msg[1][2] = pair;
56              if(!usbsend(kb, msg[1], 1))
57                  return -1;
58          }
59          // Commit new input settings
60          if(!usbsend(kb, msg[2], 1))
61              return -1;
62          DELAY_MEDIUM(kb);
63      } else {
64          // Set the M-keys back into hardware mode, restore hardware RGB profile. It has to be sent twice
    for some reason.
65          msg[0][2] = 1;
66          if(!usbsend(kb, msg[0], 1))
67              return -1;
68          DELAY_MEDIUM(kb);
69          if(!usbsend(kb, msg[0], 1))
70              return -1;
71          DELAY_MEDIUM(kb);
72  #ifdef OS_LINUX
73          // On OSX the default key mappings are fine. On Linux, the G keys will freeze the keyboard. Set the
    keyboard entirely to HID input.
74          for(int key = 0; key < N_KEYS_HW; ){
75              int pair;
76              for(pair = 0; pair < 30 && key < N_KEYS_HW; pair++, key++){
77                  uchar action = IN_HID;
78                  // Enable hardware actions
79                  if(keymap[key].name){
80                      if(!strcmp(keymap[key].name, "mr"))
81                          action = ACT_MR_RING;
82                      else if(!strcmp(keymap[key].name, "m1"))
83                          action = ACT_M1;
84                      else if(!strcmp(keymap[key].name, "m2"))
85                          action = ACT_M2;
86                      else if(!strcmp(keymap[key].name, "m3"))
87                          action = ACT_M3;
88                      else if(!strcmp(keymap[key].name, "light"))
89                          action = ACT_LIGHT;
90                      else if(!strcmp(keymap[key].name, "lock"))
91                          action = ACT_LOCK;
92                  }
93                  msg[1][4 + pair * 2] = key;
94                  msg[1][5 + pair * 2] = action;
95              }
96              // Byte 2 = pair count (usually 30, less on final message)
97              msg[1][2] = pair;
98              if(!usbsend(kb, msg[1], 1))
99                  return -1;
100         }
101         // Commit new input settings
102         if(!usbsend(kb, msg[2], 1))
103             return -1;
104         DELAY_MEDIUM(kb);
105 #endif
106     }
107     // Update indicator LEDs if the profile contains settings for them
108     kb->vtable->updateindicators(kb, 0);
109     return 0;
110 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.8.2.7 int setactive_mouse (usbdevice * *kb*, int *active*)

Definition at line 9 of file device_mouse.c.

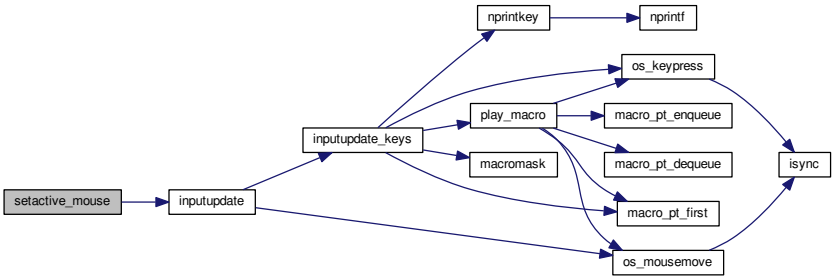
References usbdevice::active, lighting::forceupdate, imutex, IN_CORSAIR, IN_HID, usbdevice::input, inputupdate(), usbinput::keys, usbprofile::lastlight, MSG_SIZE, NEEDS_FW_UPDATE, usbdevice::profile, and usbsend.

Referenced by cmd_active_mouse(), and cmd_idle_mouse().

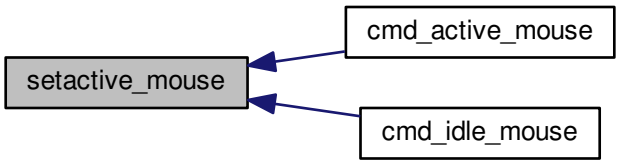
```
9                                               {
10      if(NEEDS_FW_UPDATE(kb))
11          return 0;
12      const int keycount = 20;
13      uchar msg[2][MSG_SIZE] = {
14          { 0x07, 0x04, 0 },                  // Disables or enables HW control for DPI and Sniper button
15          { 0x07, 0x40, keycount, 0 },        // Select button input (simlilar to the packet sent to
        keyboards, but lacks a commit packet)
16      };
17      if(active)
18          // Put the mouse into SW mode
19          msg[0][2] = 2;
20      else
21          // Restore HW mode
22          msg[0][2] = 1;
23      pthread_mutex_lock(imutex(kb));
24      kb->active = !!active;
25      kb->profile->lastlight.forceupdate = 1;
26      // Clear input
27      memset(&kb->input.keys, 0, sizeof(kb->input.keys));
28      inputupdate(kb);
29      pthread_mutex_unlock(imutex(kb));
30      if(!usbsend(kb, msg[0], 1))
31          return -1;
32      if(active){
```

```
33          // Set up key input
34          if(!usbsend(kb, msg[1], 1))
35              return -1;
36          for(int i = 0; i < keycount; i++){
37              msg[1][i * 2 + 4] = i + 1;
38              msg[1][i * 2 + 5] = (i < 6 ? IN_HID : IN_CORSAIR);
39          }
40      }
41      return 0;
42  }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.8.2.8 void setmodeindex_nrgb (usbdevice * *kb*, int *index*)

Definition at line 120 of file device_keyboard.c.

References NK95_M1, NK95_M2, NK95_M3, and nk95cmd.

```
120                                                 {
121      switch(index % 3){
122      case 0:
123          nk95cmd(kb, NK95_M1);
124          break;
125      case 1:
126          nk95cmd(kb, NK95_M2);
127          break;
128      case 2:
129          nk95cmd(kb, NK95_M3);
130          break;
131      }
132  }
```

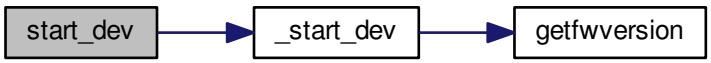
13.8.2.9 int start_dev (usbdevice * kb, int makeactive)

Definition at line 80 of file device.c.

References _start_dev(), USB_DELAY_DEFAULT, and usbdevice::usbdelay.

```
80                                              {
81     // Force USB interval to 10ms during initial setup phase; return to nominal 5ms after setup completes.
82     kb->usbdelay = 10;
83     int res = _start_dev(kb, makeactive);
84     kb->usbdelay = USB_DELAY_DEFAULT;
85     return res;
86 }
```

Here is the call graph for this function:



13.8.2.10 int start_kb_nrgb (usbdevice * kb, int makeactive)

Definition at line 9 of file device_keyboard.c.

References usbdevice::active, NK95_HWOFF, nk95cmd, and usbdevice::pollrate.

```
9                                                   {
10     // Put the non-RGB K95 into software mode. Nothing else needs to be done hardware wise
11     nk95cmd(kb, NK95_HWOFF);
12     // Fill out RGB features for consistency, even though the keyboard doesn't have them
13     kb->active = 1;
14     kb->pollrate = -1;
15     return 0;
16 }
```

13.8.3 Variable Documentation

13.8.3.1 pthread_mutex_t devmutex[9]

Definition at line 12 of file device.c.

Referenced by _updateconnected(), quitWithLock(), and usb_rm_device().

13.8.3.2 pthread_mutex_t inputmutex[9]

Definition at line 13 of file device.c.

13.8.3.3 usbdevice keyboard[9]

Definition at line 10 of file device.c.

Referenced by _mkdevpath(), _mknotifynode(), _rmnotifynode(), _setupusb(), _updateconnected(), closeusb(), main(), mkfwnode(), os_closeusb(), os_inputmain(), os_inputopen(), os_setupusb(), quitWithLock(), rmdevpath(), usb_rm_device(), and usbadd().

13.8.3.4 pthread_mutex_t macromutex[9]

Definition at line 14 of file device.c.

13.8.3.5 pthread_mutex_t macromutex2[9]

Definition at line 15 of file device.c.

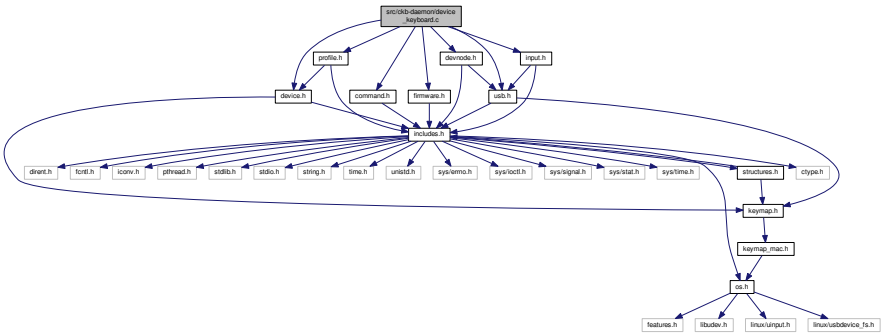
13.8.3.6 pthread_cond_t macrovar[9]

Definition at line 16 of file device.c.

13.9 src/ckb-daemon/device_keyboard.c File Reference

```
#include "command.h"
#include "device.h"
#include "devnode.h"
#include "firmware.h"
#include "input.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for device_keyboard.c:



Functions

- int start_kb_nrgb (usbdevice *kb, int makeactive)
- int setactive_kb (usbdevice *kb, int active)
- int cmd_active_kb (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- int cmd_idle_kb (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- void setmodeindex_nrgb (usbdevice *kb, int index)

13.9.1 Function Documentation

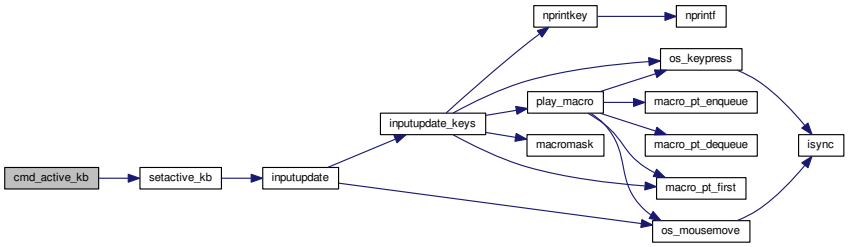
13.9.1.1 int cmd_active_kb (usbdevice * kb, usbmode * dummy1, int dummy2, int dummy3, const char * dummy4)

Definition at line 112 of file device_keyboard.c.

References setactive_kb().

```
112                                                                                 {
113     return setactive_kb(kb, 1);
114 }
```

Here is the call graph for this function:



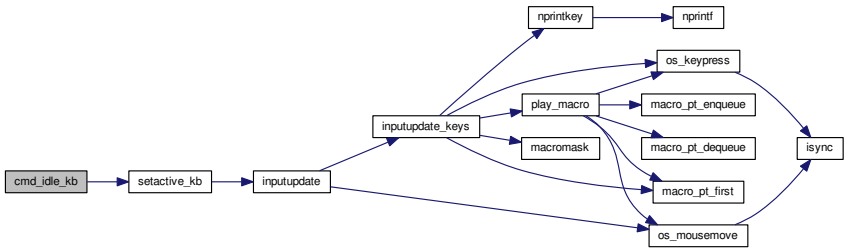
13.9.1.2 int cmd_idle_kb (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 116 of file device_keyboard.c.

References setactive_kb().

```
116                                                                                 {
117     return setactive_kb(kb, 0);
118 }
```

Here is the call graph for this function:



13.9.1.3 int setactive_kb (usbdevice * *kb*, int *active*)

Definition at line 18 of file device_keyboard.c.

References ACT_LIGHT, ACT_LOCK, ACT_M1, ACT_M2, ACT_M3, ACT_MR_RING, usbdevice::active, DELAY_-MEDIUM, lighting::forceupdate, imutex, IN_CORSAIR, IN_HID, usbdevice::input, inputupdate(), keymap, usbinput-::keys, usbprofile::lastlight, MSG_SIZE, N_KEYS_HW, NEEDS_FW_UPDATE, usbdevice::profile, usbsend, and usbdevice::vtable.

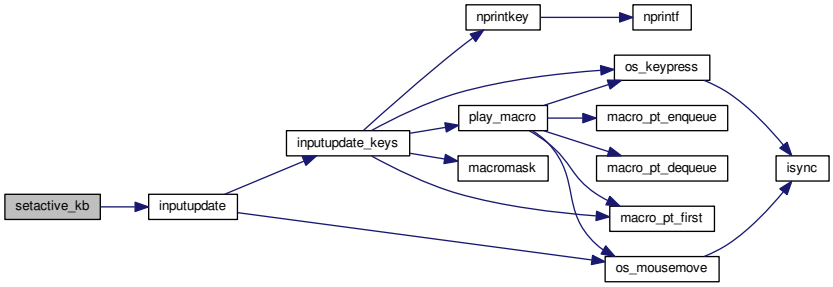
Referenced by cmd_active_kb(), and cmd_idle_kb().

```
18                                          {
19     if(NEEDS_FW_UPDATE(kb))
20         return 0;
21
22     pthread_mutex_lock(imutex(kb));
```

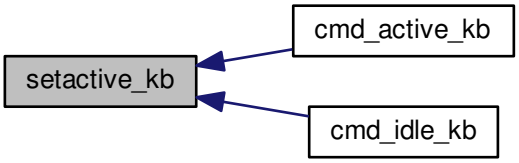
```
23      kb->active = !!active;
24      kb->profile->lastlight.forceupdate = 1;
25      // Clear input
26      memset(&kb->input.keys, 0, sizeof(kb->input.keys));
27      inputupdate(kb);
28      pthread_mutex_unlock(imutex(kb));
29
30      uchar msg[3][MSG_SIZE] = {
31          { 0x07, 0x04, 0 },                  // Disables or enables HW control for top row
32          { 0x07, 0x40, 0 },                  // Selects key input
33          { 0x07, 0x05, 2, 0, 0x03, 0x00 }    // Commits key input selection
34      };
35      if(active){
36          // Put the M-keys (K95) as well as the Brightness/Lock keys into software-controlled mode.
37          msg[0][2] = 2;
38          if(!usbsend(kb, msg[0], 1))
39              return -1;
40          DELAY_MEDIUM(kb);
41          // Set input mode on the keys. They must be grouped into packets of 60 bytes (+ 4 bytes header)
42          // Keys are referenced in byte pairs, with the first byte representing the key and the second byte
        representing the mode.
43          for(int key = 0; key < N_KEYS_HW; ){
44              int pair;
45              for(pair = 0; pair < 30 && key < N_KEYS_HW; pair++, key++){
46                  // Select both standard and Corsair input. The standard input will be ignored except in
        BIOS mode.
47                  uchar action = IN_HID | IN_CORSAIR;
48                  // Additionally, make MR activate the MR ring (this is disabled for now, may be back later)
49                  //if(keymap[key].name && !strcmp(keymap[key].name, "mr"))
50                  //    action |= ACT_MR_RING;
51                  msg[1][4 + pair * 2] = key;
52                  msg[1][5 + pair * 2] = action;
53              }
54              // Byte 2 = pair count (usually 30, less on final message)
55              msg[1][2] = pair;
56              if(!usbsend(kb, msg[1], 1))
57                  return -1;
58          }
59          // Commit new input settings
60          if(!usbsend(kb, msg[2], 1))
61              return -1;
62          DELAY_MEDIUM(kb);
63      } else {
64          // Set the M-keys back into hardware mode, restore hardware RGB profile. It has to be sent twice
        for some reason.
65          msg[0][2] = 1;
66          if(!usbsend(kb, msg[0], 1))
67              return -1;
68          DELAY_MEDIUM(kb);
69          if(!usbsend(kb, msg[0], 1))
70              return -1;
71          DELAY_MEDIUM(kb);
72  #ifdef OS_LINUX
73          // On OSX the default key mappings are fine. On Linux, the G keys will freeze the keyboard. Set the
        keyboard entirely to HID input.
74          for(int key = 0; key < N_KEYS_HW; ){
75              int pair;
76              for(pair = 0; pair < 30 && key < N_KEYS_HW; pair++, key++){
77                  uchar action = IN_HID;
78                  // Enable hardware actions
79                  if(keymap[key].name){
80                      if(!strcmp(keymap[key].name, "mr"))
81                          action = ACT_MR_RING;
82                      else if(!strcmp(keymap[key].name, "m1"))
83                          action = ACT_M1;
84                      else if(!strcmp(keymap[key].name, "m2"))
85                          action = ACT_M2;
86                      else if(!strcmp(keymap[key].name, "m3"))
87                          action = ACT_M3;
88                      else if(!strcmp(keymap[key].name, "light"))
89                          action = ACT_LIGHT;
90                      else if(!strcmp(keymap[key].name, "lock"))
91                          action = ACT_LOCK;
92                  }
93                  msg[1][4 + pair * 2] = key;
94                  msg[1][5 + pair * 2] = action;
95              }
96              // Byte 2 = pair count (usually 30, less on final message)
97              msg[1][2] = pair;
98              if(!usbsend(kb, msg[1], 1))
99                  return -1;
100         }
101         // Commit new input settings
102         if(!usbsend(kb, msg[2], 1))
103             return -1;
104         DELAY_MEDIUM(kb);
105 #endif
```

```
106     }
107     // Update indicator LEDs if the profile contains settings for them
108     kb->vtable->updateindicators(kb, 0);
109     return 0;
110 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.9.1.4 void setmodeindex_nrgb (usbdevice * *kb*, int *index*)

Definition at line 120 of file device_keyboard.c.

References NK95_M1, NK95_M2, NK95_M3, and nk95cmd.

```
120                                                 {
121     switch(index % 3){
122     case 0:
123         nk95cmd(kb, NK95_M1);
124         break;
125     case 1:
126         nk95cmd(kb, NK95_M2);
127         break;
128     case 2:
129         nk95cmd(kb, NK95_M3);
130         break;
131     }
132 }
```

13.9.1.5 int start_kb_nrgb (usbdevice * *kb*, int *makeactive*)

Definition at line 9 of file device_keyboard.c.

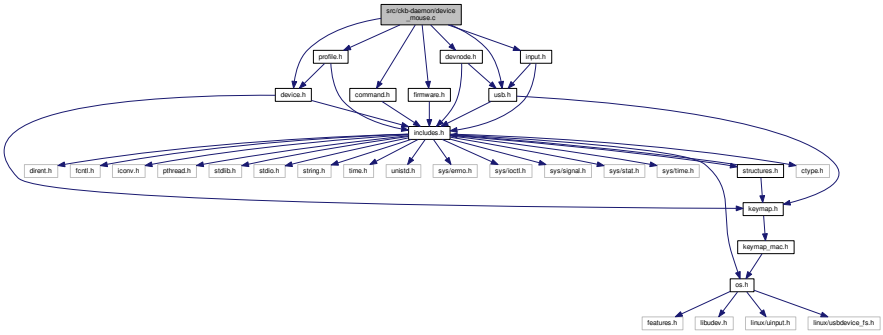
References usbdevice::active, NK95_HWOFF, nk95cmd, and usbdevice::pollrate.

```
9                                                   {
10      // Put the non-RGB K95 into software mode. Nothing else needs to be done hardware wise
11      nk95cmd(kb, NK95_HWOFF);
12      // Fill out RGB features for consistency, even though the keyboard doesn't have them
13      kb->active = 1;
14      kb->pollrate = -1;
15      return 0;
16  }
```

13.10 src/ckb-daemon/device_mouse.c File Reference

```
#include "command.h"
#include "device.h"
#include "devnode.h"
#include "firmware.h"
#include "input.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for device_mouse.c:



Functions

- int setactive_mouse (usbdevice ∗kb, int active)
- int cmd_active_mouse (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int dummy3, const char ∗dummy4)
- int cmd_idle_mouse (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int dummy3, const char ∗dummy4)
- int cmd_pollrate (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int rate, const char ∗dummy3)

13.10.1 Function Documentation

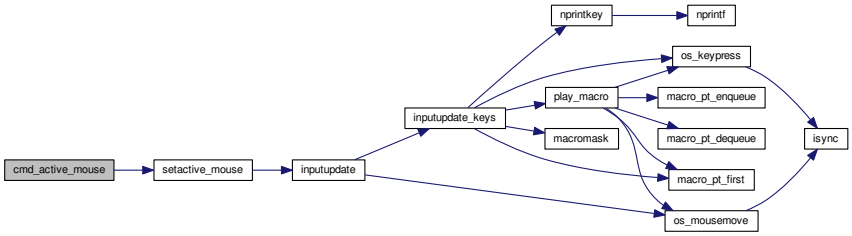
13.10.1.1 int cmd_active_mouse (usbdevice ∗ *kb,* usbmode ∗ *dummy1,* int *dummy2,* int *dummy3,* const char ∗ *dummy4*)

Definition at line 44 of file device_mouse.c.

References setactive_mouse().

```
44                                                                                  {
45      return setactive_mouse(kb, 1);
46  }
```

Here is the call graph for this function:



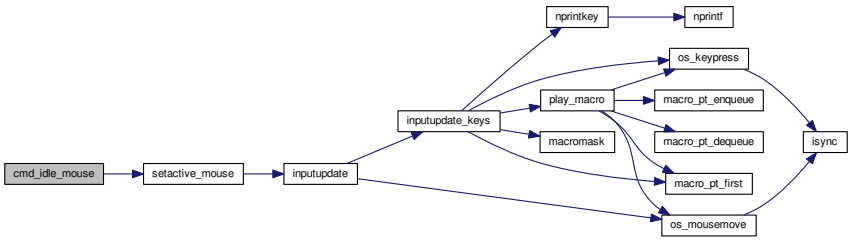
13.10.1.2 int cmd_idle_mouse (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 48 of file device_mouse.c.

References setactive_mouse().

```
48                                                                                  {
49     return setactive_mouse(kb, 0);
50 }
```

Here is the call graph for this function:



13.10.1.3 int cmd_pollrate (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *rate*, const char * *dummy3*)

Definition at line 52 of file device_mouse.c.

References MSG_SIZE, usbdevice::pollrate, and usbsend.

```
52                                                                                  {
53     uchar msg[MSG_SIZE] = {
54         0x07, 0x0a, 0, 0, (uchar)rate
55     };
56     if(!usbsend(kb, msg, 1))
57         return -1;
58     // Device should disconnect+reconnect, but update the poll rate field in case it doesn't
59     kb->pollrate = rate;
60     return 0;
61 }
```

13.10.1.4 int setactive_mouse (usbdevice * *kb*, int *active*)

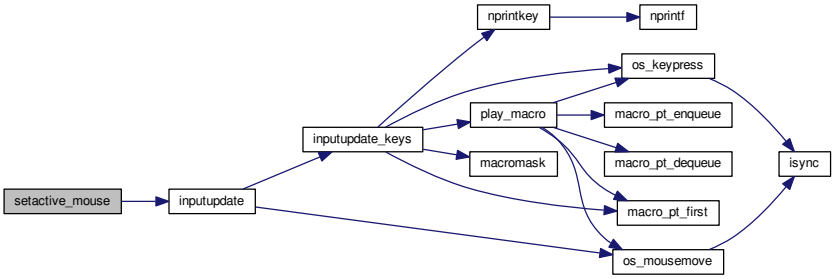
Definition at line 9 of file device_mouse.c.

References usbdevice::active, lighting::forceupdate, imutex, IN_CORSAIR, IN_HID, usbdevice::input, inputupdate(), usbinput::keys, usbprofile::lastlight, MSG_SIZE, NEEDS_FW_UPDATE, usbdevice::profile, and usbsend.

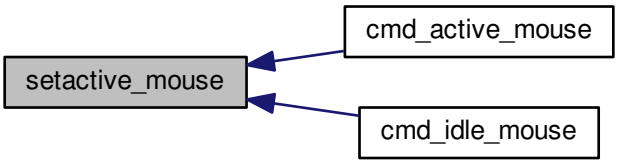
Referenced by cmd_active_mouse(), and cmd_idle_mouse().

```
9                                                   {
10      if(NEEDS_FW_UPDATE(kb))
11          return 0;
12      const int keycount = 20;
13      uchar msg[2][MSG_SIZE] = {
14          { 0x07, 0x04, 0 },                  // Disables or enables HW control for DPI and Sniper button
15          { 0x07, 0x40, keycount, 0 },        // Select button input (simlilar to the packet sent to
        keyboards, but lacks a commit packet)
16      };
17      if(active)
18          // Put the mouse into SW mode
19          msg[0][2] = 2;
20      else
21          // Restore HW mode
22          msg[0][2] = 1;
23      pthread_mutex_lock(imutex(kb));
24      kb->active = !!active;
25      kb->profile->lastlight.forceupdate = 1;
26      // Clear input
27      memset(&kb->input.keys, 0, sizeof(kb->input.keys));
28      inputupdate(kb);
29      pthread_mutex_unlock(imutex(kb));
30      if(!usbsend(kb, msg[0], 1))
31          return -1;
32      if(active){
33          // Set up key input
34          if(!usbsend(kb, msg[1], 1))
35              return -1;
36          for(int i = 0; i < keycount; i++){
37              msg[1][i * 2 + 4] = i + 1;
38              msg[1][i * 2 + 5] = (i < 6 ? IN_HID : IN_CORSAIR);
39          }
40      }
41      return 0;
42  }
```

Here is the call graph for this function:



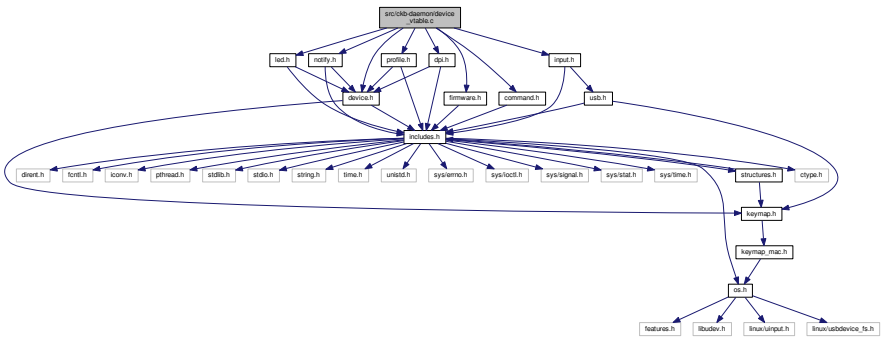
Here is the caller graph for this function:



13.11 src/ckb-daemon/device_vtable.c File Reference

```
#include "command.h"
#include "device.h"
#include "dpi.h"
#include "firmware.h"
#include "input.h"
#include "led.h"
#include "notify.h"
#include "profile.h"
```

Include dependency graph for device_vtable.c:



Functions

- static void cmd_none (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int dummy3, const char ∗dummy4)
- static int cmd_io_none (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int dummy3, const char ∗dummy4)
- static void cmd_macro_none (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, const char ∗dummy3, const char ∗dummy4)
- static int loadprofile_none (usbdevice ∗kb)
- static void int1_void_none (usbdevice ∗kb, int dummy)
- static int int1_int_none (usbdevice ∗kb, int dummy)

Variables

- const devcmd vtable_keyboard

RGB keyboard vtable holds functions for each device type.

- const devcmd vtable_keyboard_nonrgb
- const devcmd vtable_mouse

13.11.1 Function Documentation

13.11.1.1 static int cmd_io_none (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*) [static]

Definition at line 13 of file device_vtable.c.

```
13                                                                                                  {
14     return 0;
15 }
```

13.11.1.2 static void cmd_macro_none (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, const char * *dummy3*, const char * *dummy4*) [static]

Definition at line 16 of file device_vtable.c.

```
16
        {
17 }
```

13.11.1.3 static void cmd_none (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*) [static]

Definition at line 11 of file device_vtable.c.

```
11                                                                                                  {
12 }
```

13.11.1.4 static int int1_int_none (usbdevice * *kb*, int *dummy*) [static]

Definition at line 23 of file device_vtable.c.

```
23                                                {
24     return 0;
25 }
```

13.11.1.5 static void int1_void_none (usbdevice * *kb*, int *dummy*) [static]

Definition at line 21 of file device_vtable.c.

```
21                                                  {
22 }
```

13.11.1.6 static int loadprofile_none (usbdevice * *kb*) [static]

Definition at line 18 of file device_vtable.c.

```
18                                             {
19     return 0;
20 }
```

13.11.2 Variable Documentation

13.11.2.1 const devcmd vtable_keyboard

Definition at line 29 of file device_vtable.c.

Referenced by get_vtable().

13.11.2.2 const devcmd vtable_keyboard_nonrgb

Definition at line 76 of file device_vtable.c.

Referenced by get_vtable().

13.11.2.3 const devcmd vtable_mouse

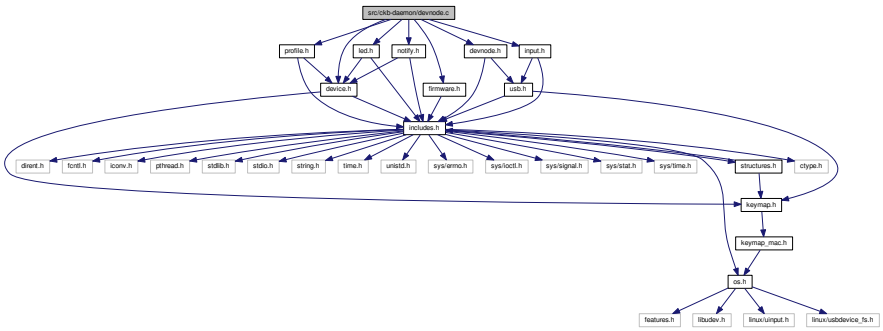
Definition at line 123 of file device_vtable.c.

Referenced by get_vtable().

13.12 src/ckb-daemon/devnode.c File Reference

```
#include "device.h"
#include "devnode.h"
#include "firmware.h"
#include "input.h"
#include "led.h"
#include "notify.h"
#include "profile.h"
```

Include dependency graph for devnode.c:



Data Structures

- struct _readlines_ctx

Macros

- #define S_GID_READ (gid >= 0 ? S_CUSTOM_R : S_READ)
- #define MAX_BUFFER (1024 * 1024 - 1)

Functions

- int rm_recursive (const char *path)
- void _updateconnected ()

  _updateconnected Update the list of connected devices.
- void updateconnected ()

  Update the list of connected devices.
- int _mknotifynode (usbdevice *kb, int notify)
- int mknotifynode (usbdevice *kb, int notify)

  Creates a notification node for the specified keyboard.
- int _rmnotifynode (usbdevice *kb, int notify)
- int rmnotifynode (usbdevice *kb, int notify)

  Removes a notification node for the specified keyboard.
- static int _mkdevpath (usbdevice *kb)
- int mkdevpath (usbdevice *kb)

  Create a dev path for the keyboard at index. Returns 0 on success.
- int rmdevpath (usbdevice *kb)

  Remove the dev path for the keyboard at index. Returns 0 on success.
- int mkfwnode (usbdevice *kb)

  Writes a keyboard's firmware version and poll rate to its device node.
- void readlines_ctx_init (readlines_ctx *ctx)
- void readlines_ctx_free (readlines_ctx ctx)
- unsigned readlines (int fd, readlines_ctx ctx, const char **input)

Variables

- const char *const devpath = "/dev/input/ckb"
- long gid = -1

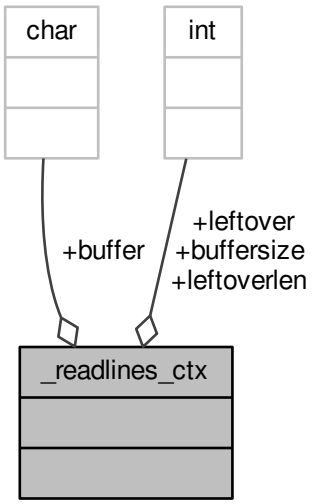
  Group ID for the control nodes. -1 to give read/write access to everybody.

13.12.1 Data Structure Documentation

13.12.1.1 struct _readlines_ctx

Definition at line 335 of file devnode.c.

Collaboration diagram for _readlines_ctx:



Data Fields

char *	buffer	
int	buffersize	
int	leftover	
int	leftoverlen	

13.12.2 Macro Definition Documentation

13.12.2.1 #define MAX_BUFFER (1024 * 1024 - 1)

Definition at line 334 of file devnode.c.

Referenced by readlines().

13.12.2.2 #define S_GID_READ (gid >= 0 ? S_CUSTOM_R : S_READ)

Definition at line 17 of file devnode.c.

Referenced by _mkdevpath(), _mknotifynode(), _updateconnected(), and mkfwnode().

13.12.3 Function Documentation

13.12.3.1 static int _mkdevpath (usbdevice * *kb*) [static]

Definition at line 136 of file devnode.c.

References _mknotifynode(), _updateconnected(), ckb_err, ckb_warn, devpath, FEAT_ADJRATE, FEAT_BIND, FEAT_FWUPDATE, FEAT_FWVERSION, FEAT_MONOCHROME, FEAT_NOTIFY, FEAT_POLLRATE, FEAT_RGB, gid, HAS_FEATURES, INDEX_OF, usbdevice::infifo, keyboard, mkfwnode(), usbdevice::name, usbdevice-

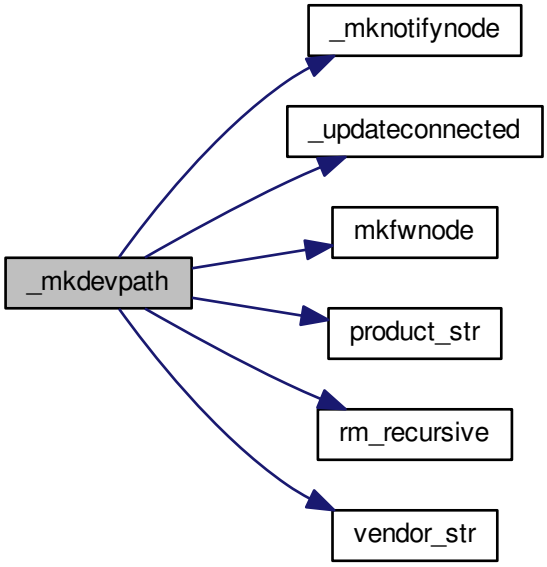
::product, product_str(), rm_recursive(), S_CUSTOM, S_GID_READ, S_READ, S_READDIR, S_READWRITE, usbdevice::serial, usbdevice::vendor, and vendor_str().

Referenced by mkdevpath().

```
136                                     {
137     int index = INDEX_OF(kb, keyboard);
138     // Create the control path
139     char path[strlen(devpath) + 2];
140     snprintf(path, sizeof(path), "%s%d", devpath, index);
141     if(rm_recursive(path) != 0 && errno != ENOENT){
142         ckb_err("Unable to delete %s: %s\n", path, strerror(errno));
143         return -1;
144     }
145     if(mkdir(path, S_READDIR) != 0){
146         ckb_err("Unable to create %s: %s\n", path, strerror(errno));
147         rm_recursive(path);
148         return -1;
149     }
150     if(gid >= 0)
151         chown(path, 0, gid);
152 
153     if(kb == keyboard + 0){
154         // Root keyboard: write a list of devices
155         _updateconnected();
156         // Write version number
157         char vpath[sizeof(path) + 8];
158         snprintf(vpath, sizeof(vpath), "%s/version", path);
159         FILE* vfile = fopen(vpath, "w");
160         if(vfile){
161             fprintf(vfile, "%s\n", CKB_VERSION_STR);
162             fclose(vfile);
163             chmod(vpath, S_GID_READ);
164             if(gid >= 0)
165                 chown(vpath, 0, gid);
166         } else {
167             ckb_warn("Unable to create %s: %s\n", vpath, strerror(errno));
168             remove(vpath);
169         }
170         // Write PID
171         char ppath[sizeof(path) + 4];
172         snprintf(ppath, sizeof(ppath), "%s/pid", path);
173         FILE* pfile = fopen(ppath, "w");
174         if(pfile){
175             fprintf(pfile, "%u\n", getpid());
176             fclose(pfile);
177             chmod(ppath, S_READ);
178             if(gid >= 0)
179                 chown(vpath, 0, gid);
180         } else {
181             ckb_warn("Unable to create %s: %s\n", ppath, strerror(errno));
182             remove(ppath);
183         }
184     } else {
185         // Create command FIFO
186         char inpath[sizeof(path) + 4];
187         snprintf(inpath, sizeof(inpath), "%s/cmd", path);
188         if(mkfifo(inpath, gid >= 0 ? S_CUSTOM : S_READWRITE) != 0
189                 // Open the node in RDWR mode because RDONLY will lock the thread
190                 || (kb->infifo = open(inpath, O_RDWR) + 1) == 0){
191             // Add one to the FD because 0 is a valid descriptor, but ckb uses 0 for uninitialized devices
192             ckb_err("Unable to create %s: %s\n", inpath, strerror(errno));
193             rm_recursive(path);
194             kb->infifo = 0;
195             return -1;
196         }
197         if(gid >= 0)
198             fchown(kb->infifo - 1, 0, gid);
199 
200         // Create notification FIFO
201         _mknotifynode(kb, 0);
202 
203         // Write the model and serial to files
204         char mpath[sizeof(path) + 6], spath[sizeof(path) + 7];
205         snprintf(mpath, sizeof(mpath), "%s/model", path);
206         snprintf(spath, sizeof(spath), "%s/serial", path);
207         FILE* mfile = fopen(mpath, "w");
208         if(mfile){
209             fputs(kb->name, mfile);
210             fputc('\n', mfile);
211             fclose(mfile);
212             chmod(mpath, S_GID_READ);
213             if(gid >= 0)
214                 chown(mpath, 0, gid);
215         } else {
216             ckb_warn("Unable to create %s: %s\n", mpath, strerror(errno));
```

```
217             remove(mpath);
218         }
219         FILE* sfile = fopen(spath, "w");
220         if(sfile){
221             fputs(kb->serial, sfile);
222             fputc('\n', sfile);
223             fclose(sfile);
224             chmod(spath, S_GID_READ);
225             if(gid >= 0)
226                 chown(spath, 0, gid);
227         } else {
228             ckb_warn("Unable to create %s: %s\n", spath, strerror(errno));
229             remove(spath);
230         }
231         // Write the keyboard's features
232         char fpath[sizeof(path) + 9];
233         snprintf(fpath, sizeof(fpath), "%s/features", path);
234         FILE* ffile = fopen(fpath, "w");
235         if(ffile){
236             fprintf(ffile, "%s %s", vendor_str(kb->vendor),
    product_str(kb->product));
237             if(HAS_FEATURES(kb, FEAT_MONOCHROME))
238                 fputs(" monochrome", ffile);
239             if(HAS_FEATURES(kb, FEAT_RGB))
240                 fputs(" rgb", ffile);
241             if(HAS_FEATURES(kb, FEAT_POLLRATE))
242                 fputs(" pollrate", ffile);
243             if(HAS_FEATURES(kb, FEAT_ADJRATE))
244                 fputs(" adjrate", ffile);
245             if(HAS_FEATURES(kb, FEAT_BIND))
246                 fputs(" bind", ffile);
247             if(HAS_FEATURES(kb, FEAT_NOTIFY))
248                 fputs(" notify", ffile);
249             if(HAS_FEATURES(kb, FEAT_FWVERSION))
250                 fputs(" fwversion", ffile);
251             if(HAS_FEATURES(kb, FEAT_FWUPDATE))
252                 fputs(" fwupdate", ffile);
253             fputc('\n', ffile);
254             fclose(ffile);
255             chmod(fpath, S_GID_READ);
256             if(gid >= 0)
257                 chown(fpath, 0, gid);
258         } else {
259             ckb_warn("Unable to create %s: %s\n", fpath, strerror(errno));
260             remove(fpath);
261         }
262         // Write firmware version and poll rate
263         mkfwnode(kb);
264     }
265     return 0;
266 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.12.3.2 int _mknotifynode (usbdevice * *kb*, int *notify*)

Definition at line 87 of file devnode.c.

References ckb_warn, devpath, gid, INDEX_OF, keyboard, usbdevice::outfifo, OUTFIFO_MAX, and S_GID_READ.

Referenced by _mkdevpath(), and mknotifynode().

```
87                                          {
88     if(notify < 0 || notify >= OUTFIFO_MAX)
89         return -1;
90     if(kb->outfifo[notify] != 0)
91         return 0;
92     // Create the notification node
93     int index = INDEX_OF(kb, keyboard);
94     char outpath[strlen(devpath) + 10];
95     snprintf(outpath, sizeof(outpath), "%s%d/notify%d", devpath, index, notify);
96     if(mkfifo(outpath, S_GID_READ) != 0 || (kb->outfifo[notify] = open(outpath, O_RDWR |
       O_NONBLOCK) + 1) == 0){
97         // Add one to the FD because 0 is a valid descriptor, but ckb uses 0 for uninitialized devices
98         ckb_warn("Unable to create %s: %s\n", outpath, strerror(errno));
99         kb->outfifo[notify] = 0;
100         remove(outpath);
101         return -1;
102     }
103     if(gid >= 0)
104         fchown(kb->outfifo[notify] - 1, 0, gid);
105     return 0;
106 }
```

Here is the caller graph for this function:

13.12.3.3 int _rmnotifynode (usbdevice * kb, int notify)

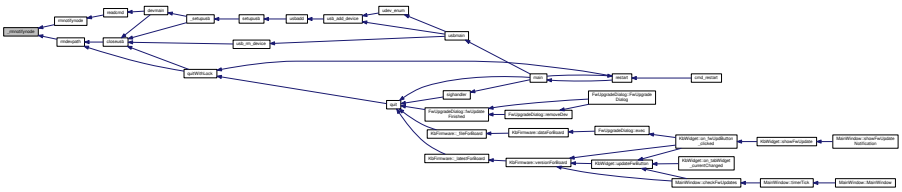
Definition at line 115 of file devnode.c.

References devpath, INDEX_OF, keyboard, usbdevice::outfifo, and OUTFIFO_MAX.

Referenced by rmdevpath(), and rmnotifynode().

```
115                                                 {
116     if(notify < 0 || notify >= OUTFIFO_MAX || !kb->outfifo[notify])
117         return -1;
118     int index = INDEX_OF(kb, keyboard);
119     char outpath[strlen(devpath) + 10];
120     snprintf(outpath, sizeof(outpath), "%s%d/notify%d", devpath, index, notify);
121     // Close FIFO
122     close(kb->outfifo[notify] - 1);
123     kb->outfifo[notify] = 0;
124     // Delete node
125     int res = remove(outpath);
126     return res;
127 }
```

Here is the caller graph for this function:



13.12.3.4 void _updateconnected ( )

<devicepath> normally is /dev/input/ckb or /input/ckb.

Open the normal file under <devicepath>0/connected for writing. For each device connected, print its devicepath+number, the serial number of the usb device and the usb name of the device connected to that usb interface.

eg:

/dev/input/ckb1 0F022014ABABABABABABABABABA999 Corsair K95 RGB Gaming Keyboard

/dev/input/ckb2 0D02303DBACBACBACBACBACBAC998 Corsair M65 RGB Gaming Mouse

Set the file ownership to root. If the glob var gid is explicitly set to something different from -1 (the initial value), set file permission to 640, else to 644. This is used if you start the daemon with –gid=<GID> Parameter.

Because several independent threads may call updateconnected(), protect that procedure with locking/unlocking of **devmutex**.

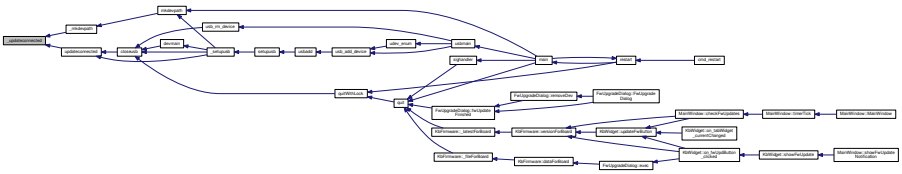
Definition at line 55 of file devnode.c.

References ckb_warn, DEV_MAX, devmutex, devpath, gid, IS_CONNECTED, keyboard, and S_GID_READ.

Referenced by _mkdevpath(), and updateconnected().

```
55                      {
56     pthread_mutex_lock(devmutex);
57     char cpath[strlen(devpath) + 12];
58     snprintf(cpath, sizeof(cpath), "%s0/connected", devpath);
59     FILE* cfile = fopen(cpath, "w");
60     if(!cfile){
61         ckb_warn("Unable to update %s: %s\n", cpath, strerror(errno));
62         pthread_mutex_unlock(devmutex);
63         return;
64     }
65     int written = 0;
66     for(int i = 1; i < DEV_MAX; i++){
67         if(IS_CONNECTED(keyboard + i)){
68             written = 1;
69             fprintf(cfile, "%s%d %s %s\n", devpath, i, keyboard[i].serial,
     keyboard[i].name);
70         }
71     }
72     if(!written)
73         fputc('\n', cfile);
74     fclose(cfile);
75     chmod(cpath, S_GID_READ);
76     if(gid >= 0)
77         chown(cpath, 0, gid);
78     pthread_mutex_unlock(devmutex);
79 }
```

Here is the caller graph for this function:



13.12.3.5 int mkdevpath (usbdevice * *kb*)

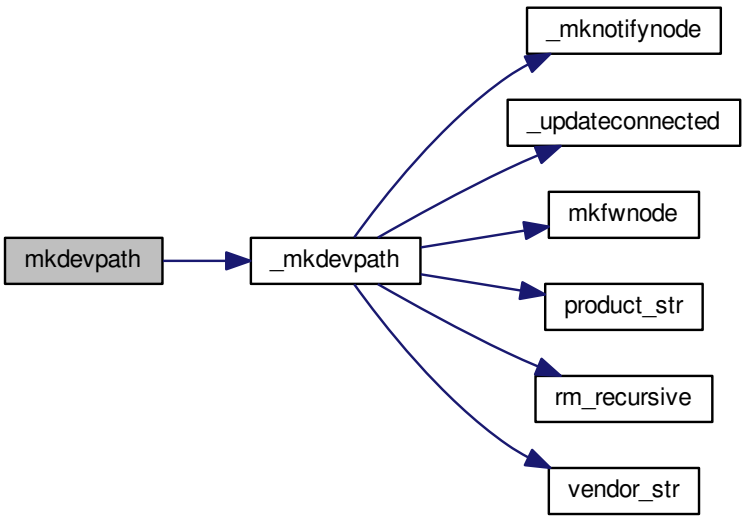
Definition at line 268 of file devnode.c.

References _mkdevpath(), euid_guard_start, and euid_guard_stop.

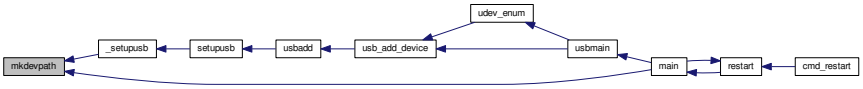
Referenced by _setupusb(), and main().

```
268                             {
269     euid_guard_start;
270     int res = _mkdevpath(kb);
271     euid_guard_stop;
272     return res;
273 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.12.3.6 int mkfwnode (usbdevice * *kb*)

Definition at line 299 of file devnode.c.

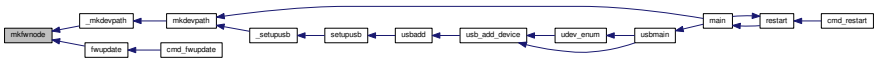
References ckb_warn, devpath, usbdevice::fwversion, gid, INDEX_OF, keyboard, usbdevice::pollrate, and S_GID_-READ.

Referenced by _mkdevpath(), and fwupdate().

```
299                             {
300     int index = INDEX_OF(kb, keyboard);
301     char fwpath[strlen(devpath) + 12];
302     snprintf(fwpath, sizeof(fwpath), "%s%d/fwversion", devpath, index);
303     FILE* fwfile = fopen(fwpath, "w");
304     if(fwfile){
305         fprintf(fwfile, "%04x", kb->fwversion);
306         fputc('\n', fwfile);
307         fclose(fwfile);
308         chmod(fwpath, S_GID_READ);
309         if(gid >= 0)
310             chown(fwpath, 0, gid);
311     } else {
312         ckb_warn("Unable to create %s: %s\n", fwpath, strerror(errno));
313         remove(fwpath);
314         return -1;
315     }
316     char ppath[strlen(devpath) + 11];
317     snprintf(ppath, sizeof(ppath), "%s%d/pollrate", devpath, index);
318     FILE* pfile = fopen(ppath, "w");
```

```
319     if(pfile){
320         fprintf(pfile, "%d ms", kb->pollrate);
321         fputc('\n', pfile);
322         fclose(pfile);
323         chmod(ppath, S_GID_READ);
324         if(gid >= 0)
325             chown(ppath, 0, gid);
326     } else {
327         ckb_warn("Unable to create %s: %s\n", fwpath, strerror(errno));
328         remove(ppath);
329         return -2;
330     }
331     return 0;
332 }
```

Here is the caller graph for this function:



13.12.3.7 int mknotifynode (usbdevice * kb, int notify)

Definition at line 108 of file devnode.c.

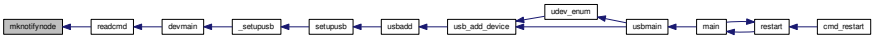
References _mknotifynode(), euid_guard_start, and euid_guard_stop.

Referenced by readcmd().

```
108                                         {
109     euid_guard_start;
110     int res = _mknotifynode(kb, notify);
111     euid_guard_stop;
112     return res;
113 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.12.3.8 unsigned readlines (int fd, readlines_ctx ctx, const char ** input)

Definition at line 353 of file devnode.c.

References _readlines_ctx::buffer, _readlines_ctx::buffersize, ckb_warn, _readlines_ctx::leftover, _readlines_ctx::leftoverlen, and MAX_BUFFER.

Referenced by devmain().

```
353                                                                 {
354     // Move any data left over from a previous read to the start of the buffer
355     char* buffer = ctx->buffer;
356     int buffersize = ctx->buffersize;
357     int leftover = ctx->leftover, leftoverlen = ctx->leftoverlen;
358     memcpy(buffer, buffer + leftover, leftoverlen);
359     // Read data from the file
360     ssize_t length = read(fd, buffer + leftoverlen, buffersize - leftoverlen);
361     length = (length < 0 ? 0 : length) + leftoverlen;
362     leftover = ctx->leftover = leftoverlen = ctx->leftoverlen = 0;
363     if(length <= 0){
364         *input = 0;
365         return 0;
366     }
367     // Continue buffering until all available input is read or there's no room left
368     while(length == buffersize){
369         if(buffersize == MAX_BUFFER)
370             break;
371         int oldsize = buffersize;
372         buffersize += 4096;
373         ctx->buffersize = buffersize;
374         buffer = ctx->buffer = realloc(buffer, buffersize + 1);
375         ssize_t length2 = read(fd, buffer + oldsize, buffersize - oldsize);
376         if(length2 <= 0)
377             break;
378         length += length2;
379     }
380     buffer[length] = 0;
381     // Input should be issued one line at a time and should end with a newline.
382     char* lastline = memrchr(buffer, '\n', length);
383     if(lastline == buffer + length - 1){
384         // If the buffer ends in a newline, process the whole string
385         *input = buffer;
386         return length;
387     } else if(lastline){
388         // Otherwise, chop off the last line but process everything else
389         *lastline = 0;
390         leftover = ctx->leftover = lastline + 1 - buffer;
391         leftoverlen = ctx->leftoverlen = length - leftover;
392         *input = buffer;
393         return leftover - 1;
394     } else {
395         // If a newline wasn't found at all, process the whole buffer next time
396         *input = 0;
397         if(length == MAX_BUFFER){
398             // Unless the buffer is completely full, in which case discard it
399             ckb_warn("Too much input (1MB). Dropping.\n");
400             return 0;
401         }
402         leftoverlen = ctx->leftoverlen = length;
403         return 0;
404     }
405 }
```

Here is the caller graph for this function:

13.12.3.9 void readlines_ctx_free (readlines_ctx *ctx*)

Definition at line 348 of file devnode.c.

References _readlines_ctx::buffer.

Referenced by devmain().

```
348                                             {
```

```
349     free(ctx->buffer);
350     free(ctx);
351 }
```

Here is the caller graph for this function:

13.12.3.10 void readlines_ctx_init (readlines_ctx * *ctx*)

Definition at line 341 of file devnode.c.

Referenced by devmain().

```
341                                         {
342     // Allocate buffers to store data
343     *ctx = calloc(1, sizeof(struct _readlines_ctx));
344     int buffersize = (*ctx)->buffersize = 4095;
345     (*ctx)->buffer = malloc(buffersize + 1);
346 }
```

Here is the caller graph for this function:

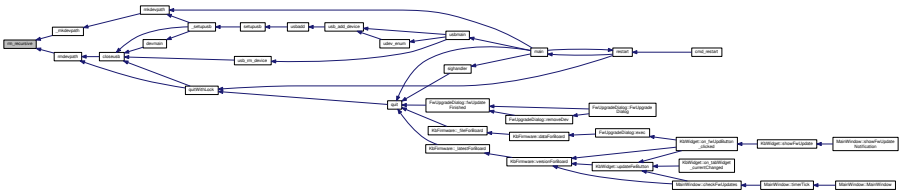
13.12.3.11 int rm_recursive (const char * *path*)

Definition at line 19 of file devnode.c.

Referenced by _mkdevpath(), and rmdevpath().

```
19                                      {
20     DIR* dir = opendir(path);
21     if(!dir)
22         return remove(path);
23     struct dirent* file;
24     while((file = readdir(dir)))
25     {
26         if(!strcmp(file->d_name, ".") || !strcmp(file->d_name, ".."))
27             continue;
28         char path2[FILENAME_MAX];
29         snprintf(path2, FILENAME_MAX, "%s/%s", path, file->d_name);
30         int stat = rm_recursive(path2);
31         if(stat != 0)
32             return stat;
33     }
34     closedir(dir);
35     return remove(path);
36 }
```

Here is the caller graph for this function:



13.12.3.12 int rmdevpath (usbdevice * *kb*)

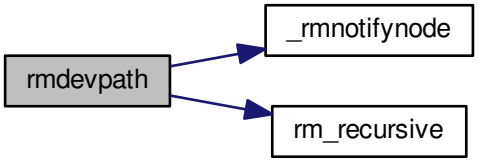
Definition at line 275 of file devnode.c.

References _rmnotifynode(), ckb_info, ckb_warn, devpath, euid_guard_start, euid_guard_stop, INDEX_OF, usbdevice::infifo, keyboard, OUTFIFO_MAX, and rm_recursive().

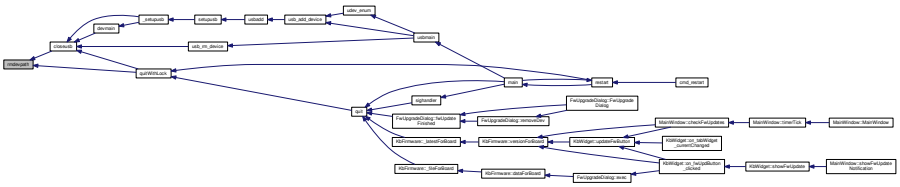
Referenced by closeusb(), and quitWithLock().

```
275                             {
276     euid_guard_start;
277     int index = INDEX_OF(kb, keyboard);
278     if(kb->infifo != 0){
279 #ifdef OS_LINUX
280         write(kb->infifo - 1, "\n", 1); // hack to prevent the FIFO thread from perma-blocking
281 #endif
282         close(kb->infifo - 1);
283         kb->infifo = 0;
284     }
285     for(int i = 0; i < OUTFIFO_MAX; i++)
286         _rmnotifynode(kb, i);
287     char path[strlen(devpath) + 2];
288     snprintf(path, sizeof(path), "%s%d", devpath, index);
289     if(rm_recursive(path) != 0 && errno != ENOENT){
290         ckb_warn("Unable to delete %s: %s\n", path, strerror(errno));
291         euid_guard_stop;
292         return -1;
293     }
294     ckb_info("Removed device path %s\n", path);
295     euid_guard_stop;
296     return 0;
297 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.12.3.13 int rmnotifynode (usbdevice * *kb*, int *notify*)

Definition at line 129 of file devnode.c.

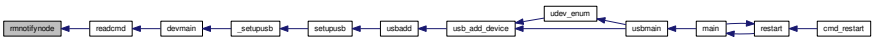
References _rmnotifynode(), euid_guard_start, and euid_guard_stop.

Referenced by readcmd().

```
129                                             {
130     euid_guard_start;
131     int res = _rmnotifynode(kb, notify);
132     euid_guard_stop;
133     return res;
134 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.12.3.14 void updateconnected ( )

Definition at line 81 of file devnode.c.

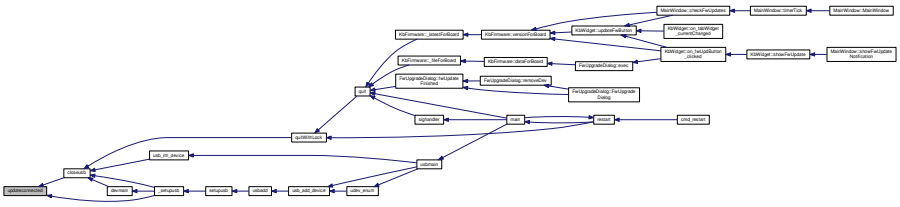
References _updateconnected(), euid_guard_start, and euid_guard_stop.

Referenced by _setupusb(), and closeusb().

```
81                          {
82     euid_guard_start;
83     _updateconnected();
84     euid_guard_stop;
85 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.12.4 Variable Documentation

13.12.4.1 const char∗ const devpath = "/dev/input/ckb"

Definition at line 11 of file devnode.c.

Referenced by _mkdevpath(), _mknotifynode(), _rmnotifynode(), _updateconnected(), mkfwnode(), and rmdevpath().

13.12.4.2 long gid = -1

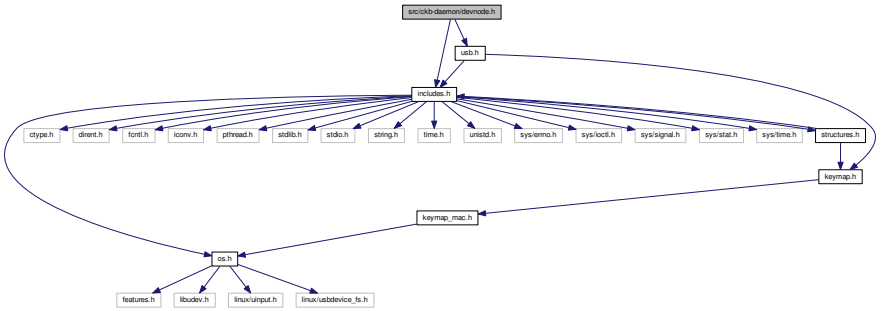
Definition at line 16 of file devnode.c.

Referenced by _mkdevpath(), _mknotifynode(), _updateconnected(), main(), and mkfwnode().

13.13 src/ckb-daemon/devnode.h File Reference

```
#include "includes.h"
#include "usb.h"
```

Include dependency graph for devnode.h:



This graph shows which files directly or indirectly include this file:

Macros

- #define S_READDIR (S_IRWXU | S_IRGRP | S_IROTH | S_IXGRP | S_IXOTH)
- #define S_READ (S_IRUSR | S_IRGRP | S_IROTH | S_IWUSR)
- #define S_READWRITE (S_IRUSR | S_IRGRP | S_IROTH | S_IWUSR | S_IWGRP | S_IWOTH)
- #define S_CUSTOM (S_IRUSR | S_IWUSR | S_IRGRP | S_IWGRP)
- #define S_CUSTOM_R (S_IRUSR | S_IWUSR | S_IRGRP)

Typedefs

- typedef struct _readlines_ctx * readlines_ctx

  Custom readline is needed for FIFOs. fopen()/getline() will die if the data is sent in too fast.

Functions

- void updateconnected ()

  Update the list of connected devices.
- int mkdevpath (usbdevice *kb)

  Create a dev path for the keyboard at index. Returns 0 on success.
- int rmdevpath (usbdevice *kb)

  Remove the dev path for the keyboard at index. Returns 0 on success.
- int mknotifynode (usbdevice *kb, int notify)

  Creates a notification node for the specified keyboard.
- int rmnotifynode (usbdevice *kb, int notify)

  Removes a notification node for the specified keyboard.
- int mkfwnode (usbdevice *kb)

  Writes a keyboard's firmware version and poll rate to its device node.
- void readlines_ctx_init (readlines_ctx *ctx)
- void readlines_ctx_free (readlines_ctx ctx)
- unsigned readlines (int fd, readlines_ctx ctx, const char **input)

Variables

- const char *const devpath

  Device path base ("/dev/input/ckb" or "/var/run/ckb")
- long gid

  Group ID for the control nodes. -1 to give read/write access to everybody.

13.13.1 Macro Definition Documentation

13.13.1.1 #define S_CUSTOM (S_IRUSR | S_IWUSR | S_IRGRP | S_IWGRP)

Definition at line 17 of file devnode.h.

Referenced by _mkdevpath().

13.13.1.2 #define S_CUSTOM_R (S_IRUSR | S_IWUSR | S_IRGRP)

Definition at line 18 of file devnode.h.

13.13.1.3 #define S_READ (S_IRUSR | S_IRGRP | S_IROTH | S_IWUSR)

Definition at line 15 of file devnode.h.

Referenced by _mkdevpath().

13.13.1.4 #define S_READDIR (S_IRWXU | S_IRGRP | S_IROTH | S_IXGRP | S_IXOTH)

Definition at line 14 of file devnode.h.

Referenced by _mkdevpath().

13.13.1.5 #define S_READWRITE (S_IRUSR | S_IRGRP | S_IROTH | S_IWUSR | S_IWGRP | S_IWOTH)

Definition at line 16 of file devnode.h.

Referenced by _mkdevpath().

13.13.2 Typedef Documentation

13.13.2.1 typedef struct _readlines_ctx* readlines_ctx

Definition at line 39 of file devnode.h.

13.13.3 Function Documentation

13.13.3.1 int mkdevpath (usbdevice * *kb*)

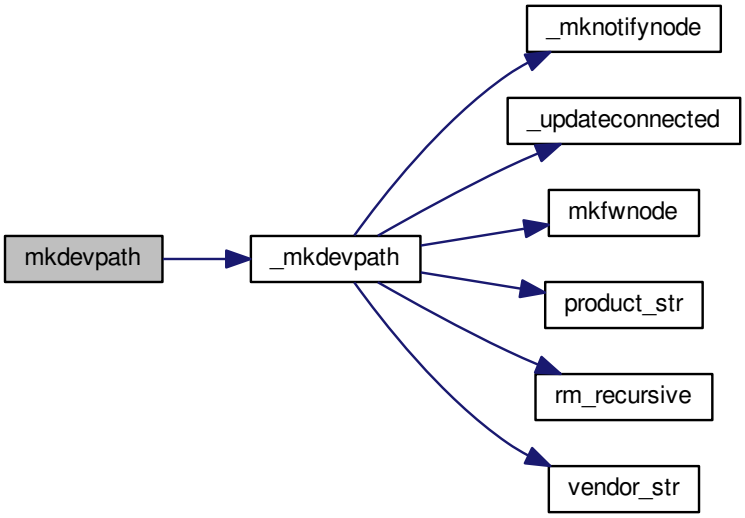
Definition at line 268 of file devnode.c.

References _mkdevpath(), euid_guard_start, and euid_guard_stop.

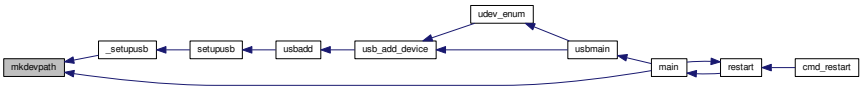
Referenced by _setupusb(), and main().

```
268                             {
269     euid_guard_start;
270     int res = _mkdevpath(kb);
271     euid_guard_stop;
272     return res;
273 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.13.3.2 int mkfwnode (usbdevice * *kb*)

Definition at line 299 of file devnode.c.

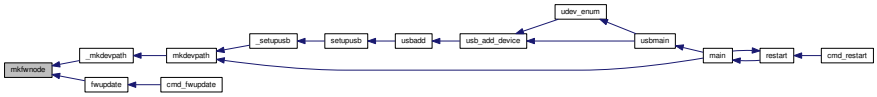
References ckb_warn, devpath, usbdevice::fwversion, gid, INDEX_OF, keyboard, usbdevice::pollrate, and S_GID_-READ.

Referenced by _mkdevpath(), and fwupdate().

```
299                             {
300     int index = INDEX_OF(kb, keyboard);
301     char fwpath[strlen(devpath) + 12];
302     snprintf(fwpath, sizeof(fwpath), "%s%d/fwversion", devpath, index);
303     FILE* fwfile = fopen(fwpath, "w");
304     if(fwfile){
305         fprintf(fwfile, "%04x", kb->fwversion);
306         fputc('\n', fwfile);
307         fclose(fwfile);
308         chmod(fwpath, S_GID_READ);
309         if(gid >= 0)
```

```
310             chown(fwpath, 0, gid);
311     } else {
312         ckb_warn("Unable to create %s: %s\n", fwpath, strerror(errno));
313         remove(fwpath);
314         return -1;
315     }
316     char ppath[strlen(devpath) + 11];
317     snprintf(ppath, sizeof(ppath), "%s%d/pollrate", devpath, index);
318     FILE* pfile = fopen(ppath, "w");
319     if(pfile){
320         fprintf(pfile, "%d ms", kb->pollrate);
321         fputc('\n', pfile);
322         fclose(pfile);
323         chmod(ppath, S_GID_READ);
324         if(gid >= 0)
325             chown(ppath, 0, gid);
326     } else {
327         ckb_warn("Unable to create %s: %s\n", fwpath, strerror(errno));
328         remove(ppath);
329         return -2;
330     }
331     return 0;
332 }
```

Here is the caller graph for this function:



13.13.3.3 int mknotifynode (usbdevice * *kb*, int *notify*)

Definition at line 108 of file devnode.c.

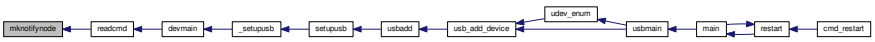
References _mknotifynode(), euid_guard_start, and euid_guard_stop.

Referenced by readcmd().

```
108                                             {
109     euid_guard_start;
110     int res = _mknotifynode(kb, notify);
111     euid_guard_stop;
112     return res;
113 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.13.3.4 unsigned readlines (int *fd*, readlines_ctx *ctx*, const char ** *input*)

Definition at line 353 of file devnode.c.

References _readlines_ctx::buffer, _readlines_ctx::buffersize, ckb_warn, _readlines_ctx::leftover, _readlines_ctx::leftoverlen, and MAX_BUFFER.

Referenced by devmain().

```
353                                                                 {
354     // Move any data left over from a previous read to the start of the buffer
355     char* buffer = ctx->buffer;
356     int buffersize = ctx->buffersize;
357     int leftover = ctx->leftover, leftoverlen = ctx->leftoverlen;
358     memcpy(buffer, buffer + leftover, leftoverlen);
359     // Read data from the file
360     ssize_t length = read(fd, buffer + leftoverlen, buffersize - leftoverlen);
361     length = (length < 0 ? 0 : length) + leftoverlen;
362     leftover = ctx->leftover = leftoverlen = ctx->leftoverlen = 0;
363     if(length <= 0){
364         *input = 0;
365         return 0;
366     }
367     // Continue buffering until all available input is read or there's no room left
368     while(length == buffersize){
369         if(buffersize == MAX_BUFFER)
370             break;
371         int oldsize = buffersize;
372         buffersize += 4096;
373         ctx->buffersize = buffersize;
374         buffer = ctx->buffer = realloc(buffer, buffersize + 1);
375         ssize_t length2 = read(fd, buffer + oldsize, buffersize - oldsize);
376         if(length2 <= 0)
377             break;
378         length += length2;
379     }
380     buffer[length] = 0;
381     // Input should be issued one line at a time and should end with a newline.
382     char* lastline = memrchr(buffer, '\n', length);
383     if(lastline == buffer + length - 1){
384         // If the buffer ends in a newline, process the whole string
385         *input = buffer;
386         return length;
387     } else if(lastline){
388         // Otherwise, chop off the last line but process everything else
389         *lastline = 0;
390         leftover = ctx->leftover = lastline + 1 - buffer;
391         leftoverlen = ctx->leftoverlen = length - leftover;
392         *input = buffer;
393         return leftover - 1;
394     } else {
395         // If a newline wasn't found at all, process the whole buffer next time
396         *input = 0;
397         if(length == MAX_BUFFER){
398             // Unless the buffer is completely full, in which case discard it
399             ckb_warn("Too much input (1MB). Dropping.\n");
400             return 0;
401         }
402         leftoverlen = ctx->leftoverlen = length;
403         return 0;
404     }
405 }
```

Here is the caller graph for this function:

13.13.3.5 void readlines_ctx_free (readlines_ctx *ctx*)

Definition at line 348 of file devnode.c.

References _readlines_ctx::buffer.

Referenced by devmain().

```
348                                         {
349     free(ctx->buffer);
350     free(ctx);
351 }
```

Here is the caller graph for this function:

13.13.3.6 void readlines_ctx_init (readlines_ctx * *ctx*)

Definition at line 341 of file devnode.c.

Referenced by devmain().

```
341                                         {
342     // Allocate buffers to store data
343     *ctx = calloc(1, sizeof(struct _readlines_ctx));
344     int buffersize = (*ctx)->buffersize = 4095;
345     (*ctx)->buffer = malloc(buffersize + 1);
346 }
```

Here is the caller graph for this function:

13.13.3.7 int rmdevpath (usbdevice * *kb*)

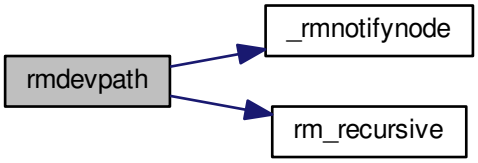
Definition at line 275 of file devnode.c.

References _rmnotifynode(), ckb_info, ckb_warn, devpath, euid_guard_start, euid_guard_stop, INDEX_OF, usbdevice::infifo, keyboard, OUTFIFO_MAX, and rm_recursive().

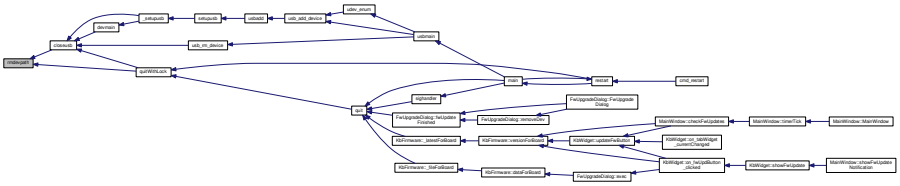
Referenced by closeusb(), and quitWithLock().

```
275                                 {
276     euid_guard_start;
277     int index = INDEX_OF(kb, keyboard);
278     if(kb->infifo != 0){
279 #ifdef OS_LINUX
280         write(kb->infifo - 1, "\n", 1); // hack to prevent the FIFO thread from perma-blocking
281 #endif
282         close(kb->infifo - 1);
283         kb->infifo = 0;
284     }
285     for(int i = 0; i < OUTFIFO_MAX; i++)
286         _rmnotifynode(kb, i);
287     char path[strlen(devpath) + 2];
288     snprintf(path, sizeof(path), "%s%d", devpath, index);
289     if(rm_recursive(path) != 0 && errno != ENOENT){
290         ckb_warn("Unable to delete %s: %s\n", path, strerror(errno));
291         euid_guard_stop;
292         return -1;
293     }
294     ckb_info("Removed device path %s\n", path);
295     euid_guard_stop;
296     return 0;
297 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.13.3.8 int rmnotifynode (usbdevice * *kb*, int *notify*)

Definition at line 129 of file devnode.c.

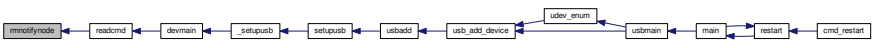
References _rmnotifynode(), euid_guard_start, and euid_guard_stop.

Referenced by readcmd().

```
129                                             {
130     euid_guard_start;
131     int res = _rmnotifynode(kb, notify);
132     euid_guard_stop;
133     return res;
134 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.13.3.9 void updateconnected ( )

Definition at line 81 of file devnode.c.

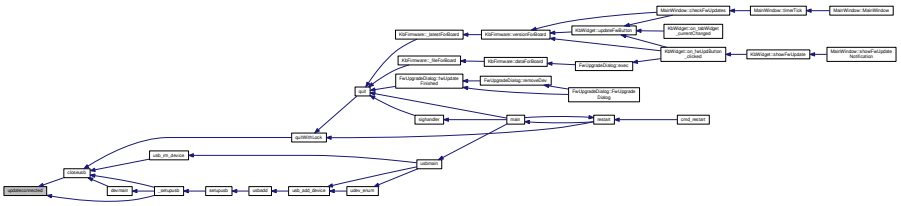
References _updateconnected(), euid_guard_start, and euid_guard_stop.

Referenced by _setupusb(), and closeusb().

```
81                          {
82     euid_guard_start;
83     _updateconnected();
84     euid_guard_stop;
85 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.13.4 Variable Documentation

13.13.4.1 const char∗ const devpath

Definition at line 8 of file devnode.h.

13.13.4.2 long gid

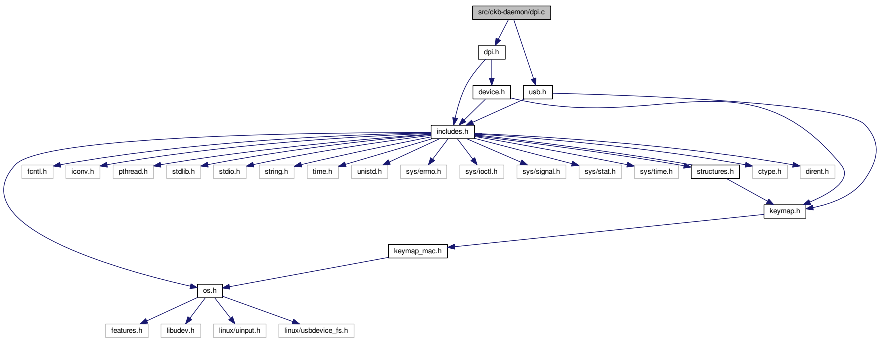
Definition at line 16 of file devnode.c.

Referenced by _mkdevpath(), _mknotifynode(), _updateconnected(), main(), and mkfwnode().

13.14 src/ckb-daemon/dpi.c File Reference

```
#include "dpi.h"
#include "usb.h"
```

Include dependency graph for dpi.c:



Functions

- void cmd_dpi (usbdevice ∗kb, usbmode ∗mode, int dummy, const char ∗stages, const char ∗values)
- void cmd_dpisel (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗stage)
- void cmd_lift (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗height)
- void cmd_snap (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗enable)
- char ∗ printdpi (const dpiset ∗dpi, const usbdevice ∗kb)
- int updatedpi (usbdevice ∗kb, int force)
- int savedpi (usbdevice ∗kb, dpiset ∗dpi, lighting ∗light)
- int loaddpi (usbdevice ∗kb, dpiset ∗dpi, lighting ∗light)

13.14.1 Function Documentation

13.14.1.1 void cmd_dpi (usbdevice ∗ *kb,* usbmode ∗ *mode,* int *dummy,* const char ∗ *stages,* const char ∗ *values*)

Definition at line 4 of file dpi.c.

References usbmode::dpi, DPI_COUNT, dpiset::enabled, left, dpiset::x, x, dpiset::y, and y.

```
4                                                                                                    {
5       int disable = 0;
6       ushort x, y;
7       // Try to scan X,Y values
8       if(sscanf(values, "%hu,%hu", &x, &y) != 2){
9           // If that doesn't work, scan single number
10           if(sscanf(values, "%hu", &x) == 1)
11               y = x;
12           else if(!strncmp(values, "off", 3))
13               // If the right side says "off", disable the level(s)
14               disable = 1;
15           else
16               // Otherwise, quit
17               return;
18       }
19       if((x == 0 || y == 0) && !disable)
20           return;
21       // Scan the left side for stage numbers (comma-separated)
22       int left = strlen(stages);
23       int position = 0, field = 0;
24       char stagename[3];
25       while(position < left && sscanf(stages + position, "%2[^,]%n", stagename, &field) == 1){
26           uchar stagenum;
27           if(sscanf(stagename, "%hhu", &stagenum) && stagenum < DPI_COUNT){
28               // Set DPI for this stage
29               if(disable){
30                   mode->dpi.enabled &= ~(1 << stagenum);
31                   mode->dpi.x[stagenum] = 0;
32                   mode->dpi.y[stagenum] = 0;
33               } else {
34                   mode->dpi.enabled |= 1 << stagenum;
35                   mode->dpi.x[stagenum] = x;
```

```
36                 mode->dpi.y[stagenum] = y;
37             }
38         }
39         if(stages[position += field] == ',')
40             position++;
41     }
42 }
```

13.14.1.2 void cmd_dpisel (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *stage*)

Definition at line 44 of file dpi.c.

References dpiset::current, usbmode::dpi, and DPI_COUNT.

```
44                                                                                  {
45     uchar stagenum;
46     if(sscanf(stage, "%hhu", &stagenum) != 1)
47         return;
48     if(stagenum > DPI_COUNT)
49         return;
50     mode->dpi.current = stagenum;
51 }
```

13.14.1.3 void cmd_lift (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *height*)

Definition at line 53 of file dpi.c.

References usbmode::dpi, dpiset::lift, LIFT_MAX, and LIFT_MIN.

```
53                                                                                  {
54     uchar heightnum;
55     if(sscanf(height, "%hhu", &heightnum) != 1)
56         return;
57     if(heightnum > LIFT_MAX || heightnum < LIFT_MIN)
58         return;
59     mode->dpi.lift = heightnum;
60 }
```

13.14.1.4 void cmd_snap (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *enable*)

Definition at line 62 of file dpi.c.

References usbmode::dpi, and dpiset::snap.

```
62                                                                                  {
63     if(!strcmp(enable, "on"))
64         mode->dpi.snap = 1;
65     if(!strcmp(enable, "off"))
66         mode->dpi.snap = 0;
67 }
```

13.14.1.5 int loaddpi (usbdevice * *kb*, dpiset * *dpi*, lighting * *light*)

Definition at line 152 of file dpi.c.

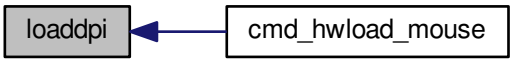
References lighting::b, ckb_err, dpiset::current, DPI_COUNT, dpiset::enabled, lighting::g, LED_MOUSE, dpiset::lift, LIFT_MAX, LIFT_MIN, MSG_SIZE, N_MOUSE_ZONES, lighting::r, dpiset::snap, usbrecv, dpiset::x, and dpiset::y.

Referenced by cmd_hwload_mouse().

```
152                                                 {
153     // Ask for settings
154     uchar data_pkt[4][MSG_SIZE] = {
155         { 0x0e, 0x13, 0x05, 1, },
156         { 0x0e, 0x13, 0x02, 1, },
```

```
157         { 0x0e, 0x13, 0x03, 1, },
158         { 0x0e, 0x13, 0x04, 1, }
159     };
160     uchar in_pkt[4][MSG_SIZE];
161     for(int i = 0; i < 4; i++){
162         if(!usbrecv(kb, data_pkt[i], in_pkt[i]))
163             return -2;
164         if(memcmp(in_pkt[i], data_pkt[i], 4)){
165             ckb_err("Bad input header\n");
166             return -3;
167         }
168     }
169     // Copy data from device
170     dpi->enabled = in_pkt[0][4];
171     dpi->enabled &= (1 << DPI_COUNT) - 1;
172     dpi->current = in_pkt[1][4];
173     if(dpi->current >= DPI_COUNT)
174         dpi->current = 0;
175     dpi->lift = in_pkt[2][4];
176     if(dpi->lift < LIFT_MIN || dpi->lift > LIFT_MAX)
177         dpi->lift = LIFT_MIN;
178     dpi->snap = !!in_pkt[3][4];
179
180     // Get X/Y DPIs
181     for(int i = 0; i < DPI_COUNT; i++){
182         uchar data_pkt[MSG_SIZE] = { 0x0e, 0x13, 0xd0, 1 };
183         uchar in_pkt[MSG_SIZE];
184         data_pkt[2] |= i;
185         if(!usbrecv(kb, data_pkt, in_pkt))
186             return -2;
187         if(memcmp(in_pkt, data_pkt, 4)){
188             ckb_err("Bad input header\n");
189             return -3;
190         }
191         // Copy to profile
192         dpi->x[i] = *(ushort*)(in_pkt + 5);
193         dpi->y[i] = *(ushort*)(in_pkt + 7);
194         light->r[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[9];
195         light->g[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[10];
196         light->b[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[11];
197     }
198     // Finished. Set SW DPI light to the current hardware level
199     light->r[LED_MOUSE + 2] = light->r[LED_MOUSE +
    N_MOUSE_ZONES + dpi->current];
200     light->g[LED_MOUSE + 2] = light->g[LED_MOUSE +
    N_MOUSE_ZONES + dpi->current];
201     light->b[LED_MOUSE + 2] = light->b[LED_MOUSE +
    N_MOUSE_ZONES + dpi->current];
202     return 0;
203 }
```

Here is the caller graph for this function:



13.14.1.6 char* printdpi (const dpiset * *dpi*, const usbdevice * *kb*)

Definition at line 69 of file dpi.c.

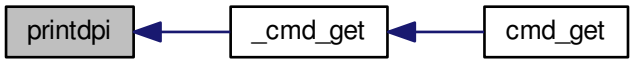
References _readlines_ctx::buffer, DPI_COUNT, dpiset::enabled, dpiset::x, and dpiset::y.

Referenced by _cmd_get().

```
69                                                  {
70     // Print all DPI settings
71     const int BUFFER_LEN = 100;
```

```
72     char* buffer = malloc(BUFFER_LEN);
73     int length = 0;
74     for(int i = 0; i < DPI_COUNT; i++){
75         // Print the stage number
76         int newlen = 0;
77         snprintf(buffer + length, BUFFER_LEN - length, length == 0 ? "%d%n" : " %d%n", i, &newlen);
78         length += newlen;
79         // Print the DPI settings
80         if(!(dpi->enabled & (1 << i)))
81             snprintf(buffer + length, BUFFER_LEN - length, ":off%n", &newlen);
82         else
83             snprintf(buffer + length, BUFFER_LEN - length, ":%u,%u%n", dpi->x[i], dpi->
     y[i], &newlen);
84         length += newlen;
85     }
86     return buffer;
87 }
```

Here is the caller graph for this function:



13.14.1.7 int savedpi (usbdevice * *kb*, dpiset * *dpi*, lighting * *light*)

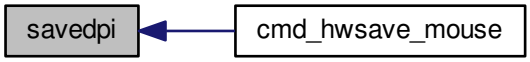
Definition at line 124 of file dpi.c.

References lighting::b, dpiset::current, DPI_COUNT, dpiset::enabled, lighting::g, LED_MOUSE, dpiset::lift, MSG_-SIZE, N_MOUSE_ZONES, lighting::r, dpiset::snap, usbsend, dpiset::x, and dpiset::y.

Referenced by cmd_hwsave_mouse().

```
124                                                 {
125     // Send X/Y DPIs
126     for(int i = 0; i < DPI_COUNT; i++){
127         uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0xd0, 1 };
128         data_pkt[2] |= i;
129         *(ushort*)(data_pkt + 5) = dpi->x[i];
130         *(ushort*)(data_pkt + 7) = dpi->y[i];
131         // Save the RGB value for this setting too
132         data_pkt[9] = light->r[LED_MOUSE + N_MOUSE_ZONES + i];
133         data_pkt[10] = light->g[LED_MOUSE + N_MOUSE_ZONES + i];
134         data_pkt[11] = light->b[LED_MOUSE + N_MOUSE_ZONES + i];
135         if(!usbsend(kb, data_pkt, 1))
136             return -1;
137     }
138
139     // Send settings
140     uchar data_pkt[4][MSG_SIZE] = {
141         { 0x07, 0x13, 0x05, 1, dpi->enabled },
142         { 0x07, 0x13, 0x02, 1, dpi->current },
143         { 0x07, 0x13, 0x03, 1, dpi->lift },
144         { 0x07, 0x13, 0x04, 1, dpi->snap, 0x05 }
145     };
146     if(!usbsend(kb, data_pkt[0], 4))
147         return -2;
148     // Finished
149     return 0;
150 }
```

Here is the caller graph for this function:



13.14.1.8 int updatedpi (usbdevice * *kb*, int *force*)

Definition at line 89 of file dpi.c.

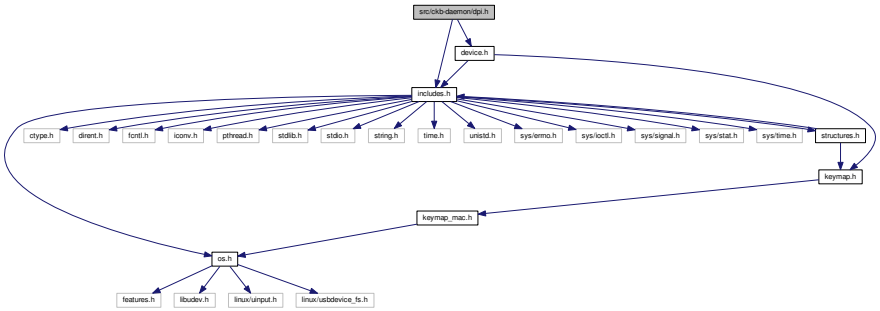
References usbdevice::active, dpiset::current, usbprofile::currentmode, usbmode::dpi, DPI_COUNT, dpiset::enabled, dpiset::forceupdate, usbprofile::lastdpi, dpiset::lift, MSG_SIZE, usbdevice::profile, dpiset::snap, usbsend, dpiset::x, and dpiset::y.

```
89                                      {
90      if(!kb->active)
91          return 0;
92      dpiset* lastdpi = &kb->profile->lastdpi;
93      dpiset* newdpi = &kb->profile->currentmode->dpi;
94      // Don't do anything if the settings haven't changed
95      if(!force && !lastdpi->forceupdate && !newdpi->forceupdate
96              && !memcmp(lastdpi, newdpi, sizeof(dpiset)))
97          return 0;
98      lastdpi->forceupdate = newdpi->forceupdate = 0;
99
100      // Send X/Y DPIs
101      for(int i = 0; i < DPI_COUNT; i++){
102          uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0xd0, 0 };
103          data_pkt[2] |= i;
104          *(ushort*)(data_pkt + 5) = newdpi->x[i];
105          *(ushort*)(data_pkt + 7) = newdpi->y[i];
106          if(!usbsend(kb, data_pkt, 1))
107              return -1;
108      }
109
110      // Send settings
111      uchar data_pkt[4][MSG_SIZE] = {
112          { 0x07, 0x13, 0x05, 0, newdpi->enabled },
113          { 0x07, 0x13, 0x02, 0, newdpi->current },
114          { 0x07, 0x13, 0x03, 0, newdpi->lift },
115          { 0x07, 0x13, 0x04, 0, newdpi->snap, 0x05 }
116      };
117      if(!usbsend(kb, data_pkt[0], 4))
118          return -2;
119      // Finished
120      memcpy(lastdpi, newdpi, sizeof(dpiset));
121      return 0;
122  }
```

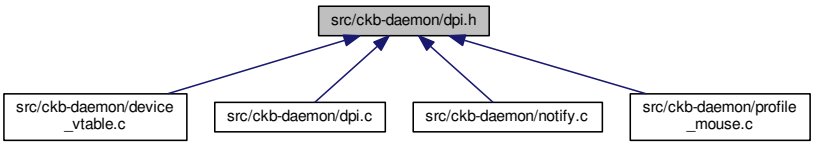
13.15 src/ckb-daemon/dpi.h File Reference

```
#include "includes.h"
#include "device.h"
```

Include dependency graph for dpi.h:



This graph shows which files directly or indirectly include this file:



Functions

- int updatedpi (usbdevice ∗kb, int force)
- int savedpi (usbdevice ∗kb, dpiset ∗dpi, lighting ∗light)
- int loaddpi (usbdevice ∗kb, dpiset ∗dpi, lighting ∗light)
- char ∗ printdpi (const dpiset ∗dpi, const usbdevice ∗kb)
- void cmd_dpi (usbdevice ∗kb, usbmode ∗mode, int dummy, const char ∗stages, const char ∗values)
- void cmd_dpisel (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗stage)
- void cmd_lift (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗height)
- void cmd_snap (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗enable)

13.15.1 Function Documentation

13.15.1.1 void cmd_dpi (usbdevice ∗ *kb,* usbmode ∗ *mode,* int *dummy,* const char ∗ *stages,* const char ∗ *values*)

Definition at line 4 of file dpi.c.

References usbmode::dpi, DPI_COUNT, dpiset::enabled, left, dpiset::x, x, dpiset::y, and y.

```
4                                                                                                   {
5       int disable = 0;
6       ushort x, y;
7       // Try to scan X,Y values
8       if(sscanf(values, "%hu,%hu", &x, &y) != 2){
9           // If that doesn't work, scan single number
10          if(sscanf(values, "%hu", &x) == 1)
11              y = x;
12          else if(!strncmp(values, "off", 3))
13              // If the right side says "off", disable the level(s)
14              disable = 1;
15          else
16              // Otherwise, quit
17              return;
```

```
18      }
19      if((x == 0 || y == 0) && !disable)
20          return;
21      // Scan the left side for stage numbers (comma-separated)
22      int left = strlen(stages);
23      int position = 0, field = 0;
24      char stagename[3];
25      while(position < left && sscanf(stages + position, "%2[^,]%n", stagename, &field) == 1){
26          uchar stagenum;
27          if(sscanf(stagename, "%hhu", &stagenum) && stagenum < DPI_COUNT){
28              // Set DPI for this stage
29              if(disable){
30                  mode->dpi.enabled &= ~(1 << stagenum);
31                  mode->dpi.x[stagenum] = 0;
32                  mode->dpi.y[stagenum] = 0;
33              } else {
34                  mode->dpi.enabled |= 1 << stagenum;
35                  mode->dpi.x[stagenum] = x;
36                  mode->dpi.y[stagenum] = y;
37              }
38          }
39          if(stages[position += field] == ',')
40              position++;
41      }
42  }
```

13.15.1.2 void cmd_dpisel (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *stage*)

Definition at line 44 of file dpi.c.

References dpiset::current, usbmode::dpi, and DPI_COUNT.

```
44                                                                                  {
45      uchar stagenum;
46      if(sscanf(stage, "%hhu", &stagenum) != 1)
47          return;
48      if(stagenum > DPI_COUNT)
49          return;
50      mode->dpi.current = stagenum;
51  }
```

13.15.1.3 void cmd_lift (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *height*)

Definition at line 53 of file dpi.c.

References usbmode::dpi, dpiset::lift, LIFT_MAX, and LIFT_MIN.

```
53                                                                                  {
54      uchar heightnum;
55      if(sscanf(height, "%hhu", &heightnum) != 1)
56          return;
57      if(heightnum > LIFT_MAX || heightnum < LIFT_MIN)
58          return;
59      mode->dpi.lift = heightnum;
60  }
```

13.15.1.4 void cmd_snap (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *enable*)

Definition at line 62 of file dpi.c.

References usbmode::dpi, and dpiset::snap.

```
62                                                                                  {
63      if(!strcmp(enable, "on"))
64          mode->dpi.snap = 1;
65      if(!strcmp(enable, "off"))
66          mode->dpi.snap = 0;
67  }
```

13.15.1.5 int loaddpi (usbdevice * *kb*, dpiset * *dpi*, lighting * *light*)

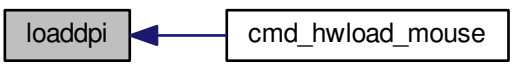
Definition at line 152 of file dpi.c.

References lighting::b, ckb_err, dpiset::current, DPI_COUNT, dpiset::enabled, lighting::g, LED_MOUSE, dpiset::lift, LIFT_MAX, LIFT_MIN, MSG_SIZE, N_MOUSE_ZONES, lighting::r, dpiset::snap, usbrecv, dpiset::x, and dpiset::y.

Referenced by cmd_hwload_mouse().

```
152                                                     {
153     // Ask for settings
154     uchar data_pkt[4][MSG_SIZE] = {
155         { 0x0e, 0x13, 0x05, 1, },
156         { 0x0e, 0x13, 0x02, 1, },
157         { 0x0e, 0x13, 0x03, 1, },
158         { 0x0e, 0x13, 0x04, 1, }
159     };
160     uchar in_pkt[4][MSG_SIZE];
161     for(int i = 0; i < 4; i++){
162         if(!usbrecv(kb, data_pkt[i], in_pkt[i]))
163             return -2;
164         if(memcmp(in_pkt[i], data_pkt[i], 4)){
165             ckb_err("Bad input header\n");
166             return -3;
167         }
168     }
169     // Copy data from device
170     dpi->enabled = in_pkt[0][4];
171     dpi->enabled &= (1 << DPI_COUNT) - 1;
172     dpi->current = in_pkt[1][4];
173     if(dpi->current >= DPI_COUNT)
174         dpi->current = 0;
175     dpi->lift = in_pkt[2][4];
176     if(dpi->lift < LIFT_MIN || dpi->lift > LIFT_MAX)
177         dpi->lift = LIFT_MIN;
178     dpi->snap = !!in_pkt[3][4];
179
180     // Get X/Y DPIs
181     for(int i = 0; i < DPI_COUNT; i++){
182         uchar data_pkt[MSG_SIZE] = { 0x0e, 0x13, 0xd0, 1 };
183         uchar in_pkt[MSG_SIZE];
184         data_pkt[2] |= i;
185         if(!usbrecv(kb, data_pkt, in_pkt))
186             return -2;
187         if(memcmp(in_pkt, data_pkt, 4)){
188             ckb_err("Bad input header\n");
189             return -3;
190         }
191         // Copy to profile
192         dpi->x[i] = *(ushort*)(in_pkt + 5);
193         dpi->y[i] = *(ushort*)(in_pkt + 7);
194         light->r[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[9];
195         light->g[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[10];
196         light->b[LED_MOUSE + N_MOUSE_ZONES + i] = in_pkt[11];
197     }
198     // Finished. Set SW DPI light to the current hardware level
199     light->r[LED_MOUSE + 2] = light->r[LED_MOUSE +
    N_MOUSE_ZONES + dpi->current];
200     light->g[LED_MOUSE + 2] = light->g[LED_MOUSE +
    N_MOUSE_ZONES + dpi->current];
201     light->b[LED_MOUSE + 2] = light->b[LED_MOUSE +
    N_MOUSE_ZONES + dpi->current];
202     return 0;
203 }
```

Here is the caller graph for this function:



13.15.1.6 char* printdpi (const dpiset * *dpi,* const usbdevice * *kb*)

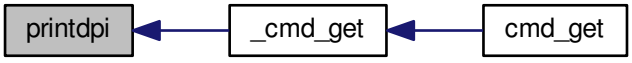
Definition at line 69 of file dpi.c.

References _readlines_ctx::buffer, DPI_COUNT, dpiset::enabled, dpiset::x, and dpiset::y.

Referenced by _cmd_get().

```
69                                                      {
70     // Print all DPI settings
71     const int BUFFER_LEN = 100;
72     char* buffer = malloc(BUFFER_LEN);
73     int length = 0;
74     for(int i = 0; i < DPI_COUNT; i++){
75         // Print the stage number
76         int newlen = 0;
77         snprintf(buffer + length, BUFFER_LEN - length, length == 0 ? "%d%n" : " %d%n", i, &newlen);
78         length += newlen;
79         // Print the DPI settings
80         if(!(dpi->enabled & (1 << i)))
81             snprintf(buffer + length, BUFFER_LEN - length, ":off%n", &newlen);
82         else
83             snprintf(buffer + length, BUFFER_LEN - length, ":%u,%u%n", dpi->x[i], dpi->
       y[i], &newlen);
84         length += newlen;
85     }
86     return buffer;
87 }
```

Here is the caller graph for this function:



13.15.1.7 int savedpi (usbdevice * *kb,* dpiset * *dpi,* lighting * *light*)

Definition at line 124 of file dpi.c.

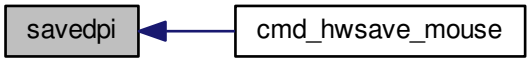
References lighting::b, dpiset::current, DPI_COUNT, dpiset::enabled, lighting::g, LED_MOUSE, dpiset::lift, MSG_-SIZE, N_MOUSE_ZONES, lighting::r, dpiset::snap, usbsend, dpiset::x, and dpiset::y.

Referenced by cmd_hwsave_mouse().

```
124                                                       {
125     // Send X/Y DPIs
126     for(int i = 0; i < DPI_COUNT; i++){
127         uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0xd0, 1 };
128         data_pkt[2] |= i;
129         *(ushort*)(data_pkt + 5) = dpi->x[i];
130         *(ushort*)(data_pkt + 7) = dpi->y[i];
131         // Save the RGB value for this setting too
132         data_pkt[9] = light->r[LED_MOUSE + N_MOUSE_ZONES + i];
133         data_pkt[10] = light->g[LED_MOUSE + N_MOUSE_ZONES + i];
134         data_pkt[11] = light->b[LED_MOUSE + N_MOUSE_ZONES + i];
135         if(!usbsend(kb, data_pkt, 1))
136             return -1;
137     }
138
139     // Send settings
140     uchar data_pkt[4][MSG_SIZE] = {
141         { 0x07, 0x13, 0x05, 1, dpi->enabled },
142         { 0x07, 0x13, 0x02, 1, dpi->current },
143         { 0x07, 0x13, 0x03, 1, dpi->lift },
144         { 0x07, 0x13, 0x04, 1, dpi->snap, 0x05 }
145     };
```

```
146     if(!usbsend(kb, data_pkt[0], 4))
147         return -2;
148     // Finished
149     return 0;
150 }
```

Here is the caller graph for this function:



13.15.1.8 int updatedpi (usbdevice * *kb*, int *force*)

Definition at line 89 of file dpi.c.

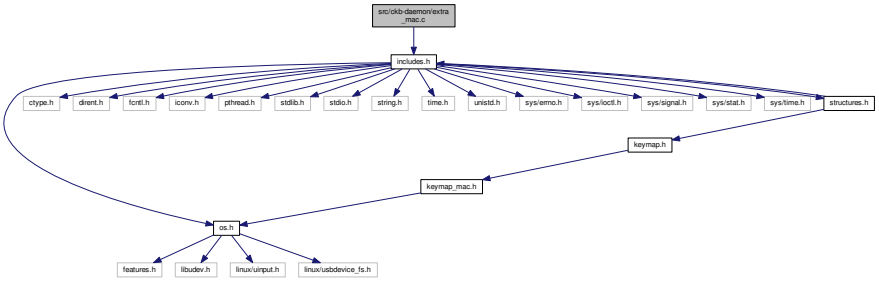
References usbdevice::active, dpiset::current, usbprofile::currentmode, usbmode::dpi, DPI_COUNT, dpiset::enabled, dpiset::forceupdate, usbprofile::lastdpi, dpiset::lift, MSG_SIZE, usbdevice::profile, dpiset::snap, usbsend, dpiset::x, and dpiset::y.

```
89                                      {
90     if(!kb->active)
91         return 0;
92     dpiset* lastdpi = &kb->profile->lastdpi;
93     dpiset* newdpi = &kb->profile->currentmode->dpi;
94     // Don't do anything if the settings haven't changed
95     if(!force && !lastdpi->forceupdate && !newdpi->forceupdate
96             && !memcmp(lastdpi, newdpi, sizeof(dpiset)))
97         return 0;
98     lastdpi->forceupdate = newdpi->forceupdate = 0;
99
100     // Send X/Y DPIs
101     for(int i = 0; i < DPI_COUNT; i++){
102         uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0xd0, 0 };
103         data_pkt[2] |= i;
104         *(ushort*)(data_pkt + 5) = newdpi->x[i];
105         *(ushort*)(data_pkt + 7) = newdpi->y[i];
106         if(!usbsend(kb, data_pkt, 1))
107             return -1;
108     }
109
110     // Send settings
111     uchar data_pkt[4][MSG_SIZE] = {
112         { 0x07, 0x13, 0x05, 0, newdpi->enabled },
113         { 0x07, 0x13, 0x02, 0, newdpi->current },
114         { 0x07, 0x13, 0x03, 0, newdpi->lift },
115         { 0x07, 0x13, 0x04, 0, newdpi->snap, 0x05 }
116     };
117     if(!usbsend(kb, data_pkt[0], 4))
118         return -2;
119     // Finished
120     memcpy(lastdpi, newdpi, sizeof(dpiset));
121     return 0;
122 }
```

13.16 src/ckb-daemon/extra_mac.c File Reference

```
#include "includes.h"
```

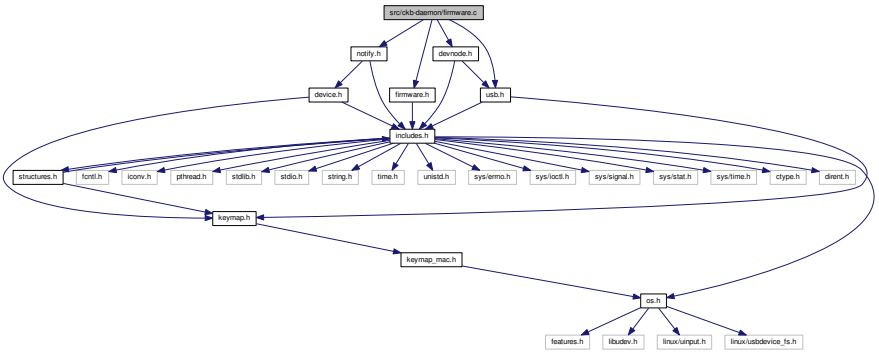
Include dependency graph for extra_mac.c:



13.17 src/ckb-daemon/firmware.c File Reference

```
#include "devnode.h"
#include "firmware.h"
#include "notify.h"
#include "usb.h"
```

Include dependency graph for firmware.c:



Macros

- #define FW_OK 0
- #define FW_NOFILE -1
- #define FW_WRONGDEV -2
- #define FW_USBFAIL -3
- #define FW_MAXSIZE (255 ∗ 256)

Functions

- int getfwversion (usbdevice ∗kb)
- int fwupdate (usbdevice ∗kb, const char ∗path, int nnumber)
- int cmd_fwupdate (usbdevice ∗kb, usbmode ∗dummy1, int nnumber, int dummy2, const char ∗path)

13.17.1 Macro Definition Documentation

13.17.1.1 #define FW_MAXSIZE (255 * 256)

Definition at line 51 of file firmware.c.

Referenced by fwupdate().

13.17.1.2 #define FW_NOFILE -1

Definition at line 7 of file firmware.c.

Referenced by cmd_fwupdate(), and fwupdate().

13.17.1.3 #define FW_OK 0

Definition at line 6 of file firmware.c.

Referenced by cmd_fwupdate(), and fwupdate().

13.17.1.4 #define FW_USBFAIL -3

Definition at line 9 of file firmware.c.

Referenced by cmd_fwupdate(), and fwupdate().

13.17.1.5 #define FW_WRONGDEV -2

Definition at line 8 of file firmware.c.

Referenced by cmd_fwupdate(), and fwupdate().

13.17.2 Function Documentation

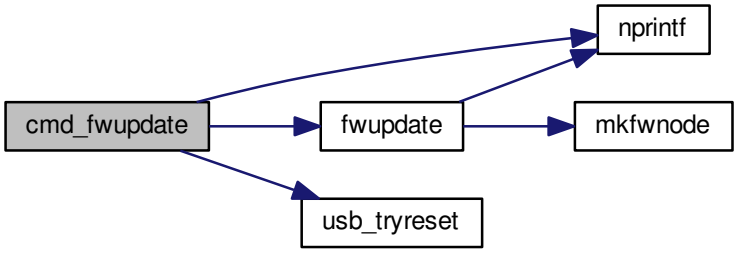
13.17.2.1 int cmd_fwupdate (usbdevice * *kb*, usbmode * *dummy1*, int *nnumber*, int *dummy2*, const char * *path*)

Definition at line 154 of file firmware.c.

References FEAT_FWUPDATE, FW_NOFILE, FW_OK, FW_USBFAIL, FW_WRONGDEV, fwupdate(), HAS_FEATURES, nprintf(), and usb_tryreset().

```
154                                                                                 {
155     if(!HAS_FEATURES(kb, FEAT_FWUPDATE))
156         return 0;
157     // Update the firmware
158     int ret = fwupdate(kb, path, nnumber);
159     while(ret == FW_USBFAIL){
160         // Try to reset the device if it fails
161         if(usb_tryreset(kb))
162             break;
163         ret = fwupdate(kb, path, nnumber);
164     }
165     switch(ret){
166     case FW_OK:
167         nprintf(kb, nnumber, 0, "fwupdate %s ok\n", path);
168         break;
169     case FW_NOFILE:
170     case FW_WRONGDEV:
171         nprintf(kb, nnumber, 0, "fwupdate %s invalid\n", path);
172         break;
173     case FW_USBFAIL:
174         nprintf(kb, nnumber, 0, "fwupdate %s fail\n", path);
175         return -1;
176     }
177     return 0;
178 }
```

Here is the call graph for this function:



13.17.2.2 int fwupdate (usbdevice * *kb*, const char * *path*, int *nnumber*)

Definition at line 55 of file firmware.c.

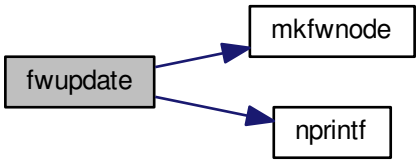
References ckb_err, ckb_info, FW_MAXSIZE, FW_NOFILE, FW_OK, FW_USBFAIL, FW_WRONGDEV, usbdevice::fwversion, mkfwnode(), MSG_SIZE, nprintf(), usbdevice::product, usbdevice::usbdelay, usbsend, and usbdevice::vendor.

Referenced by cmd_fwupdate().

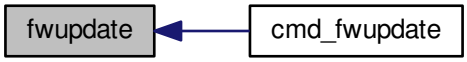
```
55                                                      {
56     // Read the firmware from the given path
57     char* fwdata = calloc(1, FW_MAXSIZE + 256);
58     int fd = open(path, O_RDONLY);
59     if(fd == -1){
60         ckb_err("Failed to open firmware file %s: %s\n", path, strerror(errno));
61         return FW_NOFILE;
62     }
63     ssize_t length = read(fd, fwdata, FW_MAXSIZE + 1);
64     if(length <= 0x108 || length > FW_MAXSIZE){
65         ckb_err("Failed to read firmware file %s: %s\n", path, length <= 0 ? strerror(errno) : "
     Wrong size");
66         close(fd);
67         return FW_NOFILE;
68     }
69     close(fd);
70 
71     short vendor, product, version;
72     // Copy the vendor ID, product ID, and version from the firmware file
73     memcpy(&vendor, fwdata + 0x102, 2);
74     memcpy(&product, fwdata + 0x104, 2);
75     memcpy(&version, fwdata + 0x106, 2);
76     // Check against the actual device
77     if(vendor != kb->vendor || product != kb->product){
78         ckb_err("Firmware file %s doesn't match device (V: %04x P: %04x)\n", path, vendor, product);
79         return FW_WRONGDEV;
80     }
81     ckb_info("Loading firmware version %04x from %s\n", version, path);
82     nprintf(kb, nnumber, 0, "fwupdate %s 0/%d\n", path, (int)length);
83     // Force the device to 10ms delay (we need to deliver packets very slowly to make sure it doesn't get
     overwhelmed)
84     kb->usbdelay = 10;
85     // Send the firmware messages (256 bytes at a time)
86     uchar data_pkt[7][MSG_SIZE] = {
87         { 0x07, 0x0c, 0xf0, 0x01, 0 },
88         { 0x07, 0x0d, 0xf0, 0 },
89         { 0x7f, 0x01, 0x3c, 0 },
90         { 0x7f, 0x02, 0x3c, 0 },
91         { 0x7f, 0x03, 0x3c, 0 },
92         { 0x7f, 0x04, 0x3c, 0 },
93         { 0x7f, 0x05, 0x10, 0 }
94     };
95     int output = 0, last = 0;
96     int index = 0;
```

```
97      while(output < length){
98          int npackets = 1;
99          // Packet 1: data position
100          data_pkt[1][6] = index++;
101          while(output < length){
102              npackets++;
103              if(npackets != 6){
104                  // Packets 2-5: 60 bytes of data
105                  memcpy(data_pkt[npackets] + 4, fwdata + output, 60);
106                  last = output;
107                  output += 60;
108              } else {
109                  // Packet 6: 16 bytes
110                  memcpy(data_pkt[npackets] + 4, fwdata + output, 16);
111                  last = output;
112                  output += 16;
113                  break;
114              }
115          }
116          if(index == 1){
117              if(!usbsend(kb, data_pkt[0], 1)){
118                  ckb_err("Firmware update failed\n");
119                  return FW_USBFAIL;
120              }
121              // The above packet can take a lot longer to process, so wait for a while
122              sleep(3);
123              if(!usbsend(kb, data_pkt[2], npackets - 1)){
124                  ckb_err("Firmware update failed\n");
125                  return FW_USBFAIL;
126              }
127          } else {
128              // If the output ends here, set the length byte appropriately
129              if(output >= length)
130                  data_pkt[npackets][2] = length - last;
131              if(!usbsend(kb, data_pkt[1], npackets)){
132                  ckb_err("Firmware update failed\n");
133                  return FW_USBFAIL;
134              }
135          }
136          nprintf(kb, nnumber, 0, "fwupdate %s %d/%d\n", path, output, (int)length);
137      }
138      // Send the final pair of messages
139      uchar data_pkt2[2][MSG_SIZE] = {
140          { 0x07, 0x0d, 0xf0, 0x00, 0x00, 0x00, index },
141          { 0x07, 0x02, 0xf0, 0 }
142      };
143      if(!usbsend(kb, data_pkt2[0], 2)){
144          ckb_err("Firmware update failed\n");
145          return FW_USBFAIL;
146      }
147      // Updated successfully
148      kb->fwversion = version;
149      mkfwnode(kb);
150      ckb_info("Firmware update complete\n");
151      return FW_OK;
152  }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.17.2.3 int getfwversion (usbdevice * kb)

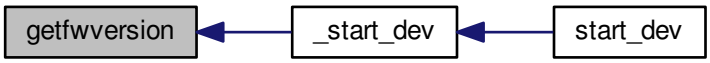
Definition at line 11 of file firmware.c.

References ckb_err, ckb_warn, FEAT_POLLRATE, usbdevice::features, usbdevice::fwversion, MSG_SIZE, usbdevice::pollrate, usbdevice::product, usbrecv, and usbdevice::vendor.

Referenced by _start_dev().

```
11                                {
12      // Ask board for firmware info
13      uchar data_pkt[MSG_SIZE] = { 0x0e, 0x01, 0 };
14      uchar in_pkt[MSG_SIZE];
15      if(!usbrecv(kb, data_pkt, in_pkt))
16          return -1;
17      if(in_pkt[0] != 0x0e || in_pkt[1] != 0x01){
18          ckb_err("Bad input header\n");
19          return -1;
20      }
21      short vendor, product, version, bootloader;
22      // Copy the vendor ID, product ID, version, and poll rate from the firmware data
23      memcpy(&version, in_pkt + 8, 2);
24      memcpy(&bootloader, in_pkt + 10, 2);
25      memcpy(&vendor, in_pkt + 12, 2);
26      memcpy(&product, in_pkt + 14, 2);
27      char poll = in_pkt[16];
28      if(poll <= 0){
29          poll = -1;
30          kb->features &= ~FEAT_POLLRATE;
31      }
32      // Print a warning if the message didn't match the expected data
33      if(vendor != kb->vendor)
34          ckb_warn("Got vendor ID %04x (expected %04x)\n", vendor, kb->
    vendor);
35      if(product != kb->product)
36          ckb_warn("Got product ID %04x (expected %04x)\n", product, kb->
    product);
37      // Set firmware version and poll rate
38      if(version == 0 || bootloader == 0){
39          // Needs firmware update
40          kb->fwversion = 0;
41          kb->pollrate = -1;
42      } else {
43          if(version != kb->fwversion && kb->fwversion != 0)
44              ckb_warn("Got firmware version %04x (expected %04x)\n", version, kb->
    fwversion);
45          kb->fwversion = version;
46          kb->pollrate = poll;
47      }
48      return 0;
49  }
```

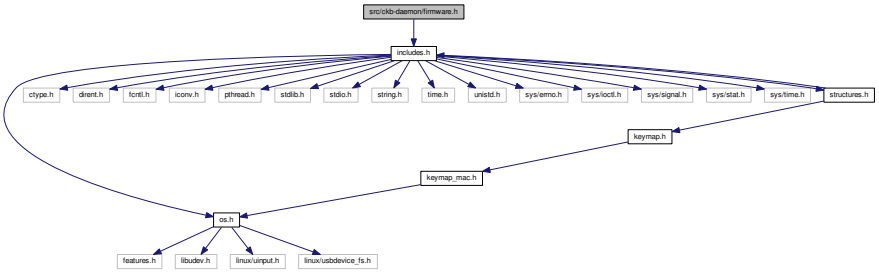
Here is the caller graph for this function:



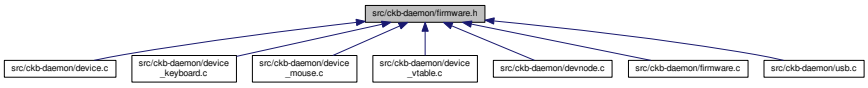
13.18 src/ckb-daemon/firmware.h File Reference

```
#include "includes.h"
```

Include dependency graph for firmware.h:



This graph shows which files directly or indirectly include this file:



Functions

- int getfwversion (usbdevice ∗kb)
- int cmd_fwupdate (usbdevice ∗kb, usbmode ∗dummy1, int nnumber, int dummy2, const char ∗path)

13.18.1 Function Documentation

13.18.1.1 int cmd_fwupdate (usbdevice ∗ *kb,* usbmode ∗ *dummy1,* int *nnumber,* int *dummy2,* const char ∗ *path*)

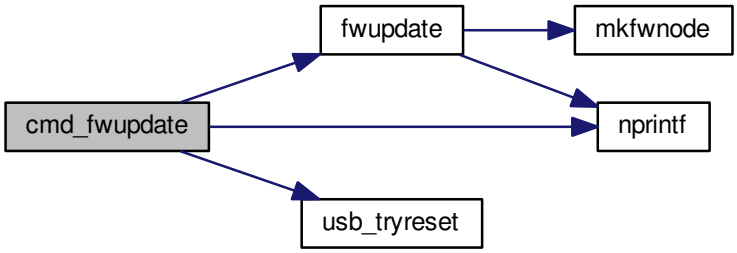
Definition at line 154 of file firmware.c.

References FEAT_FWUPDATE, FW_NOFILE, FW_OK, FW_USBFAIL, FW_WRONGDEV, fwupdate(), HAS_FEATURES, nprintf(), and usb_tryreset().

```
154                                                                                 {
155     if(!HAS_FEATURES(kb, FEAT_FWUPDATE))
156         return 0;
```

```
157     // Update the firmware
158     int ret = fwupdate(kb, path, nnumber);
159     while(ret == FW_USBFAIL){
160         // Try to reset the device if it fails
161         if(usb_tryreset(kb))
162             break;
163         ret = fwupdate(kb, path, nnumber);
164     }
165     switch(ret){
166     case FW_OK:
167         nprintf(kb, nnumber, 0, "fwupdate %s ok\n", path);
168         break;
169     case FW_NOFILE:
170     case FW_WRONGDEV:
171         nprintf(kb, nnumber, 0, "fwupdate %s invalid\n", path);
172         break;
173     case FW_USBFAIL:
174         nprintf(kb, nnumber, 0, "fwupdate %s fail\n", path);
175         return -1;
176     }
177     return 0;
178 }
```

Here is the call graph for this function:



13.18.1.2 int getfwversion (usbdevice * *kb*)

Definition at line 11 of file firmware.c.

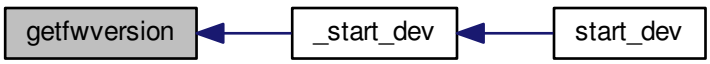
References ckb_err, ckb_warn, FEAT_POLLRATE, usbdevice::features, usbdevice::fwversion, MSG_SIZE, usbdevice::pollrate, usbdevice::product, usbrecv, and usbdevice::vendor.

Referenced by _start_dev().

```
11                                  {
12     // Ask board for firmware info
13     uchar data_pkt[MSG_SIZE] = { 0x0e, 0x01, 0 };
14     uchar in_pkt[MSG_SIZE];
15     if(!usbrecv(kb, data_pkt, in_pkt))
16         return -1;
17     if(in_pkt[0] != 0x0e || in_pkt[1] != 0x01){
18         ckb_err("Bad input header\n");
19         return -1;
20     }
21     short vendor, product, version, bootloader;
22     // Copy the vendor ID, product ID, version, and poll rate from the firmware data
23     memcpy(&version, in_pkt + 8, 2);
24     memcpy(&bootloader, in_pkt + 10, 2);
25     memcpy(&vendor, in_pkt + 12, 2);
26     memcpy(&product, in_pkt + 14, 2);
27     char poll = in_pkt[16];
28     if(poll <= 0){
29         poll = -1;
30         kb->features &= ~FEAT_POLLRATE;
31     }
```

```
32     // Print a warning if the message didn't match the expected data
33     if(vendor != kb->vendor)
34         ckb_warn("Got vendor ID %04x (expected %04x)\n", vendor, kb->
       vendor);
35     if(product != kb->product)
36         ckb_warn("Got product ID %04x (expected %04x)\n", product, kb->
       product);
37     // Set firmware version and poll rate
38     if(version == 0 || bootloader == 0){
39         // Needs firmware update
40         kb->fwversion = 0;
41         kb->pollrate = -1;
42     } else {
43         if(version != kb->fwversion && kb->fwversion != 0)
44             ckb_warn("Got firmware version %04x (expected %04x)\n", version, kb->
       fwversion);
45         kb->fwversion = version;
46         kb->pollrate = poll;
47     }
48     return 0;
49 }
```

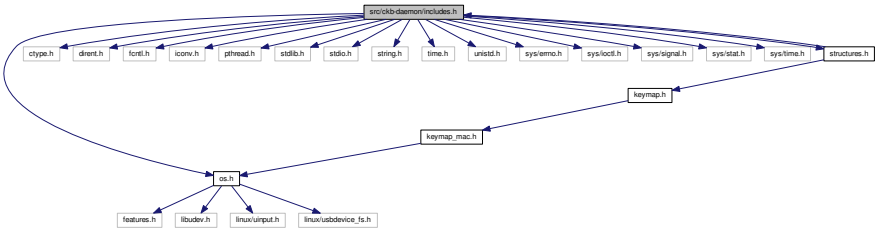
Here is the caller graph for this function:



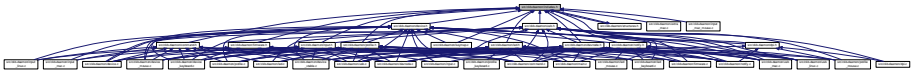
13.19 src/ckb-daemon/includes.h File Reference

```
#include "os.h"
#include <ctype.h>
#include <dirent.h>
#include <fcntl.h>
#include <iconv.h>
#include <pthread.h>
#include <stdlib.h>
#include <stdio.h>
#include <string.h>
#include <time.h>
#include <unistd.h>
#include <sys/errno.h>
#include <sys/ioctl.h>
#include <sys/signal.h>
#include <sys/stat.h>
#include <sys/time.h>
#include "structures.h"
```

Include dependency graph for includes.h:



This graph shows which files directly or indirectly include this file:



Macros

- #define INDEX_OF(entry, array) (int)(entry - array)
- #define ckb_s_out stdout
- #define ckb_s_err stdout
- #define __FILE_NOPATH__ (strrchr(__FILE__, '/') ? strrchr(__FILE__, '/') + 1 : __FILE__)
- #define ckb_fatal_nofile(fmt, args...) fprintf(ckb_s_err, "[F] " fmt, ## args)
- #define ckb_fatal_fn(fmt, file, line, args...) fprintf(ckb_s_err, "[F] %s (via %s:%d): " fmt, __func__, file, line, ## args)
- #define ckb_fatal(fmt, args...) fprintf(ckb_s_err, "[F] %s (%s:%d): " fmt, __func__, __FILE_NOPATH__, __LINE__, ## args)
- #define ckb_err_nofile(fmt, args...) fprintf(ckb_s_err, "[E] " fmt, ## args)
- #define ckb_err_fn(fmt, file, line, args...) fprintf(ckb_s_err, "[E] %s (via %s:%d): " fmt, __func__, file, line, ## args)
- #define ckb_err(fmt, args...) fprintf(ckb_s_err, "[E] %s (%s:%d): " fmt, __func__, __FILE_NOPATH__, __LINE__, ## args)
- #define ckb_warn_nofile(fmt, args...) fprintf(ckb_s_out, "[W] " fmt, ## args)
- #define ckb_warn_fn(fmt, file, line, args...) fprintf(ckb_s_out, "[W] %s (via %s:%d): " fmt, __func__, file, line, ## args)
- #define ckb_warn(fmt, args...) fprintf(ckb_s_out, "[W] %s (%s:%d): " fmt, __func__, __FILE_NOPATH__, __LINE__, ## args)
- #define ckb_info_nofile(fmt, args...) fprintf(ckb_s_out, "[I] " fmt, ## args)
- #define ckb_info_fn(fmt, file, line, args...) fprintf(ckb_s_out, "[I] " fmt, ## args)
- #define ckb_info(fmt, args...) fprintf(ckb_s_out, "[I] " fmt, ## args)
- #define timespec_gt(left, right) ((left).tv_sec > (right).tv_sec || ((left).tv_sec == (right).tv_sec && (left).tv_nsec > (right).tv_nsec))
- #define timespec_eq(left, right) ((left).tv_sec == (right).tv_sec && (left).tv_nsec == (right).tv_nsec)
- #define timespec_ge(left, right) ((left).tv_sec > (right).tv_sec || ((left).tv_sec == (right).tv_sec && (left).tv_nsec >= (right).tv_nsec))
- #define timespec_lt(left, right) (!timespec_ge(left, right))
- #define timespec_le(left, right) (!timespec_gt(left, right))

Typedefs

- typedef unsigned char uchar
- typedef unsigned short ushort

Functions

- void timespec_add (struct timespec *timespec, long nanoseconds)

13.19.1 Macro Definition Documentation

13.19.1.1 #define __FILE_NOPATH__ (strrchr(__FILE__, '/') ? strrchr(__FILE__, '/') + 1 : __FILE__)

Definition at line 40 of file includes.h.

13.19.1.2 #define ckb_err(*fmt, args...*) fprintf(ckb_s_err, "[E] %s (%s:%d): " fmt, __func__, __FILE_NOPATH__, __LINE__, ## args)

Definition at line 49 of file includes.h.

Referenced by _mkdevpath(), fwupdate(), getfwversion(), loaddpi(), loadrgb_kb(), loadrgb_mouse(), macro_pt_dequeue(), os_inputmain(), os_sendindicators(), os_setupusb(), restart(), setupusb(), uinputopen(), usb_tryreset(), usbadd(), and usbclaim().

13.19.1.3 #define ckb_err_fn(*fmt, file, line, args...*) fprintf(ckb_s_err, "[E] %s (via %s:%d): " fmt, __func__, file, line, ## args)

Definition at line 48 of file includes.h.

Referenced by _nk95cmd(), _usbrecv(), os_usbrecv(), and os_usbsend().

13.19.1.4 #define ckb_err_nofile(*fmt, args...*) fprintf(ckb_s_err, "[E] " fmt, ## args)

Definition at line 47 of file includes.h.

13.19.1.5 #define ckb_fatal(*fmt, args...*) fprintf(ckb_s_err, "[F] %s (%s:%d): " fmt, __func__, __FILE_NOPATH__, __LINE__, ## args)

Definition at line 46 of file includes.h.

Referenced by usbmain().

13.19.1.6 #define ckb_fatal_fn(*fmt, file, line, args...*) fprintf(ckb_s_err, "[F] %s (via %s:%d): " fmt, __func__, file, line, ## args)

Definition at line 45 of file includes.h.

13.19.1.7 #define ckb_fatal_nofile(*fmt, args...*) fprintf(ckb_s_err, "[F] " fmt, ## args)

Definition at line 44 of file includes.h.

Referenced by main().

13.19.1.8 #define ckb_info(*fmt, args...*) fprintf(ckb_s_out, "[I] " fmt, ## args)

Definition at line 55 of file includes.h.

Referenced by _setupusb(), _start_dev(), closeusb(), cmd_restart(), fwupdate(), os_inputmain(), os_setupusb(), rmdevpath(), usb_tryreset(), usbadd(), and usbclaim().

13.19.1.9 #define ckb_info_fn(*fmt, file, line, args...*) fprintf(ckb_s_out, "[I] " fmt, ## args)

Definition at line 54 of file includes.h.

13.19.1.10 #define ckb_info_nofile(*fmt, args...*) fprintf(ckb_s_out, "[I] " fmt, ## args)

Definition at line 53 of file includes.h.

Referenced by main().

13.19.1.11 #define ckb_s_err stdout

Definition at line 36 of file includes.h.

13.19.1.12 #define ckb_s_out stdout

Definition at line 35 of file includes.h.

13.19.1.13 #define ckb_warn(*fmt, args...*) fprintf(ckb_s_out, "[W] %s (%s:%d): " fmt, __func__, __FILE_NOPATH__, __LINE__, ## args)

Definition at line 52 of file includes.h.

Referenced by _mkdevpath(), _mknotifynode(), _start_dev(), _updateconnected(), getfwversion(), hid_kb_translate(), isync(), mkfwnode(), os_inputclose(), os_keypress(), os_mousemove(), readlines(), rmdevpath(), uinputopen(), and usbmain().

13.19.1.14 #define ckb_warn_fn(*fmt, file, line, args...*) fprintf(ckb_s_out, "[W] %s (via %s:%d): " fmt, __func__, file, line, ## args)

Definition at line 51 of file includes.h.

Referenced by os_usbrecv(), and os_usbsend().

13.19.1.15 #define ckb_warn_nofile(*fmt, args...*) fprintf(ckb_s_out, "[W] " fmt, ## args)

Definition at line 50 of file includes.h.

Referenced by main().

13.19.1.16 #define INDEX_OF(*entry, array*) (int)(entry - array)

Definition at line 27 of file includes.h.

Referenced by _mkdevpath(), _mknotifynode(), _rmnotifynode(), _setupusb(), closeusb(), mkfwnode(), nprintf(), os_closeusb(), os_inputmain(), os_inputopen(), os_setupusb(), readcmd(), and rmdevpath().

13.19.1.17 #define timespec_eq(**left, right**) ((left).tv_sec == (right).tv_sec && (left).tv_nsec == (right).tv_nsec)

Definition at line 60 of file includes.h.

13.19.1.18 #define timespec_ge(left, right) ((left).tv_sec > (right).tv_sec || ((left).tv_sec == (right).tv_sec && (left).tv_nsec >= (right).tv_nsec))

Definition at line 61 of file includes.h.

13.19.1.19 #define timespec_gt(left, right) ((left).tv_sec > (right).tv_sec || ((left).tv_sec == (right).tv_sec && (left).tv_nsec > (right).tv_nsec))

Definition at line 59 of file includes.h.

13.19.1.20 #define timespec_le(left, right) (!timespec_gt(left, right))

Definition at line 63 of file includes.h.

13.19.1.21 #define timespec_lt(left, right) (!timespec_ge(left, right))

Definition at line 62 of file includes.h.

13.19.2 Typedef Documentation

13.19.2.1 typedef unsigned char uchar

Definition at line 24 of file includes.h.

13.19.2.2 typedef unsigned short ushort

Definition at line 25 of file includes.h.

13.19.3 Function Documentation

13.19.3.1 void timespec_add (struct timespec * *timespec*, long *nanoseconds*)

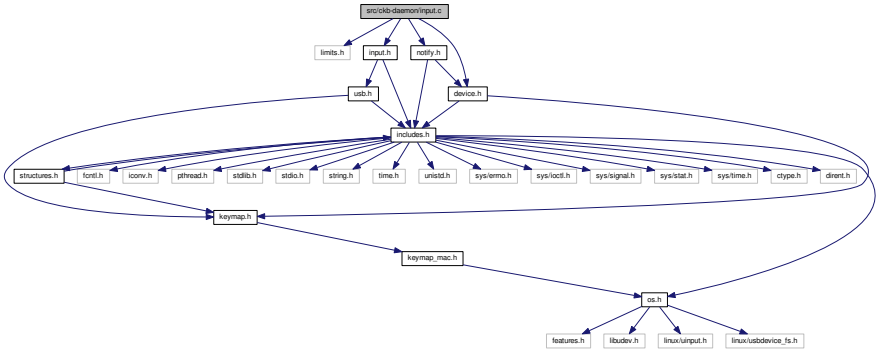
Definition at line 19 of file main.c.

```
19                                                          {
20     nanoseconds += timespec->tv_nsec;
21     timespec->tv_sec += nanoseconds / 1000000000;
22     timespec->tv_nsec = nanoseconds % 1000000000;
23 }
```

13.20 src/ckb-daemon/input.c File Reference

```
#include <limits.h>
#include "device.h"
#include "input.h"
#include "notify.h"
```

Include dependency graph for input.c:



Macros

- #define IS_WHEEL(scan, kb) (((scan) == KEY_VOLUMEUP || (scan) == KEY_VOLUMEDOWN || (scan) == BTN_WHEELUP || (scan) == BTN_WHEELDOWN) && !IS_K65(kb))

Functions

- int macromask (const uchar *key1, const uchar *key2)
- static void macro_pt_enqueue ()

  macro_pt_enqueue Save the new thread in the single linked list (FIFO).
- static pthread_t macro_pt_dequeue ()

  macro_pt_dequeue gets the first thread id of the list and returns the thread_id stored in it.
- static pthread_t macro_pt_first ()

  macro_pt_first returns the first pthread_id but does not remove the first entry.
- static void * play_macro (void *param)

  play_macro is the code for all threads started to play a macro.
- static void inputupdate_keys (usbdevice *kb)

  inputupdate_keys Handle input from Keyboard or mouse; start Macrof if detected.
- void inputupdate (usbdevice *kb)
- void updateindicators_kb (usbdevice *kb, int force)
- void initbind (binding *bind)
- void freebind (binding *bind)
- void cmd_bind (usbdevice *kb, usbmode *mode, int dummy, int keyindex, const char *to)
- void cmd_unbind (usbdevice *kb, usbmode *mode, int dummy, int keyindex, const char *to)
- void cmd_rebind (usbdevice *kb, usbmode *mode, int dummy, int keyindex, const char *to)
- static void _cmd_macro (usbmode *mode, const char *keys, const char *assignment)
- void cmd_macro (usbdevice *kb, usbmode *mode, const int notifynumber, const char *keys, const char *assignment)

Variables

- static ptlist_t * pt_head = 0

  pt_head is the head pointer for the single linked thread list managed by macro_pt_en/dequeue().
- static ptlist_t * pt_tail = 0

  pt_tail is the tail pointer for the single linked thread list managed by macro_pt_en/dequeue().

13.20.1 Macro Definition Documentation

13.20.1.1 #define IS_WHEEL(*scan, kb*) (((scan) == KEY_VOLUMEUP || (scan) == KEY_VOLUMEDOWN || (scan) == BTN_WHEELUP || (scan) == BTN_WHEELDOWN) && !IS_K65(kb))

Referenced by inputupdate_keys().

13.20.2 Function Documentation

13.20.2.1 static void _cmd_macro (usbmode * *mode,* const char * *keys,* const char * *assignment*) [static]

Definition at line 345 of file input.c.

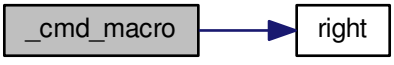
References keymacro::actioncount, keymacro::actions, usbmode::bind, keymacro::combo, macroaction::delay, macroaction::down, keymap, left, MACRO_MAX, binding::macrocap, binding::macrocount, binding::macros, N_KEYBYTES_INPUT, N_KEYS_INPUT, right(), macroaction::scan, key::scan, and SET_KEYBIT.

Referenced by cmd_macro().

```
345                                                                                 {
346     binding* bind = &mode->bind;
347     if(!keys && !assignment){
348         // Null strings = "macro clear" -> erase the whole thing
349         for(int i = 0; i < bind->macrocount; i++)
350             free(bind->macros[i].actions);
351         bind->macrocount = 0;
352         return;
353     }
354     if(bind->macrocount >= MACRO_MAX)
355         return;
356     // Create a key macro
357     keymacro macro;
358     memset(&macro, 0, sizeof(macro));
359     // Scan the left side for key names, separated by +
360     int empty = 1;
361     int left = strlen(keys), right = strlen(assignment);
362     int position = 0, field = 0;
363     char keyname[24];
364     while(position < left && sscanf(keys + position, "%10[^+]%n", keyname, &field) == 1){
365         int keycode;
366         if((sscanf(keyname, "#%d", &keycode) && keycode >= 0 && keycode <
    N_KEYS_INPUT)
367                 || (sscanf(keyname, "#x%x", &keycode) && keycode >= 0 && keycode <
    N_KEYS_INPUT)){
368             // Set a key numerically
369             SET_KEYBIT(macro.combo, keycode);
370             empty = 0;
371         } else {
372             // Find this key in the keymap
373             for(unsigned i = 0; i < N_KEYS_INPUT; i++){
374                 if(keymap[i].name && !strcmp(keyname, keymap[i].name)){
375                     macro.combo[i / 8] |= 1 << (i % 8);
376                     empty = 0;
377                     break;
378                 }
379             }
380         }
381         if(keys[position += field] == '+')
382             position++;
383     }
384     if(empty)
385         return;
386     // Count the number of actions (comma separated)
387     int count = 1;
388     for(const char* c = assignment; *c != 0; c++){
389         if(*c == ',')
390             count++;
391     }
392     // Allocate a buffer for them
393     macro.actions = calloc(count, sizeof(macroaction));
394     macro.actioncount = 0;
395     // Scan the actions
396     position = 0;
397     field = 0;
398     // max action = old 11 chars plus 12 chars which is the max 32-bit int 4294967295 size
399     while(position < right && sscanf(assignment + position, "%23[^,]%n", keyname, &field) == 1){
400         if(!strcmp(keyname, "clear"))
401             break;
```

```
402
403         // Check for local key delay of the form '[+-]<key>=<delay>'
404         long int long_delay;    // scanned delay value, used to keep delay in range.
405         unsigned int delay = UINT_MAX; // computed delay value. UINT_MAX means use global delay value.
406         char real_keyname[12];  // temp to hold the left side (key) of the <key>=<delay>
407         int scan_matches = sscanf(keyname, "%11[^=]=%ld", real_keyname, &long_delay);
408         if (scan_matches == 2) {
409             if (0 <= long_delay && long_delay < UINT_MAX) {
410                 delay = (unsigned int)long_delay;
411                 strcpy(keyname, real_keyname); // keyname[24], real_keyname[12]
412             }
413         }
414
415         int down = (keyname[0] == '+');
416         if(down || keyname[0] == '-'){
417             int keycode;
418             if((sscanf(keyname + 1, "#%d", &keycode) && keycode >= 0 && keycode < N_KEYS_INPUT)
419                     || (sscanf(keyname + 1, "#x%x", &keycode) && keycode >= 0 && keycode <
    N_KEYS_INPUT)){
420                 // Set a key numerically
421                 macro.actions[macro.actioncount].scan =
    keymap[keycode].scan;
422                 macro.actions[macro.actioncount].down = down;
423                 macro.actions[macro.actioncount].delay = delay;
424                 macro.actioncount++;
425             } else {
426                 // Find this key in the keymap
427                 for(unsigned i = 0; i < N_KEYS_INPUT; i++){
428                     if(keymap[i].name && !strcmp(keyname + 1, keymap[i].name)){
429                         macro.actions[macro.actioncount].scan =
    keymap[i].scan;
430                         macro.actions[macro.actioncount].down = down;
431                         macro.actions[macro.actioncount].delay = delay;
432                         macro.actioncount++;
433                         break;
434                     }
435                 }
436             }
437         }
438         if(assignment[position += field] == ',')
439             position++;
440     }
441
442     // See if there's already a macro with this trigger
443     keymacro* macros = bind->macros;
444     for(int i = 0; i < bind->macrocount; i++){
445         if(!memcmp(macros[i].combo, macro.combo, N_KEYBYTES_INPUT)){
446             free(macros[i].actions);
447             // If the new macro has no actions, erase the existing one
448             if(!macro.actioncount){
449                 for(int j = i + 1; j < bind->macrocount; j++)
450                     memcpy(macros + j - 1, macros + j, sizeof(keymacro));
451                 bind->macrocount--;
452             } else
453                 // If there are actions, replace the existing with the new
454                 memcpy(macros + i, &macro, sizeof(keymacro));
455             return;
456         }
457     }
458
459     // Add the macro to the device settings if not empty
460     if(macro.actioncount < 1)
461         return;
462     memcpy(bind->macros + (bind->macrocount++), &macro, sizeof(
    keymacro));
463     if(bind->macrocount >= bind->macrocap)
464         bind->macros = realloc(bind->macros, (bind->macrocap += 16) * sizeof(
    keymacro));
465 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.20.2.2 void cmd_bind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *to*)

Definition at line 307 of file input.c.

References binding::base, usbmode::bind, imutex, keymap, N_KEYS_INPUT, and key::scan.

```
307                                                                                 {
308     if(keyindex >= N_KEYS_INPUT)
309         return;
310     // Find the key to bind to
311     int tocode = 0;
312     if(sscanf(to, "#x%ux", &tocode) != 1 && sscanf(to, "#%u", &tocode) == 1 && tocode <
    N_KEYS_INPUT){
313         pthread_mutex_lock(imutex(kb));
314         mode->bind.base[keyindex] = tocode;
315         pthread_mutex_unlock(imutex(kb));
316         return;
317     }
318     // If not numeric, look it up
319     for(int i = 0; i < N_KEYS_INPUT; i++){
320         if(keymap[i].name && !strcmp(to, keymap[i].name)){
321             pthread_mutex_lock(imutex(kb));
322             mode->bind.base[keyindex] = keymap[i].scan;
323             pthread_mutex_unlock(imutex(kb));
324             return;
325         }
326     }
327 }
```

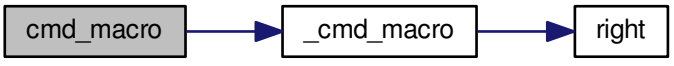
13.20.2.3 void cmd_macro (usbdevice * *kb*, usbmode * *mode*, const int *notifynumber*, const char * *keys*, const char * *assignment*)

Definition at line 467 of file input.c.

References _cmd_macro(), and imutex.

```
467
        {
468     pthread_mutex_lock(imutex(kb));
469     _cmd_macro(mode, keys, assignment);
470     pthread_mutex_unlock(imutex(kb));
471 }
```

Here is the call graph for this function:



13.20.2.4 void cmd_rebind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *to*)

Definition at line 337 of file input.c.

References binding::base, usbmode::bind, imutex, keymap, N_KEYS_INPUT, and key::scan.

```
337                                                                                 {
338     if(keyindex >= N_KEYS_INPUT)
339         return;
340     pthread_mutex_lock(imutex(kb));
341     mode->bind.base[keyindex] = keymap[keyindex].scan;
342     pthread_mutex_unlock(imutex(kb));
343 }
```

13.20.2.5 void cmd_unbind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *to*)

Definition at line 329 of file input.c.

References binding::base, usbmode::bind, imutex, KEY_UNBOUND, and N_KEYS_INPUT.

```
329                                                                                 {
330     if(keyindex >= N_KEYS_INPUT)
331         return;
332     pthread_mutex_lock(imutex(kb));
333     mode->bind.base[keyindex] = KEY_UNBOUND;
334     pthread_mutex_unlock(imutex(kb));
335 }
```

13.20.2.6 void freebind (binding * *bind*)

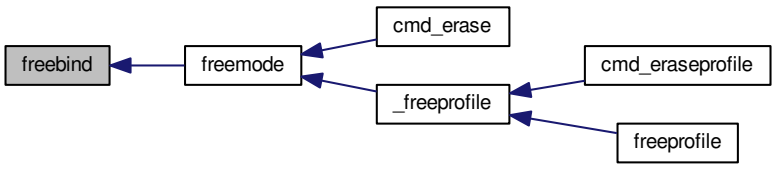
Definition at line 300 of file input.c.

References keymacro::actions, binding::macrocount, and binding::macros.

Referenced by freemode().

```
300                             {
301     for(int i = 0; i < bind->macrocount; i++)
302         free(bind->macros[i].actions);
303     free(bind->macros);
304     memset(bind, 0, sizeof(*bind));
305 }
```

Here is the caller graph for this function:



13.20.2.7 void initbind (binding * *bind*)

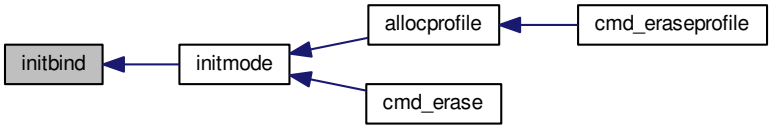
Definition at line 292 of file input.c.

References binding::base, keymap, binding::macrocap, binding::macrocount, binding::macros, N_KEYS_INPUT, and key::scan.

Referenced by initmode().

```
292                             {
293     for(int i = 0; i < N_KEYS_INPUT; i++)
294         bind->base[i] = keymap[i].scan;
295     bind->macros = calloc(32, sizeof(keymacro));
296     bind->macrocap = 32;
297     bind->macrocount = 0;
298 }
```

Here is the caller graph for this function:



13.20.2.8 void inputupdate (usbdevice * *kb*)

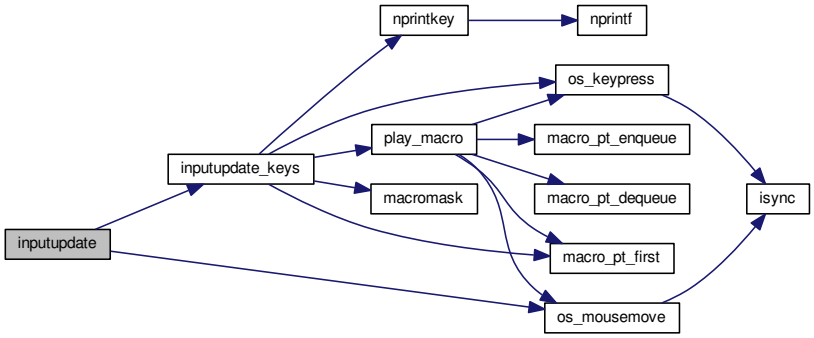
Definition at line 241 of file input.c.

References usbdevice::input, inputupdate_keys(), os_mousemove(), usbdevice::profile, usbinput::rel_x, usbinput::rel_y, usbdevice::uinput_kb, and usbdevice::uinput_mouse.

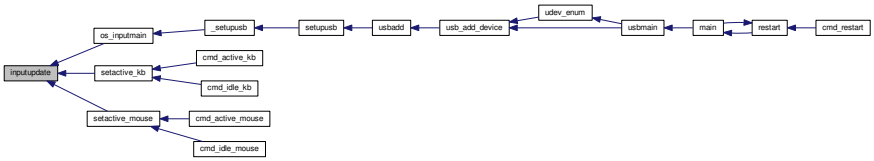
Referenced by os_inputmain(), setactive_kb(), and setactive_mouse().

```
241                                 {
242 #ifdef OS_LINUX
243     if((!kb->uinput_kb || !kb->uinput_mouse)
244 #else
245     if(!kb->event
246 #endif
247             || !kb->profile)
248         return;
249     // Process key/button input
250     inputupdate_keys(kb);
251     // Process mouse movement
252     usbinput* input = &kb->input;
253     if(input->rel_x != 0 || input->rel_y != 0){
254         os_mousemove(kb, input->rel_x, input->rel_y);
255         input->rel_x = input->rel_y = 0;
256     }
257     // Finish up
258     memcpy(input->prevkeys, input->keys, N_KEYBYTES_INPUT);
259 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.20.2.9 static void inputupdate_keys (usbdevice * *kb*) [static]

Parameters

kb	

Process all queued keypresses if no macro is running yet.

Todo If we want to get all keys typed while a macro is played, add the code for it here.

Definition at line 134 of file input.c.

References usbdevice::active, binding::base, usbmode::bind, keymacro::combo, usbprofile::currentmode, usbdevice::input, IS_MOD, IS_WHEEL, parameter::kb, keymap, usbinput::keys, parameter::macro, macro_pt_first(), binding::macrocount, macromask(), binding::macros, N_KEYBYTES_INPUT, N_KEYS_INPUT, usbmode::notify, nprintkey(), os_keypress(), OUTFIFO_MAX, play_macro(), usbinput::prevkeys, usbdevice::profile, key::scan, SCAN_SILENT, and keymacro::triggered.

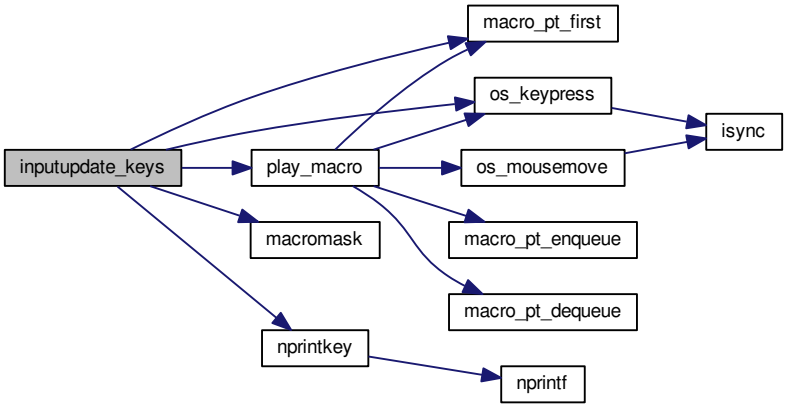
Referenced by inputupdate().

```
134                                         {
135     usbmode* mode = kb->profile->currentmode;
136     binding* bind = &mode->bind;
137     usbinput* input = &kb->input;
138 
139     // Don't do anything if the state hasn't changed
140     if(!memcmp(input->prevkeys, input->keys, N_KEYBYTES_INPUT))
141         return;
142     // Look for macros matching the current state
143     if (kb->active) {
144         for (int i = 0; i < bind->macrocount; i++) {
145             keymacro* macro = &bind->macros[i];
146             if (macromask(input->keys, macro->combo)) {
```

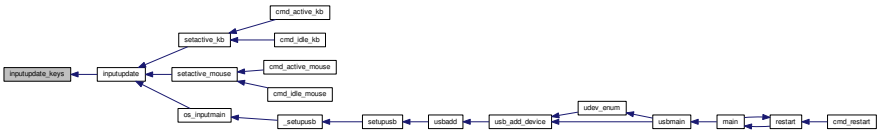
```
147                 if (!macro->triggered) {
148                     parameter_t* params = malloc(sizeof(parameter_t));
149                     if (params == 0) {
150                         perror("inputupdate_keys got no more mem:");
151                     } else {
152                         pthread_t thread = 0;
153                         params->kb = kb;
154                         params->macro = macro;
155                         int retval = pthread_create(&thread, 0, play_macro, (void*)params);
156                         if (retval) {
157                             perror("inputupdate_keys: Creating thread returned not null");
158                         } else {
159                             macro->triggered = 1;
160                         }
161                     }
162                 }
163             } else macro->triggered = 0;
164         }
165     }
166     // Make a list of keycodes to send. Rearrange them so that modifier keydowns always come first
167     // and modifier keyups always come last. This ensures that shortcut keys will register properly
168     // even if both keydown events happen at once.
169     // N_KEYS + 4 is used because the volume wheel generates keydowns and keyups at the same time
170     // (it's currently impossible to press all four at once, but safety first)
171     int events[N_KEYS_INPUT + 4];
172     int modcount = 0, keycount = 0, rmodcount = 0;
173     for(int byte = 0; byte < N_KEYBYTES_INPUT; byte++){
174         char oldb = input->prevkeys[byte], newb = input->keys[byte];
175         if(oldb == newb)
176             continue;
177         for(int bit = 0; bit < 8; bit++){
178             int keyindex = byte * 8 + bit;
179             if(keyindex >= N_KEYS_INPUT)
180                 break;
181             const key* map = keymap + keyindex;
182             int scancode = (kb->active) ? bind->base[keyindex] : map->
    scan;
183             char mask = 1 << bit;
184             char old = oldb & mask, new = newb & mask;
185             // If the key state changed, send it to the input device
186             if(old != new){
187                 // Don't echo a key press if there's no scancode associated
188                 if(!(scancode & SCAN_SILENT)){
189                     if(IS_MOD(scancode)){
190                         if(new){
191                             // Modifier down: Add to the end of modifier keys
192                             for(int i = keycount + rmodcount; i > 0; i--)
193                                 events[modcount + i] = events[modcount + i - 1];
194                             // Add 1 to the scancode because A is zero on OSX
195                             // Positive code = keydown, negative code = keyup
196                             events[modcount++] = scancode + 1;
197                         } else {
198                             // Modifier up: Add to the end of everything
199                             events[modcount + keycount + rmodcount++] = -(scancode + 1);
200                         }
201                     } else {
202                         // Regular keypress: add to the end of regular keys
203                         for(int i = rmodcount; i > 0; i--)
204                             events[modcount + keycount + i] = events[modcount + keycount + i - 1];
205                         events[modcount + keycount++] = new ? (scancode + 1) : -(scancode + 1);
206                         // The volume wheel and the mouse wheel don't generate keyups, so create them
    automatically
207 #define IS_WHEEL(scan, kb)  (((scan) == KEY_VOLUMEUP || (scan) == KEY_VOLUMEDOWN || (scan) == BTN_WHEELUP
    || (scan) == BTN_WHEELDOWN) && !IS_K65(kb))
208                         if(new && IS_WHEEL(map->scan, kb)){
209                             for(int i = rmodcount; i > 0; i--)
210                                 events[modcount + keycount + i] = events[modcount + keycount + i - 1];
211                             events[modcount + keycount++] = -(scancode + 1);
212                             input->keys[byte] &= ~mask;
213                         }
214                     }
215                 }
216                 // Print notifications if desired
217                 if(kb->active){
218                     for(int notify = 0; notify < OUTFIFO_MAX; notify++){
219                         if(mode->notify[notify][byte] & mask){
220                             nprintkey(kb, notify, keyindex, new);
221                             // Wheels doesn't generate keyups
222                             if(new && IS_WHEEL(map->scan, kb))
223                                 nprintkey(kb, notify, keyindex, 0);
224                         }
225                     }
226                 }
227             }
228         }
229     }
232     if (!macro_pt_first()) {
```

```
233         int totalkeys = modcount + keycount + rmodcount;
234         for(int i = 0; i < totalkeys; i++){
235             int scancode = events[i];
236             os_keypress(kb, (scancode < 0 ? -scancode : scancode) - 1, scancode > 0);
237         }
238     }
239 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.20.2.10 static pthread_t macro_pt_dequeue ( ) [static]

Returns

the ptread_id of the first element. If list is empty, return 0.

Attention

Becuase multiple threads may use this function in parallel, save the critical section with a mutex.

< why are we called?

< Was last element in the list, so clear tail.

< save the return value before deleting element

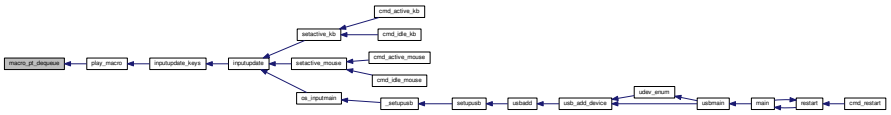
Definition at line 49 of file input.c.

References ckb_err, ptlist::next, pt_head, and ptlist::thread_id.

Referenced by play_macro().

```
49                                      {
50     pthread_t retval = 0;
51     ptlist_t* elem = 0;
52     if (pt_head == 0 && pt_tail == 0) {
53         ckb_err("macro_pt_dequeue: called on empty list.\n");
54         return 0;
55     }
56     elem = pt_head;
57     pt_head = pt_head->next;
58     if (pt_head == 0) pt_tail = 0;
59     retval = elem->thread_id;
60     free(elem);
61     return retval;
62 }
```

Here is the caller graph for this function:



13.20.2.11 static void macro_pt_enqueue ( ) [static]

Attention

Becuase multiple threads may use this function in parallel, save the critical section with a mutex.

< exit on critical situation;

Todo find a better exit strategy if no more mem available.

< The element knows its ID byself

< new list, first element

< existing list, append on last element (FIFO)

Definition at line 27 of file input.c.

References ptlist::next, and ptlist::thread_id.

Referenced by play_macro().

```
27                                      {
28     ptlist_t* new_elem = malloc(sizeof(ptlist_t));
29     if (!new_elem) {
30         perror("macro_pt_enqueue: ");
31         exit (-1);
32     }
33     new_elem->next = 0;
34     new_elem->thread_id = pthread_self();
35     if (pt_head == 0) {
36         pt_head = pt_tail = new_elem;
37     } else {
38         pt_tail->next = new_elem;
39         pt_tail = new_elem;
40     }
41 }
```

Here is the caller graph for this function:

13.20.2.12 static pthread_t macro_pt_first ( ) [static]

Returns

the pthread_id of the first element in the list or 0 if list is empty.

Attention

Becuase multiple threads may use this function in parallel, save the critical section with a mutex (avoid NIL-ptr)

Definition at line 70 of file input.c.

References ptlist::thread_id.

Referenced by inputupdate_keys(), and play_macro().

```
70                                      {
71     return pt_head? pt_head->thread_id : 0;
72 }
```

Here is the caller graph for this function:

13.20.2.13 int macromask (const uchar * key1, const uchar * key2)

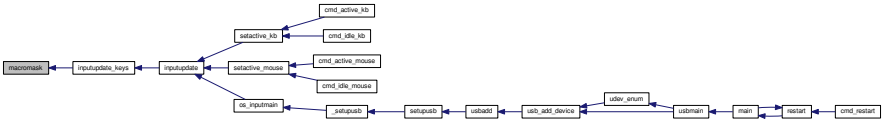
Definition at line 6 of file input.c.

References N_KEYBYTES_INPUT.

Referenced by inputupdate_keys().

```
6                                                       {
7     // Scan a macro against key input. Return 0 if any of them don't match
8     for(int i = 0; i < N_KEYBYTES_INPUT; i++){
9         // if((key1[i] & key2[i]) != key2[i])
10         if(key1[i] != key2[i])  // Changed to detect G-keys + modifiers
11             return 0;
12     }
13     return 1;
14 }
```

Here is the caller graph for this function:



13.20.2.14 static void* play_macro (void * param) [static]

Parameters

param	*parameter_t* to store Kb-ptr and macro-ptr (thread may get only one user-parameter)

Returns

0 on success, -1 else (no one is interested in it except the kernel...)

First have a look if we are the first and only macro-thread to run. If not, wait. So enqueue our thread first, so it is remembered for us and can be seen by all others.

< If the first thread in the list is not our, another one is running

< Give all new threads the chance to enter the block.

Send events for each keypress in the macro

< Synchonization between macro output and color information

< use this unlock / relock for enablling the parallel running colorization

< local delay set

< use default global delay

< use delays depending on macro length

< protect the linked list and the mvar

< Wake up all waiting threads

< for the linked list and the mvar

< Sync keyboard input/output and colorization

Definition at line 79 of file input.c.

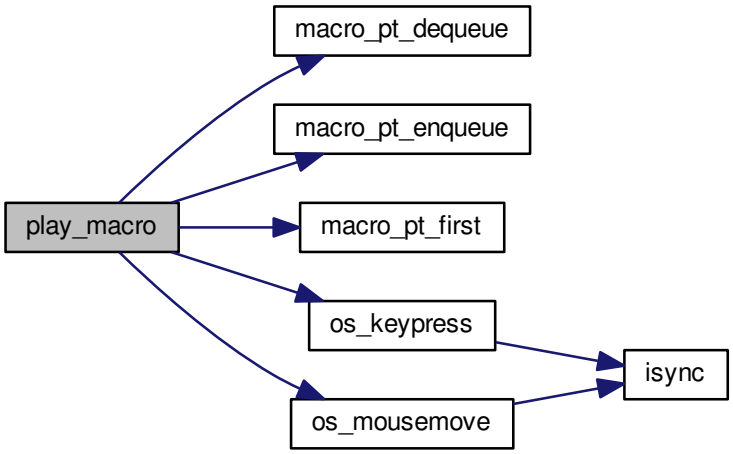
References keymacro::actioncount, keymacro::actions, macroaction::delay, usbdevice::delay, macroaction::down, parameter::kb, parameter::macro, macro_pt_dequeue(), macro_pt_enqueue(), macro_pt_first(), mmutex, mmutex2, mvar, os_keypress(), os_mousemove(), macroaction::rel_x, macroaction::rel_y, and macroaction::scan.

Referenced by inputupdate_keys().

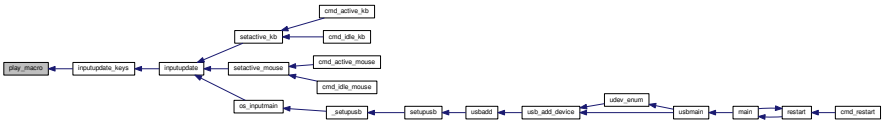
```
79                                      {
80     parameter_t* ptr = (parameter_t*) param;
81     usbdevice* kb = ptr->kb;
82     keymacro* macro = ptr->macro;
83
86     pthread_mutex_lock(mmutex2(kb));
87     macro_pt_enqueue();
88     // ckb_info("Entering critical section with 0x%lx. Queue head is 0x%lx\n",  (unsigned long
       int)pthread_self(), (unsigned long int)macro_pt_first());
89     while (macro_pt_first() != pthread_self()) {
90         // ckb_info("Now waiting with 0x%lx because of 0x%lx\n", (unsigned long int)pthread_self(),
       (unsigned long int)macro_pt_first());
91         pthread_cond_wait(mvar(kb), mmutex2(kb));
92         // ckb_info("Waking up with 0x%lx\n", (unsigned long int)pthread_self());
93     }
94     pthread_mutex_unlock(mmutex2(kb));
95
97     pthread_mutex_lock(mmutex(kb));
98     for (int a = 0; a < macro->actioncount; a++) {
99         macroaction* action = macro->actions + a;
100         if (action->rel_x != 0 || action->rel_y != 0)
101             os_mousemove(kb, action->rel_x, action->rel_y);
102         else {
103             os_keypress(kb, action->scan, action->down);
104             pthread_mutex_unlock(mmutex(kb));
105             if (action->delay != UINT_MAX && action->delay) {
106                 usleep(action->delay);
107             } else if (kb->delay != UINT_MAX && kb->delay) {
108                 usleep(kb->delay);
109             } else if (a < (macro->actioncount - 1)) {
110                 if (a > 200) {
111                     usleep (100);
112                 } else if (a > 20) {
113                     usleep(30);
114                 }
```

```
115             }
116             pthread_mutex_lock(mmutex(kb));
117         }
118     }
119
120     pthread_mutex_lock(mmutex2(kb));
121     // ckb_info("Now leaving 0x%lx and waking up all others\n", (unsigned long int)pthread_self());
122     macro_pt_dequeue();
123     pthread_cond_broadcast(mvar(kb));
124     pthread_mutex_unlock(mmutex2(kb));
125
126     pthread_mutex_unlock(mmutex(kb));
127     return 0;
128 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.20.2.15 void updateindicators_kb (usbdevice * *kb*, int *force*)

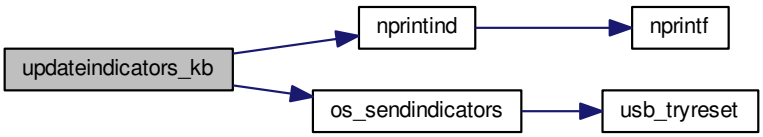
Definition at line 261 of file input.c.

References usbdevice::active, usbprofile::currentmode, DELAY_SHORT, usbdevice::hw_ileds, usbdevice::hw_ileds_old, I_CAPS, I_NUM, I_SCROLL, usbdevice::ileds, usbmode::inotify, usbmode::ioff, usbmode::ion, nprintind(), os_sendindicators(), OUTFIFO_MAX, and usbdevice::profile.

```
261                                                 {
262     // Read current hardware indicator state (set externally)
263     uchar old = kb->ileds, hw_old = kb->hw_ileds_old;
264     uchar new = kb->hw_ileds, hw_new = new;
265     // Update them if needed
266     if(kb->active){
```

```
267         usbmode* mode = kb->profile->currentmode;
268         new = (new & ~mode->ioff) | mode->ion;
269     }
270     kb->ileds = new;
271     kb->hw_ileds_old = hw_new;
272     if(old != new || force){
273         DELAY_SHORT(kb);
274         os_sendindicators(kb);
275     }
276     // Print notifications if desired
277     if(!kb->active)
278         return;
279     usbmode* mode = kb->profile->currentmode;
280     uchar indicators[] = { I_NUM, I_CAPS, I_SCROLL };
281     for(unsigned i = 0; i < sizeof(indicators) / sizeof(uchar); i++){
282         uchar mask = indicators[i];
283         if((hw_old & mask) == (hw_new & mask))
284             continue;
285         for(int notify = 0; notify < OUTFIFO_MAX; notify++){
286             if(mode->inotify[notify] & mask)
287                 nprintind(kb, notify, mask, hw_new & mask);
288         }
289     }
290 }
```

Here is the call graph for this function:



13.20.3 Variable Documentation

13.20.3.1 ptlist_t* pt_head = 0 [static]

Definition at line 18 of file input.c.

Referenced by macro_pt_dequeue().

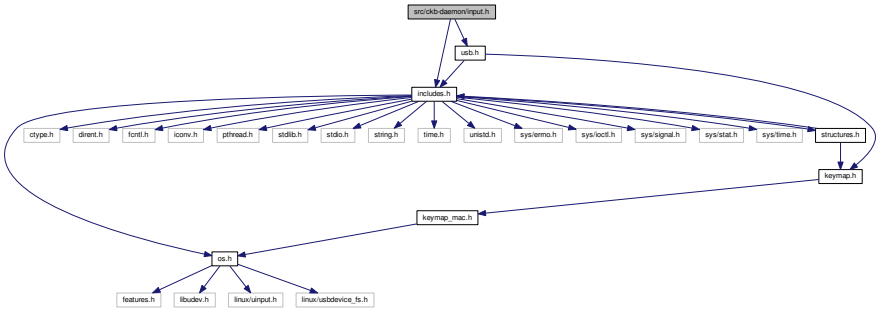
13.20.3.2 ptlist_t* pt_tail = 0 [static]

Definition at line 20 of file input.c.

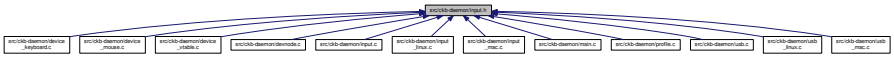
13.21 src/ckb-daemon/input.h File Reference

```
#include "includes.h"
#include "usb.h"
```

Include dependency graph for input.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct parameter

  struct parameter contains the values for a fresh started macro_play thread. parameter_t is the typedef for it. More...
- struct ptlist

  struct ptlist is one element in the single linked list to store macro_play threads waiting for their execution ptlist_t is the typedef for it. More...

Macros

- #define IS_MOD(s) ((s) == KEY_CAPSLOCK || (s) == KEY_NUMLOCK || (s) == KEY_SCROLLLOCK || (s) == KEY_LEFTSHIFT || (s) == KEY_RIGHTSHIFT || (s) == KEY_LEFTCTRL || (s) == KEY_RIGHTCTRL || (s) == KEY_LEFTMETA || (s) == KEY_RIGHTMETA || (s) == KEY_LEFTALT || (s) == KEY_RIGHTALT || (s) == KEY_FN)

Typedefs

- typedef struct parameter parameter_t

  struct parameter contains the values for a fresh started macro_play thread. parameter_t is the typedef for it.
- typedef struct ptlist ptlist_t

  struct ptlist is one element in the single linked list to store macro_play threads waiting for their execution ptlist_t is the typedef for it.

Functions

- int os_inputopen (usbdevice *kb)

  os_inputopen
- void os_inputclose (usbdevice *kb)
- void inputupdate (usbdevice *kb)
- void updateindicators_kb (usbdevice *kb, int force)
- void initbind (binding *bind)

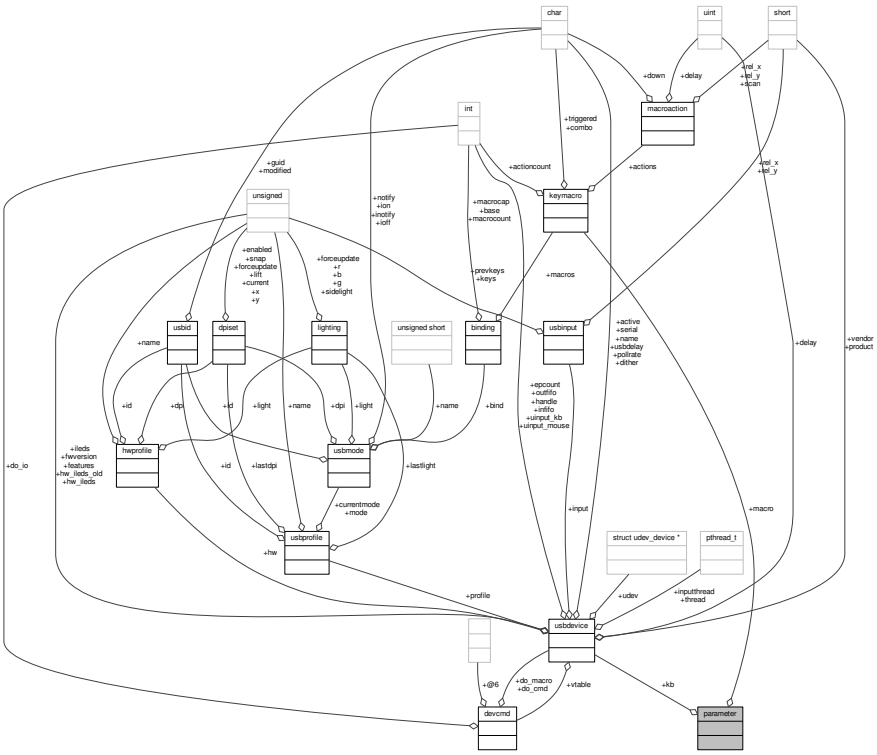
- void freebind (binding *bind)
- void cmd_bind (usbdevice *kb, usbmode *mode, int dummy, int keyindex, const char *to)
- void cmd_unbind (usbdevice *kb, usbmode *mode, int dummy, int keyindex, const char *ignored)
- void cmd_rebind (usbdevice *kb, usbmode *mode, int dummy, int keyindex, const char *ignored)
- void cmd_macro (usbdevice *kb, usbmode *mode, const int notifynumber, const char *keys, const char *assignment)
- void os_keypress (usbdevice *kb, int scancode, int down)
- void os_mousemove (usbdevice *kb, int x, int y)
- int os_setupindicators (usbdevice *kb)

13.21.1 Data Structure Documentation

13.21.1.1 struct parameter

Definition at line 54 of file input.h.

Collaboration diagram for parameter:



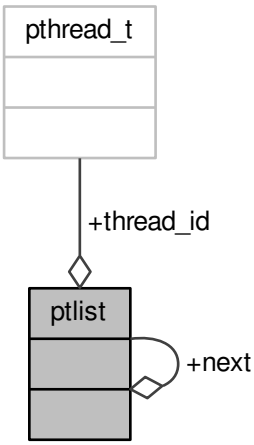
Data Fields

usbdevice *	kb	
keymacro *	macro	

13.21.1.2 struct ptlist

Definition at line 62 of file input.h.

Collaboration diagram for ptlist:



Data Fields

struct ptlist *	next	
pthread_t	thread_id	

13.21.2 Macro Definition Documentation

13.21.2.1 #define IS_MOD(*s*) ((s) == KEY_CAPSLOCK || (s) == KEY_NUMLOCK || (s) == KEY_SCROLLLOCK || (s) == KEY_LEFTSHIFT || (s) == KEY_RIGHTSHIFT || (s) == KEY_LEFTCTRL || (s) == KEY_RIGHTCTRL || (s) == KEY_LEFTMETA || (s) == KEY_RIGHTMETA || (s) == KEY_LEFTALT || (s) == KEY_RIGHTALT || (s) == KEY_FN)

Definition at line 34 of file input.h.

Referenced by inputupdate_keys().

13.21.3 Typedef Documentation

13.21.3.1 typedef struct parameter parameter_t

13.21.3.2 typedef struct ptlist ptlist_t

13.21.4 Function Documentation

13.21.4.1 void cmd_bind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *to*)

Definition at line 307 of file input.c.

References binding::base, usbmode::bind, imutex, keymap, N_KEYS_INPUT, and key::scan.

```
307                                                                         {
308     if(keyindex >= N_KEYS_INPUT)
309         return;
310     // Find the key to bind to
311     int tocode = 0;
```

```
312     if(sscanf(to, "#x%ux", &tocode) != 1 && sscanf(to, "#%u", &tocode) == 1 && tocode <
    N_KEYS_INPUT){
313         pthread_mutex_lock(imutex(kb));
314         mode->bind.base[keyindex] = tocode;
315         pthread_mutex_unlock(imutex(kb));
316         return;
317     }
318     // If not numeric, look it up
319     for(int i = 0; i < N_KEYS_INPUT; i++){
320         if(keymap[i].name && !strcmp(to, keymap[i].name)){
321             pthread_mutex_lock(imutex(kb));
322             mode->bind.base[keyindex] = keymap[i].scan;
323             pthread_mutex_unlock(imutex(kb));
324             return;
325         }
326     }
327 }
```

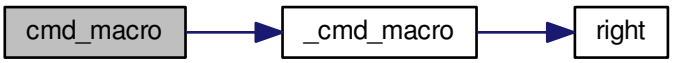
13.21.4.2 void cmd_macro (usbdevice * *kb*, usbmode * *mode*, const int *notifynumber*, const char * *keys*, const char * *assignment*)

Definition at line 467 of file input.c.

References _cmd_macro(), and imutex.

```
467
        {
468     pthread_mutex_lock(imutex(kb));
469     _cmd_macro(mode, keys, assignment);
470     pthread_mutex_unlock(imutex(kb));
471 }
```

Here is the call graph for this function:



13.21.4.3 void cmd_rebind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *ignored*)

Definition at line 337 of file input.c.

References binding::base, usbmode::bind, imutex, keymap, N_KEYS_INPUT, and key::scan.

```
337                                                                                 {
338     if(keyindex >= N_KEYS_INPUT)
339         return;
340     pthread_mutex_lock(imutex(kb));
341     mode->bind.base[keyindex] = keymap[keyindex].scan;
342     pthread_mutex_unlock(imutex(kb));
343 }
```

13.21.4.4 void cmd_unbind (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *ignored*)

Definition at line 329 of file input.c.

References binding::base, usbmode::bind, imutex, KEY_UNBOUND, and N_KEYS_INPUT.

```
329                                                                                 {
330     if(keyindex >= N_KEYS_INPUT)
331         return;
332     pthread_mutex_lock(imutex(kb));
333     mode->bind.base[keyindex] = KEY_UNBOUND;
334     pthread_mutex_unlock(imutex(kb));
335 }
```

13.21.4.5 void freebind (binding * *bind*)

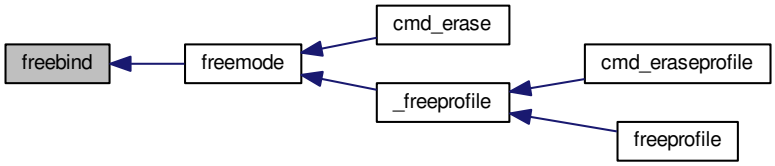
Definition at line 300 of file input.c.

References keymacro::actions, binding::macrocount, and binding::macros.

Referenced by freemode().

```
300                             {
301     for(int i = 0; i < bind->macrocount; i++)
302         free(bind->macros[i].actions);
303     free(bind->macros);
304     memset(bind, 0, sizeof(*bind));
305 }
```

Here is the caller graph for this function:



13.21.4.6 void initbind (binding * *bind*)

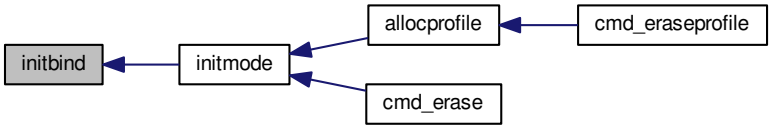
Definition at line 292 of file input.c.

References binding::base, keymap, binding::macrocap, binding::macrocount, binding::macros, N_KEYS_INPUT, and key::scan.

Referenced by initmode().

```
292                             {
293     for(int i = 0; i < N_KEYS_INPUT; i++)
294         bind->base[i] = keymap[i].scan;
295     bind->macros = calloc(32, sizeof(keymacro));
296     bind->macrocap = 32;
297     bind->macrocount = 0;
298 }
```

Here is the caller graph for this function:



13.21.4.7 void inputupdate (usbdevice * *kb*)

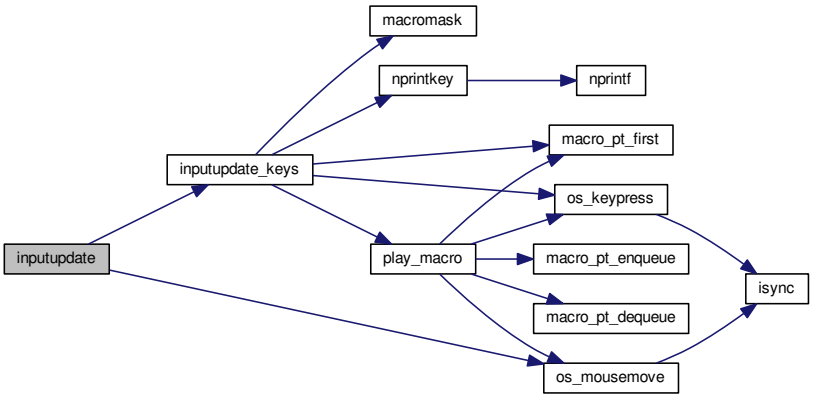
Definition at line 241 of file input.c.

References usbdevice::input, inputupdate_keys(), os_mousemove(), usbdevice::profile, usbinput::rel_x, usbinput::rel_y, usbdevice::uinput_kb, and usbdevice::uinput_mouse.

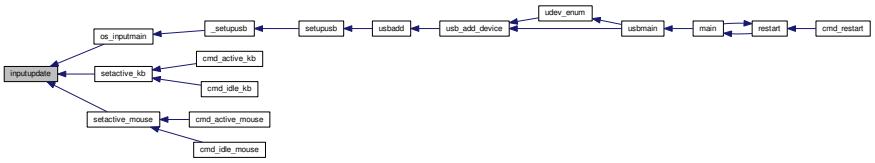
Referenced by os_inputmain(), setactive_kb(), and setactive_mouse().

```
241                                {
242 #ifdef OS_LINUX
243     if((!kb->uinput_kb || !kb->uinput_mouse)
244 #else
245     if(!kb->event
246 #endif
247             || !kb->profile)
248         return;
249     // Process key/button input
250     inputupdate_keys(kb);
251     // Process mouse movement
252     usbinput* input = &kb->input;
253     if(input->rel_x != 0 || input->rel_y != 0){
254         os_mousemove(kb, input->rel_x, input->rel_y);
255         input->rel_x = input->rel_y = 0;
256     }
257     // Finish up
258     memcpy(input->prevkeys, input->keys, N_KEYBYTES_INPUT);
259 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.21.4.8 void os_inputclose (usbdevice * kb)

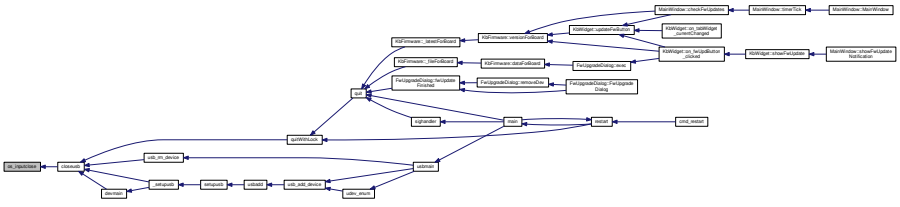
Definition at line 76 of file input_linux.c.

References ckb_warn, usbdevice::uinput_kb, and usbdevice::uinput_mouse.

Referenced by closeusb().

```
76                                  {
77     if(kb->uinput_kb <= 0 || kb->uinput_mouse <= 0)
78         return;
79     // Set all keys released
80     struct input_event event;
81     memset(&event, 0, sizeof(event));
82     event.type = EV_KEY;
83     for(int key = 0; key < KEY_CNT; key++){
84         event.code = key;
85         if(write(kb->uinput_kb - 1, &event, sizeof(event)) <= 0)
86             ckb_warn("uinput write failed: %s\n", strerror(errno));
87         if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
88             ckb_warn("uinput write failed: %s\n", strerror(errno));
89     }
90     event.type = EV_SYN;
91     event.code = SYN_REPORT;
92     if(write(kb->uinput_kb - 1, &event, sizeof(event)) <= 0)
93         ckb_warn("uinput write failed: %s\n", strerror(errno));
94     if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
95         ckb_warn("uinput write failed: %s\n", strerror(errno));
96     // Close the keyboard
97     ioctl(kb->uinput_kb - 1, UI_DEV_DESTROY);
98     close(kb->uinput_kb - 1);
99     kb->uinput_kb = 0;
100     // Close the mouse
101     ioctl(kb->uinput_mouse - 1, UI_DEV_DESTROY);
102     close(kb->uinput_mouse - 1);
103     kb->uinput_mouse = 0;
104 }
```

Here is the caller graph for this function:



13.21.4.9 int os_inputopen (usbdevice * kb)

Parameters

kb	

Returns

Some tips on using `uinput_user_dev in`

Definition at line 55 of file input_linux.c.

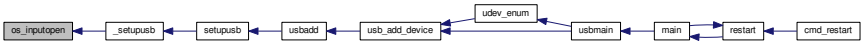
References usbdevice::fwversion, INDEX_OF, keyboard, usbdevice::name, usbdevice::product, usbdevice::uinput_kb, usbdevice::uinput_mouse, uinputopen(), and usbdevice::vendor.

Referenced by _setupusb().

```
55                                {
56     // Create the new input device
57     int index = INDEX_OF(kb, keyboard);
58     struct uinput_user_dev indev;
59     memset(&indev, 0, sizeof(indev));
60     snprintf(indev.name, UINPUT_MAX_NAME_SIZE, "ckb%d: %s", index, kb->name);
61     indev.id.bustype = BUS_USB;
62     indev.id.vendor = kb->vendor;
63     indev.id.product = kb->product;
64     indev.id.version = kb->fwversion;
65     // Open keyboard
66     int fd = uinputopen(&indev, 0);
67     kb->uinput_kb = fd;
68     if(fd <= 0)
69         return 0;
70     // Open mouse
71     fd = uinputopen(&indev, 1);
72     kb->uinput_mouse = fd;
73     return fd <= 0;
74 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.21.4.10 void os_keypress (usbdevice * *kb*, int *scancode*, int *down*)

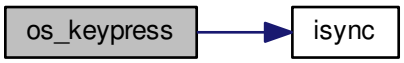
Definition at line 118 of file input_linux.c.

References BTN_WHEELDOWN, BTN_WHEELUP, ckb_warn, isync(), SCAN_MOUSE, usbdevice::uinput_kb, and usbdevice::uinput_mouse.

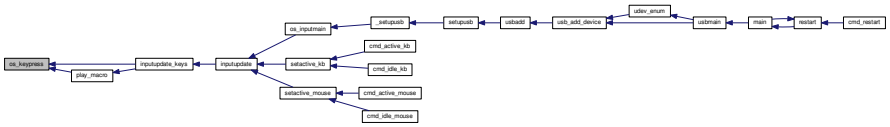
Referenced by inputupdate_keys(), and play_macro().

```
118                                                     {
119     struct input_event event;
120     memset(&event, 0, sizeof(event));
121     int is_mouse = 0;
122     if(scancode == BTN_WHEELUP || scancode == BTN_WHEELDOWN){
123         // The mouse wheel is a relative axis
124         if(!down)
125             return;
126         event.type = EV_REL;
127         event.code = REL_WHEEL;
128         event.value = (scancode == BTN_WHEELUP ? 1 : -1);
129         is_mouse = 1;
130     } else {
131         // Mouse buttons and key events are both EV_KEY. The scancodes are already correct, just remove the
    ckb bit
132         event.type = EV_KEY;
133         event.code = scancode & ~SCAN_MOUSE;
134         event.value = down;
135         is_mouse = !!(scancode & SCAN_MOUSE);
136     }
137     if(write((is_mouse ? kb->uinput_mouse : kb->uinput_kb) - 1, &event, sizeof(event))
    <= 0)
138         ckb_warn("uinput write failed: %s\n", strerror(errno));
139     else
140         isync(kb);
141 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.21.4.11 void os_mousemove (usbdevice * *kb*, int *x*, int *y*)

Definition at line 143 of file input_linux.c.

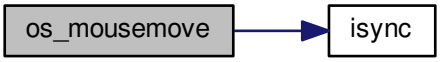
References ckb_warn, isync(), usbdevice::uinput_mouse, x, and y.

Referenced by inputupdate(), and play_macro().

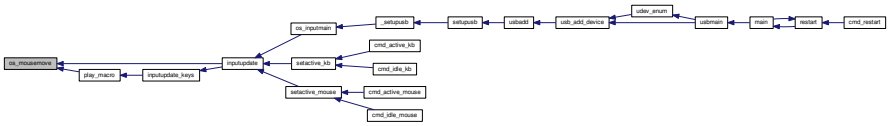
```
143                                                 {
144     struct input_event event;
145     memset(&event, 0, sizeof(event));
146     event.type = EV_REL;
147     if(x != 0){
148         event.code = REL_X;
149         event.value = x;
150         if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
151             ckb_warn("uinput write failed: %s\n", strerror(errno));
152         else
153             isync(kb);
154     }
155     if(y != 0){
```

```
156         event.code = REL_Y;
157         event.value = y;
158         if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
159             ckb_warn("uinput write failed: %s\n", strerror(errno));
160         else
161             isync(kb);
162     }
163 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.21.4.12 int os_setupindicators (usbdevice * *kb*)

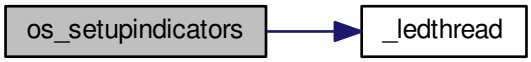
Definition at line 189 of file input_linux.c.

References _ledthread(), usbdevice::hw_ileds, usbdevice::hw_ileds_old, and usbdevice::ileds.

Referenced by _setupusb().

```
189                                     {
190     // Initialize LEDs to all off
191     kb->hw_ileds = kb->hw_ileds_old = kb->ileds = 0;
192     // Create and detach thread to read LED events
193     pthread_t thread;
194     int err = pthread_create(&thread, 0, _ledthread, kb);
195     if(err != 0)
196         return err;
197     pthread_detach(thread);
198     return 0;
199 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

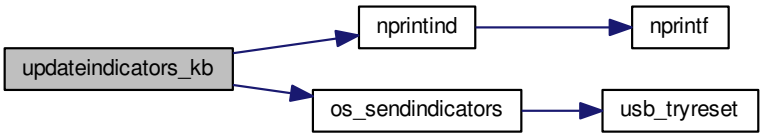
13.21.4.13 void updateindicators_kb (usbdevice * *kb*, int *force*)

Definition at line 261 of file input.c.

References usbdevice::active, usbprofile::currentmode, DELAY_SHORT, usbdevice::hw_ileds, usbdevice::hw_ileds_old, I_CAPS, I_NUM, I_SCROLL, usbdevice::ileds, usbmode::inotify, usbmode::ioff, usbmode::ion, nprintind(), os_sendindicators(), OUTFIFO_MAX, and usbdevice::profile.

```
261                                                 {
262     // Read current hardware indicator state (set externally)
263     uchar old = kb->ileds, hw_old = kb->hw_ileds_old;
264     uchar new = kb->hw_ileds, hw_new = new;
265     // Update them if needed
266     if(kb->active){
267         usbmode* mode = kb->profile->currentmode;
268         new = (new & ~mode->ioff) | mode->ion;
269     }
270     kb->ileds = new;
271     kb->hw_ileds_old = hw_new;
272     if(old != new || force){
273         DELAY_SHORT(kb);
274         os_sendindicators(kb);
275     }
276     // Print notifications if desired
277     if(!kb->active)
278         return;
279     usbmode* mode = kb->profile->currentmode;
280     uchar indicators[] = { I_NUM, I_CAPS, I_SCROLL };
281     for(unsigned i = 0; i < sizeof(indicators) / sizeof(uchar); i++){
282         uchar mask = indicators[i];
283         if((hw_old & mask) == (hw_new & mask))
284             continue;
285         for(int notify = 0; notify < OUTFIFO_MAX; notify++){
286             if(mode->inotify[notify] & mask)
287                 nprintind(kb, notify, mask, hw_new & mask);
288         }
289     }
290 }
```

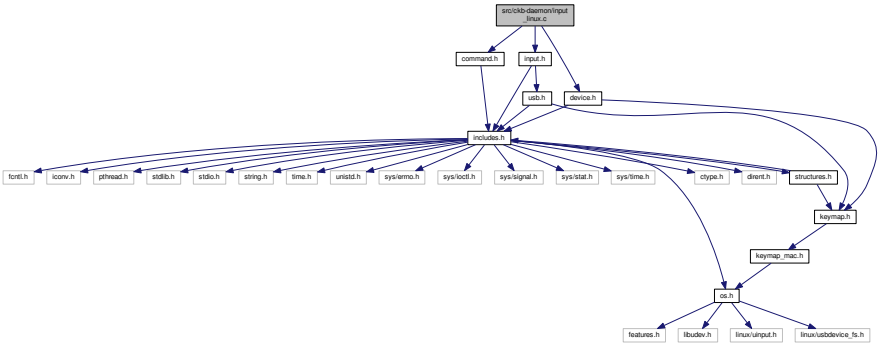
Here is the call graph for this function:



13.22 src/ckb-daemon/input_linux.c File Reference

```
#include "command.h"
#include "device.h"
#include "input.h"
```

Include dependency graph for input_linux.c:



Functions

- int uinputopen (struct uinput_user_dev *indev, int mouse)
- int os_inputopen (usbdevice *kb)

  os_inputopen
- void os_inputclose (usbdevice *kb)
- static void isync (usbdevice *kb)
- void os_keypress (usbdevice *kb, int scancode, int down)
- void os_mousemove (usbdevice *kb, int x, int y)
- void * _ledthread (void *ctx)
- int os_setupindicators (usbdevice *kb)

13.22.1 Function Documentation

13.22.1.1 void* _ledthread (void * *ctx*)

Definition at line 165 of file input_linux.c.

References dmutex, usbdevice::hw_ileds, usbdevice::uinput_kb, and usbdevice::vtable.

Referenced by os_setupindicators().

```
165                            {
166     usbdevice* kb = ctx;
167     uchar ileds = 0;
168     // Read LED events from the uinput device
169     struct input_event event;
170     while (read(kb->uinput_kb - 1, &event, sizeof(event)) > 0) {
171         if (event.type == EV_LED && event.code < 8){
172             char which = 1 << event.code;
173             if(event.value)
174                 ileds |= which;
175             else
176                 ileds &= ~which;
177         }
178         // Update them if needed
179         pthread_mutex_lock(dmutex(kb));
180         if(kb->hw_ileds != ileds){
181             kb->hw_ileds = ileds;
182             kb->vtable->updateindicators(kb, 0);
183         }
184         pthread_mutex_unlock(dmutex(kb));
185     }
186     return 0;
187 }
```

Here is the caller graph for this function:

13.22.1.2 static void isync (usbdevice * kb) [static]

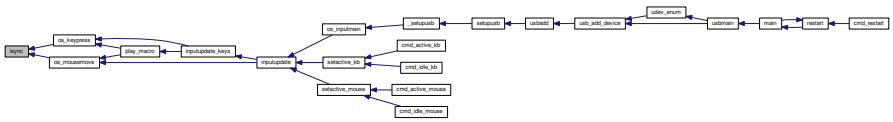
Definition at line 107 of file input_linux.c.

References ckb_warn, usbdevice::uinput_kb, and usbdevice::uinput_mouse.

Referenced by os_keypress(), and os_mousemove().

```
107                                 {
108     struct input_event event;
109     memset(&event, 0, sizeof(event));
110     event.type = EV_SYN;
111     event.code = SYN_REPORT;
112     if(write(kb->uinput_kb - 1, &event, sizeof(event)) <= 0)
113         ckb_warn("uinput write failed: %s\n", strerror(errno));
114     if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
115         ckb_warn("uinput write failed: %s\n", strerror(errno));
116 }
```

Here is the caller graph for this function:



13.22.1.3 void os_inputclose (usbdevice * kb)

Definition at line 76 of file input_linux.c.

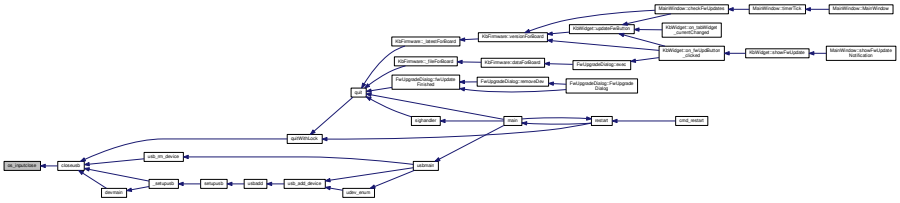
References ckb_warn, usbdevice::uinput_kb, and usbdevice::uinput_mouse.

Referenced by closeusb().

```
76                                  {
77     if(kb->uinput_kb <= 0 || kb->uinput_mouse <= 0)
78         return;
79     // Set all keys released
80     struct input_event event;
81     memset(&event, 0, sizeof(event));
82     event.type = EV_KEY;
83     for(int key = 0; key < KEY_CNT; key++){
84         event.code = key;
85         if(write(kb->uinput_kb - 1, &event, sizeof(event)) <= 0)
86             ckb_warn("uinput write failed: %s\n", strerror(errno));
87         if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
88             ckb_warn("uinput write failed: %s\n", strerror(errno));
89     }
90     event.type = EV_SYN;
91     event.code = SYN_REPORT;
92     if(write(kb->uinput_kb - 1, &event, sizeof(event)) <= 0)
93         ckb_warn("uinput write failed: %s\n", strerror(errno));
94     if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
95         ckb_warn("uinput write failed: %s\n", strerror(errno));
96     // Close the keyboard
97     ioctl(kb->uinput_kb - 1, UI_DEV_DESTROY);
98     close(kb->uinput_kb - 1);
99     kb->uinput_kb = 0;
100     // Close the mouse
```

```
101     ioctl(kb->uinput_mouse - 1, UI_DEV_DESTROY);
102     close(kb->uinput_mouse - 1);
103     kb->uinput_mouse = 0;
104 }
```

Here is the caller graph for this function:



13.22.1.4 int os_inputopen (usbdevice * *kb*)

Parameters

kb	

Returns

Some tips on using `uinput_user_dev in`

Definition at line 55 of file input_linux.c.

References usbdevice::fwversion, INDEX_OF, keyboard, usbdevice::name, usbdevice::product, usbdevice::uinput-_kb, usbdevice::uinput_mouse, uinputopen(), and usbdevice::vendor.

Referenced by _setupusb().

```
55                                  {
56     // Create the new input device
57     int index = INDEX_OF(kb, keyboard);
58     struct uinput_user_dev indev;
59     memset(&indev, 0, sizeof(indev));
60     snprintf(indev.name, UINPUT_MAX_NAME_SIZE, "ckb%d: %s", index, kb->name);
61     indev.id.bustype = BUS_USB;
62     indev.id.vendor = kb->vendor;
63     indev.id.product = kb->product;
64     indev.id.version = kb->fwversion;
65     // Open keyboard
66     int fd = uinputopen(&indev, 0);
67     kb->uinput_kb = fd;
68     if(fd <= 0)
69         return 0;
70     // Open mouse
71     fd = uinputopen(&indev, 1);
72     kb->uinput_mouse = fd;
73     return fd <= 0;
74 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.22.1.5 void os_keypress (usbdevice * *kb*, int *scancode*, int *down*)

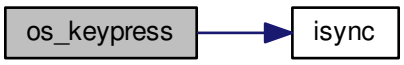
Definition at line 118 of file input_linux.c.

References BTN_WHEELDOWN, BTN_WHEELUP, ckb_warn, isync(), SCAN_MOUSE, usbdevice::uinput_kb, and usbdevice::uinput_mouse.

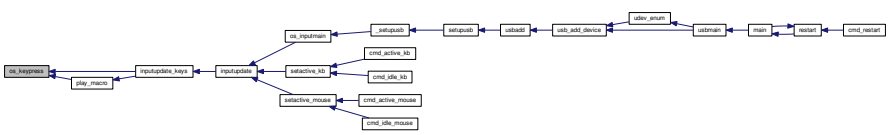
Referenced by inputupdate_keys(), and play_macro().

```
118                                                     {
119     struct input_event event;
120     memset(&event, 0, sizeof(event));
121     int is_mouse = 0;
122     if(scancode == BTN_WHEELUP || scancode == BTN_WHEELDOWN){
123         // The mouse wheel is a relative axis
124         if(!down)
125             return;
126         event.type = EV_REL;
127         event.code = REL_WHEEL;
128         event.value = (scancode == BTN_WHEELUP ? 1 : -1);
129         is_mouse = 1;
130     } else {
131         // Mouse buttons and key events are both EV_KEY. The scancodes are already correct, just remove the
    ckb bit
132         event.type = EV_KEY;
133         event.code = scancode & ~SCAN_MOUSE;
134         event.value = down;
135         is_mouse = !!(scancode & SCAN_MOUSE);
136     }
137     if(write((is_mouse ? kb->uinput_mouse : kb->uinput_kb) - 1, &event, sizeof(event))
    <= 0)
138         ckb_warn("uinput write failed: %s\n", strerror(errno));
139     else
140         isync(kb);
141 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.22.1.6 void os_mousemove (usbdevice * kb, int x, int y)

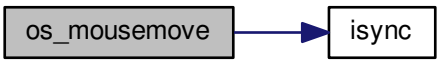
Definition at line 143 of file input_linux.c.

References ckb_warn, isync(), usbdevice::uinput_mouse, x, and y.

Referenced by inputupdate(), and play_macro().

```
143                                                 {
144     struct input_event event;
145     memset(&event, 0, sizeof(event));
146     event.type = EV_REL;
147     if(x != 0){
148         event.code = REL_X;
149         event.value = x;
150         if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
151             ckb_warn("uinput write failed: %s\n", strerror(errno));
152         else
153             isync(kb);
154     }
155     if(y != 0){
156         event.code = REL_Y;
157         event.value = y;
158         if(write(kb->uinput_mouse - 1, &event, sizeof(event)) <= 0)
159             ckb_warn("uinput write failed: %s\n", strerror(errno));
160         else
161             isync(kb);
162     }
163 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.22.1.7 int os_setupindicators (usbdevice * kb)

Definition at line 189 of file input_linux.c.

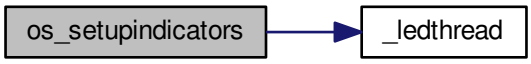
References _ledthread(), usbdevice::hw_ileds, usbdevice::hw_ileds_old, and usbdevice::ileds.

Referenced by _setupusb().

```
189                                         {
190     // Initialize LEDs to all off
191     kb->hw_ileds = kb->hw_ileds_old = kb->ileds = 0;
192     // Create and detach thread to read LED events
193     pthread_t thread;
194     int err = pthread_create(&thread, 0, _ledthread, kb);
195     if(err != 0)
```

```
196         return err;
197     pthread_detach(thread);
198     return 0;
199 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.22.1.8 int uinputopen (struct uinput_user_dev * *indev*, int *mouse*)

Definition at line 9 of file input_linux.c.

References ckb_err, and ckb_warn.

Referenced by os_inputopen().

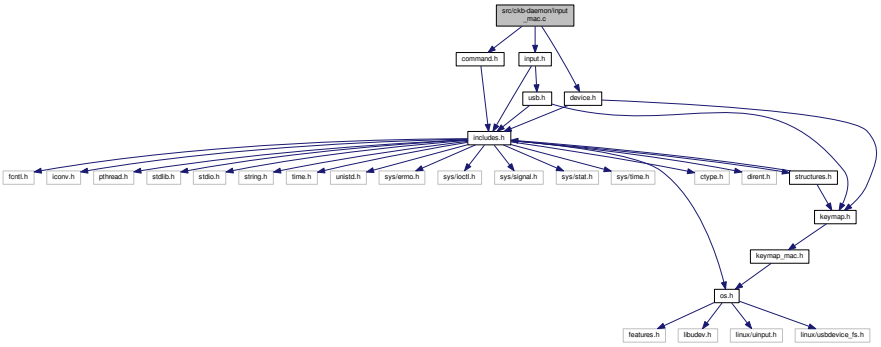
```
9                                                       {
10     int fd = open("/dev/uinput", O_RDWR);
11     if(fd < 0){
12         // If that didn't work, try /dev/input/uinput instead
13         fd = open("/dev/input/uinput", O_RDWR);
14         if(fd < 0){
15             ckb_err("Failed to open uinput: %s\n", strerror(errno));
16             return 0;
17         }
18     }
19     // Enable all keys and mouse buttons
20     ioctl(fd, UI_SET_EVBIT, EV_KEY);
21     for(int i = 0; i < KEY_CNT; i++)
22         ioctl(fd, UI_SET_KEYBIT, i);
23     if(mouse){
24         // Enable mouse axes
25         ioctl(fd, UI_SET_EVBIT, EV_REL);
26         for(int i = 0; i < REL_CNT; i++)
27             ioctl(fd, UI_SET_RELBIT, i);
28     } else {
29         // Enable LEDs
30         ioctl(fd, UI_SET_EVBIT, EV_LED);
31         for(int i = 0; i < LED_CNT; i++)
32             ioctl(fd, UI_SET_LEDBIT, i);
33         // Eanble autorepeat
34         ioctl(fd, UI_SET_EVBIT, EV_REP);
35     }
36     // Enable sychronization
37     ioctl(fd, UI_SET_EVBIT, EV_SYN);
38     // Create the device
39     if(write(fd, indev, sizeof(*indev)) <= 0)
40         ckb_warn("uinput write failed: %s\n", strerror(errno));
41     if(ioctl(fd, UI_DEV_CREATE)){
42         ckb_err("Failed to create uinput device: %s\n", strerror(errno));
43         close(fd);
44         return 0;
45     }
46     return fd + 1;
47 }
```

Here is the caller graph for this function:

13.23 src/ckb-daemon/input_mac.c File Reference

```
#include "command.h"
#include "device.h"
#include "input.h"
```

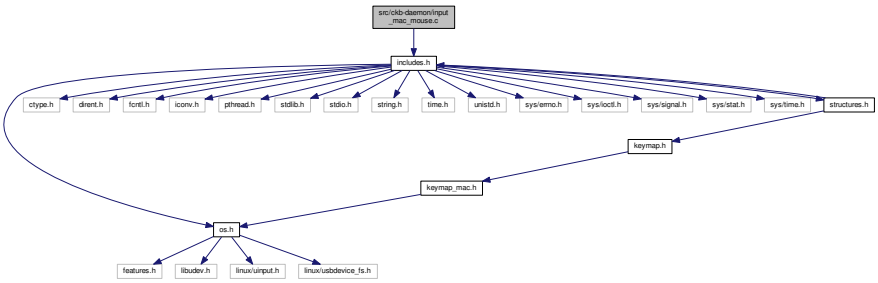
Include dependency graph for input_mac.c:



13.24 src/ckb-daemon/input_mac_mouse.c File Reference

```
#include "includes.h"
```

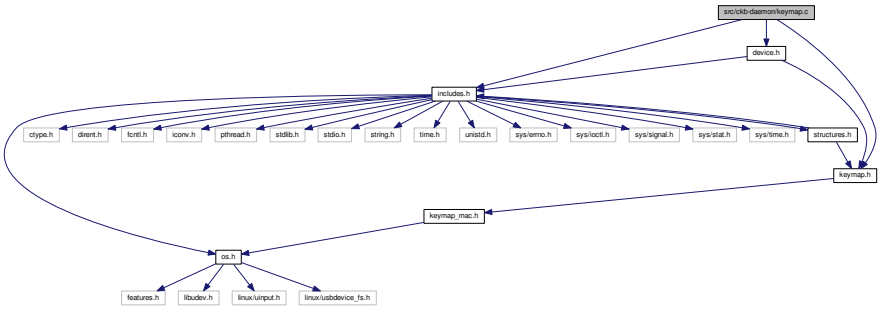
Include dependency graph for input_mac_mouse.c:



13.25 src/ckb-daemon/keymap.c File Reference

```
#include "device.h"
#include "includes.h"
#include "keymap.h"
```

Include dependency graph for keymap.c:



Macros

- #define BUTTON_HID_COUNT 5

Functions

- void hid_kb_translate (unsigned char ∗kbinput, int endpoint, int length, const unsigned char ∗urbinput)
- void hid_mouse_translate (unsigned char ∗kbinput, short ∗xaxis, short ∗yaxis, int endpoint, int length, const unsigned char ∗urbinput)
- void corsair_kbcopy (unsigned char ∗kbinput, int endpoint, const unsigned char ∗urbinput)
- void corsair_mousecopy (unsigned char ∗kbinput, int endpoint, const unsigned char ∗urbinput)

Variables

- const key keymap [(((152+3+12)+25)+11)]

13.25.1 Macro Definition Documentation

13.25.1.1 #define BUTTON_HID_COUNT 5

Definition at line 364 of file keymap.c.

Referenced by corsair_mousecopy(), and hid_mouse_translate().

13.25.2 Function Documentation

13.25.2.1 void corsair_kbcopy (unsigned char ∗ *kbinput,* int *endpoint,* const unsigned char ∗ *urbinput*)

Definition at line 394 of file keymap.c.

References N_KEYBYTES_HW.

Referenced by os_inputmain().

```
394                                                                                 {
395     if(endpoint == 2 || endpoint == -2){
396         if(urbinput[0] != 3)
397             return;
398         urbinput++;
399     }
400     memcpy(kbinput, urbinput, N_KEYBYTES_HW);
401 }
```

Here is the caller graph for this function:

13.25.2.2 void corsair_mousecopy (unsigned char * *kbinput*, int *endpoint*, const unsigned char * *urbinput*)

Definition at line 403 of file keymap.c.

References BUTTON_HID_COUNT, CLEAR_KEYBIT, MOUSE_BUTTON_FIRST, N_BUTTONS_HW, and SET_KEYBIT.

Referenced by os_inputmain().

```
403                                                                                                 {
404     if(endpoint == 2 || endpoint == -2){
405         if(urbinput[0] != 3)
406             return;
407         urbinput++;
408     }
409     for(int bit = BUTTON_HID_COUNT; bit < N_BUTTONS_HW; bit++){
410         int byte = bit / 8;
411         uchar test = 1 << (bit % 8);
412         if(urbinput[byte] & test)
413             SET_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
414         else
415             CLEAR_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
416     }
417 }
```

Here is the caller graph for this function:

13.25.2.3 void hid_kb_translate (unsigned char * *kbinput*, int *endpoint*, int *length*, const unsigned char * *urbinput*)

Definition at line 223 of file keymap.c.

References ckb_warn, CLEAR_KEYBIT, and SET_KEYBIT.

Referenced by os_inputmain().

```
223                                                                                                 {
224     if(length < 1)
225         return;
226     // LUT for HID -> Corsair scancodes (-1 for no scan code, -2 for currently unsupported)
227     // Modified from Linux drivers/hid/usbhid/usbkbd.c, key codes replaced with array indices and K95 keys
      added
228     static const short hid_codes[256] = {
229         -1,  -1,  -1,  -1,  37,  54,  52,  39,  27,  40,  41,  42,  32,  43,  44,  45,
230         56,  55,  33,  34,  25,  28,  38,  29,  31,  53,  26,  51,  30,  50,  13,  14,
231         15,  16,  17,  18,  19,  20,  21,  22,  82,   0,  86,  24,  64,  23,  84,  35,
232         79,  80,  81,  46,  47,  12,  57,  58,  59,  36,   1,   2,   3,   4,   5,   6,
233          7,   8,   9,  10,  11,  72,  73,  74,  75,  76,  77,  78,  87,  88,  89,  95,
234         93,  94,  92, 102, 103, 104, 105, 106, 107, 115, 116, 117, 112, 113, 114, 108,
235        109, 110, 118, 119,  49,  69,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,
236         -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  98,  -2,  -2,  -2,  -2,  -2,  -2,  97,
237        130, 131,  -1,  -1,  -1,  -2,  -1,  -2,  -2,  -2,  -2,  -2,  -2,  -1,  -1,  -1,
238         -2,  -2,  -2,  -2,  -2,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
239         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
240         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
241         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -3,  -1,  -1,  -1,  // <- -3 = non-RGB
      program key
```

```
242         120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 136, 137, 138, 139, 140, 141,
243          60,  48,  62,  61,  91,  90,  67,  68, 142, 143,  99, 101,  -2, 130, 131,  97,
244          -2, 133, 134, 135,  -2,  96,  -2, 132,  -2,  -2,  71,  71,  71,  71,  -1,  -1,
245     };
246     switch(endpoint){
247     case 1:
248     case -1:
249         // EP 1: 6KRO input (RGB and non-RGB)
250         // Clear previous input
251         for(int i = 0; i < 256; i++){
252             if(hid_codes[i] >= 0)
253                 CLEAR_KEYBIT(kbinput, hid_codes[i]);
254         }
255         // Set new input
256         for(int i = 0; i < 8; i++){
257             if((urbinput[0] >> i) & 1)
258                 SET_KEYBIT(kbinput, hid_codes[i + 224]);
259         }
260         for(int i = 2; i < length; i++){
261             if(urbinput[i] > 3){
262                 int scan = hid_codes[urbinput[i]];
263                 if(scan >= 0)
264                     SET_KEYBIT(kbinput, scan);
265                 else
266                     ckb_warn("Got unknown key press %d on EP 1\n", urbinput[i]);
267             }
268         }
269         break;
270     case -2:
271         // EP 2 RGB: NKRO input
272         if(urbinput[0] == 1){
273             // Type 1: standard key
274             if(length != 21)
275                 return;
276             for(int bit = 0; bit < 8; bit++){
277                 if((urbinput[1] >> bit) & 1)
278                     SET_KEYBIT(kbinput, hid_codes[bit + 224]);
279                 else
280                     CLEAR_KEYBIT(kbinput, hid_codes[bit + 224]);
281             }
282             for(int byte = 0; byte < 19; byte++){
283                 char input = urbinput[byte + 2];
284                 for(int bit = 0; bit < 8; bit++){
285                     int keybit = byte * 8 + bit;
286                     int scan = hid_codes[keybit];
287                     if((input >> bit) & 1){
288                         if(scan >= 0)
289                             SET_KEYBIT(kbinput, hid_codes[keybit]);
290                         else
291                             ckb_warn("Got unknown key press %d on EP 2\n", keybit);
292                     } else if(scan >= 0)
293                         CLEAR_KEYBIT(kbinput, hid_codes[keybit]);
294                 }
295             }
296             break;
297         } else if(urbinput[0] == 2)
298             ;       // Type 2: media key (fall through)
299         else
300             break;  // No other known types
301     case 2:
302         // EP 2 Non-RGB: media keys
303         CLEAR_KEYBIT(kbinput, 97);          // mute
304         CLEAR_KEYBIT(kbinput, 98);          // stop
305         CLEAR_KEYBIT(kbinput, 99);          // prev
306         CLEAR_KEYBIT(kbinput, 100);         // play
307         CLEAR_KEYBIT(kbinput, 101);         // next
308         CLEAR_KEYBIT(kbinput, 130);         // volup
309         CLEAR_KEYBIT(kbinput, 131);         // voldn
310         for(int i = 0; i < length; i++){
311             switch(urbinput[i]){
312             case 181:
313                 SET_KEYBIT(kbinput, 101);   // next
314                 break;
315             case 182:
316                 SET_KEYBIT(kbinput, 99);    // prev
317                 break;
318             case 183:
319                 SET_KEYBIT(kbinput, 98);    // stop
320                 break;
321             case 205:
322                 SET_KEYBIT(kbinput, 100);   // play
323                 break;
324             case 226:
325                 SET_KEYBIT(kbinput, 97);    // mute
326                 break;
327             case 233:
328                 SET_KEYBIT(kbinput, 130);   // volup
```

```
329                 break;
330             case 234:
331                 SET_KEYBIT(kbinput, 131);   // voldn
332                 break;
333             }
334         }
335         break;
336     case 3:
337         // EP 3 non-RGB: NKRO input
338         if(length != 15)
339             return;
340         for(int bit = 0; bit < 8; bit++){
341             if((urbinput[0] >> bit) & 1)
342                 SET_KEYBIT(kbinput, hid_codes[bit + 224]);
343             else
344                 CLEAR_KEYBIT(kbinput, hid_codes[bit + 224]);
345         }
346         for(int byte = 0; byte < 14; byte++){
347             char input = urbinput[byte + 1];
348             for(int bit = 0; bit < 8; bit++){
349                 int keybit = byte * 8 + bit;
350                 int scan = hid_codes[keybit];
351                 if((input >> bit) & 1){
352                     if(scan >= 0)
353                         SET_KEYBIT(kbinput, hid_codes[keybit]);
354                     else
355                         ckb_warn("Got unknown key press %d on EP 3\n", keybit);
356                 } else if(scan >= 0)
357                     CLEAR_KEYBIT(kbinput, hid_codes[keybit]);
358             }
359         }
360         break;
361     }
362 }
```

Here is the caller graph for this function:

13.25.2.4 void hid_mouse_translate (unsigned char * *kbinput*, short * *xaxis*, short * *yaxis*, int *endpoint*, int *length*, const unsigned char * *urbinput*)

Definition at line 366 of file keymap.c.

References BUTTON_HID_COUNT, CLEAR_KEYBIT, MOUSE_BUTTON_FIRST, MOUSE_EXTRA_FIRST, and SET_KEYBIT.

Referenced by os_inputmain().

```
366
                                {
367     if((endpoint != 2 && endpoint != -2) || length < 10)
368         return;
369     // EP 2: mouse input
370     if(urbinput[0] != 1)
371         return;
372     // Byte 1 = mouse buttons (bitfield)
373     for(int bit = 0; bit < BUTTON_HID_COUNT; bit++){
374         if(urbinput[1] & (1 << bit))
375             SET_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
376         else
377             CLEAR_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
378     }
379     // Bytes 5 - 8: movement
380     *xaxis += *(short*)(urbinput + 5);
381     *yaxis += *(short*)(urbinput + 7);
382     // Byte 9: wheel
383     char wheel = urbinput[9];
384     if(wheel > 0)
385         SET_KEYBIT(kbinput, MOUSE_EXTRA_FIRST);         // wheelup
386     else
387         CLEAR_KEYBIT(kbinput, MOUSE_EXTRA_FIRST);
388     if(wheel < 0)
```

```
389         SET_KEYBIT(kbinput, MOUSE_EXTRA_FIRST + 1);     // wheeldn
390     else
391         CLEAR_KEYBIT(kbinput, MOUSE_EXTRA_FIRST + 1);
392 }
```

Here is the caller graph for this function:

13.25.3 Variable Documentation

13.25.3.1 const key keymap[(((152+3+12)+25)+11)]

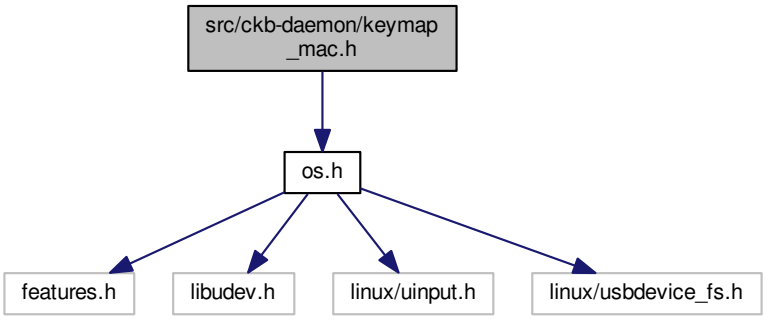
Definition at line 5 of file keymap.c.

Referenced by _cmd_get(), _cmd_macro(), cmd_bind(), cmd_rebind(), cmd_rgb(), initbind(), inputupdate_keys(), nprintkey(), printrgb(), readcmd(), and setactive_kb().

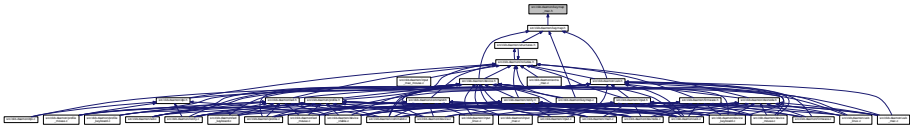
13.26 src/ckb-daemon/keymap_mac.h File Reference

```
#include "os.h"
```

Include dependency graph for keymap_mac.h:



This graph shows which files directly or indirectly include this file:

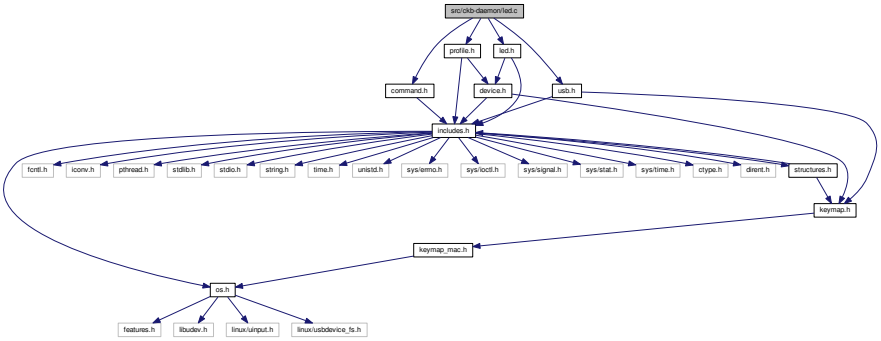


13.27 src/ckb-daemon/led.c File Reference

```
#include "command.h"
```

```
#include "led.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for led.c:



Functions

- void cmd_rgb (usbdevice ∗kb, usbmode ∗mode, int dummy, int keyindex, const char ∗code)
- static uchar iselect (const char ∗led)
- void cmd_ioff (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗led)
- void cmd_ion (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗led)
- void cmd_iauto (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗led)
- void cmd_inotify (usbdevice ∗kb, usbmode ∗mode, int nnumber, int dummy, const char ∗led)
- static int has_key (const char ∗name, const usbdevice ∗kb)
- char ∗ printrgb (const lighting ∗light, const usbdevice ∗kb)

13.27.1 Function Documentation

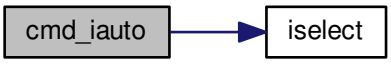
13.27.1.1 void cmd_iauto (usbdevice ∗ *kb*, usbmode ∗ *mode*, int *dummy1*, int *dummy2*, const char ∗ *led*)

Definition at line 54 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
54                                                                                  {
55     uchar bits = iselect(led);
56     // Remove the bits from both ioff and ion
57     mode->ioff &= ~bits;
58     mode->ion &= ~bits;
59     kb->vtable->updateindicators(kb, 0);
60 }
```

Here is the call graph for this function:



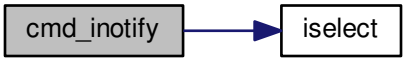
13.27.1.2 void cmd_inotify (usbdevice * kb, usbmode * mode, int nnumber, int dummy, const char * led)

Definition at line 62 of file led.c.

References usbmode::inotify, and iselect().

```
62                                                                                  {
63     uchar bits = iselect(led);
64     if(strstr(led, ":off"))
65         // Turn notifications for these bits off
66         mode->inotify[nnumber] &= ~bits;
67     else
68         // Turn notifications for these bits on
69         mode->inotify[nnumber] |= bits;
70 }
```

Here is the call graph for this function:



13.27.1.3 void cmd_ioff (usbdevice * kb, usbmode * mode, int dummy1, int dummy2, const char * led)

Definition at line 38 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
38                                                                              {
39     uchar bits = iselect(led);
40     // Add the bits to ioff, remove them from ion
41     mode->ioff |= bits;
42     mode->ion &= ~bits;
43     kb->vtable->updateindicators(kb, 0);
44 }
```

Here is the call graph for this function:

13.27.1.4 void cmd_ion (usbdevice * kb, usbmode * mode, int dummy1, int dummy2, const char * led)

Definition at line 46 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
46                                                                                  {
47     uchar bits = iselect(led);
48     // Remove the bits from ioff, add them to ion
49     mode->ioff &= ~bits;
50     mode->ion |= bits;
51     kb->vtable->updateindicators(kb, 0);
52 }
```

Here is the call graph for this function:

13.27.1.5 void cmd_rgb (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *code*)

Definition at line 6 of file led.c.

References lighting::b, lighting::g, keymap, key::led, usbmode::light, lighting::r, and lighting::sidelight.

```
6                                                                                   {
7     int index = keymap[keyindex].led;
8     if(index < 0) {
9         if (index == -2){     // Process strafe sidelights
10            uchar sideshine;
11            if (sscanf(code, "%2hhx",&sideshine)) // monochromatic
12                mode->light.sidelight = sideshine;
13        }
14        return;
15    }
16    uchar r, g, b;
17    if(sscanf(code, "%2hhx%2hhx%2hhx", &r, &g, &b) == 3){
18        mode->light.r[index] = r;
19        mode->light.g[index] = g;
20        mode->light.b[index] = b;
21    }
22 }
```

13.27.1.6 static int has_key (const char * *name*, const usbdevice * *kb*) [static]

Definition at line 73 of file led.c.

References IS_K65, IS_K95, IS_MOUSE, IS_SABRE, IS_SCIMITAR, usbdevice::product, and usbdevice::vendor.

Referenced by printrgb().

```
73                                                      {
74     if(!name)
75         return 0;
76     if(IS_MOUSE(kb->vendor, kb->product)){
77         // Mice only have the RGB zones
78         if((IS_SABRE(kb) || IS_SCIMITAR(kb)) && !strcmp(name, "wheel"))
79             return 1;
80         if(IS_SCIMITAR(kb) && !strcmp(name, "thumb"))
81             return 1;
82         if(strstr(name, "dpi") == name || !strcmp(name, "front") || !strcmp(name, "back"))
83             return 1;
84         return 0;
85     } else {
86         // But keyboards don't have them at all
87         if(strstr(name, "dpi") == name || !strcmp(name, "front") || !strcmp(name, "back") || !strcmp(name,
      "wheel") || !strcmp(name, "thumb"))
88             return 0;
```

```
89          // Only K95 has G keys and M keys (G1 - G18, MR, M1 - M3)
90          if(!IS_K95(kb) && ((name[0] == 'g' && name[1] >= '1' && name[1] <= '9') || (name[0] == 'm' &&
        (name[1] == 'r' || name[1] == '1' || name[1] == '2' || name[1] == '3'))))
91              return 0;
92          // Only K65 has lights on VolUp/VolDn
93          if(!IS_K65(kb) && (!strcmp(name, "volup") || !strcmp(name, "voldn")))
94              return 0;
95          // K65 lacks numpad and media buttons
96          if(IS_K65(kb) && (strstr(name, "num") == name || !strcmp(name, "stop") || !strcmp(name, "prev
       ") || !strcmp(name, "play") || !strcmp(name, "next")))
97              return 0;
98      }
99      return 1;
100 }
```

Here is the caller graph for this function:

13.27.1.7 static uchar iselect (const char * *led*) [static]

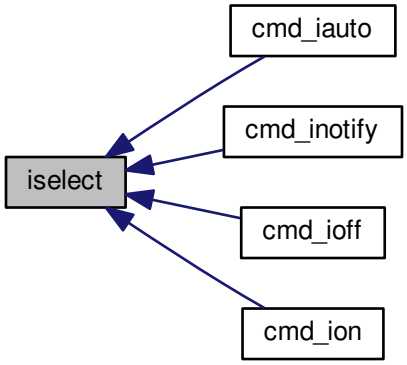
Definition at line 25 of file led.c.

References I_CAPS, I_NUM, and I_SCROLL.

Referenced by cmd_iauto(), cmd_inotify(), cmd_ioff(), and cmd_ion().

```
25                                      {
26      int result = 0;
27      if(!strncmp(led, "num", 3) || strstr(led, ",num"))
28          result |= I_NUM;
29      if(!strncmp(led, "caps", 4) || strstr(led, ",caps"))
30          result |= I_CAPS;
31      if(!strncmp(led, "scroll", 6) || strstr(led, ",scroll"))
32          result |= I_SCROLL;
33      if(!strncmp(led, "all", 3) || strstr(led, ",all"))
34          result |= I_NUM | I_CAPS | I_SCROLL;
35      return result;
36 }
```

Here is the caller graph for this function:



13.27.1.8 char* printrgb (const lighting * *light,* const usbdevice * *kb*)

Definition at line 102 of file led.c.

References lighting::b, lighting::g, has_key(), keymap, key::led, N_KEYS_EXTENDED, key::name, and lighting::r.

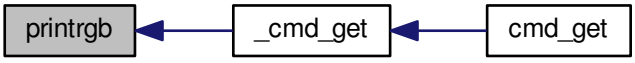
Referenced by _cmd_get().

```
102                                                     {
103     uchar r[N_KEYS_EXTENDED], g[N_KEYS_EXTENDED], b[
      N_KEYS_EXTENDED];
104     const uchar* mr = light->r;
105     const uchar* mg = light->g;
106     const uchar* mb = light->b;
107     for(int i = 0; i < N_KEYS_EXTENDED; i++){
108         // Translate the key index to an RGB index using the key map
109         int k = keymap[i].led;
110         if(k < 0)
111             continue;
112         r[i] = mr[k];
113         g[i] = mg[k];
114         b[i] = mb[k];
115     }
116     // Make a buffer to track key names and to filter out duplicates
117     char names[N_KEYS_EXTENDED][11];
118     for(int i = 0; i < N_KEYS_EXTENDED; i++){
119         const char* name = keymap[i].name;
120         if(keymap[i].led < 0 || !has_key(name, kb))
121             names[i][0] = 0;
122         else
123             strncpy(names[i], name, 11);
124     }
125     // Check to make sure these aren't all the same color
126     int same = 1;
127     for(int i = 1; i < N_KEYS_EXTENDED; i++){
128         if(!names[i][0])
129             continue;
130         if(r[i] != r[0] || g[i] != g[0] || b[i] != b[0]){
131             same = 0;
132             break;
133         }
134     }
135     // If they are, just output that color
136     if(same){
137         char* buffer = malloc(7);
138         snprintf(buffer, 7, "%02x%02x%02x", r[0], g[0], b[0]);
139         return buffer;
140     }
141     const int BUFFER_LEN = 4096;    // Should be more than enough to fit all keys
142     char* buffer = malloc(BUFFER_LEN);
```

```
143     int length = 0;
144     for(int i = 0; i < N_KEYS_EXTENDED; i++){
145         if(!names[i][0])
146             continue;
147         // Print the key name
148         int newlen = 0;
149         snprintf(buffer + length, BUFFER_LEN - length, length == 0 ? "%s%n" : " %s%n", names[i], &newlen);
150         length += newlen;
151         // Look ahead to see if any other keys have this color. If so, print them here as well.
152         uchar kr = r[i], kg = g[i], kb = b[i];
153         for(int j = i + 1; j < N_KEYS_EXTENDED; j++){
154             if(!names[j][0])
155                 continue;
156             if(r[j] != kr || g[j] != kg || b[j] != kb)
157                 continue;
158             snprintf(buffer + length, BUFFER_LEN - length, ",%s%n", names[j], &newlen);
159             length += newlen;
160             // Erase the key's name so it won't get printed later
161             names[j][0] = 0;
162         }
163         // Print the color
164         snprintf(buffer + length, BUFFER_LEN - length, ":%02x%02x%02x%n", kr, kg, kb, &newlen);
165         length += newlen;
166     }
167     return buffer;
168 }
```

Here is the call graph for this function:

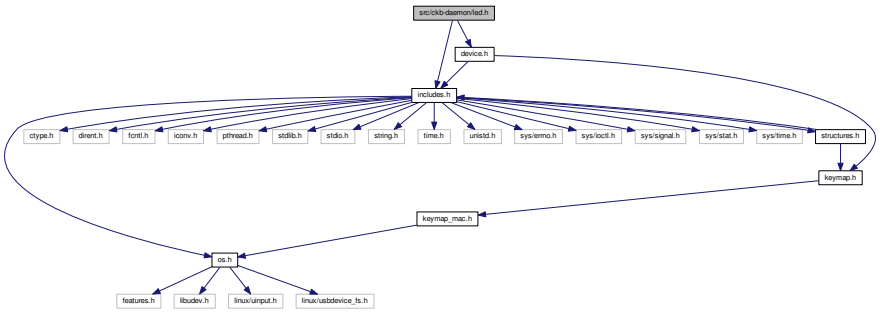
Here is the caller graph for this function:



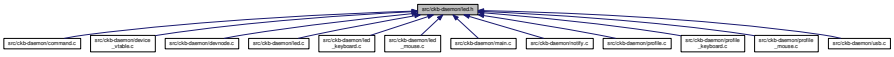
13.28 src/ckb-daemon/led.h File Reference

```
#include "includes.h"
#include "device.h"
```

Include dependency graph for led.h:



This graph shows which files directly or indirectly include this file:



Functions

- int updatergb_kb (usbdevice ∗kb, int force)
- int updatergb_mouse (usbdevice ∗kb, int force)
- int savergb_kb (usbdevice ∗kb, lighting ∗light, int mode)
- int savergb_mouse (usbdevice ∗kb, lighting ∗light, int mode)
- int loadrgb_kb (usbdevice ∗kb, lighting ∗light, int mode)
- int loadrgb_mouse (usbdevice ∗kb, lighting ∗light, int mode)
- char ∗ printrgb (const lighting ∗light, const usbdevice ∗kb)
- void cmd_rgb (usbdevice ∗kb, usbmode ∗mode, int dummy, int keyindex, const char ∗code)
- void cmd_ioff (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗led)
- void cmd_ion (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗led)
- void cmd_iauto (usbdevice ∗kb, usbmode ∗mode, int dummy1, int dummy2, const char ∗led)
- void cmd_inotify (usbdevice ∗kb, usbmode ∗mode, int nnumber, int dummy, const char ∗led)

13.28.1 Function Documentation

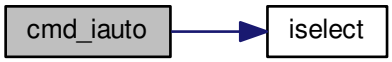
13.28.1.1 void cmd_iauto (usbdevice ∗ *kb*, usbmode ∗ *mode*, int *dummy1*, int *dummy2*, const char ∗ *led*)

Definition at line 54 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
54                                                                                  {
55     uchar bits = iselect(led);
56     // Remove the bits from both ioff and ion
57     mode->ioff &= ~bits;
58     mode->ion &= ~bits;
59     kb->vtable->updateindicators(kb, 0);
60 }
```

Here is the call graph for this function:



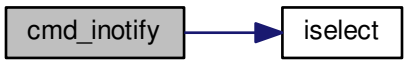
13.28.1.2 void cmd_inotify (usbdevice * kb, usbmode * mode, int nnumber, int dummy, const char * led)

Definition at line 62 of file led.c.

References usbmode::inotify, and iselect().

```
62                                                                                  {
63     uchar bits = iselect(led);
64     if(strstr(led, ":off"))
65         // Turn notifications for these bits off
66         mode->inotify[nnumber] &= ~bits;
67     else
68         // Turn notifications for these bits on
69         mode->inotify[nnumber] |= bits;
70 }
```

Here is the call graph for this function:



13.28.1.3 void cmd_ioff (usbdevice * kb, usbmode * mode, int dummy1, int dummy2, const char * led)

Definition at line 38 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
38                                                                                  {
39     uchar bits = iselect(led);
40     // Add the bits to ioff, remove them from ion
41     mode->ioff |= bits;
42     mode->ion &= ~bits;
43     kb->vtable->updateindicators(kb, 0);
44 }
```

Here is the call graph for this function:

13.28.1.4 void cmd_ion (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *led*)

Definition at line 46 of file led.c.

References usbmode::ioff, usbmode::ion, iselect(), and usbdevice::vtable.

```
46                                                                                  {
47     uchar bits = iselect(led);
48     // Remove the bits from ioff, add them to ion
49     mode->ioff &= ~bits;
50     mode->ion |= bits;
51     kb->vtable->updateindicators(kb, 0);
52 }
```

Here is the call graph for this function:

13.28.1.5 void cmd_rgb (usbdevice * *kb*, usbmode * *mode*, int *dummy*, int *keyindex*, const char * *code*)

Definition at line 6 of file led.c.

References lighting::b, lighting::g, keymap, key::led, usbmode::light, lighting::r, and lighting::sidelight.

```
6                                                                                   {
7     int index = keymap[keyindex].led;
8     if(index < 0) {
9         if (index == -2){     // Process strafe sidelights
10            uchar sideshine;
11            if (sscanf(code, "%2hhx",&sideshine)) // monochromatic
12                mode->light.sidelight = sideshine;
13        }
14        return;
15    }
16    uchar r, g, b;
17    if(sscanf(code, "%2hhx%2hhx%2hhx", &r, &g, &b) == 3){
18        mode->light.r[index] = r;
19        mode->light.g[index] = g;
20        mode->light.b[index] = b;
21    }
22 }
```

13.28.1.6 int loadrgb_kb (usbdevice * *kb*, lighting * *light*, int *mode*)

Since Firmware Version 2.05 for K95RGB the answers for getting the stored color-maps from the hardware has changed a bit. So comparing for the correct answer cannot validate against the cmd, and has to be done against a third map. Up to now we know, that K70RGB Pro and K70 Lux RGB have firmware version 2.04 and having the problem also. So we have to determine in the most inner loop the firmware version and type of KB to select the correct compare-table.

Read colors

```
                                                    < That is the old comparison method: you get back what you sent.
```

Normally a firmware version >= 2.05 runs with the new compare array. Up to now there is a 2.04 running in K70 RGB Lux with the same behavior. It seems that K70RGB has the same problem

Definition at line 181 of file led_keyboard.c.

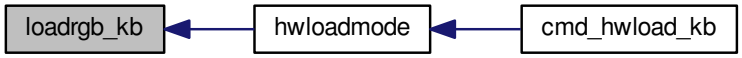
References lighting::b, ckb_err, usbdevice::fwversion, lighting::g, MSG_SIZE, N_KEYS_HW, P_K70_LUX, P_K70-_LUX_NRGB, usbdevice::product, lighting::r, usbrecv, and usbsend.

Referenced by hwloadmode().

```
181                                                     {
182     if(kb->fwversion >= 0x0120){
183         uchar data_pkt[12][MSG_SIZE] = {
184             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x01 },
185             { 0xff, 0x01, 60, 0 },
186             { 0xff, 0x02, 60, 0 },
187             { 0xff, 0x03, 24, 0 },
188             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x02 },
189             { 0xff, 0x01, 60, 0 },
190             { 0xff, 0x02, 60, 0 },
191             { 0xff, 0x03, 24, 0 },
192             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x03 },
193             { 0xff, 0x01, 60, 0 },
194             { 0xff, 0x02, 60, 0 },
195             { 0xff, 0x03, 24, 0 },
196         };
197         uchar in_pkt[4][MSG_SIZE] = {
198             { 0x0e, 0x14, 0x03, 0x01 },
199             { 0xff, 0x01, 60, 0 },
200             { 0xff, 0x02, 60, 0 },
201             { 0xff, 0x03, 24, 0 },
202         };
203
209
210         uchar cmp_pkt[4][4] = {
211             { 0x0e, 0x14, 0x03, 0x01 },
212             { 0x0e, 0xff, 0x01, 60 },
213             { 0x0e, 0xff, 0x02, 60 },
214             { 0x0e, 0xff, 0x03, 24 },
215         };
217         uchar* colors[3] = { light->r, light->g, light->b };
218         for(int clr = 0; clr < 3; clr++){
219             for(int i = 0; i < 4; i++){
220                 if(!usbrecv(kb, data_pkt[i + clr * 4], in_pkt[i]))
221                     return -1;
222
223                 uchar* comparePacket = data_pkt[i + clr * 4];
224                 if ((kb->fwversion >= 0x205)
228                         || ((kb->fwversion >= 0x204)
229                             && ((kb->product == P_K70_LUX_NRGB) || (kb->
    product == P_K70_LUX)))) {
230                     comparePacket = cmp_pkt[i];
231                 }
232
233                 if (memcmp(in_pkt[i], comparePacket, 4)) {
234                     ckb_err("Bad input header\n");
235                     ckb_err("color = %d, i = %d, mode = %d\nOutput (Request): %2.2x %2.2x %2.2x
     %2.2x\nInput(Reply): %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x\n", clr, i, mode,
236                         comparePacket[0], comparePacket[1], comparePacket[2], comparePacket[3],
237                         in_pkt[i][0], in_pkt[i][1], in_pkt[i][2], in_pkt[i][3], in_pkt[i][4], in_pkt[i][5],
     in_pkt[i][6], in_pkt[i][7]);
238                     in_pkt[2][0] = 0x99;
239                     in_pkt[2][1] = 0x99;
240                     in_pkt[2][2] = 0x99;
241                     in_pkt[2][3] = 0x99;
242                     usbrecv(kb, in_pkt[2], in_pkt[2]); // just to find it in the wireshark log
243                     return -1;
244                 }
```

```
245             }
246             // Copy colors to lighting. in_pkt[0] is irrelevant.
247             memcpy(colors[clr], in_pkt[1] + 4, 60);
248             memcpy(colors[clr] + 60, in_pkt[2] + 4, 60);
249             memcpy(colors[clr] + 120, in_pkt[3] + 4, 24);
250         }
251     } else {
252         uchar data_pkt[5][MSG_SIZE] = {
253             { 0x0e, 0x14, 0x02, 0x01, 0x01, mode + 1, 0 },
254             { 0xff, 0x01, 60, 0 },
255             { 0xff, 0x02, 60, 0 },
256             { 0xff, 0x03, 60, 0 },
257             { 0xff, 0x04, 36, 0 },
258         };
259         uchar in_pkt[4][MSG_SIZE] = {
260             { 0xff, 0x01, 60, 0 },
261             { 0xff, 0x02, 60, 0 },
262             { 0xff, 0x03, 60, 0 },
263             { 0xff, 0x04, 36, 0 },
264         };
265         // Write initial packet
266         if(!usbsend(kb, data_pkt[0], 1))
267             return -1;
268         // Read colors
269         for(int i = 1; i < 5; i++){
270             if(!usbrecv(kb, data_pkt[i],in_pkt[i - 1]))
271                 return -1;
272             if(memcmp(in_pkt[i - 1], data_pkt[i], 4)){
273                 ckb_err("Bad input header\n");
274                 return -1;
275             }
276         }
277         // Copy the data back to the mode
278         uint8_t mr[N_KEYS_HW / 2], mg[N_KEYS_HW / 2], mb[
    N_KEYS_HW / 2];
279         memcpy(mr,      in_pkt[0] +  4, 60);
280         memcpy(mr + 60, in_pkt[1] +  4, 12);
281         memcpy(mg,      in_pkt[1] + 16, 48);
282         memcpy(mg + 48, in_pkt[2] +  4, 24);
283         memcpy(mb,      in_pkt[2] + 28, 36);
284         memcpy(mb + 36, in_pkt[3] +  4, 36);
285         // Unpack LED data to 8bpc format
286         for(int i = 0; i < N_KEYS_HW; i++){
287             int     i_2 = i / 2;
288             uint8_t r, g, b;
289
290             // 3-bit intensities stored in alternate nybbles.
291             if (i & 1) {
292                 r = 7 - (mr[i_2] >> 4);
293                 g = 7 - (mg[i_2] >> 4);
294                 b = 7 - (mb[i_2] >> 4);
295             } else {
296                 r = 7 - (mr[i_2] & 0x0F);
297                 g = 7 - (mg[i_2] & 0x0F);
298                 b = 7 - (mb[i_2] & 0x0F);
299             }
300             // Scale 3-bit values up to 8 bits.
301             light->r[i] = r << 5 | r << 2 | r >> 1;
302             light->g[i] = g << 5 | g << 2 | g >> 1;
303             light->b[i] = b << 5 | b << 2 | b >> 1;
304         }
305     }
306     return 0;
307 }
```

Here is the caller graph for this function:



13.28.1.7 int loadrgb_mouse (usbdevice * *kb*, lighting * *light*, int *mode*)

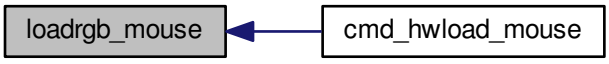
Definition at line 81 of file led_mouse.c.

References lighting::b, ckb_err, lighting::g, IS_SABRE, IS_SCIMITAR, LED_DPI, LED_MOUSE, MSG_SIZE, lighting::r, and usbrecv.

Referenced by cmd_hwload_mouse().

```
81                                                          {
82     uchar data_pkt[MSG_SIZE] = { 0x0e, 0x13, 0x10, 1, 0 };
83     uchar in_pkt[MSG_SIZE] = { 0 };
84     // Load each RGB zone
85     int zonecount = IS_SCIMITAR(kb) ? 4 : IS_SABRE(kb) ? 3 : 2;
86     for(int i = 0; i < zonecount; i++){
87         if(!usbrecv(kb, data_pkt, in_pkt))
88             return -1;
89         if(memcmp(in_pkt, data_pkt, 4)){
90             ckb_err("Bad input header\n");
91             return -2;
92         }
93         // Copy data
94         int led = LED_MOUSE + i;
95         if(led >= LED_DPI)
96             led++;          // Skip DPI light
97         light->r[led] = in_pkt[4];
98         light->g[led] = in_pkt[5];
99         light->b[led] = in_pkt[6];
100         // Set packet for next zone
101         data_pkt[2]++;
102     }
103     return 0;
104 }
```

Here is the caller graph for this function:



13.28.1.8 char* printrgb (const lighting * *light*, const usbdevice * *kb*)

Definition at line 102 of file led.c.

References lighting::b, lighting::g, has_key(), keymap, key::led, N_KEYS_EXTENDED, key::name, and lighting::r.

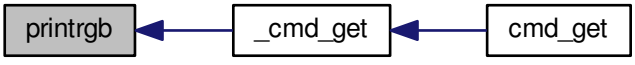
Referenced by _cmd_get().

```
102                                                          {
103     uchar r[N_KEYS_EXTENDED], g[N_KEYS_EXTENDED], b[
      N_KEYS_EXTENDED];
104     const uchar* mr = light->r;
105     const uchar* mg = light->g;
106     const uchar* mb = light->b;
107     for(int i = 0; i < N_KEYS_EXTENDED; i++){
108         // Translate the key index to an RGB index using the key map
109         int k = keymap[i].led;
110         if(k < 0)
111             continue;
112         r[i] = mr[k];
113         g[i] = mg[k];
114         b[i] = mb[k];
115     }
116     // Make a buffer to track key names and to filter out duplicates
117     char names[N_KEYS_EXTENDED][11];
118     for(int i = 0; i < N_KEYS_EXTENDED; i++){
```

```
119         const char* name = keymap[i].name;
120         if(keymap[i].led < 0 || !has_key(name, kb))
121             names[i][0] = 0;
122         else
123             strncpy(names[i], name, 11);
124     }
125     // Check to make sure these aren't all the same color
126     int same = 1;
127     for(int i = 1; i < N_KEYS_EXTENDED; i++){
128         if(!names[i][0])
129             continue;
130         if(r[i] != r[0] || g[i] != g[0] || b[i] != b[0]){
131             same = 0;
132             break;
133         }
134     }
135     // If they are, just output that color
136     if(same){
137         char* buffer = malloc(7);
138         snprintf(buffer, 7, "%02x%02x%02x", r[0], g[0], b[0]);
139         return buffer;
140     }
141     const int BUFFER_LEN = 4096;    // Should be more than enough to fit all keys
142     char* buffer = malloc(BUFFER_LEN);
143     int length = 0;
144     for(int i = 0; i < N_KEYS_EXTENDED; i++){
145         if(!names[i][0])
146             continue;
147         // Print the key name
148         int newlen = 0;
149         snprintf(buffer + length, BUFFER_LEN - length, length == 0 ? "%s%n" : " %s%n", names[i], &newlen);
150         length += newlen;
151         // Look ahead to see if any other keys have this color. If so, print them here as well.
152         uchar kr = r[i], kg = g[i], kb = b[i];
153         for(int j = i + 1; j < N_KEYS_EXTENDED; j++){
154             if(!names[j][0])
155                 continue;
156             if(r[j] != kr || g[j] != kg || b[j] != kb)
157                 continue;
158             snprintf(buffer + length, BUFFER_LEN - length, ",%s%n", names[j], &newlen);
159             length += newlen;
160             // Erase the key's name so it won't get printed later
161             names[j][0] = 0;
162         }
163         // Print the color
164         snprintf(buffer + length, BUFFER_LEN - length, ":%02x%02x%02x%n", kr, kg, kb, &newlen);
165         length += newlen;
166     }
167     return buffer;
168 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.28.1.9 int savergb_kb (usbdevice * *kb*, lighting * *light*, int *mode*)

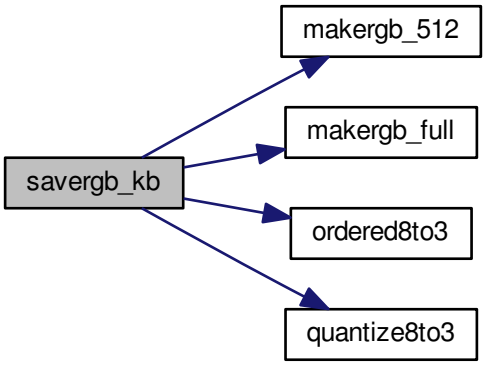
Definition at line 139 of file led_keyboard.c.

References usbdevice::dither, usbdevice::fwversion, IS_STRAFE, makergb_512(), makergb_full(), MSG_SIZE, ordered8to3(), quantize8to3(), and usbsend.

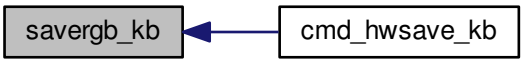
Referenced by cmd_hwsave_kb().

```
139                                                     {
140     if(kb->fwversion >= 0x0120){
141         uchar data_pkt[12][MSG_SIZE] = {
142             // Red
143             { 0x7f, 0x01, 60, 0 },
144             { 0x7f, 0x02, 60, 0 },
145             { 0x7f, 0x03, 24, 0 },
146             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x01 },
147             // Green
148             { 0x7f, 0x01, 60, 0 },
149             { 0x7f, 0x02, 60, 0 },
150             { 0x7f, 0x03, 24, 0 },
151             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x02 },
152             // Blue
153             { 0x7f, 0x01, 60, 0 },
154             { 0x7f, 0x02, 60, 0 },
155             { 0x7f, 0x03, 24, 0 },
156             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x03 }
157         };
158         makergb_full(light, data_pkt);
159         if(!usbsend(kb, data_pkt[0], 12))
160             return -1;
161         if (IS_STRAFE(kb)){ // end save
162             uchar save_end_pkt[MSG_SIZE] = { 0x07, 0x14, 0x04, 0x01, 0x01 };
163             if(!usbsend(kb, save_end_pkt, 1))
164                 return -1;
165         }
166     } else {
167         uchar data_pkt[5][MSG_SIZE] = {
168             { 0x7f, 0x01, 60, 0 },
169             { 0x7f, 0x02, 60, 0 },
170             { 0x7f, 0x03, 60, 0 },
171             { 0x7f, 0x04, 36, 0 },
172             { 0x07, 0x14, 0x02, 0x00, 0x01, mode + 1 }
173         };
174         makergb_512(light, data_pkt, kb->dither ? ordered8to3 :
    quantize8to3);
175         if(!usbsend(kb, data_pkt[0], 5))
176             return -1;
177     }
178     return 0;
179 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.28.1.10 int savergb_mouse (usbdevice * *kb*, lighting * *light*, int *mode*)

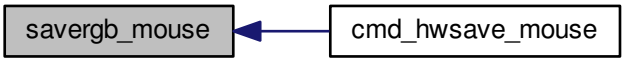
Definition at line 62 of file led_mouse.c.

References lighting::b, lighting::g, IS_SABRE, IS_SCIMITAR, LED_DPI, LED_MOUSE, MSG_SIZE, lighting::r, and usbsend.

Referenced by cmd_hwsave_mouse().

```
62                                                          {
63     uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x10, 1, 0 };
64     // Save each RGB zone, minus the DPI light which is sent in the DPI packets
65     int zonecount = IS_SCIMITAR(kb) ? 4 : IS_SABRE(kb) ? 3 : 2;
66     for(int i = 0; i < zonecount; i++){
67         int led = LED_MOUSE + i;
68         if(led >= LED_DPI)
69             led++;          // Skip DPI light
70         data_pkt[4] = light->r[led];
71         data_pkt[5] = light->g[led];
72         data_pkt[6] = light->b[led];
73         if(!usbsend(kb, data_pkt, 1))
74             return -1;
75         // Set packet for next zone
76         data_pkt[2]++;
77     }
78     return 0;
79 }
```

Here is the caller graph for this function:



13.28.1.11 int updatergb_kb (usbdevice * *kb*, int *force*)

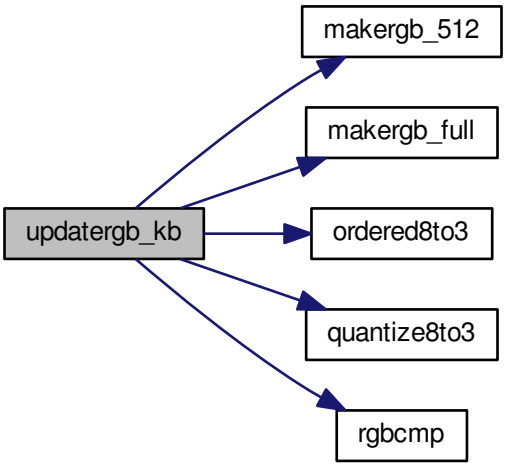
Definition at line 77 of file led_keyboard.c.

References usbdevice::active, usbprofile::currentmode, usbdevice::dither, lighting::forceupdate, IS_FULLRANGE, usbprofile::lastlight, usbmode::light, makergb_512(), makergb_full(), MSG_SIZE, ordered8to3(), usbdevice::profile, quantize8to3(), rgbcmp(), lighting::sidelight, and usbsend.

```
77                                          {
```

```
78      if(!kb->active)
79          return 0;
80      lighting* lastlight = &kb->profile->lastlight;
81      lighting* newlight = &kb->profile->currentmode->
    light;
82      // Don't do anything if the lighting hasn't changed
83      if(!force && !lastlight->forceupdate && !newlight->forceupdate
84              && !rgbcmp(lastlight, newlight) && lastlight->sidelight == newlight->
    sidelight)   // strafe sidelights
85          return 0;
86      lastlight->forceupdate = newlight->forceupdate = 0;
87
88      if(IS_FULLRANGE(kb)){
89          // Update strafe sidelights if necessary
90          if(lastlight->sidelight != newlight->sidelight) {
91              uchar data_pkt[2][MSG_SIZE] = {
92                   { 0x07, 0x05, 0x08, 0x00, 0x00 },
93                   { 0x07, 0x05, 0x02, 0, 0x03 }
94               };
95               if (newlight->sidelight)
96                   data_pkt[0][4]=1;    // turn on
97               if(!usbsend(kb, data_pkt[0], 2))
98                   return -1;
99          }
100          // 16.8M color lighting works fine on strafe and is the only way it actually works
101          uchar data_pkt[12][MSG_SIZE] = {
102              // Red
103              { 0x7f, 0x01, 0x3c, 0 },
104              { 0x7f, 0x02, 0x3c, 0 },
105              { 0x7f, 0x03, 0x18, 0 },
106              { 0x07, 0x28, 0x01, 0x03, 0x01, 0},
107              // Green
108              { 0x7f, 0x01, 0x3c, 0 },
109              { 0x7f, 0x02, 0x3c, 0 },
110              { 0x7f, 0x03, 0x18, 0 },
111              { 0x07, 0x28, 0x02, 0x03, 0x01, 0},
112              // Blue
113              { 0x7f, 0x01, 0x3c, 0 },
114              { 0x7f, 0x02, 0x3c, 0 },
115              { 0x7f, 0x03, 0x18, 0 },
116              { 0x07, 0x28, 0x03, 0x03, 0x02, 0}
117          };
118          makergb_full(newlight, data_pkt);
119          if(!usbsend(kb, data_pkt[0], 12))
120              return -1;
121      } else {
122          // On older keyboards it looks flickery and causes lighting glitches, so we don't use it.
123          uchar data_pkt[5][MSG_SIZE] = {
124              { 0x7f, 0x01, 60, 0 },
125              { 0x7f, 0x02, 60, 0 },
126              { 0x7f, 0x03, 60, 0 },
127              { 0x7f, 0x04, 36, 0 },
128              { 0x07, 0x27, 0x00, 0x00, 0xD8 }
129          };
130          makergb_512(newlight, data_pkt, kb->dither ?
    ordered8to3 : quantize8to3);
131          if(!usbsend(kb, data_pkt[0], 5))
132              return -1;
133      }
134
135      memcpy(lastlight, newlight, sizeof(lighting));
136      return 0;
137  }
```

Here is the call graph for this function:



13.28.1.12 int updatergb_mouse (usbdevice * *kb*, int *force*)

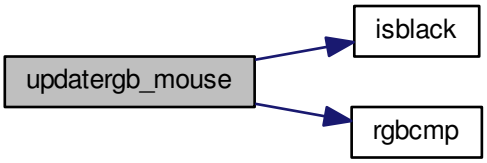
Definition at line 20 of file led_mouse.c.

References usbdevice::active, lighting::b, usbprofile::currentmode, lighting::forceupdate, lighting::g, isblack(), usbprofile::lastlight, LED_MOUSE, usbmode::light, MSG_SIZE, N_MOUSE_ZONES, usbdevice::profile, lighting::r, rgbcmp(), and usbsend.

```
20                                              {
21     if(!kb->active)
22         return 0;
23     lighting* lastlight = &kb->profile->lastlight;
24     lighting* newlight = &kb->profile->currentmode->
       light;
25     // Don't do anything if the lighting hasn't changed
26     if(!force && !lastlight->forceupdate && !newlight->forceupdate
27             && !rgbcmp(lastlight, newlight))
28         return 0;
29     lastlight->forceupdate = newlight->forceupdate = 0;
30
31     // Send the RGB values for each zone to the mouse
32     uchar data_pkt[2][MSG_SIZE] = {
33         { 0x07, 0x22, N_MOUSE_ZONES, 0x01, 0 }, // RGB colors
34         { 0x07, 0x05, 0x02, 0 }                 // Lighting on/off
35     };
36     uchar* rgb_data = &data_pkt[0][4];
37     for(int i = 0; i < N_MOUSE_ZONES; i++){
38         *rgb_data++ = i + 1;
39         *rgb_data++ = newlight->r[LED_MOUSE + i];
40         *rgb_data++ = newlight->g[LED_MOUSE + i];
41         *rgb_data++ = newlight->b[LED_MOUSE + i];
42     }
43     // Send RGB data
44     if(!usbsend(kb, data_pkt[0], 1))
45         return -1;
46     int was_black = isblack(kb, lastlight), is_black = isblack(kb, newlight);
47     if(is_black){
48         // If the lighting is black, send the deactivation packet (M65 only)
49         if(!usbsend(kb, data_pkt[1], 1))
50             return -1;
51     } else if(was_black || force){
52         // If the lighting WAS black, or if we're on forced update, send the activation packet
53         data_pkt[1][4] = 1;
54         if(!usbsend(kb, data_pkt[1], 1))
```

```
55              return -1;
56      }
57
58      memcpy(lastlight, newlight, sizeof(lighting));
59      return 0;
60  }
```

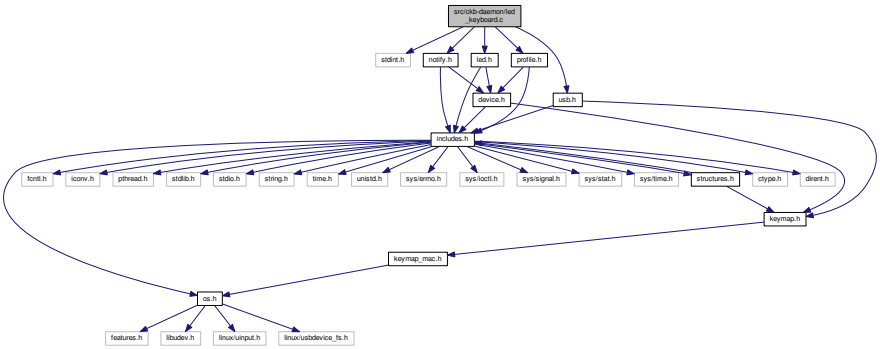
Here is the call graph for this function:



13.29 src/ckb-daemon/led_keyboard.c File Reference

```
#include <stdint.h>
#include "led.h"
#include "notify.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for led_keyboard.c:



Macros

- #define BR1(x) ((((x) & 0xaa) >> 1) | (((x) & 0x55) << 1))
- #define BR2(x) (((BR1(x) & 0xcc) >> 2) | ((BR1(x) & 0x33) << 2))
- #define BR4(x) (((BR2(x) & 0xf0) >> 4) | ((BR2(x) & 0x0f) << 4))
- #define O0(i) BR4(i),
- #define O1(i) O0(i) O0((i) + 1)
- #define O2(i) O1(i) O1((i) + 2)
- #define O3(i) O2(i) O2((i) + 4)
- #define O4(i) O3(i) O3((i) + 8)
- #define O5(i) O4(i) O4((i) + 16)

- #define O6(i) O5(i) O5((i) + 32)
- #define O7(i) O6(i) O6((i) + 64)
- #define O8(i) O7(i) O7((i) + 127)

Functions

- static uchar ordered8to3 (int index, uchar value)
- static uchar quantize8to3 (int index, uchar value)
- static void makergb_512 (const lighting *light, uchar data_pkt[5][64], uchar(*ditherfn)(int, uchar))
- static void makergb_full (const lighting *light, uchar data_pkt[12][64])
- static int rgbcmp (const lighting *lhs, const lighting *rhs)
- int updatergb_kb (usbdevice *kb, int force)
- int savergb_kb (usbdevice *kb, lighting *light, int mode)
- int loadrgb_kb (usbdevice *kb, lighting *light, int mode)

Variables

- static uchar bit_reverse_table [256] = { ((((((((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 1) & 0xaa) >> 1) | ((((0) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 1) & 0xaa) >> 1) | ((((0) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 1) & 0xaa) >> 1) | ((((0) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 1) & 0xaa) >> 1) | ((((0) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 2) & 0xaa) >> 1) | ((((0) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 2) & 0xaa) >> 1) | ((((0) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 2) & 0xaa) >> 1) | ((((0) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 2) & 0xaa) >> 1) | ((((0) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 2) + 1) & 0xaa) >> 1) | (((((0) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 2) + 1) & 0xaa) >> 1) | (((((0) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 2) + 1) & 0xaa) >> 1) | (((((0) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 2) + 1) & 0xaa) >> 1) | (((((0) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 4) & 0xaa) >> 1) | ((((0) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 4) & 0xaa) >> 1) | ((((0) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 4) & 0xaa) >> 1) | ((((0) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 4) & 0xaa) >> 1) | ((((0) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 4) + 1) & 0xaa) >> 1) | (((((0) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 4) + 1) & 0xaa) >> 1) | (((((0) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 4) + 1) & 0xaa) >> 1) | (((((0) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 4) + 1) & 0xaa) >> 1) | (((((0) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 4) + 2) & 0xaa) >> 1) | (((((0) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 4) + 2) & 0xaa) >> 1) | (((((0) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 4) + 2) & 0xaa) >> 1) | (((((0) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 4) + 2) & 0xaa) >> 1) | (((((0) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 8) & 0xaa) >> 1) | ((((0) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 8) & 0xaa) >> 1) | ((((0) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 8) & 0xaa) >> 1) | ((((0) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 8) & 0xaa) >> 1) | ((((0) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 8) + 1) & 0xaa) >> 1) | (((((0) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 1) & 0xaa) >> 1) | (((((0) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 8) + 1) & 0xaa) >> 1) | (((((0) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 1) & 0xaa) >> 1) | (((((0) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 8) + 2) & 0xaa) >> 1) | (((((0) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 2) & 0xaa) >> 1) | (((((0) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 8) + 2) & 0xaa) >> 1) | (((((0) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 2) & 0xaa) >> 1) | (((((0) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 8) + 2) + 1) & 0xaa) >>

1) | (((((((0) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 8) + 4) & 0xaa) >> 1) | (((((0) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 8) + 4) & 0xaa) >> 1) | (((((0) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 8) + 4) & 0xaa) >> 1) | (((((0) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 8) + 4) & 0xaa) >> 1) | (((((0) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 16) & 0xaa) >> 1) | (((0) + 16) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 16) & 0xaa) >> 1) | (((0) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((0) + 16) & 0xaa) >> 1) | (((0) + 16) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) + 16) & 0xaa) >> 1) | (((0) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((0) + 16) + 1) & 0xaa) >> 1) | ((((0) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 16) + 1) & 0xaa) >> 1) | ((((0) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 16) + 1) & 0xaa) >> 1) | ((((0) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 16) + 1) & 0xaa) >> 1) | ((((0) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 16) + 2) & 0xaa) >> 1) | ((((0) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 16) + 2) & 0xaa) >> 1) | ((((0) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 16) + 2) & 0xaa) >> 1) | ((((0) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 16) + 2) & 0xaa) >> 1) | ((((0) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | (((((0) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | (((((0) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | (((((0) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | (((((0) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 16) + 4) & 0xaa) >> 1) | ((((0) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 16) + 4) & 0xaa) >> 1) | ((((0) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 16) + 4) & 0xaa) >> 1) | ((((0) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 16) + 4) & 0xaa) >> 1) | ((((0) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 16) + 4) + 1) & 0xaa) >> 1) | (((((0) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 16) + 4) + 1) & 0xaa) >> 1) | (((((0) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 16) + 4) + 1) & 0xaa) >> 1) | (((((0) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 16) + 4) + 1) & 0xaa) >> 1) | (((((0) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 16) + 4) + 2) & 0xaa) >> 1) | (((((0) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 16) + 4) + 2) & 0xaa) >> 1) | (((((0) + 16) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 16) + 4) + 2) & 0xaa) >> 1) | (((((0) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 16) + 4) + 2) & 0xaa) >> 1) | (((((0) + 16) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 16) + 8) & 0xaa) >> 1) | ((((0) + 16) + 8) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 16) + 8) & 0xaa) >> 1) | ((((0) + 16) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 16) + 8) & 0xaa) >> 1) | ((((0) + 16) + 8) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 16) + 8) & 0xaa) >> 1) | ((((0) + 16) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) +

16) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((0) + 16) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 32) & 0xaa) >> 1) | ((((0) + 32) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 32) & 0xaa) >> 1) | (((0) + 32) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((0) + 32) & 0xaa) >> 1) | (((0) + 32) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 32) & 0xaa) >> 1) | (((0) + 32) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 32) + 1) & 0xaa) >> 1) | ((((0) + 32) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 32) + 1) & 0xaa) >> 1) | ((((0) + 32) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 32) + 1) & 0xaa) >> 1) | ((((0) + 32) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 32) + 1) & 0xaa) >> 1) | ((((0) + 32) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 32) + 2) & 0xaa) >> 1) | ((((0) + 32) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 32) + 2) & 0xaa) >> 1) | ((((0) + 32) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 32) + 2) & 0xaa) >> 1) | ((((0) + 32) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 32) + 2) & 0xaa) >> 1) | ((((0) + 32) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 32) + 2) + 1) & 0xaa) >> 1) | (((((0) + 32) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 32) + 2) + 1) & 0xaa) >> 1) | (((((0) + 32) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 32) + 2) + 1) & 0xaa) >> 1) | (((((0) + 32) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 32) + 2) + 1) & 0xaa) >> 1) | (((((0) + 32) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 32) + 4) & 0xaa) >> 1) | (((((0) + 32) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 32) + 4) & 0xaa) >> 1) | (((((0) + 32) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 32) + 4) & 0xaa) >> 1) | (((((0) + 32) + 4) 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(((((0) + 32) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 32) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 32) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((((0) + 32) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 32) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 64) & 0xaa) >> 1) | ((((0) + 64) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 64) & 0xaa) >> 1) | ((((0) + 64) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((0) + 64) & 0xaa) >> 1) | (((0) + 64) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 64) & 0xaa) >> 1) | ((((0) + 64) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 64) + 1) & 0xaa) >> 1) | (((((0) + 64) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 64) + 1) & 0xaa) >> 1) | (((((0) + 64) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 64) + 1) & 0xaa) >> 1) | (((((0) + 64) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 64) + 1) & 0xaa) >> 1) | (((((0) + 64) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 64) + 2) & 0xaa) >> 1) | (((((0) + 64) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 64) + 2) & 0xaa) >> 1) | (((((0) + 64) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 64) + 2) & 0xaa) >> 1) | (((((0) + 64) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 64) + 2) & 0xaa) >> 1) | (((((0) + 64) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 64) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 64) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 64) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 64) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 64) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 64) + 4) & 0xaa) >> 1) | (((((0) + 64) + 4) 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64) + 8) & 0xaa) >> 1) | ((((0) + 64) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 64) + 8) + 1) & 0xaa) >> 1) | (((((0) + 64) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 64) + 8) + 1) & 0xaa) >> 1) | (((((0) + 64) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 64) + 8) + 1) & 0xaa) >> 1) | (((((0) + 64) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 64) + 8) + 1) & 0xaa) >> 1) | (((((0) + 64) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 64) + 8) + 2) & 0xaa) >> 1) | (((((0) + 64) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 64) + 8) + 2) & 0xaa) >> 1) | (((((0) + 64) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 64) + 8) + 2) & 0xaa) >> 1) | (((((0) + 64) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 64) + 8) + 2) & 0xaa) >> 1) | (((((0) + 64) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 64) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 64) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 64) + 8) + 4) & 0xaa) >> 1) | (((((0) + 64) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 64) + 8) + 4) & 0xaa) >> 1) | (((((0) + 64) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 64) + 8) + 4) & 0xaa) >> 1) | (((((0) + 64) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 64) + 8) + 4) & 0xaa) >> 1) | (((((0) + 64) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 64) + 8) + 4) + 1) & 0xaa) >> 1)

| (((((((0) + 64) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 64) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) >> 4) | ((((((((((((((0) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 64) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 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>> 1) | (((((((0) + 64) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 16) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 64) + 16) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 16) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 64) + 16) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 16) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 64) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 64) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 64) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 64) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 64) + 16) + 8) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 16) + 8) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 64) + 16) + 8) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 64) + 16) + 8) & 0xaa) >> 1) | ((((((0) + 64) + 16) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 64) + 16) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 16) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((

((0) + 64) + 16) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 16) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 64) + 16) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 16) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 64) + 16) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 16) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 64) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 64) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 64) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 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0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 64) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 64) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 64) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 64) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 64) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 64) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 64) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 64) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((((0) + 64) + 32) & 0xaa) >> 1) | (((((((((0) + 64) + 32) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 64) + 32) & 0xaa) >> 1) | (((((((((0) + 64) + 32) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 64) + 32) & 0xaa) >> 1) | (((((((((0) + 64) + 32) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 64) + 32) & 0xaa) >> 1) | (((((((((0) + 64) + 32) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 64) + 32) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 64) + 32) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 64) + 32) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 64) + 32) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 64) + 32) + 2) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 64) + 32) + 2) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 64) + 32) + 2) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 64) + 32) + 2) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((((0) + 64) + 32) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 64) + 32) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((((0) + 64) + 32) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 64) + 32) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((((0) + 64) + 32) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 64) + 32) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((((0) + 64) + 32) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 64) + 32) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((((0) + 64) + 32) + 4) & 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& 0xf0) >> 4) | (((((((((((((0) + 64) + 32) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 32) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 64) + 32) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 32) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 64) + 32) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 32) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 64) + 32) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 64) + 32) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 4) + 2) + 1) & 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2)) & 0xf0) >> 4) | (((((((((((((0) + 64) + 32) + 8) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 32) + 8) + 1) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 64) + 32) + 8) + 2) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 32) + 8) + 2) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 64) + 32) + 8) + 2) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 32) + 8) + 2) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 64) + 32) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 64) + 32) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 8) + 2) + 1) & 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>> 1) | (((((((((0) + 64) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((((0) + 64) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 64) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 64) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 64) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 64) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 64) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 64) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 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+ 1) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 64) + 32) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 16) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 32) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 16) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 64) + 32) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 16) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 64) + 32) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 64) + 32) + 16) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 64) + 32) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 64) + 32) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((((0) + 64) + 32) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((((0) + 64) + 32) + 16) + 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(0) + 127) + 8) & 0xaa) >> 1) | (((((0) + 127) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 127) + 8) & 0xaa) >> 1) | (((((0) + 127) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 127) + 8) & 0xaa) >> 1) | (((((0) + 127) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 127) + 8) & 0xaa) >> 1) | (((((0) + 127) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 127) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 127) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 127) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 127) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 8) + 1) & 0xaa) >> 1) | ((((((0) + 127) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 127) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 8) + 2) & 0xaa) >> 1) | ((((((0) + 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(((0) + 127) + 16) + 4) & 0xaa) >> 1) | ((((((0) + 127) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 16) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 16) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 16) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 16) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 16) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 16) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 16) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 16) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 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0xaa) >> 1) | ((((((0) + 127) + 32) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 127) + 32) + 4) & 0xaa) >> 1) | ((((((0) + 127) + 32) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 32) + 4) & 0xaa) >> 1) | ((((((0) + 127) + 32) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 32) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 32) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 32) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 4) + 2) & 0xaa) >> 1) | 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32) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 32) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 32) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 32) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 32) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 32) + 8) + 4) & 0xaa)

>> 1) | (((((((0) + 127) + 32) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 32) + 8) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 32) + 8) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 32) + 8) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) 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+ 127) + 32) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 16) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 32) + 16) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 32) + 16) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 32) + 16) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | 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16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 4) + 2) + 1) & 0x55) << 1)) &
0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) +
32) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 32)
+ 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 4) + 2) + 1) & 0x55) << 1)) &
0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) +
32) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 32) +
16) + 8) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0
) + 127) + 32) + 16) + 8) & 0xaa) >> 1) | (((((((0) + 127) + 32) + 16) + 8) & 0x55) << 1)) & 0x33)
<< 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 32) + 16) + 8) & 0xaa) >> 1) | (((((((0) + 127) + 32)
+ 16) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 32) + 16) + 8) & 0xaa) >> 1) | ((((((
(0) + 127) + 32) + 16) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) +
32) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc)
>> 2) | (((((((((((0) + 127) + 32) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 8
) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 32) + 16) + 8) + 1) &
0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) +
127) + 32) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 8) + 1) & 0x55) << 1)) &
0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 32) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((((0
) + 127) + 32) + 16) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 32) + 16) + 8) +
2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >>
4) | ((((((((((((((0) + 127) + 32) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 8)
+ 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 32) + 16) + 8) + 2) & 0xaa) >> 1) | (((((
(((0) + 127) + 32) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0)
+ 127) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 8) + 2) + 1) &
0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((
((0) + 127) + 32) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0
) + 127) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 8) + 2) + 1) &
0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((
((0) + 127) + 32) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0)
+ 127) + 32) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 8) + 4) & 0x55) << 1))
& 0xcc) >> 2) | (((((((((((0) + 127) + 32) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 32) +
16) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 32) + 16) + 8) +
4) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((
0) + 127) + 32) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 32) + 16) + 8) + 4) & 0x55) <<
1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 16) + 8) + 4) + 1) & 0xaa) >> 1) |
(((((((((0) + 127) + 32) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127)
+ 32) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 8) + 4) + 1) & 0x55) <<
1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 32) + 16) + 8) + 4) + 1) & 0xaa) >> 1) |
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+ 32) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 8) + 4) + 1) & 0x55) <<
1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 32) + 16) + 8) + 4) + 2) & 0xaa) >> 1) |
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+ 32) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 8) + 4) + 2) & 0x55) <<
1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 32) + 16) + 8) + 4) + 2) & 0xaa) >> 1) |
(((((((((0) + 127) + 32) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127)
+ 32) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((((0) + 127) + 32) + 16) + 8) + 4) + 2) & 0x55) <<
1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 127) + 32) + 16) + 8) + 4) + 2) + 1) & 0xaa)
>> 1) | ((((((((((0) + 127) + 32) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((
(((0) + 127) + 32) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 127) + 32) + 16) + 8) +
4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((((0) + 127) + 32) + 16) + 8)
+ 4) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 127) + 32) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) &
0xcc) >> 2) | (((((((((((((0) + 127) + 32) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) +
127) + 32) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 127
) + 64) & 0xaa) >> 1) | (((((0) + 127) + 64) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 127) + 64) &
0xaa) >> 1) | (((((0) + 127) + 64) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 127
) + 64) & 0xaa) >> 1) | (((((0) + 127) + 64) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 127) + 64)
& 0xaa) >> 1) | (((((0) + 127) + 64) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) +
127) + 64) + 1) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0)
+ 127) + 64) + 1) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0)

>> 4) | ((((((((((((0) + 127) + 64) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 64) + 2) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 2) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 127) + 64) + 2) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 2) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 64) + 4) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 4) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 127) + 64) + 4) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 4) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 4) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 64) + 8) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 8) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 127) + 64) + 8) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 127) + 64) + 8) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 8) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 8) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 8) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 8) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 8) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 8) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 8) +

4) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 8) + 4) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 127) + 64) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 64) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 127) + 64) + 16) & 0xaa) >> 1) | (((((0) + 127) + 64) + 16) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 64) + 16) & 0xaa) >> 1) | (((((0) + 127) + 64) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 127) + 64) + 16) & 0xaa) >> 1) | (((((0) + 127) + 64) + 16) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 127) + 64) + 16) & 0xaa) >> 1) | (((((0) + 127) + 64) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 64) + 16) + 1) & 0xaa) >> 1) | ((((((0) + 127) + 64) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 16) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 16) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 16) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 16) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 16) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 16) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 16) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 64) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 16) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 16) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 16) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 16) + 4) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 16) + 4) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 16) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 16) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 16) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 16) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 64) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 16) + 8) & 0xaa) >> 1) | (((((((0) +

127) + 64) + 16) + 8) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 16) + 8) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 16) + 8) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 8) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 16) + 8) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 16) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 127) + 64) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 127) + 64) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 64) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 16) + 8) + 2) + 1) & 0x55) << 1)) 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) + 32) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 32) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((
((((0) + 127) + 64) + 32) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 32) + 2) & 0x55) << 1)) &
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+ 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((
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(((((0) + 127) + 64) + 32) + 4) + 2) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 32) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) |
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(((((0) + 127) + 64) + 32) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 4) + 2) + 1
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(((((0) + 127) + 64) + 32) + 8) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) |
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((((((0) + 127) + 64) + 32) + 8) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 8) + 2) & 0x55) << 1)) &
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+ 127) + 64) + 32) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((
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((((((0) + 127) + 64) + 32) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) +
32) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((
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& 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f)
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+ 32) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((
(((((((0) + 127) + 64) + 32) + 8) + 2) + 1)
& 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f)
<< 4)), ((((((((((
((((((0) + 127) + 64) + 32) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32)
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((((((0) + 127) + 64) + 32) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 8) + 4) & 0x55) <<
1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 32) + 8) + 4) & 0xaa) >> 1) | ((((((((0) +
127) + 64) + 32) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((
((((((0) + 127) + 64) + 32) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 8) + 4) & 0x55) <<
1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((
(((((0) + 127) + 64) + 32) + 8)

+ 4) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 127) + 64) + 32) + 16) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 32) + 16) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 32) + 16) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 32) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 127) + 64) + 32) + 16) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 32) + 16) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((0) + 127) + 64) + 32) + 16) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 32) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 127) + 64) + 32) + 16) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 16) + 1) & 0xaa) >> 1) | (((((((0) + 127) + 64) + 32) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 32) + 16) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 16) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 32) + 16) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 16) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 32) + 16) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 16) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 32) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 32) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 64) + 32) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 32) + 16) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 32) + 16) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 16) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 32) + 16) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 16) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 32) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 32) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 16) + 4) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 4)

+ 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 127) + 64) + 32) + 16) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 32) + 16) + 8) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 16) + 8) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((0) + 127) + 64) + 32) + 16) + 8) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 8) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((0) + 127) + 64) + 32) + 16) + 8) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 1) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((((((0) + 127) + 64) + 32) + 16) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) & 0xaa) >> 1) | ((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | (((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((((((0) + 127) + 64) + 32) + 16) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), }

13.29.1 Macro Definition Documentation

13.29.1.1 #define BR1(x) ((((x) & 0xaa) >> 1) | (((x) & 0x55) << 1))

Definition at line 9 of file led_keyboard.c.

13.29.1.2 #define BR2(x) (((BR1(x) & 0xcc) >> 2) | ((BR1(x) & 0x33) << 2))

Definition at line 10 of file led_keyboard.c.

13.29.1.3 #define BR4(x) (((BR2(x) & 0xf0) >> 4) | ((BR2(x) & 0x0f) << 4))

Definition at line 11 of file led_keyboard.c.

13.29.1.4 #define O0(i) BR4(i),

Definition at line 12 of file led_keyboard.c.

13.29.1.5 #define O1(i) O0(i) O0((i) + 1)

Definition at line 13 of file led_keyboard.c.

13.29.1.6 #define O2(i) O1(i) O1((i) + 2)

Definition at line 14 of file led_keyboard.c.

13.29.1.7 #define O3(i) O2(i) O2((i) + 4)

Definition at line 15 of file led_keyboard.c.

13.29.1.8 #define O4(i) O3(i) O3((i) + 8)

Definition at line 16 of file led_keyboard.c.

13.29.1.9 #define O5(i) O4(i) O4((i) + 16)

Definition at line 17 of file led_keyboard.c.

13.29.1.10 #define O6(i) O5(i) O5((i) + 32)

Definition at line 18 of file led_keyboard.c.

13.29.1.11 #define O7(i) O6(i) O6((i) + 64)

Definition at line 19 of file led_keyboard.c.

13.29.1.12 #define O8(i) O7(i) O7((i) + 127)

Definition at line 20 of file led_keyboard.c.

13.29.2 Function Documentation

13.29.2.1 int loadrgb_kb (usbdevice * *kb*, lighting * *light*, int *mode*)

Since Firmware Version 2.05 for K95RGB the answers for getting the stored color-maps from the hardware has changed a bit. So comparing for the correct answer cannot validate against the cmd, and has to be done against a third map. Up to now we know, that K70RGB Pro and K70 Lux RGB have firmware version 2.04 and having the problem also. So we have to determine in the most inner loop the firmware version and type of KB to select the correct compare-table.

Read colors

```
                                                    < That is the old comparison method: you get back what you sent.
```

Normally a firmware version >= 2.05 runs with the new compare array. Up to now there is a 2.04 running in K70 RGB Lux with the same behavior. It seems that K70RGB has the same problem

Definition at line 181 of file led_keyboard.c.

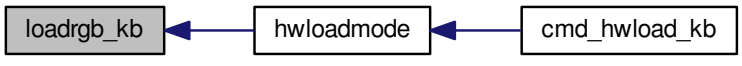
References lighting::b, ckb_err, usbdevice::fwversion, lighting::g, MSG_SIZE, N_KEYS_HW, P_K70_LUX, P_K70-_LUX_NRGB, usbdevice::product, lighting::r, usbrecv, and usbsend.

Referenced by hwloadmode().

```
181                                                     {
182     if(kb->fwversion >= 0x0120){
183         uchar data_pkt[12][MSG_SIZE] = {
184             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x01 },
185             { 0xff, 0x01, 60, 0 },
186             { 0xff, 0x02, 60, 0 },
187             { 0xff, 0x03, 24, 0 },
188             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x02 },
189             { 0xff, 0x01, 60, 0 },
190             { 0xff, 0x02, 60, 0 },
191             { 0xff, 0x03, 24, 0 },
192             { 0x0e, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x03 },
193             { 0xff, 0x01, 60, 0 },
194             { 0xff, 0x02, 60, 0 },
195             { 0xff, 0x03, 24, 0 },
196         };
197         uchar in_pkt[4][MSG_SIZE] = {
198             { 0x0e, 0x14, 0x03, 0x01 },
199             { 0xff, 0x01, 60, 0 },
200             { 0xff, 0x02, 60, 0 },
201             { 0xff, 0x03, 24, 0 },
202         };
203
209
210         uchar cmp_pkt[4][4] = {
211             { 0x0e, 0x14, 0x03, 0x01 },
212             { 0x0e, 0xff, 0x01, 60 },
213             { 0x0e, 0xff, 0x02, 60 },
214             { 0x0e, 0xff, 0x03, 24 },
215         };
217         uchar* colors[3] = { light->r, light->g, light->b };
218         for(int clr = 0; clr < 3; clr++){
219             for(int i = 0; i < 4; i++){
220                 if(!usbrecv(kb, data_pkt[i + clr * 4], in_pkt[i]))
221                     return -1;
222
223                 uchar* comparePacket = data_pkt[i + clr * 4];
224                 if ((kb->fwversion >= 0x205)
228                         || ((kb->fwversion >= 0x204)
229                             && ((kb->product == P_K70_LUX_NRGB) || (kb->
      product == P_K70_LUX)))) {
230                     comparePacket = cmp_pkt[i];
231                 }
232
233                 if (memcmp(in_pkt[i], comparePacket, 4)) {
234                     ckb_err("Bad input header\n");
235                     ckb_err("color = %d, i = %d, mode = %d\nOutput (Request): %2.2x %2.2x %2.2x
       %2.2x\nInput(Reply): %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x %2.2x\n", clr, i, mode,
236                         comparePacket[0], comparePacket[1], comparePacket[2], comparePacket[3],
237                         in_pkt[i][0], in_pkt[i][1], in_pkt[i][2], in_pkt[i][3], in_pkt[i][4], in_pkt[i][5],
       in_pkt[i][6], in_pkt[i][7]);
238                     in_pkt[2][0] = 0x99;
239                     in_pkt[2][1] = 0x99;
240                     in_pkt[2][2] = 0x99;
241                     in_pkt[2][3] = 0x99;
```

```
242                     usbrecv(kb, in_pkt[2], in_pkt[2]); // just to find it in the wireshark log
243                     return -1;
244                 }
245             }
246             // Copy colors to lighting. in_pkt[0] is irrelevant.
247             memcpy(colors[clr], in_pkt[1] + 4, 60);
248             memcpy(colors[clr] + 60, in_pkt[2] + 4, 60);
249             memcpy(colors[clr] + 120, in_pkt[3] + 4, 24);
250         }
251     } else {
252         uchar data_pkt[5][MSG_SIZE] = {
253             { 0x0e, 0x14, 0x02, 0x01, 0x01, mode + 1, 0 },
254             { 0xff, 0x01, 60, 0 },
255             { 0xff, 0x02, 60, 0 },
256             { 0xff, 0x03, 60, 0 },
257             { 0xff, 0x04, 36, 0 },
258         };
259         uchar in_pkt[4][MSG_SIZE] = {
260             { 0xff, 0x01, 60, 0 },
261             { 0xff, 0x02, 60, 0 },
262             { 0xff, 0x03, 60, 0 },
263             { 0xff, 0x04, 36, 0 },
264         };
265         // Write initial packet
266         if(!usbsend(kb, data_pkt[0], 1))
267             return -1;
268         // Read colors
269         for(int i = 1; i < 5; i++){
270             if(!usbrecv(kb, data_pkt[i],in_pkt[i - 1]))
271                 return -1;
272             if(memcmp(in_pkt[i - 1], data_pkt[i], 4)){
273                 ckb_err("Bad input header\n");
274                 return -1;
275             }
276         }
277         // Copy the data back to the mode
278         uint8_t mr[N_KEYS_HW / 2], mg[N_KEYS_HW / 2], mb[
    N_KEYS_HW / 2];
279         memcpy(mr,      in_pkt[0] +  4, 60);
280         memcpy(mr + 60, in_pkt[1] +  4, 12);
281         memcpy(mg,      in_pkt[1] + 16, 48);
282         memcpy(mg + 48, in_pkt[2] +  4, 24);
283         memcpy(mb,      in_pkt[2] + 28, 36);
284         memcpy(mb + 36, in_pkt[3] +  4, 36);
285         // Unpack LED data to 8bpc format
286         for(int i = 0; i < N_KEYS_HW; i++){
287             int     i_2 = i / 2;
288             uint8_t r, g, b;
289 
290             // 3-bit intensities stored in alternate nybbles.
291             if (i & 1) {
292                 r = 7 - (mr[i_2] >> 4);
293                 g = 7 - (mg[i_2] >> 4);
294                 b = 7 - (mb[i_2] >> 4);
295             } else {
296                 r = 7 - (mr[i_2] & 0x0F);
297                 g = 7 - (mg[i_2] & 0x0F);
298                 b = 7 - (mb[i_2] & 0x0F);
299             }
300             // Scale 3-bit values up to 8 bits.
301             light->r[i] = r << 5 | r << 2 | r >> 1;
302             light->g[i] = g << 5 | g << 2 | g >> 1;
303             light->b[i] = b << 5 | b << 2 | b >> 1;
304         }
305     }
306     return 0;
307 }
```

Here is the caller graph for this function:



13.29.2.2 static void makergb_512 (const lighting * *light*, uchar *data_pkt[5][64]*, uchar(*)(int, uchar) *ditherfn*) [static]

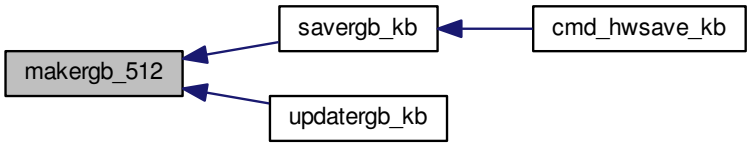
Definition at line 36 of file led_keyboard.c.

References lighting::b, lighting::g, N_KEYS_HW, and lighting::r.

Referenced by savergb_kb(), and updatergb_kb().

```
37                                                          {
38     uchar r[N_KEYS_HW / 2], g[N_KEYS_HW / 2], b[N_KEYS_HW / 2];
39     // Compress RGB values to a 512-color palette
40     for(int i = 0; i < N_KEYS_HW; i += 2){
41         char r1 = ditherfn(i, light->r[i]), r2 = ditherfn(i + 1, light->r[i + 1]);
42         char g1 = ditherfn(i, light->g[i]), g2 = ditherfn(i + 1, light->g[i + 1]);
43         char b1 = ditherfn(i, light->b[i]), b2 = ditherfn(i + 1, light->b[i + 1]);
44         r[i / 2] = (7 - r2) << 4 | (7 - r1);
45         g[i / 2] = (7 - g2) << 4 | (7 - g1);
46         b[i / 2] = (7 - b2) << 4 | (7 - b1);
47     }
48     memcpy(data_pkt[0] + 4, r, 60);
49     memcpy(data_pkt[1] + 4, r + 60, 12);
50     memcpy(data_pkt[1] + 16, g, 48);
51     memcpy(data_pkt[2] + 4, g + 48, 24);
52     memcpy(data_pkt[2] + 28, b, 36);
53     memcpy(data_pkt[3] + 4, b + 36, 36);
54 }
```

Here is the caller graph for this function:



13.29.2.3 static void makergb_full (const lighting * *light*, uchar *data_pkt[12][64]*) [static]

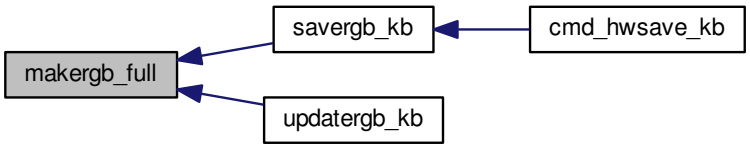
Definition at line 56 of file led_keyboard.c.

References lighting::b, lighting::g, and lighting::r.

Referenced by savergb_kb(), and updatergb_kb().

```
56                                                                  {
57     const uchar* r = light->r, *g = light->g, *b = light->b;
58     // Red
59     memcpy(data_pkt[0] + 4, r, 60);
60     memcpy(data_pkt[1] + 4, r + 60, 60);
61     memcpy(data_pkt[2] + 4, r + 120, 24);
62     // Green (final R packet is blank)
63     memcpy(data_pkt[4] + 4, g, 60);
64     memcpy(data_pkt[5] + 4, g + 60, 60);
65     memcpy(data_pkt[6] + 4, g + 120, 24);
66     // Blue (final G packet is blank)
67     memcpy(data_pkt[8] + 4, b, 60);
68     memcpy(data_pkt[9] + 4, b + 60, 60);
69     memcpy(data_pkt[10] + 4, b + 120, 24);
70 }
```

Here is the caller graph for this function:



13.29.2.4 static uchar ordered8to3 (int *index*, uchar *value*) [static]

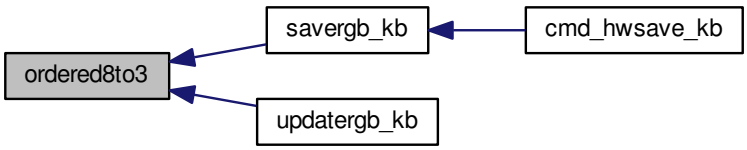
Definition at line 24 of file led_keyboard.c.

References bit_reverse_table.

Referenced by savergb_kb(), and updatergb_kb().

```
24                                                  {
25     int m = value * 7;
26     int b = m / 255;
27     if((m % 255) > bit_reverse_table[index & 0xff])
28         b++;
29     return b;
30 }
```

Here is the caller graph for this function:



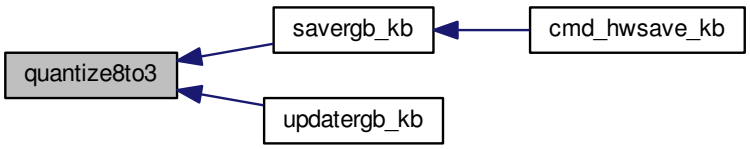
13.29.2.5 static uchar quantize8to3 (int *index*, uchar *value*) [static]

Definition at line 32 of file led_keyboard.c.

Referenced by savergb_kb(), and updatergb_kb().

```
32                                                  {
33     return value >> 5;
34 }
```

Here is the caller graph for this function:



13.29.2.6 static int rgbcmp (const lighting * *lhs*, const lighting * *rhs*) [static]

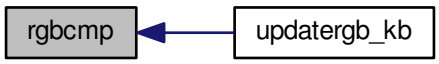
Definition at line 72 of file led_keyboard.c.

References lighting::b, lighting::g, N_KEYS_HW, and lighting::r.

Referenced by updatergb_kb().

```
72                                                          {
73     // Compare two light structures, ignore mouse zones
74     return memcmp(lhs->r, rhs->r, N_KEYS_HW) || memcmp(lhs->g, rhs->
       g, N_KEYS_HW) || memcmp(lhs->b, rhs->b, N_KEYS_HW);
75 }
```

Here is the caller graph for this function:



13.29.2.7 int savergb_kb (usbdevice * *kb*, lighting * *light*, int *mode*)

Definition at line 139 of file led_keyboard.c.

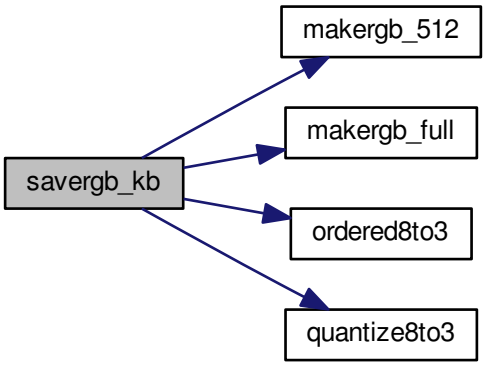
References usbdevice::dither, usbdevice::fwversion, IS_STRAFE, makergb_512(), makergb_full(), MSG_SIZE, ordered8to3(), quantize8to3(), and usbsend.

Referenced by cmd_hwsave_kb().

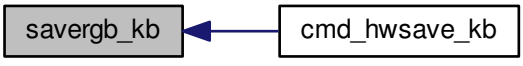
```
139                                                         {
140     if(kb->fwversion >= 0x0120){
141         uchar data_pkt[12][MSG_SIZE] = {
142             // Red
143             { 0x7f, 0x01, 60, 0 },
144             { 0x7f, 0x02, 60, 0 },
145             { 0x7f, 0x03, 24, 0 },
146             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x01 },
147             // Green
148             { 0x7f, 0x01, 60, 0 },
149             { 0x7f, 0x02, 60, 0 },
150             { 0x7f, 0x03, 24, 0 },
```

```
151             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x02 },
152             // Blue
153             { 0x7f, 0x01, 60, 0 },
154             { 0x7f, 0x02, 60, 0 },
155             { 0x7f, 0x03, 24, 0 },
156             { 0x07, 0x14, 0x03, 0x01, 0x01, mode + 1, 0x03 }
157         };
158         makergb_full(light, data_pkt);
159         if(!usbsend(kb, data_pkt[0], 12))
160             return -1;
161         if (IS_STRAFE(kb)){ // end save
162             uchar save_end_pkt[MSG_SIZE] = { 0x07, 0x14, 0x04, 0x01, 0x01 };
163             if(!usbsend(kb, save_end_pkt, 1))
164                 return -1;
165         }
166     } else {
167         uchar data_pkt[5][MSG_SIZE] = {
168             { 0x7f, 0x01, 60, 0 },
169             { 0x7f, 0x02, 60, 0 },
170             { 0x7f, 0x03, 60, 0 },
171             { 0x7f, 0x04, 36, 0 },
172             { 0x07, 0x14, 0x02, 0x00, 0x01, mode + 1 }
173         };
174         makergb_512(light, data_pkt, kb->dither ? ordered8to3 :
    quantize8to3);
175         if(!usbsend(kb, data_pkt[0], 5))
176             return -1;
177     }
178     return 0;
179 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



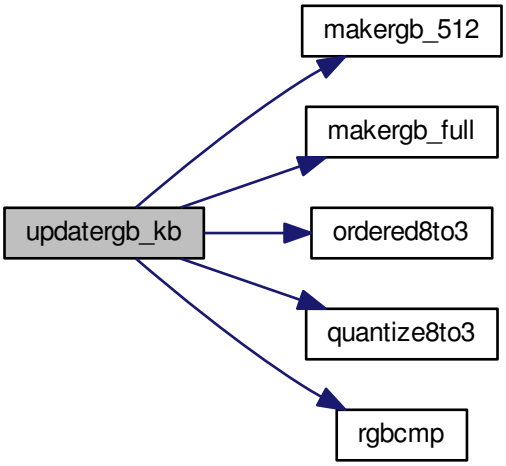
13.29.2.8 int updatergb_kb (usbdevice * kb, int force)

Definition at line 77 of file led_keyboard.c.

References usbdevice::active, usbprofile::currentmode, usbdevice::dither, lighting::forceupdate, IS_FULLRANGE, usbprofile::lastlight, usbmode::light, makergb_512(), makergb_full(), MSG_SIZE, ordered8to3(), usbdevice::profile, quantize8to3(), rgbcmp(), lighting::sidelight, and usbsend.

```
77                                          {
78     if(!kb->active)
79         return 0;
80     lighting* lastlight = &kb->profile->lastlight;
81     lighting* newlight = &kb->profile->currentmode->
       light;
82     // Don't do anything if the lighting hasn't changed
83     if(!force && !lastlight->forceupdate && !newlight->forceupdate
84             && !rgbcmp(lastlight, newlight) && lastlight->sidelight == newlight->
       sidelight)   // strafe sidelights
85         return 0;
86     lastlight->forceupdate = newlight->forceupdate = 0;
87
88     if(IS_FULLRANGE(kb)){
89         // Update strafe sidelights if necessary
90         if(lastlight->sidelight != newlight->sidelight) {
91             uchar data_pkt[2][MSG_SIZE] = {
92                 { 0x07, 0x05, 0x08, 0x00, 0x00 },
93                 { 0x07, 0x05, 0x02, 0, 0x03 }
94             };
95             if (newlight->sidelight)
96                 data_pkt[0][4]=1;    // turn on
97             if(!usbsend(kb, data_pkt[0], 2))
98                 return -1;
99         }
100         // 16.8M color lighting works fine on strafe and is the only way it actually works
101         uchar data_pkt[12][MSG_SIZE] = {
102             // Red
103             { 0x7f, 0x01, 0x3c, 0 },
104             { 0x7f, 0x02, 0x3c, 0 },
105             { 0x7f, 0x03, 0x18, 0 },
106             { 0x07, 0x28, 0x01, 0x03, 0x01, 0},
107             // Green
108             { 0x7f, 0x01, 0x3c, 0 },
109             { 0x7f, 0x02, 0x3c, 0 },
110             { 0x7f, 0x03, 0x18, 0 },
111             { 0x07, 0x28, 0x02, 0x03, 0x01, 0},
112             // Blue
113             { 0x7f, 0x01, 0x3c, 0 },
114             { 0x7f, 0x02, 0x3c, 0 },
115             { 0x7f, 0x03, 0x18, 0 },
116             { 0x07, 0x28, 0x03, 0x03, 0x02, 0}
117         };
118         makergb_full(newlight, data_pkt);
119         if(!usbsend(kb, data_pkt[0], 12))
120             return -1;
121     } else {
122         // On older keyboards it looks flickery and causes lighting glitches, so we don't use it.
123         uchar data_pkt[5][MSG_SIZE] = {
124             { 0x7f, 0x01, 60, 0 },
125             { 0x7f, 0x02, 60, 0 },
126             { 0x7f, 0x03, 60, 0 },
127             { 0x7f, 0x04, 36, 0 },
128             { 0x07, 0x27, 0x00, 0x00, 0xD8 }
129         };
130         makergb_512(newlight, data_pkt, kb->dither ?
       ordered8to3 : quantize8to3);
131         if(!usbsend(kb, data_pkt[0], 5))
132             return -1;
133     }
134
135     memcpy(lastlight, newlight, sizeof(lighting));
136     return 0;
137 }
```

Here is the call graph for this function:



13.29.3 Variable Documentation

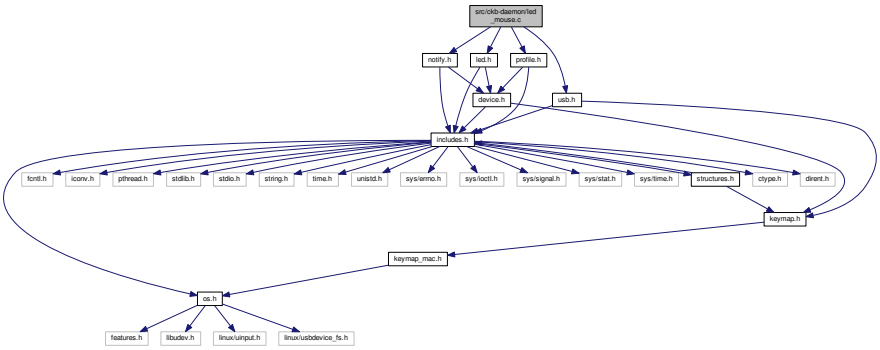
13.29.3.1 **uchar** bit_reverse_table[256] = { ((((((((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0xcc) >> 2) | ((((((0) & 0xaa) >> 1) | (((0) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 1) & 0xaa) >> 1) | ((((0) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 1) & 0xaa) >> 1) | ((((0) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 1) & 0xaa) >> 1) | ((((0) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 1) & 0xaa) >> 1) | ((((0) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 2) & 0xaa) >> 1) | ((((0) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 2) & 0xaa) >> 1) | ((((0) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 2) & 0xaa) >> 1) | ((((0) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 2) & 0xaa) >> 1) | ((((0) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 2) + 1) & 0xaa) >> 1) | (((((0) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 2) + 1) & 0xaa) >> 1) | (((((0) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 2) + 1) & 0xaa) >> 1) | (((((0) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 2) + 1) & 0xaa) >> 1) | (((((0) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 4) & 0xaa) >> 1) | ((((0) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 4) & 0xaa) >> 1) | ((((0) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 4) & 0xaa) >> 1) | ((((0) + 4) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 4) & 0xaa) >> 1) | ((((0) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 4) + 1) & 0xaa) >> 1) | (((((0) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 4) + 1) & 0xaa) >> 1) | (((((0) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 4) + 1) & 0xaa) >> 1) | (((((0) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 4) + 1) & 0xaa) >> 1) | (((((0) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 4) + 2) & 0xaa) >> 1) | (((((0) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 4) + 2) & 0xaa) >> 1) | (((((0) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 4) + 2) & 0xaa) >> 1) | (((((0) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 4) + 2) & 0xaa) >> 1) | (((((0) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 4) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 8) & 0xaa) >> 1) | ((((0) + 8) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 8) & 0xaa) >> 1) | ((((0) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 8) & 0xaa) >> 1) | ((((0) + 8) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 8) & 0xaa) >> 1) | ((((0) + 8) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 8) + 1) & 0xaa) >> 1) | (((((0) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 1) & 0xaa) >> 1) | (((((0) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 8) + 1) & 0xaa) >> 1) | (((((0) + 8) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 1) & 0xaa) >> 1) | (((((0) + 8) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 8) + 2) & 0xaa) >> 1) | (((((0) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 2) & 0xaa) >> 1) | (((((0) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 8) + 2) & 0xaa) >> 1) | (((((0) + 8) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 2) & 0xaa) >> 1) | (((((0) + 8) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 8) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 8) + 4) & 0xaa) >> 1) | (((((0) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 4) & 0xaa) >> 1) | (((((0) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 8) + 4) & 0xaa) >> 1) | (((((0) + 8) + 4) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 8) + 4) & 0xaa) >> 1) | (((((0) + 8) + 4) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 8) + 4) + 1) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 2) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 8) + 4) + 2) & 0xaa) >> 1) | ((((((0) + 8) + 4) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((((0) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((((0) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((((0) + 8) + 4) + 2) + 1) & 0xaa) >> 1) | (((((((0) + 8) + 4) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((0) + 16) & 0xaa) >> 1) | ((((0) + 16) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 16) & 0xaa) >> 1) | ((((0) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((0) + 16) & 0xaa) >> 1) | ((((0) + 16) & 0x55) << 1)) & 0xcc) >> 2) | (((((((0) + 16) & 0xaa) >> 1) | ((((0) + 16) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 16) + 1) & 0xaa) >> 1) | (((((0) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 16) + 1) & 0xaa) >> 1) | (((((0) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 16) + 1) & 0xaa) >> 1) | (((((0) + 16) + 1) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 16) + 1) & 0xaa) >> 1) | (((((0) + 16) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), ((((((((((((0) + 16) + 2) & 0xaa) >> 1) | (((((0) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 16) + 2) & 0xaa) >> 1) | (((((0) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | (((((((((((0) + 16) + 2) & 0xaa) >> 1) | (((((0) + 16) + 2) & 0x55) << 1)) & 0xcc) >> 2) | ((((((((0) + 16) + 2) & 0xaa) >> 1) | (((((0) + 16) + 2) & 0x55) << 1)) & 0x33) << 2)) & 0x0f) << 4)), (((((((((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 2) + 1) & 0x55) << 1)) & 0xcc) >> 2) | (((((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 2) + 1) & 0x55) << 1)) & 0x33) << 2)) & 0xf0) >> 4) | ((((((((((((0) + 16) + 2) + 1) & 0xaa) >> 1) | ((((((0) + 16) + 2

Referenced by ordered8to3().

13.30 src/ckb-daemon/led_mouse.c File Reference

```
#include "led.h"
#include "notify.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for led_mouse.c:



Functions

- static int rgbcmp (const lighting *lhs, const lighting *rhs)
- static int isblack (const usbdevice *kb, const lighting *light)
- int updatergb_mouse (usbdevice *kb, int force)
- int savergb_mouse (usbdevice *kb, lighting *light, int mode)
- int loadrgb_mouse (usbdevice *kb, lighting *light, int mode)

13.30.1 Function Documentation

13.30.1.1 static int isblack (const usbdevice * *kb*, const lighting * *light*) [static]

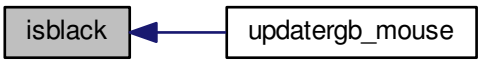
Definition at line 13 of file led_mouse.c.

References lighting::b, lighting::g, IS_M65, LED_MOUSE, N_MOUSE_ZONES, and lighting::r.

Referenced by updatergb_mouse().

```
13                                                          {
14     if(!IS_M65(kb))
15         return 0;
16     uchar black[N_MOUSE_ZONES] = { 0 };
17     return !memcmp(light->r + LED_MOUSE, black, sizeof(black)) && !memcmp(light->
       g + LED_MOUSE, black, sizeof(black)) && !memcmp(light->b + LED_MOUSE, black, sizeof(
       black));
18 }
```

Here is the caller graph for this function:



13.30.1.2 int loadrgb_mouse (usbdevice * *kb*, lighting * *light*, int *mode*)

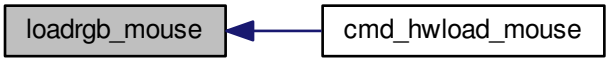
Definition at line 81 of file led_mouse.c.

References lighting::b, ckb_err, lighting::g, IS_SABRE, IS_SCIMITAR, LED_DPI, LED_MOUSE, MSG_SIZE, lighting::r, and usbrecv.

Referenced by cmd_hwload_mouse().

```
81                                                          {
82     uchar data_pkt[MSG_SIZE] = { 0x0e, 0x13, 0x10, 1, 0 };
83     uchar in_pkt[MSG_SIZE] = { 0 };
84     // Load each RGB zone
85     int zonecount = IS_SCIMITAR(kb) ? 4 : IS_SABRE(kb) ? 3 : 2;
86     for(int i = 0; i < zonecount; i++){
87         if(!usbrecv(kb, data_pkt, in_pkt))
88             return -1;
89         if(memcmp(in_pkt, data_pkt, 4)){
90             ckb_err("Bad input header\n");
91             return -2;
92         }
93         // Copy data
94         int led = LED_MOUSE + i;
95         if(led >= LED_DPI)
96             led++;          // Skip DPI light
97         light->r[led] = in_pkt[4];
98         light->g[led] = in_pkt[5];
99         light->b[led] = in_pkt[6];
100         // Set packet for next zone
101         data_pkt[2]++;
102     }
103     return 0;
104 }
```

Here is the caller graph for this function:



13.30.1.3 static int rgbcmp (const lighting * *lhs*, const lighting * *rhs*) [static]

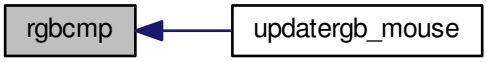
Definition at line 7 of file led_mouse.c.

References lighting::b, lighting::g, LED_MOUSE, N_MOUSE_ZONES, and lighting::r.

Referenced by updatergb_mouse().

```
7                                                                   {
8       return memcmp(lhs->r + LED_MOUSE, rhs->r + LED_MOUSE,
        N_MOUSE_ZONES) || memcmp(lhs->g + LED_MOUSE, rhs->g +
        LED_MOUSE, N_MOUSE_ZONES) || memcmp(lhs->b + LED_MOUSE, rhs->
        b + LED_MOUSE, N_MOUSE_ZONES);
9 }
```

Here is the caller graph for this function:



13.30.1.4 int savergb_mouse (usbdevice * *kb*, lighting * *light*, int *mode*)

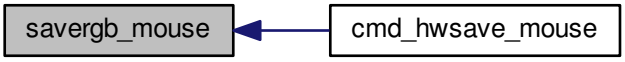
Definition at line 62 of file led_mouse.c.

References lighting::b, lighting::g, IS_SABRE, IS_SCIMITAR, LED_DPI, LED_MOUSE, MSG_SIZE, lighting::r, and usbsend.

Referenced by cmd_hwsave_mouse().

```
62                                                                  {
63      uchar data_pkt[MSG_SIZE] = { 0x07, 0x13, 0x10, 1, 0 };
64      // Save each RGB zone, minus the DPI light which is sent in the DPI packets
65      int zonecount = IS_SCIMITAR(kb) ? 4 : IS_SABRE(kb) ? 3 : 2;
66      for(int i = 0; i < zonecount; i++){
67          int led = LED_MOUSE + i;
68          if(led >= LED_DPI)
69              led++;          // Skip DPI light
70          data_pkt[4] = light->r[led];
71          data_pkt[5] = light->g[led];
72          data_pkt[6] = light->b[led];
73          if(!usbsend(kb, data_pkt, 1))
74              return -1;
75          // Set packet for next zone
76          data_pkt[2]++;
77      }
78      return 0;
79 }
```

Here is the caller graph for this function:



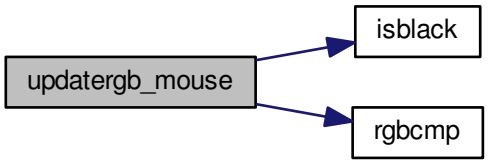
13.30.1.5 int updatergb_mouse (usbdevice * *kb*, int *force*)

Definition at line 20 of file led_mouse.c.

References usbdevice::active, lighting::b, usbprofile::currentmode, lighting::forceupdate, lighting::g, isblack(), usbprofile::lastlight, LED_MOUSE, usbmode::light, MSG_SIZE, N_MOUSE_ZONES, usbdevice::profile, lighting::r, rgbcmp(), and usbsend.

```
20                                              {
21     if(!kb->active)
22         return 0;
23     lighting* lastlight = &kb->profile->lastlight;
24     lighting* newlight = &kb->profile->currentmode->
      light;
25     // Don't do anything if the lighting hasn't changed
26     if(!force && !lastlight->forceupdate && !newlight->forceupdate
27             && !rgbcmp(lastlight, newlight))
28         return 0;
29     lastlight->forceupdate = newlight->forceupdate = 0;
30
31     // Send the RGB values for each zone to the mouse
32     uchar data_pkt[2][MSG_SIZE] = {
33         { 0x07, 0x22, N_MOUSE_ZONES, 0x01, 0 }, // RGB colors
34         { 0x07, 0x05, 0x02, 0 }                 // Lighting on/off
35     };
36     uchar* rgb_data = &data_pkt[0][4];
37     for(int i = 0; i < N_MOUSE_ZONES; i++){
38         *rgb_data++ = i + 1;
39         *rgb_data++ = newlight->r[LED_MOUSE + i];
40         *rgb_data++ = newlight->g[LED_MOUSE + i];
41         *rgb_data++ = newlight->b[LED_MOUSE + i];
42     }
43     // Send RGB data
44     if(!usbsend(kb, data_pkt[0], 1))
45         return -1;
46     int was_black = isblack(kb, lastlight), is_black = isblack(kb, newlight);
47     if(is_black){
48         // If the lighting is black, send the deactivation packet (M65 only)
49         if(!usbsend(kb, data_pkt[1], 1))
50             return -1;
51     } else if(was_black || force){
52         // If the lighting WAS black, or if we're on forced update, send the activation packet
53         data_pkt[1][4] = 1;
54         if(!usbsend(kb, data_pkt[1], 1))
55             return -1;
56     }
57
58     memcpy(lastlight, newlight, sizeof(lighting));
59     return 0;
60 }
```

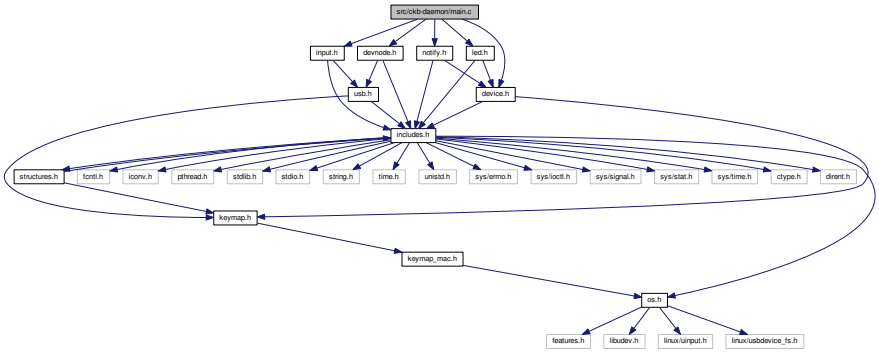
Here is the call graph for this function:



13.31 src/ckb-daemon/main.c File Reference

```
#include "device.h"
#include "devnode.h"
#include "input.h"
#include "led.h"
#include "notify.h"
```

Include dependency graph for main.c:



Functions

- static void quitWithLock (char mut)

  quitWithLock
- int restart ()
- void timespec_add (struct timespec ∗timespec, long nanoseconds)
- static void quit ()

  quit Stop working the daemon. function is called if the daemon received a sigterm In this case, locking the device-mutex is ok.
- void sighandler2 (int type)
- void sighandler (int type)
- void localecase (char ∗dst, size_t length, const char ∗src)
- int main (int argc, char ∗∗argv)

Variables

- static int main_ac
- static char ∗∗ main_av
- volatile int reset_stop

  brief .
- int features_mask

  brief .
- int hwload_mode

  hwload_mode = 1 means read hardware once. should be enough

13.31.1 Function Documentation

13.31.1.1 void localecase (char ∗ *dst*, size_t *length*, const char ∗ *src*)

Definition at line 71 of file main.c.

```
71                                                          {
72     char* ldst = dst + length;
73     char s;
74     while((s = *src++)){
75         if(s == '_')
76             s = '-';
77         else
78             s = tolower(s);
79         *dst++ = s;
```

```
80          if(dst == ldst){
81              dst--;
82              break;
83          }
84      }
85      *dst = 0;
86  }
```

13.31.1.2 int main (int *argc,* char ** *argv*)

Definition at line 88 of file main.c.

References ckb_fatal_nofile, ckb_info(), ckb_info_nofile, ckb_warn_nofile, devpath, FEAT_BIND, FEAT_MOUSEACCEL, FEAT_NOTIFY, features_mask, gid, hwload_mode, keyboard, main_ac, main_av, mkdevpath(), quit(), restart(), sighandler(), and usbmain().

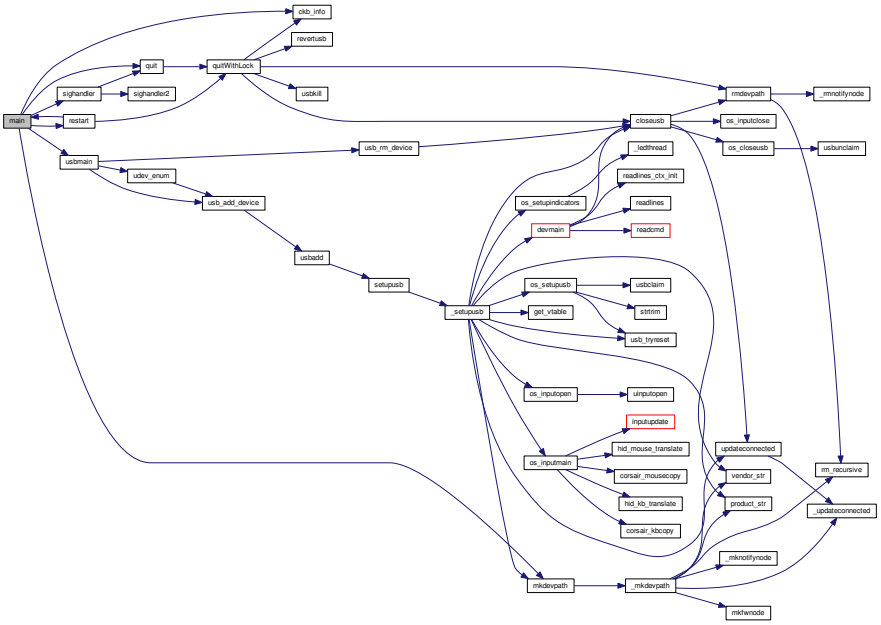
Referenced by restart().

```
88                                  {
89      // Set output pipes to buffer on newlines, if they weren't set that way already
90      setlinebuf(stdout);
91      setlinebuf(stderr);
92      main_ac = argc;
93      main_av = argv;
94
95      printf("    ckb: Corsair RGB driver %s\n", CKB_VERSION_STR);
96      // If --help occurs anywhere in the command-line, don't launch the program but instead print usage
97      for(int i = 1; i < argc; i++){
98          if(!strcmp(argv[i], "--help")){
99              printf(
100 #ifdef OS_MAC
101                         "Usage: ckb-daemon [--gid=<gid>] [--hwload=<always|try|never>] [--nonotify]
    [--nobind] [--nomouseaccel] [--nonroot]\n"
102 #else
103                         "Usage: ckb-daemon [--gid=<gid>] [--hwload=<always|try|never>] [--nonotify]
    [--nobind] [--nonroot]\n"
104 #endif
105                         "\n"
106                         "See https://github.com/ccMSC/ckb/blob/master/DAEMON.md for full instructions.\n"
107                         "\n"
108                         "Command-line parameters:\n"
109                         "    --gid=<gid>\n"
110                         "        Restrict access to %s* nodes to users in group <gid>.\n"
111                         "        (Ordinarily they are accessible to anyone)\n"
112                         "    --hwload=<always|try|never>\n"
113                         "        --hwload=always will force loading of stored hardware profiles on
    compatible devices. May result in long start up times.\n"
114                         "        --hwload=try will try to load the profiles, but give up if not immediately
    successful (default).\n"
115                         "        --hwload=never will ignore hardware profiles completely.\n"
116                         "    --nonotify\n"
117                         "        Disables key monitoring/notifications.\n"
118                         "        Note that this makes reactive lighting impossible.\n"
119                         "    --nobind\n"
120                         "        Disables all key rebinding, macros, and notifications. Implies --nonotify.
    \n"
121 #ifdef OS_MAC
122                         "    --nomouseaccel\n"
123                         "        Disables mouse acceleration, even if the system preferences enable it.\n"
124 #endif
125                         "    --nonroot\n"
126                         "        Allows running ckb-daemon as a non root user.\n"
127                         "        This will almost certainly not work. Use only if you know what you're
    doing.\n"
128                         "\n", devpath);
129             exit(0);
130         }
131     }
132
133     // Check PID, quit if already running
134     char pidpath[strlen(devpath) + 6];
135     snprintf(pidpath, sizeof(pidpath), "%s0/pid", devpath);
136     FILE* pidfile = fopen(pidpath, "r");
137     if(pidfile){
138         pid_t pid;
139         fscanf(pidfile, "%d", &pid);
140         fclose(pidfile);
141         if(pid > 0){
142             // kill -s 0 checks if the PID is active but doesn't send a signal
143             if(!kill(pid, 0)){
144                 ckb_fatal_nofile("ckb-daemon is already running (PID %d). Try `killall
```

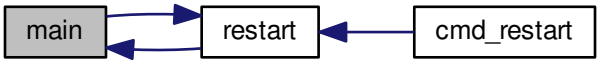
```
     ckb-daemon`.\n", pid);
145                 ckb_fatal_nofile("(If you're certain the process is dead, delete %s and try
     again)\n", pidpath);
146                 return 0;
147             }
148         }
149     }
150 
151     // Read parameters
152     int forceroot = 1;
153     for(int i = 1; i < argc; i++){
154         char* argument = argv[i];
155         unsigned newgid;
156         char hwload[7];
157         if(sscanf(argument, "--gid=%u", &newgid) == 1){
158             // Set dev node GID
159             gid = newgid;
160             ckb_info_nofile("Setting /dev node gid: %u\n", newgid);
161         } else if(!strcmp(argument, "--nobind")){
162             // Disable key notifications and rebinding
163             features_mask &= ~FEAT_BIND & ~FEAT_NOTIFY;
164             ckb_info_nofile("Key binding and key notifications are disabled\n");
165         } else if(!strcmp(argument, "--nonotify")){
166             // Disable key notifications
167             features_mask &= ~FEAT_NOTIFY;
168             ckb_info_nofile("Key notifications are disabled\n");
169         } else if(sscanf(argument, "--hwload=%6s", hwload) == 1){
170             if(!strcmp(hwload, "always") || !strcmp(hwload, "yes") || !strcmp(hwload, "y") || !strcmp(
     hwload, "a")){
171                 hwload_mode = 2;
172                 ckb_info_nofile("Setting hardware load: always\n");
173             } else if(!strcmp(hwload, "tryonce") || !strcmp(hwload, "try") || !strcmp(hwload, "once") || !
     strcmp(hwload, "t") || !strcmp(hwload, "o")){
174                 hwload_mode = 1;
175                 ckb_info_nofile("Setting hardware load: tryonce\n");
176             } else if(!strcmp(hwload, "never") || !strcmp(hwload, "none") || !strcmp(hwload, "no") || !
     strcmp(hwload, "n")){
177                 hwload_mode = 0;
178                 ckb_info_nofile("Setting hardware load: never\n");
179             }
180         } else if(!strcmp(argument, "--nonroot")){
181             // Allow running as a non-root user
182             forceroot = 0;
183         }
184 #ifdef OS_MAC
185         else if(!strcmp(argument, "--nomouseaccel")){
186             // On OSX, provide an option to disable mouse acceleration
187             features_mask &= ~FEAT_MOUSEACCEL;
188             ckb_info_nofile("Mouse acceleration disabled\n");
189         }
190 #endif
191     }
192 
193     // Check UID
194     if(getuid() != 0){
195         if(forceroot){
196             ckb_fatal_nofile("ckb-daemon must be run as root. Try `sudo %s`\n", argv[0]);
197             exit(0);
198         } else
199             ckb_warn_nofile("Warning: not running as root, allowing anyway per command-line
     parameter...\n");
200     }
201 
202     // Make root keyboard
203     umask(0);
204     memset(keyboard, 0, sizeof(keyboard));
205     if(!mkdevpath(keyboard))
206         ckb_info("Root controller ready at %s0\n", devpath);
207 
208     // Set signals
209     sigset_t signals;
210     sigfillset(&signals);
211     sigdelset(&signals, SIGTERM);
212     sigdelset(&signals, SIGINT);
213     sigdelset(&signals, SIGQUIT);
214     sigdelset(&signals, SIGUSR1);
215     // Set up signal handlers for quitting the service.
216     sigprocmask(SIG_SETMASK, &signals, 0);
217     signal(SIGTERM, sighandler);
218     signal(SIGINT, sighandler);
219     signal(SIGQUIT, sighandler);
220     signal(SIGUSR1, (void (*)())restart);
221 
222     // Start the USB system
223     int result = usbmain();
224     quit();
225     return result;
```

```
226 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.31.1.3 static void quit ( ) [static]

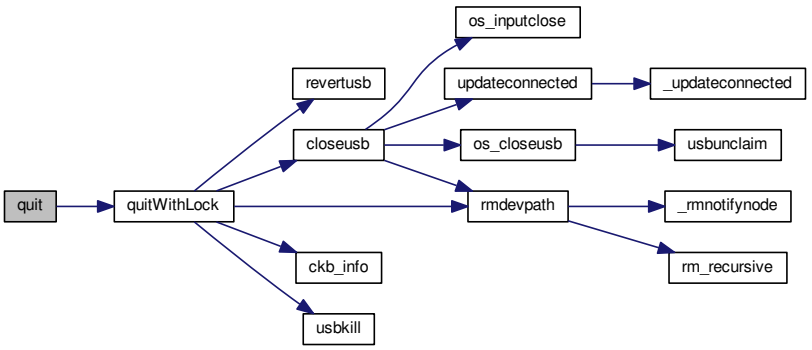
Definition at line 30 of file main.c.

References quitWithLock().

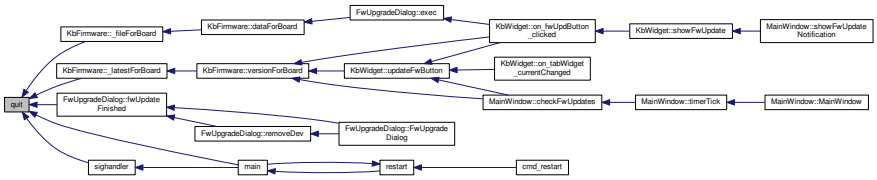
Referenced by KbFirmware::_fileForBoard(), KbFirmware::_latestForBoard(), FwUpgradeDialog::fwUpdateFinished(), main(), and sighandler().

```
30                  {
31     quitWithLock(1);
32 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.31.1.4 void quitWithLock (char *mut*) [static]

Parameters

mut	try to close files maybe without locking the mutex if mut == true then lock

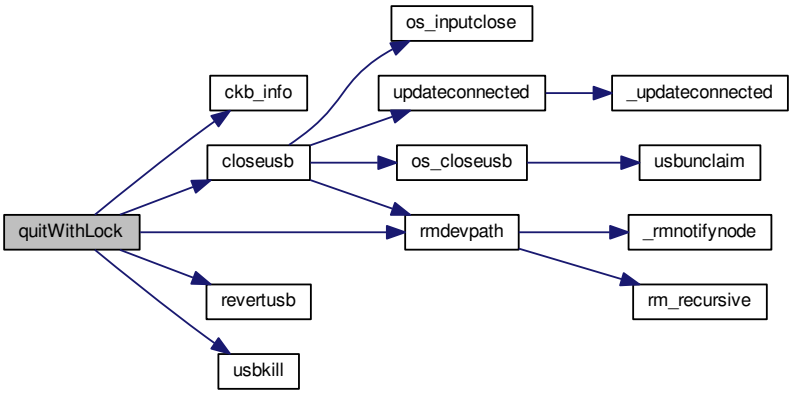
Definition at line 40 of file main.c.

References ckb_info(), closeusb(), DEV_MAX, devmutex, IS_CONNECTED, keyboard, reset_stop, revertusb(), rmdevpath(), and usbkill().

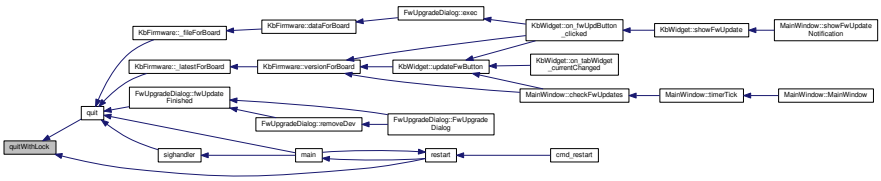
Referenced by quit(), and restart().

```
40                              {
41     // Abort any USB resets in progress
42     reset_stop = 1;
43     for(int i = 1; i < DEV_MAX; i++){
44         // Before closing, set all keyboards back to HID input mode so that the stock driver can still talk
       to them
45         if (mut) pthread_mutex_lock(devmutex + i);
46         if(IS_CONNECTED(keyboard + i)){
47             revertusb(keyboard + i);
48             closeusb(keyboard + i);
49         }
50         pthread_mutex_unlock(devmutex + i);
51     }
52     ckb_info("Closing root controller\n");
53     rmdevpath(keyboard);
54     usbkill();
55 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.31.1.5 int restart ( )

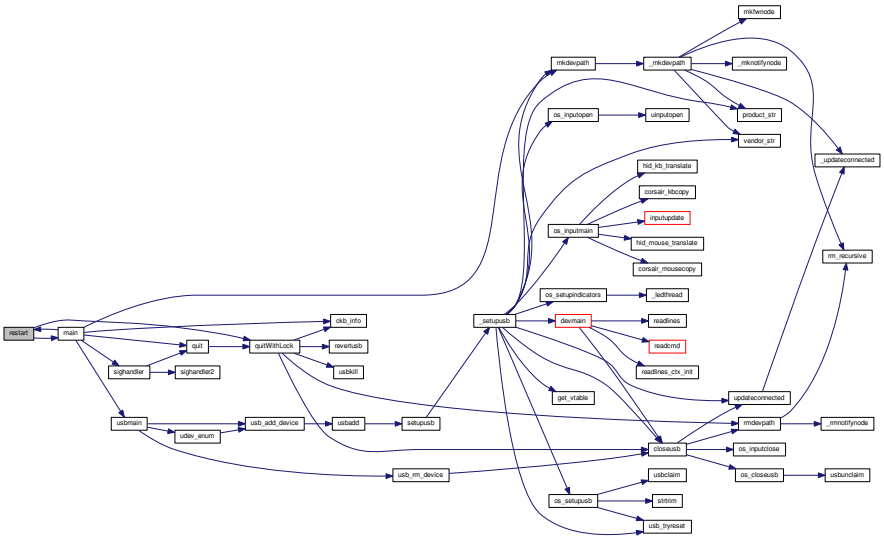
Definition at line 228 of file main.c.

References ckb_err, main(), main_ac, main_av, and quitWithLock().

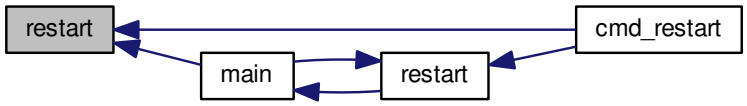
Referenced by cmd_restart(), and main().

```
228             {
229     ckb_err("restart called, running quit without mutex-lock.\n");
230     quitWithLock(0);
231     return main(main_ac, main_av);
232 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.31.1.6 void sighandler (int *type*)

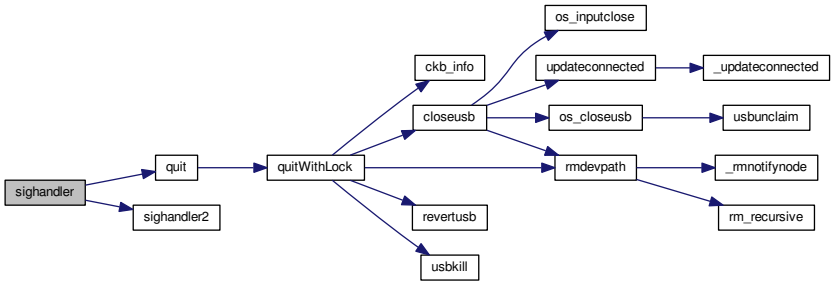
Definition at line 62 of file main.c.

References quit(), and sighandler2().

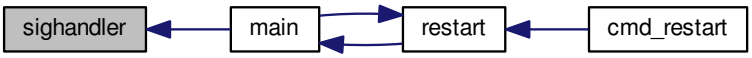
Referenced by main().

```
62                          {
63     signal(SIGTERM, sighandler2);
64     signal(SIGINT, sighandler2);
65     signal(SIGQUIT, sighandler2);
66     printf("\n[I] Caught signal %d\n", type);
67     quit();
68     exit(0);
69 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



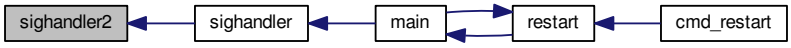
13.31.1.7 void sighandler2 (int *type*)

Definition at line 57 of file main.c.

Referenced by sighandler().

```
57                          {
58     // Don't use ckb_warn, we want an extra \n at the beginning
59     printf("\n[W] Ignoring signal %d (already shutting down)\n", type);
60 }
```

Here is the caller graph for this function:



13.31.1.8 void timespec_add (struct timespec * *timespec*, long *nanoseconds*)

Definition at line 19 of file main.c.

```
19                                                          {
20     nanoseconds += timespec->tv_nsec;
21     timespec->tv_sec += nanoseconds / 1000000000;
22     timespec->tv_nsec = nanoseconds % 1000000000;
23 }
```

13.31.2 Variable Documentation

13.31.2.1 int features_mask

features_mask Mask of features to exclude from all devices

That bit mask ist set to enable all (-1). When interpreting the input parameters, some of these bits can be cleared.

At the moment binding, notifying and mouse-acceleration can be disabled via command line.

Have a look at *main()* in main.c for details.

Definition at line 35 of file usb.c.

Referenced by _setupusb(), and main().

13.31.2.2 int hwload_mode

Definition at line 7 of file device.c.

Referenced by main().

13.31.2.3 int main_ac [static]

Definition at line 7 of file main.c.

Referenced by main(), and restart().

13.31.2.4 char** main_av [static]

Definition at line 8 of file main.c.

Referenced by main(), and restart().

13.31.2.5 volatile int reset_stop

reset_stop is boolean: Reset stopper for when the program shuts down.

Is set only by *quit()* to true (1) to inform several usb_* functions to end their loops and tries.

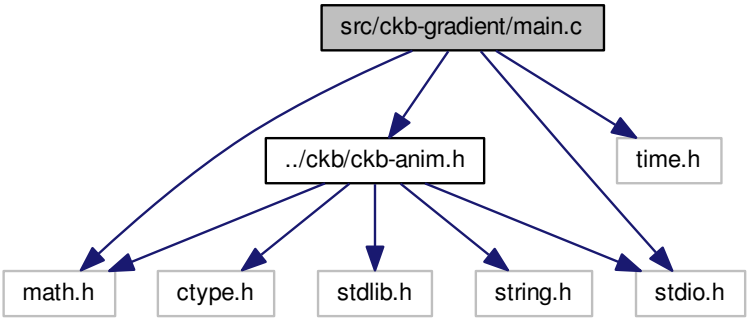
Definition at line 25 of file usb.c.

Referenced by _usbrecv(), _usbsend(), quitWithLock(), and usb_tryreset().

13.32 src/ckb-gradient/main.c File Reference

```
#include "../ckb/ckb-anim.h"
#include <math.h>
#include <time.h>
#include <stdio.h>
```

Include dependency graph for main.c:



Data Structures

- struct keyAnim

Macros

- #define NONE -1.f
- #define HOLD -2.f

Functions

- void ckb_info ()
- void ckb_init (ckb_runctx *context)
- void ckb_parameter (ckb_runctx *context, const char *name, const char *value)
- void ckb_keypress (ckb_runctx *context, ckb_key *key, int x, int y, int state)
- void ckb_start (ckb_runctx *context, int state)
- void ckb_time (ckb_runctx *context, double delta)
- int ckb_frame (ckb_runctx *context)

Variables

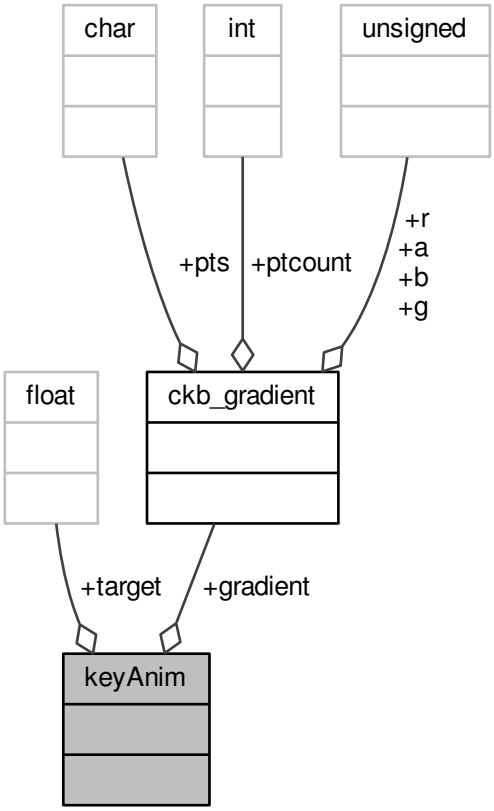
- ckb_gradient animcolor = { 0 }
- int kphold = 0
- int kprelease = 0
- int randomize = 0
- struct keyAnim * anim

13.32.1 Data Structure Documentation

13.32.1.1 struct keyAnim

Definition at line 47 of file main.c.

Collaboration diagram for keyAnim:



Data Fields

ckb_gradient	gradient	
float	target	

13.32.2 Macro Definition Documentation

13.32.2.1 #define HOLD -2.f

Definition at line 45 of file main.c.

Referenced by ckb_frame(), and ckb_keypress().

13.32.2.2 #define NONE -1.f

Definition at line 44 of file main.c.

Referenced by ckb_init(), ckb_keypress(), and ckb_start().

13.32.3 Function Documentation

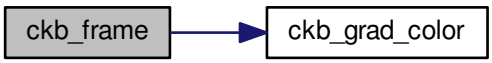
13.32.3.1 int ckb_frame (ckb_runctx * *context*)

Definition at line 137 of file main.c.

References ckb_key::a, animcolor, ckb_key::b, ckb_grad_color(), ckb_key::g, keyAnim::gradient, HOLD, ckb_runctx::keycount, ckb_runctx::keys, phase, ckb_key::r, randomize, and keyAnim::target.

```
137                                 {
138     // Draw key colors
139     unsigned count = context->keycount;
140     for(unsigned i = 0; i < count; i++){
141         float phase = anim[i].target;
142
143         if(phase == HOLD)
144             phase = 0.f;
145         else if(phase < 0.f)
146             phase = 1.f;
147         ckb_key* key = context->keys + i;
148         float a, r, g, b;
149         ckb_gradient thisGradient;
150         if (randomize) {
151             thisGradient = anim[i].gradient;
152         } else {
153             thisGradient = animcolor;
154         }
155         ckb_grad_color(&a, &r, &g, &b, &thisGradient, phase * 100.);
156         key->a = a;
157         key->r = r;
158         key->g = g;
159         key->b = b;
160     }
161     return 0;
162 }
```

Here is the call graph for this function:



13.32.3.2 void ckb_info ( )

Definition at line 5 of file main.c.

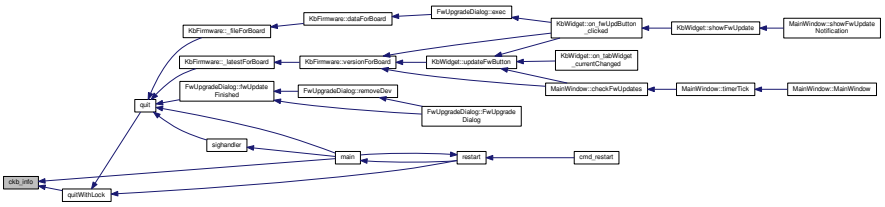
References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_NAME, CKB_KPMODE, CKB_LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_AGRADIENT, CKB_PARAM_BOOL, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_TIME_DURATION, CKB_TIMEMODE, CKB_VERSION, and TRUE.

Referenced by main(), and quitWithLock().

```
5                {
6     // Plugin info
7     CKB_NAME("Gradient");
8     CKB_VERSION("0.9");
9     CKB_COPYRIGHT("2014-2016", "MSC");
10     CKB_LICENSE("GPLv2");
11     CKB_GUID("{54DD2975-E192-457D-BCFC-D912A24E33B4}");
12     CKB_DESCRIPTION("A transition from one color to another.");
13
14     // Effect parameters
15     CKB_PARAM_AGRADIENT("color", "Color:", "", "ffffffff");
16     CKB_PARAM_BOOL("kphold", "Freeze until key is released", TRUE);
17     CKB_PARAM_BOOL("randomize", "Randomly select from gradient", 0);
```

```
18
19      // Timing/input parameters
20      CKB_KPMODE(CKB_KP_NAME);
21      CKB_TIMEMODE(CKB_TIME_DURATION);
22      CKB_LIVEPARAMS(TRUE);
23
24      // Presets
25      CKB_PRESET_START("Fade in");
26      CKB_PRESET_PARAM("color", "ff000000");
27      CKB_PRESET_PARAM("duration", "1.0");
28      CKB_PRESET_PARAM("stop", "0");
29      CKB_PRESET_PARAM("kpstop", "0");
30      CKB_PRESET_END;
31
32      CKB_PRESET_START("Rainbow");
33      CKB_PRESET_PARAM("color", "0:ffff0000 17:ffffff00 33:ff00ff00 50:ff00ffff 67:ff0000ff
        83:ffff00ff 100:ffff0000");
34      CKB_PRESET_PARAM("duration", "2.0");
35      CKB_PRESET_END;
36
37      CKB_PRESET_START("Type lighting");
38      CKB_PRESET_PARAM("duration", "1.0");
39      CKB_PRESET_PARAM("trigger", "0");
40      CKB_PRESET_PARAM("kptrigger", "1");
41      CKB_PRESET_END;
42  }
```

Here is the caller graph for this function:



13.32.3.3 void ckb_init (ckb_runctx * *context*)

Definition at line 57 of file main.c.

References ckb_runctx::keycount, and NONE.

```
57                                  {
58      // Initialize all keys to 100% (animation over)
59
60      srand((unsigned)time(NULL));
61      unsigned count = context->keycount;
62      anim =  malloc(count * sizeof *anim);
63      for(unsigned i = 0; i < count; i++) {
64          anim[i].target = NONE;
65      }
66  }
```

13.32.3.4 void ckb_keypress (ckb_runctx * *context*, ckb_key * *key*, int *x*, int *y*, int *state*)

Definition at line 75 of file main.c.

References ckb_gradient::a, ckb_gradient::b, ckb_grad_color(), ckb_gradient::g, keyAnim::gradient, HOLD, ckb_-runctx::keys, kphold, kprelease, NONE, ckb_gradient::ptcount, ckb_gradient::pts, ckb_gradient::r, randomize, and keyAnim::target.

```
75                                                                          {
76      // Start or stop animation on key
77      int i = key - context->keys;
78      if(state){
79          if (randomize) {
```

```
80              float a, r, g, b;
81              float colorChoice = (float)rand()/(float)(RAND_MAX);
82              ckb_grad_color(&a, &r, &g, &b, &animcolor, colorChoice * 100.);
83              ckb_gradient newGradient = { 0 };
84              newGradient.ptcount = 2;
85              newGradient.pts[0] = 0;
86              newGradient.pts[1] = 100;
87              newGradient.a[0] = 255;
88              newGradient.b[0] = b;
89              newGradient.g[0] = g;
90              newGradient.r[0] = r;
91              newGradient.a[1] = 0;
92              newGradient.b[1] = b;
93              newGradient.g[1] = g;
94              newGradient.r[1] = r;
95
96              anim[i].gradient = newGradient;
97          }
98
99          if(kphold) {
100             anim[i].target = HOLD;
101         } else {
102             anim[i].target = 0.f;
103         }
104     } else {
105         if(kprelease) {
106             anim[i].target = NONE;
107         }
108         else if(kphold) {
109             anim[i].target = 0.f;
110         }
111     }
112 }
```

Here is the call graph for this function:

13.32.3.5 void ckb_parameter (ckb_runctx * *context*, const char * *name*, const char * *value*)

Definition at line 68 of file main.c.

References CKB_PARSE_AGRADIENT, CKB_PARSE_BOOL, kphold, kprelease, and randomize.

```
68                                                                          {
69     CKB_PARSE_AGRADIENT("color", &animcolor){}
70     CKB_PARSE_BOOL("kphold", &kphold){}
71     CKB_PARSE_BOOL("kprelease", &kprelease){}
72     CKB_PARSE_BOOL("randomize", &randomize){}
73 }
```

13.32.3.6 void ckb_start (ckb_runctx * *context*, int *state*)

Definition at line 114 of file main.c.

References ckb_runctx::keycount, NONE, and keyAnim::target.

```
114                                             {
115     // Start/stop all keys
116     unsigned count = context->keycount;
117     if(state) {
```

```
118         memset(anim, 0, count * sizeof *anim);
119     } else {
120         for(unsigned i = 0; i < count; i++) {
121             anim[i].target = NONE;
122         }
123     }
124 }
```

13.32.3.7 void ckb_time (ckb_runctx * *context*, double *delta*)

Definition at line 126 of file main.c.

References ckb_runctx::keycount, phase, and keyAnim::target.

```
126                                                 {
127     // Advance animation on each key
128     unsigned count = context->keycount;
129     for(unsigned i = 0; i < count; i++){
130         float phase = anim[i].target;
131         if(phase > 1.f || phase < 0.f)
132             continue;
133         anim[i].target = phase + delta;
134     }
135 }
```

13.32.4 Variable Documentation

13.32.4.1 struct keyAnim* anim

Definition at line 55 of file main.c.

Referenced by KbLight::addAnim(), anim_add(), anim_remove(), KbLight::animKeypress(), RebindWidget::applyChanges(), ckb_frame(), ckb_time(), KbLight::close(), KbLight::duplicateAnim(), KbLight::findAnim(), KbLight::frameUpdate(), KeyAction::keyEvent(), KbLight::load(), KbLight::map(), KbLight::needsSave(), KbMode::newId(), KbAnimWidget::on_animList_itemChanged(), KbLight::open(), KbLight::previewAnim(), KbAnimWidget::refreshList(), KbAnimWidget::reorderAnims(), KbLight::restartAnimation(), KbLight::save(), and RebindWidget::setSelection().

13.32.4.2 ckb_gradient animcolor = { 0 }

Definition at line 52 of file main.c.

Referenced by ckb_frame().

13.32.4.3 int kphold = 0

Definition at line 53 of file main.c.

Referenced by ckb_keypress(), and ckb_parameter().

13.32.4.4 int kprelease = 0

Definition at line 53 of file main.c.

Referenced by ckb_keypress(), ckb_parameter(), ckb_start(), and AnimScript::load().

13.32.4.5 int randomize = 0

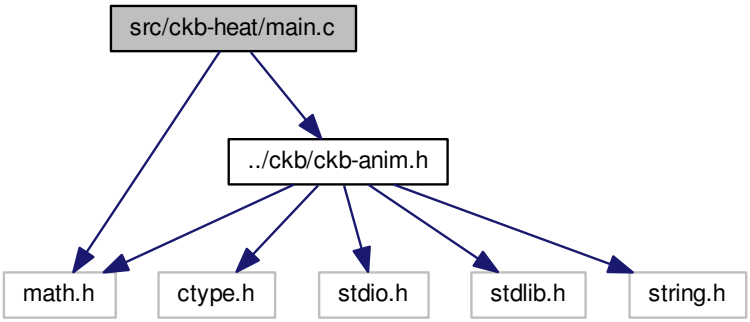
Definition at line 53 of file main.c.

Referenced by ckb_frame(), ckb_keypress(), and ckb_parameter().

13.33 src/ckb-heat/main.c File Reference

```
#include "../ckb/ckb-anim.h"
#include <math.h>
```

Include dependency graph for main.c:



Data Structures

- struct keyanim

Functions

- void ckb_info ()
- void ckb_init (ckb_runctx *context)
- void ckb_parameter (ckb_runctx *context, const char *name, const char *value)
- void anim_add (int index)
- void anim_remove (int index)
- void ckb_keypress (ckb_runctx *context, ckb_key *key, int x, int y, int state)
- void ckb_start (ckb_runctx *context, int state)
- void ckb_time (ckb_runctx *context, double delta)
- int ckb_frame (ckb_runctx *context)

Variables

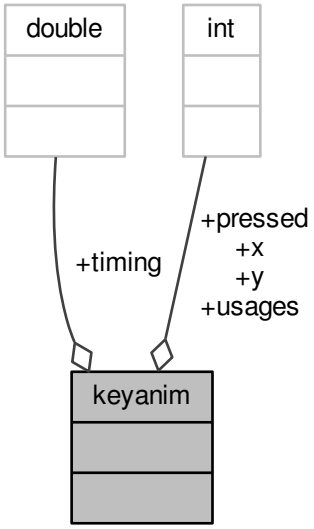
- ckb_gradient animcolor = { 0 }
- int randomBright = 0
- long ffade = 30
- double pressestofull = 10.f
- keyanim * anims = NULL

13.33.1 Data Structure Documentation

13.33.1.1 struct keyanim

Definition at line 40 of file main.c.

Collaboration diagram for keyanim:



Data Fields

int	pressed	
double	timing	
unsigned int	usages	
int	x	
int	y	

13.33.2 Function Documentation

13.33.2.1 void anim_add (int *index*)

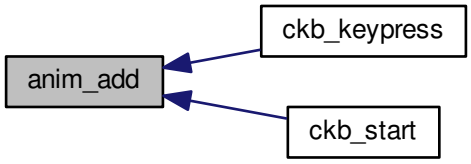
Definition at line 65 of file main.c.

References ffade, keyanim::pressed, keyanim::timing, and keyanim::usages.

Referenced by ckb_keypress(), and ckb_start().

```
65                      {
66     anims[index].usages += ffade;
67     anims[index].pressed = 1;
68     anims[index].timing = 0.f;
69 }
```

Here is the caller graph for this function:



13.33.2.2 void anim_remove (int *index*)

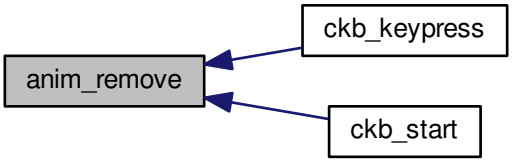
Definition at line 71 of file main.c.

References keyanim::pressed.

Referenced by ckb_keypress(), and ckb_start().

```
71                              {
72      anims[index].pressed = 0;
73  }
```

Here is the caller graph for this function:



13.33.2.3 int ckb_frame (ckb_runctx * *context*)

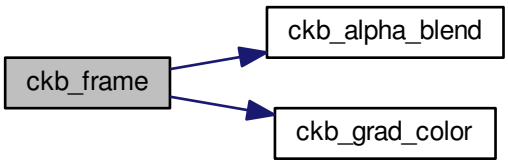
Definition at line 101 of file main.c.

References ckb_alpha_blend(), ckb_grad_color(), CKB_KEYCLEAR, ffade, ckb_runctx::keycount, ckb_runctx::keys, pressestofull, and randomBright.

```
101                                     {
102     CKB_KEYCLEAR(context);
103     // Draw spots
104     unsigned count = context->keycount;
105     ckb_key* keys = context->keys;
106     unsigned int full = pressestofull*ffade;
107     for(int i =0; i < count; i++){
108         if(!anims[i].usages)
109             continue;
110         float a, r, g, b;
```

```
111         if(randomBright)
112             ckb_grad_color(&a, &r, &g, &b, &animcolor, ((float)(rand() % 1024))/10.f
    );
113         else
114             ckb_grad_color(&a, &r, &g, &b, &animcolor, (float)fmin(
    anims[i].usages,full)*100.f/full);
115         ckb_alpha_blend(keys+i, a, r, g, b);
116     }
117     return 0;
118 }
```

Here is the call graph for this function:



13.33.2.4 void ckb_info ( )

Definition at line 4 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_POSITION, CKB_KPMODE, CKB_-LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_AGRADIENT, CKB_PARAM_BOOL, CKB_PARAM_-DOUBLE, CKB_PARAM_LONG, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_R-EPEAT, CKB_TIME_ABSOLUTE, CKB_TIMEMODE, CKB_VERSION, FALSE, and TRUE.

```
4               {
5     // Plugin info
6     CKB_NAME("Heat Map");
7     CKB_VERSION("0.2");
8     CKB_COPYRIGHT("2015", "RULER501");
9     CKB_LICENSE("LGPLv3");
10     CKB_GUID("{097D69F0-70B2-48B8-AFE2-25A1CDB0D92C}");
11     CKB_DESCRIPTION("A spot effect on pressed keys that shows usage");
12
13     // Effect parameters
14     CKB_PARAM_AGRADIENT("color", "Fade color:", "", "ffffffff");
15     CKB_PARAM_BOOL("random", "Random Brightness", 0);
16     CKB_PARAM_LONG("ffade", "Frames to fade", "frames", 30, 10, 1000);
17     CKB_PARAM_DOUBLE("pressestofull", "Presses to full", "keypresses", 10.f, 1.f, 100.f);
18
19     // Timing/input parameters
20     CKB_KPMODE(CKB_KP_POSITION);
21     CKB_TIMEMODE(CKB_TIME_ABSOLUTE);
22     CKB_REPEAT(FALSE);
23     CKB_LIVEPARAMS(TRUE);
24
25     // Presets
26     CKB_PRESET_START("Single Spot");
27     CKB_PRESET_PARAM("random", "0");
28     CKB_PRESET_PARAM("ffade", "30");
29     CKB_PRESET_PARAM("pressestofull", "10");
30     CKB_PRESET_PARAM("trigger", "0");
31     CKB_PRESET_PARAM("kptrigger", "1");
32     CKB_PRESET_END;
33 }
```

13.33.2.5 void ckb_init (ckb_runctx * *context*)

Definition at line 50 of file main.c.

References ckb_runctx::keycount, ckb_runctx::keys, keyanim::x, ckb_key::x, keyanim::y, and ckb_key::y.

```
50                                  {
51     anims = calloc(context->keycount, sizeof(keyanim));
52     for(int i=0; i < context->keycount; i++){
53         anims[i].x = context->keys[i].x;
54         anims[i].y = context->keys[i].y;
55     }
56 }
```

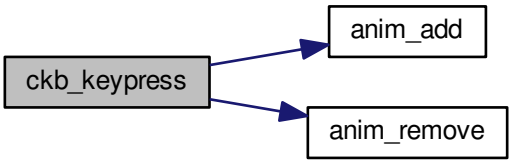
13.33.2.6 void ckb_keypress (ckb_runctx * *context*, ckb_key * *key*, int *x*, int *y*, int *state*)

Definition at line 75 of file main.c.

References anim_add(), anim_remove(), and ckb_runctx::keys.

```
75                                                                                  {
76     // Add or remove a spot on this key
77     if(state)
78         anim_add(key - context->keys);
79     else
80         anim_remove(key - context->keys);
81 }
```

Here is the call graph for this function:



13.33.2.7 void ckb_parameter (ckb_runctx * *context*, const char * *name*, const char * *value*)

Definition at line 58 of file main.c.

References CKB_PARSE_AGRADIENT, CKB_PARSE_BOOL, CKB_PARSE_DOUBLE, CKB_PARSE_LONG, ffade, pressestofull, and randomBright.

```
58                                                                                  {
59     CKB_PARSE_AGRADIENT("color", &animcolor){}
60     CKB_PARSE_BOOL("random", &randomBright){}
61     CKB_PARSE_LONG("ffade", &ffade){}
62     CKB_PARSE_DOUBLE("pressestofull", &pressestofull){}
63 }
```

13.33.2.8 void ckb_start (ckb_runctx * *context*, int *state*)

Definition at line 83 of file main.c.

```
83                                          {
84     return;
85 }
```

13.33.2.9 void ckb_time (ckb_runctx * *context*, double *delta*)

Definition at line 87 of file main.c.

References ckb_runctx::keycount, keyanim::timing, and keyanim::usages.

```
87                                                {
88     unsigned int count = context->keycount;
89     for(unsigned int i=0; i < count; i++){
90         if(anims[i].usages && !anims[i].pressed){
91             anims[i].timing -= delta;
92             while(anims[i].timing < 0){
93                 anims[i].timing += 1.f/30.f;
94                 if(anims[i].usages > 0)
95                     anims[i].usages--;
96             }
97         }
98     }
99 }
```

13.33.3 Variable Documentation

13.33.3.1 ckb_gradient animcolor = { 0 }

Definition at line 35 of file main.c.

13.33.3.2 keyanim* anims = NULL

Definition at line 48 of file main.c.

13.33.3.3 long ffade = 30

Definition at line 37 of file main.c.

Referenced by anim_add(), ckb_frame(), and ckb_parameter().

13.33.3.4 double pressestofull = 10.f

Definition at line 38 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.33.3.5 int randomBright = 0

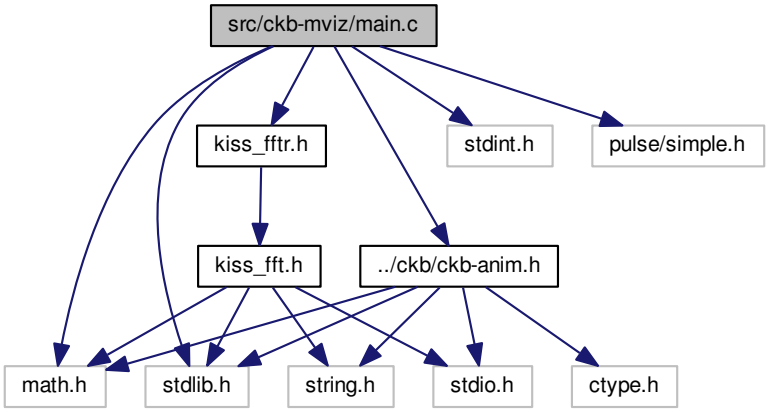
Definition at line 36 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.34 src/ckb-mviz/main.c File Reference

```
#include <math.h>
#include <stdint.h>
#include <stdlib.h>
#include <pulse/simple.h>
#include "../ckb/ckb-anim.h"
#include "kiss_fftr.h"
```

Include dependency graph for main.c:



Functions

- void ckb_info ()
- void ckb_init (ckb_runctx *context)
- void ckb_parameter (ckb_runctx *context, const char *name, const char *value)
- void anim_add (ckb_key *press, float x, float y)
- void anim_remove (float x, float y)
- void ckb_keypress (ckb_runctx *context, ckb_key *key, int x, int y, int state)
- void ckb_start (ckb_runctx *context, int state)
- void ckb_time (ckb_runctx *context, double delta)
- int max (int a, int b)
- int min (int a, int b)
- void getFreqDec ()
- int ckb_frame (ckb_runctx *context)

Variables

- double powers [2048] = { 0.f }
- kiss_fft_cpx * inbuf
- kiss_fft_cpx * outbuf
- ckb_gradient animcolor = { 0 }
- pa_simple * pas = NULL
- int power = 0
- int gcounter = 0

13.34.1 Function Documentation

13.34.1.1 void anim_add (ckb_key * *press*, float *x*, float *y*)

Definition at line 61 of file main.c.

```
61                                                  {
62     return;
63 }
```

13.34.1.2 void anim_remove (float *x*, float *y*)

Definition at line 65 of file main.c.

```
65                                      {
66     return;
67 }
```

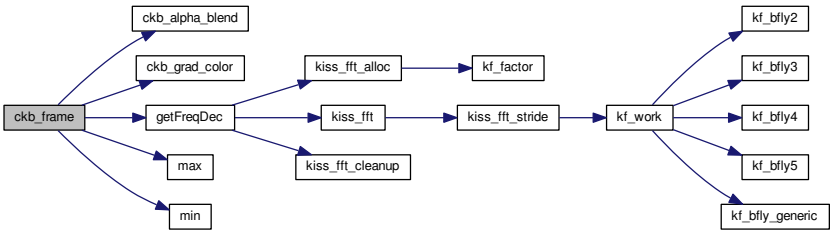
13.34.1.3 int ckb_frame (ckb_runctx * *context*)

Definition at line 110 of file main.c.

References ckb_alpha_blend(), ckb_grad_color(), CKB_KEYCLEAR, getFreqDec(), ckb_runctx::height, ckb_runctx::keycount, ckb_runctx::keys, max(), min(), power, powers, and ckb_runctx::width.

```
110                                     {
111     CKB_KEYCLEAR(context);
112     ckb_key* keys = context->keys;
113     ckb_key* maxkey = keys+context->keycount-1;
114     getFreqDec();
115     unsigned int frames = context->width*context->height - 1;
116     int height = context->height;
117     for(ckb_key* key = keys; key < maxkey; key++){
118         int posl = height*key->x + key->y - 1;
119         posl = max(posl, 0);
120         int posr = height*key->x + key->y + 1;
121         posr = max(posr, 0);
122         int lowi = floorf(pow(2,posl*11.f/frames));
123         int highi = ceilf(pow(2,posr*11.f/frames));
124         highi= min(highi, (int)sizeof(powers)/sizeof(double)-1);
125         lowi = max(lowi, 0);
126         double total = 0;
127         unsigned int height = context->height;
128         for(unsigned int i = lowi; i <= highi; i++)
129             total += powers[i];
130         total /= highi - lowi + 1;
131         float a, r, g, b;
132         ckb_grad_color(&a, &r, &g, &b, &animcolor, total/(
      power ? 150994944.f : 12288.f));
133         ckb_alpha_blend(key, a, r, g, b);
134     }
135     return 0;
136 }
```

Here is the call graph for this function:



13.34.1.4 void ckb_info ( )

Definition at line 11 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_NONE, CKB_KPMODE, CKB_LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_AGRADIENT, CKB_PARAM_BOOL, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_REPEAT, CKB_TIME_ABSOLUTE, CKB_TIMEMODE, CKB_VERSION, FALSE, and TRUE.

```
11              {
12     // Plugin info
13     CKB_NAME("Music Visualization");
14     CKB_VERSION("0.2");
15     CKB_COPYRIGHT("2015", "RULER501");
16     CKB_LICENSE("LGPLv3");
17     CKB_GUID("{097D69F0-70B2-48B8-AFE2-25CA1DB0D92C}");
18     CKB_DESCRIPTION("A collection of music visualization effects");
19
20     // Effect parameters
21     CKB_PARAM_AGRADIENT("color", "Fade color:", "", "ffffffff");
22     CKB_PARAM_BOOL("power", "Use Power instead of Magnitude?", 0);
23
24     // Timing/input parameters
25     CKB_KPMODE(CKB_KP_NONE);
26     CKB_TIMEMODE(CKB_TIME_ABSOLUTE);
27     CKB_REPEAT(FALSE);
28     CKB_LIVEPARAMS(TRUE);
29
30     // Presets
31     CKB_PRESET_START("Default");
32     CKB_PRESET_PARAM("power", "0");
33     CKB_PRESET_PARAM("trigger", "0");
34     CKB_PRESET_PARAM("kptrigger", "1");
35     CKB_PRESET_END;
36 }
```

13.34.1.5 void ckb_init (ckb_runctx * *context*)

Definition at line 45 of file main.c.

References pas.

```
45                                  {
46     static const pa_sample_spec ss ={
47         .format = PA_SAMPLE_S16LE,
48         .rate = 44100,
49         .channels = 1
50     };
51     pas = pa_simple_new(NULL, "CKB Music Viz", PA_STREAM_RECORD, NULL, "CKB Music Viz", &ss, NULL, NULL,
       NULL);
52     inbuf = malloc(2048*sizeof(kiss_fft_cpx));
53     outbuf = malloc(2048*sizeof(kiss_fft_cpx));
54 }
```

13.34.1.6 void ckb_keypress (ckb_runctx * *context,* ckb_key * *key,* int *x,* int *y,* int *state*)

Definition at line 69 of file main.c.

```
69                                                                                  {
70     return;
71 }
```

13.34.1.7 void ckb_parameter (ckb_runctx * *context,* const char * *name,* const char * *value*)

Definition at line 56 of file main.c.

References CKB_PARSE_AGRADIENT, CKB_PARSE_BOOL, and power.

```
56                                                                                  {
57     CKB_PARSE_AGRADIENT("color", &animcolor){}
58     CKB_PARSE_BOOL("power", &power);
59 }
```

13.34.1.8 void ckb_start (ckb_runctx * *context,* int *state*)

Definition at line 73 of file main.c.

```
73                                                  {
74     return;
75 }
```

13.34.1.9 void ckb_time (ckb_runctx * *context*, double *delta*)

Definition at line 77 of file main.c.

```
77                                                  {
78     return;
79 }
```

13.34.1.10 void getFreqDec ( )

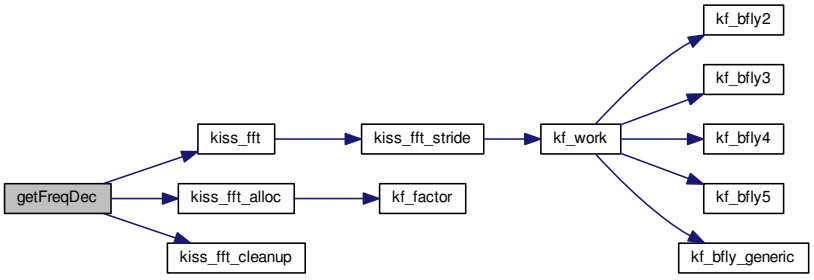
Definition at line 91 of file main.c.

References kiss_fft_cpx::i, kiss_fft(), kiss_fft_alloc(), kiss_fft_cleanup(), kiss_fft_free, pas, power, powers, and kiss_fft_cpx::r.

Referenced by ckb_frame().

```
91                  {
92     int16_t data[2048];
93     pa_simple_read(pas, data, sizeof(data), NULL);
94     for(int j=0; j<2048; j++){
95         inbuf[j].r = data[j];
96         inbuf[j].i = 0;
97     }
98     kiss_fft_cfg config = kiss_fft_alloc(2048, 0, NULL, NULL);
99     kiss_fft(config, inbuf, outbuf);
100
101     for(unsigned int j=0; j < 2048; j++)
102         if(power)
103             powers[j] = outbuf[j].r*outbuf[j].r + outbuf[j].
      i*outbuf[j].i;
104         else
105             powers[j] = sqrt(outbuf[j].r*outbuf[j].r + outbuf[j].i*
      outbuf[j].i);
106     kiss_fft_free(config);
107     kiss_fft_cleanup();
108 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

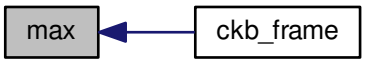
13.34.1.11 int max (int *a*, int *b*)

Definition at line 81 of file main.c.

Referenced by ckb_frame().

```
81                      {
82     return a > b ? a : b;
83 }
```

Here is the caller graph for this function:



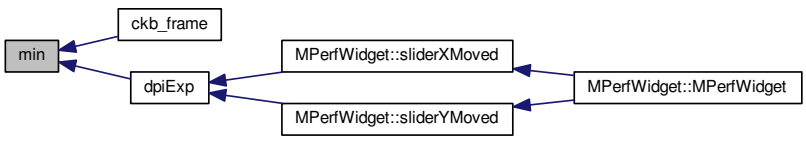
13.34.1.12 int min (int *a*, int *b*)

Definition at line 85 of file main.c.

Referenced by ckb_frame(), and dpiExp().

```
85                      {
86     return a < b ? a : b;
87 }
```

Here is the caller graph for this function:



13.34.2 Variable Documentation

13.34.2.1 ckb_gradient animcolor = { 0 }

Definition at line 41 of file main.c.

13.34.2.2 int gcounter = 0

Definition at line 89 of file main.c.

13.34.2.3 kiss_fft_cpx* inbuf

Definition at line 39 of file main.c.

13.34.2.4 kiss_fft_cpx* outbuf

Definition at line 40 of file main.c.

13.34.2.5 pa_simple* pas = NULL

Definition at line 42 of file main.c.

Referenced by ckb_init(), and getFreqDec().

13.34.2.6 int power = 0

Definition at line 43 of file main.c.

Referenced by ckb_frame(), ckb_parameter(), and getFreqDec().

13.34.2.7 double powers[2048] = { 0.f }

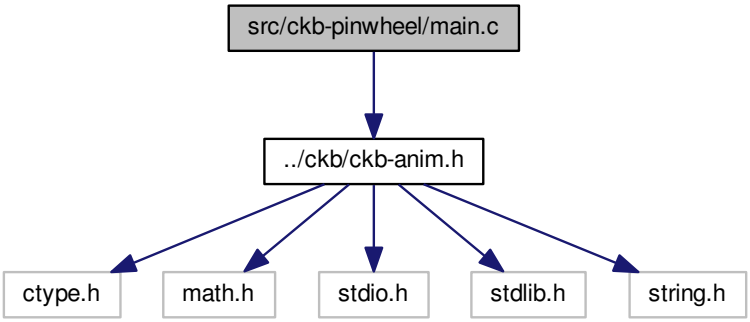
Definition at line 38 of file main.c.

Referenced by ckb_frame(), and getFreqDec().

13.35 src/ckb-pinwheel/main.c File Reference

```
#include "../ckb/ckb-anim.h"
```

Include dependency graph for main.c:



Macros

- #define ANGLE(theta) fmod((theta) + M_PI ∗ 2., M_PI ∗ 2.)

Functions

- void ckb_info ()
- void ckb_parameter (ckb_runctx ∗context, const char ∗name, const char ∗value)
- void ckb_init (ckb_runctx ∗context)
- void ckb_keypress (ckb_runctx ∗context, ckb_key ∗key, int x, int y, int state)
- void ckb_start (ckb_runctx ∗context, int state)
- void ckb_time (ckb_runctx ∗context, double delta)
- int ckb_frame (ckb_runctx ∗context)

Variables

- ckb_gradient animcolor = { 0 }
- double animlength = 0.
- int symmetric = 0
- int counter_clock = 0
- double x_offset = 0
- double y_offset = 0
- double frame = -1.
- float x
- float y

13.35.1 Macro Definition Documentation

13.35.1.1 #define ANGLE(*theta*) fmod((theta) + M_PI ∗ 2., M_PI ∗ 2.)

Definition at line 68 of file main.c.

Referenced by ckb_frame().

13.35.2 Function Documentation

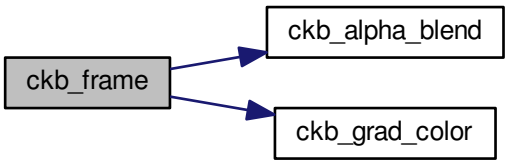
13.35.2.1 int ckb_frame (ckb_runctx * *context*)

Definition at line 86 of file main.c.

References ANGLE, animlength, ckb_alpha_blend(), ckb_grad_color(), CKB_KEYCLEAR, counter_clock, frame, ckb_runctx::keycount, ckb_runctx::keys, M_PI, symmetric, x, and y.

```
86                                  {
87      CKB_KEYCLEAR(context);
88      if(frame < 0.)
89          return 0;
90      // Color each key according to its angle from the center
91      float position;
92      if(counter_clock)
93          position = ANGLE(frame * M_PI * 2.);
94      else
95          position = ANGLE(-frame * M_PI * 2.);
96      unsigned count = context->keycount;
97      ckb_key* keys = context->keys;
98      for(ckb_key* key = keys; key < keys + count; key++){
99          float theta;
100         if(key->x == x && key->y == y)
101             // Dead center = 0°
102             theta = 0.f;
103         else
104             theta = ANGLE(ANGLE(atan2(x - key->x, y - key->y)) - position);
105         // If the animation is symmetric, mirror the second half
106         if(symmetric && theta > M_PI)
107             theta = M_PI * 2. - theta;
108         // Draw the gradient position that corresponds to this angle
109         if(theta < animlength){
110             float distance = theta / animlength;
111             float a, r, g, b;
112             ckb_grad_color(&a, &r, &g, &b, &animcolor, distance * 100.);
113             ckb_alpha_blend(key, a, r, g, b);
114         }
115     }
116     return 0;
117 }
```

Here is the call graph for this function:



13.35.2.2 void ckb_info ( )

Definition at line 3 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_NONE, CKB_KPMODE, CKB_LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_AGRADIENT, CKB_PARAM_BOOL, CKB_PARAM_DOUBLE, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_REPEAT, CKB_TIME_DURATION, CKB_TIMEMODE, CKB_VERSION, FALSE, and TRUE.

```
3               {
4       // Plugin info
```

```
5     CKB_NAME("Pinwheel");
6     CKB_VERSION("0.9");
7     CKB_COPYRIGHT("2014-2016", "MSC");
8     CKB_LICENSE("GPLv2");
9     CKB_GUID("{07551A90-D97A-4DD0-A770-E9E280A90891}");
10     CKB_DESCRIPTION("A spinning pinwheel effect.");
11
12     // Effect parameters
13     CKB_PARAM_AGRADIENT("color", "Wheel color:", "", "ffffffff");
14     CKB_PARAM_DOUBLE("length", "Wheel size:", "%", 100, 1., 100.);
15     CKB_PARAM_DOUBLE("x_offset", "X offset:", "%", 0, -100, 100);
16     CKB_PARAM_DOUBLE("y_offset", "Y offset:", "%", 0, -100, 100);
17     CKB_PARAM_BOOL("counter_clock", "Counter Clockwise", 0);
18     CKB_PARAM_BOOL("symmetric", "Symmetric", 0);
19
20     // Timing/input parameters
21     CKB_KPMODE(CKB_KP_NONE);
22     CKB_TIMEMODE(CKB_TIME_DURATION);
23     CKB_LIVEPARAMS(TRUE);
24     CKB_REPEAT(FALSE);
25
26     // Presets
27     CKB_PRESET_START("Search light");
28     CKB_PRESET_PARAM("duration", "2.0");
29     CKB_PRESET_PARAM("length", "50.0");
30     CKB_PRESET_PARAM("symmetric", "1");
31     CKB_PRESET_END;
32
33     CKB_PRESET_START("Rainbow");
34     CKB_PRESET_PARAM("color", "0:ffff0000 17:ffffff00 33:ff00ff00 50:ff00ffff 67:ff0000ff
       83:ffff00ff 100:ffff0000");
35     CKB_PRESET_PARAM("duration", "2.0");
36     CKB_PRESET_END;
37 }
```

13.35.2.3 void ckb_init (ckb_runctx * *context*)

Definition at line 57 of file main.c.

```
57                                  {
58     // Unused
59 }
```

13.35.2.4 void ckb_keypress (ckb_runctx * *context*, ckb_key * *key*, int *x*, int *y*, int *state*)

Definition at line 61 of file main.c.

```
61                                                                          {
62     // Unused
63 }
```

13.35.2.5 void ckb_parameter (ckb_runctx * *context*, const char * *name*, const char * *value*)

Definition at line 45 of file main.c.

References animlength, CKB_PARSE_AGRADIENT, CKB_PARSE_BOOL, CKB_PARSE_DOUBLE, counter_clock, M_PI, symmetric, x_offset, and y_offset.

```
45                                                                          {
46     CKB_PARSE_AGRADIENT("color", &animcolor){}
47     double len;
48     CKB_PARSE_DOUBLE("length", &len){
49         animlength = len / 100. * M_PI * 2.;
50     }
51     CKB_PARSE_BOOL("symmetric", &symmetric){}
52     CKB_PARSE_BOOL("counter_clock", &counter_clock){}
53     CKB_PARSE_DOUBLE("x_offset", &x_offset) {}
54     CKB_PARSE_DOUBLE("y_offset", &y_offset) {}
55 }
```

13.35.2.6 void ckb_start (ckb_runctx * *context,* int *state*)

Definition at line 70 of file main.c.

References frame, ckb_runctx::height, ckb_runctx::width, x, x_offset, y, and y_offset.

```
70                                              {
71     // Begin or end animation
72     frame = state ? 0. : -1.;
73     x = (context->width + (context->width * x_offset * 0.01)) / 2.f;
74     y = (context->height - (context->height * y_offset * 0.01)) / 2.f;
75 }
```

13.35.2.7 void ckb_time (ckb_runctx * *context,* double *delta*)

Definition at line 77 of file main.c.

References frame.

```
77                                                {
78     if(frame < 0.)
79         return;
80     // Spin the wheel
81     frame += delta;
82     if(frame > 1.)
83         frame -= 1.;
84 }
```

13.35.3 Variable Documentation

13.35.3.1 ckb_gradient animcolor = { 0 }

Definition at line 39 of file main.c.

13.35.3.2 double animlength = 0.

Definition at line 40 of file main.c.

Referenced by anim_add(), ckb_frame(), ckb_parameter(), and ckb_time().

13.35.3.3 int counter_clock = 0

Definition at line 42 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.35.3.4 double frame = -1.

Definition at line 65 of file main.c.

Referenced by ckb_frame(), ckb_start(), ckb_time(), and AnimSettingDialog::hLine().

13.35.3.5 int symmetric = 0

Definition at line 41 of file main.c.

Referenced by anim_add(), ckb_frame(), and ckb_parameter().

13.35.3.6 float x

Definition at line 66 of file main.c.

Referenced by anim_add(), KeyMap::byPosition(), ckb_frame(), ckb_parameter(), ckb_start(), cmd_dpi(), drop_add(), GradientDialogWidget::fillRect(), main(), GradientDialog::makeIcon(), GradientDialogWidget::mousePressEvent(), os_mousemove(), GradientDialogWidget::paintEvent(), KeyWidget::paintEvent(), Kb::readNotify(), unz64local_getLong(), unz64local_getLong64(), unz64local_getShort(), GradientButton::updateImage(), zip64local_getLong(), zip64local_getLong64(), and zip64local_getShort().

13.35.3.7 double x_offset = 0

Definition at line 43 of file main.c.

Referenced by ckb_parameter(), and ckb_start().

13.35.3.8 float y

Definition at line 66 of file main.c.

Referenced by anim_add(), KeyMap::byPosition(), ckb_frame(), ckb_parameter(), ckb_start(), cmd_dpi(), drop_add(), GradientDialogWidget::fillRect(), main(), GradientDialog::makeIcon(), GradientDialogWidget::mousePressEvent(), os_mousemove(), GradientDialogWidget::paintEvent(), KeyWidget::paintEvent(), and Kb::readNotify().

13.35.3.9 double y_offset = 0

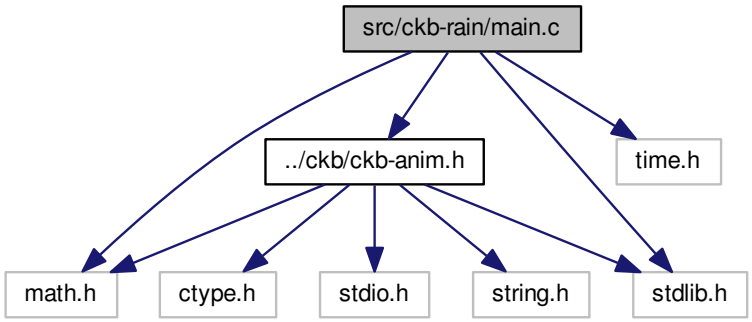
Definition at line 43 of file main.c.

Referenced by ckb_parameter(), and ckb_start().

13.36 src/ckb-rain/main.c File Reference

```
#include "../ckb/ckb-anim.h"
#include <math.h>
#include <stdlib.h>
#include <time.h>
```

Include dependency graph for main.c:



Macros

- #define DROP_MAX 1000

Functions

- void ckb_info ()
- void drop_add (float x, float y, int slow)
- void ckb_init (ckb_runctx *context)
- void ckb_parameter (ckb_runctx *context, const char *name, const char *value)
- void ckb_keypress (ckb_runctx *context, ckb_key *key, int x, int y, int state)
- void ckb_start (ckb_runctx *context, int state)
- void ckb_time (ckb_runctx *context, double delta)
- int ckb_frame (ckb_runctx *context)

Variables

- int spawn = 0
- double period = 0.1
- double maxsize = 100.
- double speed = 100.
- unsigned char ar = 255
- unsigned char ag = 255
- unsigned char ab = 255
- float aa = 1.
- struct {
  int **active**
  float **x**
  float **y**
  float **size**
  float **msize**
  } drop [1000]

- double tick = -1.

13.36.1 Macro Definition Documentation

13.36.1.1 #define DROP_MAX 1000

Definition at line 34 of file main.c.

Referenced by ckb_frame(), ckb_time(), and drop_add().

13.36.2 Function Documentation

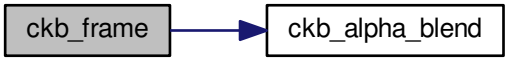
13.36.2.1 int ckb_frame (ckb_runctx * *context*)

Definition at line 120 of file main.c.

References aa, ab, ag, ar, ckb_alpha_blend(), CKB_KEYCLEAR, drop, DROP_MAX, ckb_runctx::keycount, and ckb_runctx::keys.

```
120                                 {
121     CKB_KEYCLEAR(context);
122     // Draw drops
123     for(unsigned i = 0; i < DROP_MAX; i++){
124         if(drop[i].active){
125             unsigned count = context->keycount;
126             ckb_key* keys = context->keys;
127             for(ckb_key* key = keys; key < keys + count; key++){
128                 // Calculate distance between key and drop, relative to the current drop size
129                 float distance = drop[i].size - sqrt(pow(key->x - drop[i].x, 2.f) + pow(
    key->y - drop[i].y, 2.f));
130                 // On the outside, cut the distance in half
131                 if(distance < 0.)
132                     distance = -distance / 2.;
133                 // Scale according to drop size (fade-out radius expands as the drop becomes larger)
134                 float scale = drop[i].size / 4.f;
135                 if(scale < 10.)
136                     scale = 10.;
137                 distance /= scale;
138                 if(distance <= 1.){
139                     // Scale alpha according to size divided by maximum size (drops fade out as they
     expand)
140                     float ascale = (1.f - drop[i].size / drop[i].msize);
141                     if(ascale > 1.f)
142                         ascale = 1.f;
143                     // Apply color
144                     ckb_alpha_blend(key, (1.f - distance) * ascale *
    aa * 255., ar, ag, ab);
145                 }
146             }
147         }
148     }
149     return 0;
150 }
```

Here is the call graph for this function:



13.36.2.2 void ckb_info ( )

Definition at line 6 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_POSITION, CKB_KPMODE, CKB_LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_DOUBLE, CKB_PARAM_LONG, CKB_PARAM_RGB, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_REPEAT, CKB_TIME_ABSOLUTE, CKB_TIMEMODE, CKB_VERSION, FALSE, and TRUE.

```
6               {
7     // Plugin info
8     CKB_NAME("Raindrop");
9     CKB_VERSION("0.10");
10     CKB_COPYRIGHT("2014-2016", "MSC");
11     CKB_LICENSE("GPLv2");
12     CKB_GUID("{5D6695AF-0496-41E2-BEE7-F7D0ABAA49E9}");
13     CKB_DESCRIPTION("A rain-like effect.");
14
15     // Effect parameters
16     CKB_PARAM_RGB("color", "Drop color:", "", 255, 255, 255);
17     CKB_PARAM_DOUBLE("intensity", "Intensity:", "%", 100, 0, 100);
18     CKB_PARAM_DOUBLE("size", "Size:", "%", 25, 1, 100);
19     CKB_PARAM_LONG("frequency", "Frequency:", "per second", 10, 1, 100);
20
21     // Timing/input parameters
22     CKB_KPMODE(CKB_KP_POSITION);
```

```
23      CKB_TIMEMODE(CKB_TIME_ABSOLUTE);
24      CKB_REPEAT(FALSE);
25      CKB_LIVEPARAMS(TRUE);
26
27      // Presets
28      CKB_PRESET_START("Default");
29      CKB_PRESET_PARAM("trigger", "1");
30      CKB_PRESET_PARAM("kptrigger", "1");
31      CKB_PRESET_END;
32  }
```

13.36.2.3 void ckb_init (ckb_runctx * *context*)

Definition at line 63 of file main.c.

```
63                                      {
64      srand(time(NULL));
65  }
```

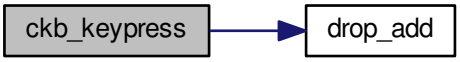
13.36.2.4 void ckb_keypress (ckb_runctx * *context*, ckb_key * *key*, int *x*, int *y*, int *state*)

Definition at line 86 of file main.c.

References drop_add().

```
86                                                                              {
87      // Add a drop on keypress
88      if(state)
89          drop_add(x, y, 0);
90  }
```

Here is the call graph for this function:



13.36.2.5 void ckb_parameter (ckb_runctx * *context*, const char * *name*, const char * *value*)

Definition at line 67 of file main.c.

References aa, ab, ag, ar, CKB_PARSE_BOOL, CKB_PARSE_DOUBLE, CKB_PARSE_LONG, CKB_PARSE_RGB, ckb_runctx::height, maxsize, period, spawn, speed, and ckb_runctx::width.

```
67                                                                              {
68      CKB_PARSE_RGB("color", &ar, &ag, &ab){}
69      double intensity, size;
70      long frequency;
71      CKB_PARSE_DOUBLE("intensity", &intensity){
72          aa = intensity / 100.;
73      }
74      CKB_PARSE_DOUBLE("size", &size){
75          double sizex = context->width / 2.;
76          double sizey = context->height / 2.;
77          maxsize = size / 100. * sqrt(sizex * sizex + sizey * sizey);
78          speed = maxsize;
79      }
```

```
80      CKB_PARSE_LONG("frequency", &frequency){
81          period = 1. / frequency;
82      }
83      CKB_PARSE_BOOL("trigger", &spawn){}
84  }
```

13.36.2.6 void ckb_start (ckb_runctx * *context*, int *state*)

Definition at line 94 of file main.c.

References tick.

```
94                                                  {
95      // Start or stop random spawning
96      tick = state ? 0. : -1.;
97  }
```

13.36.2.7 void ckb_time (ckb_runctx * *context*, double *delta*)

Definition at line 99 of file main.c.

References drop, drop_add(), DROP_MAX, ckb_runctx::height, period, spawn, speed, tick, and ckb_runctx::width.

```
99                                                    {
100     if(delta <= 0.)
101         return;
102     // Process existing drops
103     for(unsigned i = 0; i < DROP_MAX; i++){
104         if(drop[i].active){
105             drop[i].size += delta * speed;
106             if(drop[i].size > drop[i].msize)
107                 drop[i].active = 0;
108         }
109     }
110     if(tick >= 0.){
111         // Spawn a new randomly-placed drop, if the spawn time has passed
112         tick += delta;
113         if(tick > period && spawn){
114             drop_add(rand() / (double)RAND_MAX * context->width, rand() / (double)RAND_MAX *
      context->height, 1);
115             tick -= period;
116         }
117     }
118 }
```

Here is the call graph for this function:

13.36.2.8 void drop_add (float *x*, float *y*, int *slow*)

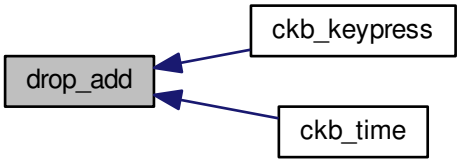
Definition at line 49 of file main.c.

References drop, DROP_MAX, maxsize, x, and y.

Referenced by ckb_keypress(), and ckb_time().

```
49                                          {
50     for(int i = 0; i < DROP_MAX; i++){
51         if(drop[i].active)
52             continue;
53         drop[i].active = 1;
54         drop[i].x = x;
55         drop[i].y = y;
56         float msize = maxsize * (0.9 + (rand() / (double)RAND_MAX * 0.2));
57         drop[i].size = -msize / 2. * slow;
58         drop[i].msize = msize;
59         return;
60     }
61 }
```

Here is the caller graph for this function:



13.36.3 Variable Documentation

13.36.3.1 float aa = 1.

Definition at line 41 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.36.3.2 unsigned char ab = 255

Definition at line 40 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.36.3.3 unsigned char ag = 255

Definition at line 40 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.36.3.4 unsigned char ar = 255

Definition at line 40 of file main.c.

Referenced by ckb_frame(), and ckb_parameter().

13.36.3.5 struct { ... } drop[1000]

Referenced by ckb_frame(), ckb_time(), and drop_add().

13.36.3.6 double maxsize = 100.

Definition at line 38 of file main.c.

Referenced by ckb_parameter(), ckb_time(), and drop_add().

13.36.3.7 double period = 0.1

Definition at line 37 of file main.c.

Referenced by ckb_parameter(), and ckb_time().

13.36.3.8 int spawn = 0

Definition at line 36 of file main.c.

Referenced by ckb_parameter(), and ckb_time().

13.36.3.9 double speed = 100.

Definition at line 39 of file main.c.

Referenced by ckb_parameter(), and ckb_time().

13.36.3.10 double tick = -1.

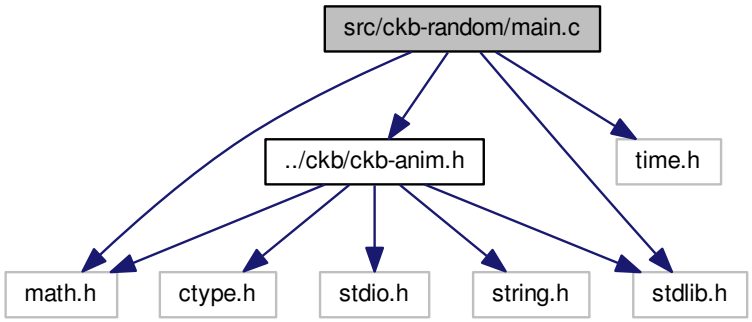
Definition at line 92 of file main.c.

Referenced by ckb_start(), and ckb_time().

13.37 src/ckb-random/main.c File Reference

```
#include "../ckb/ckb-anim.h"
#include <math.h>
#include <stdlib.h>
#include <time.h>
```

Include dependency graph for main.c:



Data Structures

- struct rgb

Functions

- void ckb_info ()
- void ckb_parameter (ckb_runctx *context, const char *name, const char *value)
- void ckb_keypress (ckb_runctx *context, ckb_key *key, int x, int y, int state)
- void newtarget (rgb *data, unsigned count)
- void ckb_init (ckb_runctx *context)
- void ckb_start (ckb_runctx *context, int state)
- void ckb_time (ckb_runctx *context, double delta)
- int ckb_frame (ckb_runctx *context)

Variables

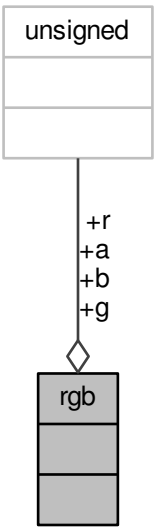
- int fadein = 0
- int useopacity = 0
- rgb * current = 0
- rgb * target = 0
- double phase = -1.

13.37.1 Data Structure Documentation

13.37.1.1 struct rgb

Definition at line 42 of file main.c.

Collaboration diagram for rgb:



Data Fields

unsigned char	a	
unsigned char	b	
unsigned char	g	
unsigned char	r	

13.37.2 Function Documentation

13.37.2.1 int ckb_frame (ckb_runctx * *context*)

Definition at line 109 of file main.c.

References ckb_key::a, ckb_key::b, CKB_KEYCLEAR, ckb_key::g, ckb_runctx::keycount, ckb_runctx::keys, phase, and ckb_key::r.

```
109                                 {
110     if(phase < 0.){
111         CKB_KEYCLEAR(context);
112         return 0;
113     }
114     ckb_key* keys = context->keys;
115     unsigned count = context->keycount;
116     for(unsigned i = 0; i < count; i++){
117         // Color each key according to the position between the last color set and the new color set
118         ckb_key* key = keys + i;
119         key->a = round(current[i].a * (1. - phase) + target[i].a *
    phase);
120         key->r = round(current[i].r * (1. - phase) + target[i].r *
    phase);
121         key->g = round(current[i].g * (1. - phase) + target[i].g *
    phase);
122         key->b = round(current[i].b * (1. - phase) + target[i].b *
    phase);
123     }
124     return 0;
125 }
```

13.37.2.2 void ckb_info ( )

Definition at line 6 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_NONE, CKB_KPMODE, CKB_LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_BOOL, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_REPEAT, CKB_TIME_DURATION, CKB_TIMEMODE, CKB_VERSION, FALSE, and TRUE.

```
6               {
7     // Plugin info
8     CKB_NAME("Random");
9     CKB_VERSION("0.9");
10     CKB_COPYRIGHT("2014-2016", "MSC");
11     CKB_LICENSE("GPLv2");
12     CKB_GUID("{22418DA4-A181-4B93-A4D3-03682BA283D2}");
13     CKB_DESCRIPTION("An effect that changes key colors randomly.");
14
15     // Effect parameters
16     CKB_PARAM_BOOL("fade", "Fade in", 0);
17     CKB_PARAM_BOOL("useopacity", "Randomize opacity", 0);
18
19     // Timing/input parameters
20     CKB_KPMODE(CKB_KP_NONE);
21     CKB_TIMEMODE(CKB_TIME_DURATION);
22     CKB_LIVEPARAMS(TRUE);
23     CKB_REPEAT(FALSE);
24
25     // Presets
26     CKB_PRESET_START("Default");
27     CKB_PRESET_PARAM("duration", "1.");
28     CKB_PRESET_END;
29 }
```

13.37.2.3 void ckb_init (ckb_runctx * *context*)

Definition at line 61 of file main.c.

References ckb_runctx::keycount.

```
61                                  {
62     unsigned count = context->keycount;
63     current = malloc(count * sizeof(rgb));
64     target = malloc(count * sizeof(rgb));
65     srand(time(NULL));
66 }
```

13.37.2.4 void ckb_keypress (ckb_runctx * *context,* ckb_key * *key,* int *x,* int *y,* int *state*)

Definition at line 38 of file main.c.

```
38                                                                          {
39     // Unused
40 }
```

13.37.2.5 void ckb_parameter (ckb_runctx * *context,* const char * *name,* const char * *value*)

Definition at line 33 of file main.c.

References CKB_PARSE_BOOL, fadein, and useopacity.

```
33                                                                          {
34     CKB_PARSE_BOOL("fade", &fadein) {}
35     CKB_PARSE_BOOL("useopacity", &useopacity) {}
36 }
```

13.37.2.6 void ckb_start (ckb_runctx * *context,* int *state*)

Definition at line 68 of file main.c.

References rgb::a, ckb_key::a, rgb::b, ckb_key::b, fadein, rgb::g, ckb_key::g, ckb_runctx::keycount, ckb_runctx::keys, newtarget(), phase, rgb::r, and ckb_key::r.

```
68                                          {
69     if(state == 0){
70         // Stop animation
71         phase = -1.;
72         return;
73     }
74     // Start animation
75     phase = 0.;
76     ckb_key* keys = context->keys;
77     unsigned count = context->keycount;
78     // Randomize starting colors and pick a random target
79     newtarget(current, count);
80     // Over the course of the animation, the keys fade between the current pattern and the target pattern
81     newtarget(target, count);
82     // Set all keys to current
83     for(unsigned i = 0; i < count; i++){
84         ckb_key* key = keys + i;
85         if(fadein)
86             current[i].a = 0;
87         key->a = current[i].a;
88         key->r = current[i].r;
89         key->g = current[i].g;
90         key->b = current[i].b;
91     }
92 }
```

Here is the call graph for this function:

13.37.2.7 void ckb_time (ckb_runctx * *context,* double *delta*)

Definition at line 94 of file main.c.

References current, ckb_runctx::keycount, newtarget(), phase, and target.

```
94                                                  {
95      if(phase < 0.)
96          return;
97      // Advance animation
98      phase += delta;
99      if(phase > 1.){
100         // If the animation is complete, pick a new target pattern and start again
101         phase -= 1.;
102         rgb* temp = target;
103         target = current;
104         current = temp;
105         newtarget(target, context->keycount);
106     }
107 }
```

Here is the call graph for this function:

13.37.2.8 void newtarget (rgb * *data,* unsigned *count*)

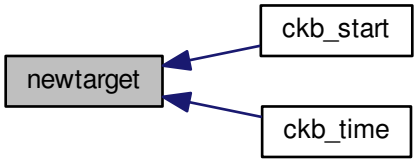
Definition at line 51 of file main.c.

References rgb::a, rgb::b, rgb::g, rgb::r, and useopacity.

Referenced by ckb_start(), and ckb_time().

```
51                                              {
52      for(unsigned i = 0; i < count; i++){
53          rgb* key = data + i;
54          key->a = useopacity ? rand() % 256 : 255;
55          key->r = rand() % 256;
56          key->g = rand() % 256;
57          key->b = rand() % 256;
58      }
59 }
```

Here is the caller graph for this function:



13.37.3 Variable Documentation

13.37.3.1 rgb* current = 0

Definition at line 46 of file main.c.

Referenced by CkbSettings::childGroups(), CkbSettings::childKeys(), ckb_time(), KbProfile::KbProfile(), Kb::load(), GradientDialog::on_presetDelete_clicked(), KbWidget::profileChanged(), KbProfileDialog::repopulate(), QuaZip::setCurrentFile(), and GradientDialog::setPreset().

13.37.3.2 int fadein = 0

Definition at line 31 of file main.c.

Referenced by ckb_parameter(), and ckb_start().

13.37.3.3 double phase = -1.

Definition at line 48 of file main.c.

Referenced by ckb_frame(), ckb_start(), ckb_time(), kiss_fft_alloc(), and kiss_fftr_alloc().

13.37.3.4 rgb* target = 0

Definition at line 47 of file main.c.

Referenced by ckb_time().

13.37.3.5 int useopacity = 0

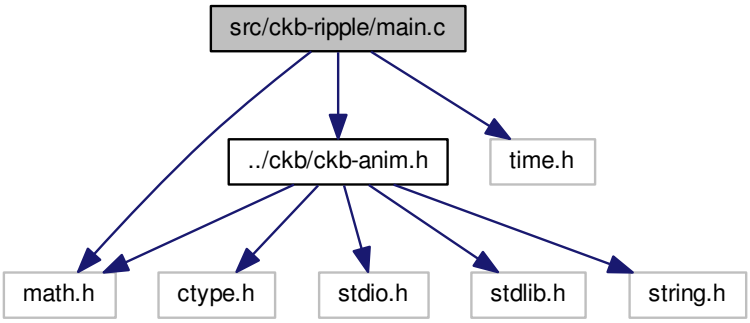
Definition at line 31 of file main.c.

Referenced by ckb_parameter(), and newtarget().

13.38 src/ckb-ripple/main.c File Reference

```
#include "../ckb/ckb-anim.h"
#include <math.h>
#include <time.h>
```

Include dependency graph for main.c:



Macros

- #define ANIM_MAX (144 ∗ 2)

Functions

- void ckb_info ()
- void ckb_init (ckb_runctx ∗context)
- void ckb_parameter (ckb_runctx ∗context, const char ∗name, const char ∗value)
- void anim_add (float x, float y, float width, float height)
- void anim_remove (float x, float y)
- void ckb_keypress (ckb_runctx ∗context, ckb_key ∗key, int x, int y, int state)
- void ckb_start (ckb_runctx ∗context, int state)
- void ckb_time (ckb_runctx ∗context, double delta)
- int ckb_frame (ckb_runctx ∗context)

Variables

- float kbsize = 0.f
- ckb_gradient animcolor = { 0 }
- int symmetric = 0
- int kprelease = 0
- int randomize = 0
- double animlength = 0.
- double x_offset = 0
- double y_offset = 0
- struct {
  int **active**
  float **x**
  float **y**
  float **maxsize**
  float **cursize**
  float **choice**
  } anim [(144 ∗2)] = { }

13.38.1 Macro Definition Documentation

13.38.1.1 #define ANIM_MAX (144 * 2)

Definition at line 75 of file main.c.

Referenced by anim_add(), anim_remove(), ckb_frame(), and ckb_time().

13.38.2 Function Documentation

13.38.2.1 void anim_add (float *x*, float *y*, float *width*, float *height*)

Definition at line 84 of file main.c.

References anim, ANIM_MAX, animlength, symmetric, x, and y.

```
84                                                          {
85     for(int i = 0; i < ANIM_MAX; i++){
86         if(anim[i].active)
87             continue;
88         anim[i].active = 1;
89         anim[i].x = x;
90         anim[i].y = y;
91         float sizex = fmax(x, width - x);
92         float sizey = fmax(y, height - y);
93         anim[i].maxsize = sqrt(sizex * sizex + sizey * sizey) + animlength;
94         anim[i].cursize = (symmetric) ? -animlength : 0;
95         anim[i].choice = (float)rand()/(float)(RAND_MAX);
96         return;
97     }
98 }
```

13.38.2.2 void anim_remove (float *x*, float *y*)

Definition at line 100 of file main.c.

References anim, and ANIM_MAX.

```
100                                    {
101     for(int i = 0; i < ANIM_MAX; i++){
102         if(anim[i].active && anim[i].x == x && anim[i].y == y)
103             anim[i].active = 0;
104     }
105 }
```

13.38.2.3 int ckb_frame (ckb_runctx * *context*)

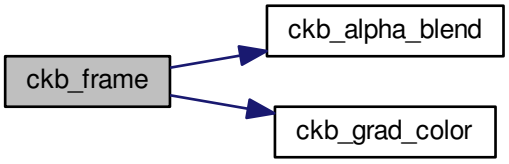
Definition at line 134 of file main.c.

References anim, ANIM_MAX, animlength, ckb_alpha_blend(), ckb_grad_color(), CKB_KEYCLEAR, ckb_runctx::keycount, ckb_runctx::keys, randomize, and symmetric.

```
134                                    {
135     CKB_KEYCLEAR(context);
136     // Draw rings
137     unsigned count = context->keycount;
138     ckb_key* keys = context->keys;
139     for(unsigned i = 0; i < ANIM_MAX; i++){
140         if(anim[i].active){
141             for(ckb_key* key = keys; key < keys + count; key++){
142                 // Calculate distance between this key and the ring
143                 float distance = anim[i].cursize - sqrt(pow(key->x - anim[i].x, 2.f) + pow(
      key->y - anim[i].y, 2.f));
144                 // Divide distance by ring size (use absolute distance if symmetric)
145                 distance /= animlength;
146                 if(symmetric)
147                     distance = fabs(distance);
148                 else if(distance >= -0.005f && distance < 0.f)
```

```
149                     // If not symmetric, round down values very close to zero
150                     distance = 0.f;
151                 if(distance > 1.f && distance <= 1.005f)
152                     // Round values close to 1
153                     distance = 1.f;
154
155                 // Blend color gradient according to position
156                 if(distance >= 0. && distance <= 1.f){
157                     float a, r, g, b;
158                     float gradChoice = randomize ? anim[i].choice : distance;
159                     ckb_grad_color(&a, &r, &g, &b, &animcolor, gradChoice * 100.);
160                     ckb_alpha_blend(key, a, r, g, b);
161                 }
162             }
163         }
164     }
165     return 0;
166 }
```

Here is the call graph for this function:



13.38.2.4 void ckb_info ( )

Definition at line 5 of file main.c.

References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_POSITION, CKB_KPMODE, CKB_-LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_AGRADIENT, CKB_PARAM_BOOL, CKB_PARAM_-DOUBLE, CKB_PREEMPT, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_TIME_-DURATION, CKB_TIMEMODE, CKB_VERSION, and TRUE.

```
5               {
6     // Plugin info
7     CKB_NAME("Ripple");
8     CKB_VERSION("0.10");
9     CKB_COPYRIGHT("2014-2016", "MSC");
10     CKB_LICENSE("GPLv2");
11     CKB_GUID("{097D69F0-70B2-48B8-AFE2-25A1CDB02C9D}");
12     CKB_DESCRIPTION("An expanding ring effect.");
13
14     // Effect parameters
15     CKB_PARAM_AGRADIENT("color", "Ripple color:", "", "ffffffff");
16     CKB_PARAM_DOUBLE("length", "Ring length:", "%", 100, 1, 100);
17     CKB_PARAM_DOUBLE("x_offset", "X offset:", "%", 0, -100, 100);
18     CKB_PARAM_DOUBLE("y_offset", "Y offset:", "%", 0, -100, 100);
19     CKB_PARAM_BOOL("symmetric", "Symmetric", 0);
20     CKB_PARAM_BOOL("randomize", "Randomly select from gradient", 0);
21
22     // Timing/input parameters
23     CKB_KPMODE(CKB_KP_POSITION);
24     CKB_TIMEMODE(CKB_TIME_DURATION);
25     CKB_LIVEPARAMS(TRUE);
26     CKB_PREEMPT(TRUE);
27
28     // Presets
29     CKB_PRESET_START("Shimmer");
30     CKB_PRESET_PARAM("duration", "2.0");
31     CKB_PRESET_PARAM("length", "50.0");
32     CKB_PRESET_PARAM("symmetric", "1");
```

```
33     CKB_PRESET_END;
34
35     CKB_PRESET_START("Rainbow");
36     CKB_PRESET_PARAM("color", "0:ffff0000 17:ffffff00 33:ff00ff00 50:ff00ffff 67:ff0000ff
       83:ffff00ff 100:ffff0000");
37     CKB_PRESET_PARAM("duration", "2.0");
38     CKB_PRESET_END;
39
40     CKB_PRESET_START("Type lighting");
41     CKB_PRESET_PARAM("duration", "1.0");
42     CKB_PRESET_PARAM("length", "25.0");
43     CKB_PRESET_PARAM("symmetric", "1");
44     CKB_PRESET_PARAM("trigger", "0");
45     CKB_PRESET_PARAM("kptrigger", "1");
46     CKB_PRESET_END;
47 }
```

13.38.2.5 void ckb_init (ckb_runctx * *context*)

Definition at line 55 of file main.c.

References ckb_runctx::height, kbsize, and ckb_runctx::width.

```
55                                  {
56     kbsize = sqrt(context->width * context->width / 4.f + context->
       height * context->height / 4.f);
57     srand((unsigned)time(NULL));
58 }
```

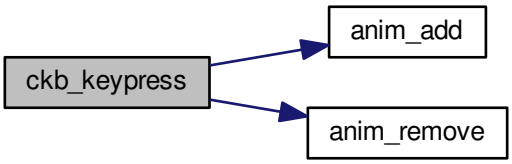
13.38.2.6 void ckb_keypress (ckb_runctx * *context,* ckb_key * *key,* int *x,* int *y,* int *state*)

Definition at line 107 of file main.c.

References anim_add(), anim_remove(), ckb_runctx::height, kprelease, and ckb_runctx::width.

```
107                                                                                 {
108     // Add or remove a ring on this key
109     if(state)
110         anim_add(x, y, context->width, context->height);
111     else if(kprelease)
112         anim_remove(x, y);
113 }
```

Here is the call graph for this function:



13.38.2.7 void ckb_parameter (ckb_runctx * *context,* const char * *name,* const char * *value*)

Definition at line 60 of file main.c.

References animlength, CKB_PARSE_AGRADIENT, CKB_PARSE_BOOL, CKB_PARSE_DOUBLE, ckb_runctx::height, kprelease, randomize, symmetric, ckb_runctx::width, x_offset, and y_offset.

```
60                                                                          {
61     CKB_PARSE_AGRADIENT("color", &animcolor){}
62     double len;
63     CKB_PARSE_DOUBLE("length", &len){
64         double sizex = context->width / 2.;
65         double sizey = context->height / 2.;
66         animlength = len / 100. * sqrt(sizex * sizex + sizey * sizey);
67     }
68     CKB_PARSE_BOOL("symmetric", &symmetric){}
69     CKB_PARSE_BOOL("kprelease", &kprelease){}
70     CKB_PARSE_BOOL("randomize", &randomize){}
71     CKB_PARSE_DOUBLE("x_offset", &x_offset) {}
72     CKB_PARSE_DOUBLE("y_offset", &y_offset) {}
73 }
```

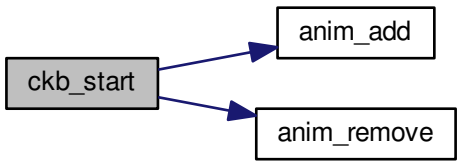
13.38.2.8 void ckb_start (ckb_runctx * *context*, int *state*)

Definition at line 115 of file main.c.

References anim_add(), anim_remove(), ckb_runctx::height, ckb_runctx::width, x_offset, and y_offset.

```
115                                             {
116     // Add or remove a ring in the center of the keyboard
117     if(state)
118         anim_add((context->width + (context->width * x_offset * 0.01)) / 2.f, (
      context->height - (context->height * y_offset * 0.01)) / 2.f, context->
      width, context->height);
119     else
120         anim_remove(context->width / 2.f, context->height / 2.f);
121 }
```

Here is the call graph for this function:



13.38.2.9 void ckb_time (ckb_runctx * *context*, double *delta*)

Definition at line 123 of file main.c.

References anim, ANIM_MAX, kbsize, and maxsize.

```
123                                             {
124     // Advance animation on all rings
125     for(unsigned i = 0; i < ANIM_MAX; i++){
126         if(anim[i].active){
127             anim[i].cursize += kbsize * delta;
128             if(anim[i].cursize > anim[i].maxsize)
129                 anim[i].active = 0;
130         }
131     }
132 }
```

13.38.3 Variable Documentation

13.38.3.1 struct { ... } anim[(144 * 2)]

13.38.3.2 ckb_gradient animcolor = { 0 }

Definition at line 50 of file main.c.

13.38.3.3 double animlength = 0.

Definition at line 52 of file main.c.

13.38.3.4 float kbsize = 0.f

Definition at line 49 of file main.c.

Referenced by ckb_init(), and ckb_time().

13.38.3.5 int kprelease = 0

Definition at line 51 of file main.c.

13.38.3.6 int randomize = 0

Definition at line 51 of file main.c.

13.38.3.7 int symmetric = 0

Definition at line 51 of file main.c.

13.38.3.8 double x_offset = 0

Definition at line 53 of file main.c.

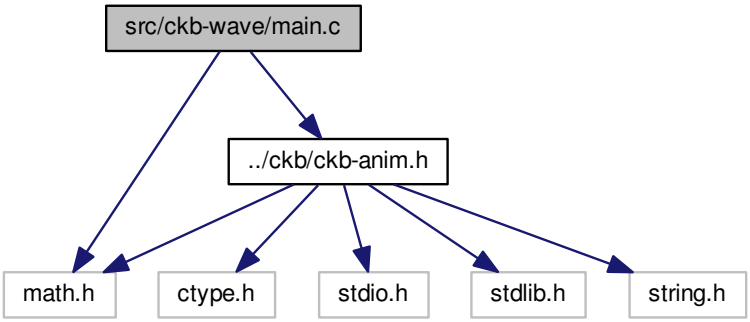
13.38.3.9 double y_offset = 0

Definition at line 53 of file main.c.

13.39 src/ckb-wave/main.c File Reference

```
#include "../ckb/ckb-anim.h"
#include <math.h>
```

Include dependency graph for main.c:



Macros

- #define ANIM_MAX (144 ∗ 2)

Functions

- void ckb_info ()
- void ckb_init (ckb_runctx ∗context)
- void ckb_parameter (ckb_runctx ∗context, const char ∗name, const char ∗value)
- void anim_add (float x, float y)
- void anim_remove (float x, float y)
- void ckb_keypress (ckb_runctx ∗context, ckb_key ∗key, int x, int y, int state)
- void ckb_start (ckb_runctx ∗context, int state)
- void ckb_time (ckb_runctx ∗context, double delta)
- int ckb_frame (ckb_runctx ∗context)

Variables

- ckb_gradient animcolor = { 0 }
- int symmetric = 0
- int kprelease = 0
- double angle = 0.
- double left = 0.
- double top = 0.
- double animlength = 0.
- double width = 0.
- struct {
  int **active**
  float **x**
  float **y**
  float **curx**
  } anim [(144 ∗2)] = { }

13.39.1 Macro Definition Documentation

13.39.1.1 #define ANIM_MAX (144 ∗ 2)

Definition at line 98 of file main.c.

Referenced by anim_add(), anim_remove(), ckb_frame(), and ckb_time().

13.39.2 Function Documentation

13.39.2.1 void anim_add (float *x*, float *y*)

Definition at line 105 of file main.c.

References anim, ANIM_MAX, animlength, symmetric, width, x, and y.

```
105                                {
106     for(int i = 0; i < ANIM_MAX; i++){
107         if(anim[i].active)
108             continue;
109         anim[i].active = 1;
110         anim[i].x = x;
111         anim[i].y = y;
112         anim[i].curx = symmetric ? -animlength * width : 0.f;
113         return;
114     }
115 }
```

13.39.2.2 void anim_remove (float *x*, float *y*)

Definition at line 117 of file main.c.

References anim, and ANIM_MAX.

```
117                                   {
118     for(int i = 0; i < ANIM_MAX; i++){
119         if(anim[i].active && anim[i].x == x && anim[i].y == y)
120             anim[i].active = 0;
121     }
122 }
```

13.39.2.3 int ckb_frame (ckb_runctx ∗ *context*)

Definition at line 152 of file main.c.

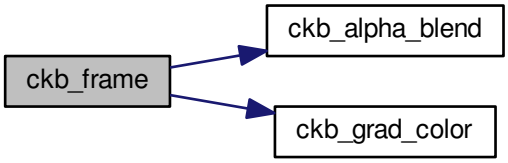
References angle, anim, ANIM_MAX, animlength, ckb_alpha_blend(), ckb_grad_color(), CKB_KEYCLEAR, ckb_runctx::keycount, ckb_runctx::keys, symmetric, width, x, and y.

Referenced by main().

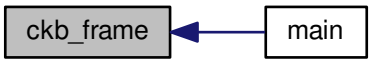
```
152                                   {
153     CKB_KEYCLEAR(context);
154     // Draw keys
155     double length = animlength * width;
156     unsigned count = context->keycount;
157     ckb_key* keys = context->keys;
158     for(unsigned i = 0; i < ANIM_MAX; i++){
159         if(anim[i].active){
160             for(ckb_key* key = keys; key < keys + count; key++){
161                 // Translate and rotate the key position into the animation's coordinate system
162                 float x = key->x - anim[i].x, y = key->y - anim[i].y;
163                 // Distance is the current X minus the key's X
164                 float distance = anim[i].curx - (x * cos(angle) - y * sin(
    angle));
165                 distance /= length;
166                 // If symmetric, use absolute distance
167                 if(symmetric)
168                     distance = fabs(distance);
```

```
169                 else if(distance >= -0.005f && distance < 0.f)
170                     // If not symmetric, round values close to 0
171                     distance = 0.f;
172                 if(distance > 1.f && distance <= 1.005f)
173                     // Round values close to 1
174                     distance = 1.f;
175                 // Pick gradient position based on distance
176                 if(distance <= 1.f && distance >= 0.){
177                     float a, r, g, b;
178                     ckb_grad_color(&a, &r, &g, &b, &animcolor, distance * 100.);
179                     ckb_alpha_blend(key, a, r, g, b);
180                 }
181             }
182         }
183     }
184     return 0;
185 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.39.2.4 void ckb_info ( )

Definition at line 4 of file main.c.

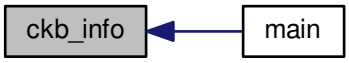
References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_POSITION, CKB_KPMODE, CKB_-LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_AGRADIENT, CKB_PARAM_ANGLE, CKB_PARAM-_BOOL, CKB_PARAM_DOUBLE, CKB_PREEMPT, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESE-T_START, CKB_TIME_DURATION, CKB_TIMEMODE, CKB_VERSION, and TRUE.

Referenced by main().

```
4               {
5     // Plugin info
6     CKB_NAME("Wave");
7     CKB_VERSION("0.10");
8     CKB_COPYRIGHT("2014-2016", "MSC");
9     CKB_LICENSE("GPLv2");
10     CKB_GUID("{E0BBA19E-C328-4C0E-8E3C-A06D5722B4FC}");
11     CKB_DESCRIPTION("A moving wave effect.");
```

```
12
13      // Effect parameters
14      CKB_PARAM_ANGLE("angle", "Angle:", "", 90);
15      CKB_PARAM_AGRADIENT("color", "Wave color:", "", "ffffffff");
16      CKB_PARAM_DOUBLE("length", "Wave length:", "%", 100, 1., 100.);
17      CKB_PARAM_BOOL("symmetric", "Symmetric", 0);
18
19      // Timing/input parameters
20      CKB_KPMODE(CKB_KP_POSITION);
21      CKB_TIMEMODE(CKB_TIME_DURATION);
22      CKB_LIVEPARAMS(TRUE);
23      CKB_PREEMPT(TRUE);
24
25      // Presets
26      CKB_PRESET_START("Shimmer");
27      CKB_PRESET_PARAM("duration", "2.0");
28      CKB_PRESET_PARAM("length", "50.0");
29      CKB_PRESET_PARAM("symmetric", "1");
30      CKB_PRESET_END;
31
32      CKB_PRESET_START("Rainbow");
33      CKB_PRESET_PARAM("color", "0:ffff0000 17:ffffff00 33:ff00ff00 50:ff00ffff 67:ff0000ff
        83:ffff00ff 100:ffff0000");
34      CKB_PRESET_PARAM("duration", "2.0");
35      CKB_PRESET_END;
36
37      CKB_PRESET_START("Vertical rainbow");
38      CKB_PRESET_PARAM("color", "0:ffff0000 17:ffffff00 33:ff00ff00 50:ff00ffff 67:ff0000ff
        83:ffff00ff 100:ffff0000");
39      CKB_PRESET_PARAM("duration", "2.0");
40      CKB_PRESET_PARAM("angle", "180");
41      CKB_PRESET_END;
42  }
```

Here is the caller graph for this function:



13.39.2.5 void ckb_init (ckb_runctx * *context*)

Definition at line 44 of file main.c.

Referenced by main().

```
44                                  {
45      // Nothing to do
46  }
```

Here is the caller graph for this function:

13.39.2.6 void ckb_keypress (ckb_runctx * *context*, ckb_key * *key*, int *x*, int *y*, int *state*)

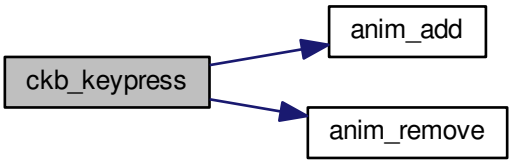
Definition at line 124 of file main.c.

References anim_add(), and anim_remove().

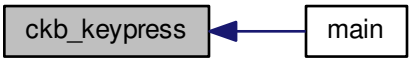
Referenced by main().

```
124                                                                                 {
125     // Start or stop animation on a key
126     if(state)
127         anim_add(x, y);
128     else
129         anim_remove(x, y);
130 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.39.2.7 void ckb_parameter (ckb_runctx * *context*, const char * *name*, const char * *value*)

Definition at line 54 of file main.c.

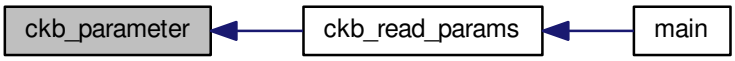
References angle, animlength, CKB_PARSE_AGRADIENT, CKB_PARSE_ANGLE, CKB_PARSE_BOOL, CKB_PARSE_DOUBLE, CKB_REAL_ANGLE, ckb_runctx::height, kprelease, left, symmetric, top, width, ckb_runctx::width, x, and y.

Referenced by ckb_read_params().

```
54                                                                                  {
55     CKB_PARSE_AGRADIENT("color", &animcolor){}
56     double len;
57     CKB_PARSE_DOUBLE("length", &len){
58         animlength = len / 100.;
59     }
60     CKB_PARSE_BOOL("symmetric", &symmetric){}
61     CKB_PARSE_BOOL("kprelease", &kprelease){}
62     long _angle;
```

```
63      CKB_PARSE_ANGLE("angle", &_angle){
64          angle = CKB_REAL_ANGLE(_angle);
65          // Get each of the four corners of the keyboard, relative to the center
66          double wOver2 = context->width / 2., hOver2 = context->height / 2.;
67          double x[4] = {
68              -wOver2, wOver2,
69              -wOver2, wOver2
70          };
71          double y[4] = {
72              -hOver2, -hOver2,
73              hOver2, hOver2
74          };
75          // Rotate them in the direction that the animation will travel
76          for(int i = 0; i < 4; i++){
77              double x2 = x[i] * cos(angle) - y[i] * sin(angle);
78              y[i] = x[i] * sin(angle) + y[i] * cos(angle);
79              x[i] = x2;
80          }
81          // Determine the leftmost and rightmost points
82          double min_x = INFINITY, max_x = -INFINITY;
83          for(int i = 0; i < 4; i++){
84              if(x[i] < min_x)
85                  min_x = x[i];
86              if(x[i] > max_x)
87                  max_x = x[i];
88          }
89          // The leftmost point is where the animation will begin when started with the mode,
90          // and the difference between the two is the animation width.
91          // Animations always travel left to right in their own coordinate system.
92          left = min_x * cos(-angle) + wOver2;
93          top = min_x * sin(-angle) + hOver2;
94          width = max_x - min_x;
95      }
96  }
```

Here is the caller graph for this function:



13.39.2.8 void ckb_start (ckb_runctx * *context*, int *state*)

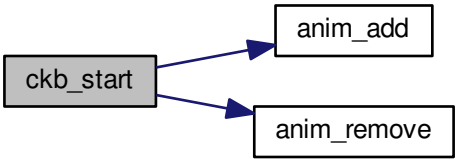
Definition at line 132 of file main.c.

References anim_add(), anim_remove(), kprelease, left, and top.

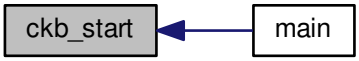
Referenced by main().

```
132                                             {
133      // Start or stop animation on the edge of the keyboard
134      if(state)
135          anim_add(left, top);
136      else if(kprelease)
137          anim_remove(left, top);
138  }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.39.2.9 void ckb_time (ckb_runctx * *context*, double *delta*)

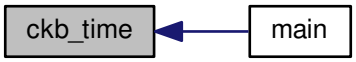
Definition at line 140 of file main.c.

References anim, ANIM_MAX, animlength, and width.

Referenced by main().

```
140                                                 {
141     // Advance all waves, remove them if they pass the edge
142     double length = animlength * width;
143     for(unsigned i = 0; i < ANIM_MAX; i++){
144         if(anim[i].active){
145             anim[i].curx += width * delta;
146             if(anim[i].curx > width + length)
147                 anim[i].active = 0;
148         }
149     }
150 }
```

Here is the caller graph for this function:



13.39.3 Variable Documentation

13.39.3.1 double angle = 0.

Definition at line 50 of file main.c.

Referenced by angleFlip(), ckb_frame(), and ckb_parameter().

13.39.3.2 struct { ... } anim[(144 * 2)]

13.39.3.3 ckb_gradient animcolor = { 0 }

Definition at line 48 of file main.c.

13.39.3.4 double animlength = 0.

Definition at line 52 of file main.c.

13.39.3.5 int kprelease = 0

Definition at line 49 of file main.c.

13.39.3.6 double left = 0.

Definition at line 51 of file main.c.

Referenced by _cmd_macro(), ckb_parameter(), ckb_start(), cmd_dpi(), GradientDialogWidget::mouseMoveEvent(), readcmd(), and right().

13.39.3.7 int symmetric = 0

Definition at line 49 of file main.c.

13.39.3.8 double top = 0.

Definition at line 51 of file main.c.

Referenced by ckb_parameter(), ckb_start(), and GradientDialogWidget::mouseMoveEvent().

13.39.3.9 double width = 0.

Definition at line 52 of file main.c.

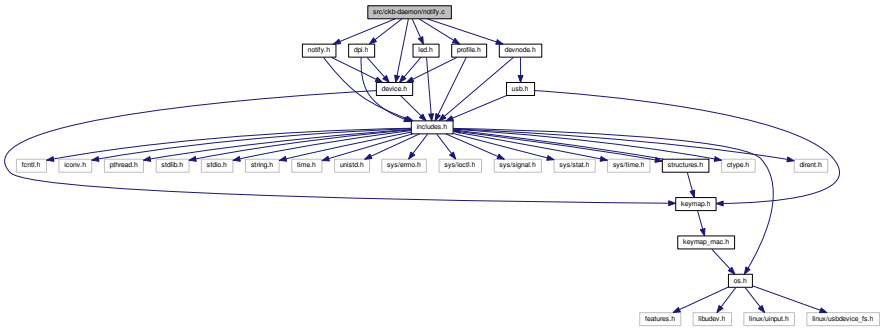
Referenced by anim_add(), ckb_frame(), ckb_parameter(), ckb_time(), KeyWidget::drawInfo(), GradientDialogWidget::fillRect(), KeyWidget::map(), and KeyWidget::paintEvent().

13.40 src/ckb-daemon/notify.c File Reference

```
#include "device.h"
```

```
#include "devnode.h"
#include "dpi.h"
#include "led.h"
#include "notify.h"
#include "profile.h"
```

Include dependency graph for notify.c:



Macros

- #define HWMODE_OR_RETURN(kb, index)
- #define HW_STANDARD

Functions

- void nprintf (usbdevice *kb, int nodenumber, usbmode *mode, const char *format,...)
- void nprintkey (usbdevice *kb, int nnumber, int keyindex, int down)
- void nprintind (usbdevice *kb, int nnumber, int led, int on)
- void cmd_notify (usbdevice *kb, usbmode *mode, int nnumber, int keyindex, const char *toggle)
- static void _cmd_get (usbdevice *kb, usbmode *mode, int nnumber, const char *setting)
- void cmd_get (usbdevice *kb, usbmode *mode, int nnumber, int dummy, const char *setting)
- int restart ()
- void cmd_restart (usbdevice *kb, usbmode *mode, int nnumber, int dummy, const char *content)

13.40.1 Macro Definition Documentation

13.40.1.1 #define HW_STANDARD

Value:

```
if(!kb->hw)                                     \
        return;                                 \
    unsigned index = INDEX_OF(mode, profile->mode); \
    /* Make sure the mode number is valid */    \
    HWMODE_OR_RETURN(kb, index)
```

Definition at line 83 of file notify.c.

Referenced by _cmd_get().

13.40.1.2 #define HWMODE_OR_RETURN(*kb, index*)

Value:

```
if(IS_K95(kb)){                 \
        if((index) >= HWMODE_K95)   \
            return;                 \
    } else {                        \
        if((index) >= HWMODE_K70)   \
            return;                 \
    }
```

Definition at line 73 of file notify.c.

13.40.2 Function Documentation

13.40.2.1 static void _cmd_get (usbdevice * *kb,* usbmode * *mode,* int *nnumber,* const char * *setting*) [static]

Definition at line 90 of file notify.c.

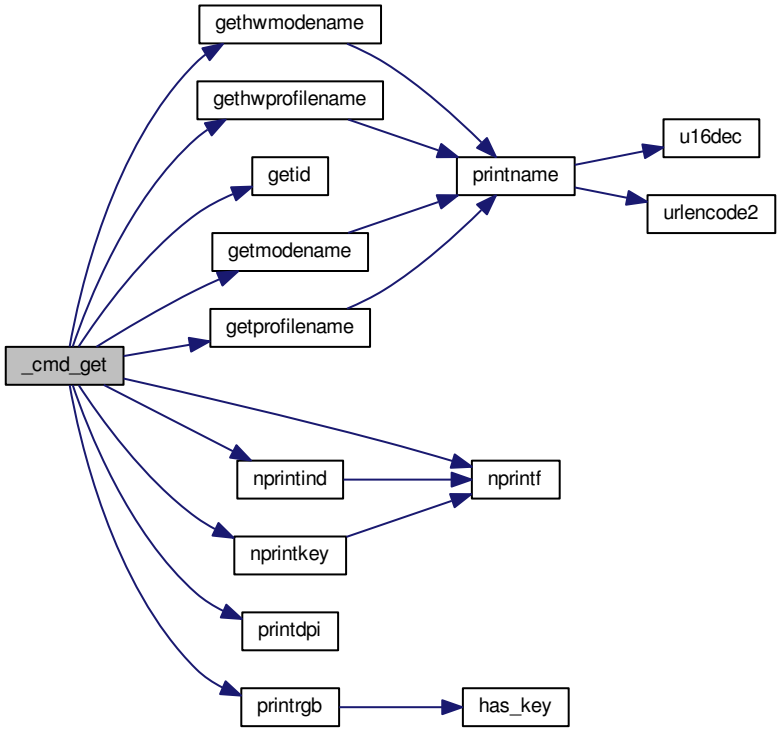
References dpiset::current, usbmode::dpi, hwprofile::dpi, gethwmodename(), gethwprofilename(), getid(), getmodename(), getprofilename(), usbdevice::hw, usbdevice::hw_ileds, HW_STANDARD, I_CAPS, I_NUM, I_SCROLL, usbmode::id, usbprofile::id, hwprofile::id, usbdevice::input, keymap, usbinput::keys, dpiset::lift, usbmode::light, hwprofile::light, usbid::modified, N_KEYS_INPUT, nprintf(), nprintind(), nprintkey(), printdpi(), printrgb(), usbdevice::profile, and dpiset::snap.

Referenced by cmd_get().

```
90                                                                                  {
91      usbprofile* profile = kb->profile;
92      if(!strcmp(setting, ":mode")){
93          // Get the current mode number
94          nprintf(kb, nnumber, mode, "switch\n");
95          return;
96      } else if(!strcmp(setting, ":rgb")){
97          // Get the current RGB settings
98          char* rgb = printrgb(&mode->light, kb);
99          nprintf(kb, nnumber, mode, "rgb %s\n", rgb);
100         free(rgb);
101         return;
102     } else if(!strcmp(setting, ":hwrgb")){
103         // Get the current hardware RGB settings
104         HW_STANDARD;
105         char* rgb = printrgb(kb->hw->light + index, kb);
106         nprintf(kb, nnumber, mode, "hwrgb %s\n", rgb);
107         free(rgb);
108         return;
109     } else if(!strcmp(setting, ":profilename")){
110         // Get the current profile name
111         char* name = getprofilename(profile);
112         nprintf(kb, nnumber, 0, "profilename %s\n", name[0] ? name : "Unnamed");
113         free(name);
114     } else if(!strcmp(setting, ":name")){
115         // Get the current mode name
116         char* name = getmodename(mode);
117         nprintf(kb, nnumber, mode, "name %s\n", name[0] ? name : "Unnamed");
118         free(name);
119     } else if(!strcmp(setting, ":hwprofilename")){
120         // Get the current hardware profile name
121         if(!kb->hw)
122             return;
123         char* name = gethwprofilename(kb->hw);
124         nprintf(kb, nnumber, 0, "hwprofilename %s\n", name[0] ? name : "Unnamed");
125         free(name);
126     } else if(!strcmp(setting, ":hwname")){
127         // Get the current hardware mode name
128         HW_STANDARD;
129         char* name = gethwmodename(kb->hw, index);
130         nprintf(kb, nnumber, mode, "hwname %s\n", name[0] ? name : "Unnamed");
131         free(name);
132     } else if(!strcmp(setting, ":profileid")){
133         // Get the current profile ID
134         char* guid = getid(&profile->id);
135         int modified;
136         memcpy(&modified, &profile->id.modified, sizeof(modified));
137         nprintf(kb, nnumber, 0, "profileid %s %x\n", guid, modified);
```

```
138         free(guid);
139     } else if(!strcmp(setting, ":id")){
140         // Get the current mode ID
141         char* guid = getid(&mode->id);
142         int modified;
143         memcpy(&modified, &mode->id.modified, sizeof(modified));
144         nprintf(kb, nnumber, mode, "id %s %x\n", guid, modified);
145         free(guid);
146     } else if(!strcmp(setting, ":hwprofileid")){
147         // Get the current hardware profile ID
148         if(!kb->hw)
149             return;
150         char* guid = getid(&kb->hw->id[0]);
151         int modified;
152         memcpy(&modified, &kb->hw->id[0].modified, sizeof(modified));
153         nprintf(kb, nnumber, 0, "hwprofileid %s %x\n", guid, modified);
154         free(guid);
155     } else if(!strcmp(setting, ":hwid")){
156         // Get the current hardware mode ID
157         HW_STANDARD;
158         char* guid = getid(&kb->hw->id[index + 1]);
159         int modified;
160         memcpy(&modified, &kb->hw->id[index + 1].modified, sizeof(modified));
161         nprintf(kb, nnumber, mode, "hwid %s %x\n", guid, modified);
162         free(guid);
163     } else if(!strcmp(setting, ":keys")){
164         // Get the current state of all keys
165         for(int i = 0; i < N_KEYS_INPUT; i++){
166             if(!keymap[i].name)
167                 continue;
168             int byte = i / 8, bit = 1 << (i & 7);
169             uchar state = kb->input.keys[byte] & bit;
170             if(state)
171                 nprintkey(kb, nnumber, i, 1);
172         }
173     } else if(!strcmp(setting, ":i")){
174         // Get the current state of all indicator LEDs
175         if(kb->hw_ileds & I_NUM) nprintind(kb, nnumber,
    I_NUM, 1);
176         if(kb->hw_ileds & I_CAPS) nprintind(kb, nnumber,
    I_CAPS, 1);
177         if(kb->hw_ileds & I_SCROLL) nprintind(kb, nnumber,
    I_SCROLL, 1);
178     } else if(!strcmp(setting, ":dpi")){
179         // Get the current DPI levels
180         char* dpi = printdpi(&mode->dpi, kb);
181         nprintf(kb, nnumber, mode, "dpi %s\n", dpi);
182         free(dpi);
183         return;
184     } else if(!strcmp(setting, ":hwdpi")){
185         // Get the current hardware DPI levels
186         HW_STANDARD;
187         char* dpi = printdpi(kb->hw->dpi + index, kb);
188         nprintf(kb, nnumber, mode, "hwdpi %s\n", dpi);
189         free(dpi);
190         return;
191     } else if(!strcmp(setting, ":dpisel")){
192         // Get the currently-selected DPI
193         nprintf(kb, nnumber, mode, "dpisel %d\n", mode->dpi.current);
194     } else if(!strcmp(setting, ":hwdpisel")){
195         // Get the currently-selected hardware DPI
196         HW_STANDARD;
197         nprintf(kb, nnumber, mode, "hwdpisel %d\n", kb->hw->dpi[index].
    current);
198     } else if(!strcmp(setting, ":lift")){
199         // Get the mouse lift height
200         nprintf(kb, nnumber, mode, "lift %d\n", mode->dpi.lift);
201     } else if(!strcmp(setting, ":hwlift")){
202         // Get the hardware lift height
203         HW_STANDARD;
204         nprintf(kb, nnumber, mode, "hwlift %d\n", kb->hw->dpi[index].
    lift);
205     } else if(!strcmp(setting, ":snap")){
206         // Get the angle snap status
207         nprintf(kb, nnumber, mode, "snap %s\n", mode->dpi.snap ? "on" : "off");
208     } else if(!strcmp(setting, ":hwsnap")){
209         // Get the hardware angle snap status
210         HW_STANDARD;
211         nprintf(kb, nnumber, mode, "hwsnap %s\n", kb->hw->dpi[index].
    snap ? "on" : "off");
212     }
213 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

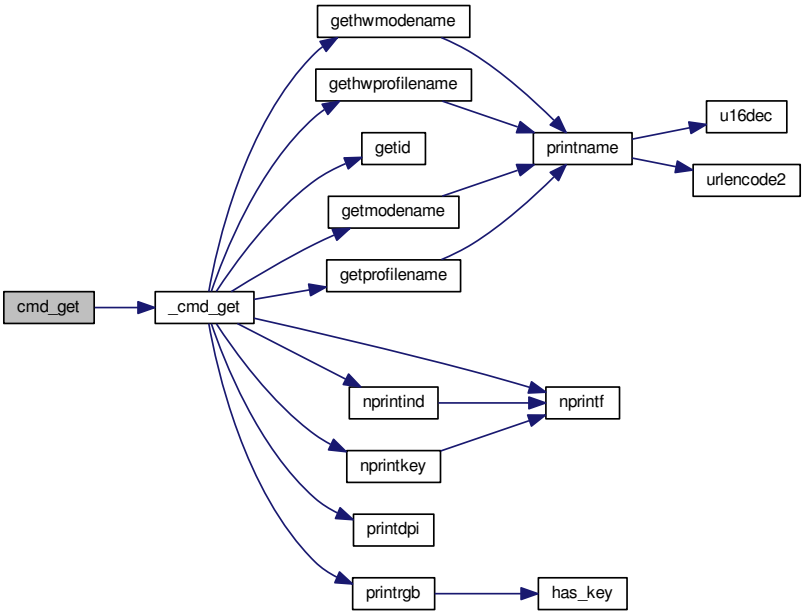
13.40.2.2 void cmd_get (usbdevice * *kb*, usbmode * *mode*, int *nnumber*, int *dummy*, const char * *setting*)

Definition at line 215 of file notify.c.

References _cmd_get(), and imutex.

```
215                                                                                 {
216     pthread_mutex_lock(imutex(kb));
217     _cmd_get(kb, mode, nnumber, setting);
218     pthread_mutex_unlock(imutex(kb));
219 }
```

Here is the call graph for this function:



13.40.2.3 void cmd_notify (usbdevice * *kb*, usbmode * *mode*, int *nnumber*, int *keyindex*, const char * *toggle*)

Definition at line 61 of file notify.c.

References CLEAR_KEYBIT, imutex, N_KEYS_INPUT, usbmode::notify, and SET_KEYBIT.

```
61                                                                                                  {
62     if(keyindex >= N_KEYS_INPUT)
63         return;
64     pthread_mutex_lock(imutex(kb));
65     if(!strcmp(toggle, "on") || *toggle == 0)
66         SET_KEYBIT(mode->notify[nnumber], keyindex);
67     else if(!strcmp(toggle, "off"))
68         CLEAR_KEYBIT(mode->notify[nnumber], keyindex);
69     pthread_mutex_unlock(imutex(kb));
70 }
```

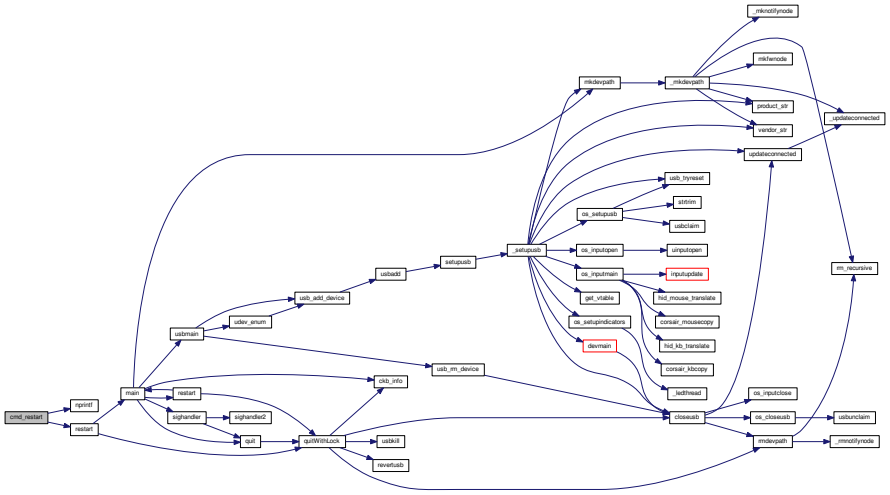
13.40.2.4 void cmd_restart (usbdevice * *kb*, usbmode * *mode*, int *nnumber*, int *dummy*, const char * *content*)

Definition at line 223 of file notify.c.

References ckb_info, nprintf(), and restart().

```
223                                                                                                 {
224     ckb_info("RESTART called with %s\n", content);
225     nprintf(kb, -1, 0, "RESTART called with %s\n", content);
226     restart();
227 }
```

Here is the call graph for this function:



13.40.2.5 void nprintf (usbdevice * *kb*, int *nodenumber*, usbmode * *mode*, const char * *format*, ...)

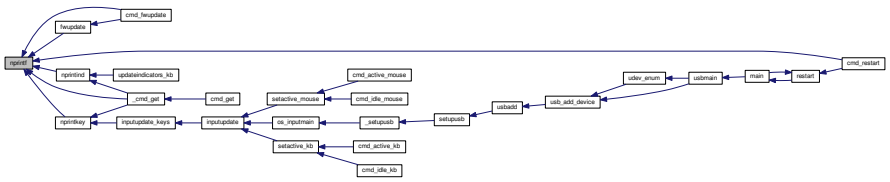
Definition at line 8 of file notify.c.

References INDEX_OF, usbprofile::mode, usbdevice::outfifo, OUTFIFO_MAX, and usbdevice::profile.

Referenced by _cmd_get(), cmd_fwupdate(), cmd_restart(), fwupdate(), nprintind(), and nprintkey().

```
8                                                                                   {
9       if(!kb)
10          return;
11      usbprofile* profile = kb->profile;
12      va_list va_args;
13      int fifo;
14      if(nodenumber >= 0){
15          // If node number was given, print to that node (if open)
16          if((fifo = kb->outfifo[nodenumber] - 1) != -1){
17              va_start(va_args, format);
18              if(mode)
19                  dprintf(fifo, "mode %d ", INDEX_OF(mode, profile->mode) + 1);
20              vdprintf(fifo, format, va_args);
21          }
22          return;
23      }
24      // Otherwise, print to all nodes
25      for(int i = 0; i < OUTFIFO_MAX; i++){
26          if((fifo = kb->outfifo[i] - 1) != -1){
27              va_start(va_args, format);
28              if(mode)
29                  dprintf(fifo, "mode %d ", INDEX_OF(mode, profile->mode) + 1);
30              vdprintf(fifo, format, va_args);
31          }
32      }
33  }
```

Here is the caller graph for this function:



13.40.2.6 void nprintind (usbdevice * kb, int nnumber, int led, int on)

Definition at line 43 of file notify.c.

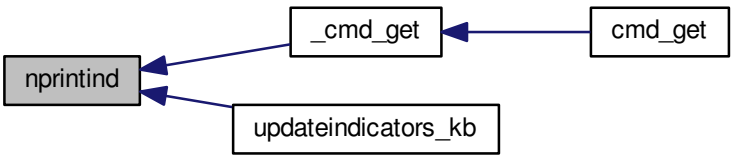
References I_CAPS, I_NUM, I_SCROLL, and nprintf().

Referenced by _cmd_get(), and updateindicators_kb().

```
43                                                          {
44     const char* name = 0;
45     switch(led){
46     case I_NUM:
47         name = "num";
48         break;
49     case I_CAPS:
50         name = "caps";
51         break;
52     case I_SCROLL:
53         name = "scroll";
54         break;
55     default:
56         return;
57     }
58     nprintf(kb, nnumber, 0, "i %c%s\n", on ? '+' : '-', name);
59 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.40.2.7 void nprintkey (usbdevice * kb, int nnumber, int keyindex, int down)

Definition at line 35 of file notify.c.

References keymap, key::name, and nprintf().

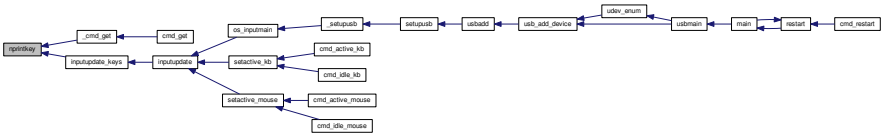
Referenced by _cmd_get(), and inputupdate_keys().

```
35                                                                  {
36     const key* map = keymap + keyindex;
37     if(map->name)
```

```
38         nprintf(kb, nnumber, 0, "key %c%s\n", down ? '+' : '-', map->name);
39     else
40         nprintf(kb, nnumber, 0, "key %c#%d\n", down ? '+' : '-', keyindex);
41 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.40.2.8 int restart ( )

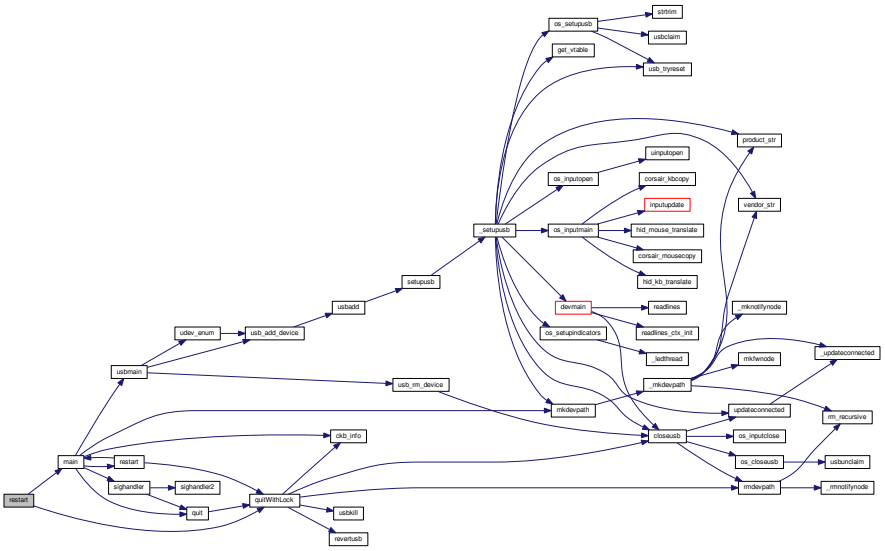
Definition at line 228 of file main.c.

References ckb_err, main(), main_ac, main_av, and quitWithLock().

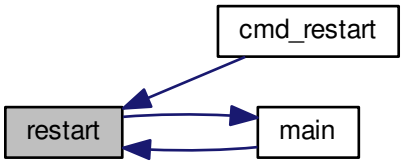
Referenced by cmd_restart(), and main().

```
228             {
229     ckb_err("restart called, running quit without mutex-lock.\n");
230     quitWithLock(0);
231     return main(main_ac, main_av);
232 }
```

Here is the call graph for this function:



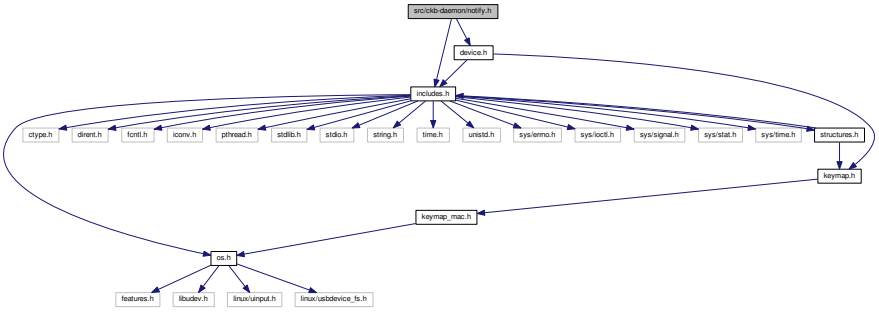
Here is the caller graph for this function:



13.41 src/ckb-daemon/notify.h File Reference

```
#include "includes.h"
#include "device.h"
```

Include dependency graph for notify.h:



This graph shows which files directly or indirectly include this file:

Functions

- void nprintf (usbdevice *kb, int nodenumber, usbmode *mode, const char *format,...)
- void nprintkey (usbdevice *kb, int nnumber, int keyindex, int down)
- void nprintind (usbdevice *kb, int nnumber, int led, int on)
- void cmd_notify (usbdevice *kb, usbmode *mode, int nnumber, int keyindex, const char *toggle)
- void cmd_get (usbdevice *kb, usbmode *mode, int nnumber, int dummy, const char *setting)
- void cmd_restart (usbdevice *kb, usbmode *mode, int nnumber, int dummy, const char *content)

13.41.1 Function Documentation

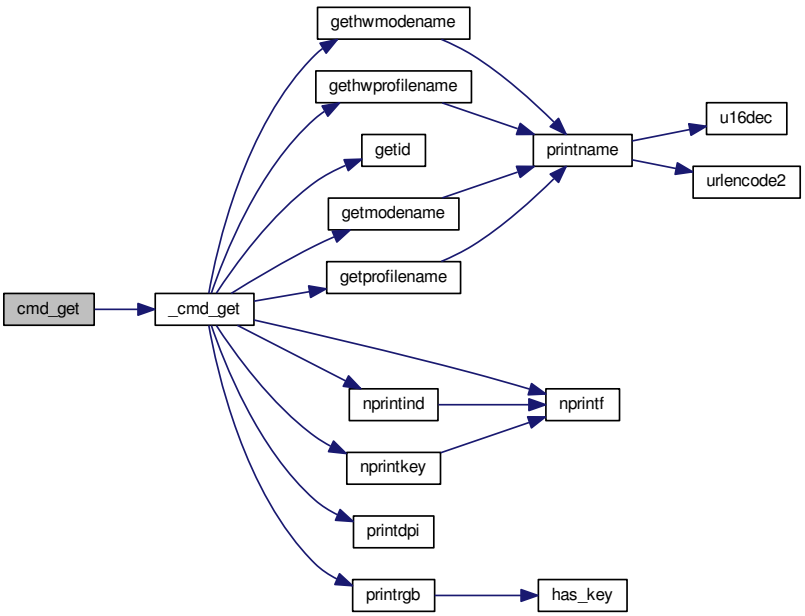
13.41.1.1 void cmd_get (usbdevice * *kb*, usbmode * *mode*, int *nnumber*, int *dummy*, const char * *setting*)

Definition at line 215 of file notify.c.

References _cmd_get(), and imutex.

```
215                                                                                                 {
216     pthread_mutex_lock(imutex(kb));
217     _cmd_get(kb, mode, nnumber, setting);
218     pthread_mutex_unlock(imutex(kb));
219 }
```

Here is the call graph for this function:



13.41.1.2 void cmd_notify (usbdevice * kb, usbmode * mode, int nnumber, int keyindex, const char * toggle)

Definition at line 61 of file notify.c.

References CLEAR_KEYBIT, imutex, N_KEYS_INPUT, usbmode::notify, and SET_KEYBIT.

```
61                                                                                                  {
62     if(keyindex >= N_KEYS_INPUT)
63         return;
64     pthread_mutex_lock(imutex(kb));
65     if(!strcmp(toggle, "on") || *toggle == 0)
66         SET_KEYBIT(mode->notify[nnumber], keyindex);
67     else if(!strcmp(toggle, "off"))
68         CLEAR_KEYBIT(mode->notify[nnumber], keyindex);
69     pthread_mutex_unlock(imutex(kb));
70 }
```

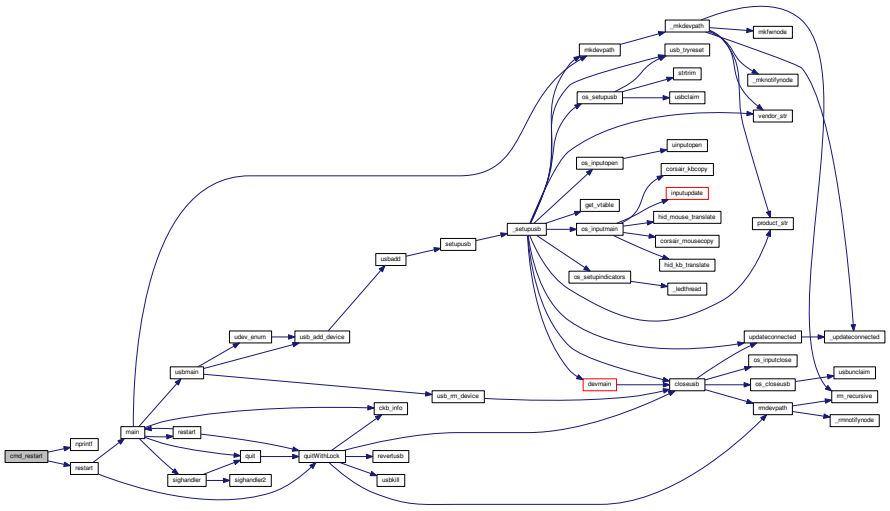
13.41.1.3 void cmd_restart (usbdevice * kb, usbmode * mode, int nnumber, int dummy, const char * content)

Definition at line 223 of file notify.c.

References ckb_info, nprintf(), and restart().

```
223                                                                                                 {
224     ckb_info("RESTART called with %s\n", content);
225     nprintf(kb, -1, 0, "RESTART called with %s\n", content);
226     restart();
227 }
```

Here is the call graph for this function:



13.41.1.4 void nprintf (usbdevice * kb, int nodenumber, usbmode * mode, const char * format, ...)

Definition at line 8 of file notify.c.

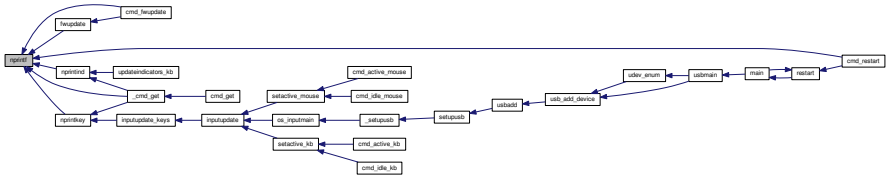
References INDEX_OF, usbprofile::mode, usbdevice::outfifo, OUTFIFO_MAX, and usbdevice::profile.

Referenced by _cmd_get(), cmd_fwupdate(), cmd_restart(), fwupdate(), nprintind(), and nprintkey().

```
8                                                                                                   {
9     if(!kb)
10         return;
11     usbprofile* profile = kb->profile;
```

```
12      va_list va_args;
13      int fifo;
14      if(nodenumber >= 0){
15          // If node number was given, print to that node (if open)
16          if((fifo = kb->outfifo[nodenumber] - 1) != -1){
17              va_start(va_args, format);
18              if(mode)
19                  dprintf(fifo, "mode %d ", INDEX_OF(mode, profile->mode) + 1);
20              vdprintf(fifo, format, va_args);
21          }
22          return;
23      }
24      // Otherwise, print to all nodes
25      for(int i = 0; i < OUTFIFO_MAX; i++){
26          if((fifo = kb->outfifo[i] - 1) != -1){
27              va_start(va_args, format);
28              if(mode)
29                  dprintf(fifo, "mode %d ", INDEX_OF(mode, profile->mode) + 1);
30              vdprintf(fifo, format, va_args);
31          }
32      }
33  }
```

Here is the caller graph for this function:



13.41.1.5 void nprintind (usbdevice * *kb*, int *nnumber*, int *led*, int *on*)

Definition at line 43 of file notify.c.

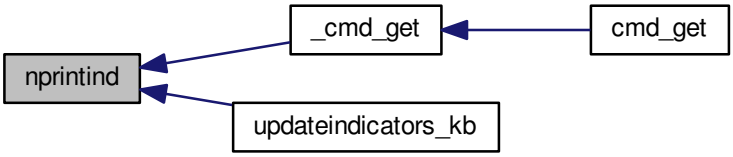
References I_CAPS, I_NUM, I_SCROLL, and nprintf().

Referenced by _cmd_get(), and updateindicators_kb().

```
43                                                          {
44      const char* name = 0;
45      switch(led){
46      case I_NUM:
47          name = "num";
48          break;
49      case I_CAPS:
50          name = "caps";
51          break;
52      case I_SCROLL:
53          name = "scroll";
54          break;
55      default:
56          return;
57      }
58      nprintf(kb, nnumber, 0, "i %c%s\n", on ? '+' : '-', name);
59  }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.41.1.6 void nprintkey (usbdevice * *kb*, int *nnumber*, int *keyindex*, int *down*)

Definition at line 35 of file notify.c.

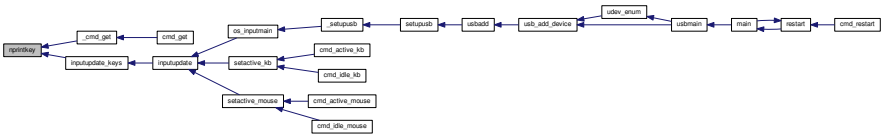
References keymap, key::name, and nprintf().

Referenced by _cmd_get(), and inputupdate_keys().

```
35                                                                  {
36     const key* map = keymap + keyindex;
37     if(map->name)
38         nprintf(kb, nnumber, 0, "key %c%s\n", down ? '+' : '-', map->name);
39     else
40         nprintf(kb, nnumber, 0, "key %c#%d\n", down ? '+' : '-', keyindex);
41 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

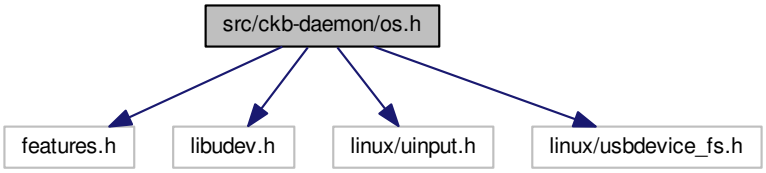


13.42 src/ckb-daemon/os.h File Reference

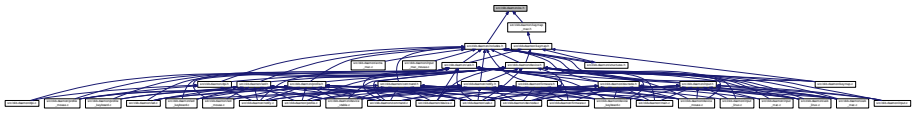
```
#include <features.h>
```

```
#include <libudev.h>
#include <linux/uinput.h>
#include <linux/usbdevice_fs.h>
```

Include dependency graph for os.h:



This graph shows which files directly or indirectly include this file:



Macros

- #define _DEFAULT_SOURCE
- #define _GNU_SOURCE
- #define UINPUT_VERSION 2
- #define euid_guard_start
- #define euid_guard_stop

13.42.1 Macro Definition Documentation

13.42.1.1 #define _DEFAULT_SOURCE

Definition at line 22 of file os.h.

13.42.1.2 #define _GNU_SOURCE

Definition at line 26 of file os.h.

13.42.1.3 #define euid_guard_start

Definition at line 40 of file os.h.

Referenced by mkdevpath(), mknotifynode(), rmdevpath(), rmnotifynode(), and updateconnected().

13.42.1.4 #define euid_guard_stop

Definition at line 41 of file os.h.

Referenced by mkdevpath(), mknotifynode(), rmdevpath(), rmnotifynode(), and updateconnected().

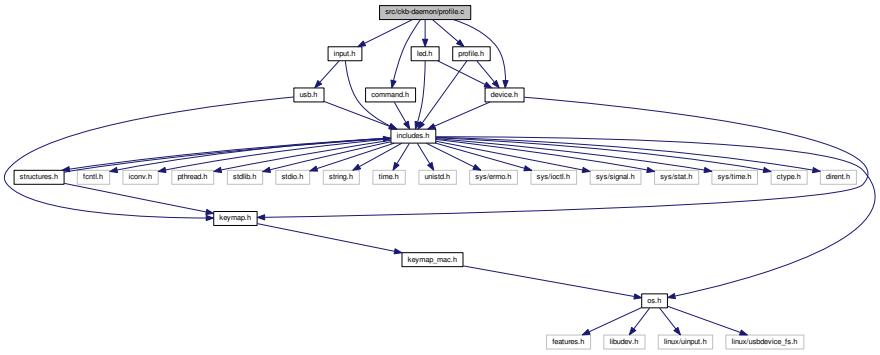
13.42.1.5 #define UINPUT_VERSION 2

Definition at line 35 of file os.h.

13.43 src/ckb-daemon/profile.c File Reference

```
#include "command.h"
#include "device.h"
#include "input.h"
#include "led.h"
#include "profile.h"
```

Include dependency graph for profile.c:



Functions

- void urldecode2 (char *dst, const char *src)
- void urlencode2 (char *dst, const char *src)
- int setid (usbid *id, const char *guid)
- char * getid (usbid *id)
- void u16enc (char *in, ushort *out, size_t *srclen, size_t *dstlen)
- void u16dec (ushort *in, char *out, size_t *srclen, size_t *dstlen)
- void cmd_name (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *name)
- void cmd_profilename (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *name)
- char * printname (ushort *name, int length)
- char * getmodename (usbmode *mode)
- char * getprofilename (usbprofile *profile)
- char * gethwmodename (hwprofile *profile, int index)
- char * gethwprofilename (hwprofile *profile)
- void cmd_id (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *id)
- void cmd_profileid (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *id)
- static void initmode (usbmode *mode)
- void allocprofile (usbdevice *kb)
- int loadprofile (usbdevice *kb)
- static void freemode (usbmode *mode)
- void cmd_erase (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *dummy3)
- static void _freeprofile (usbdevice *kb)
- void cmd_eraseprofile (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- void freeprofile (usbdevice *kb)
- void hwtonative (usbprofile *profile, hwprofile *hw, int modecount)
- void nativetohw (usbprofile *profile, hwprofile *hw, int modecount)

Variables

- static iconv_t utf8to16 = 0
- static iconv_t utf16to8 = 0

13.43.1 Function Documentation

13.43.1.1 static void _freeprofile (usbdevice * kb) [static]

Definition at line 210 of file profile.c.

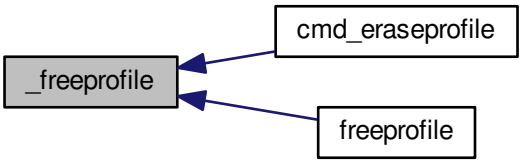
References freemode(), usbprofile::mode, MODE_COUNT, and usbdevice::profile.

Referenced by cmd_eraseprofile(), and freeprofile().

```
210                                         {
211     usbprofile* profile = kb->profile;
212     if(!profile)
213         return;
214     // Clear all mode data
215     for(int i = 0; i < MODE_COUNT; i++)
216         freemode(profile->mode + i);
217     free(profile);
218     kb->profile = 0;
219 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.43.1.2 void allocprofile (usbdevice * kb)

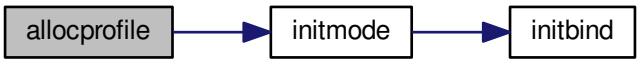
Definition at line 182 of file profile.c.

References usbprofile::currentmode, dpiset::forceupdate, lighting::forceupdate, initmode(), usbprofile::lastdpi, usbprofile::lastlight, usbprofile::mode, MODE_COUNT, and usbdevice::profile.

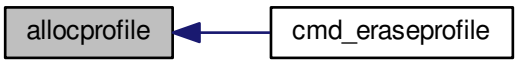
Referenced by cmd_eraseprofile().

```
182                                 {
183     if(kb->profile)
184         return;
185     usbprofile* profile = kb->profile = calloc(1, sizeof(
      usbprofile));
186     for(int i = 0; i < MODE_COUNT; i++)
187         initmode(profile->mode + i);
188     profile->currentmode = profile->mode;
189     profile->lastlight.forceupdate = profile->lastdpi.
      forceupdate = 1;
190 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



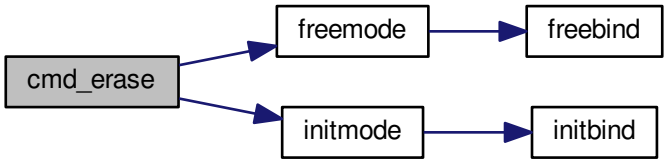
13.43.1.3 void cmd_erase (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *dummy3*)

Definition at line 203 of file profile.c.

References freemode(), imutex, and initmode().

```
203                                                                                 {
204     pthread_mutex_lock(imutex(kb));
205     freemode(mode);
206     initmode(mode);
207     pthread_mutex_unlock(imutex(kb));
208 }
```

Here is the call graph for this function:



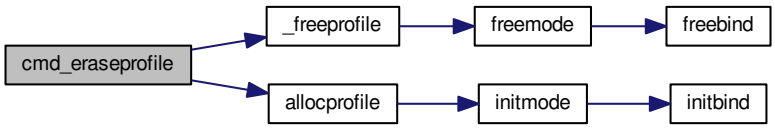
13.43.1.4 void cmd_eraseprofile (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 221 of file profile.c.

References _freeprofile(), allocprofile(), and imutex.

```
221                                                                                                 {
222     pthread_mutex_lock(imutex(kb));
223     _freeprofile(kb);
224     allocprofile(kb);
225     pthread_mutex_unlock(imutex(kb));
226 }
```

Here is the call graph for this function:



13.43.1.5 void cmd_id (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *id*)

Definition at line 160 of file profile.c.

References usbmode::id, usbid::modified, and setid().

```
160                                                                                                 {
161     // ID is either a GUID or an 8-digit hex number
162     int newmodified;
163     if(!setid(&mode->id, id) && sscanf(id, "%08x", &newmodified) == 1)
164         memcpy(mode->id.modified, &newmodified, sizeof(newmodified));
165 }
```

Here is the call graph for this function:

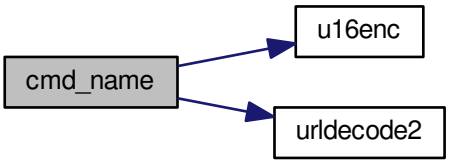
13.43.1.6 void cmd_name (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *name*)

Definition at line 117 of file profile.c.

References MD_NAME_LEN, usbmode::name, u16enc(), and urldecode2().

```
117                                                                                 {
118     char decoded[strlen(name) + 1];
119     urldecode2(decoded, name);
120     size_t srclen = strlen(decoded), dstlen = MD_NAME_LEN;
121     u16enc(decoded, mode->name, &srclen, &dstlen);
122 }
```

Here is the call graph for this function:



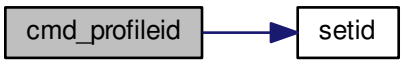
13.43.1.7 void cmd_profileid (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *id*)

Definition at line 167 of file profile.c.

References usbprofile::id, usbid::modified, usbdevice::profile, and setid().

```
167                                                                                 {
168     usbprofile* profile = kb->profile;
169     int newmodified;
170     if(!setid(&profile->id, id) && sscanf(id, "%08x", &newmodified) == 1)
171         memcpy(profile->id.modified, &newmodified, sizeof(newmodified));
172
173 }
```

Here is the call graph for this function:



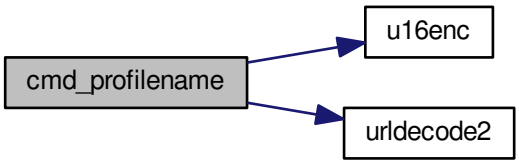
13.43.1.8 void cmd_profilename (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *name*)

Definition at line 124 of file profile.c.

References usbprofile::name, PR_NAME_LEN, usbdevice::profile, u16enc(), and urldecode2().

```
124                                                                                                 {
125     usbprofile* profile = kb->profile;
126     char decoded[strlen(name) + 1];
127     urldecode2(decoded, name);
128     size_t srclen = strlen(decoded), dstlen = PR_NAME_LEN;
129     u16enc(decoded, profile->name, &srclen, &dstlen);
130 }
```

Here is the call graph for this function:



13.43.1.9 static void freemode (usbmode * *mode*) [static]

Definition at line 198 of file profile.c.

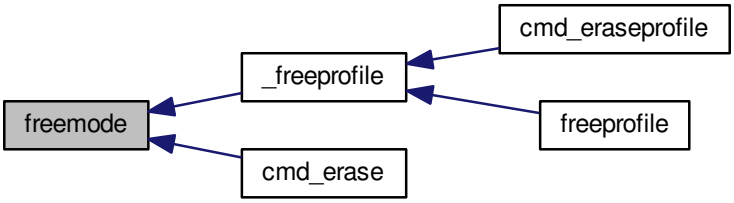
References usbmode::bind, and freebind().

Referenced by _freeprofile(), and cmd_erase().

```
198                                 {
199     freebind(&mode->bind);
200     memset(mode, 0, sizeof(*mode));
201 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



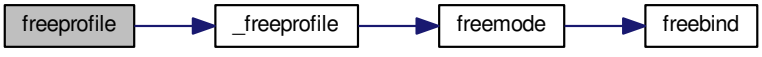
13.43.1.10 void freeprofile (usbdevice * *kb*)

Definition at line 228 of file profile.c.

References _freeprofile(), and usbdevice::hw.

```
228                                {
229     _freeprofile(kb);
230     // Also free HW profile
231     free(kb->hw);
232     kb->hw = 0;
233 }
```

Here is the call graph for this function:



13.43.1.11 char* gethwmodename (hwprofile * *profile,* int *index*)

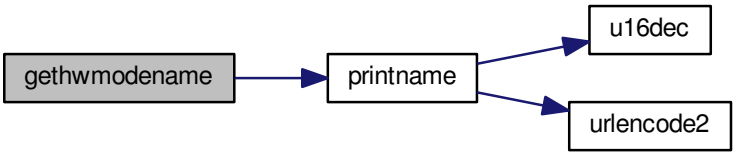
Definition at line 152 of file profile.c.

References MD_NAME_LEN, hwprofile::name, and printname().

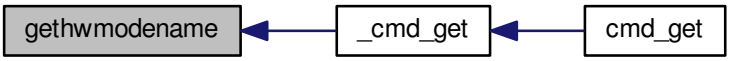
Referenced by _cmd_get().

```
152                                                 {
153     return printname(profile->name[index + 1], MD_NAME_LEN);
154 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.43.1.12 char* gethwprofilename (hwprofile * *profile*)

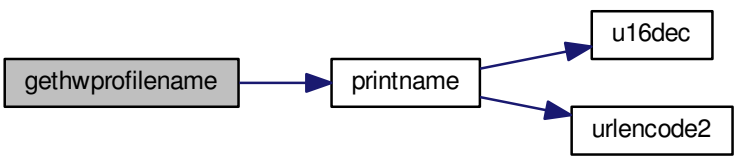
Definition at line 156 of file profile.c.

References MD_NAME_LEN, hwprofile::name, and printname().

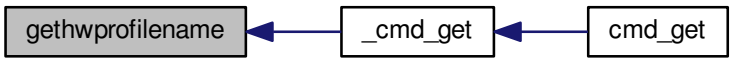
Referenced by _cmd_get().

```
156                                                 {
157     return printname(profile->name[0], MD_NAME_LEN);
158 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.43.1.13 char* getid (usbid * *id*)

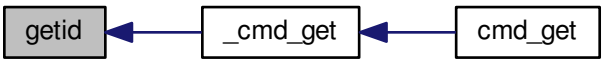
Definition at line 79 of file profile.c.

References usbid::guid.

Referenced by _cmd_get().

```
79                      {
80     int32_t data1;
81     int16_t data2, data3, data4a;
82     char data4b[6];
83     memcpy(&data1, id->guid + 0x0, 4);
84     memcpy(&data2, id->guid + 0x4, 2);
85     memcpy(&data3, id->guid + 0x6, 2);
86     memcpy(&data4a, id->guid + 0x8, 2);
87     memcpy(data4b, id->guid + 0xA, 6);
88     char* guid = malloc(39);
89     snprintf(guid, 39, "{%08X-%04hX-%04hX-%04hX-%02hhX%02hhX%02hhX%02hhX%02hhX%02hhX}",
90              data1, data2, data3, data4a, data4b[0], data4b[1], data4b[2], data4b[3], data4b[4], data4b[5])
     ;
91     return guid;
92 }
```

Here is the caller graph for this function:



13.43.1.14 char* getmodename (usbmode * *mode*)

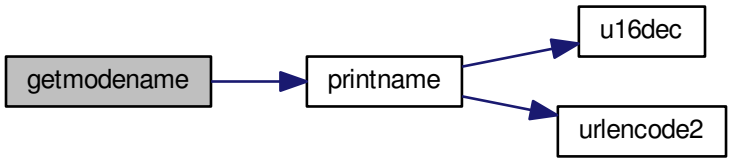
Definition at line 144 of file profile.c.

References MD_NAME_LEN, usbmode::name, and printname().

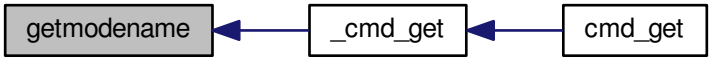
Referenced by _cmd_get().

```
144                                 {
145     return printname(mode->name, MD_NAME_LEN);
146 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.43.1.15 char* getprofilename (usbprofile * *profile*)

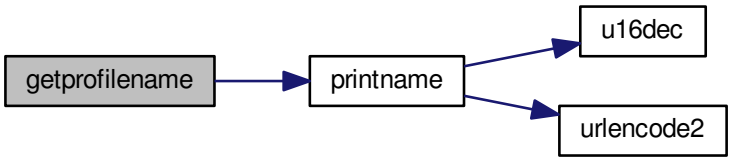
Definition at line 148 of file profile.c.

References usbprofile::name, PR_NAME_LEN, and printname().

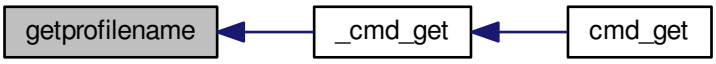
Referenced by _cmd_get().

```
148                                         {
149     return printname(profile->name, PR_NAME_LEN);
150 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.43.1.16 void hwtonative (usbprofile * *profile,* hwprofile * *hw,* int *modecount*)

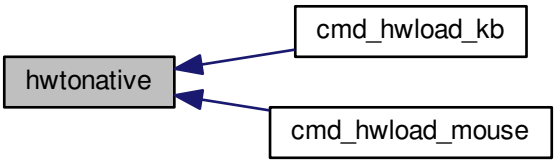
Definition at line 235 of file profile.c.

References usbmode::dpi, hwprofile::dpi, dpiset::forceupdate, lighting::forceupdate, usbmode::id, usbprofile::id, hwprofile::id, usbprofile::lastdpi, usbprofile::lastlight, usbmode::light, hwprofile::light, MD_NAME_LEN, usbprofile::mode, usbmode::name, usbprofile::name, hwprofile::name, and PR_NAME_LEN.

Referenced by cmd_hwload_kb(), and cmd_hwload_mouse().

```
235                                                                    {
236     // Copy the profile name and ID
237     memcpy(profile->name, hw->name[0], PR_NAME_LEN * 2);
238     memcpy(&profile->id, hw->id, sizeof(usbid));
239     // Copy the mode settings
240     for(int i = 0; i < modecount; i++){
241         usbmode* mode = profile->mode + i;
242         memcpy(mode->name, hw->name[i + 1], MD_NAME_LEN * 2);
243         memcpy(&mode->id, hw->id + i + 1, sizeof(usbid));
244         memcpy(&mode->light, hw->light + i, sizeof(lighting));
245         memcpy(&mode->dpi, hw->dpi + i, sizeof(dpiset));
246         // Set a force update on the light/DPI since they've been overwritten
247         mode->light.forceupdate = mode->dpi.forceupdate = 1;
248     }
249     profile->lastlight.forceupdate = profile->lastdpi.
      forceupdate = 1;
250 }
```

Here is the caller graph for this function:



13.43.1.17 static void initmode (usbmode * *mode*) [static]

Definition at line 175 of file profile.c.

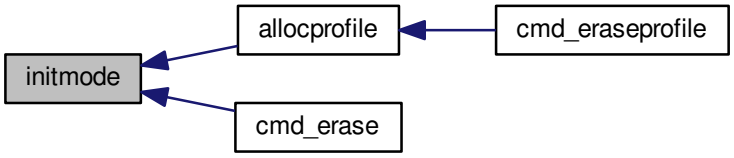
References usbmode::bind, usbmode::dpi, dpiset::forceupdate, lighting::forceupdate, initbind(), and usbmode::light.

Referenced by allocprofile(), and cmd_erase().

```
175                                     {
176     memset(mode, 0, sizeof(*mode));
177     mode->light.forceupdate = 1;
178     mode->dpi.forceupdate = 1;
179     initbind(&mode->bind);
180 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.43.1.18 int loadprofile (usbdevice * *kb*)

Definition at line 192 of file profile.c.

References hwloadprofile.

```
192                                 {
193     if(hwloadprofile(kb, 1))
194         return -1;
195     return 0;
196 }
```

13.43.1.19 void nativetohw (usbprofile * *profile,* hwprofile * *hw,* int *modecount*)

Definition at line 252 of file profile.c.

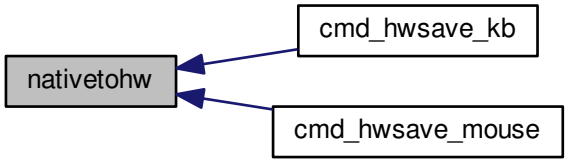
References usbmode::dpi, hwprofile::dpi, usbmode::id, usbprofile::id, hwprofile::id, usbmode::light, hwprofile::light, MD_NAME_LEN, usbprofile::mode, usbmode::name, usbprofile::name, hwprofile::name, and PR_NAME_LEN.

Referenced by cmd_hwsave_kb(), and cmd_hwsave_mouse().

```
252                                                                 {
253     // Copy name and ID
254     memcpy(hw->name[0], profile->name, PR_NAME_LEN * 2);
255     memcpy(hw->id, &profile->id, sizeof(usbid));
256     // Copy the mode settings
```

```
257     for(int i = 0; i < modecount; i++){
258         usbmode* mode = profile->mode + i;
259         memcpy(hw->name[i + 1], mode->name, MD_NAME_LEN * 2);
260         memcpy(hw->id + i + 1, &mode->id, sizeof(usbid));
261         memcpy(hw->light + i, &mode->light, sizeof(lighting));
262         memcpy(hw->dpi + i, &mode->dpi, sizeof(dpiset));
263     }
264 }
```

Here is the caller graph for this function:



13.43.1.20 char* printname (ushort * *name*, int *length*)

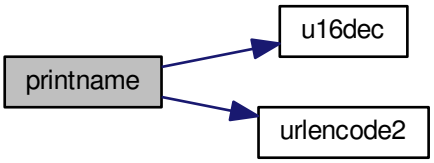
Definition at line 132 of file profile.c.

References u16dec(), and urlencode2().

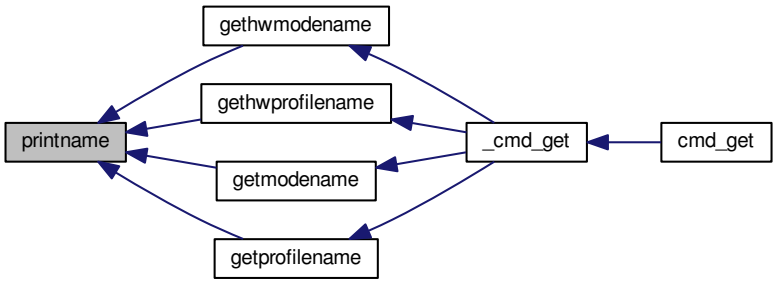
Referenced by gethwmodename(), gethwprofilename(), getmodename(), and getprofilename().

```
132                                         {
133     // Convert the name to UTF-8
134     char* buffer = calloc(1, length * 4 - 3);
135     size_t srclen = length, dstlen = length * 4 - 4;
136     u16dec(name, buffer, &srclen, &dstlen);
137     // URL-encode it
138     char* buffer2 = malloc(strlen(buffer) * 3 + 1);
139     urlencode2(buffer2, buffer);
140     free(buffer);
141     return buffer2;
142 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.43.1.21 int setid (usbid * *id*, const char * *guid*)

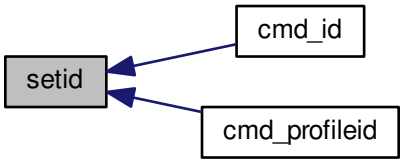
Definition at line 64 of file profile.c.

References usbid::guid.

Referenced by cmd_id(), and cmd_profileid().

```
64                                      {
65     int32_t data1;
66     int16_t data2, data3, data4a;
67     char data4b[6];
68     if(sscanf(guid, "{%08X-%04hX-%04hX-%04hX-%02hhX%02hhX%02hhX%02hhX%02hhX%02hhX}",
69               &data1, &data2, &data3, &data4a, data4b, data4b + 1, data4b + 2, data4b + 3, data4b + 4,
      data4b + 5) != 10)
70         return 0;
71     memcpy(id->guid + 0x0, &data1, 4);
72     memcpy(id->guid + 0x4, &data2, 2);
73     memcpy(id->guid + 0x6, &data3, 2);
74     memcpy(id->guid + 0x8, &data4a, 2);
75     memcpy(id->guid + 0xA, data4b, 6);
76     return 1;
77 }
```

Here is the caller graph for this function:



13.43.1.22 void u16dec (ushort * *in*, char * *out*, size_t * *srclen*, size_t * *dstlen*)

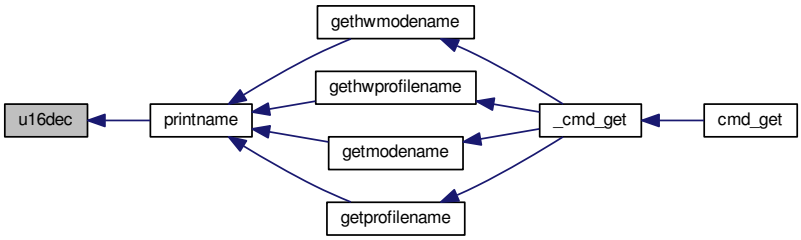
Definition at line 105 of file profile.c.

References utf16to8.

Referenced by printname().

```
105                                                                     {
106     if(!utf16to8)
107         utf16to8 = iconv_open("UTF-8", "UTF-16LE");
108     size_t srclen2 = 0, srclenmax = *srclen;
109     for(; srclen2 < srclenmax; srclen2++){
110         if(!in[srclen2])
111             break;
112     }
113     *srclen = srclen2 * 2;
114     iconv(utf16to8, (char**)&in, srclen, &out, dstlen);
115 }
```

Here is the caller graph for this function:



13.43.1.23 void u16enc (char * *in*, ushort * *out*, size_t * *srclen*, size_t * *dstlen*)

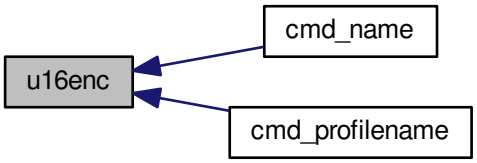
Definition at line 97 of file profile.c.

References utf8to16.

Referenced by cmd_name(), and cmd_profilename().

```
97                                                                      {
98     if(!utf8to16)
99         utf8to16 = iconv_open("UTF-16LE", "UTF-8");
100     memset(out, 0, *dstlen * 2);
101     *dstlen = *dstlen * 2 - 2;
102     iconv(utf8to16, &in, srclen, (char**)&out, dstlen);
103 }
```

Here is the caller graph for this function:



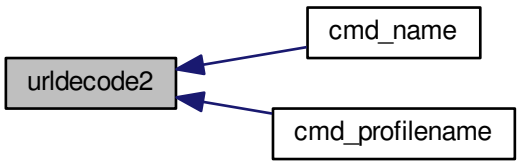
13.43.1.24 void urldecode2 (char * *dst*, const char * *src*)

Definition at line 8 of file profile.c.

Referenced by cmd_name(), and cmd_profilename().

```
8                                           {
9     char a, b;
10     char s;
11     while((s = *src)){
12         if((s == '%') &&
13                 ((a = src[1]) && (b = src[2])) &&
14                 (isxdigit(a) && isxdigit(b))){
15             if(a >= 'a')
16                 a -= 'a'-'A';
17             if(a >= 'A')
18                 a -= 'A' - 10;
19             else
20                 a -= '0';
21             if(b >= 'a')
22                 b -= 'a'-'A';
23             if(b >= 'A')
24                 b -= 'A' - 10;
25             else
26                 b -= '0';
27             *dst++ = 16 * a + b;
28             src += 3;
29         } else {
30             *dst++ = s;
31             src++;
32         }
33     }
34     *dst = '\0';
35 }
```

Here is the caller graph for this function:



13.43.1.25 void urlencode2 (char * *dst*, const char * *src*)

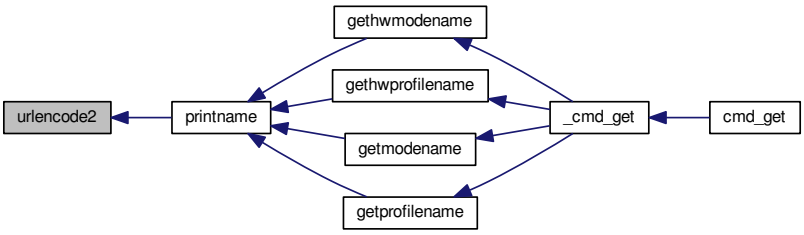
Definition at line 37 of file profile.c.

Referenced by printname().

```
37                                           {
38     char s;
39     while((s = *src++)){
40         if(s <= ',' || s == '/' ||
41                 (s >= ':' && s <= '@') ||
42                 s == '[' || s == ']' ||
43                 s >= 0x7F){
44             char a = s >> 4, b = s & 0xF;
45             if(a >= 10)
46                 a += 'A' - 10;
47             else
48                 a += '0';
49             if(b >= 10)
50                 b += 'A' - 10;
51             else
```

```
52                 b += '0';
53             dst[0] = '%';
54             dst[1] = a;
55             dst[2] = b;
56             dst += 3;
57         } else
58             *dst++ = s;
59     }
60     *dst = '\0';
61 }
```

Here is the caller graph for this function:



13.43.2 Variable Documentation

13.43.2.1 iconv_t utf16to8 = 0 [static]

Definition at line 95 of file profile.c.

Referenced by u16dec().

13.43.2.2 iconv_t utf8to16 = 0 [static]

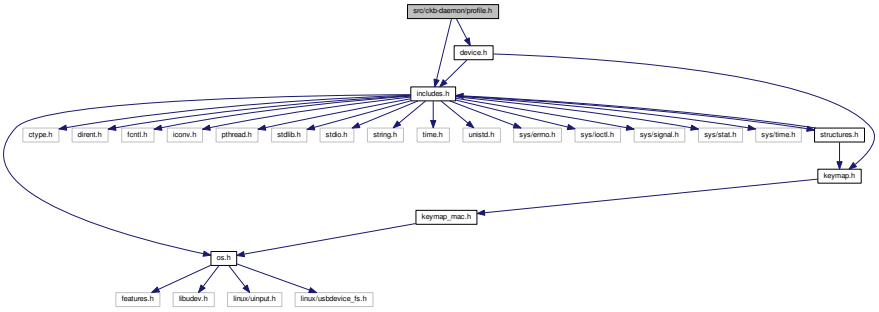
Definition at line 95 of file profile.c.

Referenced by u16enc().

13.44 src/ckb-daemon/profile.h File Reference

```
#include "includes.h"
#include "device.h"
```

Include dependency graph for profile.h:



This graph shows which files directly or indirectly include this file:

Macros

- #define hwloadprofile(kb, apply) (kb)->vtable->hwload(kb, 0, 0, apply, 0)

Functions

- void allocprofile (usbdevice *kb)
- int loadprofile (usbdevice *kb)
- void freeprofile (usbdevice *kb)
- void cmd_erase (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *dummy3)
- void cmd_eraseprofile (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- void cmd_name (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *name)
- void cmd_profilename (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *name)
- char * getmodename (usbmode *mode)
- char * getprofilename (usbprofile *profile)
- char * gethwmodename (hwprofile *profile, int index)
- char * gethwprofilename (hwprofile *profile)
- int setid (usbid *id, const char *guid)
- char * getid (usbid *id)
- void hwtonative (usbprofile *profile, hwprofile *hw, int modecount)
- void nativetohw (usbprofile *profile, hwprofile *hw, int modecount)
- void cmd_id (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *id)
- void cmd_profileid (usbdevice *kb, usbmode *mode, int dummy1, int dummy2, const char *id)
- int cmd_hwload_kb (usbdevice *kb, usbmode *dummy1, int dummy2, int apply, const char *dummy3)
- int cmd_hwload_mouse (usbdevice *kb, usbmode *dummy1, int dummy2, int apply, const char *dummy3)
- int cmd_hwsave_kb (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)
- int cmd_hwsave_mouse (usbdevice *kb, usbmode *dummy1, int dummy2, int dummy3, const char *dummy4)

13.44.1 Macro Definition Documentation

13.44.1.1 #define hwloadprofile(*kb, apply*) (kb)->vtable->hwload(kb, 0, 0, apply, 0)

Definition at line 52 of file profile.h.

Referenced by _start_dev(), and loadprofile().

13.44.2 Function Documentation

13.44.2.1 void allocprofile (usbdevice * *kb*)

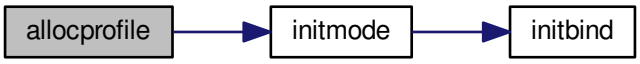
Definition at line 182 of file profile.c.

References usbprofile::currentmode, dpiset::forceupdate, lighting::forceupdate, initmode(), usbprofile::lastdpi, usbprofile::lastlight, usbprofile::mode, MODE_COUNT, and usbdevice::profile.

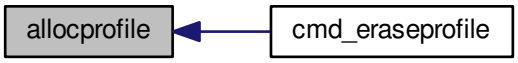
Referenced by cmd_eraseprofile().

```
182                                 {
183     if(kb->profile)
184         return;
185     usbprofile* profile = kb->profile = calloc(1, sizeof(
    usbprofile));
186     for(int i = 0; i < MODE_COUNT; i++)
187         initmode(profile->mode + i);
188     profile->currentmode = profile->mode;
189     profile->lastlight.forceupdate = profile->lastdpi.
    forceupdate = 1;
190 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



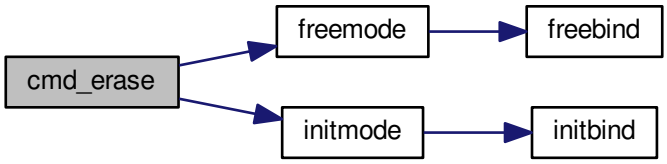
13.44.2.2 void cmd_erase (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *dummy3*)

Definition at line 203 of file profile.c.

References freemode(), imutex, and initmode().

```
203                                                                 {
204     pthread_mutex_lock(imutex(kb));
205     freemode(mode);
206     initmode(mode);
207     pthread_mutex_unlock(imutex(kb));
208 }
```

Here is the call graph for this function:



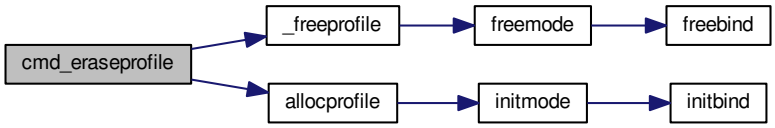
13.44.2.3 void cmd_eraseprofile (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 221 of file profile.c.

References _freeprofile(), allocprofile(), and imutex.

```
221                                                                                                 {
222     pthread_mutex_lock(imutex(kb));
223     _freeprofile(kb);
224     allocprofile(kb);
225     pthread_mutex_unlock(imutex(kb));
226 }
```

Here is the call graph for this function:



13.44.2.4 int cmd_hwload_kb (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *apply*, const char * *dummy3*)

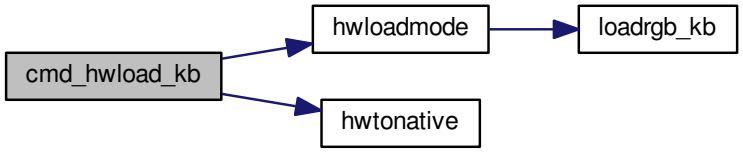
Definition at line 16 of file profile_keyboard.c.

References DELAY_LONG, usbdevice::hw, hwloadmode(), HWMODE_K70, HWMODE_K95, hwtonative(), hwprofile::id, IS_K95, MSG_SIZE, hwprofile::name, PR_NAME_LEN, usbdevice::profile, and usbrecv.

```
16                                                                                                  {
17     DELAY_LONG(kb);
18     hwprofile* hw = calloc(1, sizeof(hwprofile));
19     // Ask for profile and mode IDs
20     uchar data_pkt[2][MSG_SIZE] = {
21         { 0x0e, 0x15, 0x01, 0 },
22         { 0x0e, 0x16, 0x01, 0 }
23     };
24     uchar in_pkt[MSG_SIZE];
25     int modes = (IS_K95(kb) ? HWMODE_K95 : HWMODE_K70);
26     for(int i = 0; i <= modes; i++){
27         data_pkt[0][3] = i;
28         if(!usbrecv(kb, data_pkt[0], in_pkt)){
```

```
29              free(hw);
30              return -1;
31          }
32          memcpy(hw->id + i, in_pkt + 4, sizeof(usbid));
33      }
34      // Ask for profile name
35      if(!usbrecv(kb, data_pkt[1], in_pkt)){
36          free(hw);
37          return -1;
38      }
39      memcpy(hw->name[0], in_pkt + 4, PR_NAME_LEN * 2);
40      // Load modes
41      for(int i = 0; i < modes; i++){
42          if(hwloadmode(kb, hw, i)){
43              free(hw);
44              return -1;
45          }
46      }
47      // Make the profile active (if requested)
48      if(apply)
49          hwtonative(kb->profile, hw, modes);
50      // Free the existing profile (if any)
51      free(kb->hw);
52      kb->hw = hw;
53      DELAY_LONG(kb);
54      return 0;
55  }
```

Here is the call graph for this function:



13.44.2.5 int cmd_hwload_mouse (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *apply*, const char * *dummy3*)

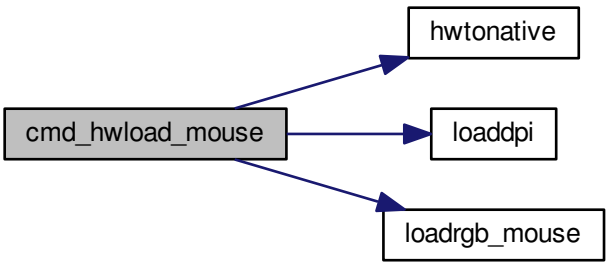
Definition at line 6 of file profile_mouse.c.

References DELAY_LONG, hwprofile::dpi, usbdevice::hw, hwtonative(), hwprofile::id, hwprofile::light, loaddpi(), loadrgb_mouse(), MSG_SIZE, hwprofile::name, PR_NAME_LEN, usbdevice::profile, and usbrecv.

```
6                                                                                   {
7       DELAY_LONG(kb);
8       hwprofile* hw = calloc(1, sizeof(hwprofile));
9       // Ask for profile and mode IDs
10      uchar data_pkt[2][MSG_SIZE] = {
11          { 0x0e, 0x15, 0x01, 0 },
12          { 0x0e, 0x16, 0x01, 0 }
13      };
14      uchar in_pkt[MSG_SIZE];
15      for(int i = 0; i <= 1; i++){
16          data_pkt[0][3] = i;
17          if(!usbrecv(kb, data_pkt[0], in_pkt)){
18              free(hw);
19              return -1;
20          }
21          memcpy(hw->id + i, in_pkt + 4, sizeof(usbid));
22      }
23      // Ask for profile and mode names
24      for(int i = 0; i <= 1; i++){
25          data_pkt[1][3] = i;
26          if(!usbrecv(kb, data_pkt[1],in_pkt)){
27              free(hw);
28              return -1;
29          }
```

```
30          memcpy(hw->name[i], in_pkt + 4, PR_NAME_LEN * 2);
31      }
32
33      // Load the RGB and DPI settings
34      if(loadrgb_mouse(kb, hw->light, 0)
35              || loaddpi(kb, hw->dpi, hw->light)){
36          free(hw);
37          return -1;
38      }
39
40      // Make the profile active (if requested)
41      if(apply)
42          hwtonative(kb->profile, hw, 1);
43      // Free the existing profile (if any)
44      free(kb->hw);
45      kb->hw = hw;
46      DELAY_LONG(kb);
47      return 0;
48  }
```

Here is the call graph for this function:



13.44.2.6 int cmd_hwsave_kb (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

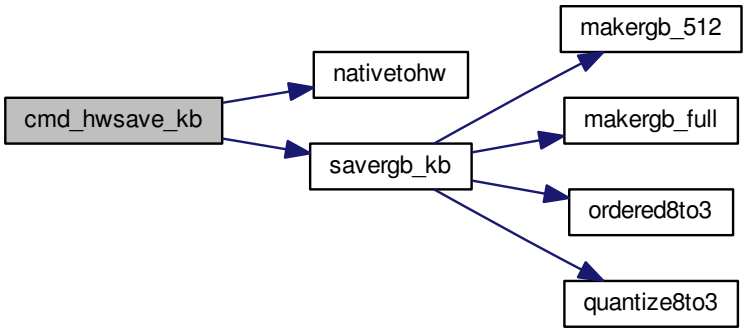
Definition at line 57 of file profile_keyboard.c.

References DELAY_LONG, usbdevice::hw, HWMODE_K70, HWMODE_K95, hwprofile::id, IS_K95, hwprofile::light, MD_NAME_LEN, MSG_SIZE, hwprofile::name, nativetohw(), usbdevice::profile, savergb_kb(), and usbsend.

```
57                                                                                  {
58      DELAY_LONG(kb);
59      hwprofile* hw = kb->hw;
60      if(!hw)
61          hw = kb->hw = calloc(1, sizeof(hwprofile));
62      int modes = (IS_K95(kb) ? HWMODE_K95 : HWMODE_K70);
63      nativetohw(kb->profile, hw, modes);
64      // Save the profile and mode names
65      uchar data_pkt[2][MSG_SIZE] = {
66          { 0x07, 0x16, 0x01, 0 },
67          { 0x07, 0x15, 0x01, 0 },
68      };
69      // Save the mode names
70      for(int i = 0; i <= modes; i++){
71          data_pkt[0][3] = i;
72          memcpy(data_pkt[0] + 4, hw->name[i], MD_NAME_LEN * 2);
73          if(!usbsend(kb, data_pkt[0], 1))
74              return -1;
75      }
76      // Save the IDs
77      for(int i = 0; i <= modes; i++){
78          data_pkt[1][3] = i;
79          memcpy(data_pkt[1] + 4, hw->id + i, sizeof(usbid));
80          if(!usbsend(kb, data_pkt[1], 1))
81              return -1;
82      }
```

```
83      // Save the RGB data
84      for(int i = 0; i < modes; i++){
85          if(savergb_kb(kb, hw->light + i, i))
86              return -1;
87      }
88      DELAY_LONG(kb);
89      return 0;
90  }
```

Here is the call graph for this function:



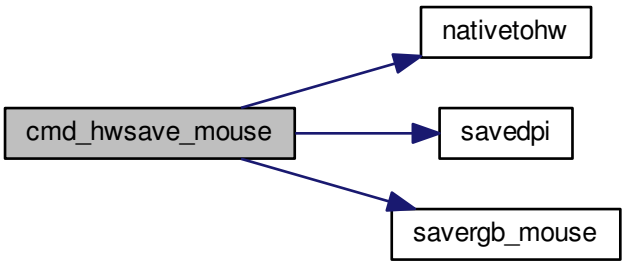
13.44.2.7 int cmd_hwsave_mouse (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 50 of file profile_mouse.c.

References DELAY_LONG, hwprofile::dpi, usbdevice::hw, hwprofile::id, hwprofile::light, MD_NAME_LEN, MSG_SIZE, hwprofile::name, nativetohw(), usbdevice::profile, savedpi(), savergb_mouse(), and usbsend.

```
50                                                                                                  {
51      DELAY_LONG(kb);
52      hwprofile* hw = kb->hw;
53      if(!hw)
54          hw = kb->hw = calloc(1, sizeof(hwprofile));
55      nativetohw(kb->profile, hw, 1);
56      // Save the profile and mode names
57      uchar data_pkt[2][MSG_SIZE] = {
58          { 0x07, 0x16, 0x01, 0 },
59          { 0x07, 0x15, 0x01, 0 },
60      };
61      for(int i = 0; i <= 1; i++){
62          data_pkt[0][3] = i;
63          memcpy(data_pkt[0] + 4, hw->name[i], MD_NAME_LEN * 2);
64          if(!usbsend(kb, data_pkt[0], 1))
65              return -1;
66      }
67      // Save the IDs
68      for(int i = 0; i <= 1; i++){
69          data_pkt[1][3] = i;
70          memcpy(data_pkt[1] + 4, hw->id + i, sizeof(usbid));
71          if(!usbsend(kb, data_pkt[1], 1))
72              return -1;
73      }
74      // Save the RGB data for the non-DPI zones
75      if(savergb_mouse(kb, hw->light, 0))
76          return -1;
77      // Save the DPI data (also saves RGB for those states)
78      if(savedpi(kb, hw->dpi, hw->light))
79          return -1;
80      DELAY_LONG(kb);
81      return 0;
82  }
```

Here is the call graph for this function:



13.44.2.8 void cmd_id (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *id*)

Definition at line 160 of file profile.c.

References usbmode::id, usbid::modified, and setid().

```
160                                                                                 {
161     // ID is either a GUID or an 8-digit hex number
162     int newmodified;
163     if(!setid(&mode->id, id) && sscanf(id, "%08x", &newmodified) == 1)
164         memcpy(mode->id.modified, &newmodified, sizeof(newmodified));
165 }
```

Here is the call graph for this function:

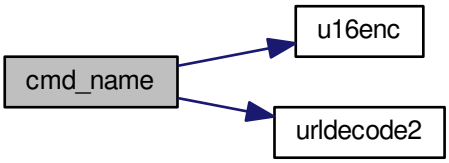
13.44.2.9 void cmd_name (usbdevice * *kb*, usbmode * *mode*, int *dummy1*, int *dummy2*, const char * *name*)

Definition at line 117 of file profile.c.

References MD_NAME_LEN, usbmode::name, u16enc(), and urldecode2().

```
117                                                                                 {
118     char decoded[strlen(name) + 1];
119     urldecode2(decoded, name);
120     size_t srclen = strlen(decoded), dstlen = MD_NAME_LEN;
121     u16enc(decoded, mode->name, &srclen, &dstlen);
122 }
```

Here is the call graph for this function:



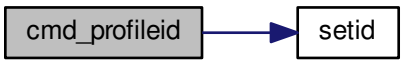
13.44.2.10 void cmd_profileid (usbdevice * kb, usbmode * mode, int dummy1, int dummy2, const char * id)

Definition at line 167 of file profile.c.

References usbprofile::id, usbid::modified, usbdevice::profile, and setid().

```
167                                                                                                 {
168     usbprofile* profile = kb->profile;
169     int newmodified;
170     if(!setid(&profile->id, id) && sscanf(id, "%08x", &newmodified) == 1)
171         memcpy(profile->id.modified, &newmodified, sizeof(newmodified));
172
173 }
```

Here is the call graph for this function:



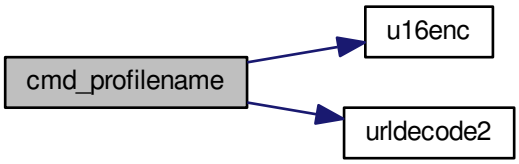
13.44.2.11 void cmd_profilename (usbdevice * kb, usbmode * dummy1, int dummy2, int dummy3, const char * name)

Definition at line 124 of file profile.c.

References usbprofile::name, PR_NAME_LEN, usbdevice::profile, u16enc(), and urldecode2().

```
124                                                                                                 {
125     usbprofile* profile = kb->profile;
126     char decoded[strlen(name) + 1];
127     urldecode2(decoded, name);
128     size_t srclen = strlen(decoded), dstlen = PR_NAME_LEN;
129     u16enc(decoded, profile->name, &srclen, &dstlen);
130 }
```

Here is the call graph for this function:



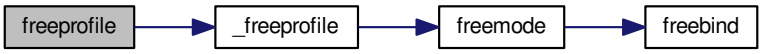
13.44.2.12 void freeprofile (usbdevice * *kb*)

Definition at line 228 of file profile.c.

References _freeprofile(), and usbdevice::hw.

```
228                                {
229     _freeprofile(kb);
230     // Also free HW profile
231     free(kb->hw);
232     kb->hw = 0;
233 }
```

Here is the call graph for this function:



13.44.2.13 char* gethwmodename (hwprofile * *profile*, int *index*)

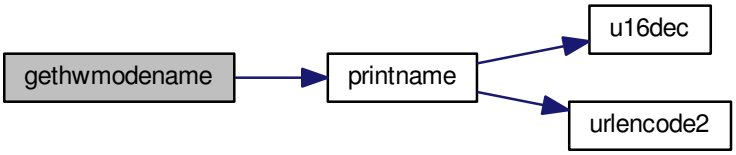
Definition at line 152 of file profile.c.

References MD_NAME_LEN, hwprofile::name, and printname().

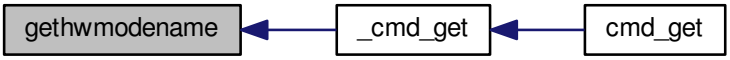
Referenced by _cmd_get().

```
152                                                {
153     return printname(profile->name[index + 1], MD_NAME_LEN);
154 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.44.2.14 char* gethwprofilename (hwprofile * *profile*)

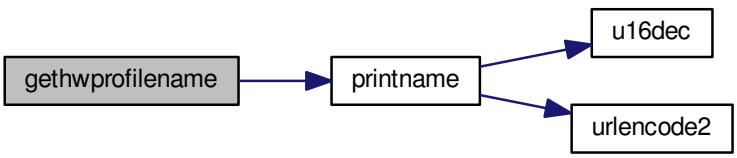
Definition at line 156 of file profile.c.

References MD_NAME_LEN, hwprofile::name, and printname().

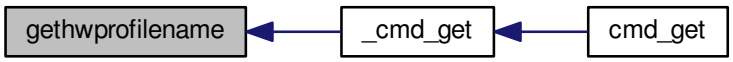
Referenced by _cmd_get().

```
156                                          {
157     return printname(profile->name[0], MD_NAME_LEN);
158 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.44.2.15 char* getid (usbid * *id*)

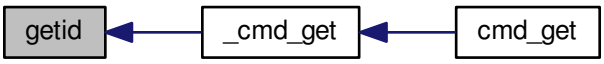
Definition at line 79 of file profile.c.

References usbid::guid.

Referenced by _cmd_get().

```
79                      {
80     int32_t data1;
81     int16_t data2, data3, data4a;
82     char data4b[6];
83     memcpy(&data1, id->guid + 0x0, 4);
84     memcpy(&data2, id->guid + 0x4, 2);
85     memcpy(&data3, id->guid + 0x6, 2);
86     memcpy(&data4a, id->guid + 0x8, 2);
87     memcpy(data4b, id->guid + 0xA, 6);
88     char* guid = malloc(39);
89     snprintf(guid, 39, "{%08X-%04hX-%04hX-%04hX-%02hhX%02hhX%02hhX%02hhX%02hhX%02hhX}",
90              data1, data2, data3, data4a, data4b[0], data4b[1], data4b[2], data4b[3], data4b[4], data4b[5])
     ;
91     return guid;
92 }
```

Here is the caller graph for this function:



13.44.2.16 char* getmodename (usbmode * *mode*)

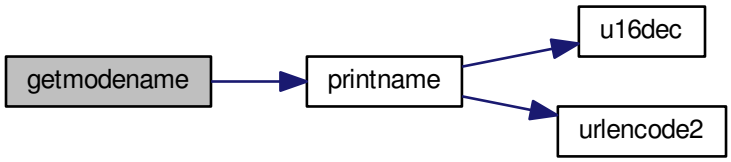
Definition at line 144 of file profile.c.

References MD_NAME_LEN, usbmode::name, and printname().

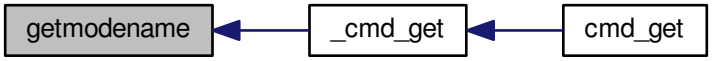
Referenced by _cmd_get().

```
144                                 {
145     return printname(mode->name, MD_NAME_LEN);
146 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.44.2.17 char* getprofilename (usbprofile * *profile*)

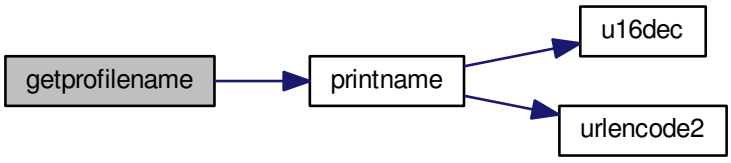
Definition at line 148 of file profile.c.

References usbprofile::name, PR_NAME_LEN, and printname().

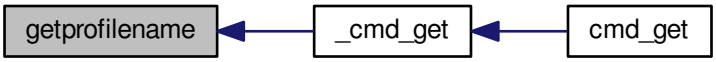
Referenced by _cmd_get().

```
148                                          {
149     return printname(profile->name, PR_NAME_LEN);
150 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.44.2.18 void hwtonative (usbprofile * *profile,* hwprofile * *hw,* int *modecount*)

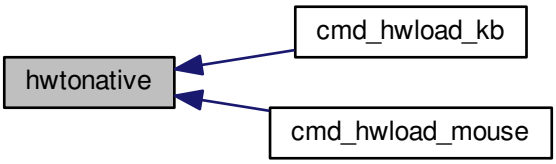
Definition at line 235 of file profile.c.

References usbmode::dpi, hwprofile::dpi, dpiset::forceupdate, lighting::forceupdate, usbmode::id, usbprofile::id, hwprofile::id, usbprofile::lastdpi, usbprofile::lastlight, usbmode::light, hwprofile::light, MD_NAME_LEN, usbprofile::mode, usbmode::name, usbprofile::name, hwprofile::name, and PR_NAME_LEN.

Referenced by cmd_hwload_kb(), and cmd_hwload_mouse().

```
235                                                                    {
236     // Copy the profile name and ID
237     memcpy(profile->name, hw->name[0], PR_NAME_LEN * 2);
238     memcpy(&profile->id, hw->id, sizeof(usbid));
239     // Copy the mode settings
240     for(int i = 0; i < modecount; i++){
241         usbmode* mode = profile->mode + i;
242         memcpy(mode->name, hw->name[i + 1], MD_NAME_LEN * 2);
243         memcpy(&mode->id, hw->id + i + 1, sizeof(usbid));
244         memcpy(&mode->light, hw->light + i, sizeof(lighting));
245         memcpy(&mode->dpi, hw->dpi + i, sizeof(dpiset));
246         // Set a force update on the light/DPI since they've been overwritten
247         mode->light.forceupdate = mode->dpi.forceupdate = 1;
248     }
249     profile->lastlight.forceupdate = profile->lastdpi.
      forceupdate = 1;
250 }
```

Here is the caller graph for this function:



13.44.2.19 int loadprofile (usbdevice * *kb*)

Definition at line 192 of file profile.c.

References hwloadprofile.

```
192                                 {
193     if(hwloadprofile(kb, 1))
194         return -1;
195     return 0;
196 }
```

13.44.2.20 void nativetohw (usbprofile * *profile,* hwprofile * *hw,* int *modecount*)

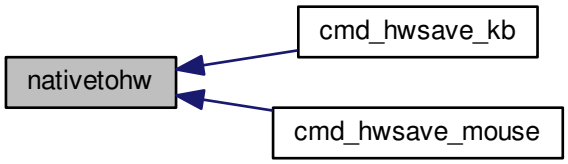
Definition at line 252 of file profile.c.

References usbmode::dpi, hwprofile::dpi, usbmode::id, usbprofile::id, hwprofile::id, usbmode::light, hwprofile::light, MD_NAME_LEN, usbprofile::mode, usbmode::name, usbprofile::name, hwprofile::name, and PR_NAME_LEN.

Referenced by cmd_hwsave_kb(), and cmd_hwsave_mouse().

```
252                                                                     {
253     // Copy name and ID
254     memcpy(hw->name[0], profile->name, PR_NAME_LEN * 2);
255     memcpy(hw->id, &profile->id, sizeof(usbid));
256     // Copy the mode settings
257     for(int i = 0; i < modecount; i++){
258         usbmode* mode = profile->mode + i;
259         memcpy(hw->name[i + 1], mode->name, MD_NAME_LEN * 2);
260         memcpy(hw->id + i + 1, &mode->id, sizeof(usbid));
261         memcpy(hw->light + i, &mode->light, sizeof(lighting));
262         memcpy(hw->dpi + i, &mode->dpi, sizeof(dpiset));
263     }
264 }
```

Here is the caller graph for this function:



13.44.2.21 int setid (usbid * *id,* const char * *guid*)

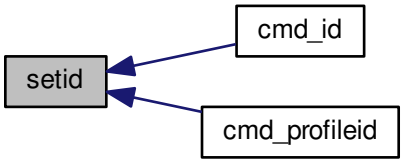
Definition at line 64 of file profile.c.

References usbid::guid.

Referenced by cmd_id(), and cmd_profileid().

```
64                                      {
65     int32_t data1;
66     int16_t data2, data3, data4a;
67     char data4b[6];
68     if(sscanf(guid, "{%08X-%04hX-%04hX-%04hX-%02hhX%02hhX%02hhX%02hhX%02hhX%02hhX}",
69               &data1, &data2, &data3, &data4a, data4b, data4b + 1, data4b + 2, data4b + 3, data4b + 4,
      data4b + 5) != 10)
70         return 0;
71     memcpy(id->guid + 0x0, &data1, 4);
72     memcpy(id->guid + 0x4, &data2, 2);
73     memcpy(id->guid + 0x6, &data3, 2);
74     memcpy(id->guid + 0x8, &data4a, 2);
75     memcpy(id->guid + 0xA, data4b, 6);
76     return 1;
77 }
```

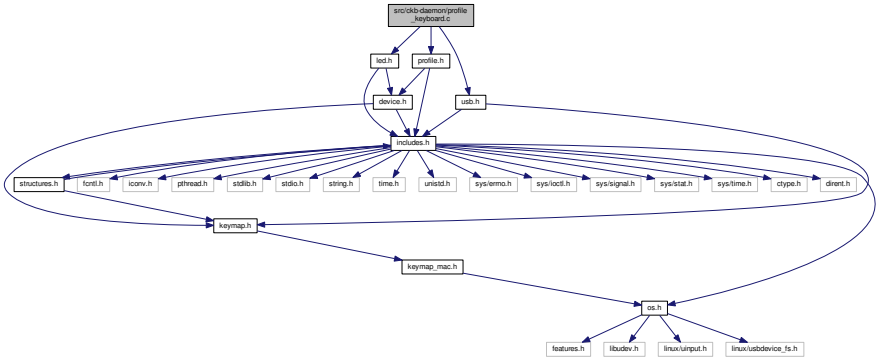
Here is the caller graph for this function:



13.45 src/ckb-daemon/profile_keyboard.c File Reference

```
#include "profile.h"
#include "usb.h"
#include "led.h"
```

Include dependency graph for profile_keyboard.c:



Functions

- static int hwloadmode (usbdevice ∗kb, hwprofile ∗hw, int mode)
- int cmd_hwload_kb (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int apply, const char ∗dummy3)
- int cmd_hwsave_kb (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int dummy3, const char ∗dummy4)

13.45.1 Function Documentation

13.45.1.1 int cmd_hwload_kb (usbdevice ∗ *kb,* usbmode ∗ *dummy1,* int *dummy2,* int *apply,* const char ∗ *dummy3*)

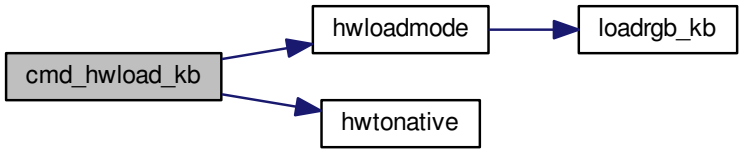
Definition at line 16 of file profile_keyboard.c.

References DELAY_LONG, usbdevice::hw, hwloadmode(), HWMODE_K70, HWMODE_K95, hwtonative(), hwprofile::id, IS_K95, MSG_SIZE, hwprofile::name, PR_NAME_LEN, usbdevice::profile, and usbrecv.

```
16                                                                              {
17     DELAY_LONG(kb);
18     hwprofile* hw = calloc(1, sizeof(hwprofile));
19     // Ask for profile and mode IDs
```

```
20      uchar data_pkt[2][MSG_SIZE] = {
21          { 0x0e, 0x15, 0x01, 0 },
22          { 0x0e, 0x16, 0x01, 0 }
23      };
24      uchar in_pkt[MSG_SIZE];
25      int modes = (IS_K95(kb) ? HWMODE_K95 : HWMODE_K70);
26      for(int i = 0; i <= modes; i++){
27          data_pkt[0][3] = i;
28          if(!usbrecv(kb, data_pkt[0], in_pkt)){
29              free(hw);
30              return -1;
31          }
32          memcpy(hw->id + i, in_pkt + 4, sizeof(usbid));
33      }
34      // Ask for profile name
35      if(!usbrecv(kb, data_pkt[1], in_pkt)){
36          free(hw);
37          return -1;
38      }
39      memcpy(hw->name[0], in_pkt + 4, PR_NAME_LEN * 2);
40      // Load modes
41      for(int i = 0; i < modes; i++){
42          if(hwloadmode(kb, hw, i)){
43              free(hw);
44              return -1;
45          }
46      }
47      // Make the profile active (if requested)
48      if(apply)
49          hwtonative(kb->profile, hw, modes);
50      // Free the existing profile (if any)
51      free(kb->hw);
52      kb->hw = hw;
53      DELAY_LONG(kb);
54      return 0;
55  }
```

Here is the call graph for this function:



13.45.1.2 int cmd_hwsave_kb (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

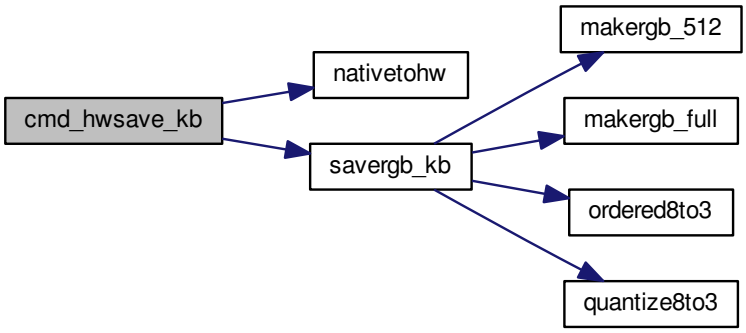
Definition at line 57 of file profile_keyboard.c.

References DELAY_LONG, usbdevice::hw, HWMODE_K70, HWMODE_K95, hwprofile::id, IS_K95, hwprofile::light, MD_NAME_LEN, MSG_SIZE, hwprofile::name, nativetohw(), usbdevice::profile, savergb_kb(), and usbsend.

```
57                                                                                  {
58      DELAY_LONG(kb);
59      hwprofile* hw = kb->hw;
60      if(!hw)
61          hw = kb->hw = calloc(1, sizeof(hwprofile));
62      int modes = (IS_K95(kb) ? HWMODE_K95 : HWMODE_K70);
63      nativetohw(kb->profile, hw, modes);
64      // Save the profile and mode names
65      uchar data_pkt[2][MSG_SIZE] = {
66          { 0x07, 0x16, 0x01, 0 },
67          { 0x07, 0x15, 0x01, 0 },
68      };
69      // Save the mode names
70      for(int i = 0; i <= modes; i++){
71          data_pkt[0][3] = i;
```

```
72          memcpy(data_pkt[0] + 4, hw->name[i], MD_NAME_LEN * 2);
73          if(!usbsend(kb, data_pkt[0], 1))
74              return -1;
75      }
76      // Save the IDs
77      for(int i = 0; i <= modes; i++){
78          data_pkt[1][3] = i;
79          memcpy(data_pkt[1] + 4, hw->id + i, sizeof(usbid));
80          if(!usbsend(kb, data_pkt[1], 1))
81              return -1;
82      }
83      // Save the RGB data
84      for(int i = 0; i < modes; i++){
85          if(savergb_kb(kb, hw->light + i, i))
86              return -1;
87      }
88      DELAY_LONG(kb);
89      return 0;
90  }
```

Here is the call graph for this function:



13.45.1.3 static int hwloadmode (usbdevice * *kb*, hwprofile * *hw*, int *mode*) [static]

Definition at line 5 of file profile_keyboard.c.

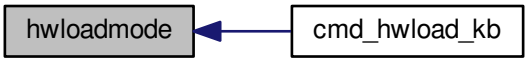
References hwprofile::light, loadrgb_kb(), MD_NAME_LEN, MSG_SIZE, hwprofile::name, and usbrecv.

Referenced by cmd_hwload_kb().

```
5                                                       {
6       // Ask for mode's name
7       uchar data_pkt[MSG_SIZE] = { 0x0e, 0x16, 0x01, mode + 1, 0 };
8       uchar in_pkt[MSG_SIZE];
9       if(!usbrecv(kb, data_pkt, in_pkt))
10          return -1;
11       memcpy(hw->name[mode + 1], in_pkt + 4, MD_NAME_LEN * 2);
12      // Load the RGB setting
13      return loadrgb_kb(kb, hw->light + mode, mode);
14  }
```

Here is the call graph for this function:

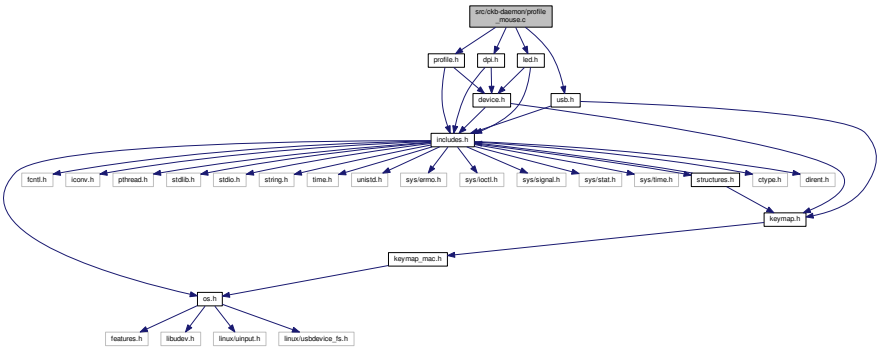
Here is the caller graph for this function:



13.46 src/ckb-daemon/profile_mouse.c File Reference

```
#include "dpi.h"
#include "profile.h"
#include "usb.h"
#include "led.h"
```

Include dependency graph for profile_mouse.c:



Functions

- int cmd_hwload_mouse (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int apply, const char ∗dummy3)
- int cmd_hwsave_mouse (usbdevice ∗kb, usbmode ∗dummy1, int dummy2, int dummy3, const char ∗dummy4)

13.46.1 Function Documentation

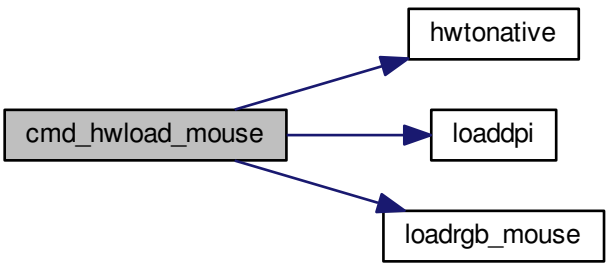
13.46.1.1 int cmd_hwload_mouse (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *apply*, const char * *dummy3*)

Definition at line 6 of file profile_mouse.c.

References DELAY_LONG, hwprofile::dpi, usbdevice::hw, hwtonative(), hwprofile::id, hwprofile::light, loaddpi(), loadrgb_mouse(), MSG_SIZE, hwprofile::name, PR_NAME_LEN, usbdevice::profile, and usbrecv.

```
6                                                                                                                {
7       DELAY_LONG(kb);
8       hwprofile* hw = calloc(1, sizeof(hwprofile));
9       // Ask for profile and mode IDs
10       uchar data_pkt[2][MSG_SIZE] = {
11           { 0x0e, 0x15, 0x01, 0 },
12           { 0x0e, 0x16, 0x01, 0 }
13       };
14       uchar in_pkt[MSG_SIZE];
15       for(int i = 0; i <= 1; i++){
16           data_pkt[0][3] = i;
17           if(!usbrecv(kb, data_pkt[0], in_pkt)){
18               free(hw);
19               return -1;
20           }
21           memcpy(hw->id + i, in_pkt + 4, sizeof(usbid));
22       }
23       // Ask for profile and mode names
24       for(int i = 0; i <= 1; i++){
25           data_pkt[1][3] = i;
26           if(!usbrecv(kb, data_pkt[1],in_pkt)){
27               free(hw);
28               return -1;
29           }
30           memcpy(hw->name[i], in_pkt + 4, PR_NAME_LEN * 2);
31       }
32
33       // Load the RGB and DPI settings
34       if(loadrgb_mouse(kb, hw->light, 0)
35               || loaddpi(kb, hw->dpi, hw->light)){
36           free(hw);
37           return -1;
38       }
39
40       // Make the profile active (if requested)
41       if(apply)
42           hwtonative(kb->profile, hw, 1);
43       // Free the existing profile (if any)
44       free(kb->hw);
45       kb->hw = hw;
46       DELAY_LONG(kb);
47       return 0;
48   }
```

Here is the call graph for this function:



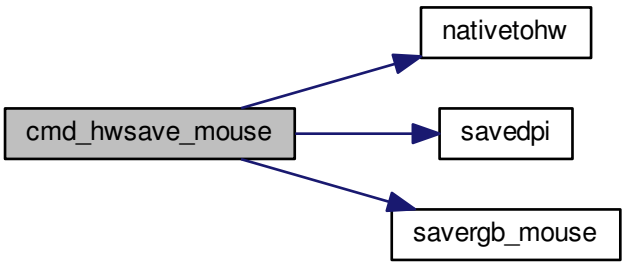
13.46.1.2 int cmd_hwsave_mouse (usbdevice * *kb*, usbmode * *dummy1*, int *dummy2*, int *dummy3*, const char * *dummy4*)

Definition at line 50 of file profile_mouse.c.

References DELAY_LONG, hwprofile::dpi, usbdevice::hw, hwprofile::id, hwprofile::light, MD_NAME_LEN, MSG_SIZE, hwprofile::name, nativetohw(), usbdevice::profile, savedpi(), savergb_mouse(), and usbsend.

```
50                                                                                                  {
51     DELAY_LONG(kb);
52     hwprofile* hw = kb->hw;
53     if(!hw)
54         hw = kb->hw = calloc(1, sizeof(hwprofile));
55     nativetohw(kb->profile, hw, 1);
56     // Save the profile and mode names
57     uchar data_pkt[2][MSG_SIZE] = {
58         { 0x07, 0x16, 0x01, 0 },
59         { 0x07, 0x15, 0x01, 0 },
60     };
61     for(int i = 0; i <= 1; i++){
62         data_pkt[0][3] = i;
63         memcpy(data_pkt[0] + 4, hw->name[i], MD_NAME_LEN * 2);
64         if(!usbsend(kb, data_pkt[0], 1))
65             return -1;
66     }
67     // Save the IDs
68     for(int i = 0; i <= 1; i++){
69         data_pkt[1][3] = i;
70         memcpy(data_pkt[1] + 4, hw->id + i, sizeof(usbid));
71         if(!usbsend(kb, data_pkt[1], 1))
72             return -1;
73     }
74     // Save the RGB data for the non-DPI zones
75     if(savergb_mouse(kb, hw->light, 0))
76         return -1;
77     // Save the DPI data (also saves RGB for those states)
78     if(savedpi(kb, hw->dpi, hw->light))
79         return -1;
80     DELAY_LONG(kb);
81     return 0;
82 }
```

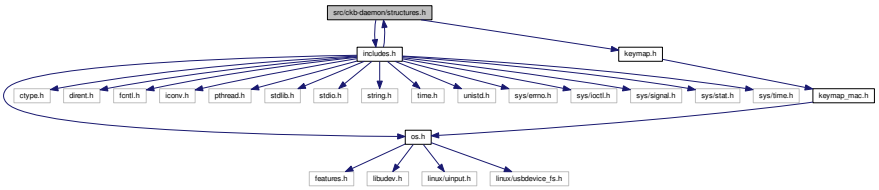
Here is the call graph for this function:



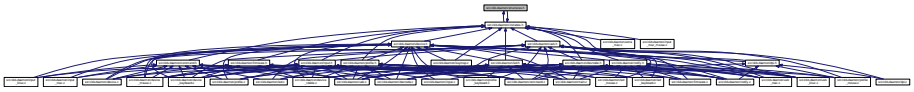
13.47 src/ckb-daemon/structures.h File Reference

```
#include "includes.h"
#include "keymap.h"
```

Include dependency graph for structures.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct usbid
- struct macroaction
- struct keymacro
- struct binding
- struct dpiset
- struct lighting
- struct usbmode
- struct usbprofile
- struct hwprofile
- struct usbinput
- struct usbdevice

Macros

- #define SET_KEYBIT(array, index) do { (array)[(index) / 8] |= 1 << ((index) % 8); } while(0)
- #define CLEAR_KEYBIT(array, index) do { (array)[(index) / 8] &= ~(1 << ((index) % 8)); } while(0)
- #define I_NUM 1
- #define I_CAPS 2
- #define I_SCROLL 4
- #define OUTFIFO_MAX 10
- #define MACRO_MAX 1024
- #define DPI_COUNT 6
- #define LIFT_MIN 1
- #define LIFT_MAX 5
- #define MD_NAME_LEN 16
- #define PR_NAME_LEN 16
- #define MODE_COUNT 6
- #define HWMODE_K70 1
- #define HWMODE_K95 3
- #define HWMODE_MAX 3
- #define FEAT_RGB 0x001
- #define FEAT_MONOCHROME 0x002
- #define FEAT_POLLRATE 0x004

- #define FEAT_ADJRATE 0x008
- #define FEAT_BIND 0x010
- #define FEAT_NOTIFY 0x020
- #define FEAT_FWVERSION 0x040
- #define FEAT_FWUPDATE 0x080
- #define FEAT_HWLOAD 0x100
- #define FEAT_ANSI 0x200
- #define FEAT_ISO 0x400
- #define FEAT_MOUSEACCEL 0x800
- #define FEAT_COMMON (FEAT_BIND | FEAT_NOTIFY | FEAT_FWVERSION | FEAT_MOUSEACCEL | FEAT_HWLOAD)
- #define FEAT_STD_RGB (FEAT_COMMON | FEAT_RGB | FEAT_POLLRATE | FEAT_FWUPDATE)
- #define FEAT_STD_NRGB (FEAT_COMMON)
- #define FEAT_LMASK (FEAT_ANSI | FEAT_ISO)
- #define HAS_FEATURES(kb, feat) (((kb)->features & (feat)) == (feat))
- #define HAS_ANY_FEATURE(kb, feat) (!!((kb)->features & (feat)))
- #define NEEDS_FW_UPDATE(kb) ((kb)->fwversion == 0 && HAS_FEATURES((kb), FEAT_FWUPDATE | FEAT_FWVERSION))
- #define SCROLL_ACCELERATED 0
- #define SCROLL_MIN 1
- #define SCROLL_MAX 10
- #define KB_NAME_LEN 40
- #define SERIAL_LEN 34
- #define MSG_SIZE 64
- #define IFACE_MAX 4

Variables

- const union devcmd vtable_keyboard

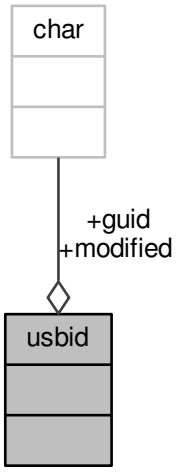
  RGB keyboard vtable holds functions for each device type.
- const union devcmd vtable_keyboard_nonrgb
- const union devcmd vtable_mouse

13.47.1 Data Structure Documentation

13.47.1.1 struct usbid

Definition at line 8 of file structures.h.

Collaboration diagram for usbid:



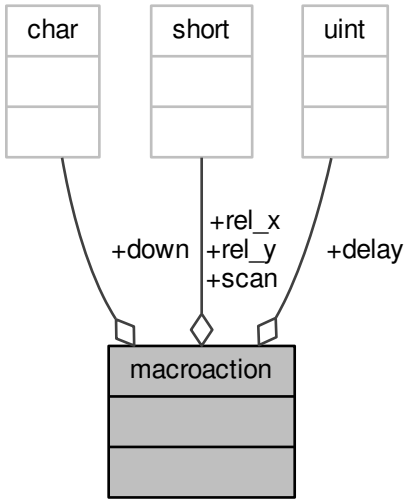
Data Fields

char	guid[16]	
char	modified[4]	

13.47.1.2 struct macroaction

Definition at line 27 of file structures.h.

Collaboration diagram for macroaction:



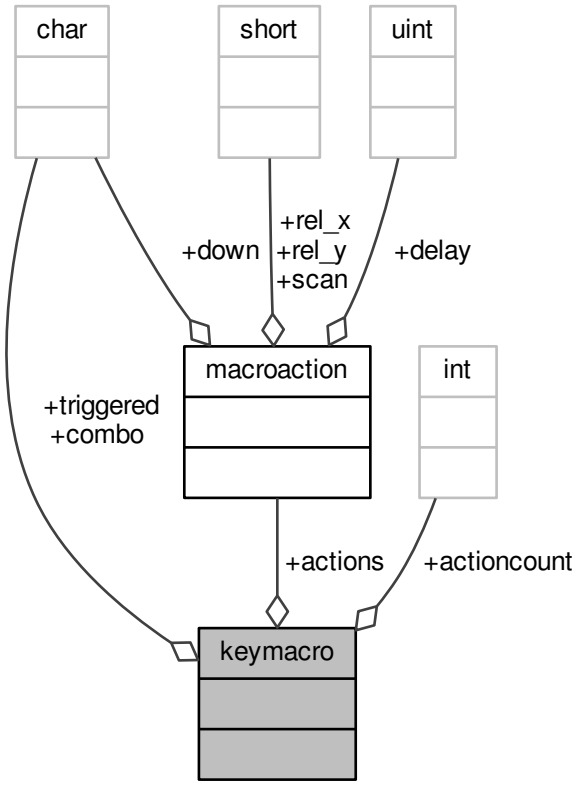
Data Fields

uint	delay	
char	down	
short	rel_x	
short	rel_y	
short	scan	

13.47.1.3 struct keymacro

Definition at line 35 of file structures.h.

Collaboration diagram for keymacro:



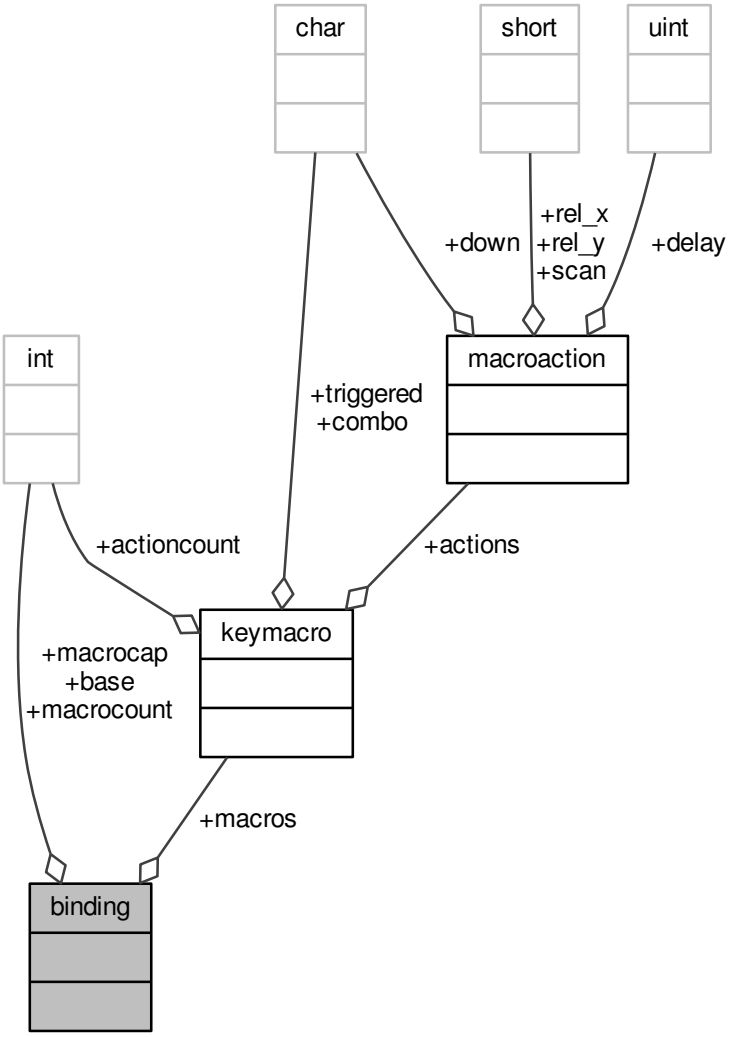
Data Fields

int	actioncount	
macroaction *	actions	
uchar	combo[(((((152+3+12)+25)+7)/8)]	
char	triggered	

13.47.1.4 struct binding

Definition at line 43 of file structures.h.

Collaboration diagram for binding:



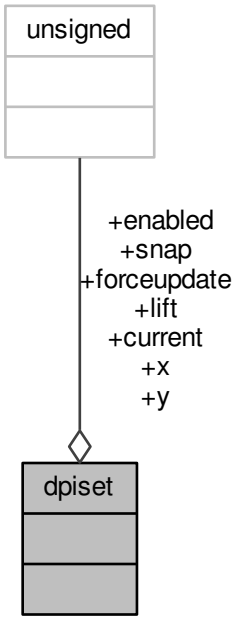
Data Fields

int	base[((152+3+12)+25)]	
int	macrocap	
int	macrocount	
keymacro *	macros	

13.47.1.5 struct dpiset

Definition at line 57 of file structures.h.

Collaboration diagram for dpiset:



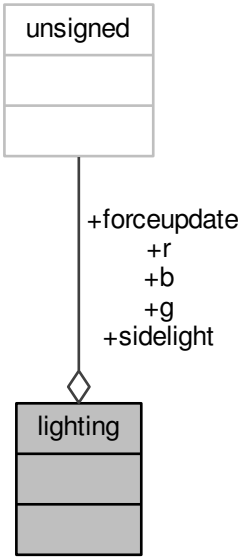
Data Fields

uchar	current	
uchar	enabled	
uchar	forceupdate	
uchar	lift	
uchar	snap	
ushort	x[6]	
ushort	y[6]	

13.47.1.6 struct lighting

Definition at line 73 of file structures.h.

Collaboration diagram for lighting:



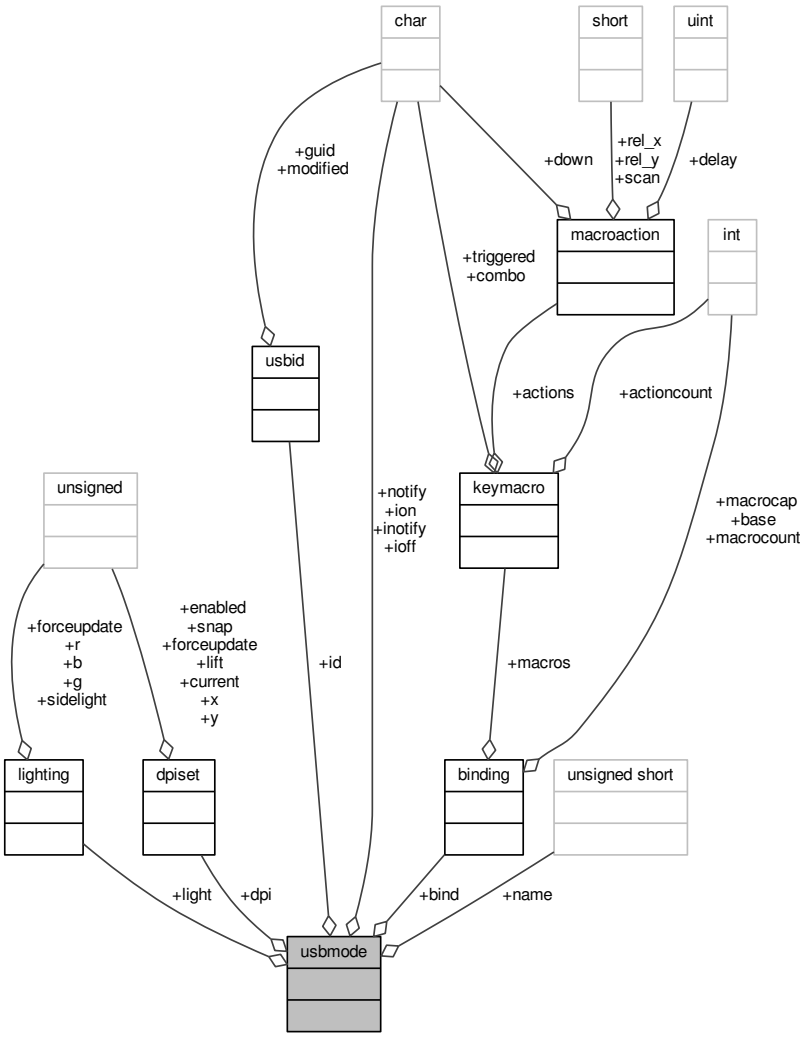
Data Fields

uchar	b[152+11]	
uchar	forceupdate	
uchar	g[152+11]	
uchar	r[152+11]	
uchar	sidelight	

13.47.1.7 struct usbmode

Definition at line 83 of file structures.h.

Collaboration diagram for usbmode:



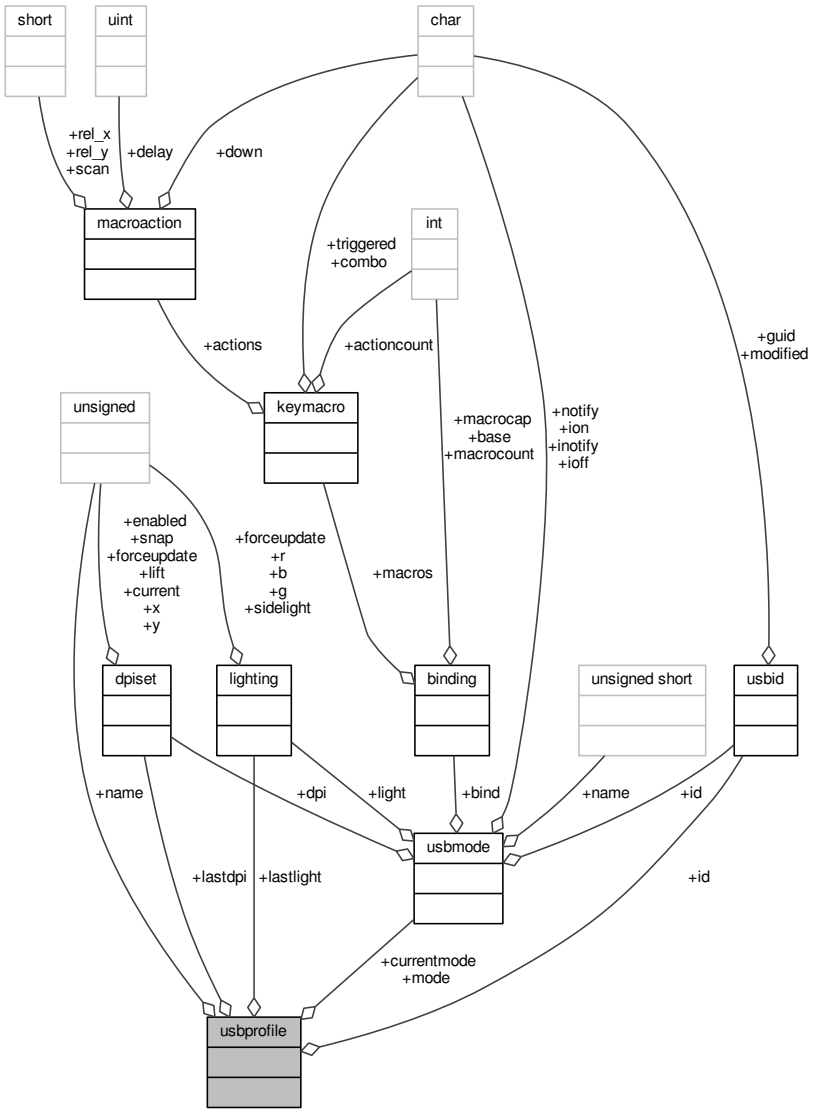
Data Fields

binding	bind	
dpiset	dpi	
usbid	id	
uchar	inotify[10]	
uchar	ioff	
uchar	ion	
lighting	light	
ushort	name[16]	
uchar	notify[10][((((152+3+12)+25)+7)/8)]	

13.47.1.8 struct usbprofile

Definition at line 101 of file structures.h.

Collaboration diagram for usbprofile:



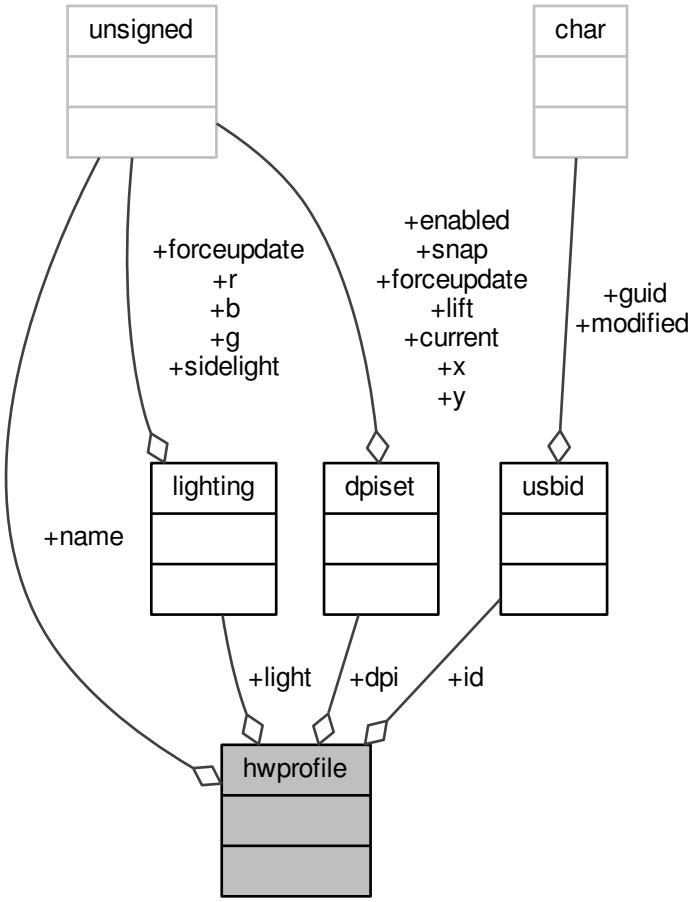
Data Fields

usbmode *	currentmode	
usbid	id	
dpiset	lastdpi	
lighting	lastlight	
usbmode	mode[6]	
ushort	name[16]	

13.47.1.9 struct hwprofile

Definition at line 118 of file structures.h.

Collaboration diagram for hwprofile:



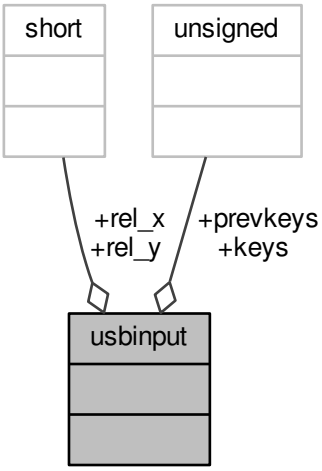
Data Fields

dpiset	dpi[3]	
usbid	id[3+1]	
lighting	light[3]	
ushort	name[3+1][16]	

13.47.1.10 struct usbinput

Definition at line 129 of file structures.h.

Collaboration diagram for usbinput:



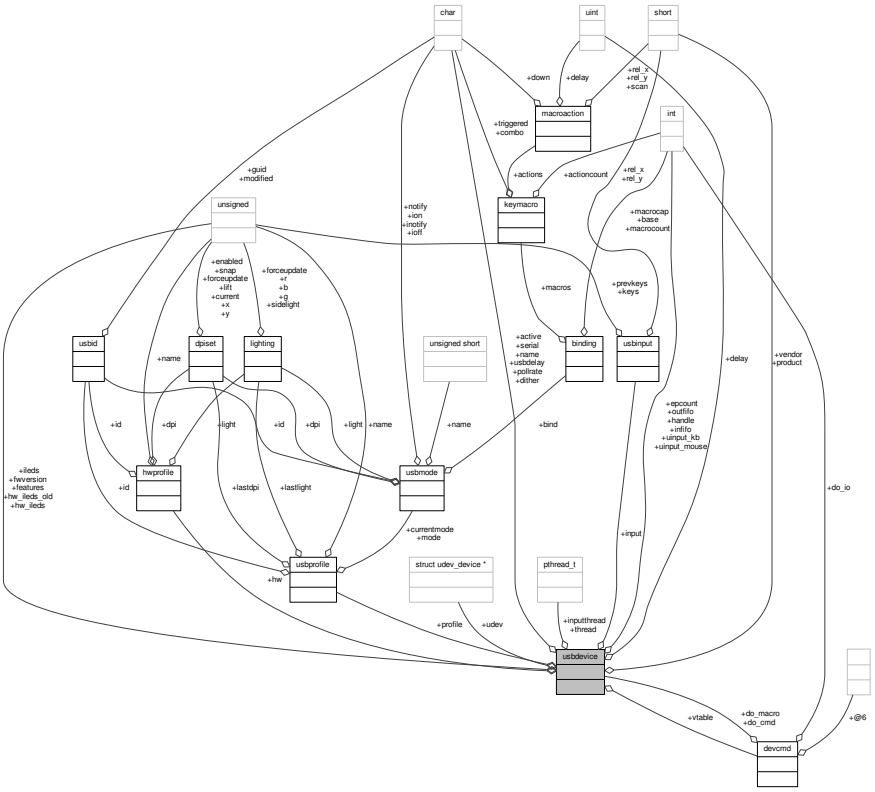
Data Fields

uchar	keys[(((152+3+12)+25)+7)/8)]	
uchar	prevkeys[(((152+3+12)+25)+7)/8)]	
short	rel_x	
short	rel_y	

13.47.1.11 struct usbdevice

Definition at line 178 of file structures.h.

Collaboration diagram for usbdevice:



Data Fields

char	active	
uint	delay	
char	dither	
int	epcount	
ushort	features	
ushort	fwversion	
int	handle	
hwprofile *	hw	
uchar	hw_ileds	
uchar	hw_ileds_old	
uchar	ileds	
int	infifo	
usbinput	input	
pthread_t	inputthread	
char	name[40+1]	
int	outfifo[10]	
char	pollrate	
short	product	

usbprofile *	profile	
char	serial[34]	
pthread_t	thread	
struct udev_device *	udev	
int	uinput_kb	
int	uinput_mouse	
char	usbdelay	
short	vendor	
const union devcmd *	vtable	

13.47.2 Macro Definition Documentation

13.47.2.1 #define CLEAR_KEYBIT(*array, index*) do { (array)[(index) / 8] &= ~(1 << ((index) % 8)); } while(0)

Definition at line 16 of file structures.h.

Referenced by cmd_notify(), corsair_mousecopy(), hid_kb_translate(), and hid_mouse_translate().

13.47.2.2 #define DPI_COUNT 6

Definition at line 54 of file structures.h.

Referenced by cmd_dpi(), cmd_dpisel(), loaddpi(), printdpi(), savedpi(), and updatedpi().

13.47.2.3 #define FEAT_ADJRATE 0x008

Definition at line 139 of file structures.h.

Referenced by _mkdevpath(), _setupusb(), and _start_dev().

13.47.2.4 #define FEAT_ANSI 0x200

Definition at line 146 of file structures.h.

Referenced by readcmd().

13.47.2.5 #define FEAT_BIND 0x010

Definition at line 140 of file structures.h.

Referenced by _mkdevpath(), main(), and readcmd().

13.47.2.6 #define FEAT_COMMON (FEAT_BIND | FEAT_NOTIFY | FEAT_FWVERSION | FEAT_MOUSEACCEL | FEAT_HWLOAD)

Definition at line 151 of file structures.h.

13.47.2.7 #define FEAT_FWUPDATE 0x080

Definition at line 143 of file structures.h.

Referenced by _mkdevpath(), _start_dev(), and cmd_fwupdate().

13.47.2.8 #define FEAT_FWVERSION 0x040

Definition at line 142 of file structures.h.

Referenced by _mkdevpath(), and _start_dev().

13.47.2.9 #define FEAT_HWLOAD 0x100

Definition at line 144 of file structures.h.

Referenced by _start_dev().

13.47.2.10 #define FEAT_ISO 0x400

Definition at line 147 of file structures.h.

Referenced by readcmd().

13.47.2.11 #define FEAT_LMASK (FEAT_ANSI | FEAT_ISO)

Definition at line 154 of file structures.h.

Referenced by readcmd().

13.47.2.12 #define FEAT_MONOCHROME 0x002

Definition at line 137 of file structures.h.

Referenced by _mkdevpath(), and _setupusb().

13.47.2.13 #define FEAT_MOUSEACCEL 0x800

Definition at line 148 of file structures.h.

Referenced by main(), and readcmd().

13.47.2.14 #define FEAT_NOTIFY 0x020

Definition at line 141 of file structures.h.

Referenced by _mkdevpath(), main(), and readcmd().

13.47.2.15 #define FEAT_POLLRATE 0x004

Definition at line 138 of file structures.h.

Referenced by _mkdevpath(), _start_dev(), and getfwversion().

13.47.2.16 #define FEAT_RGB 0x001

Definition at line 136 of file structures.h.

Referenced by _mkdevpath(), _start_dev(), revertusb(), and usbunclaim().

13.47.2.17 #define FEAT_STD_NRGB (FEAT_COMMON)

Definition at line 153 of file structures.h.

Referenced by _setupusb().

13.47.2.18 #define FEAT_STD_RGB (FEAT_COMMON | FEAT_RGB | FEAT_POLLRATE | FEAT_FWUPDATE)

Definition at line 152 of file structures.h.

Referenced by _setupusb().

13.47.2.19 #define HAS_ANY_FEATURE(*kb, feat*) (!!((kb)->features & (feat)))

Definition at line 158 of file structures.h.

13.47.2.20 #define HAS_FEATURES(*kb, feat*) (((kb)->features & (feat)) == (feat))

Definition at line 157 of file structures.h.

Referenced by _mkdevpath(), _start_dev(), cmd_fwupdate(), readcmd(), revertusb(), and usbunclaim().

13.47.2.21 #define HWMODE_K70 1

Definition at line 115 of file structures.h.

Referenced by cmd_hwload_kb(), and cmd_hwsave_kb().

13.47.2.22 #define HWMODE_K95 3

Definition at line 116 of file structures.h.

Referenced by cmd_hwload_kb(), and cmd_hwsave_kb().

13.47.2.23 #define HWMODE_MAX 3

Definition at line 117 of file structures.h.

13.47.2.24 #define I_CAPS 2

Definition at line 20 of file structures.h.

Referenced by _cmd_get(), iselect(), nprintind(), and updateindicators_kb().

13.47.2.25 #define I_NUM 1

Definition at line 19 of file structures.h.

Referenced by _cmd_get(), iselect(), nprintind(), and updateindicators_kb().

13.47.2.26 #define I_SCROLL 4

Definition at line 21 of file structures.h.

Referenced by _cmd_get(), iselect(), nprintind(), and updateindicators_kb().

13.47.2.27 #define IFACE_MAX 4

Definition at line 177 of file structures.h.

13.47.2.28 #define KB_NAME_LEN 40

Definition at line 174 of file structures.h.

Referenced by _setupusb(), and os_setupusb().

13.47.2.29 #define LIFT_MAX 5

Definition at line 56 of file structures.h.

Referenced by cmd_lift(), and loaddpi().

13.47.2.30 #define LIFT_MIN 1

Definition at line 55 of file structures.h.

Referenced by cmd_lift(), and loaddpi().

13.47.2.31 #define MACRO_MAX 1024

Definition at line 51 of file structures.h.

Referenced by _cmd_macro().

13.47.2.32 #define MD_NAME_LEN 16

Definition at line 82 of file structures.h.

Referenced by cmd_hwsave_kb(), cmd_hwsave_mouse(), cmd_name(), gethwmodename(), gethwprofilename(), getmodename(), hwloadmode(), hwtonative(), and nativetohw().

13.47.2.33 #define MODE_COUNT 6

Definition at line 100 of file structures.h.

Referenced by _freeprofile(), allocprofile(), and readcmd().

13.47.2.34 #define MSG_SIZE 64

Definition at line 176 of file structures.h.

Referenced by _usbsend(), cmd_hwload_kb(), cmd_hwload_mouse(), cmd_hwsave_kb(), cmd_hwsave_mouse(), cmd_pollrate(), fwupdate(), getfwversion(), hwloadmode(), loaddpi(), loadrgb_kb(), loadrgb_mouse(), os_inputmain(), os_usbrecv(), os_usbsend(), savedpi(), savergb_kb(), savergb_mouse(), setactive_kb(), setactive_mouse(), updatedpi(), updatergb_kb(), and updatergb_mouse().

13.47.2.35 #define NEEDS_FW_UPDATE(*kb*) ((kb)->fwversion == 0 && HAS_FEATURES((kb), FEAT_FWUPDATE | FEAT_FWVERSION))

Definition at line 161 of file structures.h.

Referenced by _start_dev(), readcmd(), revertusb(), setactive_kb(), and setactive_mouse().

13.47.2.36 #define OUTFIFO_MAX 10

Definition at line 24 of file structures.h.

Referenced by _mknotifynode(), _rmnotifynode(), inputupdate_keys(), nprintf(), readcmd(), rmdevpath(), and updateindicators_kb().

13.47.2.37 #define PR_NAME_LEN 16

Definition at line 99 of file structures.h.

Referenced by cmd_hwload_kb(), cmd_hwload_mouse(), cmd_profilename(), getprofilename(), hwtonative(), and nativetohw().

13.47.2.38 #define SCROLL_ACCELERATED 0

Definition at line 164 of file structures.h.

Referenced by readcmd().

13.47.2.39 #define SCROLL_MAX 10

Definition at line 166 of file structures.h.

Referenced by readcmd().

13.47.2.40 #define SCROLL_MIN 1

Definition at line 165 of file structures.h.

Referenced by readcmd().

13.47.2.41 #define SERIAL_LEN 34

Definition at line 175 of file structures.h.

Referenced by _setupusb(), and os_setupusb().

13.47.2.42 #define SET_KEYBIT(*array, index*) do { (array)[(index) / 8] |= 1 << ((index) % 8); } while(0)

Definition at line 15 of file structures.h.

Referenced by _cmd_macro(), cmd_notify(), corsair_mousecopy(), hid_kb_translate(), and hid_mouse_translate().

13.47.3 Variable Documentation

13.47.3.1 const union devcmd vtable_keyboard

Definition at line 29 of file device_vtable.c.

Referenced by get_vtable().

13.47.3.2 const union devcmd vtable_keyboard_nonrgb

Definition at line 76 of file device_vtable.c.

Referenced by get_vtable().

13.47.3.3 const union devcmd vtable_mouse

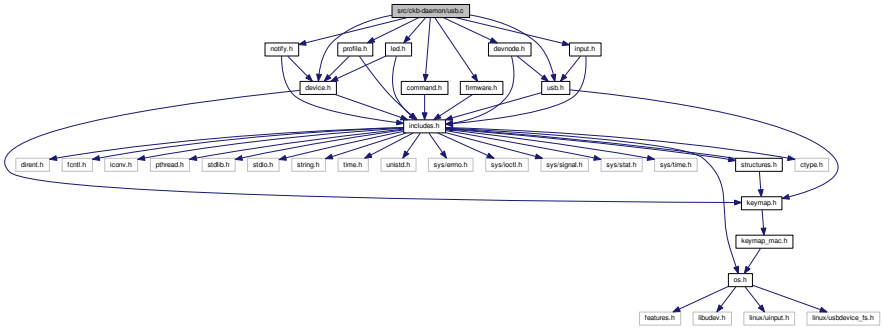
Definition at line 123 of file device_vtable.c.

Referenced by get_vtable().

13.48 src/ckb-daemon/usb.c File Reference

```
#include "command.h"
#include "device.h"
#include "devnode.h"
#include "firmware.h"
#include "input.h"
#include "led.h"
#include "notify.h"
#include "profile.h"
#include "usb.h"
```

Include dependency graph for usb.c:



Functions

- const char * vendor_str (short vendor)

  brief .
- const char * product_str (short product)

  brief .
- static const devcmd * get_vtable (short vendor, short product)

  brief .
- static void * devmain (usbdevice *kb)

  brief .
- static void * _setupusb (void *context)

  brief .
- void setupusb (usbdevice *kb)
- int revertusb (usbdevice *kb)
- int _resetusb (usbdevice *kb, const char *file, int line)
- int usb_tryreset (usbdevice *kb)
- int _usbsend (usbdevice *kb, const uchar *messages, int count, const char *file, int line)
- int _usbrecv (usbdevice *kb, const uchar *out_msg, uchar *in_msg, const char *file, int line)
- int closeusb (usbdevice *kb)

Variables

- pthread_mutex_t usbmutex = PTHREAD_MUTEX_INITIALIZER

  brief .
- volatile int reset_stop = 0

  brief .
- int features_mask = -1

  brief .
- int hwload_mode

  hwload_mode is defined in device.c

13.48.1 Function Documentation

13.48.1.1 int _resetusb (usbdevice * *kb*, const char * *file*, int *line*)

_resetusb Reset a USB device.

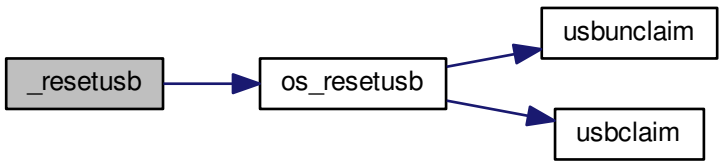
First reset the device via os_resetusb() after a long delay (it may send something to the host). If this worked (retval == 0), give the device another long delay Then perform the initialization via the device specific start() function entry in kb->vtable and if this is successful also, return the result of the device depenten updatergb() with force=true.

Definition at line 426 of file usb.c.

References usbdevice::active, DELAY_LONG, os_resetusb(), and usbdevice::vtable.

```
426                                                     {
427     // Perform a USB reset
428     DELAY_LONG(kb);
429     int res = os_resetusb(kb, file, line);
430     if(res)
431         return res;
432     DELAY_LONG(kb);
433     // Re-initialize the device
434     if(kb->vtable->start(kb, kb->active) != 0)
435         return -1;
436     if(kb->vtable->updatergb(kb, 1) != 0)
437         return -1;
438     return 0;
439 }
```

Here is the call graph for this function:



13.48.1.2 static void* _setupusb (void * *context*) [static]

_setupusb A horrible function for setting up an usb device

Parameters

context	As _setupusb() is called as a new thread, the kb∗ is transferred as void∗

Returns

a ptread_t∗ 0, here casted as void∗. Retval is always null

The basic structure of the function is somewhat habituated. It is more like an assembler routine than a structured program. This is not really bad, but just getting used to.

After every action, which can be practically fault-prone, the routine goes into the same error handling: It goes via goto to one of two exit labels. The difference is whether or not an unlock has to be performed on the imutex variable. In both cases, closeusb() is called, then an unlock is performed on the dmutex.

The only case where this error handling is not performed is the correct return of the call to devmain(). Here simply the return value of devmain() is passed to the caller.

In either case, the routine terminates with a void∗ 0 because either devmain() has returned constant null or the routine itself returns zero.

The basic idea of this routine is the following:

First some initialization of kb standard structured and local vars is done.

- **kb** is set to the pointer given from start environment
- local vars **vendor** and **product** are set to the values from the corresponding fields of kb
- local var **vt and** the **kb-**>**vtable** are both set to the retval of *get_vtable()*
- **kb-**>**features** are set depending on the type of hardware connected:
  - set either to standard non rgb (all common flags like binding, notify, FW, hardware-loading etc) or in case of RGB-device set to standard + RGB, pollrate-change and fw-update
  - exclude all features which are disabled via feature_mask (set by daemon CLI parameters)
  - if it is a mouse, add adjust-rate
  - if it is a monochrome device, set the flag for RGB-protocol, but single color
- the standard delay time is initialized in kb->usbdelay
- A fixed 100ms wait is the start. **Although the DELAY_LONG macro is given a parameter, it is ignored. Occasionally refactor it.**
- The first relevant point is the operating system-specific opening of the interface in os_setupusb(). As a result, some parameters should be set in kb (name, serial, fwversion, epcount = number of usb endpoints), and all endpoints should be claimed with usbclaim(). Claiming is the only point where os_setupusb() can produce an error (-1, otherwise 0).
- The following two statements deal with possible errors when setting the kb values in the current routine: If the version or the name was not read correctly, they are set to default values:
  - serial is set to "<vendor>: <product> -NoID"
  - the name is set to "<vendor> <product>".
- Then the user level input subsystem is activated via os_openinput(). There are two file descriptors, one for the mouse and one for the keyboard. **As mentioned in structures.h, not the just opened FD numbers are stored under kb-**>**uinput_kb or kb-**>**uinput_mouse, but the values increased by 1!** The reason is, if the open fails or not open has been done until now, that struct member is set to 0, not to -1 or other negative value. So all usage of this kb->handle must be something like "`kb->handle - 1`", as you can find it in the code.
- The next action is to create a separate thread, which gets as parameter kb and starts with os_inputmain(). The thread is immediately detached so that it can return its resource completely independently if it should terminate.

- The same happens with os_setupindicators(), which initially initializes all LED variables in kb to off and then starts the _ledthread() thread with kb as parameter and then detaches it. Here again only the generation of the thread can fail.

- Via an entry in the vable (allocprofile, identical for all three vtable types), allocprofile() is called in profile.c. With a valid parameter kb, a usbprofile structure is allocated and stored as a kb->profile. Then initmode() is called for each of the initializable modes (MODE_COUNT, currently 6). This procedure creates the memory space for the mode information, initializes the range to 0, and then sets the light.forceupdate and dpi.forceupdate to true. This forces an update later in the initialization of the device.

  The first mode is set as the current mode and two force flags are set (this seems to be mode-intersecting flags for light and update).

  Warning

  There is no error handling for the allocprofile() and initmode() procedures. However, since they allocate storage areas, the subsequent assignments and initializations can run in a SEGV.

- Not completely understandable is why now via the vtable the function updateindicators() is called. But this actually happens in the just started thread _ledthread(). Either the initialization is wrong und must done here with force or the overview is lost, what happens when...

  Regardless: For a mouse nothing happens here, for a keyboard updateindicators_kb() is called via the entry in kb->vtable. The first parameter is kb again, the second is constant 1 (means force = true). This causes the LED status to be sent after a 5ms delay via os_sendindicators() (ioctl with a `usbdevfs_ctrltransfer`).

  The notification is sent to all currently open notification channels then.

  Setupindicators() and with it updateindicators_kb() can fail.

- From this point - if an error is detected - the error label is addressed by goto statement, which first performs an unlock on the imutex. This is interesting because the next statement is exactly this: An unlock on the imutex.

- Via vtable the *kb->start()* function is called next. This is the same for a mouse and an RGB keyboard: start_dev(), for a non RGB keyboard it is start_kb_nrgb().

  First parameter is as always kb, second is 0 (makeactive = false).

  - In start_kb_nrgb() set the keyboard into a so-called software mode (NK95_HWOFF) via ioctl with `usbdevfs_ctrltransfer` in function _nk95cmd(), which will in turn is called via macro nk95cmd() via start_kb_nrgb().

    Then two dummy values (active and pollrate) are set in the kb structure and ready.
  - start_dev() does a bit more - because this function is for both mouse and keyboard. start_dev() calls - after setting an extended timeout parameter - _start_dev(). Both are located in device.c.
  - First, _start_dev() attempts to determine the firmware version of the device, but only if two conditions are met: hwload-mode is not null (then hw-loading is disabled) and the device has the FEAT_HWLOAD feature. Then the firmware and the poll rate are fetched via getfwversion().

    If hwload_mode is set to "load only once" (==1), then the HWLOAD feature is masked, so that no further reading can take place.
  - Now check if device needs a firmware update. If so, set it up and leave the function without error.
  - Else load the hardware profile from device if the hw-pointer is not set and hw-loading is possible and allowed.

    Return error if mode == 2 (load always) and loading got an error. Else mask the HWLOAD feature, because hwload must be 1 and the error couold be a repeated hw-reading.

    Puh, that is real Horror code. It seems to be not faulty, but completely unreadable.
  - Finally, the second parameter of _startdev() is used to check whether the device is to be activated. Depending on the parameter, the active or the idle-member in the correspondig vtable is called. These are device-dependent again:

Device	active	idle
RGB Keyboard	cmd_active_kb() means: start the device with a lot of kb-specific initializers (software controlled mode)	cmd_idle_kb() set the device with a lot of kb-specific initializers into the hardware controlled mode)
non RGB Keyboard	cmd_io_none() means: Do nothing	cmd_io_none() means: Do nothing
Mouse	cmd_active_mouse() similar to cmd_active_kb()	cmd_idle_mouse similar to cmd_idle_kb()

- If either *start()* succeeded or the next following usb_tryreset(), it goes on, otherwise again a hard abort occurs.
- Next, go to mkdevpath(). After securing the EUID (effective UID) especially for macOS, work starts really in _mkdevpath(). Create - no matter how many devices were registered - either the ckb0/ files **version**, **pid** and **connected** or the **cmd** command fifo, the first notification fifo **notify0**, **model** and **serial** as well as the **features** of the device and the **pollrate**.
- If all this is done and no error has occurred, a debug info is printed ("Setup finished for ckbx") updateconnected() writes the new device into the text file under ckb0/ and devmain() is called.

devmain()'s return value is returned by _setupusb() when we terminate.

- The remaining code lines are the two exit labels as described above

Definition at line 214 of file usb.c.

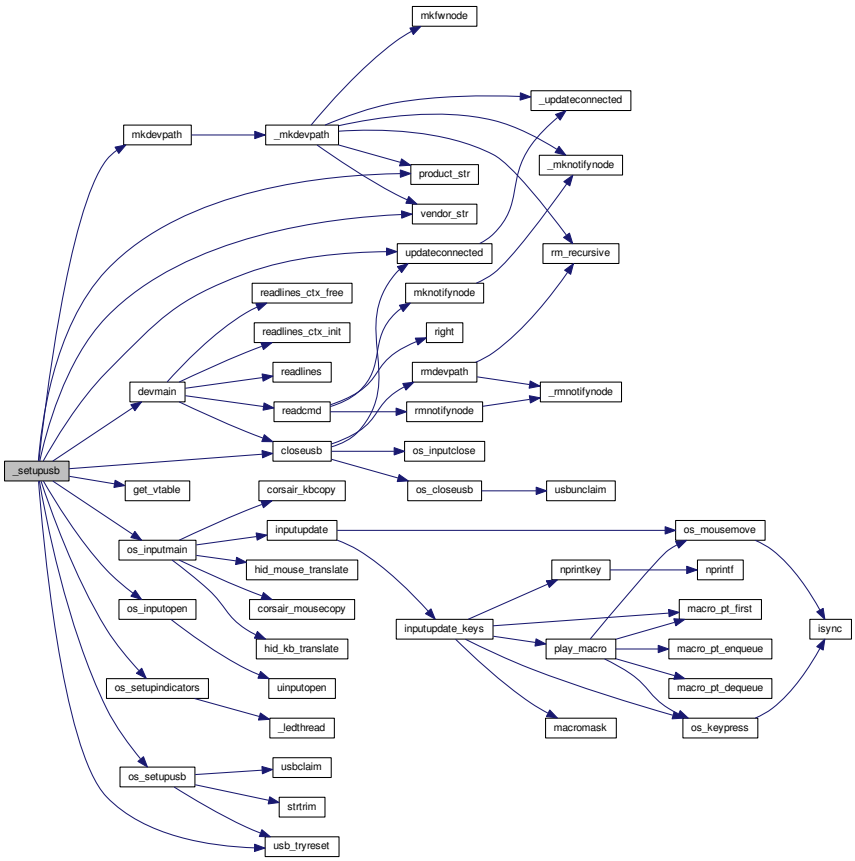
References ckb_info, closeusb(), DELAY_LONG, devmain(), devpath, dmutex, FEAT_ADJRATE, FEAT_MONOCHROME, FEAT_STD_NRGB, FEAT_STD_RGB, usbdevice::features, features_mask, get_vtable(), imutex, INDEX_OF, usbdevice::inputthread, IS_MONOCHROME, IS_MOUSE, IS_RGB, KB_NAME_LEN, keyboard, mkdevpath(), usbdevice::name, os_inputmain(), os_inputopen(), os_setupindicators(), os_setupusb(), usbdevice::product, product_str(), usbdevice::serial, SERIAL_LEN, updateconnected(), USB_DELAY_DEFAULT, usb_tryreset(), usbdevice::usbdelay, usbdevice::vendor, vendor_str(), and usbdevice::vtable.

Referenced by setupusb().

```
214                                     {
227     usbdevice* kb = context;
228     // Set standard fields
229     short vendor = kb->vendor, product = kb->product;
230     const devcmd* vt = kb->vtable = get_vtable(vendor, product);
231     kb->features = (IS_RGB(vendor, product) ? FEAT_STD_RGB :
    FEAT_STD_NRGB) & features_mask;
232     if(IS_MOUSE(vendor, product)) kb->features |= FEAT_ADJRATE;
233     if(IS_MONOCHROME(vendor, product)) kb->features |=
    FEAT_MONOCHROME;
234     kb->usbdelay = USB_DELAY_DEFAULT;
235
236     // Perform OS-specific setup
240     DELAY_LONG(kb);
241
247     if(os_setupusb(kb))
248         goto fail;
249
255     // Make up a device name and serial if they weren't assigned
256     if(!kb->serial[0])
257         snprintf(kb->serial, SERIAL_LEN, "%04x:%04x-NoID", kb->
    vendor, kb->product);
258     if(!kb->name[0])
259         snprintf(kb->name, KB_NAME_LEN, "%s %s", vendor_str(kb->
    vendor), product_str(kb->product));
260
261     // Set up an input device for key events
269     if(os_inputopen(kb))
270         goto fail;
274     if(pthread_create(&kb->inputthread, 0, os_inputmain, kb))
275         goto fail;
276     pthread_detach(kb->inputthread);
282     if(os_setupindicators(kb))
283         goto fail;
284
285     // Set up device
298     vt->allocprofile(kb);
```

```
309     vt->updateindicators(kb, 1);
314     pthread_mutex_unlock(imutex(kb));
348     if(vt->start(kb, 0) && usb_tryreset(kb))
349         goto fail_noinput;
355     // Make /dev path
356     if(mkdevpath(kb))
357         goto fail_noinput;
363     // Finished. Enter main loop
364     int index = INDEX_OF(kb, keyboard);
365     ckb_info("Setup finished for %s%d\n", devpath, index);
366     updateconnected();
369     return devmain(kb);
372     fail:
373     pthread_mutex_unlock(imutex(kb));
374     fail_noinput:
375     closeusb(kb);
376     pthread_mutex_unlock(dmutex(kb));
377     return 0;
378 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.48.1.3 int _usbrecv (usbdevice * kb, const uchar * out_msg, uchar * in_msg, const char * file, int line)

_usbrecv Request data from a USB device by first sending an output packet and then reading the response.

To fully understand this, you need to know about usb: All control is at the usb host (the CPU). If the device wants to communicate something to the host, it must wait for the host to ask. The usb protocol defines the cycles and periods in which actions are to be taken.

So in order to receive a data packet from the device, the host must first send a send request.

This is done by _usbrecv() in the first block by sending the MSG_SIZE large data block from **out_msg** via os-_usbsend() as it is a machine depending implementation. The usb target device is as always determined over kb.

For os_usbsend() to know that it is a receive request, the **is_recv** parameter is set to true (1). With this, os_usbsend () generates a control package for the hardware, not a data packet.

If sending of the control package is not successful, a maximum of 5 times the transmission is repeated (including the first attempt). If a non-cancelable error is signaled or the drive is stopped via reset_stop, _usbrecv() immediately returns 0.

After this, the function waits for the requested response from the device using os_usbrecv ().

os_usbrecv() returns 0, -1 or something else.

Zero signals a serious error which is not treatable and _usbrecv() also returns 0.

-1 means that it is a treatable error - a timeout for example - and therefore the next transfer attempt is started after a long pause (DELAY_LONG) if not reset_stop or the wrong hwload_mode require a termination with a return value of 0.

After 5 attempts, _usbrecv () returns and returns 0 as well as an error message.

When data is received, the number of received bytes is returned. This should always be MSG_SIZE, but os_-usbrecv() can also return less. It should not be more, because then there would be an unhandled buffer overflow, but it could be less. This would be signaled in os_usbrecv () with a message.

The buffers behind **out_msg** and **in_msg** are MSG_SIZE at least (currently 64 Bytes). More is ok but useless, less brings unpredictable behavior. < Synchonization between macro and color information

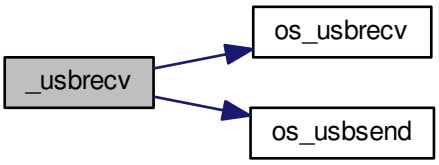
Definition at line 601 of file usb.c.

References ckb_err_fn, DELAY_LONG, DELAY_MEDIUM, DELAY_SHORT, hwload_mode, mmutex, os_usbrecv(), os_usbsend(), and reset_stop.

```
601                                                                                                 {
602     // Try a maximum of 5 times
603     for (int try = 0; try < 5; try++) {
604         // Send the output message
605         pthread_mutex_lock(mmutex(kb));
606         DELAY_SHORT(kb);
607         int res = os_usbsend(kb, out_msg, 1, file, line);
608         pthread_mutex_unlock(mmutex(kb));
609         if (res == 0)
610             return 0;
611         else if (res == -1) {
612             // Retry on temporary failure
613             if (reset_stop)
614                 return 0;
615             DELAY_LONG(kb);
616             continue;
617         }
618         // Wait for the response
619         DELAY_MEDIUM(kb);
620         res = os_usbrecv(kb, in_msg, file, line);
621         if(res == 0)
622             return 0;
623         else if(res != -1)
624             return res;
625         if(reset_stop || hwload_mode != 2)
626             return 0;
627         DELAY_LONG(kb);
628     }
629     // Give up
630     ckb_err_fn("Too many send/recv failures. Dropping.\n", file, line);
631     return 0;
```

```
632 }
```

Here is the call graph for this function:



13.48.1.4 int _usbsend (usbdevice * *kb,* const uchar * *messages,* int *count,* const char * *file,* int *line*)

_usbsend send a logical message completely to the given device

Todo A lot of different conditions are combined in this code. Don't think, it is good in every combination...

The main task of _usbsend () is to transfer the complete logical message from the buffer beginning with *messages* to **count** * **MSG_SIZE**.

According to usb 2.0 specification, a USB transmits a maximum of 64 byte user data packets. For the transmission of longer messages we need a segmentation. And that is exactly what happens here.

The message is given one by one to os_usbsend() in MSG_SIZE (= 64) byte large bites.

Attention

This means that the buffer given as argument must be n * MSG_SIZE Byte long.

An essential constant parameter which is relevant for os_usbsend() only is is_recv = 0, which means sending.

Now it gets a little complicated again:

- If os_usbsend() returns 0, only zero bytes could be sent in one of the packets, or it was an error (-1 from the systemcall), but not a timeout. How many Bytes were sent in total from earlier calls does not seem to matter, _usbsend() returns a total of 0.
- Returns os_usbsend() -1, first check if **reset_stop** is set globally or (incomprehensible) hwload_mode is not set to "always". In either case, _usbsend() returns 0, otherwise it is assumed to be a temporary transfer error and it simply retransmits the physical packet after a long delay.
- If the return value of os_usbsend() was neither 0 nor -1, it specifies the numer of bytes transferred.

  Here is an information hiding conflict with os_usbsend() (at least in the Linux version):

  If os_usbsend() can not transfer the entire packet, errors are thrown and the number of bytes sent is returned. _usbsend() interprets this as well and remembers the total number of bytes transferred in the local variable **total_sent**. Subsequently, however, transmission is continued with the next complete MSG_SIZE block and not with the first of the possibly missing bytes.

  Todo Check whether this is the same in the macOS variant. It is not dramatic, but if errors occur, it can certainly irritate the devices completely if they receive incomplete data streams. Do we have errors with the messages "Wrote YY bytes (expected 64)" in the system logs? If not, we do not need to look any further.

When the last packet is transferred, _usbsend() returns the effectively counted set of bytes (from **total_sent**). This at least gives the caller the opportunity to check whether something has been lost in the middle.

A bit strange is the structure of the program: Handling the **count** MSG_SIZE blocks to be transferred is done in the outer for (...) loop. Repeating the transfer with a treatable error is managed by the inner while(1) loop.

This must be considered when reading the code; The "break" on successful block transfer leaves the inner while, not the for (...). < Synchonization between macro and color information

Definition at line 532 of file usb.c.

References DELAY_LONG, DELAY_SHORT, hwload_mode, mmutex, MSG_SIZE, os_usbsend(), and reset_stop.

```
532                                                                                                 {
533     int total_sent = 0;
534     for(int i = 0; i < count; i++){
535         // Send each message via the OS function
536         while(1){
537             pthread_mutex_lock(mmutex(kb));
538             DELAY_SHORT(kb);
539             int res = os_usbsend(kb, messages + i * MSG_SIZE, 0, file, line);
540             pthread_mutex_unlock(mmutex(kb));
541             if(res == 0)
542                 return 0;
543             else if(res != -1){
544                 total_sent += res;
545                 break;
546             }
547             // Stop immediately if the program is shutting down or hardware load is set to tryonce
548             if(reset_stop || hwload_mode != 2)
549                 return 0;
550             // Retry as long as the result is temporary failure
551             DELAY_LONG(kb);
552         }
553     }
554     return total_sent;
555 }
```

Here is the call graph for this function:

13.48.1.5 int closeusb (usbdevice * *kb*)

closeusb Close a USB device and remove device entry.

An imutex lock ensures first of all, that no communication is currently running from the viewpoint of the driver to the user input device (ie the virtual driver with which characters or mouse movements are sent from the daemon to the operating system as inputs).

If the **kb** has an acceptable value != 0, the index of the device is looked for and with this index os_inputclose() is called. After this no more characters can be sent to the operating system.

Then the connection to the usb device is capped by os_closeusb().

Todo What is not yet comprehensible is the call to updateconnected() BEFORE os_closeusb(). Should that be in the other sequence? Or is updateconnected() not displaying the connected usb devices, but the representation which uinput devices are loaded? Questions about questions ...

If there is no valid **handle**, only updateconnected() is called. We are probably trying to disconnect a connection under construction. Not clear.

The cmd pipe as well as all open notify pipes are deleted via rmdevpath ().

This means that nothing can happen to the input path - so the device-specific imutex is unlocked again and remains unlocked.

Also the dmutex is unlocked now, but only to join the thread, which was originally taken under **kb->thread** (which started with _setupusb()) with pthread_join() again. Because of the closed devices that thread would have to quit sometime

See Also

the hack note with rmdevpath())

As soon as the thread is caught, the dmutex is locked again, which is what I do not understand yet: What other thread can do usb communication now?

If the vtabel exists for the given kb (why not? It seems to have race conditions here!!), via the vtable the actually device-specific, but still everywhere identical freeprofile() is called. This frees areas that are no longer needed. Then the **usbdevice** structure in its array is set to zero completely.

Error handling is rather unusual in closeusb(); Everything works (no matter what the called functions return), and closeusb() always returns zero (success).

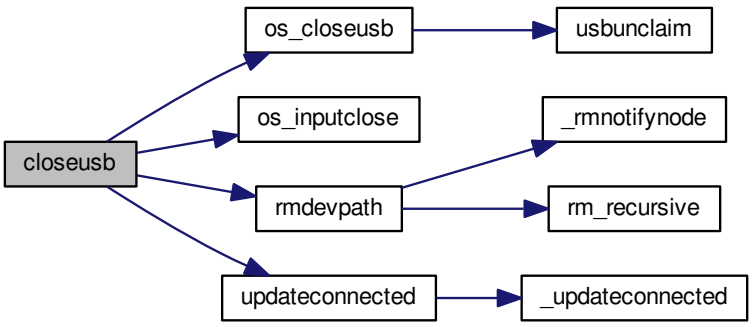
Definition at line 677 of file usb.c.

References ckb_info, devpath, dmutex, usbdevice::handle, imutex, INDEX_OF, keyboard, os_closeusb(), os_inputclose(), rmdevpath(), usbdevice::thread, updateconnected(), and usbdevice::vtable.

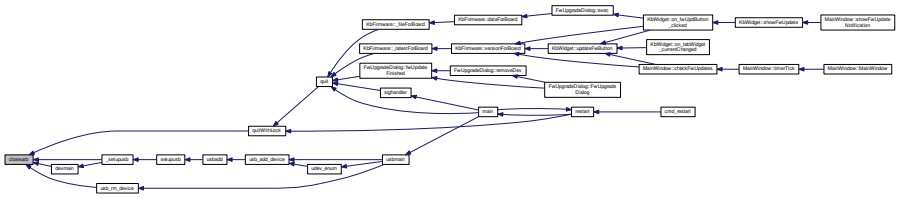
Referenced by _setupusb(), devmain(), quitWithLock(), and usb_rm_device().

```
677                             {
678     pthread_mutex_lock(imutex(kb));
679     if(kb->handle){
680         int index = INDEX_OF(kb, keyboard);
681         ckb_info("Disconnecting %s%d\n", devpath, index);
682         os_inputclose(kb);
683         updateconnected();
684         // Close USB device
685         os_closeusb(kb);
686     } else
687         updateconnected();
688     rmdevpath(kb);
689
690     // Wait for thread to close
691     pthread_mutex_unlock(imutex(kb));
692     pthread_mutex_unlock(dmutex(kb));
693     pthread_join(kb->thread, 0);
694     pthread_mutex_lock(dmutex(kb));
695
696     // Delete the profile and the control path
697     if(!kb->vtable)
698         return 0;
699     kb->vtable->freeprofile(kb);
700     memset(kb, 0, sizeof(usbdevice));
701     return 0;
702 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.48.1.6 static void* devmain (usbdevice * *kb*) [static]

devmain is called by _setupusb

Parameters

kb	the pointer to the device. Even if it has the name kb, it is valid also for a mouse (the whole driver seems to be implemented first for a keyboard).

Returns

always a nullptr

Synchronization

The syncing via mutexes is interesting:

1. *imutex* (the Input mutex)

   This one is locked in `setupusb()`. That function does only two things: Locking the mutex and trying to start a thread at `_setupusb()`. _setupusb() unlocks *imutex* after getting some buffers and initalizing internal structures from the indicators (this function often gets problems with error messages like "unable to read indicators" or "Timeout bla blubb").

Warning

have a look at *updateindicators()* later.
if creating the thread is not successful, the *imutex* remains blocked. Have a look at setupusb() later.

2. *dmutex* (the Device mutex)

   This one is very interesting, because it is handled in devmain(). It seems that it is locked only in *_ledthread()*, which is a thread created in *os_setupindicators()*. os_setupindicators() again is called in *_setupusb()* long before calling devmain(). So this mutex is locked when we start the function as the old comment says.

   Before reading from the FIFO and direct afterwards an unlock..lock sequence is implemented here. Even if only the function readlines() should be surrounded by the unlock..lock, the variable definition of the line pointer is also included here. Not nice, but does not bother either. Probably the Unlock..lock is needed so that now another process can change the control structure *linectx* while we wait in readlines().

   Todo Hope to find the need for dmutex usage later.
   Should this function be declared as pthread_t∗ function, because of the defintion of pthread-create? But void∗ works also...

Attention

dmutex should still be locked when this is called

First a *readlines_ctx* buffer structure is initialized by `readlines_ctx_init()`.

After some setup functions, beginning in _setupusb() which has called devmain(), we read the command input--Fifo designated to that device in an endless loop. This loop has two possible exits (plus reaction to signals, not mentioned here).

If the reading via readlines() is successful (we might have read multiple lines), the interpretation is done by readcmd() iff the connection to the device is still available (checked via IS_CONNECTED(kb)). This is true if the kb-structure has a handle and an event pointer both != Null). If not, the loop is left (the first exit point).

if nothing is in the line buffer (some magic interrupt?), continue in the endless while without any reaction.

Todo readcmd() gets a **line**, not **lines**. Have a look on that later.

Is the condition IS_CONNECTED valid? What functions change the condititon for the macro?

If interpretation and communication with the usb device got errors, they are signalled by readcmd() (non zero retcode). In this case the usb device is closed via closeusb() and the endless loop is left (the second exit point).

After leaving the endless loop the readlines-ctx structure and its buffers are freed by readlines_ctx_free().

Definition at line 135 of file usb.c.

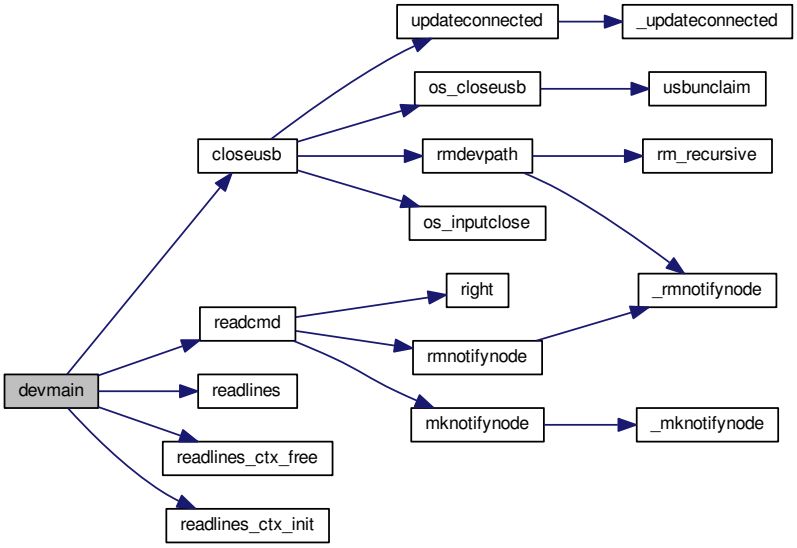
References closeusb(), dmutex, usbdevice::infifo, IS_CONNECTED, readcmd(), readlines(), readlines_ctx_free(), and readlines_ctx_init().

Referenced by _setupusb().

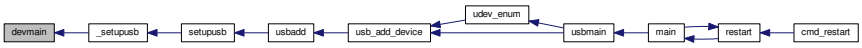
```
135                                     {
137     int kbfifo = kb->infifo - 1;
140     readlines_ctx linectx;
141     readlines_ctx_init(&linectx);
146     while(1){
153         pthread_mutex_unlock(dmutex(kb));
154         // Read from FIFO
155         const char* line;
156         int lines = readlines(kbfifo, linectx, &line);
157         pthread_mutex_lock(dmutex(kb));
158         // End thread when the handle is removed
159         if(!IS_CONNECTED(kb))
160             break;
164         if(lines){
167             if(readcmd(kb, line)){
173                 // USB transfer failed; destroy device
174                 closeusb(kb);
175                 break;
```

```
176             }
177         }
178     }
179     pthread_mutex_unlock(dmutex(kb));
182     readlines_ctx_free(linectx);
183     return 0;
184 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.48.1.7 static const devcmd* get_vtable (short *vendor*, short *product*) [static]

get_vtable returns the correct vtable pointer

Parameters

vendor	short usb vendor ID
product	short usb product ID

Returns

Depending on the type and model, the corresponding vtable pointer is returned (see below)

At present, we have three different vtables:

- `vtable_mouse` is used for all mouse types. This may be wrong with some newer mice?
- `vtable_keyboard` is used for all RGB Keyboards.

- `vtable_keyboard_nonrgb` for all the rest.

Todo Is the last point really a good decision and always correct?

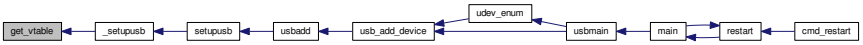
Definition at line 102 of file usb.c.

References IS_MOUSE, IS_RGB, vtable_keyboard, vtable_keyboard_nonrgb, and vtable_mouse.

Referenced by _setupusb().

```
102                                                                    {
103     return IS_MOUSE(vendor, product) ? &vtable_mouse :
      IS_RGB(vendor, product) ? &vtable_keyboard : &
      vtable_keyboard_nonrgb;
104 }
```

Here is the caller graph for this function:



13.48.1.8 const char* product_str (short *product*)

product_str returns a condensed view on what type of device we have.

At present, various models and their properties are known from corsair products. Some models differ in principle (mice and keyboards), others differ in the way they function (for example, RGB and non RGB), but they are very similar.

Here, only the first point is taken into consideration and we return a unified model string. If the model is not known with its number, *product_str* returns an empty string.

The model numbers and corresponding strings wwith the numbers in hex-string are defined in `usb.h`

At present, this function is used to initialize `kb->name` and to give information in debug strings.

Attention

The combinations below have to fit to the combinations in the macros mentioned above. So if you add a device with a new number, change both.

Todo There are macros defined in usb.h to detect all the combinations below. the only difference is the parameter: The macros need the *kb**, product_str() needs the *product ID*

Definition at line 70 of file usb.c.

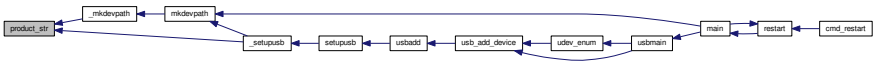
References P_K65, P_K65_LUX, P_K65_NRGB, P_K65_RFIRE, P_K70, P_K70_LUX, P_K70_LUX_NRGB, P_K70_NRGB, P_K70_RFIRE, P_K70_RFIRE_NRGB, P_K95, P_K95_NRGB, P_K95_PLATINUM, P_M65, P_M65_PRO, P_SABRE_L, P_SABRE_N, P_SABRE_O, P_SABRE_O2, P_SCIMITAR, P_SCIMITAR_PRO, P_STRAFE, and P_STRAFE_NRGB.

Referenced by _mkdevpath(), and _setupusb().

```
70                                        {
71     if(product == P_K95 || product == P_K95_NRGB || product ==
      P_K95_PLATINUM)
72         return "k95";
73     if(product == P_K70 || product == P_K70_NRGB || product ==
      P_K70_LUX || product == P_K70_LUX_NRGB || product ==
      P_K70_RFIRE || product == P_K70_RFIRE_NRGB)
74         return "k70";
75     if(product == P_K65 || product == P_K65_NRGB || product ==
```

```
    P_K65_LUX || product == P_K65_RFIRE)
76          return "k65";
77      if(product == P_STRAFE || product == P_STRAFE_NRGB)
78          return "strafe";
79      if(product == P_M65 || product == P_M65_PRO)
80          return "m65";
81      if(product == P_SABRE_O || product == P_SABRE_L || product ==
    P_SABRE_N || product == P_SABRE_O2)
82          return "sabre";
83      if(product == P_SCIMITAR || product == P_SCIMITAR_PRO)
84          return "scimitar";
85      return "";
86  }
```

Here is the caller graph for this function:



13.48.1.9 int revertusb (usbdevice * *kb*)

revertusb sets a given device to inactive (hardware controlled) mode if not a fw-ugrade is indicated

First is checked, whether a firmware-upgrade is indicated for the device. If so, revertusb() returns 0.

Todo Why is this useful? Are there problems seen with deactivating a device with older fw-version??? Why isn't this an error indicating reason and we return success (0)?

Anyway, the following steps are similar to some other procs, dealing with low level usb handling:

- If we do not have an RGB device, a simple setting to Hardware-mode (NK95_HWON) is sent to the device via n95cmd().

  Todo The return value of nk95cmd() is ignored (but sending the ioctl may produce an error and _nk95_cmd will indicate this), instead revertusb() returns success in any case.

- If we have an RGB device, setactive() is called with second param active = false. That function will have a look on differences between keyboards and mice.

  More precisely setactive() is just a macro to call via the kb->vtable enties either the active() or the idle() function where the vtable points to. setactive() may return error indications. If so, revertusb() returns -1, otherwise 0 in any other case.

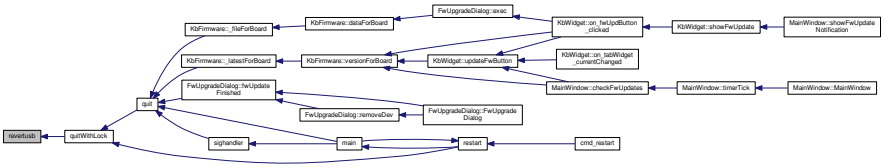
Definition at line 407 of file usb.c.

References FEAT_RGB, HAS_FEATURES, NEEDS_FW_UPDATE, NK95_HWON, nk95cmd, and setactive.

Referenced by quitWithLock().

```
407                             {
408      if(NEEDS_FW_UPDATE(kb))
409          return 0;
410      if(!HAS_FEATURES(kb, FEAT_RGB)){
411          nk95cmd(kb, NK95_HWON);
412          return 0;
413      }
414      if(setactive(kb, 0))
415          return -1;
416      return 0;
417  }
```

Here is the caller graph for this function:



13.48.1.10 void setupusb (usbdevice * *kb*)

setupusb starts a thread with kb as parameter and _setupusb() as entrypoint.

Set up a USB device after its handle is open. Spawns a new thread _setupusb() with standard parameter kb. dmutex must be locked prior to calling this function. The function will unlock it when finished. In kb->thread the thread id is mentioned, because closeusb() needs this info for joining that thread again.

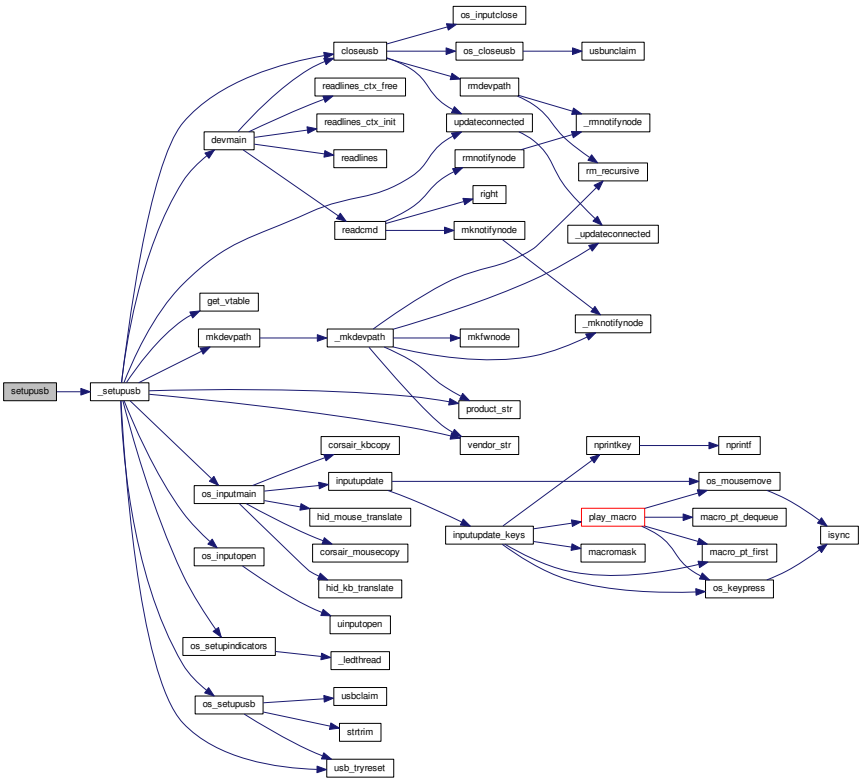
Definition at line 386 of file usb.c.

References _setupusb(), ckb_err, imutex, and usbdevice::thread.

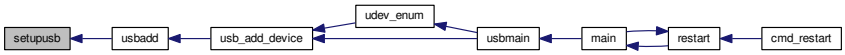
Referenced by usbadd().

```
386                             {
387     pthread_mutex_lock(imutex(kb));
388     if(pthread_create(&kb->thread, 0, _setupusb, kb))
389         ckb_err("Failed to create USB thread\n");
390 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.48.1.11 int usb_tryreset (usbdevice * *kb*)

usb_tryreset does what the name means: Try to reset the usb via resetusb()

This function is called if an usb command ran into an error in case of one of the following two situations:

- When setting up a new usb device and the start() function got an error (

  See Also

  _setupusb())

- If upgrading to a new firmware gets an error (

  See Also

  cmd_fwupdate()).

  The previous action which got the error will NOT be re-attempted.

In an endless loop usb_tryreset() tries to reset the given usb device via the macro resetusb().

This macro calls _resetusb() with debugging information.

_resetusb() sends a command via the operating system dependent function os_resetusb() and - if successful - reinitializes the device. os_resetusb() returns -2 to indicate a broken device and all structures should be removed for it.

In that case, the loop is terminated, an error message is produced and usb_tryreset() returns -1.

In case resetusb() has success, the endless loop is left via a return 0 (success).

If the return value from resetusb() is -1, the loop is continued with the next try.

If the global variable **reset_stop** is set directly when the function is called or after each try, usb_tryreset() stops working and returns -1.

Todo Why does usb_tryreset() hide the information returned from resetusb()? Isn't it needed by the callers?

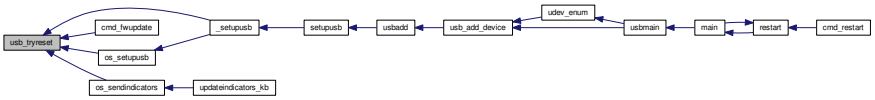
Definition at line 465 of file usb.c.

References ckb_err, ckb_info, reset_stop, and resetusb.

Referenced by _setupusb(), cmd_fwupdate(), os_sendindicators(), and os_setupusb().

```
465                                {
466     if(reset_stop)
467         return -1;
468     ckb_info("Attempting reset...\n");
469     while(1){
470         int res = resetusb(kb);
471         if(!res){
472             ckb_info("Reset success\n");
473             return 0;
474         }
475         if(res == -2 || reset_stop)
476             break;
477     }
478     ckb_err("Reset failed. Disconnecting.\n");
479     return -1;
480 }
```

Here is the caller graph for this function:



13.48.1.12 const char* vendor_str (short *vendor*)

uncomment the following Define to see USB packets sent to the device

vendor_str returns "corsair" iff the given *vendor* argument is equal to *V_CORSAIR* (0x1bc) else it returns ""

Attention

There is also a string defined V_CORSAIR_STR, which returns the device number as string in hex "1b1c".

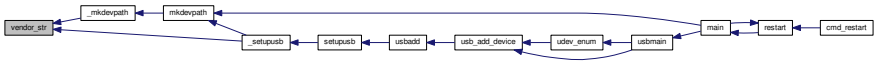
Definition at line 43 of file usb.c.

References V_CORSAIR.

Referenced by _mkdevpath(), and _setupusb().

```
43                                      {
44     if(vendor == V_CORSAIR)
45         return "corsair";
46     return "";
47 }
```

Here is the caller graph for this function:



13.48.2 Variable Documentation

13.48.2.1 int features_mask = -1

features_mask Mask of features to exclude from all devices

That bit mask ist set to enable all (-1). When interpreting the input parameters, some of these bits can be cleared.

At the moment binding, notifying and mouse-acceleration can be disabled via command line.

Have a look at *main()* in main.c for details.

Definition at line 35 of file usb.c.

Referenced by _setupusb(), and main().

13.48.2.2 int hwload_mode

hwload_mode is defined in device.c

Definition at line 7 of file device.c.

Referenced by _start_dev(), _usbrecv(), and _usbsend().

13.48.2.3 volatile int reset_stop = 0

reset_stop is boolean: Reset stopper for when the program shuts down.

Is set only by *quit()* to true (1) to inform several usb_∗ functions to end their loops and tries.

Definition at line 25 of file usb.c.

Referenced by _usbrecv(), _usbsend(), quitWithLock(), and usb_tryreset().

13.48.2.4 pthread_mutex_t usbmutex = PTHREAD_MUTEX_INITIALIZER

usbmutex is a never referenced mutex!

Todo We should have a look why this mutex is never used.

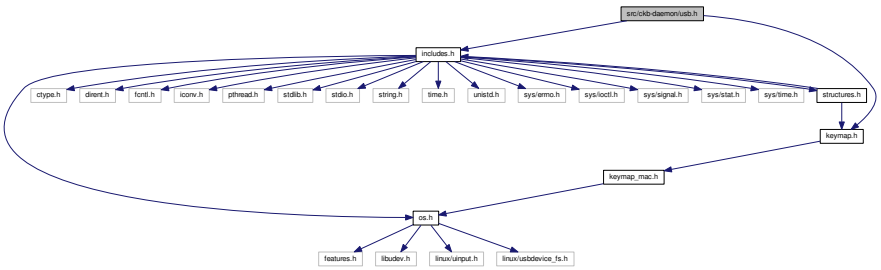
Definition at line 17 of file usb.c.

13.49 src/ckb-daemon/usb.h File Reference

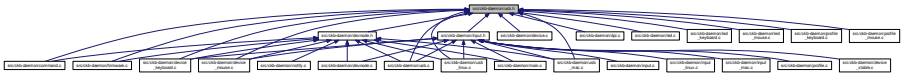
Definitions for using USB interface.

```
#include "includes.h"
#include "keymap.h"
```

Include dependency graph for usb.h:



This graph shows which files directly or indirectly include this file:



Macros

- #define V_CORSAIR 0x1b1c

  For the following Defines please see "Detailed Description".
- #define V_CORSAIR_STR "1b1c"
- #define P_K65 0x1b17
- #define P_K65_STR "1b17"
- #define P_K65_NRGB 0x1b07
- #define P_K65_NRGB_STR "1b07"
- #define P_K65_LUX 0x1b37

- #define P_K65_LUX_STR "1b37"
- #define P_K65_RFIRE 0x1b39
- #define P_K65_RFIRE_STR "1b39"
- #define IS_K65(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_K65 || (kb)->product == P_K65_NRGB || (kb)->product == P_K65_LUX || (kb)->product == P_K65_RFIRE))
- #define P_K70 0x1b13
- #define P_K70_STR "1b13"
- #define P_K70_NRGB 0x1b09
- #define P_K70_NRGB_STR "1b09"
- #define P_K70_LUX 0x1b33
- #define P_K70_LUX_STR "1b33"
- #define P_K70_LUX_NRGB 0x1b36
- #define P_K70_LUX_NRGB_STR "1b36"
- #define P_K70_RFIRE 0x1b38
- #define P_K70_RFIRE_STR "1b38"
- #define P_K70_RFIRE_NRGB 0x1b3a
- #define P_K70_RFIRE_NRGB_STR "1b3a"
- #define IS_K70(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_K70 || (kb)->product == P_K70_NRGB || (kb)->product == P_K70_RFIRE || (kb)->product == P_K70_RFIRE_NRGB || (kb)->product == P_K70_LUX || (kb)->product == P_K70_LUX_NRGB))
- #define P_K95 0x1b11
- #define P_K95_STR "1b11"
- #define P_K95_NRGB 0x1b08
- #define P_K95_NRGB_STR "1b08"
- #define P_K95_PLATINUM 0x1b2d
- #define P_K95_PLATINUM_STR "1b2d"
- #define IS_K95(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_K95 || (kb)->product == P_K95_NRGB || (kb)->product == P_K95_PLATINUM))
- #define P_STRAFE 0x1b20
- #define P_STRAFE_STR "1b20"
- #define P_STRAFE_NRGB 0x1b15
- #define P_STRAFE_NRGB_STR "1b15"
- #define IS_STRAFE(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_STRAFE || (kb)->product == P_STRAFE_NRGB))
- #define P_M65 0x1b12
- #define P_M65_STR "1b12"
- #define P_M65_PRO 0x1b2e
- #define P_M65_PRO_STR "1b2e"
- #define IS_M65(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_M65 || (kb)->product == P_M65_PRO))
- #define P_SABRE_O 0x1b14 /* optical */
- #define P_SABRE_O_STR "1b14"
- #define P_SABRE_L 0x1b19 /* laser */
- #define P_SABRE_L_STR "1b19"
- #define P_SABRE_N 0x1b2f /* new? */
- #define P_SABRE_N_STR "1b2f"
- #define P_SABRE_O2 0x1b32 /* Observed on a CH-9000111-EU model SABRE */
- #define P_SABRE_O2_STR "1b32"
- #define IS_SABRE(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_SABRE_O || (kb)->product == P_SABRE_L || (kb)->product == P_SABRE_N || (kb)->product == P_SABRE_O2))
- #define P_SCIMITAR 0x1b1e
- #define P_SCIMITAR_STR "1b1e"
- #define P_SCIMITAR_PRO 0x1b3e
- #define P_SCIMITAR_PRO_STR "1b3e"

- #define IS_SCIMITAR(kb) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_SCIMITAR || (kb)->product == P_SCIMITAR_PRO))
- #define IS_RGB(vendor, product) ((vendor) == (V_CORSAIR) && (product) != (P_K65_NRGB) && (product) != (P_K70_NRGB) && (product) != (P_K95_NRGB))

  RGB vs non-RGB test (note: non-RGB Strafe is still considered "RGB" in that it shares the same protocol. The difference is denoted with the "monochrome" feature).
- #define IS_MONOCHROME(vendor, product) ((vendor) == (V_CORSAIR) && (product) == (P_STRAFE_NRGB))

  *The difference between non RGB and monochrome is, that monochrome has lights, but just in one color. nonRGB has no lights. Change this if new **monochrome** devices are added.*
- #define IS_RGB_DEV(kb) IS_RGB((kb)->vendor, (kb)->product)

  For calling with a usbdevice∗, vendor and product are extracted and IS_RGB() is returned.
- #define IS_MONOCHROME_DEV(kb) IS_MONOCHROME((kb)->vendor, (kb)->product)

  For calling with a usbdevice∗, vendor and product are extracted and IS_MONOCHROME() is returned.
- #define IS_FULLRANGE(kb) (IS_RGB((kb)->vendor, (kb)->product) && (kb)->product != P_K65 && (kb)->product != P_K70 && (kb)->product != P_K95)

  Full color range (16.8M) vs partial color range (512)
- #define IS_MOUSE(vendor, product) ((vendor) == (V_CORSAIR) && ((product) == (P_M65) || (product) == (P_M65_PRO) || (product) == (P_SABRE_O) || (product) == (P_SABRE_L) || (product) == (P_SABRE_N) || (product) == (P_SCIMITAR) || (product) == (P_SCIMITAR_PRO) || (product) == (P_SABRE_O2)))

  Mouse vs keyboard test.
- #define IS_MOUSE_DEV(kb) IS_MOUSE((kb)->vendor, (kb)->product)

  For calling with a usbdevice∗, vendor and product are extracted and IS_MOUSE() is returned.
- #define DELAY_SHORT(kb) usleep((int)(kb)->usbdelay ∗ 1000)

  USB delays for when the keyboards get picky about timing That was the original comment, but it is used anytime. The short delay is used before any send or receive.
- #define DELAY_MEDIUM(kb) usleep((int)(kb)->usbdelay ∗ 10000)

  the medium delay is used after sending a command before waiting for the answer.
- #define DELAY_LONG(kb) usleep(100000)

  The longest delay takes place where something went wrong (eg when resetting the device)
- #define USB_DELAY_DEFAULT 5

  *This constant is used to initialize **kb->usbdelay**. It is used in many places (see macros above) but often also overwritten to the fixed value of 10. Pure Hacker code.*
- #define resetusb(kb) _resetusb(kb, __FILE_NOPATH__, __LINE__)

  resetusb() is just a macro to call _resetusb() with debuggin constants (file, lineno)
- #define usbsend(kb, messages, count) _usbsend(kb, messages, count, __FILE_NOPATH__, __LINE__)

  usbsend macro is used to wrap _usbsend() with debugging information (file and lineno)
- #define usbrecv(kb, out_msg, in_msg) _usbrecv(kb, out_msg, in_msg, __FILE_NOPATH__, __LINE__)

  usbrecv macro is used to wrap _usbrecv() with debugging information (file and lineno)
- #define nk95cmd(kb, command) _nk95cmd(kb, (command) >> 16 & 0xFF, (command) & 0xFFFF, __FILE_NOPATH__, __LINE__)

  nk95cmd() macro is used to wrap _nk95cmd() with debugging information (file and lineno). the command structure is different:
  Just the bits 23..16 are used as bits 7..0 for bRequest
  Bits 15..0 are used as wValue
- #define NK95_HWOFF 0x020030

  Hardware-specific commands for the K95 nonRGB,.
- #define NK95_HWON 0x020001

  Hardware playback on.
- #define NK95_M1 0x140001

  Switch to mode 1.
- #define NK95_M2 0x140002

  Switch to mode 2.
- #define NK95_M3 0x140003

  Switch to mode 3.

Functions

- const char * vendor_str (short vendor)

  uncomment the following Define to see USB packets sent to the device
- const char * product_str (short product)

  product_str returns a condensed view on what type of device we have.
- int usbmain ()

  Start the USB main loop. Returns program exit code when finished.
- void usbkill ()

  Stop the USB system.
- void setupusb (usbdevice *kb)

  setupusb starts a thread with kb as parameter and _setupusb() as entrypoint.
- int os_setupusb (usbdevice *kb)

  os_setupusb OS-specific setup for a specific usb device.
- void * os_inputmain (void *context)

  os_inputmain is run in a separate thread and will be detached from the main thread, so it needs to clean up its own resources.
- int revertusb (usbdevice *kb)

  revertusb sets a given device to inactive (hardware controlled) mode if not a fw-ugrade is indicated
- int closeusb (usbdevice *kb)

  closeusb Close a USB device and remove device entry.
- void os_closeusb (usbdevice *kb)

  os_closeusb unclaim it, destroy the udev device and clear data structures at kb
- int _resetusb (usbdevice *kb, const char *file, int line)

  _resetusb Reset a USB device.
- int os_resetusb (usbdevice *kb, const char *file, int line)

  os_resetusb is the os specific implementation for resetting usb
- int _usbsend (usbdevice *kb, const uchar *messages, int count, const char *file, int line)

  _usbsend send a logical message completely to the given device
- int _usbrecv (usbdevice *kb, const uchar *out_msg, uchar *in_msg, const char *file, int line)

  _usbrecv Request data from a USB device by first sending an output packet and then reading the response.
- int os_usbsend (usbdevice *kb, const uchar *out_msg, int is_recv, const char *file, int line)

  os_usbsend sends a data packet (MSG_SIZE = 64) Bytes long
- int os_usbrecv (usbdevice *kb, uchar *in_msg, const char *file, int line)

  os_usbrecv receives a max MSGSIZE long buffer from usb device
- void os_sendindicators (usbdevice *kb)

  os_sendindicators update the indicators for the special keys (Numlock, Capslock and what else?)
- int _nk95cmd (usbdevice *kb, uchar bRequest, ushort wValue, const char *file, int line)

  _nk95cmd If we control a non RGB keyboard, set the keyboard via ioctl with usbdevfs_ctrltransfer
- int usb_tryreset (usbdevice *kb)

  usb_tryreset does what the name means: Try to reset the usb via resetusb()

13.49.1 Detailed Description

Vendor/product codes

The list of defines in the first part of the file describes the various types of equipment from Corsair and summarizes them according to specific characteristics.

Each device type is described with two defines:

- On the one hand the device ID with which the device can be recognized on the USB as a short
- and on the other hand the same representation as a string, but without leading "0x".

First entry-pair is the Provider ID (vendorID) from Corsair.

Block No.	contains	Devices are bundled via
1	The first block contains the K65-like keyboards, regardless of their properties (RGB, ...).	In summary, they can be queried using the macro IS_K65().
2	the K70-like Keyboards with all their configuration types	summarized by IS_K70().
3	the K95 series keyboards	collected with the macro IS_K95().
4	strafe keyboards	IS_STRAFE()
5	M65 mice with and without RGB	IS_M65()
6	The SABRE and HARPOON mice. Maybe this will be divided int two different blocks later because of different nummber of special keys	IS_SABRE()
7	The Scimitar mouse devices	IS_SCIMITAR()

Definition in file usb.h.

13.49.2 Macro Definition Documentation

13.49.2.1 #define DELAY_LONG(*kb*) usleep(100000)

Definition at line 155 of file usb.h.

Referenced by _resetusb(), _setupusb(), _usbrecv(), _usbsend(), cmd_hwload_kb(), cmd_hwload_mouse(), cmd_hwsave_kb(), and cmd_hwsave_mouse().

13.49.2.2 #define DELAY_MEDIUM(*kb*) usleep((int)(kb)->usbdelay * 10000)

Definition at line 152 of file usb.h.

Referenced by _usbrecv(), and setactive_kb().

13.49.2.3 #define DELAY_SHORT(*kb*) usleep((int)(kb)->usbdelay * 1000)

Definition at line 149 of file usb.h.

Referenced by _usbrecv(), _usbsend(), and updateindicators_kb().

13.49.2.4 #define IS_FULLRANGE(*kb*) (IS_RGB((kb)->vendor, (kb)->product) && (kb)->product != P_K65 && (kb)->product != P_K70 && (kb)->product != P_K95)

Definition at line 138 of file usb.h.

Referenced by readcmd(), and updatergb_kb().

13.49.2.5 #define IS_K65(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_K65 || (kb)->product == P_K65_NRGB || (kb)->product == P_K65_LUX || (kb)->product == P_K65_RFIRE))

Definition at line 49 of file usb.h.

Referenced by has_key().

13.49.2.6 #define IS_K70(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_K70 || (kb)->product == P_K70_NRGB || (kb)->product == P_K70_RFIRE || (kb)->product == P_K70_RFIRE_NRGB || (kb)->product == P_K70_LUX || (kb)->product == P_K70_LUX_NRGB))

Definition at line 63 of file usb.h.

13.49.2.7 #define IS_K95(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_K95 || (kb)->product == P_K95_NRGB || (kb)->product == P_K95_PLATINUM))

Definition at line 71 of file usb.h.

Referenced by cmd_hwload_kb(), cmd_hwsave_kb(), and has_key().

13.49.2.8 #define IS_M65(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_M65 || (kb)->product == P_M65_PRO))

Definition at line 83 of file usb.h.

Referenced by isblack().

13.49.2.9 #define IS_MONOCHROME(*vendor, product*) ((vendor) == (V_CORSAIR) && (product) == (P_STRAFE_NRGB))

Definition at line 129 of file usb.h.

Referenced by _setupusb().

13.49.2.10 #define IS_MONOCHROME_DEV(*kb*) IS_MONOCHROME((kb)->vendor, (kb)->product)

Definition at line 135 of file usb.h.

13.49.2.11 #define IS_MOUSE(*vendor, product*) ((vendor) == (V_CORSAIR) && ((product) == (P_M65) || (product) == (P_M65_PRO) || (product) == (P_SABRE_O) || (product) == (P_SABRE_L) || (product) == (P_SABRE_N) || (product) == (P_SCIMITAR) || (product) == (P_SCIMITAR_PRO) || (product) == (P_SABRE_O2)))

Definition at line 141 of file usb.h.

Referenced by _setupusb(), get_vtable(), has_key(), and os_inputmain().

13.49.2.12 #define IS_MOUSE_DEV(*kb*) IS_MOUSE((kb)->vendor, (kb)->product)

Definition at line 144 of file usb.h.

Referenced by readcmd().

13.49.2.13 #define IS_RGB(*vendor, product*) ((vendor) == (V_CORSAIR) && (product) != (P_K65_NRGB) && (product) != (P_K70_NRGB) && (product) != (P_K95_NRGB))

Definition at line 124 of file usb.h.

Referenced by _setupusb(), get_vtable(), and os_inputmain().

13.49.2.14 #define IS_RGB_DEV(*kb*) IS_RGB((kb)->vendor, (kb)->product)

Definition at line 132 of file usb.h.

13.49.2.15 #define IS_SABRE(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_SABRE_O || (kb)->product == P_SABRE_L || (kb)->product == P_SABRE_N || (kb)->product == P_SABRE_O2))

Definition at line 93 of file usb.h.

Referenced by has_key(), loadrgb_mouse(), and savergb_mouse().

13.49.2.16 #define IS_SCIMITAR(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_SCIMITAR || (kb)->product == P_SCIMITAR_PRO))

Definition at line 99 of file usb.h.

Referenced by has_key(), loadrgb_mouse(), and savergb_mouse().

13.49.2.17 #define IS_STRAFE(*kb*) ((kb)->vendor == V_CORSAIR && ((kb)->product == P_STRAFE || (kb)->product == P_STRAFE_NRGB))

Definition at line 77 of file usb.h.

Referenced by savergb_kb().

13.49.2.18 #define NK95_HWOFF 0x020030

See Also

usb2.0 documentation for details. Set Hardware playback off

Definition at line 301 of file usb.h.

Referenced by start_kb_nrgb().

13.49.2.19 #define NK95_HWON 0x020001

Definition at line 304 of file usb.h.

Referenced by revertusb().

13.49.2.20 #define NK95_M1 0x140001

Definition at line 307 of file usb.h.

Referenced by setmodeindex_nrgb().

13.49.2.21 #define NK95_M2 0x140002

Definition at line 310 of file usb.h.

Referenced by setmodeindex_nrgb().

13.49.2.22 #define NK95_M3 0x140003

Definition at line 313 of file usb.h.

Referenced by setmodeindex_nrgb().

13.49.2.23 #define nk95cmd(*kb, command*) _nk95cmd(kb, (command) >> 16 & 0xFF, (command) & 0xFFFF, __FILE_NOPATH__, __LINE__)

Definition at line 296 of file usb.h.

Referenced by revertusb(), setmodeindex_nrgb(), and start_kb_nrgb().

13.49.2.24 #define P_K65 0x1b17

Definition at line 41 of file usb.h.

Referenced by product_str().

13.49.2.25 #define P_K65_LUX 0x1b37

Definition at line 45 of file usb.h.

Referenced by product_str().

13.49.2.26 #define P_K65_LUX_STR "1b37"

Definition at line 46 of file usb.h.

13.49.2.27 #define P_K65_NRGB 0x1b07

Definition at line 43 of file usb.h.

Referenced by product_str().

13.49.2.28 #define P_K65_NRGB_STR "1b07"

Definition at line 44 of file usb.h.

13.49.2.29 #define P_K65_RFIRE 0x1b39

Definition at line 47 of file usb.h.

Referenced by product_str().

13.49.2.30 #define P_K65_RFIRE_STR "1b39"

Definition at line 48 of file usb.h.

13.49.2.31 #define P_K65_STR "1b17"

Definition at line 42 of file usb.h.

13.49.2.32 #define P_K70 0x1b13

Definition at line 51 of file usb.h.

Referenced by product_str().

13.49.2.33 #define P_K70_LUX 0x1b33

Definition at line 55 of file usb.h.

Referenced by loadrgb_kb(), and product_str().

13.49.2.34 #define P_K70_LUX_NRGB 0x1b36

Definition at line 57 of file usb.h.

Referenced by loadrgb_kb(), and product_str().

13.49.2.35 #define P_K70_LUX_NRGB_STR "1b36"

Definition at line 58 of file usb.h.

13.49.2.36 #define P_K70_LUX_STR "1b33"

Definition at line 56 of file usb.h.

13.49.2.37 #define P_K70_NRGB 0x1b09

Definition at line 53 of file usb.h.

Referenced by product_str().

13.49.2.38 #define P_K70_NRGB_STR "1b09"

Definition at line 54 of file usb.h.

13.49.2.39 #define P_K70_RFIRE 0x1b38

Definition at line 59 of file usb.h.

Referenced by product_str().

13.49.2.40 #define P_K70_RFIRE_NRGB 0x1b3a

Definition at line 61 of file usb.h.

Referenced by product_str().

13.49.2.41 #define P_K70_RFIRE_NRGB_STR "1b3a"

Definition at line 62 of file usb.h.

13.49.2.42 #define P_K70_RFIRE_STR "1b38"

Definition at line 60 of file usb.h.

13.49.2.43 #define P_K70_STR "1b13"

Definition at line 52 of file usb.h.

13.49.2.44 #define P_K95 0x1b11

Definition at line 65 of file usb.h.

Referenced by product_str().

13.49.2.45 #define P_K95_NRGB 0x1b08

Definition at line 67 of file usb.h.

Referenced by _nk95cmd(), and product_str().

13.49.2.46 #define P_K95_NRGB_STR "1b08"

Definition at line 68 of file usb.h.

13.49.2.47 #define P_K95_PLATINUM 0x1b2d

Definition at line 69 of file usb.h.

Referenced by product_str().

13.49.2.48 #define P_K95_PLATINUM_STR "1b2d"

Definition at line 70 of file usb.h.

13.49.2.49 #define P_K95_STR "1b11"

Definition at line 66 of file usb.h.

13.49.2.50 #define P_M65 0x1b12

Definition at line 79 of file usb.h.

Referenced by product_str().

13.49.2.51 #define P_M65_PRO 0x1b2e

Definition at line 81 of file usb.h.

Referenced by product_str().

13.49.2.52 #define P_M65_PRO_STR "1b2e"

Definition at line 82 of file usb.h.

13.49.2.53 #define P_M65_STR "1b12"

Definition at line 80 of file usb.h.

13.49.2.54 #define P_SABRE_L 0x1b19 /* laser */

Definition at line 87 of file usb.h.

Referenced by product_str().

13.49.2.55 #define P_SABRE_L_STR "1b19"

Definition at line 88 of file usb.h.

13.49.2.56 #define P_SABRE_N 0x1b2f /* new? */

Definition at line 89 of file usb.h.

Referenced by product_str().

13.49.2.57 #define P_SABRE_N_STR "1b2f"

Definition at line 90 of file usb.h.

13.49.2.58 #define P_SABRE_O 0x1b14 /* optical */

Definition at line 85 of file usb.h.

Referenced by product_str().

13.49.2.59 #define P_SABRE_O2 0x1b32 /* Observed on a CH-9000111-EU model SABRE */

Definition at line 91 of file usb.h.

Referenced by product_str().

13.49.2.60 #define P_SABRE_O2_STR "1b32"

Definition at line 92 of file usb.h.

13.49.2.61 #define P_SABRE_O_STR "1b14"

Definition at line 86 of file usb.h.

13.49.2.62 #define P_SCIMITAR 0x1b1e

Definition at line 95 of file usb.h.

Referenced by product_str().

13.49.2.63 #define P_SCIMITAR_PRO 0x1b3e

Definition at line 97 of file usb.h.

Referenced by product_str().

13.49.2.64 #define P_SCIMITAR_PRO_STR "1b3e"

Definition at line 98 of file usb.h.

13.49.2.65 #define P_SCIMITAR_STR "1b1e"

Definition at line 96 of file usb.h.

13.49.2.66 #define P_STRAFE 0x1b20

Definition at line 73 of file usb.h.

Referenced by product_str().

13.49.2.67 #define P_STRAFE_NRGB 0x1b15

Definition at line 75 of file usb.h.

Referenced by product_str().

13.49.2.68 #define P_STRAFE_NRGB_STR "1b15"

Definition at line 76 of file usb.h.

13.49.2.69 #define P_STRAFE_STR "1b20"

Definition at line 74 of file usb.h.

13.49.2.70 #define resetusb(*kb*) _resetusb(kb, __FILE_NOPATH__, __LINE__)

Definition at line 214 of file usb.h.

Referenced by usb_tryreset().

13.49.2.71 #define USB_DELAY_DEFAULT 5

Definition at line 160 of file usb.h.

Referenced by _setupusb(), and start_dev().

13.49.2.72 #define usbrecv(*kb, out_msg, in_msg*) _usbrecv(kb, out_msg, in_msg, __FILE_NOPATH__, __LINE__)

Parameters

kb	THE usbdevice*
IN]	out_msg What information does the caller want from the device?
OUT]	in_msg Here comes the answer; The names represent the usb view, not the view of this function! So INput from usb is OUTput of this function.

Definition at line 256 of file usb.h.

Referenced by cmd_hwload_kb(), cmd_hwload_mouse(), getfwversion(), hwloadmode(), loaddpi(), loadrgb_kb(), and loadrgb_mouse().

13.49.2.73 #define usbsend(*kb, messages, count*) _usbsend(kb, messages, count, __FILE_NOPATH__, __LINE__)

Parameters

kb	THE usbdevice*
IN]	messages a Pointer to the first byte of the logical message

IN]	count how many MSG_SIZE buffers is the logical message long?

Definition at line 239 of file usb.h.

Referenced by cmd_hwsave_kb(), cmd_hwsave_mouse(), cmd_pollrate(), fwupdate(), loadrgb_kb(), savedpi(), savergb_kb(), savergb_mouse(), setactive_kb(), setactive_mouse(), updatedpi(), updatergb_kb(), and updatergb_mouse().

13.49.2.74 #define V_CORSAIR 0x1b1c

Warning

When adding new devices please update src/ckb/fwupgradedialog.cpp as well.
It should contain the same vendor/product IDs for any devices supporting firmware updates.
In the same way, all other corresponding files have to be supplemented or modified: Currently known for this are **usb_linux.c** and **usb_mac.c**

Definition at line 38 of file usb.h.

Referenced by usb_add_device(), and vendor_str().

13.49.2.75 #define V_CORSAIR_STR "1b1c"

Definition at line 39 of file usb.h.

Referenced by udev_enum(), and usb_add_device().

13.49.3 Function Documentation

13.49.3.1 int _nk95cmd (usbdevice * *kb*, uchar *bRequest*, ushort *wValue*, const char * *file*, int *line*)

Parameters

kb	THE usbdevice*
bRequest	the byte array with the usb request
wValue	a usb wValue
file	for error message
line	for error message

Returns

1 (true) on failure, 0 (false) on success.

To send control packets to a non RGB non color K95 Keyboard, use this function. Normally it is called via the nk95cmd() macro.

If it is the wrong device for which the function is called, 0 is returned and nothing done. Otherwise a usbdevfs_ctrltransfer structure is filled and an USBDEVFS_CONTROL ioctl() called.

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0x40	see table below to switch hardware-modus at Keyboard	wValue	device	MSG_SIZE	5ms	the message buffer pointer

Host to Device, Type=Vendor, Recipient=Device	bRequest parameter	given wValue Parameter	device 0	0 data to write	5000	null

If a 0 or a negative error number is returned by the ioctl, an error message is shown depending on the errno or "No data written" if retval was 0. In either case 1 is returned to indicate the error. If the ioctl returned a value $>$ 0, 0 is returned to indicate no error.

Currently the following combinations for bRequest and wValue are used:

Device	what it might to do	constant	bRequest	wValue
non RGB Keyboard	set HW-modus on (leave the ckb driver)	HWON	0x0002	0x0030
non RGB Keyboard	set HW-modus off (initialize the ckb driver)	HWOFF	0x0002	0x0001
non RGB Keyboard	set light modus M1 in single-color keyboards	NK95_M1	0x0014	0x0001
non RGB Keyboard	set light modus M2 in single-color keyboards	NK95_M2	0x0014	0x0002
non RGB Keyboard	set light modus M3 in single-color keyboards	NK95_M3	0x0014	0x0003

See Also

usb.h

Definition at line 188 of file usb_linux.c.

References ckb_err_fn, usbdevice::handle, P_K95_NRGB, and usbdevice::product.

```
188                                                                                 {
189     if(kb->product != P_K95_NRGB)
190         return 0;
191     struct usbdevfs_ctrltransfer transfer = { 0x40, bRequest, wValue, 0, 0, 5000, 0 };
192     int res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
193     if(res <= 0){
194         ckb_err_fn("%s\n", file, line, res ? strerror(errno) : "No data written");
195         return 1;
196     }
197     return 0;
198 }
```

13.49.3.2 int _resetusb (usbdevice * *kb*, const char * *file*, int *line*)

Parameters

kb	THE usbdevice*
file	filename for error messages
line	line where it is called for error messages

Returns

Returns 0 on success, -1 if device should be removed

_resetusb Reset a USB device.

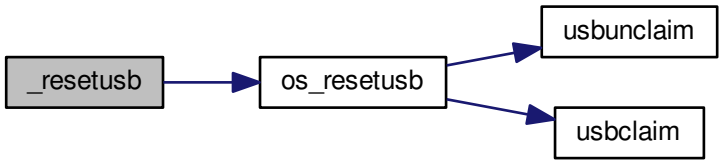
First reset the device via os_resetusb() after a long delay (it may send something to the host). If this worked (retval == 0), give the device another long delay Then perform the initialization via the device specific start() function entry in kb->vtable and if this is successful also, return the result of the device depenten updatergb() with force=true.

Definition at line 426 of file usb.c.

References usbdevice::active, DELAY_LONG, os_resetusb(), and usbdevice::vtable.

```
426                                                                 {
427     // Perform a USB reset
428     DELAY_LONG(kb);
429     int res = os_resetusb(kb, file, line);
430     if(res)
431         return res;
432     DELAY_LONG(kb);
433     // Re-initialize the device
434     if(kb->vtable->start(kb, kb->active) != 0)
435         return -1;
436     if(kb->vtable->updatergb(kb, 1) != 0)
437         return -1;
438     return 0;
439 }
```

Here is the call graph for this function:



13.49.3.3 int _usbrecv (usbdevice * *kb*, const uchar * *out_msg*, uchar * *in_msg*, const char * *file*, int *line*)

Parameters

kb	THE usbdevice*
IN]	out_msg What information does the caller want from the device?
OUT]	in_msg Here comes the answer; The names represent the usb view, not the view of this function! So INput from usb is OUTput of this function.
IN]	file for debugging
IN]	line for debugging
IN]	reset_stop global variable is read

Returns

number of bytes read or zero on failure.

_usbrecv Request data from a USB device by first sending an output packet and then reading the response.

To fully understand this, you need to know about usb: All control is at the usb host (the CPU). If the device wants to communicate something to the host, it must wait for the host to ask. The usb protocol defines the cycles and periods in which actions are to be taken.

So in order to receive a data packet from the device, the host must first send a send request.

This is done by _usbrecv() in the first block by sending the MSG_SIZE large data block from **out_msg** via os-_usbsend() as it is a machine depending implementation. The usb target device is as always determined over kb.

For os_usbsend() to know that it is a receive request, the **is_recv** parameter is set to true (1). With this, os_usbsend () generates a control package for the hardware, not a data packet.

If sending of the control package is not successful, a maximum of 5 times the transmission is repeated (including the first attempt). If a non-cancelable error is signaled or the drive is stopped via reset_stop, _usbrecv() immediately returns 0.

After this, the function waits for the requested response from the device using os_usbrecv ().

os_usbrecv() returns 0, -1 or something else.

Zero signals a serious error which is not treatable and _usbrecv() also returns 0.

-1 means that it is a treatable error - a timeout for example - and therefore the next transfer attempt is started after a long pause (DELAY_LONG) if not reset_stop or the wrong hwload_mode require a termination with a return value of 0.

After 5 attempts, _usbrecv () returns and returns 0 as well as an error message.

When data is received, the number of received bytes is returned. This should always be MSG_SIZE, but os_-usbrecv() can also return less. It should not be more, because then there would be an unhandled buffer overflow, but it could be less. This would be signaled in os_usbrecv () with a message.

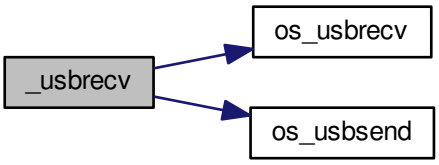
The buffers behind **out_msg** and **in_msg** are MSG_SIZE at least (currently 64 Bytes). More is ok but useless, less brings unpredictable behavior. < Synchonization between macro and color information

Definition at line 601 of file usb.c.

References ckb_err_fn, DELAY_LONG, DELAY_MEDIUM, DELAY_SHORT, hwload_mode, mmutex, os_usbrecv(), os_usbsend(), and reset_stop.

```
601                                                                                                 {
602     // Try a maximum of 5 times
603     for (int try = 0; try < 5; try++) {
604         // Send the output message
605         pthread_mutex_lock(mmutex(kb));
606         DELAY_SHORT(kb);
607         int res = os_usbsend(kb, out_msg, 1, file, line);
608         pthread_mutex_unlock(mmutex(kb));
609         if (res == 0)
610             return 0;
611         else if (res == -1) {
612             // Retry on temporary failure
613             if (reset_stop)
614                 return 0;
615             DELAY_LONG(kb);
616             continue;
617         }
618         // Wait for the response
619         DELAY_MEDIUM(kb);
620         res = os_usbrecv(kb, in_msg, file, line);
621         if(res == 0)
622             return 0;
623         else if(res != -1)
624             return res;
625         if(reset_stop || hwload_mode != 2)
626             return 0;
627         DELAY_LONG(kb);
628     }
629     // Give up
630     ckb_err_fn("Too many send/recv failures. Dropping.\n", file, line);
631     return 0;
632 }
```

Here is the call graph for this function:



13.49.3.4 int _usbsend (usbdevice * *kb*, const uchar * *messages*, int *count*, const char * *file*, int *line*)

Parameters

	kb	THE usbdevice*
	IN]	messages a Pointer to the first byte of the logical message
	IN]	count how many MSG_SIZE buffers is the logical message long?
	IN]	file for debugging
	IN]	line for debugging
in	*reset_stop*	global variable is read

Returns

number of Bytes sent (ideal == count * MSG_SIZE);
0 if a block could not be sent and it was not a timeout OR **reset_stop** was required or **hwload_mode** is not set to "always"

_usbsend send a logical message completely to the given device

Todo A lot of different conditions are combined in this code. Don't think, it is good in every combination...

The main task of _usbsend () is to transfer the complete logical message from the buffer beginning with *messages* to **count** * **MSG_SIZE**.

According to usb 2.0 specification, a USB transmits a maximum of 64 byte user data packets. For the transmission of longer messages we need a segmentation. And that is exactly what happens here.

The message is given one by one to os_usbsend() in MSG_SIZE (= 64) byte large bites.

Attention

This means that the buffer given as argument must be n * MSG_SIZE Byte long.

An essential constant parameter which is relevant for os_usbsend() only is is_recv = 0, which means sending.

Now it gets a little complicated again:

- If os_usbsend() returns 0, only zero bytes could be sent in one of the packets, or it was an error (-1 from the systemcall), but not a timeout. How many Bytes were sent in total from earlier calls does not seem to matter, _usbsend() returns a total of 0.
- Returns os_usbsend() -1, first check if **reset_stop** is set globally or (incomprehensible) hwload_mode is not set to "always". In either case, _usbsend() returns 0, otherwise it is assumed to be a temporary transfer error and it simply retransmits the physical packet after a long delay.

- If the return value of os_usbsend() was neither 0 nor -1, it specifies the numer of bytes transferred.

  Here is an information hiding conflict with os_usbsend() (at least in the Linux version):

  If os_usbsend() can not transfer the entire packet, errors are thrown and the number of bytes sent is returned. _usbsend() interprets this as well and remembers the total number of bytes transferred in the local variable **total_sent**. Subsequently, however, transmission is continued with the next complete MSG_SIZE block and not with the first of the possibly missing bytes.

  Todo Check whether this is the same in the macOS variant. It is not dramatic, but if errors occur, it can certainly irritate the devices completely if they receive incomplete data streams. Do we have errors with the messages "Wrote YY bytes (expected 64)" in the system logs? If not, we do not need to look any further.

When the last packet is transferred, _usbsend() returns the effectively counted set of bytes (from **total_sent**). This at least gives the caller the opportunity to check whether something has been lost in the middle.

A bit strange is the structure of the program: Handling the **count** MSG_SIZE blocks to be transferred is done in the outer for (...) loop. Repeating the transfer with a treatable error is managed by the inner while(1) loop.

This must be considered when reading the code; The "break" on successful block transfer leaves the inner while, not the for (...). < Synchonization between macro and color information

Definition at line 532 of file usb.c.

References DELAY_LONG, DELAY_SHORT, hwload_mode, mmutex, MSG_SIZE, os_usbsend(), and reset_stop.

```
532                                                                                                 {
533     int total_sent = 0;
534     for(int i = 0; i < count; i++){
535         // Send each message via the OS function
536         while(1){
537             pthread_mutex_lock(mmutex(kb));
538             DELAY_SHORT(kb);
539             int res = os_usbsend(kb, messages + i * MSG_SIZE, 0, file, line);
540             pthread_mutex_unlock(mmutex(kb));
541             if(res == 0)
542                 return 0;
543             else if(res != -1){
544                 total_sent += res;
545                 break;
546             }
547             // Stop immediately if the program is shutting down or hardware load is set to tryonce
548             if(reset_stop || hwload_mode != 2)
549                 return 0;
550             // Retry as long as the result is temporary failure
551             DELAY_LONG(kb);
552         }
553     }
554     return total_sent;
555 }
```

Here is the call graph for this function:

13.49.3.5 int closeusb (usbdevice * *kb*)

Parameters

IN,OUT]	kb

Returns

Returns 0 (everytime. No error handling is done!)

closeusb Close a USB device and remove device entry.

An imutex lock ensures first of all, that no communication is currently running from the viewpoint of the driver to the user input device (ie the virtual driver with which characters or mouse movements are sent from the daemon to the operating system as inputs).

If the **kb** has an acceptable value != 0, the index of the device is looked for and with this index os_inputclose() is called. After this no more characters can be sent to the operating system.

Then the connection to the usb device is capped by os_closeusb().

Todo What is not yet comprehensible is the call to updateconnected() BEFORE os_closeusb(). Should that be in the other sequence? Or is updateconnected() not displaying the connected usb devices, but the representation which uinput devices are loaded? Questions about questions ...

If there is no valid **handle**, only updateconnected() is called. We are probably trying to disconnect a connection under construction. Not clear.

The cmd pipe as well as all open notify pipes are deleted via rmdevpath ().

This means that nothing can happen to the input path - so the device-specific imutex is unlocked again and remains unlocked.

Also the dmutex is unlocked now, but only to join the thread, which was originally taken under **kb->thread** (which started with _setupusb()) with pthread_join() again. Because of the closed devices that thread would have to quit sometime

See Also

the hack note with rmdevpath())

As soon as the thread is caught, the dmutex is locked again, which is what I do not understand yet: What other thread can do usb communication now?

If the vtabel exists for the given kb (why not? It seems to have race conditions here!!), via the vtable the actually device-specific, but still everywhere identical freeprofile() is called. This frees areas that are no longer needed. Then the **usbdevice** structure in its array is set to zero completely.

Error handling is rather unusual in closeusb(); Everything works (no matter what the called functions return), and closeusb() always returns zero (success).

Definition at line 677 of file usb.c.

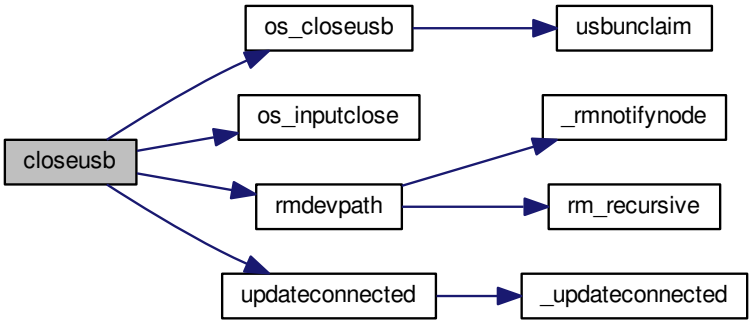
References ckb_info, devpath, dmutex, usbdevice::handle, imutex, INDEX_OF, keyboard, os_closeusb(), os_inputclose(), rmdevpath(), usbdevice::thread, updateconnected(), and usbdevice::vtable.

Referenced by _setupusb(), devmain(), quitWithLock(), and usb_rm_device().

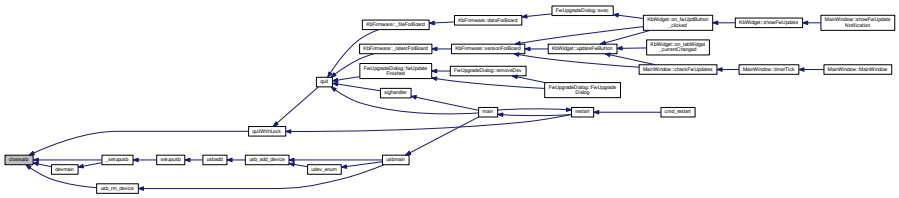
```
677                             {
678     pthread_mutex_lock(imutex(kb));
679     if(kb->handle){
680         int index = INDEX_OF(kb, keyboard);
681         ckb_info("Disconnecting %s%d\n", devpath, index);
682         os_inputclose(kb);
683         updateconnected();
684         // Close USB device
685         os_closeusb(kb);
686     } else
687         updateconnected();
688     rmdevpath(kb);
689
```

```
690     // Wait for thread to close
691     pthread_mutex_unlock(imutex(kb));
692     pthread_mutex_unlock(dmutex(kb));
693     pthread_join(kb->thread, 0);
694     pthread_mutex_lock(dmutex(kb));
695
696     // Delete the profile and the control path
697     if(!kb->vtable)
698         return 0;
699     kb->vtable->freeprofile(kb);
700     memset(kb, 0, sizeof(usbdevice));
701     return 0;
702 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.49.3.6 void os_closeusb (usbdevice * *kb*)

Parameters

IN,OUT]	kb THE usbdevice*

os_closeusb unclaim it, destroy the udev device and clear data structures at kb

os_closeusb is the linux specific implementation for closing an active usb port.

If a valid handle is given in the kb structure, the usb port is unclaimed (usbunclaim()).

The device in unrefenced via library function udev_device_unref().

handle, udev and the first char of kbsyspath are cleared to 0 (empty string for kbsyspath).

Definition at line 435 of file usb_linux.c.

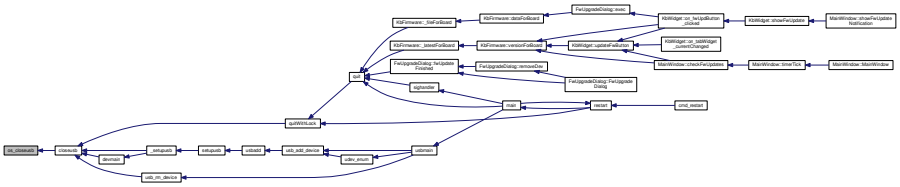
References usbdevice::handle, INDEX_OF, kbsyspath, keyboard, usbdevice::udev, and usbunclaim().

Referenced by closeusb().

```
435                                 {
436     if(kb->handle){
437         usbunclaim(kb, 0);
438         close(kb->handle - 1);
439     }
440     if(kb->udev)
441         udev_device_unref(kb->udev);
442     kb->handle = 0;
443     kb->udev = 0;
444     kbsyspath[INDEX_OF(kb, keyboard)][0] = 0;
445 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.49.3.7 void* os_inputmain (void * *context*)

Parameters

context	THE usbdevice* ; Because os_inputmain() is started as a new thread, its formal parameter is named "context".

Returns

null

os_inputmain is run in a separate thread and will be detached from the main thread, so it needs to clean up its own resources.

Todo This function is a collection of many tasks. It should be divided into several sub-functions for the sake of greater convenience:

1. set up an URB (Userspace Ressource Buffer) to communicate with the USBDEVFS_* ioctl()s
2. perform the ioctl()
3. interpretate the information got into the URB buffer or handle error situations and retry operation or leave the endless loop

4. inform the os about the data
5. loop endless via 2.
6. if endless loop has gone, deinitalize the interface, free buffers etc.
7. return null

Here the actions in detail:

Monitor input transfers on all endpoints for non-RGB devices For RGB, monitor all but the last, as it's used for input/output

Get an usbdevfs_urb data structure and clear it via memset()

Hopefully the buffer lengths are equal for all devices with congruent types. You can find out the correctness for your device with lsusb –v or similar on macOS. Currently the following combinations are known and implemented:

device	detect with macro combination	endpoint #	buffer-length
each	none	0	8
RGB Mouse	IS_RGB && IS_MOUSE	1	10
RGB Keyboard	IS_RGB && !IS_MOUSE	1	21
RGB Mouse or Keyboard	IS_RGB	2	MSG_SIZE (64)
non RGB Mouse or Keyboard	!IS_RGB	1	4
non RGB Mouse or Keyboard	!IS_RGB	2	15

Now submit all the URBs via ioctl(USBDEVFS_SUBMITURB) with type USBDEVFS_URB_TYPE_INTERRUPT (the endpoints are defined as type interrupt). Endpoint number is 0x80..0x82 or 0x83, depending on the model.

The userSpaceFS knows the URBs now, so start monitoring input

if the ioctl returns something != 0, let's have a deeper look what happened. Broken devices or shutting down the entire system leads to closing the device and finishing this thread.

If just an EPIPE ocurred, give the device a CLEAR_HALT and resubmit the URB.

A correct REAPURB returns a Pointer to the URB which we now have a closer look into. Lock all following actions with imutex.

Process the input depending on type of device. Interprete the actual size of the URB buffer

device	detect with macro combination	seems to be endpoint #	actual buffer-length	function called
mouse (RGB and non RGB)	IS_MOUSE	nA	8, 10 or 11	hid_mouse_-translate()
mouse (RGB and non RGB)	IS_MOUSE	nA	MSG_SIZE (64)	corsair_-mousecopy()
RGB Keyboard	IS_RGB && !IS_MOUSE	1	8 (BIOS Mode)	hid_kb_translate()
RGB Keyboard	IS_RGB && !IS_MOUSE	2	5 or 21, KB inactive!	hid_kb_translate()
RGB Keyboard	IS_RGB && !IS_MOUSE	3?	MSG_SIZE	corsair_kbcopy()
non RGB Keyboard	!IS_RGB && !IS_MOUSE	nA	nA	hid_kb_translate()

The input data is transformed and copied to the kb structure. Now give it to the OS and unlock the imutex afterwards.

Re-submit the URB for the next run.

If the endless loop is terminated, clean up by discarding the URBs via ioctl(USBDEVFS_DISCARDURB), free the URB buffers and return a null pointer as thread exit code.

Definition at line 238 of file usb_linux.c.

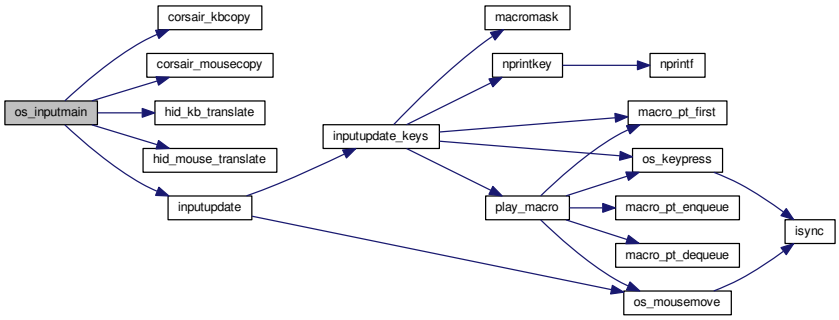
References usbdevice::active, ckb_err, ckb_info, corsair_kbcopy(), corsair_mousecopy(), devpath, usbdevice::epcount, usbdevice::handle, hid_kb_translate(), hid_mouse_translate(), imutex, INDEX_OF, usbdevice::input, inputupdate(), IS_MOUSE, IS_RGB, keyboard, usbinput::keys, MSG_SIZE, usbdevice::product, usbinput::rel_x, usbinput::rel_y, and usbdevice::vendor.

Referenced by _setupusb().

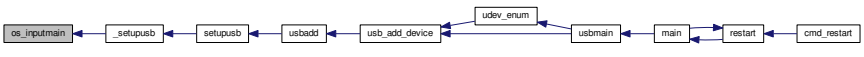
```
238                                 {
239     usbdevice* kb = context;
240     int fd = kb->handle - 1;
241     short vendor = kb->vendor, product = kb->product;
242     int index = INDEX_OF(kb, keyboard);
243     ckb_info("Starting input thread for %s%d\n", devpath, index);
244 
249     int urbcount = IS_RGB(vendor, product) ? (kb->epcount - 1) : kb->
    epcount;
250     if (urbcount == 0) {
251         ckb_err("urbcount = 0, so there is nothing to claim in os_inputmain()\n");
252         return 0;
253     }
254 
256     struct usbdevfs_urb urbs[urbcount + 1];
257     memset(urbs, 0, sizeof(urbs));
258 
272     urbs[0].buffer_length = 8;
273     if(urbcount > 1 && IS_RGB(vendor, product)) {
274         if(IS_MOUSE(vendor, product))
275             urbs[1].buffer_length = 10;
276         else
277             urbs[1].buffer_length = 21;
278         urbs[2].buffer_length = MSG_SIZE;
279         if(urbcount != 3)
280             urbs[urbcount - 1].buffer_length = MSG_SIZE;
281     } else {
282         urbs[1].buffer_length = 4;
283         urbs[2].buffer_length = 15;
284     }
285 
288     for(int i = 0; i < urbcount; i++){
289         urbs[i].type = USBDEVFS_URB_TYPE_INTERRUPT;
290         urbs[i].endpoint = 0x80 | (i + 1);
291         urbs[i].buffer = malloc(urbs[i].buffer_length);
292         ioctl(fd, USBDEVFS_SUBMITURB, urbs + i);
293     }
294 
296     while (1) {
297         struct usbdevfs_urb* urb = 0;
298 
301         if (ioctl(fd, USBDEVFS_REAPURB, &urb)) {
302             if (errno == ENODEV || errno == ENOENT || errno == ESHUTDOWN)
303                 // Stop the thread if the handle closes
304                 break;
305             else if(errno == EPIPE && urb){
307                 ioctl(fd, USBDEVFS_CLEAR_HALT, &urb->endpoint);
308                 // Re-submit the URB
309                 if(urb)
310                     ioctl(fd, USBDEVFS_SUBMITURB, urb);
311                 urb = 0;
312             }
313             continue;
314         }
315 
319         if (urb) {
320 
332             pthread_mutex_lock(imutex(kb));
333             if(IS_MOUSE(vendor, product)){
334                 switch(urb->actual_length){
335                 case 8:
336                 case 10:
337                 case 11:
338                     // HID mouse input
339                     hid_mouse_translate(kb->input.keys, &kb->
    input.rel_x, &kb->input.rel_y, -(urb->endpoint & 0xF), urb->actual_length, urb->buffer)
    ;
340                     break;
341                 case MSG_SIZE:
342                     // Corsair mouse input
343                     corsair_mousecopy(kb->input.keys, -(urb->endpoint & 0xF), urb
    ->buffer);
344                     break;
345                 }
346             } else if(IS_RGB(vendor, product)){
347                 switch(urb->actual_length){
348                 case 8:
349                     // RGB EP 1: 6KRO (BIOS mode) input
```

```
350                     hid_kb_translate(kb->input.keys, -1, urb->actual_length, urb->
    buffer);
351                     break;
352                 case 21:
353                 case 5:
354                     // RGB EP 2: NKRO (non-BIOS) input. Accept only if keyboard is inactive
355                     if(!kb->active)
356                         hid_kb_translate(kb->input.keys, -2, urb->actual_length,
    urb->buffer);
357                     break;
358                 case MSG_SIZE:
359                     // RGB EP 3: Corsair input
360                     corsair_kbcopy(kb->input.keys, -(urb->endpoint & 0xF), urb->
    buffer);
361                     break;
362                 }
363             } else {
364                 // Non-RGB input
365                 hid_kb_translate(kb->input.keys, urb->endpoint & 0xF, urb->
    actual_length, urb->buffer);
366             }
369             inputupdate(kb);
370             pthread_mutex_unlock(imutex(kb));
371
373             ioctl(fd, USBDEVFS_SUBMITURB, urb);
374             urb = 0;
375         }
376     }
377
381     ckb_info("Stopping input thread for %s%d\n", devpath, index);
382     for(int i = 0; i < urbcount; i++){
383         ioctl(fd, USBDEVFS_DISCARDURB, urbs + i);
384         free(urbs[i].buffer);
385     }
386     return 0;
387 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.49.3.8 int os_resetusb (usbdevice * *kb*, const char * *file*, int *line*)

Parameters

kb	THE usbdevice*
file	filename for error messages
line	line where it is called for error messages

Returns

Returns 0 on success, -2 if device should be removed and -1 if reset should by tried again

os_resetusb is the os specific implementation for resetting usb

Try to reset an usb device in a linux user space driver.

1. unclaim the device, but do not reconnect the system driver (second param resetting = true)
2. reset the device via USBDEVFS_RESET command
3. claim the device again. Returns 0 on success, -2 if device should be removed and -1 if reset should by tried again

Todo it seems that no one wants to try the reset again. But I'v seen it somewhere...

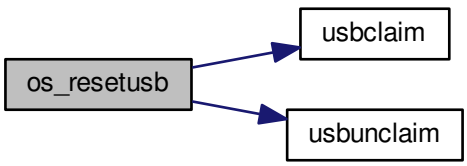
Definition at line 497 of file usb_linux.c.

References usbdevice::handle, TEST_RESET, usbclaim(), and usbunclaim().

Referenced by _resetusb().

```
497                                                     {
498     TEST_RESET(usbunclaim(kb, 1));
499     TEST_RESET(ioctl(kb->handle - 1, USBDEVFS_RESET));
500     TEST_RESET(usbclaim(kb));
501     // Success!
502     return 0;
503 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.49.3.9 void os_sendindicators (usbdevice * *kb*)

Parameters

kb	THE usbdevice*

os_sendindicators update the indicators for the special keys (Numlock, Capslock and what else?)

os_sendindicators update the indicators for the special keys (Numlock, Capslock and what else?)

Read the data from kb->ileds ans send them via ioctl() to the keyboard.

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0x21	0x09	0x0200	Interface 0	MSG_SIZE 1 Byte	timeout 0,5ms	the message buffer pointer
Host to Device, Type=Class, Recipi-ent=Interface (why not endpoint?)	9 = SEND?	specific	0	1	500	struct* kb->ileds

The ioctl command is USBDEVFS_CONTROL.

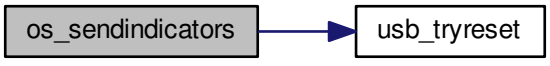
Definition at line 213 of file usb_linux.c.

References ckb_err, usbdevice::handle, usbdevice::ileds, and usb_tryreset().

Referenced by updateindicators_kb().

```
213                                     {
214     static int countForReset = 0;
215     struct usbdevfs_ctrltransfer transfer = { 0x21, 0x09, 0x0200, 0x00, 1, 500, &kb->
      ileds };
216     int res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
217     if(res <= 0) {
218         ckb_err("%s\n", res ? strerror(errno) : "No data written");
219         if (usb_tryreset(kb) == 0 && countForReset++ < 3) {
220             os_sendindicators(kb);
221         }
222     }
223 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.49.3.10 int os_setupusb (usbdevice * *kb*)

Parameters

kb	THE usbdevice*

Returns

0 on success, -1 otherwise.

os_setupusb OS-specific setup for a specific usb device.

Perform the operating system-specific opening of the interface in os_setupusb(). As a result, some parameters should be set in kb (name, serial, fwversion, epcount = number of usb endpoints), and all endpoints should be claimed with usbclaim(). Claiming is the only point where os_setupusb() can produce an error (-1).

- Copy device description and serial
- Copy firmware version (needed to determine USB protocol)
- Do some output about connecting interfaces
- Claim the USB interfaces

Todo in these modules a pullrequest is outstanding

< Try to reset the device and recall the function

< Don't do this endless in recursion

< os_setupusb() has a return value (used as boolean)

Definition at line 535 of file usb_linux.c.

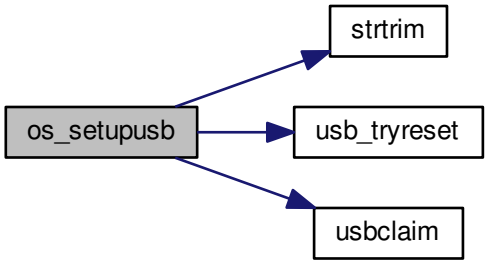
References ckb_err, ckb_info, devpath, usbdevice::epcount, usbdevice::fwversion, INDEX_OF, KB_NAME_LEN, keyboard, usbdevice::name, usbdevice::serial, SERIAL_LEN, strtrim(), usbdevice::udev, usb_tryreset(), and usbclaim().

Referenced by _setupusb().

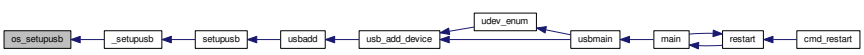
```
535                                {
538     struct udev_device* dev = kb->udev;
539     const char* name = udev_device_get_sysattr_value(dev, "product");
540     if(name)
541         strncpy(kb->name, name, KB_NAME_LEN);
542     strtrim(kb->name);
543     const char* serial = udev_device_get_sysattr_value(dev, "serial");
544     if(serial)
545         strncpy(kb->serial, serial, SERIAL_LEN);
546     strtrim(kb->serial);
549     const char* firmware = udev_device_get_sysattr_value(dev, "bcdDevice");
550     if(firmware)
```

```
551         sscanf(firmware, "%hx", &kb->fwversion);
552     else
553         kb->fwversion = 0;
554     int index = INDEX_OF(kb, keyboard);
555
557     ckb_info("Connecting %s at %s%d\n", kb->name, devpath, index);
558
564     const char* ep_str = udev_device_get_sysattr_value(dev, "bNumInterfaces");
565 #ifdef DEBUG
566     ckb_info("claiming interfaces. name=%s, firmware=%s; Got >>%s<< as ep_str\n", name, firmware,
      ep_str);
567 #endif //DEBUG
568     kb->epcount = 0;
569     if(ep_str)
570         sscanf(ep_str, "%d", &kb->epcount);
571     if(kb->epcount < 2){
572         // IF we have an RGB KB with 0 or 1 endpoints, it will be in BIOS mode.
573         ckb_err("Unable to read endpoint count from udev, assuming %d and reading >>%s<< or device
      is in BIOS mode\n", kb->epcount, ep_str);
574         if (usb_tryreset(kb) == 0) {
575             static int retryCount = 0;
576             if (retryCount++ < 5) {
577                 return os_setupusb(kb);
578             }
579         }
580         return -1;
581         // ToDo are there special versions we have to detect? If there are, that was the old code to handle
      it:
582         // This shouldn't happen, but if it does, assume EP count based onckb_warn what the device is
      supposed to have
583         // kb->epcount = (HAS_FEATURES(kb, FEAT_RGB) ? 4 : 3);
584         // ckb_warn("Unable to read endpoint count from udev, assuming %d and reading >>%s<<...\n",
      kb->epcount, ep_str);
585     }
586     if(usbclaim(kb)){
587         ckb_err("Failed to claim interfaces: %s\n", strerror(errno));
588         return -1;
589     }
590     return 0;
591 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.49.3.11 int os_usbrecv (usbdevice * kb, uchar * in_msg, const char * file, int line)

Parameters

kb	THE usbdevice*
in_msg	the buffer to fill with the message received
file	for debugging
line	for debugging

Returns

-1 on timeout, 0 on hard error, numer of bytes received otherwise

os_usbrecv does what its name says:

The comment at the beginning of the procedure causes the suspicion that the firmware versionspecific distinction is missing for receiving from usb endpoint 3 or 4. The commented code contains only the reception from EP4, but this may be wrong for a software version 2.0 or higher (see the code for os-usbsend ()).

So all the receiving is done via an ioctl() like in os_usbsend. The ioctl() is given a struct usbdevfs_ctrltransfer, in which the relevant parameters are entered:

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0xA1	0x01	0x0200	endpoint to be addressed from epcount - 1	MSG_SIZE	5ms	the message buffer pointer
Device to Host, Type=Class, Recipi-ent=Interface	1 = RECEIVE?	specific	Interface #	64	5000	in_msg

The ioctl() returns the number of bytes received. Here is the usual check again:

- If the return value is -1 AND the error is a timeout (ETIMEOUT), os_usbrecv() will return -1 to indicate that it is probably a recoverable problem and a retry is recommended.
- For another negative value or other error identifier OR 0 bytes are received, 0 is returned as an identifier for a heavy error.
- In all other cases, the function returns the number of bytes received.

If this is not the entire blocksize (MSG_SIZE bytes), an error message is issued on the standard error channel [warning "Read YY bytes (expected 64)"].

Definition at line 129 of file usb_linux.c.

References ckb_err_fn, ckb_warn_fn, usbdevice::epcount, usbdevice::handle, and MSG_SIZE.

Referenced by _usbrecv().

```
129                                                                                 {
130     int res;
131     // This is what CUE does, but it doesn't seem to work on linux.
132     /*if(kb->fwversion >= 0x130){
133         struct usbdevfs_bulktransfer transfer = {0};
134         transfer.ep = 0x84;
135         transfer.len = MSG_SIZE;
136         transfer.timeout = 5000;
137         transfer.data = in_msg;
138         res = ioctl(kb->handle - 1, USBDEVFS_BULK, &transfer);
139     } else {*/
140         struct usbdevfs_ctrltransfer transfer = { 0xa1, 0x01, 0x0300, kb->
    epcount - 1, MSG_SIZE, 5000, in_msg };
141         res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
142     //}
143     if(res <= 0){
```

```
144         ckb_err_fn("%s\n", file, line, res ? strerror(errno) : "No data read");
145         if(res == -1 && errno == ETIMEDOUT)
146             return -1;
147         else
148             return 0;
149     } else if(res != MSG_SIZE)
150         ckb_warn_fn("Read %d bytes (expected %d)\n", file, line, res,
    MSG_SIZE);
151 #ifdef DEBUG_USB_RECV
152     char converted[MSG_SIZE*3 + 1];
153     for(int i=0;i<MSG_SIZE;i++)
154         sprintf(&converted[i*3], "%02x ", in_msg[i]);
155     ckb_warn_fn("Recv %s\n", file, line, converted);
156 #endif
157     return res;
158 }
```

Here is the caller graph for this function:

13.49.3.12 int os_usbsend (usbdevice * *kb*, const uchar * *out_msg*, int *is_recv*, const char * *file*, int *line*)

Parameters

kb	THE usbdevice*
out_msg	the MSGSIZE char long buffer to send
is_recv	if true, just send an ioctl for further reading packets. If false, send the data at **out_msg**.
file	for debugging
line	for debugging

Returns

-1 on timeout (try again), 0 on hard error, numer of bytes sent otherwise

os_usbsend has two functions:

- if is_recv == false, it tries to send a given MSG_SIZE buffer via the usb interface given with kb.
- otherwise a request is sent via the usb device to initiate the receiving of a message from the remote device.

The functionality for sending distinguishes two cases, depending on the version number of the firmware of the connected device:

If the firmware is less or equal 1.2, the transmission is done via an ioctl(). The ioctl() is given a struct usbdevfs_ctrltransfer, in which the relevant parameters are entered:

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0x21	0x09	0x0200	endpoint / IF to be addressed from epcount-1	MSG_SIZE	5000 (=5ms)	the message buffer pointer
Host to Device, Type=Class, Recipi-ent=Interface	9 = Send data?	specific	last or pre-last device #	64	5000	out_msg

The ioctl command is USBDEVFS_CONTROL.

The same constellation is used if the device is requested to send its data (is_recv = true).

For a more recent firmware and is_recv = false, the ioctl command USBDEVFS_CONTROL is not used (this tells the bus to enter the control mode), but the bulk method is used: USBDEVFS_BULK. This is astonishing, because all of the endpoints are type Interrupt, not bulk.

Anyhow, forthis purpose a different structure is used for the ioctl() (struct **usbdevfs_bulktransfer**) and this is also initialized differently:

The length and timeout parameters are given the same values as above. The formal parameter out_msg is also passed as a buffer pointer. For the endpoints, the firmware version is differentiated again:

For a firmware version between 1.3 and <2.0 endpoint 4 is used, otherwise (it can only be >=2.0) endpoint 3 is used.

Todo Since the handling of endpoints has already led to problems elsewhere, this implementation is extremely hardware-dependent and critical!

Eg. the new keyboard K95PLATINUMRGB has a version number significantly less than 2.0 - will it run with this implementation?

The ioctl() - no matter what type - returns the number of bytes sent. Now comes the usual check:

- If the return value is -1 AND the error is a timeout (ETIMEOUT), os_usbsend() will return -1 to indicate that it is probably a recoverable problem and a retry is recommended.
- For another negative value or other error identifier OR 0 bytes sent, 0 is returned as a heavy error identifier.
- In all other cases, the function returns the number of bytes sent.

If this is not the entire blocksize (MSG_SIZE bytes), an error message is issued on the standard error channel [warning "Wrote YY bytes (expected 64)"].

If DEBUG_USB is set during compilation, the number of bytes sent and their representation are logged to the error channel.

Definition at line 68 of file usb_linux.c.

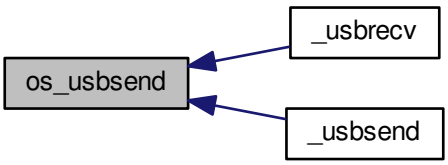
References ckb_err_fn, ckb_warn_fn, usbdevice::epcount, usbdevice::fwversion, usbdevice::handle, and MSG_SIZE.

Referenced by _usbrecv(), and _usbsend().

```
68                                                                                  {
69     int res;
70     if (kb->fwversion >= 0x120 && !is_recv) {
71         struct usbdevfs_bulktransfer transfer = {0};
72         transfer.ep = (kb->fwversion >= 0x130 && kb->fwversion < 0x200) ? 4 : 3;
73         transfer.len = MSG_SIZE;
74         transfer.timeout = 5000;
75         transfer.data = (void*)out_msg;
76         res = ioctl(kb->handle - 1, USBDEVFS_BULK, &transfer);
```

```
77      } else {
78          struct usbdevfs_ctrltransfer transfer = { 0x21, 0x09, 0x0200, kb->
      epcount - 1, MSG_SIZE, 5000, (void*)out_msg };
79          res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
80      }
81
82      if (res <= 0){
83          ckb_err_fn(" %s, res = 0x%x\n", file, line, res ? strerror(errno) : "No data written",
      res);
84          if(res == -1 && errno == ETIMEDOUT)
85              return -1;
86          else
87              return 0;
88      } else if (res != MSG_SIZE)
89          ckb_warn_fn("Wrote %d bytes (expected %d)\n", file, line, res,
      MSG_SIZE);
90  #ifdef DEBUG_USB
91      char converted[MSG_SIZE*3 + 1];
92      for(int i=0;i<MSG_SIZE;i++)
93          sprintf(&converted[i*3], "%02x ", out_msg[i]);
94      ckb_warn_fn("Sent %s\n", file, line, converted);
95  #endif
96      return res;
97  }
```

Here is the caller graph for this function:



13.49.3.13 const char* product_str (short *product*)

Parameters

product	is the *short* USB device product ID

Returns

string to identify a type of device (see below)

product_str returns a condensed view on what type of device we have.

At present, various models and their properties are known from corsair products. Some models differ in principle (mice and keyboards), others differ in the way they function (for example, RGB and non RGB), but they are very similar.

Here, only the first point is taken into consideration and we return a unified model string. If the model is not known with its number, *product_str* returns an empty string.

The model numbers and corresponding strings wwith the numbers in hex-string are defined in `usb.h`

At present, this function is used to initialize `kb->name` and to give information in debug strings.

Attention

The combinations below have to fit to the combinations in the macros mentioned above. So if you add a device with a new number, change both.

Todo There are macros defined in usb.h to detect all the combinations below. the only difference is the parameter: The macros need the *kb∗*, product_str() needs the *product ID*

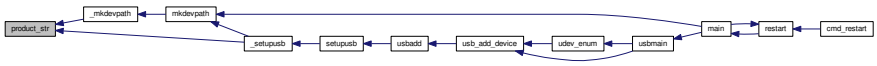
Definition at line 70 of file usb.c.

References P_K65, P_K65_LUX, P_K65_NRGB, P_K65_RFIRE, P_K70, P_K70_LUX, P_K70_LUX_NRGB, P_K70_NRGB, P_K70_RFIRE, P_K70_RFIRE_NRGB, P_K95, P_K95_NRGB, P_K95_PLATINUM, P_M65, P_M65_PRO, P_SABRE_L, P_SABRE_N, P_SABRE_O, P_SABRE_O2, P_SCIMITAR, P_SCIMITAR_PRO, P_STRAFE, and P_STRAFE_NRGB.

Referenced by _mkdevpath(), and _setupusb().

```
70                                      {
71     if(product == P_K95 || product == P_K95_NRGB || product ==
       P_K95_PLATINUM)
72         return "k95";
73     if(product == P_K70 || product == P_K70_NRGB || product ==
       P_K70_LUX || product == P_K70_LUX_NRGB || product ==
       P_K70_RFIRE || product == P_K70_RFIRE_NRGB)
74         return "k70";
75     if(product == P_K65 || product == P_K65_NRGB || product ==
       P_K65_LUX || product == P_K65_RFIRE)
76         return "k65";
77     if(product == P_STRAFE || product == P_STRAFE_NRGB)
78         return "strafe";
79     if(product == P_M65 || product == P_M65_PRO)
80         return "m65";
81     if(product == P_SABRE_O || product == P_SABRE_L || product ==
       P_SABRE_N || product == P_SABRE_O2)
82         return "sabre";
83     if(product == P_SCIMITAR || product == P_SCIMITAR_PRO)
84         return "scimitar";
85     return "";
86 }
```

Here is the caller graph for this function:



13.49.3.14 int revertusb (usbdevice ∗ *kb*)

Parameters

kb	THE usbdevice∗

Returns

0 on success or if device needs firmware upgrade, -1 otherwise

revertusb sets a given device to inactive (hardware controlled) mode if not a fw-ugrade is indicated

First is checked, whether a firmware-upgrade is indicated for the device. If so, revertusb() returns 0.

Todo Why is this useful? Are there problems seen with deactivating a device with older fw-version??? Why isn't this an error indicating reason and we return success (0)?

Anyway, the following steps are similar to some other procs, dealing with low level usb handling:

- If we do not have an RGB device, a simple setting to Hardware-mode (NK95_HWON) is sent to the device via n95cmd().

  Todo The return value of nk95cmd() is ignored (but sending the ioctl may produce an error and _nk95_cmd will indicate this), instead revertusb() returns success in any case.

- If we have an RGB device, setactive() is called with second param active = false. That function will have a look on differences between keyboards and mice.

  More precisely setactive() is just a macro to call via the kb->vtable enties either the active() or the idle() function where the vtable points to. setactive() may return error indications. If so, revertusb() returns -1, otherwise 0 in any other case.

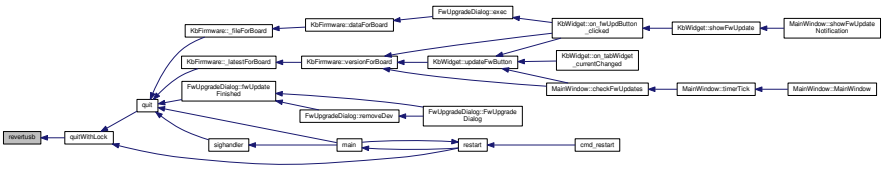
Definition at line 407 of file usb.c.

References FEAT_RGB, HAS_FEATURES, NEEDS_FW_UPDATE, NK95_HWON, nk95cmd, and setactive.

Referenced by quitWithLock().

```
407                             {
408     if(NEEDS_FW_UPDATE(kb))
409         return 0;
410     if(!HAS_FEATURES(kb, FEAT_RGB)){
411         nk95cmd(kb, NK95_HWON);
412         return 0;
413     }
414     if(setactive(kb, 0))
415         return -1;
416     return 0;
417 }
```

Here is the caller graph for this function:



13.49.3.15 void setupusb (usbdevice * *kb*)

Attention

Lock a device's dmutex (see device.h) before accessing the USB interface.

Parameters

kb	THE usbdevice* used everywhere
OUT]	kb->thread is used to store the thread ID of the fresh created thread.

setupusb starts a thread with kb as parameter and _setupusb() as entrypoint.

Set up a USB device after its handle is open. Spawns a new thread _setupusb() with standard parameter kb. dmutex must be locked prior to calling this function. The function will unlock it when finished. In kb->thread the thread id is mentioned, because closeusb() needs this info for joining that thread again.

Definition at line 386 of file usb.c.

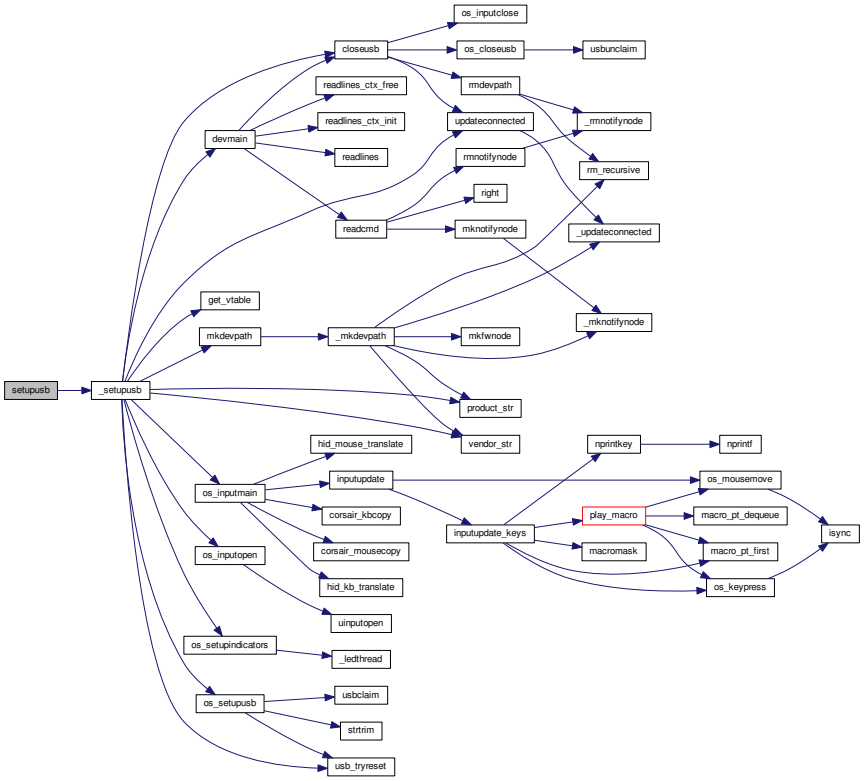
References _setupusb(), ckb_err, imutex, and usbdevice::thread.

Referenced by usbadd().

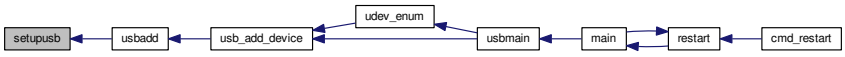
```
386                             {
```

```
387     pthread_mutex_lock(imutex(kb));
388     if(pthread_create(&kb->thread, 0, _setupusb, kb))
389         ckb_err("Failed to create USB thread\n");
390 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.49.3.16 int usb_tryreset (usbdevice * *kb*)

Parameters

in,out	*kb*	THE usbdevice*
in	*reset_stop*	global variable is read

Returns

0 on success, -1 otherwise

usb_tryreset does what the name means: Try to reset the usb via resetusb()

This function is called if an usb command ran into an error in case of one of the following two situations:

- When setting up a new usb device and the start() function got an error (

  See Also

  _setupusb())

- If upgrading to a new firmware gets an error (

  See Also

  cmd_fwupdate()).

  The previous action which got the error will NOT be re-attempted.

In an endless loop usb_tryreset() tries to reset the given usb device via the macro resetusb().

This macro calls _resetusb() with debugging information.

_resetusb() sends a command via the operating system dependent function os_resetusb() and - if successful - reinitializes the device. os_resetusb() returns -2 to indicate a broken device and all structures should be removed for it.

In that case, the loop is terminated, an error message is produced and usb_tryreset() returns -1.

In case resetusb() has success, the endless loop is left via a return 0 (success).

If the return value from resetusb() is -1, the loop is continued with the next try.

If the global variable **reset_stop** is set directly when the function is called or after each try, usb_tryreset() stops working and returns -1.

Todo Why does usb_tryreset() hide the information returned from resetusb()? Isn't it needed by the callers?

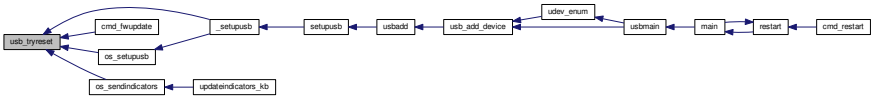
Definition at line 465 of file usb.c.

References ckb_err, ckb_info, reset_stop, and resetusb.

Referenced by _setupusb(), cmd_fwupdate(), os_sendindicators(), and os_setupusb().

```
465                                {
466     if(reset_stop)
467         return -1;
468     ckb_info("Attempting reset...\n");
469     while(1){
470         int res = resetusb(kb);
471         if(!res){
472             ckb_info("Reset success\n");
473             return 0;
474         }
475         if(res == -2 || reset_stop)
476             break;
477     }
478     ckb_err("Reset failed. Disconnecting.\n");
479     return -1;
480 }
```

Here is the caller graph for this function:



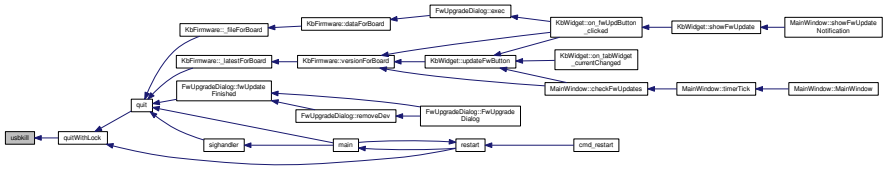
13.49.3.17 void usbkill ( )

Definition at line 835 of file usb_linux.c.

Referenced by quitWithLock().

```
835                 {
836     udev_unref(udev);
837     udev = 0;
838 }
```

Here is the caller graph for this function:



13.49.3.18 int usbmain ( )

Start the USB main loop. Returns program exit code when finished.

usbmain is called by main() after setting up all other stuff.

Returns

0 normally or -1 if fatal error occurs (up to now only if no new devices are available)

First check whether the uinput module is loaded by the kernel.

Todo Why isn't missing of uinput a fatal error?

Create the udev object with udev_new() (is a function from libudev.h) terminate -1 if error

Enumerate all currently connected devices

Todo lae. here the work has to go on...

Definition at line 775 of file usb_linux.c.

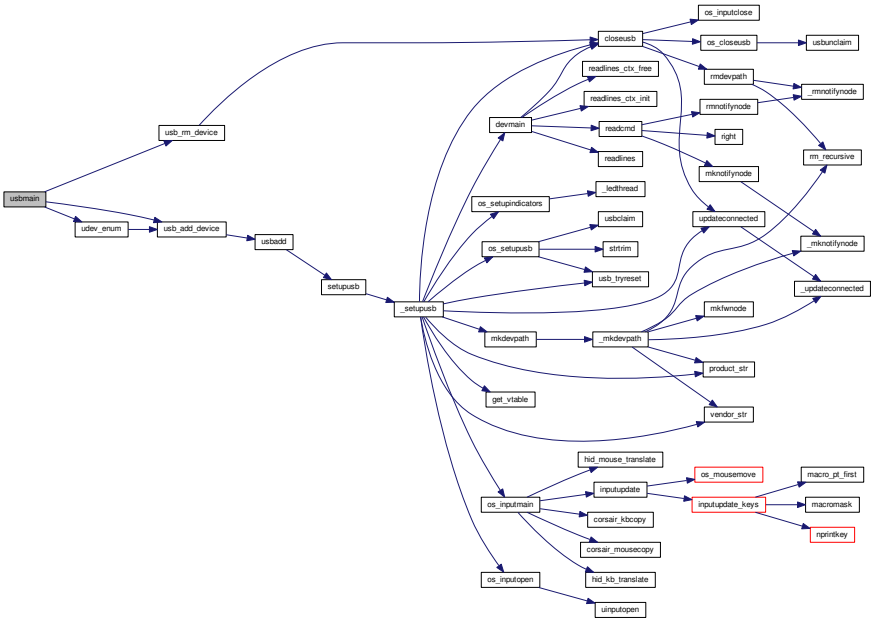
References ckb_fatal, ckb_warn, udev_enum(), usb_add_device(), and usb_rm_device().

Referenced by main().

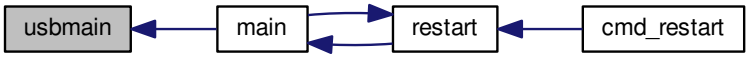
```
775             {
780     // Load the uinput module (if it's not loaded already)
781     if(system("modprobe uinput") != 0)
782         ckb_warn("Failed to load uinput module\n");
783
787     if(!(udev = udev_new())) {
788         ckb_fatal("Failed to initialize udev in usbmain(), usb_linux.c\n");
789         return -1;
790     }
791
794     udev_enum();
795
798     // Done scanning. Enter a loop to poll for device updates
799     struct udev_monitor* monitor = udev_monitor_new_from_netlink(udev, "udev");
800     udev_monitor_filter_add_match_subsystem_devtype(monitor, "usb", 0);
801     udev_monitor_enable_receiving(monitor);
802     // Get an fd for the monitor
803     int fd = udev_monitor_get_fd(monitor);
```

```
804     fd_set fds;
805     while(udev){
806         FD_ZERO(&fds);
807         FD_SET(fd, &fds);
808         // Block until an event is read
809         if(select(fd + 1, &fds, 0, 0, 0) > 0 && FD_ISSET(fd, &fds)){
810             struct udev_device* dev = udev_monitor_receive_device(monitor);
811             if(!dev)
812                 continue;
813             const char* action = udev_device_get_action(dev);
814             if(!action){
815                 udev_device_unref(dev);
816                 continue;
817             }
818             // Add/remove device
819             if(!strcmp(action, "add")){
820                 int res = usb_add_device(dev);
821                 if(res == 0)
822                     continue;
823                 // If the device matched but the handle wasn't opened correctly, re-enumerate (this
    sometimes solves the problem)
824                 if(res == -1)
825                     udev_enum();
826             } else if(!strcmp(action, "remove"))
827                 usb_rm_device(dev);
828             udev_device_unref(dev);
829         }
830     }
831     udev_monitor_unref(monitor);
832     return 0;
833 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.49.3.19 const char* vendor_str (short *vendor*)

uncomment to see USB packets sent from the device vendor_str Vendor/product string representations

Parameters

vendor	*short* vendor ID

Returns

a string: either "" or "corsair"

uncomment the following Define to see USB packets sent to the device

vendor_str returns "corsair" iff the given *vendor* argument is equal to *V_CORSAIR* (0x1bc) else it returns ""

Attention

There is also a string defined V_CORSAIR_STR, which returns the device number as string in hex "1b1c".

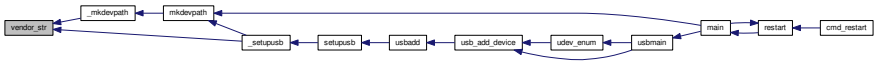
Definition at line 43 of file usb.c.

References V_CORSAIR.

Referenced by _mkdevpath(), and _setupusb().

```
43                                      {
44     if(vendor == V_CORSAIR)
45         return "corsair";
46     return "";
47 }
```

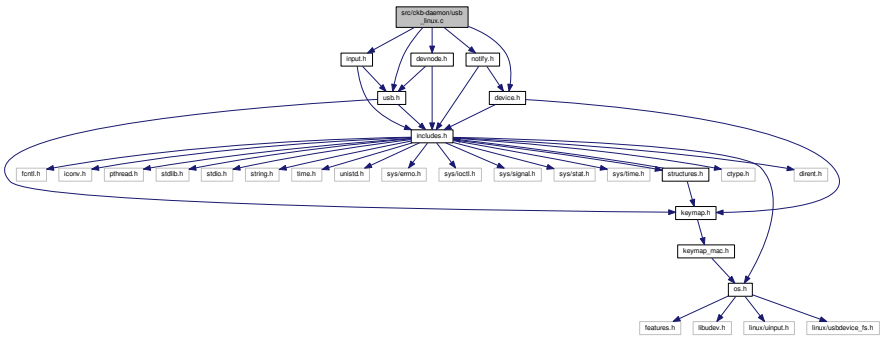
Here is the caller graph for this function:



13.50 src/ckb-daemon/usb_linux.c File Reference

```
#include "device.h"
#include "devnode.h"
#include "input.h"
#include "notify.h"
#include "usb.h"
```

Include dependency graph for usb_linux.c:



Data Structures

- struct _model

Macros

- #define DEBUG

  all open usb devices have their system path names here in this array.
- #define TEST_RESET(op)

  TEST_RESET doesa "try / catch" for resetting the usb interface.
- #define N_MODELS (sizeof(models) / sizeof(_model))

Functions

- int os_usbsend (usbdevice *kb, const uchar *out_msg, int is_recv, const char *file, int line)

  os_usbsend sends a data packet (MSG_SIZE = 64) Bytes long
- int os_usbrecv (usbdevice *kb, uchar *in_msg, const char *file, int line)

  os_usbrecv receives a max MSGSIZE long buffer from usb device
- int _nk95cmd (usbdevice *kb, uchar bRequest, ushort wValue, const char *file, int line)

  _nk95cmd If we control a non RGB keyboard, set the keyboard via ioctl with usbdevfs_ctrltransfer
- void os_sendindicators (usbdevice *kb)
- void * os_inputmain (void *context)

  os_inputmain This function is run in a separate thread and will be detached from the main thread, so it needs to clean up its own resources.
- static int usbunclaim (usbdevice *kb, int resetting)
- void os_closeusb (usbdevice *kb)
- static int usbclaim (usbdevice *kb)
- int os_resetusb (usbdevice *kb, const char *file, int line)
- void strtrim (char *string)
- int os_setupusb (usbdevice *kb)
- int usbadd (struct udev_device *dev, short vendor, short product)
- static int usb_add_device (struct udev_device *dev)

  Add a udev device. Returns 0 if device was recognized/added.
- static void usb_rm_device (struct udev_device *dev)

  usb_rm_device find the usb port to remove and close it via closeusb().
- static void udev_enum ()

  udev_enum use the udev_enumerate_add_match_subsystem() to get all you need but only that.
- int usbmain ()
- void usbkill ()

  Stop the USB system.

Variables

- static char kbsyspath [9][FILENAME_MAX]
- static struct udev * udev

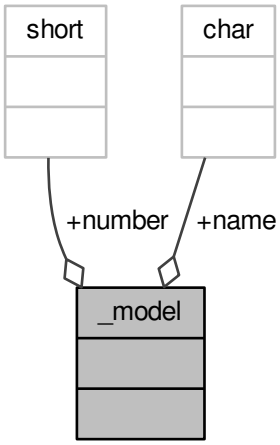
  struct udef is defined in /usr/include/libudev.h
- pthread_t usbthread
- pthread_t udevthread
- static _model models []

13.50.1 Data Structure Documentation

13.50.1.1 struct _model

Definition at line 645 of file usb_linux.c.

Collaboration diagram for _model:



Data Fields

const char *	name	
short	number	

13.50.2 Macro Definition Documentation

13.50.2.1 #define DEBUG

Definition at line 11 of file usb_linux.c.

13.50.2.2 #define N_MODELS (sizeof(models) / sizeof(_model))

Definition at line 682 of file usb_linux.c.

Referenced by usb_add_device().

13.50.2.3 #define TEST_RESET(*op*)

Value:

```
if(op){                                                                 \
        ckb_err_fn("resetusb failed: %s\n", file, line, strerror(errno));   \
        if(errno == EINTR || errno == EAGAIN)                           \
            return -1;              /* try again if status code says so */  \
        return -2;                  /* else, remove device */               \
    }
```

Definition at line 479 of file usb_linux.c.

Referenced by os_resetusb().

13.50.3 Function Documentation

13.50.3.1 int _nk95cmd (usbdevice * kb, uchar bRequest, ushort wValue, const char * file, int line)

To send control packets to a non RGB non color K95 Keyboard, use this function. Normally it is called via the nk95cmd() macro.

If it is the wrong device for which the function is called, 0 is returned and nothing done. Otherwise a usbdevfs_ctrltransfer structure is filled and an USBDEVFS_CONTROL ioctl() called.

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0x40	see table below to switch hardware-modus at Keyboard	wValue	device	MSG_SIZE	5ms	the message buffer pointer
Host to Device, Type=Vendor, Recipient=Device	bRequest parameter	given wValue Parameter	device 0	0 data to write	5000	null

If a 0 or a negative error number is returned by the ioctl, an error message is shown depending on the errno or "No data written" if retval was 0. In either case 1 is returned to indicate the error. If the ioctl returned a value $>$ 0, 0 is returned to indicate no error.

Currently the following combinations for bRequest and wValue are used:

Device	what it might to do	constant	bRequest	wValue
non RGB Keyboard	set HW-modus on (leave the ckb driver)	HWON	0x0002	0x0030
non RGB Keyboard	set HW-modus off (initialize the ckb driver)	HWOFF	0x0002	0x0001
non RGB Keyboard	set light modus M1 in single-color keyboards	NK95_M1	0x0014	0x0001
non RGB Keyboard	set light modus M2 in single-color keyboards	NK95_M2	0x0014	0x0002
non RGB Keyboard	set light modus M3 in single-color keyboards	NK95_M3	0x0014	0x0003

See Also

usb.h

Definition at line 188 of file usb_linux.c.

References ckb_err_fn, usbdevice::handle, P_K95_NRGB, and usbdevice::product.

```
188                                                                     {
189     if(kb->product != P_K95_NRGB)
```

```
190         return 0;
191     struct usbdevfs_ctrltransfer transfer = { 0x40, bRequest, wValue, 0, 0, 5000, 0 };
192     int res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
193     if(res <= 0){
194         ckb_err_fn("%s\n", file, line, res ? strerror(errno) : "No data written");
195         return 1;
196     }
197     return 0;
198 }
```

13.50.3.2 void os_closeusb (usbdevice * *kb*)

os_closeusb unclaim it, destroy the udev device and clear data structures at kb

os_closeusb is the linux specific implementation for closing an active usb port.

If a valid handle is given in the kb structure, the usb port is unclaimed (usbunclaim()).

The device in unrefenced via library function udev_device_unref().

handle, udev and the first char of kbsyspath are cleared to 0 (empty string for kbsyspath).

Definition at line 435 of file usb_linux.c.

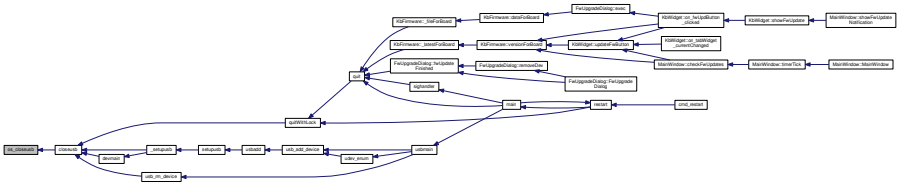
References usbdevice::handle, INDEX_OF, kbsyspath, keyboard, usbdevice::udev, and usbunclaim().

Referenced by closeusb().

```
435                                 {
436     if(kb->handle){
437         usbunclaim(kb, 0);
438         close(kb->handle - 1);
439     }
440     if(kb->udev)
441         udev_device_unref(kb->udev);
442     kb->handle = 0;
443     kb->udev = 0;
444     kbsyspath[INDEX_OF(kb, keyboard)][0] = 0;
445 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.50.3.3 void* os_inputmain (void * *context*)

os_inputmain is run in a separate thread and will be detached from the main thread, so it needs to clean up its own resources.

Todo This function is a collection of many tasks. It should be divided into several sub-functions for the sake of greater convenience:

1. set up an URB (Userspace Ressource Buffer) to communicate with the USBDEVFS_* ioctl()s
2. perform the ioctl()
3. interpretate the information got into the URB buffer or handle error situations and retry operation or leave the endless loop
4. inform the os about the data
5. loop endless via 2.
6. if endless loop has gone, deinitalize the interface, free buffers etc.
7. return null

Here the actions in detail:

Monitor input transfers on all endpoints for non-RGB devices For RGB, monitor all but the last, as it's used for input/output

Get an usbdevfs_urb data structure and clear it via memset()

Hopefully the buffer lengths are equal for all devices with congruent types. You can find out the correctness for your device with lsusb –v or similar on macOS. Currently the following combinations are known and implemented:

device	detect with macro combination	endpoint #	buffer-length
each	none	0	8
RGB Mouse	IS_RGB && IS_MOUSE	1	10
RGB Keyboard	IS_RGB && !IS_MOUSE	1	21
RGB Mouse or Keyboard	IS_RGB	2	MSG_SIZE (64)
non RGB Mouse or Keyboard	!IS_RGB	1	4
non RGB Mouse or Keyboard	!IS_RGB	2	15

Now submit all the URBs via ioctl(USBDEVFS_SUBMITURB) with type USBDEVFS_URB_TYPE_INTERRUPT (the endpoints are defined as type interrupt). Endpoint number is 0x80..0x82 or 0x83, depending on the model.

The userSpaceFS knows the URBs now, so start monitoring input

if the ioctl returns something != 0, let's have a deeper look what happened. Broken devices or shutting down the entire system leads to closing the device and finishing this thread.

If just an EPIPE ocurred, give the device a CLEAR_HALT and resubmit the URB.

A correct REAPURB returns a Pointer to the URB which we now have a closer look into. Lock all following actions with imutex.

Process the input depending on type of device. Interprete the actual size of the URB buffer

device	detect with macro combination	seems to be endpoint #	actual buffer-length	function called

mouse (RGB and non RGB)	IS_MOUSE	nA	8, 10 or 11	hid_mouse_-translate()
mouse (RGB and non RGB)	IS_MOUSE	nA	MSG_SIZE (64)	corsair_-mousecopy()
RGB Keyboard	IS_RGB && !IS_MOUSE	1	8 (BIOS Mode)	hid_kb_translate()
RGB Keyboard	IS_RGB && !IS_MOUSE	2	5 or 21, KB inactive!	hid_kb_translate()
RGB Keyboard	IS_RGB && !IS_MOUSE	3?	MSG_SIZE	corsair_kbcopy()
non RGB Keyboard	!IS_RGB && !IS_MOUSE	nA	nA	hid_kb_translate()

The input data is transformed and copied to the kb structure. Now give it to the OS and unlock the imutex afterwards.

Re-submit the URB for the next run.

If the endless loop is terminated, clean up by discarding the URBs via ioctl(USBDEVFS_DISCARDURB), free the URB buffers and return a null pointer as thread exit code.

Definition at line 238 of file usb_linux.c.

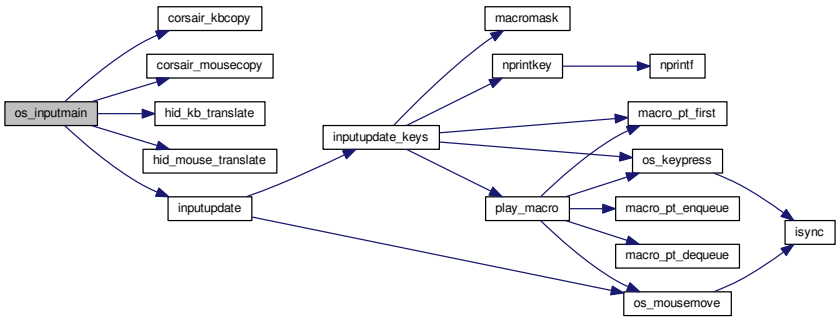
References usbdevice::active, ckb_err, ckb_info, corsair_kbcopy(), corsair_mousecopy(), devpath, usbdevice::epcount, usbdevice::handle, hid_kb_translate(), hid_mouse_translate(), imutex, INDEX_OF, usbdevice::input, inputupdate(), IS_MOUSE, IS_RGB, keyboard, usbinput::keys, MSG_SIZE, usbdevice::product, usbinput::rel_x, usbinput::rel_y, and usbdevice::vendor.

Referenced by _setupusb().

```
238                                 {
239     usbdevice* kb = context;
240     int fd = kb->handle - 1;
241     short vendor = kb->vendor, product = kb->product;
242     int index = INDEX_OF(kb, keyboard);
243     ckb_info("Starting input thread for %s%d\n", devpath, index);
244 
249     int urbcount = IS_RGB(vendor, product) ? (kb->epcount - 1) : kb->
    epcount;
250     if (urbcount == 0) {
251         ckb_err("urbcount = 0, so there is nothing to claim in os_inputmain()\n");
252         return 0;
253     }
254 
256     struct usbdevfs_urb urbs[urbcount + 1];
257     memset(urbs, 0, sizeof(urbs));
258 
272     urbs[0].buffer_length = 8;
273     if(urbcount > 1 && IS_RGB(vendor, product)) {
274         if(IS_MOUSE(vendor, product))
275             urbs[1].buffer_length = 10;
276         else
277             urbs[1].buffer_length = 21;
278         urbs[2].buffer_length = MSG_SIZE;
279         if(urbcount != 3)
280             urbs[urbcount - 1].buffer_length = MSG_SIZE;
281     } else {
282         urbs[1].buffer_length = 4;
283         urbs[2].buffer_length = 15;
284     }
285 
288     for(int i = 0; i < urbcount; i++){
289         urbs[i].type = USBDEVFS_URB_TYPE_INTERRUPT;
290         urbs[i].endpoint = 0x80 | (i + 1);
291         urbs[i].buffer = malloc(urbs[i].buffer_length);
292         ioctl(fd, USBDEVFS_SUBMITURB, urbs + i);
293     }
294 
296     while (1) {
297         struct usbdevfs_urb* urb = 0;
298 
301         if (ioctl(fd, USBDEVFS_REAPURB, &urb)) {
302             if (errno == ENODEV || errno == ENOENT || errno == ESHUTDOWN)
303                 // Stop the thread if the handle closes
304                 break;
305             else if(errno == EPIPE && urb){
307                 ioctl(fd, USBDEVFS_CLEAR_HALT, &urb->endpoint);
308                 // Re-submit the URB
309                 if(urb)
```

```
310                     ioctl(fd, USBDEVFS_SUBMITURB, urb);
311                 urb = 0;
312             }
313             continue;
314         }
315 
319         if (urb) {
320 
332             pthread_mutex_lock(imutex(kb));
333             if(IS_MOUSE(vendor, product)){
334                 switch(urb->actual_length){
335                 case 8:
336                 case 10:
337                 case 11:
338                     // HID mouse input
339                     hid_mouse_translate(kb->input.keys, &kb->
    input.rel_x, &kb->input.rel_y, -(urb->endpoint & 0xF), urb->actual_length, urb->buffer)
    ;
340                     break;
341                 case MSG_SIZE:
342                     // Corsair mouse input
343                     corsair_mousecopy(kb->input.keys, -(urb->endpoint & 0xF), urb
    ->buffer);
344                     break;
345                 }
346             } else if(IS_RGB(vendor, product)){
347                 switch(urb->actual_length){
348                 case 8:
349                     // RGB EP 1: 6KRO (BIOS mode) input
350                     hid_kb_translate(kb->input.keys, -1, urb->actual_length, urb->
    buffer);
351                     break;
352                 case 21:
353                 case 5:
354                     // RGB EP 2: NKRO (non-BIOS) input. Accept only if keyboard is inactive
355                     if(!kb->active)
356                         hid_kb_translate(kb->input.keys, -2, urb->actual_length,
    urb->buffer);
357                     break;
358                 case MSG_SIZE:
359                     // RGB EP 3: Corsair input
360                     corsair_kbcopy(kb->input.keys, -(urb->endpoint & 0xF), urb->
    buffer);
361                     break;
362                 }
363             } else {
364                 // Non-RGB input
365                 hid_kb_translate(kb->input.keys, urb->endpoint & 0xF, urb->
    actual_length, urb->buffer);
366             }
369             inputupdate(kb);
370             pthread_mutex_unlock(imutex(kb));
371 
373             ioctl(fd, USBDEVFS_SUBMITURB, urb);
374             urb = 0;
375         }
376     }
377 
381     ckb_info("Stopping input thread for %s%d\n", devpath, index);
382     for(int i = 0; i < urbcount; i++){
383         ioctl(fd, USBDEVFS_DISCARDURB, urbs + i);
384         free(urbs[i].buffer);
385     }
386     return 0;
387 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.50.3.4 int os_resetusb (usbdevice * *kb,* const char * *file,* int *line*)

os_resetusb is the os specific implementation for resetting usb

Try to reset an usb device in a linux user space driver.

1. unclaim the device, but do not reconnect the system driver (second param resetting = true)
2. reset the device via USBDEVFS_RESET command
3. claim the device again. Returns 0 on success, -2 if device should be removed and -1 if reset should by tried again

Todo it seems that no one wants to try the reset again. But I'v seen it somewhere...

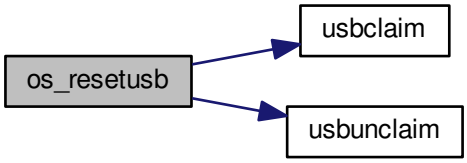
Definition at line 497 of file usb_linux.c.

References usbdevice::handle, TEST_RESET, usbclaim(), and usbunclaim().

Referenced by _resetusb().

```
497                                                     {
498     TEST_RESET(usbunclaim(kb, 1));
499     TEST_RESET(ioctl(kb->handle - 1, USBDEVFS_RESET));
500     TEST_RESET(usbclaim(kb));
501     // Success!
502     return 0;
503 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.50.3.5 void os_sendindicators (usbdevice * kb)

os_sendindicators update the indicators for the special keys (Numlock, Capslock and what else?)

os_sendindicators update the indicators for the special keys (Numlock, Capslock and what else?)

Read the data from kb->ileds ans send them via ioctl() to the keyboard.

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0x21	0x09	0x0200	Interface 0	MSG_SIZE 1 Byte	timeout 0,5ms	the message buffer pointer
Host to Device, Type=Class, Recipi-ent=Interface (why not endpoint?)	9 = SEND?	specific	0	1	500	struct* kb->ileds

The ioctl command is USBDEVFS_CONTROL.

Definition at line 213 of file usb_linux.c.

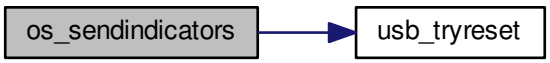
References ckb_err, usbdevice::handle, usbdevice::ileds, and usb_tryreset().

Referenced by updateindicators_kb().

```
213                                 {
214     static int countForReset = 0;
215     struct usbdevfs_ctrltransfer transfer = { 0x21, 0x09, 0x0200, 0x00, 1, 500, &kb->
      ileds };
216     int res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
217     if(res <= 0) {
```

```
218         ckb_err("%s\n", res ? strerror(errno) : "No data written");
219         if (usb_tryreset(kb) == 0 && countForReset++ < 3) {
220             os_sendindicators(kb);
221         }
222     }
223 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.50.3.6 int os_setupusb (usbdevice * *kb*)

os_setupusb OS-specific setup for a specific usb device.

Perform the operating system-specific opening of the interface in os_setupusb(). As a result, some parameters should be set in kb (name, serial, fwversion, epcount = number of usb endpoints), and all endpoints should be claimed with usbclaim(). Claiming is the only point where os_setupusb() can produce an error (-1).

- Copy device description and serial
- Copy firmware version (needed to determine USB protocol)
- Do some output about connecting interfaces
- Claim the USB interfaces

Todo in these modules a pullrequest is outstanding

< Try to reset the device and recall the function

< Don't do this endless in recursion

< os_setupusb() has a return value (used as boolean)

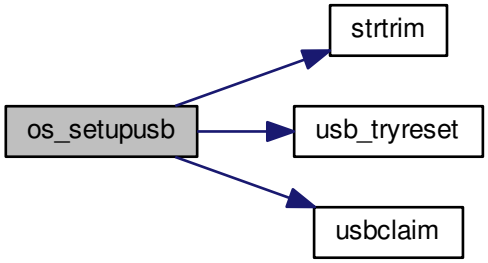
Definition at line 535 of file usb_linux.c.

References ckb_err, ckb_info, devpath, usbdevice::epcount, usbdevice::fwversion, INDEX_OF, KB_NAME_LEN, keyboard, usbdevice::name, usbdevice::serial, SERIAL_LEN, strtrim(), usbdevice::udev, usb_tryreset(), and usbclaim().

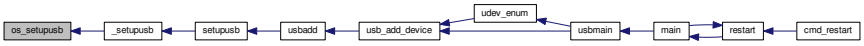
Referenced by _setupusb().

```
535                                {
538     struct udev_device* dev = kb->udev;
539     const char* name = udev_device_get_sysattr_value(dev, "product");
540     if(name)
541         strncpy(kb->name, name, KB_NAME_LEN);
542     strtrim(kb->name);
543     const char* serial = udev_device_get_sysattr_value(dev, "serial");
544     if(serial)
545         strncpy(kb->serial, serial, SERIAL_LEN);
546     strtrim(kb->serial);
549     const char* firmware = udev_device_get_sysattr_value(dev, "bcdDevice");
550     if(firmware)
551         sscanf(firmware, "%hx", &kb->fwversion);
552     else
553         kb->fwversion = 0;
554     int index = INDEX_OF(kb, keyboard);
555
557     ckb_info("Connecting %s at %s%d\n", kb->name, devpath, index);
558
564     const char* ep_str = udev_device_get_sysattr_value(dev, "bNumInterfaces");
565 #ifdef DEBUG
566     ckb_info("claiming interfaces. name=%s, firmware=%s; Got >>%s<< as ep_str\n", name, firmware,
      ep_str);
567 #endif //DEBUG
568     kb->epcount = 0;
569     if(ep_str)
570         sscanf(ep_str, "%d", &kb->epcount);
571     if(kb->epcount < 2){
572         // IF we have an RGB KB with 0 or 1 endpoints, it will be in BIOS mode.
573         ckb_err("Unable to read endpoint count from udev, assuming %d and reading >>%s<< or device
      is in BIOS mode\n", kb->epcount, ep_str);
574         if (usb_tryreset(kb) == 0) {
575             static int retryCount = 0;
576             if (retryCount++ < 5) {
577                 return os_setupusb(kb);
578             }
579         }
580         return -1;
581         // ToDo are there special versions we have to detect? If there are, that was the old code to handle
      it:
582         // This shouldn't happen, but if it does, assume EP count based onckb_warn what the device is
      supposed to have
583         // kb->epcount = (HAS_FEATURES(kb, FEAT_RGB) ? 4 : 3);
584         // ckb_warn("Unable to read endpoint count from udev, assuming %d and reading >>%s<<...\n",
      kb->epcount, ep_str);
585     }
586     if(usbclaim(kb)){
587         ckb_err("Failed to claim interfaces: %s\n", strerror(errno));
588         return -1;
589     }
590     return 0;
591 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.50.3.7 int os_usbrecv (usbdevice * *kb*, uchar * *in_msg*, const char * *file*, int *line*)

os_usbrecv does what its name says:

The comment at the beginning of the procedure causes the suspicion that the firmware versionspecific distinction is missing for receiving from usb endpoint 3 or 4. The commented code contains only the reception from EP4, but this may be wrong for a software version 2.0 or higher (see the code for os-usbsend ()).

So all the receiving is done via an ioctl() like in os_usbsend. The ioctl() is given a struct usbdevfs_ctrltransfer, in which the relevant parameters are entered:

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0xA1	0x01	0x0200	endpoint to be addressed from epcount - 1	MSG_SIZE	5ms	the message buffer pointer
Device to Host, Type=Class, Recipi-ent=Interface	1 = RECEIVE?	specific	Interface #	64	5000	in_msg

The ioctl() returns the number of bytes received. Here is the usual check again:

- If the return value is -1 AND the error is a timeout (ETIMEOUT), os_usbrecv() will return -1 to indicate that it is probably a recoverable problem and a retry is recommended.
- For another negative value or other error identifier OR 0 bytes are received, 0 is returned as an identifier for a heavy error.
- In all other cases, the function returns the number of bytes received.

If this is not the entire blocksize (MSG_SIZE bytes), an error message is issued on the standard error channel [warning "Read YY bytes (expected 64)"].

Definition at line 129 of file usb_linux.c.

References ckb_err_fn, ckb_warn_fn, usbdevice::epcount, usbdevice::handle, and MSG_SIZE.

Referenced by _usbrecv().

```
129                                                                         {
130     int res;
131     // This is what CUE does, but it doesn't seem to work on linux.
132     /*if(kb->fwversion >= 0x130){
133         struct usbdevfs_bulktransfer transfer = {0};
134         transfer.ep = 0x84;
135         transfer.len = MSG_SIZE;
136         transfer.timeout = 5000;
137         transfer.data = in_msg;
138         res = ioctl(kb->handle - 1, USBDEVFS_BULK, &transfer);
139     } else {*/
140         struct usbdevfs_ctrltransfer transfer = { 0xa1, 0x01, 0x0300, kb->
    epcount - 1, MSG_SIZE, 5000, in_msg };
141         res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
142     //}
```

```
143     if(res <= 0){
144         ckb_err_fn("%s\n", file, line, res ? strerror(errno) : "No data read");
145         if(res == -1 && errno == ETIMEDOUT)
146             return -1;
147         else
148             return 0;
149     } else if(res != MSG_SIZE)
150         ckb_warn_fn("Read %d bytes (expected %d)\n", file, line, res,
    MSG_SIZE);
151 #ifdef DEBUG_USB_RECV
152     char converted[MSG_SIZE*3 + 1];
153     for(int i=0;i<MSG_SIZE;i++)
154         sprintf(&converted[i*3], "%02x ", in_msg[i]);
155     ckb_warn_fn("Recv %s\n", file, line, converted);
156 #endif
157     return res;
158 }
```

Here is the caller graph for this function:

13.50.3.8 int os_usbsend (usbdevice * *kb,* const uchar * *out_msg,* int *is_recv,* const char * *file,* int *line*)

os_usbsend has two functions:

- if is_recv == false, it tries to send a given MSG_SIZE buffer via the usb interface given with kb.
- otherwise a request is sent via the usb device to initiate the receiving of a message from the remote device.

The functionality for sending distinguishes two cases, depending on the version number of the firmware of the connected device:

If the firmware is less or equal 1.2, the transmission is done via an ioctl(). The ioctl() is given a struct usbdevfs_ctrltransfer, in which the relevant parameters are entered:

bRequest-Type	bRequest	wValue	EP	size	Timeout	data
0x21	0x09	0x0200	endpoint / IF to be addressed from epcount-1	MSG_SIZE	5000 (=5ms)	the message buffer pointer
Host to Device, Type=Class, Recipi-ent=Interface	9 = Send data?	specific	last or pre-last device #	64	5000	out_msg

The ioctl command is USBDEVFS_CONTROL.

The same constellation is used if the device is requested to send its data (is_recv = true).

For a more recent firmware and is_recv = false, the ioctl command USBDEVFS_CONTROL is not used (this tells the bus to enter the control mode), but the bulk method is used: USBDEVFS_BULK. This is astonishing, because all of the endpoints are type Interrupt, not bulk.

Anyhow, forthis purpose a different structure is used for the ioctl() (struct **usbdevfs_bulktransfer**) and this is also initialized differently:

The length and timeout parameters are given the same values as above. The formal parameter out_msg is also passed as a buffer pointer. For the endpoints, the firmware version is differentiated again:

For a firmware version between 1.3 and <2.0 endpoint 4 is used, otherwise (it can only be >=2.0) endpoint 3 is used.

Todo Since the handling of endpoints has already led to problems elsewhere, this implementation is extremely hardware-dependent and critical!

Eg. the new keyboard K95PLATINUMRGB has a version number significantly less than 2.0 - will it run with this implementation?

The ioctl() - no matter what type - returns the number of bytes sent. Now comes the usual check:

- If the return value is -1 AND the error is a timeout (ETIMEOUT), os_usbsend() will return -1 to indicate that it is probably a recoverable problem and a retry is recommended.
- For another negative value or other error identifier OR 0 bytes sent, 0 is returned as a heavy error identifier.
- In all other cases, the function returns the number of bytes sent.

If this is not the entire blocksize (MSG_SIZE bytes), an error message is issued on the standard error channel [warning "Wrote YY bytes (expected 64)"].

If DEBUG_USB is set during compilation, the number of bytes sent and their representation are logged to the error channel.

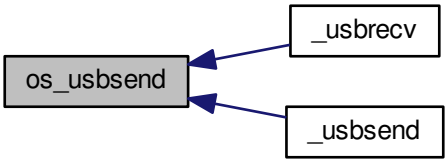
Definition at line 68 of file usb_linux.c.

References ckb_err_fn, ckb_warn_fn, usbdevice::epcount, usbdevice::fwversion, usbdevice::handle, and MSG_SIZE.

Referenced by _usbrecv(), and _usbsend().

```
68                                                                                                  {
69     int res;
70     if (kb->fwversion >= 0x120 && !is_recv) {
71         struct usbdevfs_bulktransfer transfer = {0};
72         transfer.ep = (kb->fwversion >= 0x130 && kb->fwversion < 0x200) ? 4 : 3;
73         transfer.len = MSG_SIZE;
74         transfer.timeout = 5000;
75         transfer.data = (void*)out_msg;
76         res = ioctl(kb->handle - 1, USBDEVFS_BULK, &transfer);
77     } else {
78         struct usbdevfs_ctrltransfer transfer = { 0x21, 0x09, 0x0200, kb->
      epcount - 1, MSG_SIZE, 5000, (void*)out_msg };
79         res = ioctl(kb->handle - 1, USBDEVFS_CONTROL, &transfer);
80     }
81
82     if (res <= 0){
83         ckb_err_fn(" %s, res = 0x%x\n", file, line, res ? strerror(errno) : "No data written",
      res);
84         if(res == -1 && errno == ETIMEDOUT)
85             return -1;
86         else
87             return 0;
88     } else if (res != MSG_SIZE)
89         ckb_warn_fn("Wrote %d bytes (expected %d)\n", file, line, res,
      MSG_SIZE);
90 #ifdef DEBUG_USB
91     char converted[MSG_SIZE*3 + 1];
92     for(int i=0;i<MSG_SIZE;i++)
93         sprintf(&converted[i*3], "%02x ", out_msg[i]);
94     ckb_warn_fn("Sent %s\n", file, line, converted);
95 #endif
96     return res;
97 }
```

Here is the caller graph for this function:



13.50.3.9 void strtrim (char * *string*)

strtrim trims a string by removing leading and trailing spaces.

Parameters

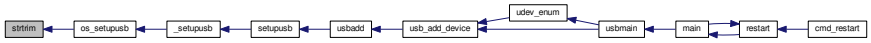
string	

Definition at line 510 of file usb_linux.c.

Referenced by os_setupusb().

```
510                         {
511     // Find last non-space
512     char* last = string;
513     for(char* c = string; *c != 0; c++){
514         if(!isspace(*c))
515             last = c;
516     }
517     last[1] = 0;
518     // Find first non-space
519     char* first = string;
520     for(; *first != 0; first++){
521         if(!isspace(*first))
522             break;
523     }
524     if(first != string)
525         memmove(string, first, last - first);
526 }
```

Here is the caller graph for this function:



13.50.3.10 static void udev_enum ( ) [static]

Reduce the hits of the enumeration by limiting to usb as technology and corsair as idVendor. Then filter with udev-_enumerate_scan_devices () all hits.

The following call to udev_enumerate_get_list_entry() fetches the entire hitlist as udev_list_entry *.

Use udev_list_entry_foreach() to iterate through the hit set.

If both the device name exists (udev_list_entry_get_name) and the subsequent creation of a new udev_device (udev_device_new_from_syspath) is ok, the new device is added to the list with usb_add_device().

If the latter does not work, the new device is released again (udev_device_unref ()).

After the last iteration, the enumerator is released with udev_enumerate_unref ().

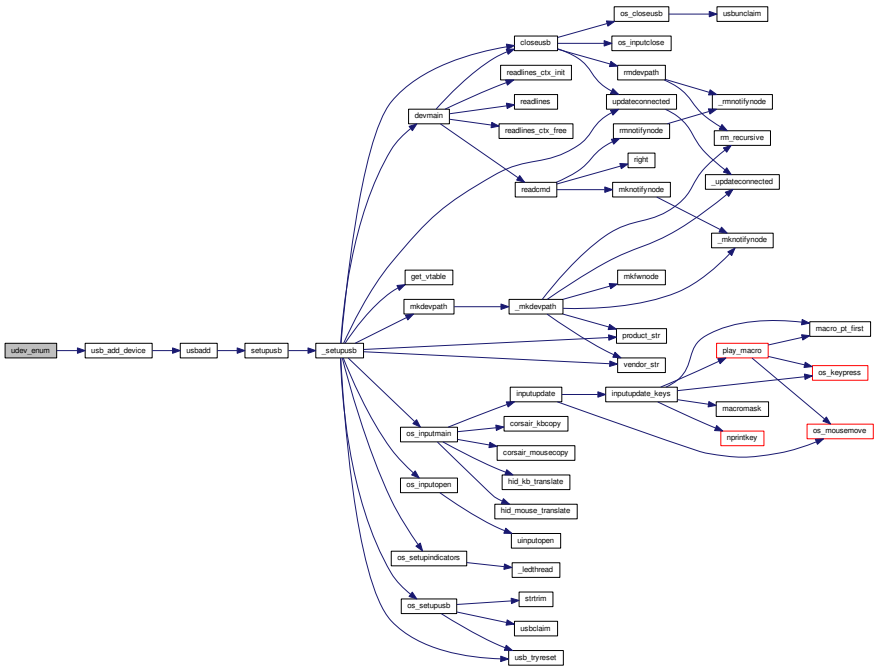
Definition at line 747 of file usb_linux.c.

References usb_add_device(), and V_CORSAIR_STR.

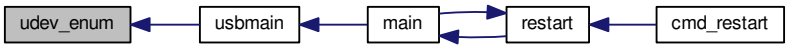
Referenced by usbmain().

```
747                     {
748     struct udev_enumerate* enumerator = udev_enumerate_new(udev);
749     udev_enumerate_add_match_subsystem(enumerator, "usb");
750     udev_enumerate_add_match_sysattr(enumerator, "idVendor", V_CORSAIR_STR);
751     udev_enumerate_scan_devices(enumerator);
752     struct udev_list_entry* devices, *dev_list_entry;
753     devices = udev_enumerate_get_list_entry(enumerator);
754
755     udev_list_entry_foreach(dev_list_entry, devices){
756         const char* path = udev_list_entry_get_name(dev_list_entry);
757         if(!path)
758             continue;
759         struct udev_device* dev = udev_device_new_from_syspath(udev, path);
760         if(!dev)
761             continue;
762         // If the device matches a recognized device ID, open it
763         if(usb_add_device(dev))
764             // Release device if not
765             udev_device_unref(dev);
766     }
767     udev_enumerate_unref(enumerator);
768 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.50.3.11 static int usb_add_device (struct udev_device * *dev*) [static]

If the device id can be found, call usbadd() with the appropriate parameters.

Parameters

dev	the functions usb_*_device get a struct udev* with the neccessary hardware-related information.

Returns

the retval of usbadd() or 1 if either vendor is not corsair or product is not mentioned in model[].

First get the idVendor via udev_device_get_sysattr_value(). If this is equal to the ID-string of corsair ("1b1c"), get the idProduct on the same way.

If we can find the model name in the model array, call usbadd() with the model number.

Todo So why the hell not a transformation between the string and the short presentation? Lets check if the string representation is used elsewhere.

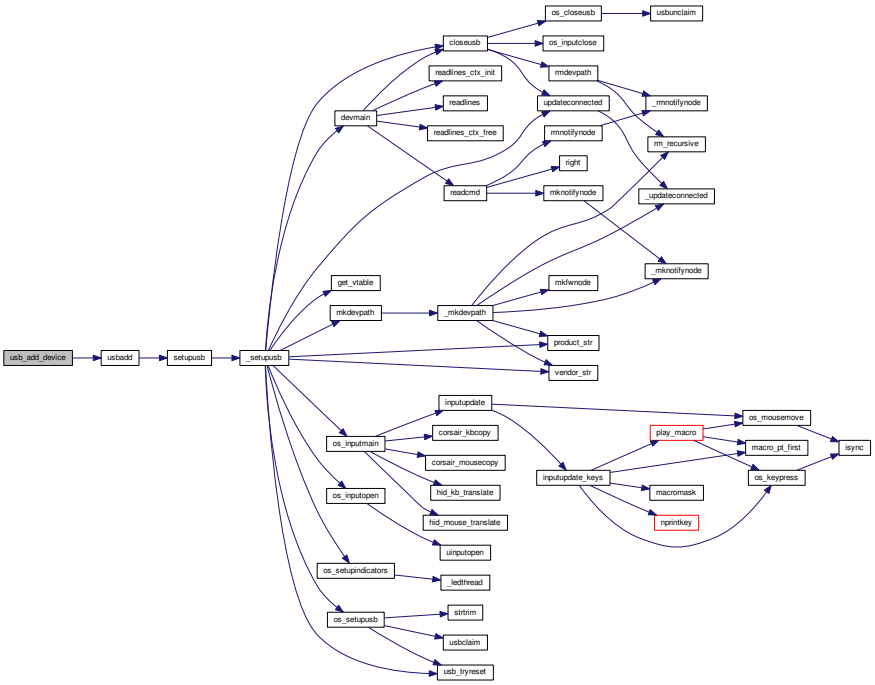
Definition at line 695 of file usb_linux.c.

References N_MODELS, usbadd(), V_CORSAIR, and V_CORSAIR_STR.

Referenced by udev_enum(), and usbmain().

```
695                                                 {
696     const char* vendor = udev_device_get_sysattr_value(dev, "idVendor");
697     if(vendor && !strcmp(vendor, V_CORSAIR_STR)){
698         const char* product = udev_device_get_sysattr_value(dev, "idProduct");
699         if(product){
700             for(_model* model = models; model < models +
    N_MODELS; model++){
701                 if(!strcmp(product, model->name)){
702                     return usbadd(dev, V_CORSAIR, model->number);
703                 }
704             }
705         }
706     }
707     return 1;
708 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.50.3.12 static void usb_rm_device (struct udev_device * *dev*) [static]

Parameters

dev	the functions usb_*_device get a struct udev* with the neccessary hardware-related information.

First try to find the system path of the device given in parameter dev. The index where the name is found is the same index we need to address the global keyboard array. That array holds all usbdevices.

Searching for the correct name in kbsyspath-array and closing the usb via closeusb() are protected by lock..unlock of the corresponding devmutex arraymember.

Definition at line 720 of file usb_linux.c.

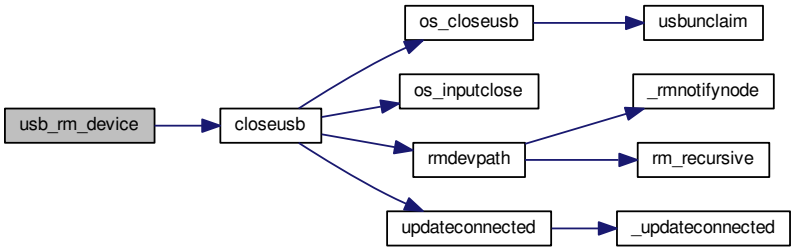
References closeusb(), DEV_MAX, devmutex, kbsyspath, and keyboard.

Referenced by usbmain().

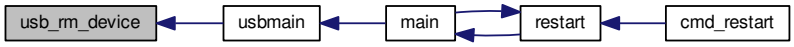
```
720                                             {
721     // Device removed. Look for it in our list of keyboards
722     const char* syspath = udev_device_get_syspath(dev);
723     if(!syspath || syspath[0] == 0)
724         return;
```

```
725     for(int i = 1; i < DEV_MAX; i++){
726         pthread_mutex_lock(devmutex + i);
727         if(!strcmp(syspath, kbsyspath[i]))
728             closeusb(keyboard + i);
729         pthread_mutex_unlock(devmutex + i);
730     }
731 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.50.3.13 int usbadd (struct udev_device * *dev*, short *vendor*, short *product*)

Definition at line 593 of file usb_linux.c.

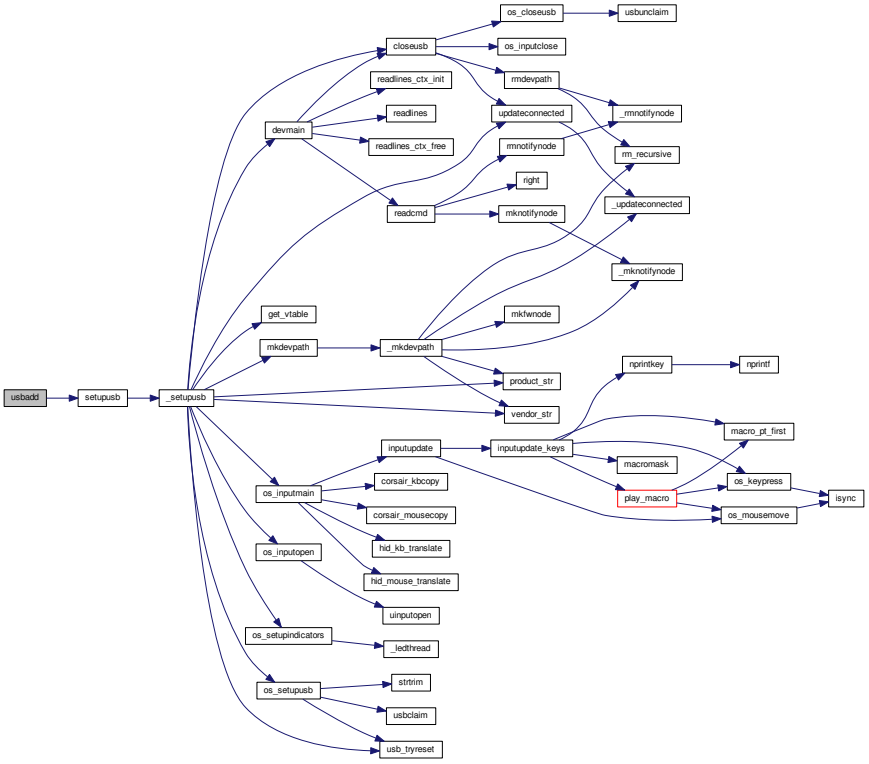
References ckb_err, ckb_info, DEV_MAX, dmutex, usbdevice::handle, IS_CONNECTED, kbsyspath, keyboard, usbdevice::product, setupusb(), usbdevice::udev, and usbdevice::vendor.

Referenced by usb_add_device().

```
593                                                                 {
594     const char* path = udev_device_get_devnode(dev);
595     const char* syspath = udev_device_get_syspath(dev);
596     if(!path || !syspath || path[0] == 0 || syspath[0] == 0){
597         ckb_err("Failed to get device path\n");
598         return -1;
599     }
600 #ifdef DEBUG
601     ckb_info(">>>vendor = 0x%x, product = 0x%x, path = %s, syspath = %s\n", vendor, product, path,
      syspath);
602 #endif // DEDBUG
603     // Find a free USB slot
604     for(int index = 1; index < DEV_MAX; index++){
605         usbdevice* kb = keyboard + index;
606         if(pthread_mutex_trylock(dmutex(kb))){
607             // If the mutex is locked then the device is obviously in use, so keep going
608             if(!strcmp(syspath, kbsyspath[index])){
609                 // Make sure this existing keyboard doesn't have the same syspath (this shouldn't happen)
610                 return 0;
611             }
612             continue;
613         }
614         if(!IS_CONNECTED(kb)){
615             // Open the sysfs device
```

```
616             kb->handle = open(path, O_RDWR) + 1;
617             if(kb->handle <= 0){
618                 ckb_err("Failed to open USB device: %s\n", strerror(errno));
619                 kb->handle = 0;
620                 pthread_mutex_unlock(dmutex(kb));
621                 return -1;
622             } else {
623                 // Set up device
624                 kb->udev = dev;
625                 kb->vendor = vendor;
626                 kb->product = product;
627                 strncpy(kbsyspath[index], syspath, FILENAME_MAX);
628                 // Mutex remains locked
629                 setupusb(kb);
630                 return 0;
631             }
632         }
633         pthread_mutex_unlock(dmutex(kb));
634     }
635     ckb_err("No free devices\n");
636     return -1;
637 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.50.3.14 static int usbclaim (usbdevice * *kb*) [static]

usbclaim does claiming all EPs for the usb device gicen by kb.

Parameters

kb	THE usbdevice*

Returns

0 on success, -1 otherwise.

Claim all endpoints for a given device (remeber the decrementing of the file descriptor) via ioctl(USBDEVFS_DISCONNECT) and ioctl(USBDEVFS_CLAIMINTERFACE).

Error handling is done for the ioctl(USBDEVFS_CLAIMINTERFACE) only. If this fails, now an error message is thrown and -1 is returned. Function is called in usb_linux.c only, so it is declared as static now.

Definition at line 459 of file usb_linux.c.

References ckb_err, ckb_info, usbdevice::epcount, and usbdevice::handle.

Referenced by os_resetusb(), and os_setupusb().

```
459                                 {
460     int count = kb->epcount;
461 #ifdef DEBUG
462     ckb_info("claiming %d endpoints\n", count);
463 #endif // DEBUG
464
465     for(int i = 0; i < count; i++){
466         struct usbdevfs_ioctl ctl = { i, USBDEVFS_DISCONNECT, 0 };
467         ioctl(kb->handle - 1, USBDEVFS_IOCTL, &ctl);
468         if(ioctl(kb->handle - 1, USBDEVFS_CLAIMINTERFACE, &i)) {
469             ckb_err("Failed to claim interface %d: %s\n", i, strerror(errno));
470             return -1;
471         }
472     }
473     return 0;
474 }
```

Here is the caller graph for this function:

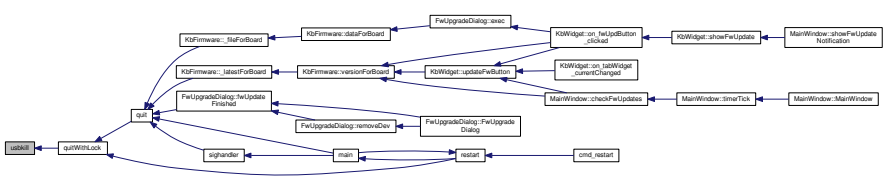
13.50.3.15 void usbkill ( )

Definition at line 835 of file usb_linux.c.

Referenced by quitWithLock().

```
835             {
836     udev_unref(udev);
837     udev = 0;
838 }
```

Here is the caller graph for this function:



13.50.3.16 int usbmain ( )

Start the USB main loop. Returns program exit code when finished.

usbmain is called by main() after setting up all other stuff.

Returns

0 normally or -1 if fatal error occurs (up to now only if no new devices are available)

First check whether the uinput module is loaded by the kernel.

Todo Why isn't missing of uinput a fatal error?

Create the udev object with udev_new() (is a function from libudev.h) terminate -1 if error

Enumerate all currently connected devices

Todo lae. here the work has to go on...

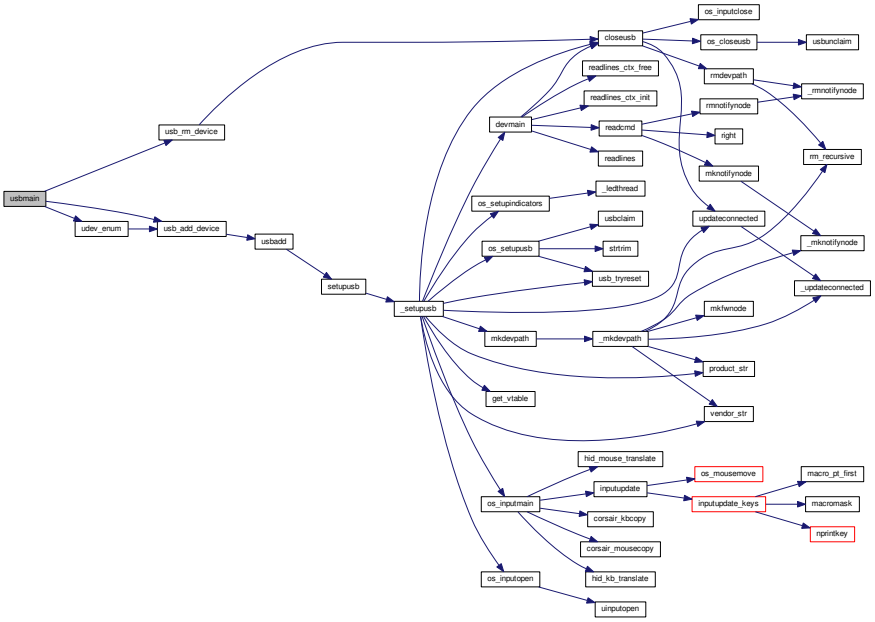
Definition at line 775 of file usb_linux.c.

References ckb_fatal, ckb_warn, udev_enum(), usb_add_device(), and usb_rm_device().

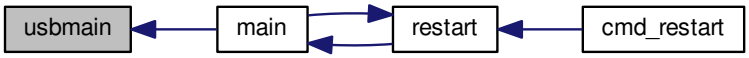
Referenced by main().

```
775             {
780     // Load the uinput module (if it's not loaded already)
781     if(system("modprobe uinput") != 0)
782         ckb_warn("Failed to load uinput module\n");
783
787     if(!(udev = udev_new())) {
788         ckb_fatal("Failed to initialize udev in usbmain(), usb_linux.c\n");
789         return -1;
790     }
791
794     udev_enum();
795
798     // Done scanning. Enter a loop to poll for device updates
799     struct udev_monitor* monitor = udev_monitor_new_from_netlink(udev, "udev");
800     udev_monitor_filter_add_match_subsystem_devtype(monitor, "usb", 0);
801     udev_monitor_enable_receiving(monitor);
802     // Get an fd for the monitor
803     int fd = udev_monitor_get_fd(monitor);
804     fd_set fds;
805     while(udev){
806         FD_ZERO(&fds);
807         FD_SET(fd, &fds);
808         // Block until an event is read
809         if(select(fd + 1, &fds, 0, 0, 0) > 0 && FD_ISSET(fd, &fds)){
810             struct udev_device* dev = udev_monitor_receive_device(monitor);
811             if(!dev)
812                 continue;
813             const char* action = udev_device_get_action(dev);
814             if(!action){
815                 udev_device_unref(dev);
816                 continue;
817             }
818             // Add/remove device
819             if(!strcmp(action, "add")){
820                 int res = usb_add_device(dev);
821                 if(res == 0)
822                     continue;
823                 // If the device matched but the handle wasn't opened correctly, re-enumerate (this
    sometimes solves the problem)
824                 if(res == -1)
825                     udev_enum();
826             } else if(!strcmp(action, "remove"))
827                 usb_rm_device(dev);
828             udev_device_unref(dev);
829         }
830     }
831     udev_monitor_unref(monitor);
832     return 0;
833 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.50.3.17 static int usbunclaim (usbdevice * *kb*, int *resetting*) [static]

usbunclaim do an unclaiming of the usb device gicen by kb.

Parameters

kb	THE usbdevice*
resetting	boolean flag: If resseting is true, the caller will perform a bus reset command after unclaiming the device.

Returns

always 0.

Unclaim all endpoints for a given device (remeber the decrementing of the file descriptor) via ioctl(USBDEVFS_DISCARDURB).

Afterwards - if ressetting is false - do a USBDEVFS_CONNECT for EP 0 and 1. If it is a non RGB device, connect EP 2 also. The comment mentions RGB keyboards only, but as I understand the code, this is valid also for RGB mice.

There is no error handling yet. Function is called in usb_linux.c only, so it is declared as static now.

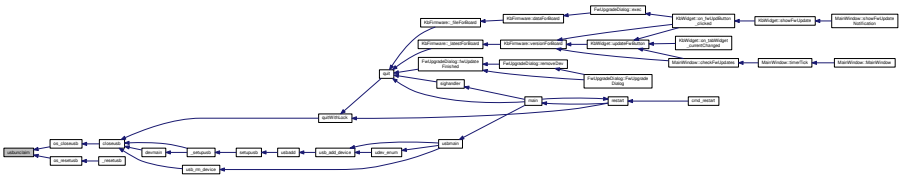
Definition at line 406 of file usb_linux.c.

References usbdevice::epcount, FEAT_RGB, usbdevice::handle, and HAS_FEATURES.

Referenced by os_closeusb(), and os_resetusb().

```
406                                                 {
407     int handle = kb->handle - 1;
408     int count = kb->epcount;
409     for (int i = 0; i < count; i++) {
410         ioctl(handle, USBDEVFS_RELEASEINTERFACE, &i);
411     }
412     // For RGB keyboards, the kernel driver should only be reconnected to interfaces 0 and 1 (HID), and
        only if we're not about to do a USB reset.
413     // Reconnecting any of the others causes trouble.
414     if (!resetting) {
415         struct usbdevfs_ioctl ctl = { 0, USBDEVFS_CONNECT, 0 };
416         ioctl(handle, USBDEVFS_IOCTL, &ctl);
417         ctl.ifno = 1;
418         ioctl(handle, USBDEVFS_IOCTL, &ctl);
419         // Also reconnect iface #2 (HID) for non-RGB keyboards
420         if(!HAS_FEATURES(kb, FEAT_RGB)){
421             ctl.ifno = 2;
422             ioctl(handle, USBDEVFS_IOCTL, &ctl);
423         }
424     }
425     return 0;
426 }
```

Here is the caller graph for this function:



13.50.4 Variable Documentation

13.50.4.1 char kbsyspath[9][FILENAME_MAX] [static]

Definition at line 13 of file usb_linux.c.

Referenced by os_closeusb(), usb_rm_device(), and usbadd().

13.50.4.2 _model models[] [static]

Initial value:

```
= {

    {  "1b17" ,  0x1b17  },
    {  "1b07" ,  0x1b07  },
    {  "1b37" ,  0x1b37  },
    {  "1b39" ,  0x1b39  },
    {  "1b13" ,  0x1b13  },
    {  "1b09" ,  0x1b09  },
    {  "1b33" ,  0x1b33  },
    {  "1b36" ,  0x1b36  },
    {  "1b38" ,  0x1b38  },
    {  "1b3a" ,  0x1b3a  },
    {  "1b11" ,  0x1b11  },
    {  "1b08" ,  0x1b08  },
    {  "1b2d" ,  0x1b2d  },
    {  "1b20" ,  0x1b20  },
    {  "1b15" ,  0x1b15  },
```

```
    {  "1b12" ,  0x1b12  },
    {  "1b2e" ,  0x1b2e  },
    {  "1b14" ,  0x1b14   },
    {  "1b19" ,  0x1b19   },
    {  "1b2f" ,  0x1b2f   },
    {  "1b1e" ,  0x1b1e  },
    {  "1b3e" ,  0x1b3e  },
    {  "1b32" ,  0x1b32   }
}
```

Attention

when adding new hardware this file hat to be changed too.

In this structure array *models*[] for each device the name (the device id as string in hex without leading 0x) and its usb device id as short must be entered in this array.

Definition at line 655 of file usb_linux.c.

13.50.4.3 struct udev* udev [static]

Definition at line 639 of file usb_linux.c.

13.50.4.4 pthread_t udevthread

Definition at line 642 of file usb_linux.c.

13.50.4.5 pthread_t usbthread

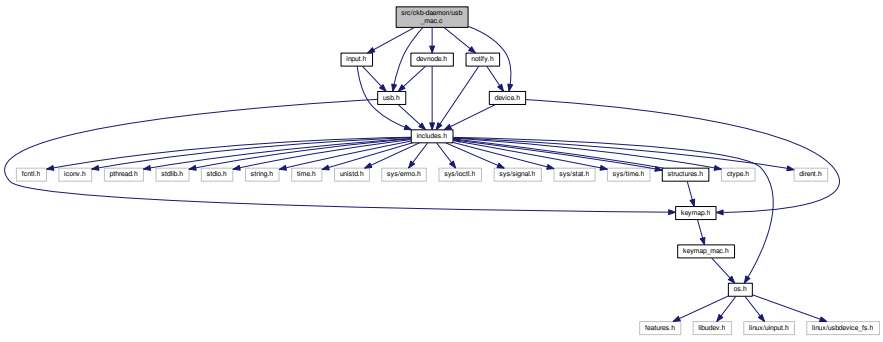
Todo These two thread vasriables seem to be unused: usbtread, udevthread

Definition at line 642 of file usb_linux.c.

13.51 src/ckb-daemon/usb_mac.c File Reference

```
#include "device.h"
#include "devnode.h"
#include "input.h"
#include "notify.h"
#include "usb.h"
```

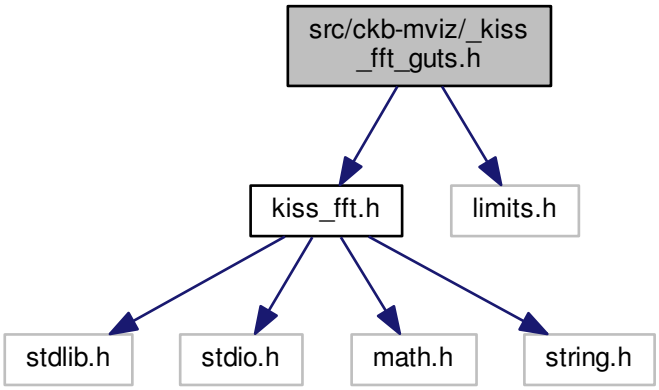
Include dependency graph for usb_mac.c:



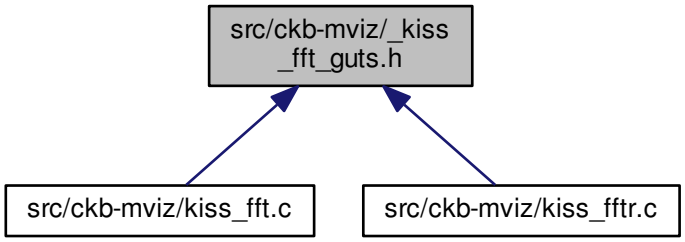
13.52 src/ckb-mviz/_kiss_fft_guts.h File Reference

```
#include "kiss_fft.h"
#include <limits.h>
```

Include dependency graph for _kiss_fft_guts.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct kiss_fft_state

Macros

- #define MAXFACTORS 32
- #define S_MUL(a, b) ((a)∗(b))
- #define C_MUL(m, a, b)
- #define C_FIXDIV(c, div) /∗ NOOP ∗/
- #define C_MULBYSCALAR(c, s)

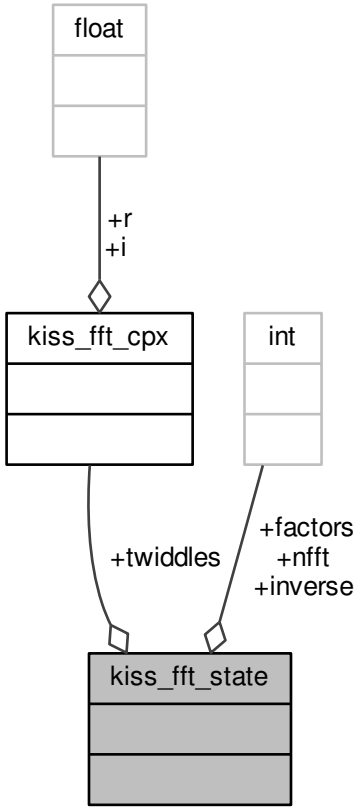
- #define CHECK_OVERFLOW_OP(a, op, b) /* noop */
- #define C_ADD(res, a, b)
- #define C_SUB(res, a, b)
- #define C_ADDTO(res, a)
- #define C_SUBFROM(res, a)
- #define KISS_FFT_COS(phase) (kiss_fft_scalar) cos(phase)
- #define KISS_FFT_SIN(phase) (kiss_fft_scalar) sin(phase)
- #define HALF_OF(x) ((x)*.5)
- #define kf_cexp(x, phase)
- #define pcpx(c) fprintf(stderr,"%g + %gi\n",(double)((c)->r),(double)((c)->i))
- #define KISS_FFT_TMP_ALLOC(nbytes) KISS_FFT_MALLOC(nbytes)
- #define KISS_FFT_TMP_FREE(ptr) KISS_FFT_FREE(ptr)

13.52.1 Data Structure Documentation

13.52.1.1 struct kiss_fft_state

Definition at line 28 of file _kiss_fft_guts.h.

Collaboration diagram for kiss_fft_state:



Data Fields

int	factors[2 ∗32]	
int	inverse	
int	nfft	
kiss_fft_cpx	twiddles[1]	

13.52.2 Macro Definition Documentation

13.52.2.1 #define C_ADD(*res, a, b*)

Value:

```
do { \
        CHECK_OVERFLOW_OP((a).r,+,(b).r)\
        CHECK_OVERFLOW_OP((a).i,+,(b).i)\
        (res).r=(a).r+(b).r;  (res).i=(a).i+(b).i; \
    }while(0)
```

Definition at line 100 of file _kiss_fft_guts.h.

Referenced by kf_bfly3(), kf_bfly4(), kf_bfly5(), kiss_fftr(), and kiss_fftri().

13.52.2.2 #define C_ADDTO(*res, a*)

Value:

```
do { \
        CHECK_OVERFLOW_OP((res).r,+,(a).r)\
        CHECK_OVERFLOW_OP((res).i,+,(a).i)\
        (res).r += (a).r;  (res).i += (a).i;\
    }while(0)
```

Definition at line 112 of file _kiss_fft_guts.h.

Referenced by kf_bfly2(), kf_bfly3(), kf_bfly4(), and kf_bfly_generic().

13.52.2.3 #define C_FIXDIV(*c, div*) /∗ NOOP ∗/

Definition at line 90 of file _kiss_fft_guts.h.

Referenced by kf_bfly2(), kf_bfly3(), kf_bfly4(), kf_bfly5(), kf_bfly_generic(), kiss_fftr(), and kiss_fftri().

13.52.2.4 #define C_MUL(*m, a, b*)

Value:

```
do{ (m).r = (a).r*(b).r - (a).i*(b).i;\
        (m).i = (a).r*(b).i + (a).i*(b).r; }while(0)
```

Definition at line 87 of file _kiss_fft_guts.h.

Referenced by kf_bfly2(), kf_bfly3(), kf_bfly4(), kf_bfly5(), kf_bfly_generic(), kiss_fftr(), and kiss_fftri().

13.52.2.5 #define C_MULBYSCALAR(*c, s*)

Value:

```
do{ (c).r *= (s);\
        (c).i *= (s); }while(0)
```

Definition at line 91 of file _kiss_fft_guts.h.

Referenced by kf_bfly3().

13.52.2.6 #define C_SUB(res, a, b)

Value:

```
do { \
        CHECK_OVERFLOW_OP((a).r,-,(b).r)\
        CHECK_OVERFLOW_OP((a).i,-,(b).i)\
        (res).r=(a).r-(b).r;  (res).i=(a).i-(b).i; \
    }while(0)
```

Definition at line 106 of file _kiss_fft_guts.h.

Referenced by kf_bfly2(), kf_bfly3(), kf_bfly4(), kf_bfly5(), kiss_fftr(), and kiss_fftri().

13.52.2.7 #define C_SUBFROM(res, a)

Value:

```
do {\
        CHECK_OVERFLOW_OP((res).r,-,(a).r)\
        CHECK_OVERFLOW_OP((res).i,-,(a).i)\
        (res).r -= (a).r;  (res).i -= (a).i; \
    }while(0)
```

Definition at line 119 of file _kiss_fft_guts.h.

13.52.2.8 #define CHECK_OVERFLOW_OP(a, op, b) /∗ noop ∗/

Definition at line 97 of file _kiss_fft_guts.h.

Referenced by kiss_fftr().

13.52.2.9 #define HALF_OF(x) ((x)∗.5)

Definition at line 138 of file _kiss_fft_guts.h.

Referenced by kf_bfly3(), and kiss_fftr().

13.52.2.10 #define kf_cexp(x, phase)

Value:

```
do{ \
        (x)->r = KISS_FFT_COS(phase);\
        (x)->i = KISS_FFT_SIN(phase);\
    }while(0)
```

Definition at line 141 of file _kiss_fft_guts.h.

Referenced by kiss_fft_alloc(), and kiss_fftr_alloc().

13.52.2.11 #define KISS_FFT_COS(phase) (kiss_fft_scalar) cos(phase)

Definition at line 136 of file _kiss_fft_guts.h.

13.52.2.12 #define KISS_FFT_SIN(phase) (kiss_fft_scalar) sin(phase)

Definition at line 137 of file _kiss_fft_guts.h.

13.52.2.13 #define KISS_FFT_TMP_ALLOC(nbytes) KISS_FFT_MALLOC(nbytes)

Definition at line 162 of file _kiss_fft_guts.h.
Referenced by kf_bfly_generic(), and kiss_fft_stride().

13.52.2.14 #define KISS_FFT_TMP_FREE(ptr) KISS_FFT_FREE(ptr)

Definition at line 163 of file _kiss_fft_guts.h.
Referenced by kf_bfly_generic(), and kiss_fft_stride().

13.52.2.15 #define MAXFACTORS 32

Definition at line 22 of file _kiss_fft_guts.h.

13.52.2.16 #define pcpx(c) fprintf(stderr,"%g + %gi\n",(double)((c)->r),(double)((c)->i))

Definition at line 149 of file _kiss_fft_guts.h.

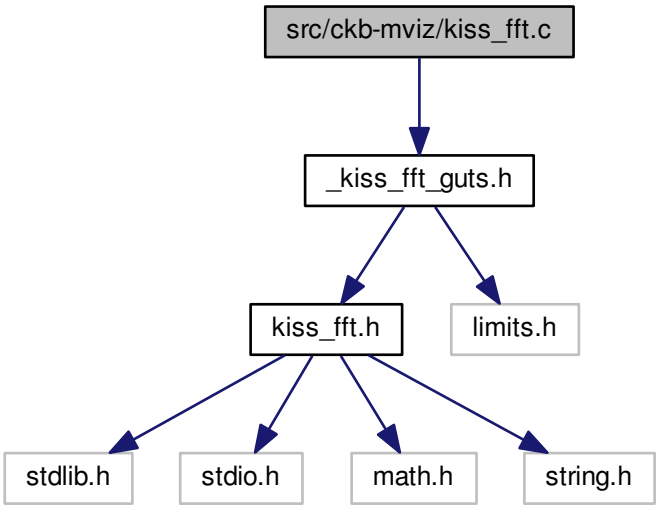
13.52.2.17 #define S_MUL(a, b) ((a)*(b))

Definition at line 86 of file _kiss_fft_guts.h.
Referenced by kf_bfly5().

13.53 src/ckb-mviz/kiss_fft.c File Reference

```
#include "_kiss_fft_guts.h"
```

Include dependency graph for kiss_fft.c:



Functions

- static void kf_bfly2 (kiss_fft_cpx ∗Fout, const size_t fstride, const kiss_fft_cfg st, int m)
- static void kf_bfly4 (kiss_fft_cpx ∗Fout, const size_t fstride, const kiss_fft_cfg st, const size_t m)
- static void kf_bfly3 (kiss_fft_cpx ∗Fout, const size_t fstride, const kiss_fft_cfg st, size_t m)
- static void kf_bfly5 (kiss_fft_cpx ∗Fout, const size_t fstride, const kiss_fft_cfg st, int m)
- static void kf_bfly_generic (kiss_fft_cpx ∗Fout, const size_t fstride, const kiss_fft_cfg st, int m, int p)
- static void kf_work (kiss_fft_cpx ∗Fout, const kiss_fft_cpx ∗f, const size_t fstride, int in_stride, int ∗factors, const kiss_fft_cfg st)
- static void kf_factor (int n, int ∗facbuf)
- kiss_fft_cfg kiss_fft_alloc (int nfft, int inverse_fft, void ∗mem, size_t ∗lenmem)
- void kiss_fft_stride (kiss_fft_cfg st, const kiss_fft_cpx ∗fin, kiss_fft_cpx ∗fout, int in_stride)
- void kiss_fft (kiss_fft_cfg cfg, const kiss_fft_cpx ∗fin, kiss_fft_cpx ∗fout)
- void kiss_fft_cleanup (void)
- int kiss_fft_next_fast_size (int n)

13.53.1 Function Documentation

13.53.1.1 static void kf_bfly2 (kiss_fft_cpx ∗ *Fout,* const size_t *fstride,* const kiss_fft_cfg *st,* int *m*) [static]

Definition at line 21 of file kiss_fft.c.

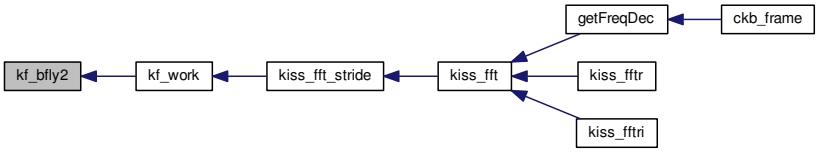
References C_ADDTO, C_FIXDIV, C_MUL, C_SUB, and kiss_fft_state::twiddles.

Referenced by kf_work().

```
27 {
28     kiss_fft_cpx * Fout2;
29     kiss_fft_cpx * tw1 = st->twiddles;
30     kiss_fft_cpx t;
31     Fout2 = Fout + m;
32     do{
```

```
33          C_FIXDIV(*Fout,2); C_FIXDIV(*Fout2,2);
34
35          C_MUL (t,  *Fout2 , *tw1);
36          tw1 += fstride;
37          C_SUB( *Fout2 ,  *Fout , t );
38          C_ADDTO( *Fout ,  t );
39          ++Fout2;
40          ++Fout;
41      }while (--m);
42  }
```

Here is the caller graph for this function:



13.53.1.2 static void kf_bfly3 (kiss_fft_cpx * *Fout,* const size_t *fstride,* const kiss_fft_cfg *st,* size_t *m*) [static]

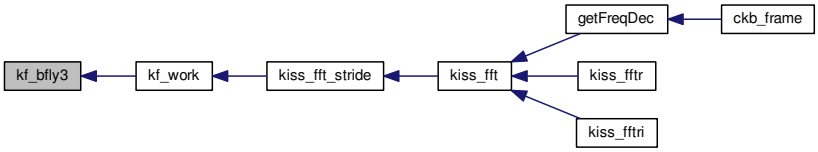
Definition at line 92 of file kiss_fft.c.

References C_ADD, C_ADDTO, C_FIXDIV, C_MUL, C_MULBYSCALAR, C_SUB, HALF_OF, kiss_fft_cpx::i, kiss_-fft_cpx::r, and kiss_fft_state::twiddles.

Referenced by kf_work().

```
98  {
99      size_t k=m;
100     const size_t m2 = 2*m;
101     kiss_fft_cpx *tw1,*tw2;
102     kiss_fft_cpx scratch[5];
103     kiss_fft_cpx epi3;
104     epi3 = st->twiddles[fstride*m];
105
106     tw1=tw2=st->twiddles;
107
108     do{
109         C_FIXDIV(*Fout,3); C_FIXDIV(Fout[m],3); C_FIXDIV(Fout[m2],3);
110
111         C_MUL(scratch[1],Fout[m] , *tw1);
112         C_MUL(scratch[2],Fout[m2] , *tw2);
113
114         C_ADD(scratch[3],scratch[1],scratch[2]);
115         C_SUB(scratch[0],scratch[1],scratch[2]);
116         tw1 += fstride;
117         tw2 += fstride*2;
118
119         Fout[m].r = Fout->r - HALF_OF(scratch[3].r);
120         Fout[m].i = Fout->i - HALF_OF(scratch[3].i);
121
122         C_MULBYSCALAR( scratch[0] , epi3.i );
123
124         C_ADDTO(*Fout,scratch[3]);
125
126         Fout[m2].r = Fout[m].r + scratch[0].i;
127         Fout[m2].i = Fout[m].i - scratch[0].r;
128
129         Fout[m].r -= scratch[0].i;
130         Fout[m].i += scratch[0].r;
131
132         ++Fout;
133     }while(--k);
134 }
```

Here is the caller graph for this function:



13.53.1.3 static void kf_bfly4 (kiss_fft_cpx * *Fout,* const size_t *fstride,* const kiss_fft_cfg *st,* const size_t *m*) [static]

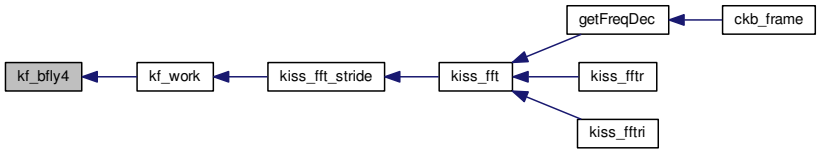
Definition at line 44 of file kiss_fft.c.

References C_ADD, C_ADDTO, C_FIXDIV, C_MUL, C_SUB, kiss_fft_cpx::i, kiss_fft_state::inverse, kiss_fft_cpx::r, and kiss_fft_state::twiddles.

Referenced by kf_work().

```
50 {
51     kiss_fft_cpx *tw1,*tw2,*tw3;
52     kiss_fft_cpx scratch[6];
53     size_t k=m;
54     const size_t m2=2*m;
55     const size_t m3=3*m;
56
57
58     tw3 = tw2 = tw1 = st->twiddles;
59
60     do {
61         C_FIXDIV(*Fout,4); C_FIXDIV(Fout[m],4); C_FIXDIV(Fout[m2],4);
      C_FIXDIV(Fout[m3],4);
62
63         C_MUL(scratch[0],Fout[m] , *tw1 );
64         C_MUL(scratch[1],Fout[m2] , *tw2 );
65         C_MUL(scratch[2],Fout[m3] , *tw3 );
66
67         C_SUB( scratch[5] , *Fout, scratch[1] );
68         C_ADDTO(*Fout, scratch[1]);
69         C_ADD( scratch[3] , scratch[0] , scratch[2] );
70         C_SUB( scratch[4] , scratch[0] , scratch[2] );
71         C_SUB( Fout[m2], *Fout, scratch[3] );
72         tw1 += fstride;
73         tw2 += fstride*2;
74         tw3 += fstride*3;
75         C_ADDTO( *Fout , scratch[3] );
76
77         if(st->inverse) {
78             Fout[m].r = scratch[5].r - scratch[4].i;
79             Fout[m].i = scratch[5].i + scratch[4].r;
80             Fout[m3].r = scratch[5].r + scratch[4].i;
81             Fout[m3].i = scratch[5].i - scratch[4].r;
82         }else{
83             Fout[m].r = scratch[5].r + scratch[4].i;
84             Fout[m].i = scratch[5].i - scratch[4].r;
85             Fout[m3].r = scratch[5].r - scratch[4].i;
86             Fout[m3].i = scratch[5].i + scratch[4].r;
87         }
88         ++Fout;
89     }while(--k);
90 }
```

Here is the caller graph for this function:



13.53.1.4 static void kf_bfly5 (kiss_fft_cpx * *Fout,* const size_t *fstride,* const kiss_fft_cfg *st,* int *m*) [static]

Definition at line 136 of file kiss_fft.c.

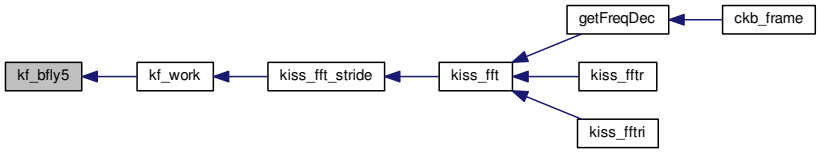
References C_ADD, C_FIXDIV, C_MUL, C_SUB, kiss_fft_cpx::i, kiss_fft_cpx::r, S_MUL, and kiss_fft_state::twiddles.

Referenced by kf_work().

```
142 {
143     kiss_fft_cpx *Fout0,*Fout1,*Fout2,*Fout3,*Fout4;
144     int u;
145     kiss_fft_cpx scratch[13];
146     kiss_fft_cpx * twiddles = st->twiddles;
147     kiss_fft_cpx *tw;
148     kiss_fft_cpx ya,yb;
149     ya = twiddles[fstride*m];
150     yb = twiddles[fstride*2*m];
151 
152     Fout0=Fout;
153     Fout1=Fout0+m;
154     Fout2=Fout0+2*m;
155     Fout3=Fout0+3*m;
156     Fout4=Fout0+4*m;
157 
158     tw=st->twiddles;
159     for ( u=0; u<m; ++u ) {
160         C_FIXDIV( *Fout0,5); C_FIXDIV( *Fout1,5); C_FIXDIV( *Fout2,5);
    C_FIXDIV( *Fout3,5); C_FIXDIV( *Fout4,5);
161         scratch[0] = *Fout0;
162 
163         C_MUL(scratch[1] ,*Fout1, tw[u*fstride]);
164         C_MUL(scratch[2] ,*Fout2, tw[2*u*fstride]);
165         C_MUL(scratch[3] ,*Fout3, tw[3*u*fstride]);
166         C_MUL(scratch[4] ,*Fout4, tw[4*u*fstride]);
167 
168         C_ADD( scratch[7],scratch[1],scratch[4]);
169         C_SUB( scratch[10],scratch[1],scratch[4]);
170         C_ADD( scratch[8],scratch[2],scratch[3]);
171         C_SUB( scratch[9],scratch[2],scratch[3]);
172 
173         Fout0->r += scratch[7].r + scratch[8].r;
174         Fout0->i += scratch[7].i + scratch[8].i;
175 
176         scratch[5].r = scratch[0].r + S_MUL(scratch[7].r,ya.r) + S_MUL(scratch[8].r,yb.
    r);
177         scratch[5].i = scratch[0].i + S_MUL(scratch[7].i,ya.r) + S_MUL(scratch[8].i,yb.
    r);
178 
179         scratch[6].r =  S_MUL(scratch[10].i,ya.i) + S_MUL(scratch[9].i,yb.
    i);
180         scratch[6].i = -S_MUL(scratch[10].r,ya.i) - S_MUL(scratch[9].r,yb.
    i);
181 
182         C_SUB(*Fout1,scratch[5],scratch[6]);
183         C_ADD(*Fout4,scratch[5],scratch[6]);
184 
185         scratch[11].r = scratch[0].r + S_MUL(scratch[7].r,yb.r) + S_MUL(scratch[8].r,ya.
    r);
186         scratch[11].i = scratch[0].i + S_MUL(scratch[7].i,yb.r) + S_MUL(scratch[8].i,ya.
    r);
187         scratch[12].r = - S_MUL(scratch[10].i,yb.i) + S_MUL(scratch[9].i,ya.
    i);
```

```
188         scratch[12].i = S_MUL(scratch[10].r,yb.i) - S_MUL(scratch[9].r,ya.
    i);
189
190         C_ADD(*Fout2,scratch[11],scratch[12]);
191         C_SUB(*Fout3,scratch[11],scratch[12]);
192
193         ++Fout0;++Fout1;++Fout2;++Fout3;++Fout4;
194     }
195 }
```

Here is the caller graph for this function:



13.53.1.5 static void kf_bfly_generic (kiss_fft_cpx * *Fout,* const size_t *fstride,* const kiss_fft_cfg *st,* int *m,* int *p*) [static]

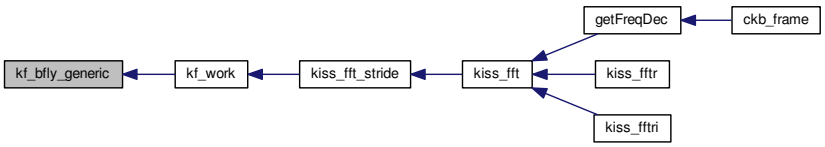
Definition at line 198 of file kiss_fft.c.

References C_ADDTO, C_FIXDIV, C_MUL, KISS_FFT_TMP_ALLOC, KISS_FFT_TMP_FREE, kiss_fft_state::nfft, and kiss_fft_state::twiddles.

Referenced by kf_work().

```
205 {
206     int u,k,q1,q;
207     kiss_fft_cpx * twiddles = st->twiddles;
208     kiss_fft_cpx t;
209     int Norig = st->nfft;
210
211     kiss_fft_cpx * scratch = (kiss_fft_cpx*)
    KISS_FFT_TMP_ALLOC(sizeof(kiss_fft_cpx)*p);
212
213     for ( u=0; u<m; ++u ) {
214         k=u;
215         for ( q1=0 ; q1<p ; ++q1 ) {
216             scratch[q1] = Fout[ k  ];
217             C_FIXDIV(scratch[q1],p);
218             k += m;
219         }
220
221         k=u;
222         for ( q1=0 ; q1<p ; ++q1 ) {
223             int twidx=0;
224             Fout[ k ] = scratch[0];
225             for (q=1;q<p;++q ) {
226                 twidx += fstride * k;
227                 if (twidx>=Norig) twidx-=Norig;
228                 C_MUL(t,scratch[q] , twiddles[twidx] );
229                 C_ADDTO( Fout[ k ] ,t);
230             }
231             k += m;
232         }
233     }
234     KISS_FFT_TMP_FREE(scratch);
235 }
```

Here is the caller graph for this function:



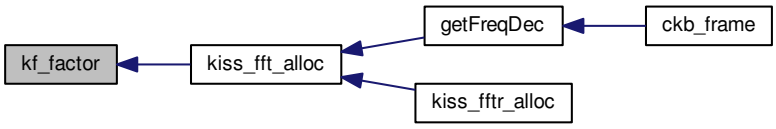
13.53.1.6 static void kf_factor (int *n*, int * *facbuf*) [static]

Definition at line 309 of file kiss_fft.c.

Referenced by kiss_fft_alloc().

```
310 {
311     int p=4;
312     double floor_sqrt;
313     floor_sqrt = floor( sqrt((double)n) );
314
315     /*factor out powers of 4, powers of 2, then any remaining primes */
316     do {
317         while (n % p) {
318             switch (p) {
319                 case 4: p = 2; break;
320                 case 2: p = 3; break;
321                 default: p += 2; break;
322             }
323             if (p > floor_sqrt)
324                 p = n;          /* no more factors, skip to end */
325         }
326         n /= p;
327         *facbuf++ = p;
328         *facbuf++ = n;
329     } while (n > 1);
330 }
```

Here is the caller graph for this function:



13.53.1.7 static void kf_work (kiss_fft_cpx * *Fout*, const kiss_fft_cpx * *f*, const size_t *fstride*, int *in_stride*, int * *factors*, const kiss_fft_cfg *st*) [static]

Definition at line 238 of file kiss_fft.c.

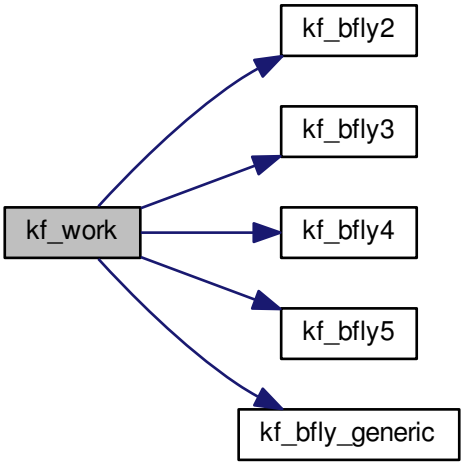
References kf_bfly2(), kf_bfly3(), kf_bfly4(), kf_bfly5(), and kf_bfly_generic().

Referenced by kiss_fft_stride().

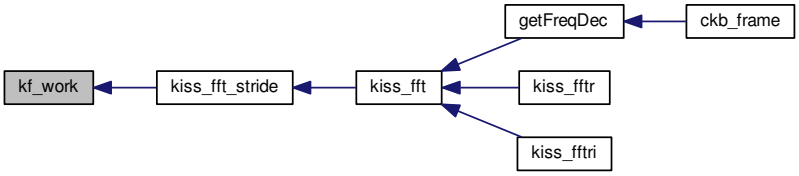
```
246 {
```

```
247     kiss_fft_cpx * Fout_beg=Fout;
248     const int p=*factors++; /* the radix  */
249     const int m=*factors++; /* stage's fft length/p */
250     const kiss_fft_cpx * Fout_end = Fout + p*m;
251
252 #ifdef _OPENMP
253     // use openmp extensions at the
254     // top-level (not recursive)
255     if (fstride==1 && p<=5)
256     {
257         int k;
258
259         // execute the p different work units in different threads
260 #       pragma omp parallel for
261         for (k=0;k<p;++k)
262             kf_work( Fout +k*m, f+ fstride*in_stride*k,fstride*p,in_stride,factors,st);
263         // all threads have joined by this point
264
265         switch (p) {
266             case 2: kf_bfly2(Fout,fstride,st,m); break;
267             case 3: kf_bfly3(Fout,fstride,st,m); break;
268             case 4: kf_bfly4(Fout,fstride,st,m); break;
269             case 5: kf_bfly5(Fout,fstride,st,m); break;
270             default: kf_bfly_generic(Fout,fstride,st,m,p); break;
271         }
272         return;
273     }
274 #endif
275
276     if (m==1) {
277         do{
278             *Fout = *f;
279             f += fstride*in_stride;
280         }while(++Fout != Fout_end );
281     }else{
282         do{
283             // recursive call:
284             // DFT of size m*p performed by doing
285             // p instances of smaller DFTs of size m,
286             // each one takes a decimated version of the input
287             kf_work( Fout , f, fstride*p, in_stride, factors,st);
288             f += fstride*in_stride;
289         }while( (Fout += m) != Fout_end );
290     }
291
292     Fout=Fout_beg;
293
294     // recombine the p smaller DFTs
295     switch (p) {
296         case 2: kf_bfly2(Fout,fstride,st,m); break;
297         case 3: kf_bfly3(Fout,fstride,st,m); break;
298         case 4: kf_bfly4(Fout,fstride,st,m); break;
299         case 5: kf_bfly5(Fout,fstride,st,m); break;
300         default: kf_bfly_generic(Fout,fstride,st,m,p); break;
301     }
302 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.53.1.8 void kiss_fft (kiss_fft_cfg *cfg,* const kiss_fft_cpx * *fin,* kiss_fft_cpx * *fout*)

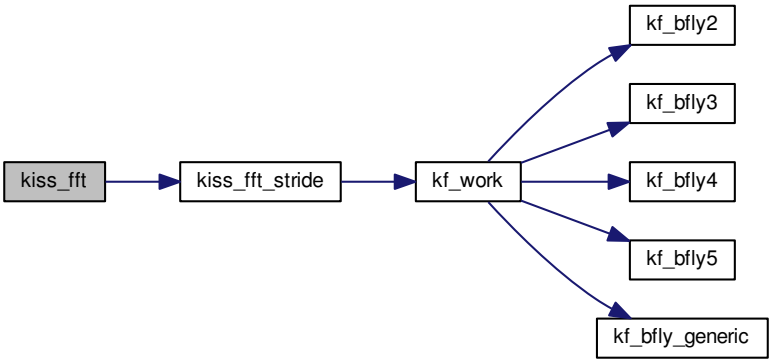
Definition at line 385 of file kiss_fft.c.

References kiss_fft_stride().

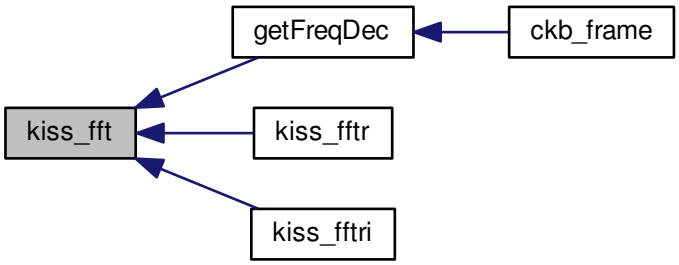
Referenced by getFreqDec(), kiss_fftr(), and kiss_fftri().

```
386 {
387     kiss_fft_stride(cfg,fin,fout,1);
388 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.53.1.9 kiss_fft_cfg kiss_fft_alloc (int *nfft,* int *inverse_fft,* void * *mem,* size_t * *lenmem*)

Definition at line 339 of file kiss_fft.c.

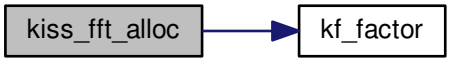
References kiss_fft_state::factors, kiss_fft_state::inverse, kf_cexp, kf_factor(), KISS_FFT_MALLOC, kiss_fft_state::nfft, phase, and kiss_fft_state::twiddles.

Referenced by getFreqDec(), and kiss_fftr_alloc().

```
340 {
341     kiss_fft_cfg st=NULL;
342     size_t memneeded = sizeof(struct kiss_fft_state)
343         + sizeof(kiss_fft_cpx)*(nfft-1); /* twiddle factors*/
344
345     if ( lenmem==NULL ) {
346         st = ( kiss_fft_cfg)KISS_FFT_MALLOC( memneeded );
347     }else{
348         if (mem != NULL && *lenmem >= memneeded)
349             st = (kiss_fft_cfg)mem;
350         *lenmem = memneeded;
351     }
352     if (st) {
353         int i;
```

```
354         st->nfft=nfft;
355         st->inverse = inverse_fft;
356
357         for (i=0;i<nfft;++i) {
358             const double pi=3.14159265358979323846264338327950288419716939937510582097494;
359             double phase = -2*pi*i / nfft;
360             if (st->inverse)
361                 phase *= -1;
362             kf_cexp(st->twiddles+i, phase );
363         }
364
365         kf_factor(nfft,st->factors);
366     }
367     return st;
368 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

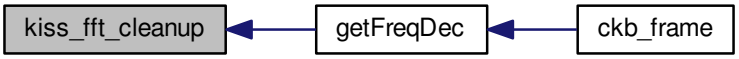
13.53.1.10 void kiss_fft_cleanup (void)

Definition at line 391 of file kiss_fft.c.

Referenced by getFreqDec().

```
392 {
393     // nothing needed any more
394 }
```

Here is the caller graph for this function:



13.53.1.11 int kiss_fft_next_fast_size (int *n*)

Definition at line 396 of file kiss_fft.c.

```
397 {
398     while(1) {
399         int m=n;
400         while ( (m%2) == 0 ) m/=2;
401         while ( (m%3) == 0 ) m/=3;
402         while ( (m%5) == 0 ) m/=5;
403         if (m<=1)
404             break; /* n is completely factorable by twos, threes, and fives */
405         n++;
406     }
407     return n;
408 }
```

13.53.1.12 void kiss_fft_stride (kiss_fft_cfg *st,* const kiss_fft_cpx * *fin,* kiss_fft_cpx * *fout,* int *in_stride*)

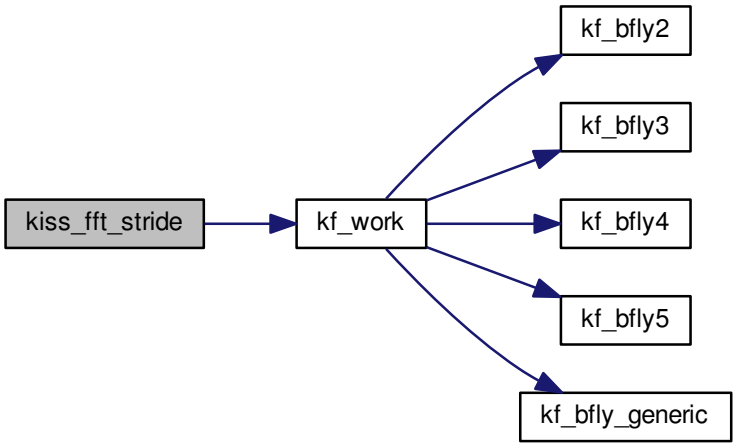
Definition at line 371 of file kiss_fft.c.

References kiss_fft_state::factors, kf_work(), KISS_FFT_TMP_ALLOC, KISS_FFT_TMP_FREE, and kiss_fft_state::nfft.

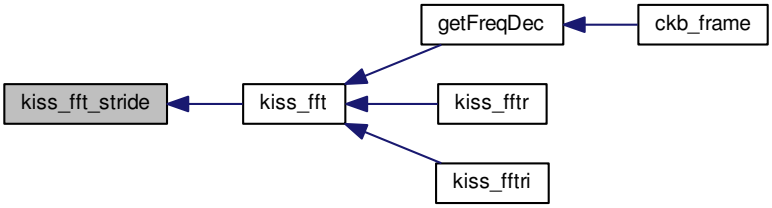
Referenced by kiss_fft().

```
372 {
373     if (fin == fout) {
374         //NOTE: this is not really an in-place FFT algorithm.
375         //It just performs an out-of-place FFT into a temp buffer
376         kiss_fft_cpx * tmpbuf = (kiss_fft_cpx*)
      KISS_FFT_TMP_ALLOC( sizeof(kiss_fft_cpx)*st->nfft);
377         kf_work(tmpbuf,fin,1,in_stride, st->factors,st);
378         memcpy(fout,tmpbuf,sizeof(kiss_fft_cpx)*st->nfft);
379         KISS_FFT_TMP_FREE(tmpbuf);
380     }else{
381         kf_work( fout, fin, 1,in_stride, st->factors,st );
382     }
383 }
```

Here is the call graph for this function:



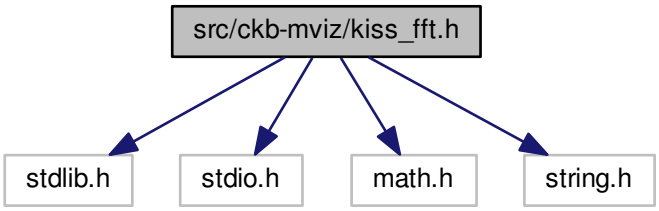
Here is the caller graph for this function:



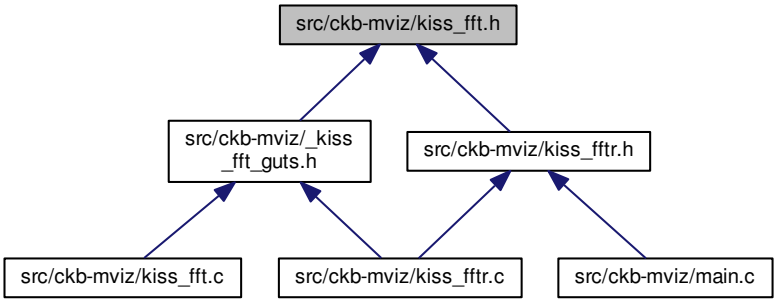
13.54 src/ckb-mviz/kiss_fft.h File Reference

```
#include <stdlib.h>
#include <stdio.h>
#include <math.h>
#include <string.h>
```

Include dependency graph for kiss_fft.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct kiss_fft_cpx

Macros

- #define KISS_FFT_MALLOC malloc
- #define KISS_FFT_FREE free
- #define kiss_fft_scalar float
- #define kiss_fft_free free
- #define kiss_fftr_next_fast_size_real(n) (kiss_fft_next_fast_size(((n)+1)>>1)<<1)

Typedefs

- typedef struct kiss_fft_state * kiss_fft_cfg

Functions

- kiss_fft_cfg kiss_fft_alloc (int nfft, int inverse_fft, void *mem, size_t *lenmem)

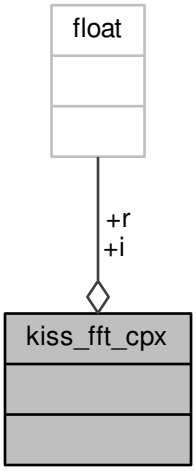
- void kiss_fft (kiss_fft_cfg cfg, const kiss_fft_cpx *fin, kiss_fft_cpx *fout)
- void kiss_fft_stride (kiss_fft_cfg cfg, const kiss_fft_cpx *fin, kiss_fft_cpx *fout, int fin_stride)
- void kiss_fft_cleanup (void)
- int kiss_fft_next_fast_size (int n)

13.54.1 Data Structure Documentation

13.54.1.1 struct kiss_fft_cpx

Definition at line 51 of file kiss_fft.h.

Collaboration diagram for kiss_fft_cpx:



Data Fields

float	i	
float	r	

13.54.2 Macro Definition Documentation

13.54.2.1 #define KISS_FFT_FREE free

Definition at line 33 of file kiss_fft.h.

13.54.2.2 #define kiss_fft_free free

Definition at line 102 of file kiss_fft.h.

Referenced by getFreqDec().

13.54.2.3 #define KISS_FFT_MALLOC malloc

Definition at line 32 of file kiss_fft.h.

Referenced by kiss_fft_alloc(), and kiss_fftr_alloc().

13.54.2.4 #define kiss_fft_scalar float

Definition at line 47 of file kiss_fft.h.

13.54.2.5 #define kiss_fftr_next_fast_size_real(*n*) (kiss_fft_next_fast_size(((n)+1)>>1)<<1)

Definition at line 117 of file kiss_fft.h.

13.54.3 Typedef Documentation

13.54.3.1 typedef struct kiss_fft_state* kiss_fft_cfg

Definition at line 56 of file kiss_fft.h.

13.54.4 Function Documentation

13.54.4.1 void kiss_fft (kiss_fft_cfg *cfg,* const kiss_fft_cpx * *fin,* kiss_fft_cpx * *fout*)

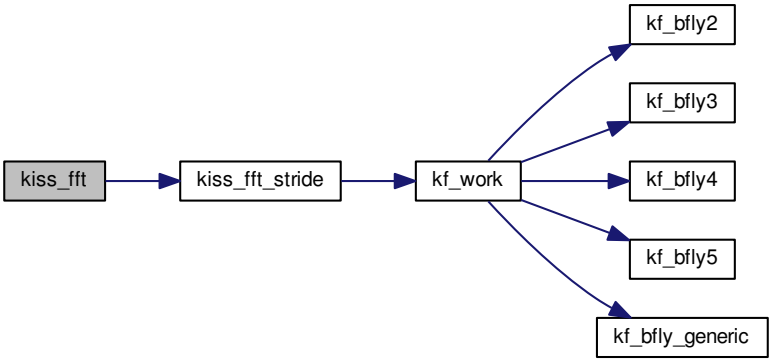
Definition at line 385 of file kiss_fft.c.

References kiss_fft_stride().

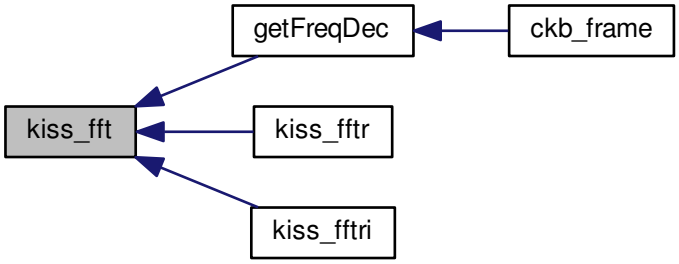
Referenced by getFreqDec(), kiss_fftr(), and kiss_fftri().

```
386 {
387     kiss_fft_stride(cfg,fin,fout,1);
388 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.54.4.2 kiss_fft_cfg kiss_fft_alloc (int *nfft,* int *inverse_fft,* void * *mem,* size_t * *lenmem*)

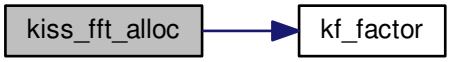
Definition at line 339 of file kiss_fft.c.

References kiss_fft_state::factors, kiss_fft_state::inverse, kf_cexp, kf_factor(), KISS_FFT_MALLOC, kiss_fft_state::nfft, phase, and kiss_fft_state::twiddles.

Referenced by getFreqDec(), and kiss_fftr_alloc().

```
340 {
341     kiss_fft_cfg st=NULL;
342     size_t memneeded = sizeof(struct kiss_fft_state)
343         + sizeof(kiss_fft_cpx)*(nfft-1); /* twiddle factors*/
344
345     if ( lenmem==NULL ) {
346         st = ( kiss_fft_cfg)KISS_FFT_MALLOC( memneeded );
347     }else{
348         if (mem != NULL && *lenmem >= memneeded)
349             st = (kiss_fft_cfg)mem;
350         *lenmem = memneeded;
351     }
352     if (st) {
353         int i;
354         st->nfft=nfft;
355         st->inverse = inverse_fft;
356
357         for (i=0;i<nfft;++i) {
358             const double pi=3.14159265358979323846264338327950288419716939937510582097494 4;
359             double phase = -2*pi*i / nfft;
360             if (st->inverse)
361                 phase *= -1;
362             kf_cexp(st->twiddles+i, phase );
363         }
364
365         kf_factor(nfft,st->factors);
366     }
367     return st;
368 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

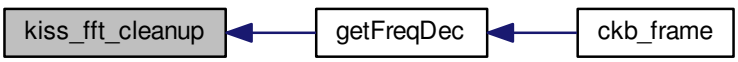
13.54.4.3 void kiss_fft_cleanup (void)

Definition at line 391 of file kiss_fft.c.

Referenced by getFreqDec().

```
392 {
393     // nothing needed any more
394 }
```

Here is the caller graph for this function:



13.54.4.4 int kiss_fft_next_fast_size (int *n*)

Definition at line 396 of file kiss_fft.c.

```
397 {
398     while(1) {
399         int m=n;
```

```
400         while ( (m%2) == 0 ) m/=2;
401         while ( (m%3) == 0 ) m/=3;
402         while ( (m%5) == 0 ) m/=5;
403         if (m<=1)
404             break; /* n is completely factorable by twos, threes, and fives */
405         n++;
406     }
407     return n;
408 }
```

13.54.4.5 void kiss_fft_stride (kiss_fft_cfg *cfg,* const kiss_fft_cpx * *fin,* kiss_fft_cpx * *fout,* int *fin_stride*)

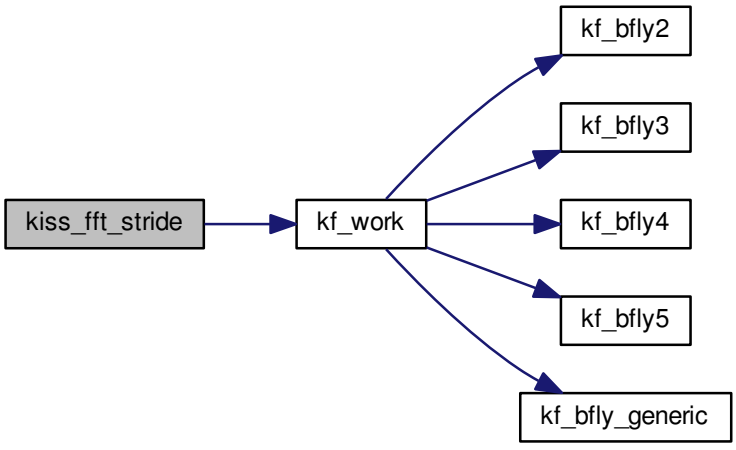
Definition at line 371 of file kiss_fft.c.

References kiss_fft_state::factors, kf_work(), KISS_FFT_TMP_ALLOC, KISS_FFT_TMP_FREE, and kiss_fft_state::nfft.

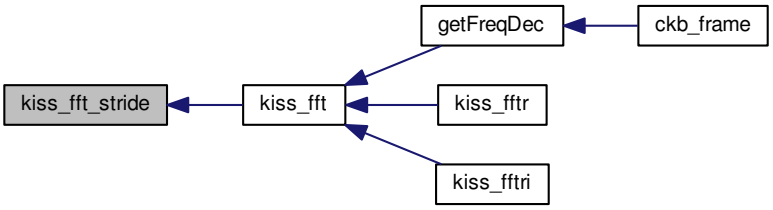
Referenced by kiss_fft().

```
372 {
373     if (fin == fout) {
374         //NOTE: this is not really an in-place FFT algorithm.
375         //It just performs an out-of-place FFT into a temp buffer
376         kiss_fft_cpx * tmpbuf = (kiss_fft_cpx*)
      KISS_FFT_TMP_ALLOC( sizeof(kiss_fft_cpx)*st->nfft);
377         kf_work(tmpbuf,fin,1,in_stride, st->factors,st);
378         memcpy(fout,tmpbuf,sizeof(kiss_fft_cpx)*st->nfft);
379         KISS_FFT_TMP_FREE(tmpbuf);
380     }else{
381         kf_work( fout, fin, 1,in_stride, st->factors,st );
382     }
383 }
```

Here is the call graph for this function:



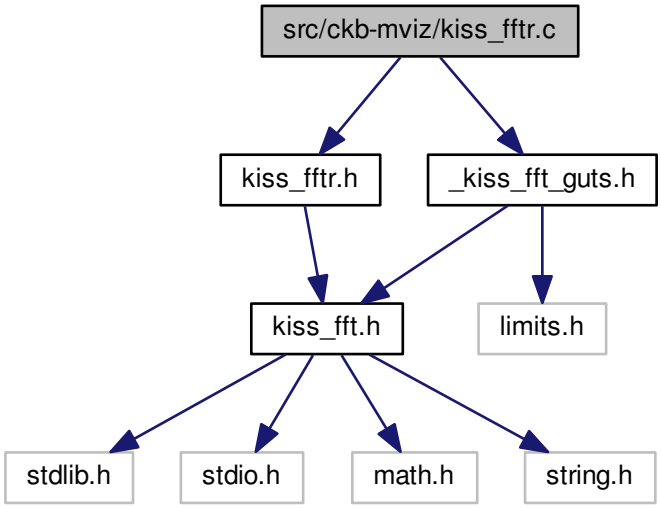
Here is the caller graph for this function:



13.55 src/ckb-mviz/kiss_fftr.c File Reference

```
#include "kiss_fftr.h"
#include "_kiss_fft_guts.h"
```

Include dependency graph for kiss_fftr.c:



Data Structures

- struct kiss_fftr_state

Functions

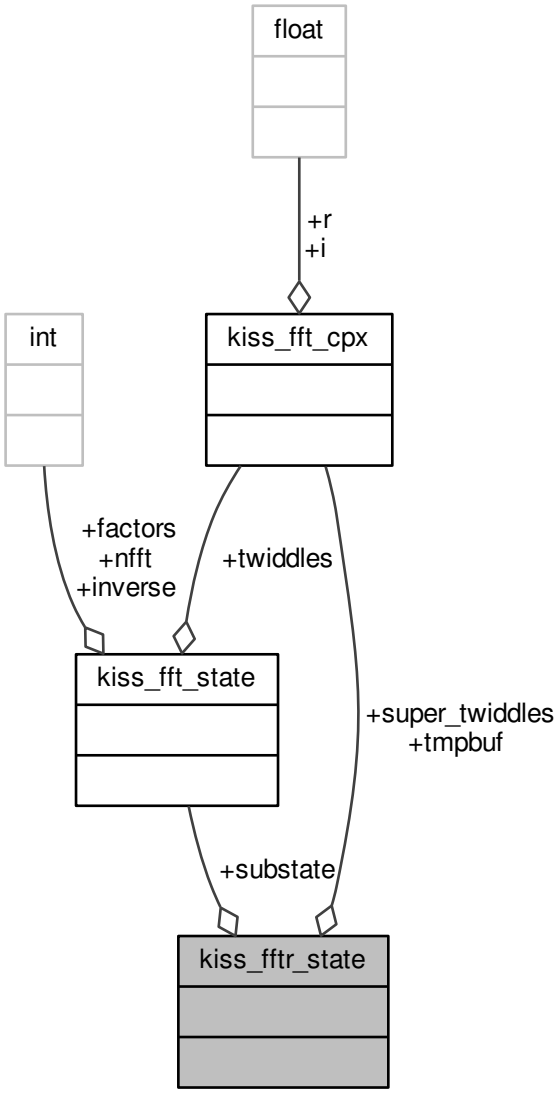
- kiss_fftr_cfg kiss_fftr_alloc (int nfft, int inverse_fft, void ∗mem, size_t ∗lenmem)
- void kiss_fftr (kiss_fftr_cfg st, const float ∗timedata, kiss_fft_cpx ∗freqdata)
- void kiss_fftri (kiss_fftr_cfg st, const kiss_fft_cpx ∗freqdata, float ∗timedata)

13.55.1 Data Structure Documentation

13.55.1.1 struct kiss_fftr_state

Definition at line 18 of file kiss_fftr.c.

Collaboration diagram for kiss_fftr_state:



Data Fields

kiss_fft_cfg	substate	
kiss_fft_cpx *	super_twiddles	

kiss_fft_cpx *	tmpbuf	

13.55.2 Function Documentation

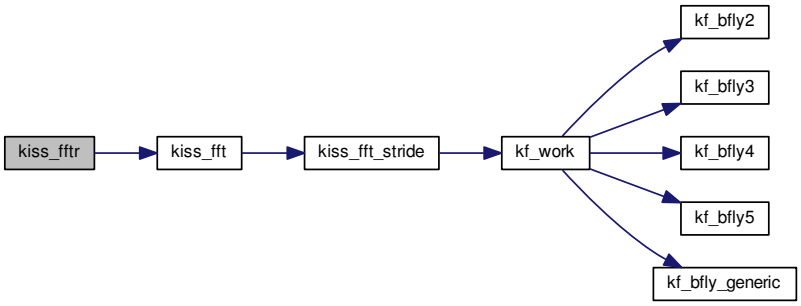
13.55.2.1 void kiss_fftr (kiss_fftr_cfg *st*, const float * *timedata*, kiss_fft_cpx * *freqdata*)

Definition at line 67 of file kiss_fftr.c.

References C_ADD, C_FIXDIV, C_MUL, C_SUB, CHECK_OVERFLOW_OP, HALF_OF, kiss_fft_cpx::i, kiss_fft_state::inverse, kiss_fft(), kiss_fft_state::nfft, kiss_fft_cpx::r, kiss_fftr_state::substate, kiss_fftr_state::super_twiddles, and kiss_fftr_state::tmpbuf.

```
68 {
69     /* input buffer timedata is stored row-wise */
70     int k,ncfft;
71     kiss_fft_cpx fpnk,fpk,f1k,f2k,tw,tdc;
72
73     if ( st->substate->inverse) {
74         fprintf(stderr,"kiss fft usage error: improper alloc\n");
75         exit(1);
76     }
77
78     ncfft = st->substate->nfft;
79
80     /*perform the parallel fft of two real signals packed in real,imag*/
81     kiss_fft( st->substate , (const kiss_fft_cpx*)timedata, st->
       tmpbuf );
82     /* The real part of the DC element of the frequency spectrum in st->tmpbuf
83      * contains the sum of the even-numbered elements of the input time sequence
84      * The imag part is the sum of the odd-numbered elements
85      *
86      * The sum of tdc.r and tdc.i is the sum of the input time sequence.
87      *      yielding DC of input time sequence
88      * The difference of tdc.r - tdc.i is the sum of the input (dot product) [1,-1,1,-1...
89      *      yielding Nyquist bin of input time sequence
90      */
91
92     tdc.r = st->tmpbuf[0].r;
93     tdc.i = st->tmpbuf[0].i;
94     C_FIXDIV(tdc,2);
95     CHECK_OVERFLOW_OP(tdc.r ,+, tdc.i);
96     CHECK_OVERFLOW_OP(tdc.r ,-, tdc.i);
97     freqdata[0].r = tdc.r + tdc.i;
98     freqdata[ncfft].r = tdc.r - tdc.i;
99 #ifdef USE_SIMD
100     freqdata[ncfft].i = freqdata[0].i = _mm_set1_ps(0);
101 #else
102     freqdata[ncfft].i = freqdata[0].i = 0;
103 #endif
104
105     for ( k=1;k <= ncfft/2 ; ++k ) {
106         fpk    = st->tmpbuf[k];
107         fpnk.r =   st->tmpbuf[ncfft-k].r;
108         fpnk.i = - st->tmpbuf[ncfft-k].i;
109         C_FIXDIV(fpk,2);
110         C_FIXDIV(fpnk,2);
111
112         C_ADD( f1k, fpk , fpnk );
113         C_SUB( f2k, fpk , fpnk );
114         C_MUL( tw , f2k , st->super_twiddles[k-1]);
115
116         freqdata[k].r = HALF_OF(f1k.r + tw.r);
117         freqdata[k].i = HALF_OF(f1k.i + tw.i);
118         freqdata[ncfft-k].r = HALF_OF(f1k.r - tw.r);
119         freqdata[ncfft-k].i = HALF_OF(tw.i - f1k.i);
120     }
121 }
```

Here is the call graph for this function:



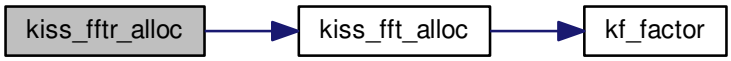
13.55.2.2 kiss_fftr_cfg kiss_fftr_alloc (int *nfft*, int *inverse_fft*, void * *mem*, size_t * *lenmem*)

Definition at line 27 of file kiss_fftr.c.

References kf_cexp, kiss_fft_alloc(), KISS_FFT_MALLOC, phase, kiss_fftr_state::substate, kiss_fftr_state::super_twiddles, and kiss_fftr_state::tmpbuf.

```
28 {
29     int i;
30     kiss_fftr_cfg st = NULL;
31     size_t subsize, memneeded;
32
33     if (nfft & 1) {
34         fprintf(stderr,"Real FFT optimization must be even.\n");
35         return NULL;
36     }
37     nfft >>= 1;
38
39     kiss_fft_alloc (nfft, inverse_fft, NULL, &subsize);
40     memneeded = sizeof(struct kiss_fftr_state) + subsize + sizeof(
      kiss_fft_cpx) * ( nfft * 3 / 2);
41
42     if (lenmem == NULL) {
43         st = (kiss_fftr_cfg) KISS_FFT_MALLOC (memneeded);
44     } else {
45         if (*lenmem >= memneeded)
46             st = (kiss_fftr_cfg) mem;
47         *lenmem = memneeded;
48     }
49     if (!st)
50         return NULL;
51
52     st->substate = (kiss_fft_cfg) (st + 1); /*just beyond kiss_fftr_state struct */
53     st->tmpbuf = (kiss_fft_cpx *) (((char *) st->substate) + subsize);
54     st->super_twiddles = st->tmpbuf + nfft;
55     kiss_fft_alloc(nfft, inverse_fft, st->substate, &subsize);
56
57     for (i = 0; i < nfft/2; ++i) {
58         double phase =
59             -3.14159265358979323846264338327 * ((double) (i+1) / nfft + .5);
60         if (inverse_fft)
61             phase *= -1;
62         kf_cexp (st->super_twiddles+i,phase);
63     }
64     return st;
65 }
```

Here is the call graph for this function:



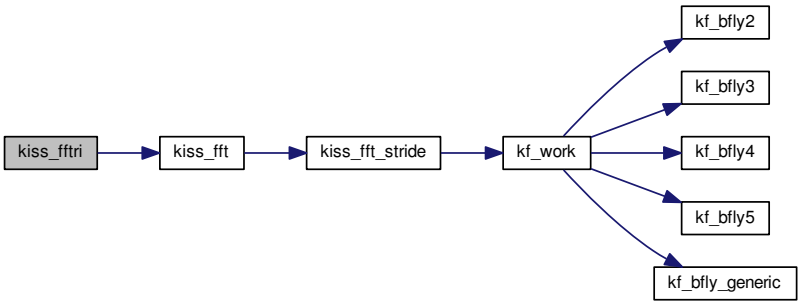
13.55.2.3 void kiss_fftri (kiss_fftr_cfg *st*, const kiss_fft_cpx * *freqdata*, float * *timedata*)

Definition at line 123 of file kiss_fftr.c.

References C_ADD, C_FIXDIV, C_MUL, C_SUB, kiss_fft_cpx::i, kiss_fft_state::inverse, kiss_fft(), kiss_fft_state::nfft, kiss_fft_cpx::r, kiss_fftr_state::substate, kiss_fftr_state::super_twiddles, and kiss_fftr_state::tmpbuf.

```
124 {
125     /* input buffer timedata is stored row-wise */
126     int k, ncfft;
127
128     if (st->substate->inverse == 0) {
129         fprintf (stderr, "kiss fft usage error: improper alloc\n");
130         exit (1);
131     }
132
133     ncfft = st->substate->nfft;
134
135     st->tmpbuf[0].r = freqdata[0].r + freqdata[ncfft].r;
136     st->tmpbuf[0].i = freqdata[0].r - freqdata[ncfft].r;
137     C_FIXDIV(st->tmpbuf[0],2);
138
139     for (k = 1; k <= ncfft / 2; ++k) {
140         kiss_fft_cpx fk, fnkc, fek, fok, tmp;
141         fk = freqdata[k];
142         fnkc.r = freqdata[ncfft - k].r;
143         fnkc.i = -freqdata[ncfft - k].i;
144         C_FIXDIV( fk , 2 );
145         C_FIXDIV( fnkc , 2 );
146
147         C_ADD (fek, fk, fnkc);
148         C_SUB (tmp, fk, fnkc);
149         C_MUL (fok, tmp, st->super_twiddles[k-1]);
150         C_ADD (st->tmpbuf[k],     fek, fok);
151         C_SUB (st->tmpbuf[ncfft - k], fek, fok);
152 #ifdef USE_SIMD
153         st->tmpbuf[ncfft - k].i *= _mm_set1_ps(-1.0);
154 #else
155         st->tmpbuf[ncfft - k].i *= -1;
156 #endif
157     }
158     kiss_fft (st->substate, st->tmpbuf, (kiss_fft_cpx *) timedata);
159 }
```

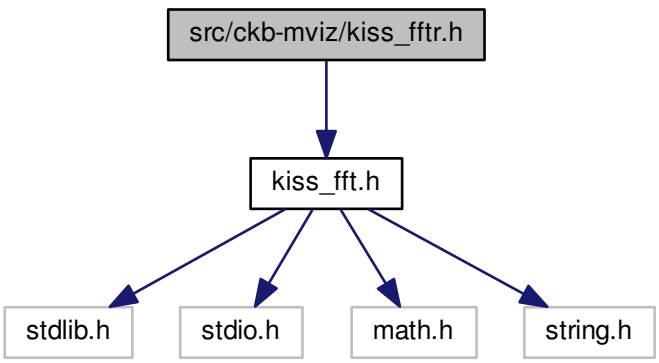
Here is the call graph for this function:



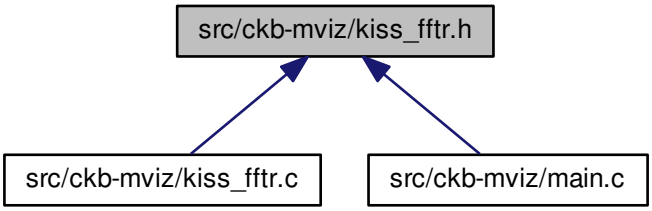
13.56 src/ckb-mviz/kiss_fftr.h File Reference

```
#include "kiss_fft.h"
```

Include dependency graph for kiss_fftr.h:



This graph shows which files directly or indirectly include this file:



Macros

- #define kiss_fftr_free free

Typedefs

- typedef struct kiss_fftr_state * kiss_fftr_cfg

Functions

- kiss_fftr_cfg kiss_fftr_alloc (int nfft, int inverse_fft, void *mem, size_t *lenmem)
- void kiss_fftr (kiss_fftr_cfg cfg, const float *timedata, kiss_fft_cpx *freqdata)
- void kiss_fftri (kiss_fftr_cfg cfg, const kiss_fft_cpx *freqdata, float *timedata)

13.56.1 Macro Definition Documentation

13.56.1.1 #define kiss_fftr_free free

Definition at line 41 of file kiss_fftr.h.

13.56.2 Typedef Documentation

13.56.2.1 typedef struct kiss_fftr_state* kiss_fftr_cfg

Definition at line 18 of file kiss_fftr.h.

13.56.3 Function Documentation

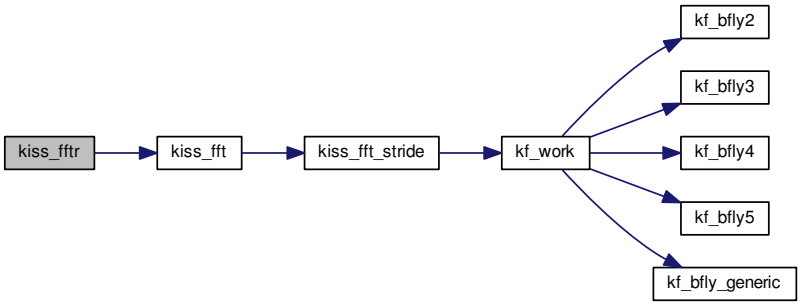
13.56.3.1 void kiss_fftr (kiss_fftr_cfg *cfg,* const float * *timedata,* kiss_fft_cpx * *freqdata*)

Definition at line 67 of file kiss_fftr.c.

References C_ADD, C_FIXDIV, C_MUL, C_SUB, CHECK_OVERFLOW_OP, HALF_OF, kiss_fft_cpx::i, kiss_fft_state::inverse, kiss_fft(), kiss_fft_state::nfft, kiss_fft_cpx::r, kiss_fftr_state::substate, kiss_fftr_state::super_twiddles, and kiss_fftr_state::tmpbuf.

```
68 {
69     /* input buffer timedata is stored row-wise */
70     int k,ncfft;
71     kiss_fft_cpx fpnk,fpk,f1k,f2k,tw,tdc;
72 
73     if ( st->substate->inverse) {
74         fprintf(stderr,"kiss fft usage error: improper alloc\n");
75         exit(1);
76     }
77 
78     ncfft = st->substate->nfft;
79 
80     /*perform the parallel fft of two real signals packed in real,imag*/
81     kiss_fft( st->substate , (const kiss_fft_cpx*)timedata, st->tmpbuf );
82     /* The real part of the DC element of the frequency spectrum in st->tmpbuf
83      * contains the sum of the even-numbered elements of the input time sequence
84      * The imag part is the sum of the odd-numbered elements
85      *
86      * The sum of tdc.r and tdc.i is the sum of the input time sequence.
87      *      yielding DC of input time sequence
88      * The difference of tdc.r - tdc.i is the sum of the input (dot product) [1,-1,1,-1...
89      *      yielding Nyquist bin of input time sequence
90      */
91 
92     tdc.r = st->tmpbuf[0].r;
93     tdc.i = st->tmpbuf[0].i;
94     C_FIXDIV(tdc,2);
95     CHECK_OVERFLOW_OP(tdc.r ,+, tdc.i);
96     CHECK_OVERFLOW_OP(tdc.r ,-, tdc.i);
97     freqdata[0].r = tdc.r + tdc.i;
98     freqdata[ncfft].r = tdc.r - tdc.i;
99 #ifdef USE_SIMD
100     freqdata[ncfft].i = freqdata[0].i = _mm_set1_ps(0);
101 #else
102     freqdata[ncfft].i = freqdata[0].i = 0;
103 #endif
104 
105     for ( k=1;k <= ncfft/2 ; ++k ) {
106         fpk    = st->tmpbuf[k];
107         fpnk.r =   st->tmpbuf[ncfft-k].r;
108         fpnk.i = - st->tmpbuf[ncfft-k].i;
109         C_FIXDIV(fpk,2);
110         C_FIXDIV(fpnk,2);
111 
112         C_ADD( f1k, fpk , fpnk );
113         C_SUB( f2k, fpk , fpnk );
114         C_MUL( tw , f2k , st->super_twiddles[k-1]);
115 
116         freqdata[k].r = HALF_OF(f1k.r + tw.r);
117         freqdata[k].i = HALF_OF(f1k.i + tw.i);
118         freqdata[ncfft-k].r = HALF_OF(f1k.r - tw.r);
119         freqdata[ncfft-k].i = HALF_OF(tw.i - f1k.i);
120     }
121 }
```

Here is the call graph for this function:



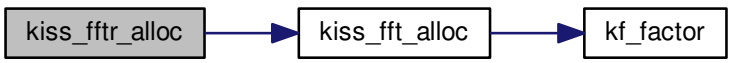
13.56.3.2 kiss_fftr_cfg kiss_fftr_alloc (int *nfft*, int *inverse_fft*, void * *mem*, size_t * *lenmem*)

Definition at line 27 of file kiss_fftr.c.

References kf_cexp, kiss_fft_alloc(), KISS_FFT_MALLOC, phase, kiss_fftr_state::substate, kiss_fftr_state::super_twiddles, and kiss_fftr_state::tmpbuf.

```
28 {
29     int i;
30     kiss_fftr_cfg st = NULL;
31     size_t subsize, memneeded;
32
33     if (nfft & 1) {
34         fprintf(stderr,"Real FFT optimization must be even.\n");
35         return NULL;
36     }
37     nfft >>= 1;
38
39     kiss_fft_alloc (nfft, inverse_fft, NULL, &subsize);
40     memneeded = sizeof(struct kiss_fftr_state) + subsize + sizeof(
      kiss_fft_cpx) * ( nfft * 3 / 2);
41
42     if (lenmem == NULL) {
43         st = (kiss_fftr_cfg) KISS_FFT_MALLOC (memneeded);
44     } else {
45         if (*lenmem >= memneeded)
46             st = (kiss_fftr_cfg) mem;
47         *lenmem = memneeded;
48     }
49     if (!st)
50         return NULL;
51
52     st->substate = (kiss_fft_cfg) (st + 1); /*just beyond kiss_fftr_state struct */
53     st->tmpbuf = (kiss_fft_cpx *) (((char *) st->substate) + subsize);
54     st->super_twiddles = st->tmpbuf + nfft;
55     kiss_fft_alloc(nfft, inverse_fft, st->substate, &subsize);
56
57     for (i = 0; i < nfft/2; ++i) {
58         double phase =
59             -3.14159265358979323846264338327 * ((double) (i+1) / nfft + .5);
60         if (inverse_fft)
61             phase *= -1;
62         kf_cexp (st->super_twiddles+i,phase);
63     }
64     return st;
65 }
```

Here is the call graph for this function:



13.56.3.3 void kiss_fftri (kiss_fftr_cfg *cfg*, const kiss_fft_cpx * *freqdata*, float * *timedata*)

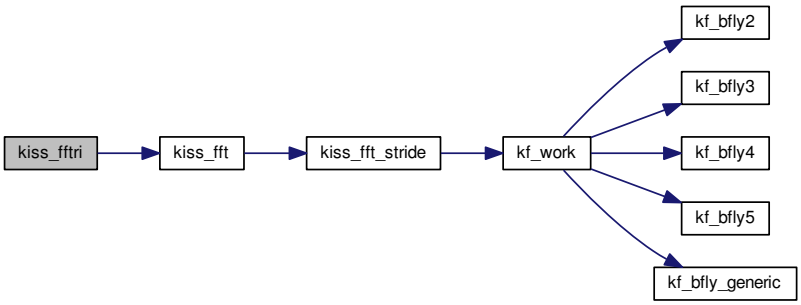
Definition at line 123 of file kiss_fftr.c.

References C_ADD, C_FIXDIV, C_MUL, C_SUB, kiss_fft_cpx::i, kiss_fft_state::inverse, kiss_fft(), kiss_fft_state::nfft, kiss_fft_cpx::r, kiss_fftr_state::substate, kiss_fftr_state::super_twiddles, and kiss_fftr_state::tmpbuf.

```
124 {
125     /* input buffer timedata is stored row-wise */
126     int k, ncfft;
127
128     if (st->substate->inverse == 0) {
129         fprintf (stderr, "kiss fft usage error: improper alloc\n");
```

```
130         exit (1);
131     }
132
133     ncfft = st->substate->nfft;
134
135     st->tmpbuf[0].r = freqdata[0].r + freqdata[ncfft].r;
136     st->tmpbuf[0].i = freqdata[0].r - freqdata[ncfft].r;
137     C_FIXDIV(st->tmpbuf[0],2);
138
139     for (k = 1; k <= ncfft / 2; ++k) {
140         kiss_fft_cpx fk, fnkc, fek, fok, tmp;
141         fk = freqdata[k];
142         fnkc.r = freqdata[ncfft - k].r;
143         fnkc.i = -freqdata[ncfft - k].i;
144         C_FIXDIV( fk , 2 );
145         C_FIXDIV( fnkc , 2 );
146
147         C_ADD (fek, fk, fnkc);
148         C_SUB (tmp, fk, fnkc);
149         C_MUL (fok, tmp, st->super_twiddles[k-1]);
150         C_ADD (st->tmpbuf[k],     fek, fok);
151         C_SUB (st->tmpbuf[ncfft - k], fek, fok);
152 #ifdef USE_SIMD
153         st->tmpbuf[ncfft - k].i *= _mm_set1_ps(-1.0);
154 #else
155         st->tmpbuf[ncfft - k].i *= -1;
156 #endif
157     }
158     kiss_fft (st->substate, st->tmpbuf, (kiss_fft_cpx *) timedata);
159 }
```

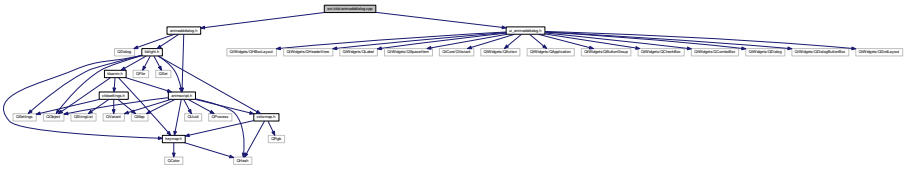
Here is the call graph for this function:



13.57 src/ckb/animadddialog.cpp File Reference

```
#include "animadddialog.h"
#include "ui_animadddialog.h"
```

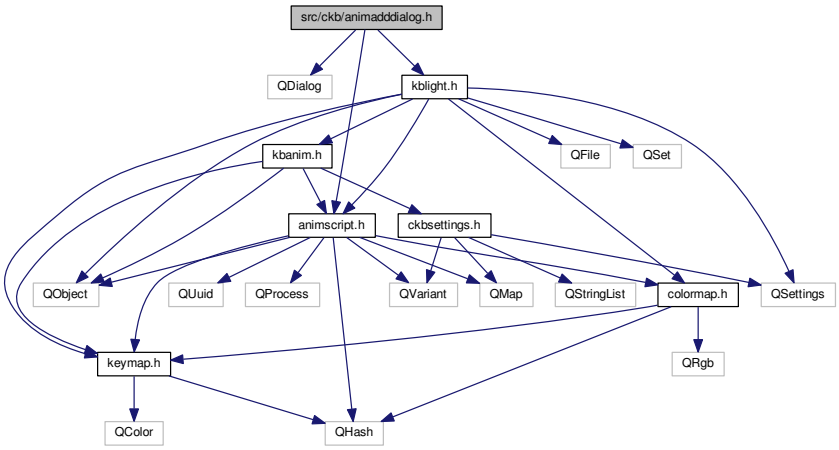
Include dependency graph for animadddialog.cpp:



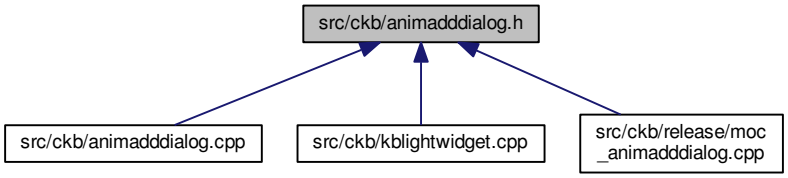
13.58 src/ckb/animadddialog.h File Reference

```
#include <QDialog>
#include "animscript.h"
#include "kblight.h"
```

Include dependency graph for animadddialog.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class AnimAddDialog

Namespaces

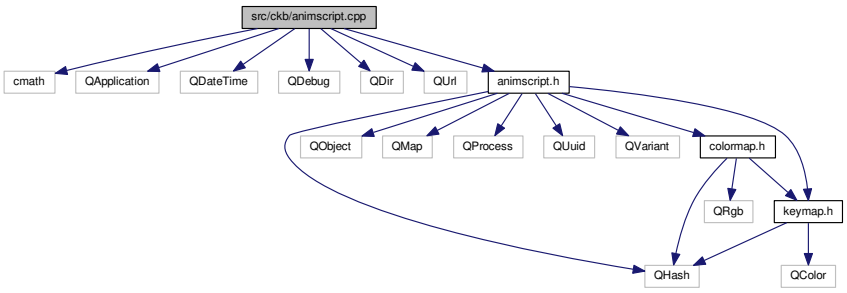
- Ui

13.59 src/ckb/animscript.cpp File Reference

```
#include <cmath>
```

```
#include <QApplication>
#include <QDateTime>
#include <QDebug>
#include <QDir>
#include <QUrl>
#include "animscript.h"
```

Include dependency graph for animscript.cpp:



Functions

- QString urlParam (const QString &param)

Variables

- static const double ONE_DAY = 24. * 60. * 60.

13.59.1 Function Documentation

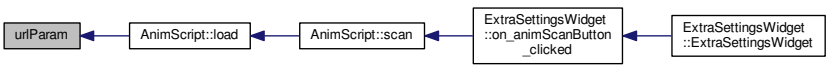
13.59.1.1 QString urlParam (const QString & *param*) [inline]

Definition at line 71 of file animscript.cpp.

Referenced by AnimScript::load().

```
71                                              {
72     return QUrl::fromPercentEncoding(param.trimmed().toLatin1()).trimmed();
73 }
```

Here is the caller graph for this function:



13.59.2 Variable Documentation

13.59.2.1 const double ONE_DAY = 24. * 60. * 60. [static]

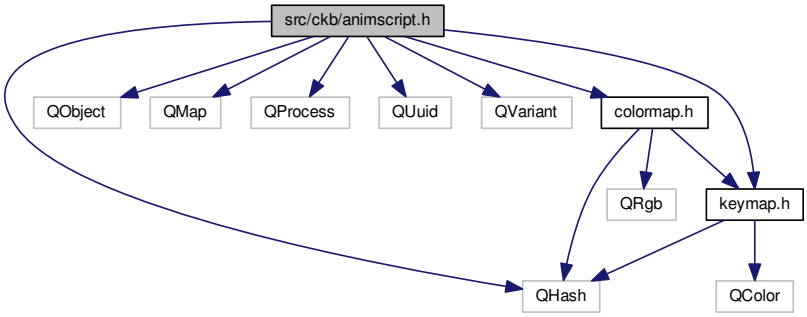
Definition at line 75 of file animscript.cpp.

Referenced by AnimScript::load().

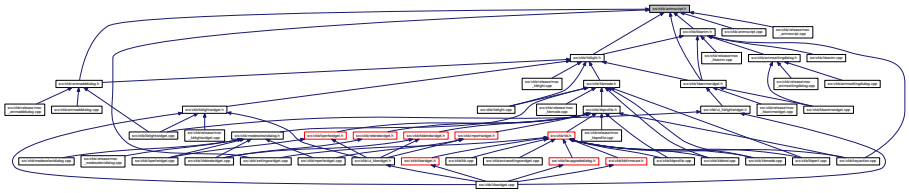
13.60 src/ckb/animscript.h File Reference

```
#include <QHash>
#include <QObject>
#include <QMap>
#include <QProcess>
#include <QUuid>
#include <QVariant>
#include "keymap.h"
#include "colormap.h"
```

Include dependency graph for animscript.h:



This graph shows which files directly or indirectly include this file:



Data Structures

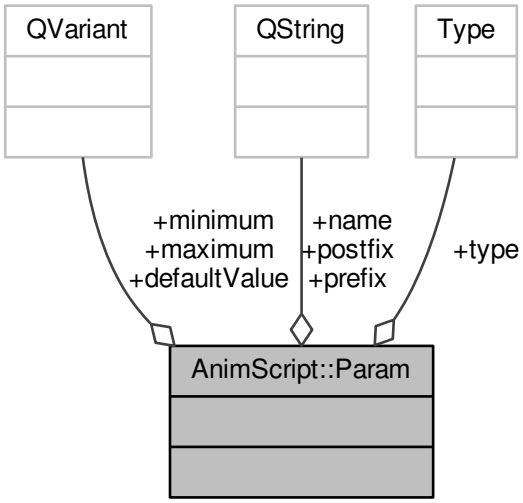
- class AnimScript
- struct AnimScript::Param

13.60.1 Data Structure Documentation

13.60.1.1 struct AnimScript::Param

Definition at line 21 of file animscript.h.

Collaboration diagram for AnimScript::Param:



Data Fields

	Type	

Data Fields

QVariant	defaultValue	
QVariant	maximum	
QVariant	minimum	
QString	name	
QString	postfix	
QString	prefix	
Type	type	

13.61 src/ckb/animsettingdialog.cpp File Reference

```
#include <cstdio>
#include <QDial>
#include <QDoubleSpinBox>
#include <QLineEdit>
#include <QComboBox>
#include "animsettingdialog.h"
#include "ui_animsettingdialog.h"
#include "colorbutton.h"
#include "gradientbutton.h"
```

Include dependency graph for animsettingdialog.cpp:

Functions

- static int angleFlip (int angle)

13.61.1 Function Documentation

13.61.1.1 static int angleFlip (int *angle*) [inline], [static]

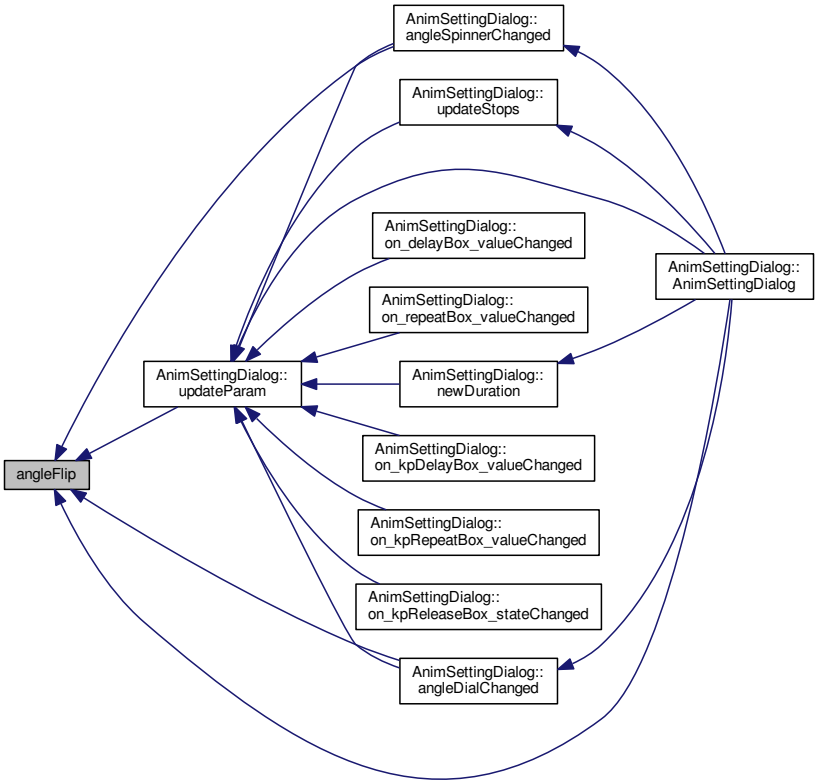
Definition at line 12 of file animsettingdialog.cpp.

References angle.

Referenced by AnimSettingDialog::angleDialChanged(), AnimSettingDialog::angleSpinnerChanged(), AnimSettingDialog::AnimSettingDialog(), and AnimSettingDialog::updateParam().

```
12                                      {
13     if(angle <= 180)
14         return 180 - angle;
15     else
16         return 360 - (angle - 180);
17 }
```

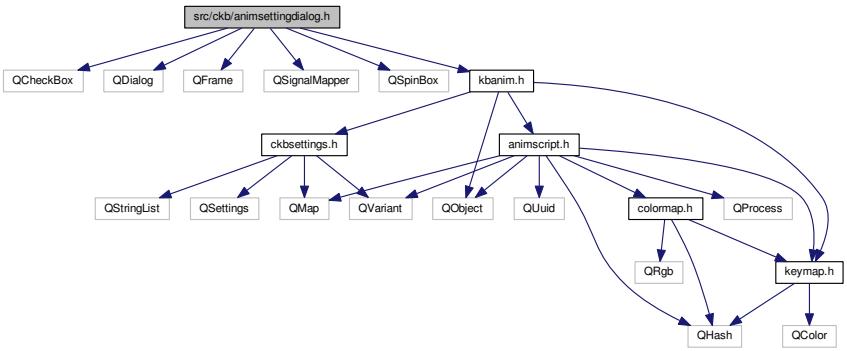
Here is the caller graph for this function:



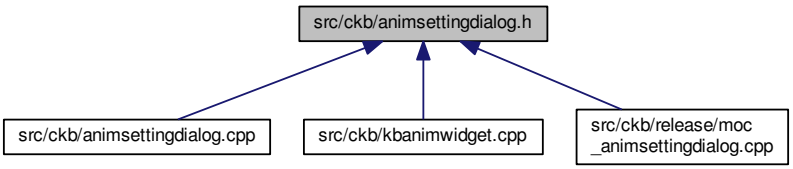
13.62 src/ckb/animsettingdialog.h File Reference

```
#include <QCheckBox>
#include <QDialog>
#include <QFrame>
#include <QSignalMapper>
#include <QSpinBox>
#include "kbanim.h"
```

Include dependency graph for animsettingdialog.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class AnimSettingDialog

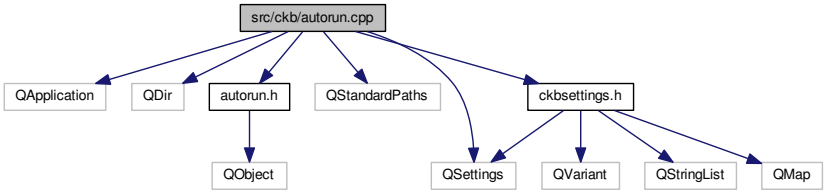
Namespaces

- Ui

13.63 src/ckb/autorun.cpp File Reference

```
#include <QApplication>
#include <QDir>
#include <QSettings>
#include <QStandardPaths>
#include "autorun.h"
#include "ckbsettings.h"
```

Include dependency graph for autorun.cpp:



Variables

- static const QString settingPath = "Program/DidLoginItem"

13.63.1 Variable Documentation

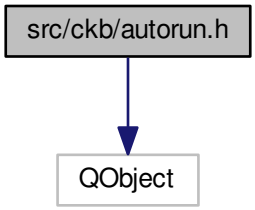
13.63.1.1 const QString settingPath = "Program/DidLoginItem" [static]

Definition at line 18 of file autorun.cpp.

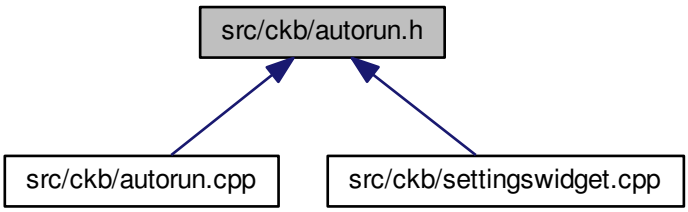
13.64 src/ckb/autorun.h File Reference

```
#include <QObject>
```

Include dependency graph for autorun.h:



This graph shows which files directly or indirectly include this file:



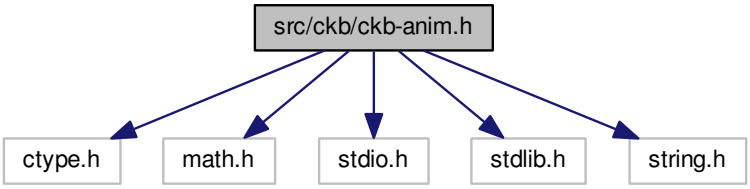
Data Structures

- class AutoRun

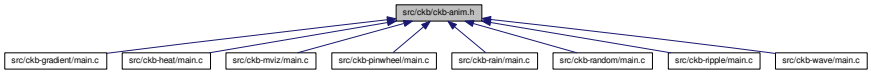
13.65 src/ckb/ckb-anim.h File Reference

```
#include <ctype.h>
#include <math.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
```

Include dependency graph for ckb-anim.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct ckb_key
- struct ckb_runctx
- struct ckb_gradient

Macros

- #define M_PI 3.14159265358979323846
- #define TRUE 1
- #define FALSE 0
- #define CKB_DOWN 1
- #define CKB_UP 0
- #define CKB_CONTAINER(macro) do { macro } while(0)
- #define CKB_GUID(guid) CKB_CONTAINER(printf("guid "); printurl(guid); printf("\n");)
- #define CKB_NAME(name) CKB_CONTAINER(printf("name "); printurl(name); printf("\n");)
- #define CKB_VERSION(version) CKB_CONTAINER(printf("version "); printurl(version); printf("\n");)
- #define CKB_COPYRIGHT(year, author) CKB_CONTAINER(printf("author "); printurl(author); printf("\nyear %s\n", year);)
- #define CKB_LICENSE(license) CKB_CONTAINER(printf("license "); printurl(license); printf("\n");)
- #define CKB_DESCRIPTION(description) CKB_CONTAINER(printf("description "); printurl(description); printf("\n");)
- #define CKB_PARAM(type, name, prefix, postfix, extra) CKB_CONTAINER(printf("param %s %s ", type, name); printurl(prefix); printf(" "); printurl(postfix); printf(" "); extra; printf("\n");)
- #define CKB_PARAM_LONG(name, prefix, postfix, default, min, max) CKB_PARAM("long", name, prefix, postfix, printf("%ld %ld %ld", (long)(default), (long)(min), (long)(max)))
- #define CKB_PARAM_DOUBLE(name, prefix, postfix, default, min, max) CKB_PARAM("double", name, prefix, postfix, printf("%lf %lf %lf", (double)(default), (double)(min), (double)(max)))
- #define CKB_PARAM_BOOL(name, text, default) CKB_PARAM("bool", name, text, "", printf((default) ? "1" : "0"))

- #define CKB_PARAM_RGB(name, prefix, postfix, r, g, b) CKB_PARAM("rgb", name, prefix, postfix, printf("%02x%02x%02x", (unsigned char)(r), (unsigned char)(g), (unsigned char)(b)))
- #define CKB_PARAM_ARGB(name, prefix, postfix, a, r, g, b) CKB_PARAM("argb", name, prefix, postfix, printf("%02x%02x%02x%02x", (unsigned char)(a), (unsigned char)(r), (unsigned char)(g), (unsigned char)(b)))
- #define CKB_PARAM_GRADIENT(name, prefix, postfix, default) CKB_PARAM("gradient", name, prefix, postfix, printurl(default))
- #define CKB_PARAM_AGRADIENT(name, prefix, postfix, default) CKB_PARAM("agradient", name, prefix, postfix, printurl(default))
- #define CKB_PARAM_ANGLE(name, prefix, postfix, default) CKB_PARAM("angle", name, prefix, postfix, printf("%ld", (long)(default)))
- #define CKB_PARAM_STRING(name, prefix, postfix, default) CKB_PARAM("string", name, prefix, postfix, printurl(default))
- #define CKB_PARAM_LABEL(name, text) CKB_PARAM("label", name, text, "",)
- #define CKB_PRESET_START(name) CKB_CONTAINER(printf("preset "); printurl(name);)
- #define CKB_PRESET_PARAM(name, value) CKB_CONTAINER(printf(" %s=", name); printurl(value);)
- #define CKB_PRESET_END CKB_CONTAINER(printf("\n");)
- #define CKB_KP_NONE "none"
- #define CKB_KP_NAME "name"
- #define CKB_KP_POSITION "position"
- #define CKB_KPMODE(mode) CKB_CONTAINER(printf("kpmode %s\n", mode);)
- #define CKB_TIME_DURATION "duration"
- #define CKB_TIME_ABSOLUTE "absolute"
- #define CKB_TIMEMODE(mode) CKB_CONTAINER(printf("time %s\n", mode);)
- #define CKB_REPEAT(enable) CKB_CONTAINER(printf("repeat %s\n", (enable) ? "on" : "off");)
- #define CKB_PREEMPT(enable) CKB_CONTAINER(printf("preempt %s\n", (enable) ? "on" : "off");)
- #define CKB_LIVEPARAMS(enable) CKB_CONTAINER(printf("parammode %s\n", (enable) ? "live" : "static");)
- #define CKB_PARSE_LONG(param_name, value_ptr) if(!strcmp(name, param_name) && sscanf(value, "%ld", value_ptr) == 1)
- #define CKB_PARSE_DOUBLE(param_name, value_ptr) if(!strcmp(name, param_name) && sscanf(value, "%lf", value_ptr) == 1)
- #define CKB_PARSE_BOOL(param_name, value_ptr) if(!strcmp(name, param_name) && sscanf(value, "%u", value_ptr) == 1)
- #define CKB_PARSE_RGB(param_name, r_ptr, g_ptr, b_ptr) if(!strcmp(name, param_name) && sscanf(value, "%2hhx%2hhx%2hhx", r_ptr, g_ptr, b_ptr) == 3)
- #define CKB_PARSE_ARGB(param_name, a_ptr, r_ptr, g_ptr, b_ptr) if(!strcmp(name, param_name) && sscanf(value, "%2hhx%2hhx%2hhx%2hhx", a_ptr, r_ptr, g_ptr, b_ptr) == 4)
- #define CKB_PARSE_GRADIENT(param_name, gradient_ptr) if(!strcmp(name, param_name) && ckb_scan_grad(value, gradient_ptr, 0))
- #define CKB_PARSE_AGRADIENT(param_name, gradient_ptr) if(!strcmp(name, param_name) && ckb_scan_grad(value, gradient_ptr, 1))
- #define CKB_PARSE_ANGLE(param_name, value_ptr) if(!strcmp(name, param_name) && sscanf(value, "%ld", value_ptr) == 1)
- #define CKB_PARSE_STRING(param_name) if(!strcmp(name, param_name))
- #define CKB_REAL_ANGLE(angle) fmod((-(angle) + 90.) * M_PI / 180. + M_PI * 2., M_PI * 2.)
- #define CKB_KEYNAME_MAX 12
- #define CKB_KEYCLEAR(context) CKB_CONTAINER(ckb_key* key = context->keys; unsigned count = context->keycount; unsigned i = 0; for(; i < count; i++) key[i].a = key[i].r = key[i].g = key[i].b = 0;)
- #define CKB_GRAD_MAX 100
- #define CKB_MAX_WORD (4 * 1024)

Functions

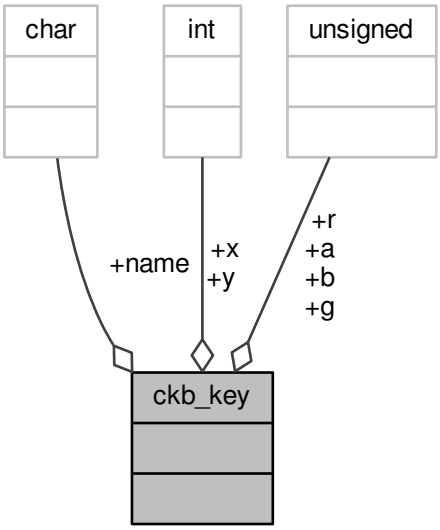
- int ckb_scan_grad (const char *string, ckb_gradient *gradient, int alpha)
- void ckb_grad_color (float *a, float *r, float *g, float *b, const ckb_gradient *grad, float pos)
- void ckb_alpha_blend (ckb_key *key, float a, float r, float g, float b)
- void printurl (const char *src)
- void urldecode (char *dst, const char *src)
- void ckb_getline (char word1[(4 *1024)], char word2[(4 *1024)], char word3[(4 *1024)])
- void ckb_info ()
- void ckb_init (ckb_runctx *context)
- void ckb_parameter (ckb_runctx *, const char *, const char *)
- void ckb_keypress (ckb_runctx *, ckb_key *, int, int, int)
- void ckb_start (ckb_runctx *, int)
- void ckb_time (ckb_runctx *, double)
- int ckb_frame (ckb_runctx *)
- void ckb_read_params (ckb_runctx *ctx)
- int main (int argc, char *argv[])

13.65.1 Data Structure Documentation

13.65.1.1 struct ckb_key

Definition at line 131 of file ckb-anim.h.

Collaboration diagram for ckb_key:



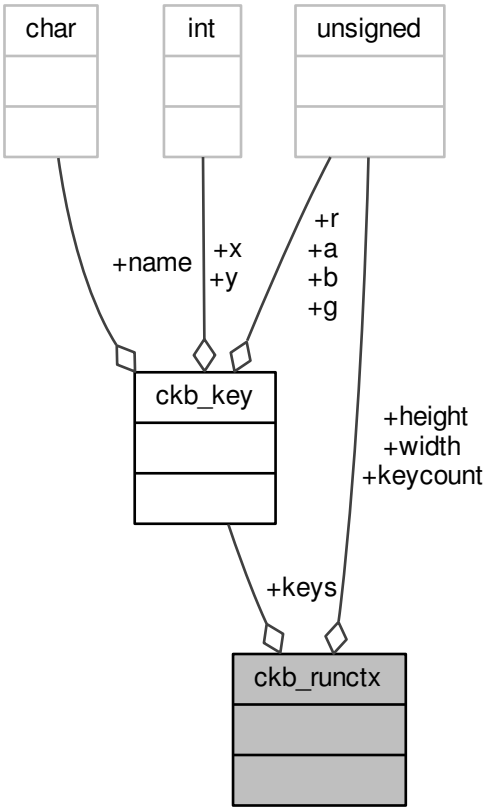
Data Fields

unsigned char	a	
unsigned char	b	
unsigned char	g	
char	name[12]	
unsigned char	r	
int	x	
int	y	

13.65.1.2 struct ckb_runctx

Definition at line 138 of file ckb-anim.h.

Collaboration diagram for ckb_runctx:



Data Fields

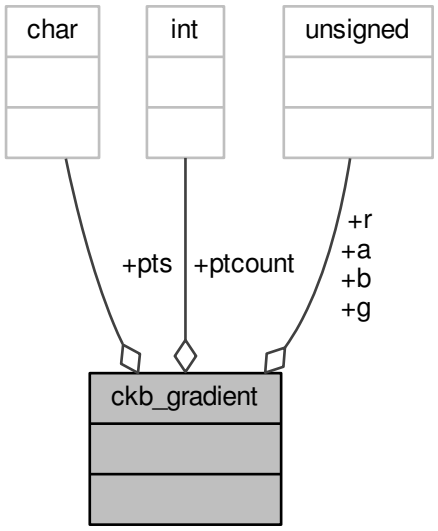
unsigned	height	
unsigned	keycount	
ckb_key *	keys	

unsigned	width	

13.65.1.3 struct ckb_gradient

Definition at line 152 of file ckb-anim.h.

Collaboration diagram for ckb_gradient:



Data Fields

unsigned char	a[100]	
unsigned char	b[100]	
unsigned char	g[100]	
int	ptcount	
char	pts[100]	
unsigned char	r[100]	

13.65.2 Macro Definition Documentation

13.65.2.1 #define CKB_CONTAINER(*macro*) do { macro } while(0)

Definition at line 57 of file ckb-anim.h.

13.65.2.2 #define CKB_COPYRIGHT(*year, author*) CKB_CONTAINER(printf("author "); printurl(author); printf("\nyear %s\n", year);)

Definition at line 66 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.3 #define CKB_DESCRIPTION(*description*) CKB_CONTAINER(printf("description "); printurl(description); printf("\n");)

Definition at line 70 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.4 #define CKB_DOWN 1

Definition at line 52 of file ckb-anim.h.

13.65.2.5 #define CKB_GRAD_MAX 100

Definition at line 151 of file ckb-anim.h.

13.65.2.6 #define CKB_GUID(*guid*) CKB_CONTAINER(printf("guid "); printurl(guid); printf("\n");)

Definition at line 60 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.7 #define CKB_KEYCLEAR(*context*) CKB_CONTAINER(ckb_key* key = context->keys; unsigned count = context->keycount; unsigned i = 0; for(; i < count; i++) key[i].a = key[i].r = key[i].g = key[i].b = 0;)

Definition at line 148 of file ckb-anim.h.

Referenced by ckb_frame().

13.65.2.8 #define CKB_KEYNAME_MAX 12

Definition at line 130 of file ckb-anim.h.

Referenced by main().

13.65.2.9 #define CKB_KP_NAME "name"

Definition at line 91 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.10 #define CKB_KP_NONE "none"

Definition at line 90 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.11 #define CKB_KP_POSITION "position"

Definition at line 92 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.12 #define CKB_KPMODE(*mode*) CKB_CONTAINER(printf("kpmode %s\n", mode);)

Definition at line 93 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.13 #define CKB_LICENSE(*license*) CKB_CONTAINER(printf("license "); printurl(license); printf("\n");)

Definition at line 68 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.14 #define CKB_LIVEPARAMS(*enable*) CKB_CONTAINER(printf("parammode %s\n", (enable) ? "live" : "static");)

Definition at line 104 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.15 #define CKB_MAX_WORD (4 * 1024)

Definition at line 238 of file ckb-anim.h.

Referenced by ckb_read_params(), and main().

13.65.2.16 #define CKB_NAME(*name*) CKB_CONTAINER(printf("name "); printurl(name); printf("\n");)

Definition at line 62 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.17 #define CKB_PARAM(*type, name, prefix, postfix, extra*) CKB_CONTAINER(printf("param %s %s ", type, name); printurl(prefix); printf(" "); printurl(postfix); printf(" "); extra; printf("\n");)

Definition at line 73 of file ckb-anim.h.

13.65.2.18 #define CKB_PARAM_AGRADIENT(*name, prefix, postfix, default*) CKB_PARAM("agradient", name, prefix, postfix, printurl(default))

Definition at line 80 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.19 #define CKB_PARAM_ANGLE(*name, prefix, postfix, default*) CKB_PARAM("angle", name, prefix, postfix, printf("%ld", (long)(default)))

Definition at line 81 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.20 #define CKB_PARAM_ARGB(*name, prefix, postfix, a, r, g, b*) CKB_PARAM("argb", name, prefix, postfix, printf("%02x%02x%02x%02x", (unsigned char)(a), (unsigned char)(r), (unsigned char)(g), (unsigned char)(b)))

Definition at line 78 of file ckb-anim.h.

13.65.2.21 #define CKB_PARAM_BOOL(*name, text, default*) **CKB_PARAM**("bool", name, text, "", printf((default) ? "1" : "0"))

Definition at line 76 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.22 #define CKB_PARAM_DOUBLE(*name, prefix, postfix, default,* **min**, **max**) **CKB_PARAM**("double", name, prefix, postfix, printf("%lf %lf %lf", (double)(default), (double)(**min**), (double)(**max**)))

Definition at line 75 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.23 #define CKB_PARAM_GRADIENT(*name, prefix, postfix, default*) **CKB_PARAM**("gradient", name, prefix, postfix, **printurl**(default))

Definition at line 79 of file ckb-anim.h.

13.65.2.24 #define CKB_PARAM_LABEL(*name, text*) **CKB_PARAM**("label", name, text, "",)

Definition at line 83 of file ckb-anim.h.

13.65.2.25 #define CKB_PARAM_LONG(*name, prefix, postfix, default,* **min**, **max**) **CKB_PARAM**("long", name, prefix, postfix, printf("%ld %ld %ld", (long)(default), (long)(**min**), (long)(**max**)))

Definition at line 74 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.26 #define CKB_PARAM_RGB(*name, prefix, postfix, r, g, b*) **CKB_PARAM**("rgb", name, prefix, postfix, printf("%02x%02x%02x", (unsigned char)(r), (unsigned char)(g), (unsigned char)(b)))

Definition at line 77 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.27 #define CKB_PARAM_STRING(*name, prefix, postfix, default*) **CKB_PARAM**("string", name, prefix, postfix, **printurl**(default))

Definition at line 82 of file ckb-anim.h.

13.65.2.28 #define CKB_PARSE_AGRADIENT(*param_name, gradient_ptr*) if(!strcmp(name, param_name) && **ckb_scan_grad**(value, gradient_ptr, 1))

Definition at line 121 of file ckb-anim.h.

Referenced by ckb_parameter().

13.65.2.29 #define CKB_PARSE_ANGLE(*param_name, value_ptr*) if(!strcmp(name, param_name) && sscanf(value, "%ld", value_ptr) == 1)

Definition at line 122 of file ckb-anim.h.

Referenced by ckb_parameter().

13.65.2.30 #define CKB_PARSE_ARGB(*param_name, a_ptr, r_ptr, g_ptr, b_ptr*) if(!strcmp(name, param_name) && sscanf(value, "%2hhx%2hhx%2hhx%2hhx", a_ptr, r_ptr, g_ptr, b_ptr) == 4)

Definition at line 119 of file ckb-anim.h.

13.65.2.31 #define CKB_PARSE_BOOL(*param_name, value_ptr*) if(!strcmp(name, param_name) && sscanf(value, "%u", value_ptr) == 1)

Definition at line 117 of file ckb-anim.h.

Referenced by ckb_parameter().

13.65.2.32 #define CKB_PARSE_DOUBLE(*param_name, value_ptr*) if(!strcmp(name, param_name) && sscanf(value, "%lf", value_ptr) == 1)

Definition at line 116 of file ckb-anim.h.

Referenced by ckb_parameter().

13.65.2.33 #define CKB_PARSE_GRADIENT(*param_name, gradient_ptr*) if(!strcmp(name, param_name) && **ckb_scan_grad**(value, gradient_ptr, 0))

Definition at line 120 of file ckb-anim.h.

13.65.2.34 #define CKB_PARSE_LONG(*param_name, value_ptr*) if(!strcmp(name, param_name) && sscanf(value, "%ld", value_ptr) == 1)

Definition at line 115 of file ckb-anim.h.

Referenced by ckb_parameter().

13.65.2.35 #define CKB_PARSE_RGB(*param_name, r_ptr, g_ptr, b_ptr*) if(!strcmp(name, param_name) && sscanf(value, "%2hhx%2hhx%2hhx", r_ptr, g_ptr, b_ptr) == 3)

Definition at line 118 of file ckb-anim.h.

Referenced by ckb_parameter().

13.65.2.36 #define CKB_PARSE_STRING(*param_name*) if(!strcmp(name, param_name))

Definition at line 123 of file ckb-anim.h.

13.65.2.37 #define CKB_PREEMPT(*enable*) **CKB_CONTAINER**(printf("preempt %s\n", (enable) ? "on" : "off");)

Definition at line 102 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.38 #define CKB_PRESET_END **CKB_CONTAINER**(printf("\n");)

Definition at line 87 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.39 #define CKB_PRESET_PARAM(*name, value*) CKB_CONTAINER(printf(" %s=", name); printurl(value);)

Definition at line 86 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.40 #define CKB_PRESET_START(*name*) CKB_CONTAINER(printf("preset "); printurl(name);)

Definition at line 85 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.41 #define CKB_REAL_ANGLE(angle) fmod((-(angle) + 90.) * M_PI / 180. + M_PI * 2., M_PI * 2.)

Definition at line 127 of file ckb-anim.h.

Referenced by ckb_parameter().

13.65.2.42 #define CKB_REPEAT(*enable*) CKB_CONTAINER(printf("repeat %s\n", (enable) ? "on" : "off");)

Definition at line 99 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.43 #define CKB_TIME_ABSOLUTE "absolute"

Definition at line 96 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.44 #define CKB_TIME_DURATION "duration"

Definition at line 95 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.45 #define CKB_TIMEMODE(*mode*) CKB_CONTAINER(printf("time %s\n", mode);)

Definition at line 97 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.46 #define CKB_UP 0

Definition at line 53 of file ckb-anim.h.

13.65.2.47 #define CKB_VERSION(*version*) CKB_CONTAINER(printf("version "); printurl(version); printf("\n");)

Definition at line 64 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.48 #define FALSE 0

Definition at line 49 of file ckb-anim.h.

Referenced by ckb_info().

13.65.2.49 #define M_PI 3.14159265358979323846

Definition at line 42 of file ckb-anim.h.

Referenced by ckb_frame(), and ckb_parameter().

13.65.2.50 #define TRUE 1

Definition at line 46 of file ckb-anim.h.

Referenced by ckb_info().

13.65.3 Function Documentation

13.65.3.1 void ckb_alpha_blend (ckb_key * *key,* float *a,* float *r,* float *g,* float *b*)

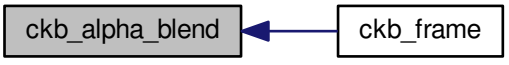
Definition at line 283 of file ckb-anim.h.

References ckb_key::a, ckb_key::b, ckb_key::g, and ckb_key::r.

Referenced by ckb_frame().

```
283                                                                          {
284     a /= 255.f;
285     float ka = key->a / 255.f;
286     float a2 = a + (1.f - a) * ka;
287     if(a2 == 0.f){
288         key->a = key->r = key->g = key->b = 0;
289         return;
290     }
291     key->a = round(a2 * 255.f);
292     key->r = round((r * a + key->r * ka * (1.f - a)) / a2);
293     key->g = round((g * a + key->g * ka * (1.f - a)) / a2);
294     key->b = round((b * a + key->b * ka * (1.f - a)) / a2);
295 }
```

Here is the caller graph for this function:



13.65.3.2 int ckb_frame (ckb_runctx *)

Definition at line 137 of file main.c.

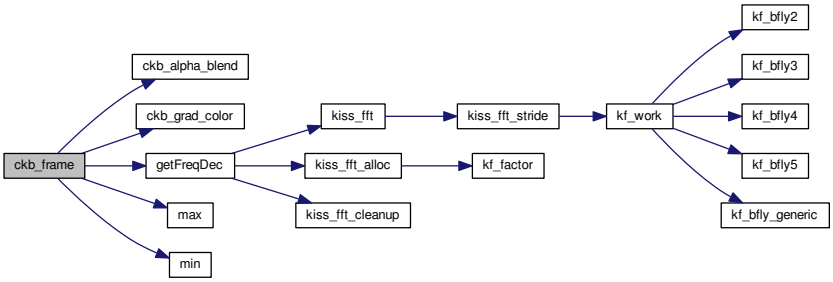
References ckb_key::a, aa, ab, ag, angle, ANGLE, anim, ANIM_MAX, animcolor, animlength, ar, ckb_key::b, ckb_alpha_blend(), ckb_grad_color(), CKB_KEYCLEAR, counter_clock, drop, DROP_MAX, ffade, frame, ckb_key::g, getFreqDec(), keyAnim::gradient, ckb_runctx::height, HOLD, ckb_runctx::keycount, ckb_runctx::keys, M_PI, max(),

min(), phase, power, powers, pressestofull, ckb_key::r, randomBright, randomize, symmetric, keyAnim::target, width, ckb_runctx::width, x, and y.

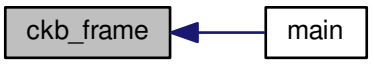
Referenced by main().

```
137                                 {
138     // Draw key colors
139     unsigned count = context->keycount;
140     for(unsigned i = 0; i < count; i++){
141         float phase = anim[i].target;
142 
143         if(phase == HOLD)
144             phase = 0.f;
145         else if(phase < 0.f)
146             phase = 1.f;
147         ckb_key* key = context->keys + i;
148         float a, r, g, b;
149         ckb_gradient thisGradient;
150         if (randomize) {
151             thisGradient = anim[i].gradient;
152         } else {
153             thisGradient = animcolor;
154         }
155         ckb_grad_color(&a, &r, &g, &b, &thisGradient, phase * 100.);
156         key->a = a;
157         key->r = r;
158         key->g = g;
159         key->b = b;
160     }
161     return 0;
162 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.65.3.3 void ckb_getline (char *word1[(4 ∗ 1024)]*, char *word2[(4 ∗ 1024)]*, char *word3[(4 ∗ 1024)]*)

Definition at line 239 of file ckb-anim.h.

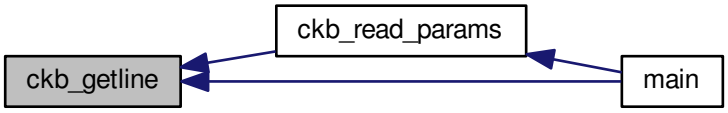
References urldecode().

Referenced by ckb_read_params(), and main().

```
239                                                                                                 {
240     char line[CKB_MAX_WORD * 3 + 3];
241     fgets(line, sizeof(line), stdin);
242     word1[0] = word1[1] = word1[2] = 0;
243     int res = sscanf(line, "%s %s %s", word1, word2, word3);
244     if(res >= 1)
245         urldecode(word1, word1);
246     if(res >= 2)
247         urldecode(word2, word2);
248     if(res >= 3)
249         urldecode(word3, word3);
250     line[strlen(line) - 1] = 0;
251 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.65.3.4 void ckb_grad_color (float * *a*, float * *r*, float * *g*, float * *b*, const ckb_gradient * *grad*, float *pos*)

Definition at line 254 of file ckb-anim.h.

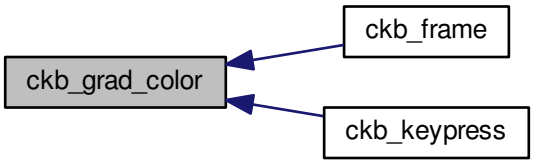
References ckb_gradient::a, ckb_gradient::b, ckb_gradient::g, ckb_gradient::ptcount, ckb_gradient::pts, and ckb_-gradient::r.

Referenced by ckb_frame(), and ckb_keypress().

```
254                                                                                                 {
255     // Find the points surrounding this position
256     int count = grad->ptcount;
257     if(count == 0){
258         *a = *r = *g = *b = 0.f;
259         return;
260     }
261     int i = 1;
262     for(; i < count; i++){
263         if(grad->pts[i] >= pos)
264             break;
265     }
266     // Get color by linear interpolation. Premultiply the alpha value so that it returns the expected color
267     // (i.e. stops with zero opacity won't contribute to color)
```

```
268     float distance = grad->pts[i] - grad->pts[i - 1];
269     float dx = (pos - grad->pts[i - 1]) / distance;
270     float a1 = grad->a[i] / 255., a2 = grad->a[i - 1] / 255.;
271     float a3 = *a = a1 * dx + a2 * (1.f - dx);
272     if(a3 == 0.){
273         *a = *r = *g = *b = 0.f;
274         return;
275     }
276     *a *= 255.f;
277     *r = (grad->r[i] * a1 * dx + grad->r[i - 1] * a2 * (1.f - dx)) / a3;
278     *g = (grad->g[i] * a1 * dx + grad->g[i - 1] * a2 * (1.f - dx)) / a3;
279     *b = (grad->b[i] * a1 * dx + grad->b[i - 1] * a2 * (1.f - dx)) / a3;
280 }
```

Here is the caller graph for this function:



13.65.3.5 void ckb_info ( )

Definition at line 5 of file main.c.

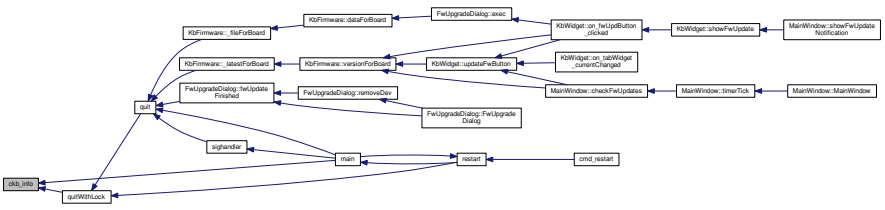
References CKB_COPYRIGHT, CKB_DESCRIPTION, CKB_GUID, CKB_KP_NAME, CKB_KP_NONE, CKB_KP-_POSITION, CKB_KPMODE, CKB_LICENSE, CKB_LIVEPARAMS, CKB_NAME, CKB_PARAM_AGRADIENT, C-KB_PARAM_ANGLE, CKB_PARAM_BOOL, CKB_PARAM_DOUBLE, CKB_PARAM_LONG, CKB_PARAM_RGB, CKB_PREEMPT, CKB_PRESET_END, CKB_PRESET_PARAM, CKB_PRESET_START, CKB_REPEAT, CKB_T-IME_ABSOLUTE, CKB_TIME_DURATION, CKB_TIMEMODE, CKB_VERSION, FALSE, and TRUE.

Referenced by main(), and quitWithLock().

```
5               {
6     // Plugin info
7     CKB_NAME("Gradient");
8     CKB_VERSION("0.9");
9     CKB_COPYRIGHT("2014-2016", "MSC");
10     CKB_LICENSE("GPLv2");
11     CKB_GUID("{54DD2975-E192-457D-BCFC-D912A24E33B4}");
12     CKB_DESCRIPTION("A transition from one color to another.");
13
14     // Effect parameters
15     CKB_PARAM_AGRADIENT("color", "Color:", "", "ffffffff");
16     CKB_PARAM_BOOL("kphold", "Freeze until key is released", TRUE);
17     CKB_PARAM_BOOL("randomize", "Randomly select from gradient", 0);
18
19     // Timing/input parameters
20     CKB_KPMODE(CKB_KP_NAME);
21     CKB_TIMEMODE(CKB_TIME_DURATION);
22     CKB_LIVEPARAMS(TRUE);
23
24     // Presets
25     CKB_PRESET_START("Fade in");
26     CKB_PRESET_PARAM("color", "ff000000");
27     CKB_PRESET_PARAM("duration", "1.0");
28     CKB_PRESET_PARAM("stop", "0");
29     CKB_PRESET_PARAM("kpstop", "0");
30     CKB_PRESET_END;
31
32     CKB_PRESET_START("Rainbow");
33     CKB_PRESET_PARAM("color", "0:ffff0000 17:ffffff00 33:ff00ff00 50:ff00ffff 67:ff0000ff
       83:ffff00ff 100:ffff0000");
```

```
34     CKB_PRESET_PARAM("duration", "2.0");
35     CKB_PRESET_END;
36
37     CKB_PRESET_START("Type lighting");
38     CKB_PRESET_PARAM("duration", "1.0");
39     CKB_PRESET_PARAM("trigger", "0");
40     CKB_PRESET_PARAM("kptrigger", "1");
41     CKB_PRESET_END;
42 }
```

Here is the caller graph for this function:



13.65.3.6 void ckb_init (ckb_runctx * *context*)

Definition at line 57 of file main.c.

References ckb_runctx::height, kbsize, ckb_runctx::keycount, ckb_runctx::keys, NONE, pas, ckb_runctx::width, keyanim::x, ckb_key::x, keyanim::y, and ckb_key::y.

Referenced by main().

```
57                                  {
58     // Initialize all keys to 100% (animation over)
59
60     srand((unsigned)time(NULL));
61     unsigned count = context->keycount;
62     anim =  malloc(count * sizeof *anim);
63     for(unsigned i = 0; i < count; i++) {
64         anim[i].target = NONE;
65     }
66 }
```

Here is the caller graph for this function:

13.65.3.7 void ckb_keypress (ckb_runctx * , ckb_key * , int , int , int)

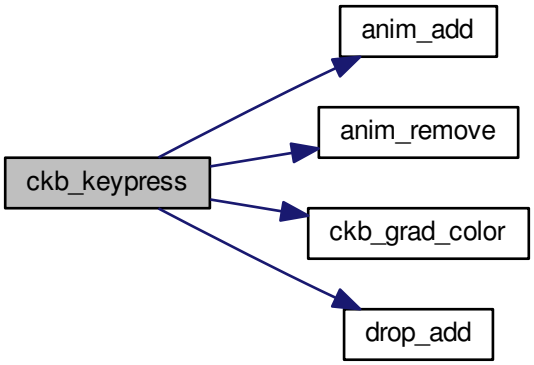
Definition at line 75 of file main.c.

References ckb_gradient::a, anim_add(), anim_remove(), ckb_gradient::b, ckb_grad_color(), drop_add(), ckb_gradient::g, keyAnim::gradient, ckb_runctx::height, HOLD, ckb_runctx::keys, kphold, kprelease, NONE, ckb_gradient::ptcount, ckb_gradient::pts, ckb_gradient::r, randomize, keyAnim::target, and ckb_runctx::width.

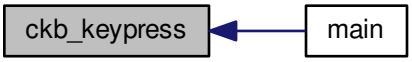
Referenced by main().

```
75                                                                                  {
76      // Start or stop animation on key
77      int i = key - context->keys;
78      if(state){
79          if (randomize) {
80              float a, r, g, b;
81              float colorChoice = (float)rand()/(float)(RAND_MAX);
82              ckb_grad_color(&a, &r, &g, &b, &animcolor, colorChoice * 100.);
83              ckb_gradient newGradient = { 0 };
84              newGradient.ptcount = 2;
85              newGradient.pts[0] = 0;
86              newGradient.pts[1] = 100;
87              newGradient.a[0] = 255;
88              newGradient.b[0] = b;
89              newGradient.g[0] = g;
90              newGradient.r[0] = r;
91              newGradient.a[1] = 0;
92              newGradient.b[1] = b;
93              newGradient.g[1] = g;
94              newGradient.r[1] = r;
95
96              anim[i].gradient = newGradient;
97          }
98
99          if(kphold) {
100             anim[i].target = HOLD;
101         } else {
102             anim[i].target = 0.f;
103         }
104     } else {
105         if(kprelease) {
106             anim[i].target = NONE;
107         }
108         else if(kphold) {
109             anim[i].target = 0.f;
110         }
111     }
112 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.65.3.8 void ckb_parameter (ckb_runctx * , const char * , const char *)

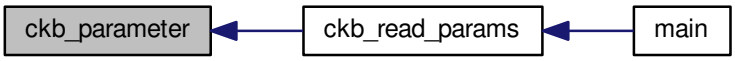
Definition at line 68 of file main.c.

References aa, ab, ag, angle, animlength, ar, CKB_PARSE_AGRADIENT, CKB_PARSE_ANGLE, CKB_PARSE_BOOL, CKB_PARSE_DOUBLE, CKB_PARSE_LONG, CKB_PARSE_RGB, CKB_REAL_ANGLE, counter_clock, fadein, ffade, ckb_runctx::height, kphold, kprelease, left, M_PI, maxsize, period, power, pressestofull, randomBright, randomize, spawn, speed, symmetric, top, useopacity, width, ckb_runctx::width, x, x_offset, y, and y_offset.

Referenced by ckb_read_params().

```
68                                                                      {
69     CKB_PARSE_AGRADIENT("color", &animcolor){}
70     CKB_PARSE_BOOL("kphold", &kphold){}
71     CKB_PARSE_BOOL("kprelease", &kprelease){}
72     CKB_PARSE_BOOL("randomize", &randomize){}
73 }
```

Here is the caller graph for this function:



13.65.3.9 void ckb_read_params (ckb_runctx * *ctx*)

Definition at line 349 of file ckb-anim.h.

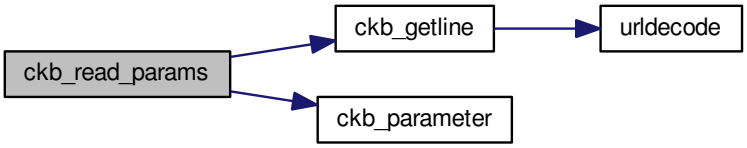
References ckb_getline(), CKB_MAX_WORD, and ckb_parameter().

Referenced by main().

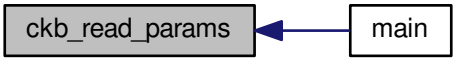
```
349                                     {
350     char cmd[CKB_MAX_WORD], param[CKB_MAX_WORD], value[
      CKB_MAX_WORD];
351     do {
352         ckb_getline(cmd, param, value);
353         if(!*cmd){
354             printf("Error [ckb-main]: Reached EOF reading parameters");
355             return;
356         }
357         if(!strcmp(cmd, "end") && !strcmp(param, "params"))
358             break;
359         if(strcmp(cmd, "param"))
```

```
360             continue;
361         ckb_parameter(ctx, param, value);
362     } while(1);
363 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.65.3.10 int ckb_scan_grad (const char * *string*, ckb_gradient * *gradient*, int *alpha*)

Definition at line 298 of file ckb-anim.h.

References ckb_gradient::a, ckb_gradient::b, ckb_gradient::g, ckb_gradient::ptcount, ckb_gradient::pts, and ckb_-gradient::r.

```
298                                                                 {
299     char pos = -1;
300     unsigned char a = 255, r, g, b;
301     int count = 0;
302     while(1){
303         int scanned = 0;
304         char newpos;
305         if(sscanf(string, "%hhd:%2hhx%2hhx%2hhx%2hhx%n", &newpos, &a, &r, &g, &b, &scanned) != 5)
306             break;
307         string += scanned;
308         // Don't allow stops out-of-order or past 100
309         if(newpos <= pos || newpos > 100)
310             return 0;
311         pos = newpos;
312         if(!alpha)
313             a = 255;
314         gradient->pts[count] = pos;
315         gradient->a[count] = a;
316         gradient->r[count] = r;
317         gradient->g[count] = g;
318         gradient->b[count] = b;
319         count++;
320     }
321     if(count == 0){
322         // If nothing was read, try a single ARGB constant.
323         if(sscanf(string, "%2hhx%2hhx%2hhx%2hhx", &a, &r, &g, &b) != 4)
324             return 0;
325         count = 2;
```

```
326         gradient->pts[0] = 0;
327         gradient->pts[1] = 100;
328         gradient->a[0] = a;
329         gradient->a[1] = 0;
330         gradient->r[0] = gradient->r[1] = r;
331         gradient->g[0] = gradient->g[1] = g;
332         gradient->b[0] = gradient->b[1] = b;
333     }
334     if(count < 2)
335         return 0;
336     gradient->ptcount = count;
337     return 1;
338 }
```

13.65.3.11 void ckb_start (ckb_runctx *, int)

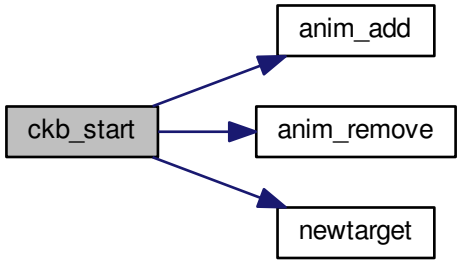
Definition at line 114 of file main.c.

References rgb::a, ckb_key::a, anim_add(), anim_remove(), rgb::b, ckb_key::b, fadein, frame, rgb::g, ckb_key::g, ckb_runctx::height, ckb_runctx::keycount, ckb_runctx::keys, kprelease, left, newtarget(), NONE, phase, rgb::r, ckb_key::r, keyAnim::target, tick, top, ckb_runctx::width, x, x_offset, y, and y_offset.

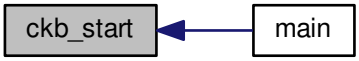
Referenced by main().

```
114                                                 {
115     // Start/stop all keys
116     unsigned count = context->keycount;
117     if(state) {
118         memset(anim, 0, count * sizeof *anim);
119     } else {
120         for(unsigned i = 0; i < count; i++) {
121             anim[i].target = NONE;
122         }
123     }
124 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.65.3.12 void ckb_time (ckb_runctx * , double)

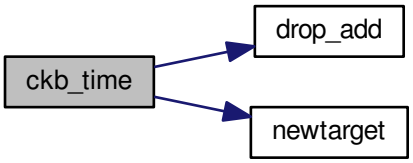
Definition at line 126 of file main.c.

References anim, ANIM_MAX, animlength, current, drop, drop_add(), DROP_MAX, frame, ckb_runctx::height, kbsize, ckb_runctx::keycount, maxsize, newtarget(), period, phase, spawn, speed, target, keyAnim::target, tick, keyanim::timing, keyanim::usages, width, and ckb_runctx::width.

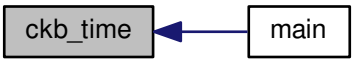
Referenced by main().

```
126                                                 {
127     // Advance animation on each key
128     unsigned count = context->keycount;
129     for(unsigned i = 0; i < count; i++){
130         float phase = anim[i].target;
131         if(phase > 1.f || phase < 0.f)
132             continue;
133         anim[i].target = phase + delta;
134     }
135 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.65.3.13 int main (int *argc*, char * *argv[]*)

Definition at line 365 of file ckb-anim.h.

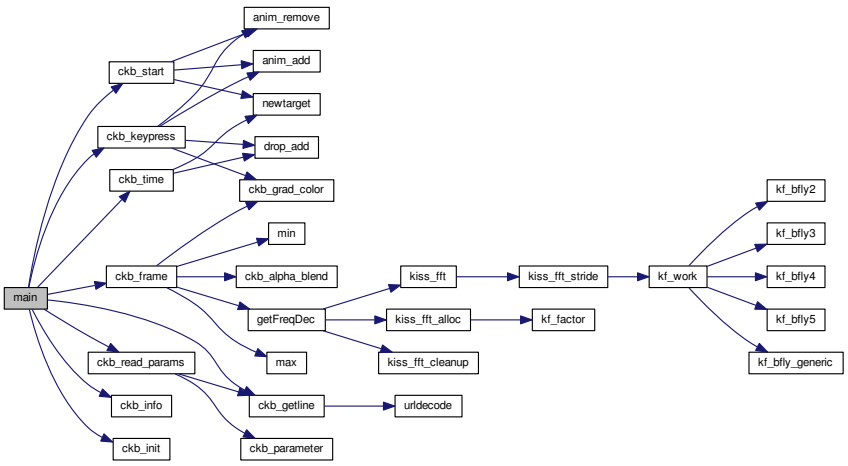
References ckb_key::a, ckb_key::b, ckb_frame(), ckb_getline(), ckb_info(), ckb_init(), CKB_KEYNAME_MAX, ckb_keypress(), CKB_MAX_WORD, ckb_read_params(), ckb_start(), ckb_time(), ckb_key::g, ckb_runctx::height, ckb_runctx::keycount, ckb_runctx::keys, ckb_key::name, ckb_key::r, ckb_runctx::width, x, ckb_key::x, y, and ckb_key::y.

```
365                                 {
366     if(argc == 2){
367         if(!strcmp(argv[1], "--ckb-info")){
368             ckb_info();
369             fflush(stdout);
```

```
370             return 0;
371         } else if(!strcmp(argv[1], "--ckb-run")){
372             ckb_runctx ctx;
373             // Read the keymap lines
374             char cmd[CKB_MAX_WORD], param[CKB_MAX_WORD], value[
    CKB_MAX_WORD];
375             // Skip anything up until "begin keymap"
376             do {
377                 ckb_getline(cmd, param, value);
378                 if(!*cmd){
379                     // If end-of-file is reached, abort
380                     printf("Error [ckb-main]: Reached EOF looking for \"begin keymap\"");
381                     return -2;
382                 }
383             } while(strcmp(cmd, "begin") || strcmp(param, "keymap"));
384             ckb_getline(cmd, param, value);
385             unsigned keycount;
386             if(strcmp(cmd, "keycount") || sscanf(param, "%u", &keycount) != 1 || keycount == 0){
387                 // If keycount isn't the next line, something is wrong
388                 printf("Error [ckb-main]: \"begin keymap\" not followed with \"keycount\"");
389                 return -3;
390             }
391             ctx.keys = (ckb_key*)calloc(keycount, sizeof(ckb_key));
392             ctx.keycount = keycount;
393             unsigned max_x = 0, max_y = 0;
394             unsigned i = 0;
395             for(; i < ctx.keycount; i++){
396                 ckb_getline(cmd, param, value);
397                 unsigned x, y;
398                 if(strcmp(cmd, "key") || !*param || !sscanf(value, "%u,%u", &x, &y)){
399                     i--;
400                     continue;
401                 }
402                 ckb_key* key = ctx.keys + i;
403                 strncpy(key->name, param, CKB_KEYNAME_MAX);
404                 key->x = x;
405                 key->y = y;
406                 if(x > max_x)
407                     max_x = x;
408                 if(y > max_y)
409                     max_y = y;
410             }
411             ctx.width = max_x + 1;
412             ctx.height = max_y + 1;
413             // Skip anything else until "end keymap"
414             do {
415                 ckb_getline(cmd, param, value);
416                 if(!*cmd){
417                     printf("Error [ckb-main]: Reached EOF looking for \"end keymap\"");
418                     return -2;
419                 }
420             } while(strcmp(cmd, "end") || strcmp(param, "keymap"));
421             // Run init function
422             ckb_init(&ctx);
423             // Skip anything else until "begin params"
424             do {
425                 ckb_getline(cmd, param, value);
426                 if(!*cmd){
427                     printf("Error [ckb-main]: Reached EOF looking for \"begin params\"");
428                     return -2;
429                 }
430             } while(strcmp(cmd, "begin") || strcmp(param, "params"));
431             // Parse parameters
432             ckb_read_params(&ctx);
433             // Skip anything else until "begin run"
434             do {
435                 ckb_getline(cmd, param, value);
436                 if(!*cmd){
437                     printf("Error [ckb-main]: Reached EOF looking for \"begin run\"");
438                     return -2;
439                 }
440             } while(strcmp(cmd, "begin") || strcmp(param, "run"));
441             // Run the main loop
442             printf("begin run\n");
443             fflush(stdout);
444             while(1){
445                 ckb_getline(cmd, param, value);
446                 if(!*cmd || (!strcmp(cmd, "end") && !strcmp(param, "run")))
447                     break;
448                 // Parse input
449                 if(!strcmp(cmd, "start"))
450                     ckb_start(&ctx, 1);
451                 else if(!strcmp(cmd, "stop"))
452                     ckb_start(&ctx, 0);
453                 else if(!strcmp(cmd, "begin") && !strcmp(param, "params"))
454                     ckb_read_params(&ctx);
455                 else if(!strcmp(cmd, "key")){
```

```
456                     int x, y;
457                     if(sscanf(param, "%d,%d", &x, &y) == 2){
458                         // Find a key with this position
459                         ckb_key* key = 0;
460                         for(i = 0; i < keycount; i++){
461                             if(ctx.keys[i].x == x && ctx.keys[i].y == y){
462                                 key = ctx.keys + i;
463                                 break;
464                             }
465                         }
466                         if(key)
467                             ckb_keypress(&ctx, key, key->x, key->y, !strcmp(value, "down"));
468                         else
469                             ckb_keypress(&ctx, 0, x, y, !strcmp(value, "down"));
470                     } else {
471                         // Find a key with this name
472                         ckb_key* key = 0;
473                         for(i = 0; i < keycount; i++){
474                             if(!strcmp(ctx.keys[i].name, param)){
475                                 key = ctx.keys + i;
476                                 break;
477                             }
478                         }
479                         if(key)
480                             ckb_keypress(&ctx, key, key->x, key->y, !strcmp(value, "down"));
481                     }
482                 } else if(!strcmp(cmd, "frame")){
483                     int end = ckb_frame(&ctx);
484                     // Output the frame
485                     printf("begin frame\n");
486                     for(i = 0; i < ctx.keycount; i++){
487                         ckb_key* key = ctx.keys + i;
488                         printf("argb %s %02hhx%02hhx%02hhx%02hhx\n", key->name, key->
    a, key->r, key->g, key->b);
489                     }
490                     printf("end frame\n");
491                     if(end)
492                         break;
493                     fflush(stdout);
494                 } else {
495                     double delta = 0.;
496                     if(!strcmp(cmd, "time") && sscanf(param, "%lf", &delta) == 1)
497                         ckb_time(&ctx, delta);
498                 }
499             }
500             printf("end run\n");
501             fflush(stdout);
502             free(ctx.keys);
503             return 0;
504         }
505     }
506     printf("This program must be run from within ckb\n");
507     return -1;
508 }
```

Here is the call graph for this function:



13.65.3.14 void printurl (const char * *src*)

Definition at line 178 of file ckb-anim.h.

```
178                                {
179     char out[strlen(src) * 3 + 1];
180     char* dst = out;
181     char s;
182     while((s = *src++)){
183         if(s <= ',' || s == '/' ||
184                 (s >= ':' && s <= '@') ||
185                 s == '[' || s == ']' ||
186                 s >= 0x7F){
187             char a = s >> 4, b = s & 0xF;
188             if(a >= 10)
189                 a += 'A' - 10;
190             else
191                 a += '0';
192             if(b >= 10)
193                 b += 'A' - 10;
194             else
195                 b += '0';
196             dst[0] = '%';
197             dst[1] = a;
198             dst[2] = b;
199             dst += 3;
200         } else
201             *dst++ = s;
202     }
203     *dst = '\0';
204     printf("%s", out);
205 }
```

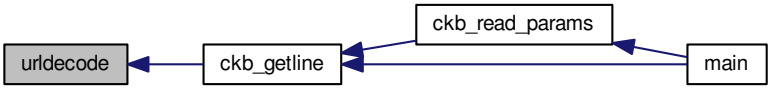
13.65.3.15 void urldecode (char * *dst*, const char * *src*)

Definition at line 208 of file ckb-anim.h.

Referenced by ckb_getline().

```
208                                             {
209     char a, b;
210     char s;
211     while((s = *src)){
212         if((s == '%') &&
213                 ((a = src[1]) && (b = src[2])) &&
214                 (isxdigit(a) && isxdigit(b))){
215             if(a >= 'a')
216                 a -= 'a'-'A';
217             if(a >= 'A')
218                 a -= 'A' - 10;
219             else
220                 a -= '0';
221             if(b >= 'a')
222                 b -= 'a'-'A';
223             if(b >= 'A')
224                 b -= 'A' - 10;
225             else
226                 b -= '0';
227             *dst++ = 16*a + b;
228             src += 3;
229         } else {
230             *dst++ = s;
231             src++;
232         }
233     }
234     *dst = '\0';
235 }
```

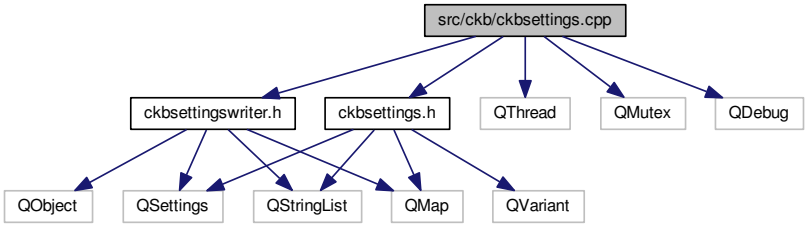
Here is the caller graph for this function:



13.66 src/ckb/ckbsettings.cpp File Reference

```
#include "ckbsettings.h"
#include "ckbsettingswriter.h"
#include <QThread>
#include <QMutex>
#include <QDebug>
```

Include dependency graph for ckbsettings.cpp:



Macros

- #define lockMutex QMutexLocker locker(backing == _globalSettings ? &settingsMutex : 0)
- #define lockMutexStatic QMutexLocker locker(&settingsMutex)
- #define lockMutexStatic2 QMutexLocker locker2(&settingsMutex)
- #define lockMutexCache QMutexLocker locker(&settingsCacheMutex)

Functions

- QAtomicInt cacheWritesInProgress (0)
- QMutex settingsMutex (QMutex::Recursive)
- QMutex settingsCacheMutex (QMutex::Recursive)
- static QSettings * globalSettings ()

Variables

- static QSettings * _globalSettings = 0
- static QThread * globalThread = 0
- static QMap< QString, QVariant > globalCache

13.66.1 Macro Definition Documentation

13.66.1.1 #define lockMutex QMutexLocker locker(backing == _globalSettings ? &settingsMutex : 0)

Definition at line 15 of file ckbsettings.cpp.

Referenced by CkbSettings::childGroups(), CkbSettings::childKeys(), CkbSettings::contains(), and CkbSettings::value().

13.66.1.2 #define lockMutexCache QMutexLocker locker(&settingsCacheMutex)

Definition at line 18 of file ckbsettings.cpp.

Referenced by CkbSettings::get(), CkbSettings::set(), and CkbSettings::setValue().

13.66.1.3 #define lockMutexStatic QMutexLocker locker(&settingsMutex)

Definition at line 16 of file ckbsettings.cpp.

Referenced by globalSettings(), and CkbSettings::set().

13.66.1.4 #define lockMutexStatic2 QMutexLocker locker2(&settingsMutex)

Definition at line 17 of file ckbsettings.cpp.

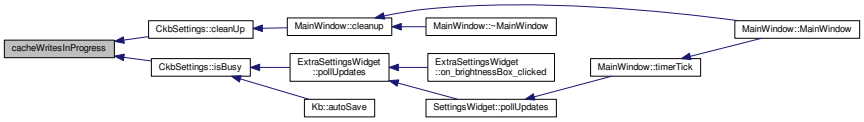
Referenced by CkbSettings::get().

13.66.2 Function Documentation

13.66.2.1 QAtomicInt cacheWritesInProgress (0)

Referenced by CkbSettings::cleanUp(), and CkbSettings::isBusy().

Here is the caller graph for this function:



13.66.2.2 static QSettings* globalSettings ( ) [static]

Definition at line 27 of file ckbsettings.cpp.

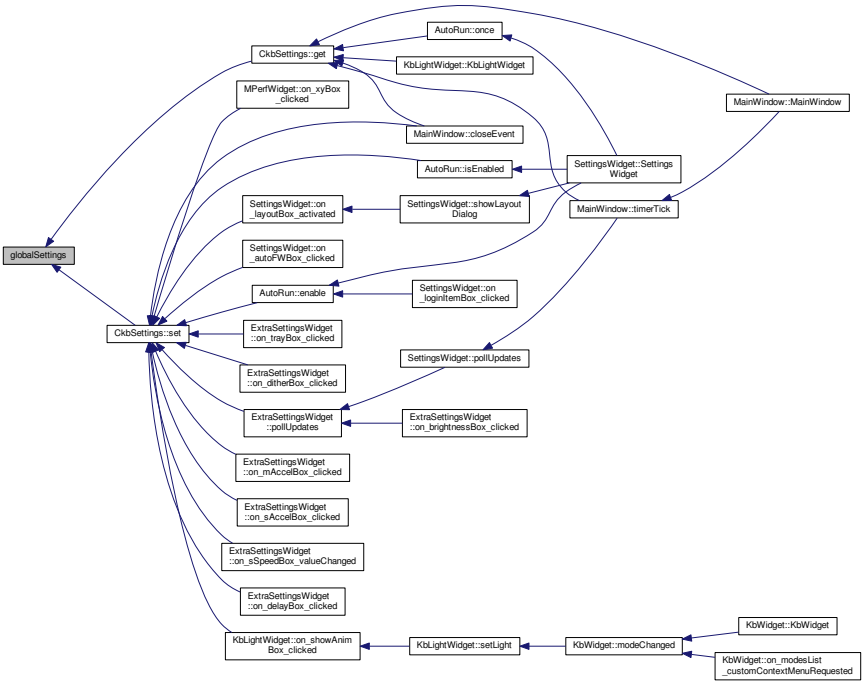
References _globalSettings, and lockMutexStatic.

Referenced by CkbSettings::get(), and CkbSettings::set().

```
27                                  {
28     if(!_globalSettings){
29         lockMutexStatic;
30         if(!(volatile QSettings*)_globalSettings){   // Check again after locking mutex in
       case another thread created the object
31             // Put the settings object in a separate thread so that it won't lock up the GUI when it syncs
32             globalThread = new QThread;
33             globalThread->start();
```

```
34             _globalSettings = new QSettings;
35             qInfo() << "Path  to settings is" << _globalSettings->fileName();
36             _globalSettings->moveToThread(globalThread);
37         }
38     }
39     return _globalSettings;
40 }
```

Here is the caller graph for this function:



13.66.2.3 QMutex settingsCacheMutex (QMutex::Recursive)

13.66.2.4 QMutex settingsMutex (QMutex::Recursive)

13.66.3 Variable Documentation

13.66.3.1 QSettings* _globalSettings = 0 [static]

Definition at line 8 of file ckbsettings.cpp.

Referenced by CkbSettings::cleanUp(), and globalSettings().

13.66.3.2 QMap<QString, QVariant> globalCache [static]

Definition at line 12 of file ckbsettings.cpp.

Referenced by CkbSettings::get(), CkbSettings::set(), and CkbSettings::setValue().

13.66.3.3 QThread* globalThread = 0 [static]

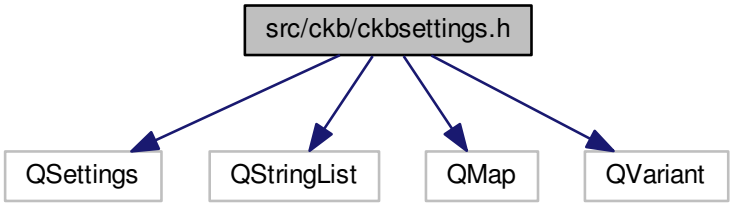
Definition at line 9 of file ckbsettings.cpp.

Referenced by CkbSettings::cleanUp().

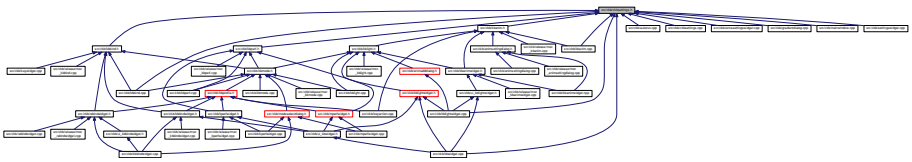
13.67 src/ckb/ckbsettings.h File Reference

```
#include <QSettings>
#include <QStringList>
#include <QMap>
#include <QVariant>
```

Include dependency graph for ckbsettings.h:



This graph shows which files directly or indirectly include this file:



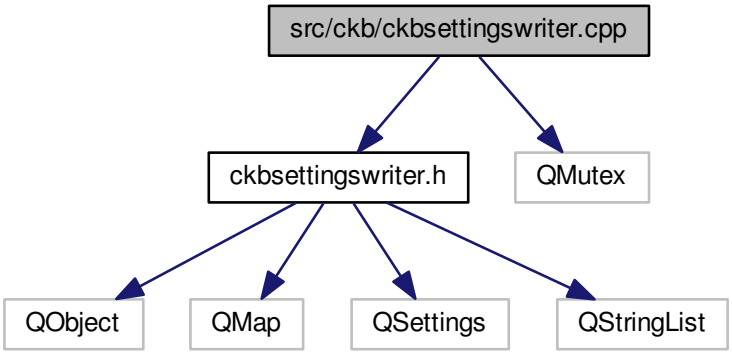
Data Structures

- class CkbSettings
- class SGroup

13.68 src/ckb/ckbsettingswriter.cpp File Reference

```
#include "ckbsettingswriter.h"
#include <QMutex>
```

Include dependency graph for ckbsettingswriter.cpp:



Macros

- #define lockMutex QMutexLocker locker(backing == _globalSettings ? &mutex : 0)
- #define lockMutexStatic QMutexLocker locker(&settingsMutex)
- #define lockMutexStatic2 QMutexLocker locker2(&settingsMutex)
- #define lockMutexCache QMutexLocker locker(&settingsCacheMutex)

Variables

- QAtomicInt cacheWritesInProgress
- QMutex settingsMutex
- QMutex settingsCacheMutex

13.68.1 Macro Definition Documentation

13.68.1.1 #define lockMutex QMutexLocker locker(backing == _globalSettings ? &mutex : 0)

Definition at line 7 of file ckbsettingswriter.cpp.

13.68.1.2 #define lockMutexCache QMutexLocker locker(&settingsCacheMutex)

Definition at line 10 of file ckbsettingswriter.cpp.

13.68.1.3 #define lockMutexStatic QMutexLocker locker(&settingsMutex)

Definition at line 8 of file ckbsettingswriter.cpp.

Referenced by CkbSettingsWriter::run().

13.68.1.4 #define lockMutexStatic2 QMutexLocker locker2(&settingsMutex)

Definition at line 9 of file ckbsettingswriter.cpp.

13.68.2 Variable Documentation

13.68.2.1 QAtomicInt cacheWritesInProgress

Referenced by CkbSettingsWriter::CkbSettingsWriter(), and CkbSettingsWriter::~CkbSettingsWriter().

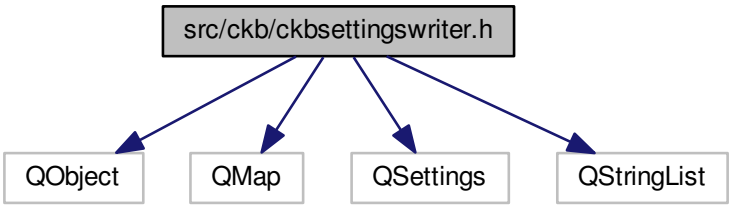
13.68.2.2 QMutex settingsCacheMutex

13.68.2.3 QMutex settingsMutex

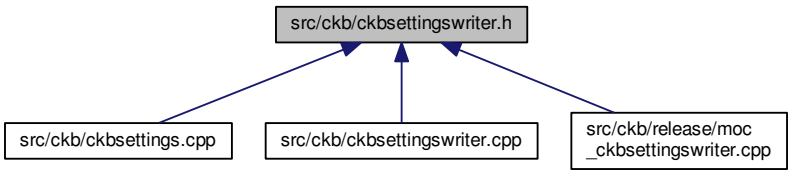
13.69 src/ckb/ckbsettingswriter.h File Reference

```
#include <QObject>
#include <QMap>
#include <QSettings>
#include <QStringList>
```

Include dependency graph for ckbsettingswriter.h:



This graph shows which files directly or indirectly include this file:



Data Structures

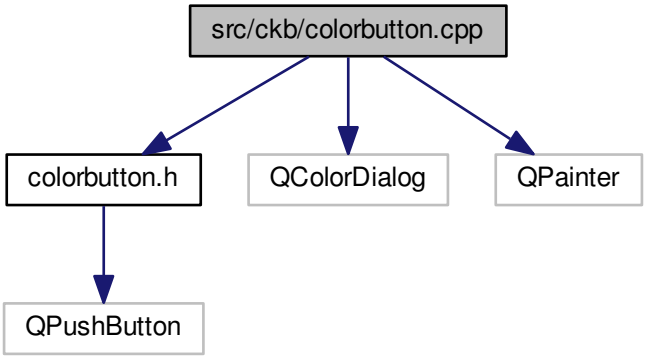
- class CkbSettingsWriter

13.70 src/ckb/colorbutton.cpp File Reference

```
#include "colorbutton.h"
```

```
#include <QColorDialog>
#include <QPainter>
```

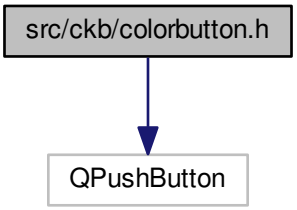
Include dependency graph for colorbutton.cpp:



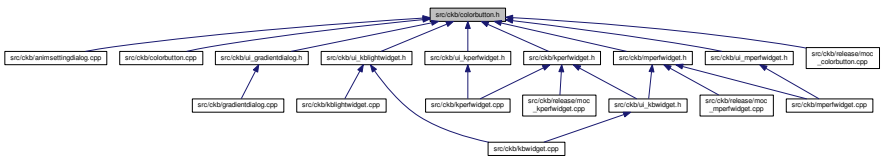
13.71 src/ckb/colorbutton.h File Reference

```
#include <QPushButton>
```

Include dependency graph for colorbutton.h:



This graph shows which files directly or indirectly include this file:



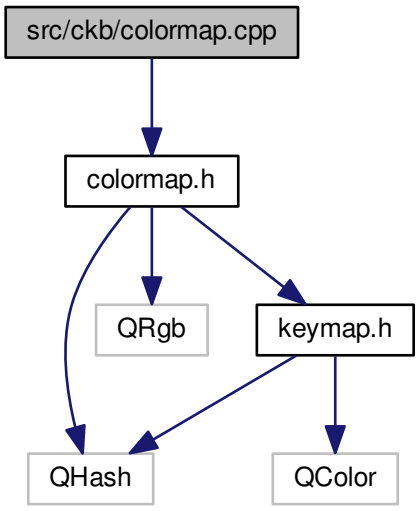
Data Structures

- class ColorButton

13.72 src/ckb/colormap.cpp File Reference

```
#include "colormap.h"
```

Include dependency graph for colormap.cpp:



Functions

- static int qs_strcmp (const void *lhs, const void *rhs)

13.72.1 Function Documentation

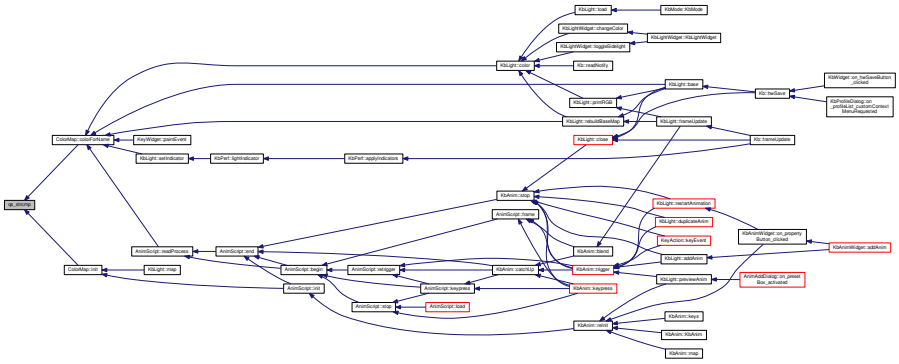
13.72.1.1 static int qs_strcmp (const void * *lhs*, const void * *rhs*) [static]

Definition at line 49 of file colormap.cpp.

Referenced by ColorMap::colorForName(), and ColorMap::init().

```
49                                                  {
50     return strcmp(*(const char**)lhs, *(const char**)rhs);
51 }
```

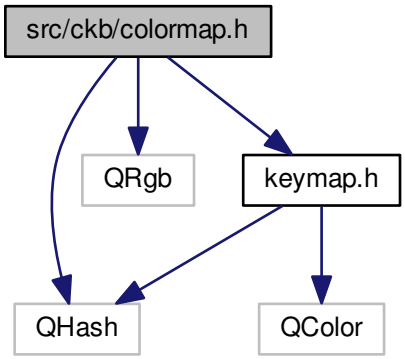
Here is the caller graph for this function:



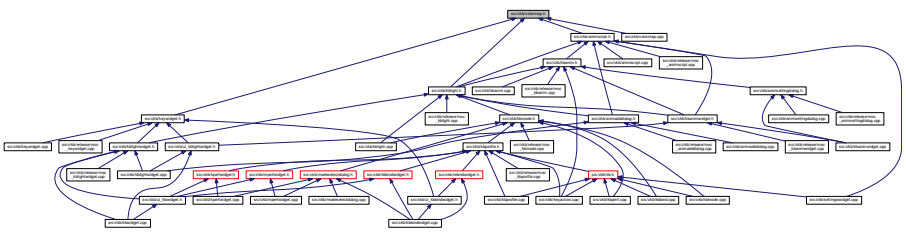
13.73 src/ckb/colormap.h File Reference

```
#include <QHash>
#include <QRgb>
#include "keymap.h"
```

Include dependency graph for colormap.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class ColorMap

Typedefs

- typedef QHash< QString, QRgb > QColorMap
- typedef QHashIterator< QString, QRgb > QColorMapIterator
- typedef QMutableHashIterator < QString, QRgb > QMutableColorMapIterator

13.73.1 Typedef Documentation

13.73.1.1 typedef QHash<QString, QRgb> QColorMap

Definition at line 9 of file colormap.h.

13.73.1.2 typedef QHashIterator<QString, QRgb> QColorMapIterator

Definition at line 10 of file colormap.h.

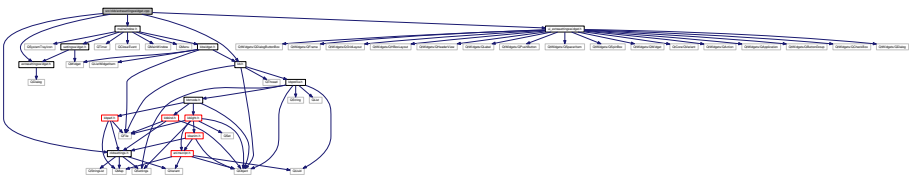
13.73.1.3 typedef QMutableHashIterator<QString, QRgb> QMutableColorMapIterator

Definition at line 11 of file colormap.h.

13.74 src/ckb/extrasettingswidget.cpp File Reference

```
#include "extrasettingswidget.h"
#include "ui_extrasettingswidget.h"
#include "kb.h"
#include "mainwindow.h"
#include "ckbsettings.h"
```

Include dependency graph for extrasettingswidget.cpp:



Variables

- static int lastSharedDimming = -2

13.74.1 Variable Documentation

13.74.1.1 int lastSharedDimming = -2 [static]

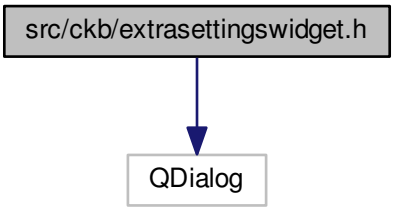
Definition at line 8 of file extrasettingswidget.cpp.

Referenced by ExtraSettingsWidget::ExtraSettingsWidget(), and ExtraSettingsWidget::pollUpdates().

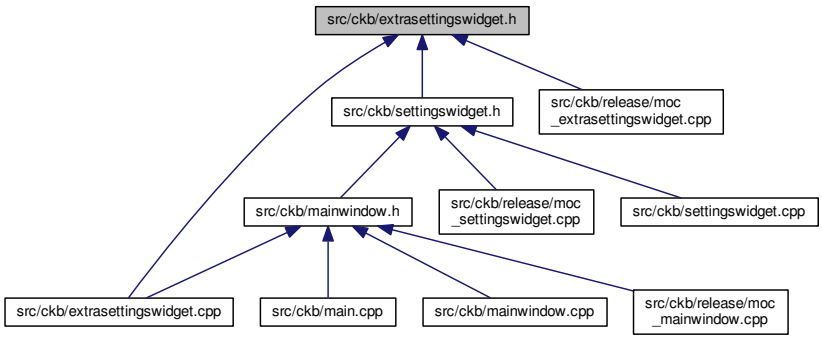
13.75 src/ckb/extrasettingswidget.h File Reference

```
#include <QDialog>
```

Include dependency graph for extrasettingswidget.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class ExtraSettingsWidget

Namespaces

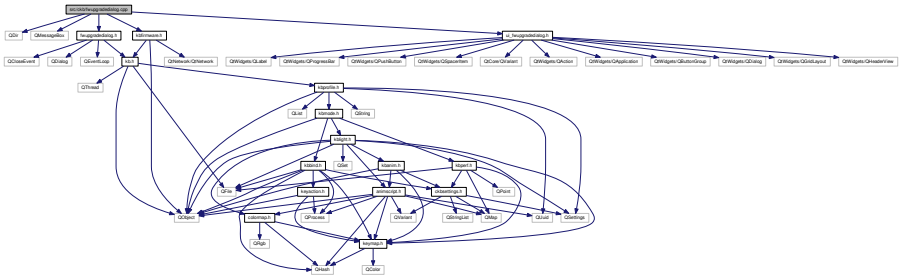
- Ui

13.76 src/ckb/fwupgradedialog.cpp File Reference

```
#include <QDir>
```

```
#include <QMessageBox>
#include "fwupgradedialog.h"
#include "kbfirmware.h"
#include "ui_fwupgradedialog.h"
```

Include dependency graph for fwupgradedialog.cpp:



Data Structures

- struct Kbld

Functions

- static const int DIALOG_HEIGHT_MAX (240)
- static float verifyFw (const QByteArray &blob, const QString &features)

Variables

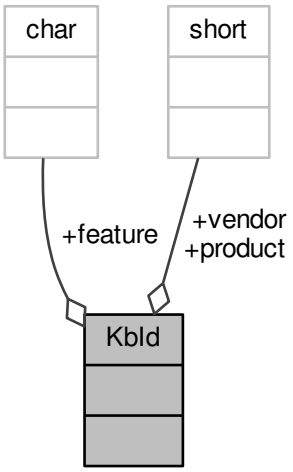
- static Kbld ids []
- static const int DIALOG_WIDTH = 420
- static const int DIALOG_HEIGHT_MIN = 200

13.76.1 Data Structure Documentation

13.76.1.1 struct Kbld

Definition at line 8 of file fwupgradedialog.cpp.

Collaboration diagram for KbId:



Data Fields

const char *	feature	
short	product	
short	vendor	

13.76.2 Function Documentation

13.76.2.1 static const int DIALOG_HEIGHT_MAX (240) [static]

Referenced by FwUpgradeDialog::exec().

Here is the caller graph for this function:

13.76.2.2 static float verifyFw (const QByteArray & *blob*, const QString & *features*) [static]

Definition at line 85 of file fwupgradedialog.cpp.

References ids.

Referenced by FwUpgradeDialog::exec().

```
85                                                                          {
86     if(blob.length() < 0x0108)
87         return 0.f;
88     const char* bData = blob.data();
89     // Make sure it matches this device based on the vendor and product IDs embedded in the blob
90     bool match = false;
```

```
91      for(uint i = 0; i < sizeof(ids)/sizeof(KbId); i++){
92          if(!memcmp(&ids[i].vendor, bData + 0x102, 2) && !memcmp(&ids[i].product, bData + 0x104, 2)
93                  && features.startsWith(ids[i].feature, Qt::CaseInsensitive)){
94              match = true;
95              break;
96          }
97      }
98      if(!match)
99          return 0.f;
100     // Copy the version from the blob
101     short version;
102     memcpy(&version, bData + 0x106, 2);
103     // Un-hexify it
104     return QString::number(version, 16).toFloat() / 100.f;
105 }
```

Here is the caller graph for this function:

13.76.3 Variable Documentation

13.76.3.1 const int DIALOG_HEIGHT_MIN = 200 [static]

Definition at line 29 of file fwupgradedialog.cpp.

Referenced by FwUpgradeDialog::FwUpgradeDialog(), and FwUpgradeDialog::on_actionButton_clicked().

13.76.3.2 const int DIALOG_WIDTH = 420 [static]

Definition at line 28 of file fwupgradedialog.cpp.

Referenced by FwUpgradeDialog::exec(), FwUpgradeDialog::FwUpgradeDialog(), and FwUpgradeDialog::on_actionButton_clicked().

13.76.3.3 KbId ids[] [static]

Initial value:

```
= {

    { 0x1b1c, 0x1b17, "corsair k65 rgb" },
    { 0x1b1c, 0x1b13, "corsair k70 rgb" },
    { 0x1b1c, 0x1b11, "corsair k95 rgb" },
    { 0x1b1c, 0x1b15, "corsair strafe monochrome" },
    { 0x1b1c, 0x1b20, "corsair strafe rgb" },

    { 0x1b1c, 0x1b12, "corsair m65 rgb" },
    { 0x1b1c, 0x1b1e, "corsair scimitar rgb" },

    { 0x1b1c, 0x1b32, "corsair sabre optical rgb" }
}
```

Definition at line 14 of file fwupgradedialog.cpp.

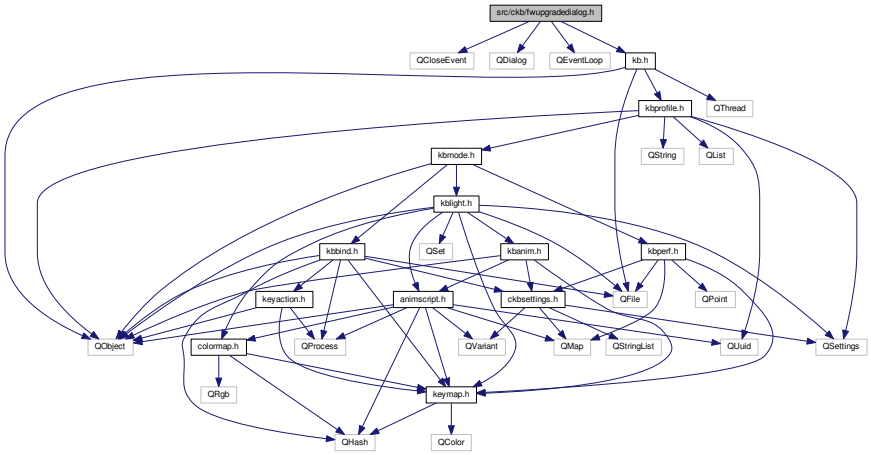
Referenced by verifyFw().

13.77 src/ckb/fwupgradedialog.h File Reference

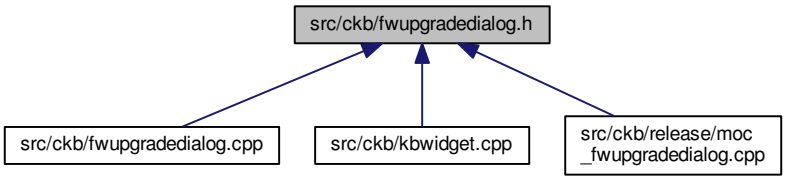
```
#include <QCloseEvent>
```

```
#include <QDialog>
#include <QEventLoop>
#include "kb.h"
```

Include dependency graph for fwupgradedialog.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class FwUpgradeDialog

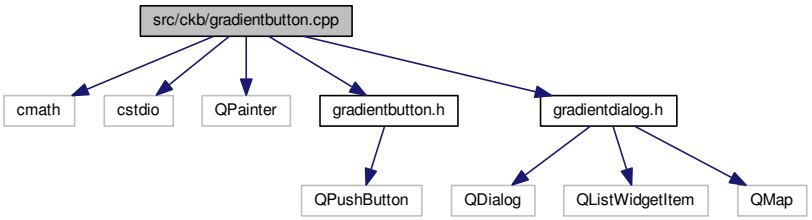
Namespaces

- Ui

13.78 src/ckb/gradientbutton.cpp File Reference

```
#include <cmath>
#include <cstdio>
#include <QPainter>
#include "gradientbutton.h"
#include "gradientdialog.h"
```

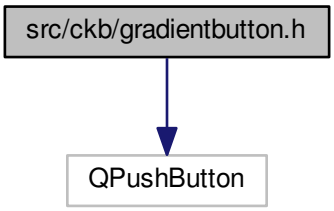
Include dependency graph for gradientbutton.cpp:



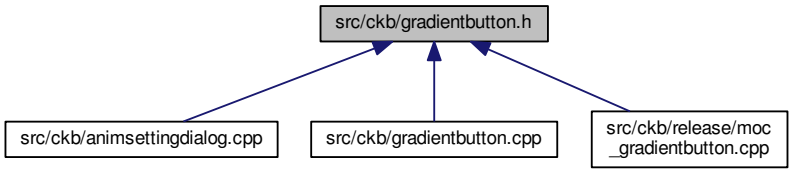
13.79 src/ckb/gradientbutton.h File Reference

```
#include <QPushButton>
```

Include dependency graph for gradientbutton.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class GradientButton

13.80 src/ckb/gradientdialog.cpp File Reference

```
#include <cmath>
#include <QMessageBox>
#include <QPainter>
#include <QSettings>
#include "ckbsettings.h"
#include "gradientdialog.h"
#include "ui_gradientdialog.h"
```

Include dependency graph for gradientdialog.cpp:

Variables

- static const QString prefsPath = "Stored Gradients"

13.80.1 Variable Documentation

13.80.1.1 const QString prefsPath = "Stored Gradients" [static]

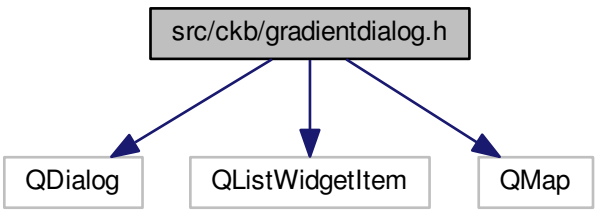
Definition at line 9 of file gradientdialog.cpp.

Referenced by GradientDialog::GradientDialog(), and GradientDialog::~GradientDialog().

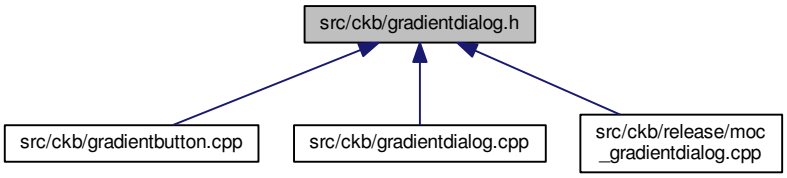
13.81 src/ckb/gradientdialog.h File Reference

```
#include <QDialog>
#include <QListWidgetItem>
#include <QMap>
```

Include dependency graph for gradientdialog.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class GradientDialog
- struct GradientDialog::Preset

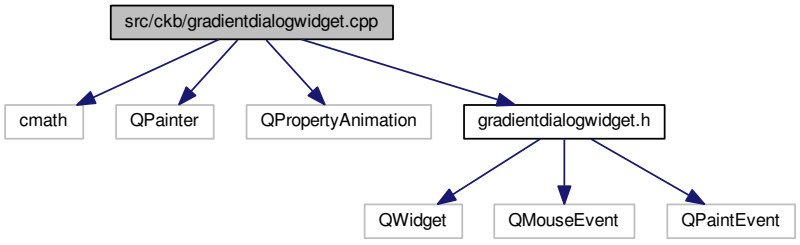
Namespaces

- Ui

13.82 src/ckb/gradientdialogwidget.cpp File Reference

```
#include <cmath>
#include <QPainter>
#include <QPropertyAnimation>
#include "gradientdialogwidget.h"
```

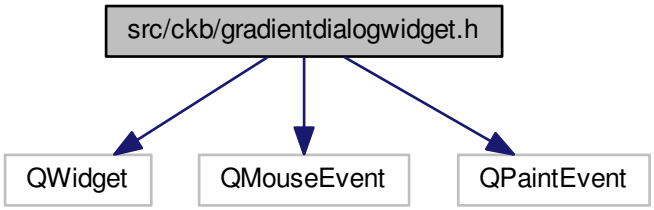
Include dependency graph for gradientdialogwidget.cpp:



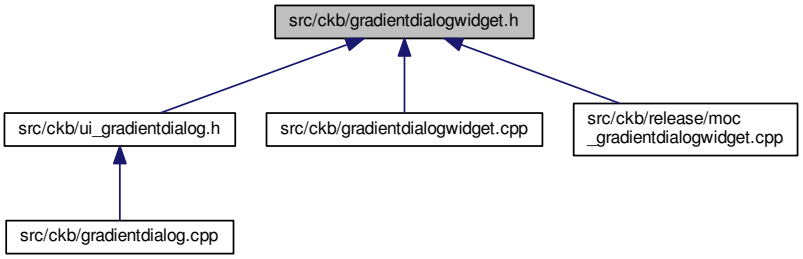
13.83 src/ckb/gradientdialogwidget.h File Reference

```
#include <QWidget>
#include <QMouseEvent>
#include <QPaintEvent>
```

Include dependency graph for gradientdialogwidget.h:



This graph shows which files directly or indirectly include this file:



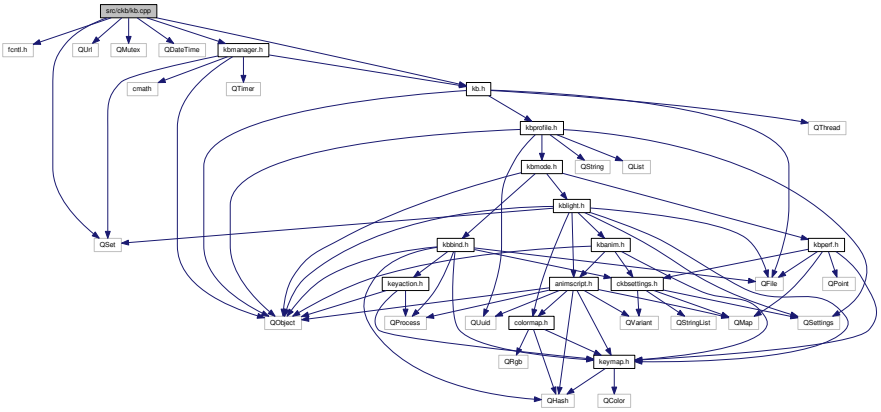
Data Structures

- class GradientDialogWidget

13.84 src/ckb/kb.cpp File Reference

```
#include <fcntl.h>
#include <QSet>
#include <QUrl>
#include <QMutex>
#include <QDateTime>
#include "kb.h"
#include "kbmanager.h"
```

Include dependency graph for kb.cpp:



Variables

- static QSet< Kb * > activeDevices
- static QSet< QString > notifyPaths
- static QMutex notifyPathMutex

13.84.1 Variable Documentation

13.84.1.1 QSet<Kb*> activeDevices [static]

Definition at line 10 of file kb.cpp.

Referenced by Kb::dither(), Kb::frameRate(), Kb::Kb(), Kb::layout(), Kb::macroDelay(), Kb::mouseAccel(), Kb::scrollSpeed(), and Kb::~Kb().

13.84.1.2 QMutex notifyPathMutex [static]

Definition at line 13 of file kb.cpp.

Referenced by Kb::Kb(), and Kb::run().

13.84.1.3 QSet<QString> notifyPaths [static]

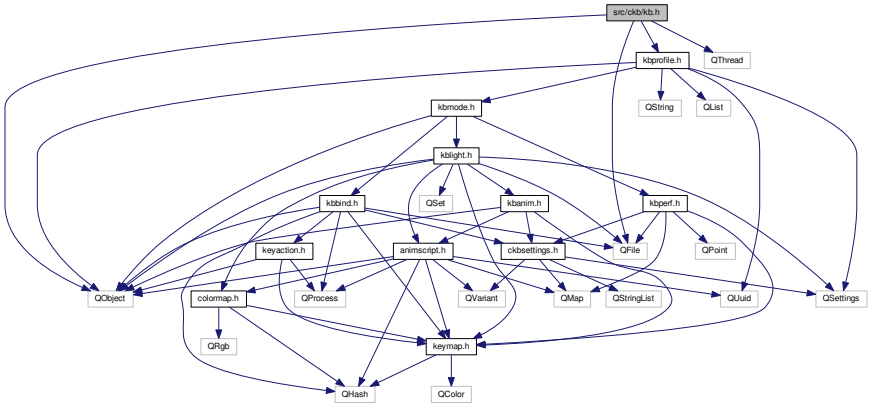
Definition at line 12 of file kb.cpp.

Referenced by Kb::Kb(), Kb::run(), and Kb::~Kb().

13.85 src/ckb/kb.h File Reference

```
#include <QObject>
#include <QFile>
#include <QThread>
#include "kbprofile.h"
```

Include dependency graph for kb.h:



This graph shows which files directly or indirectly include this file:

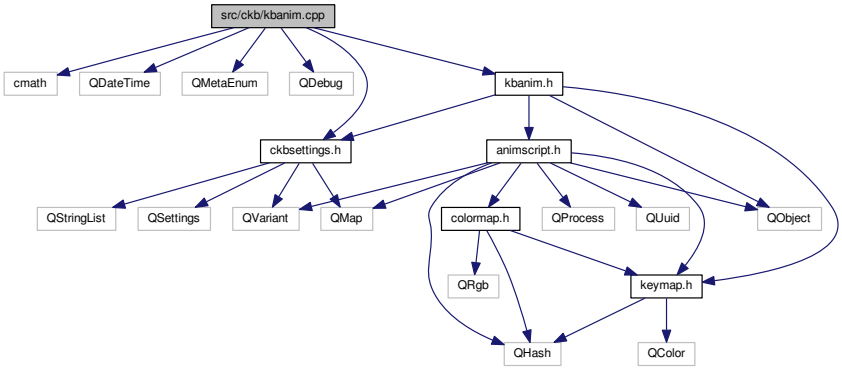
Data Structures

- class Kb

13.86 src/ckb/kbanim.cpp File Reference

```
#include <cmath>
#include <QDateTime>
#include <QMetaEnum>
#include <QDebug>
#include "ckbsettings.h"
#include "kbanim.h"
```

Include dependency graph for kbanim.cpp:



Typedefs

- typedef float(∗ blendFunc)(float, float)

Functions

- static float blendNormal (float bg, float fg)
- static float blendAdd (float bg, float fg)
- static float blendSubtract (float bg, float fg)
- static float blendMultiply (float bg, float fg)
- static float blendDivide (float bg, float fg)

Variables

- static blendFunc functions [5] = { blendNormal, blendAdd, blendSubtract, blendMultiply, blendDivide }

13.86.1 Typedef Documentation

13.86.1.1 typedef float(∗ blendFunc)(float, float)

Definition at line 362 of file kbanim.cpp.

13.86.2 Function Documentation

13.86.2.1 static float blendAdd (float *bg,* float *fg*) [static]

Definition at line 337 of file kbanim.cpp.

```
337                                             {
338     float res = bg + fg;
339     if(res > 1.f)
340         res = 1.f;
341     return res;
342 }
```

13.86.2.2 static float blendDivide (float *bg,* float *fg*) [static]

Definition at line 355 of file kbanim.cpp.

```
355                                               {
356     float res = bg / fg;
357     if(res > 1.f)
358         res = 1.f;
359     return res;
360 }
```

13.86.2.3 static float blendMultiply (float *bg,* float *fg*) [static]

Definition at line 351 of file kbanim.cpp.

```
351                                                 {
352     return bg * fg;
353 }
```

13.86.2.4 static float blendNormal (float *bg*, float *fg*) [static]

Definition at line 333 of file kbanim.cpp.

```
333                                          {
334     return fg;
335 }
```

13.86.2.5 static float blendSubtract (float *bg*, float *fg*) [static]

Definition at line 344 of file kbanim.cpp.

```
344                                             {
345     float res = bg - fg;
346     if(res < 0.f)
347         res = 0.f;
348     return res;
349 }
```

13.86.3 Variable Documentation

13.86.3.1 blendFunc functions[5] = { blendNormal, blendAdd, blendSubtract, blendMultiply, blendDivide } [static]

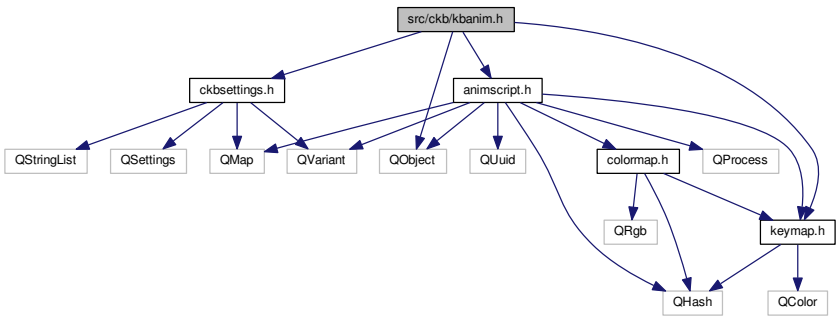
Definition at line 363 of file kbanim.cpp.

Referenced by KbAnim::blend().

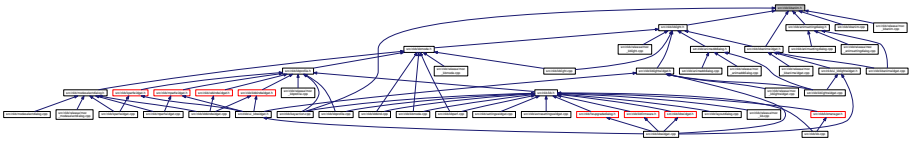
13.87 src/ckb/kbanim.h File Reference

```
#include <QObject>
#include "ckbsettings.h"
#include "animscript.h"
#include "keymap.h"
```

Include dependency graph for kbanim.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class KbAnim

13.88 src/ckb/kbanimwidget.cpp File Reference

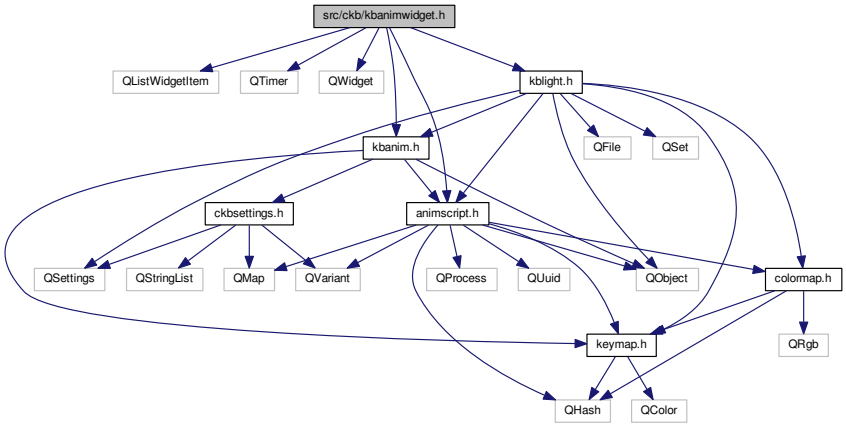
```
#include <QDateTime>
#include <QMenu>
#include "animsettingdialog.h"
#include "kbanimwidget.h"
#include "ui_kbanimwidget.h"
```

Include dependency graph for kbanimwidget.cpp:

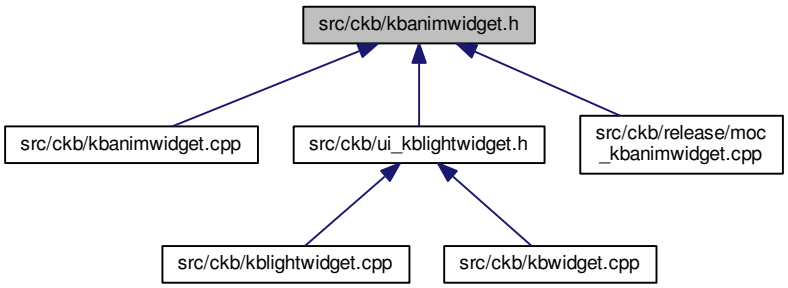
13.89 src/ckb/kbanimwidget.h File Reference

```
#include <QListWidgetItem>
#include <QTimer>
#include <QWidget>
#include "animscript.h"
#include "kbanim.h"
#include "kblight.h"
```

Include dependency graph for kbanimwidget.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class KbAnimWidget

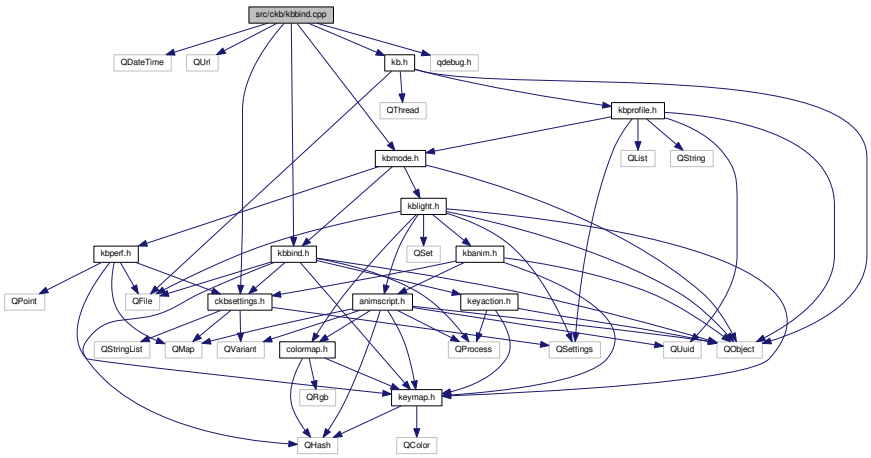
Namespaces

- Ui

13.90 src/ckb/kbbind.cpp File Reference

```
#include <QDateTime>
#include <QUrl>
#include "ckbsettings.h"
#include "kbbind.h"
#include "kbmode.h"
#include "kb.h"
#include "qdebug.h"
```

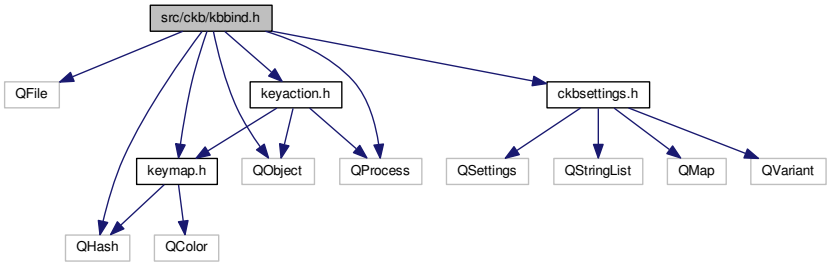
Include dependency graph for kbbind.cpp:



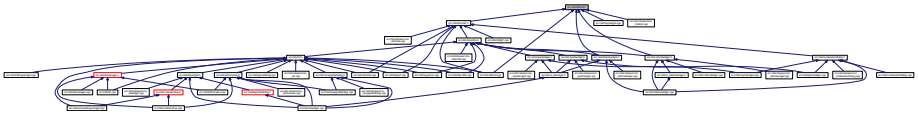
13.91 src/ckb/kbbind.h File Reference

```
#include <QFile>
#include <QHash>
#include <QObject>
#include <QProcess>
#include "ckbsettings.h"
#include "keymap.h"
#include "keyaction.h"
```

Include dependency graph for kbbind.h:



This graph shows which files directly or indirectly include this file:



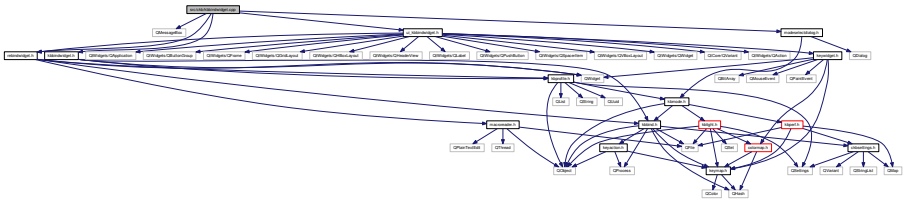
Data Structures

- class KbBind

13.92 src/ckb/kbbindwidget.cpp File Reference

```
#include <QMessageBox>
#include "kbbindwidget.h"
#include "modeselectdialog.h"
#include "rebindwidget.h"
#include "ui_kbbindwidget.h"
```

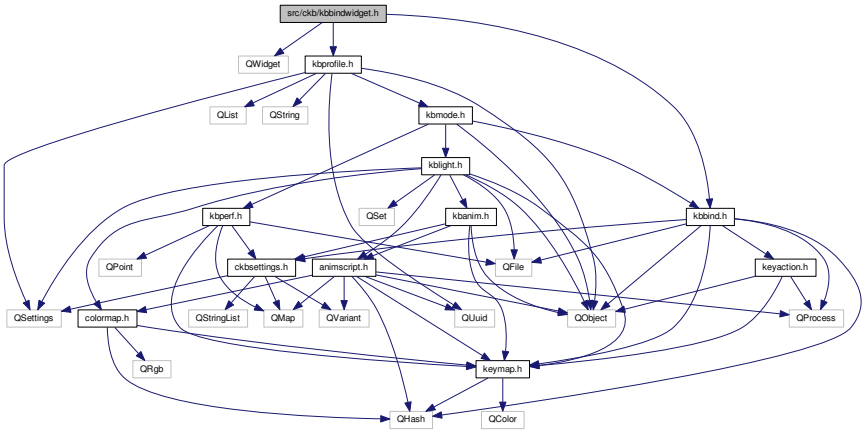
Include dependency graph for kbbindwidget.cpp:



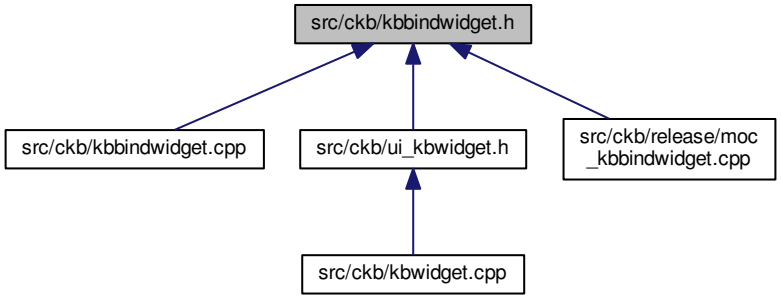
13.93 src/ckb/kbbindwidget.h File Reference

```
#include <QWidget>
#include "kbbind.h"
#include "kbprofile.h"
```

Include dependency graph for kbbindwidget.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class KbBindWidget

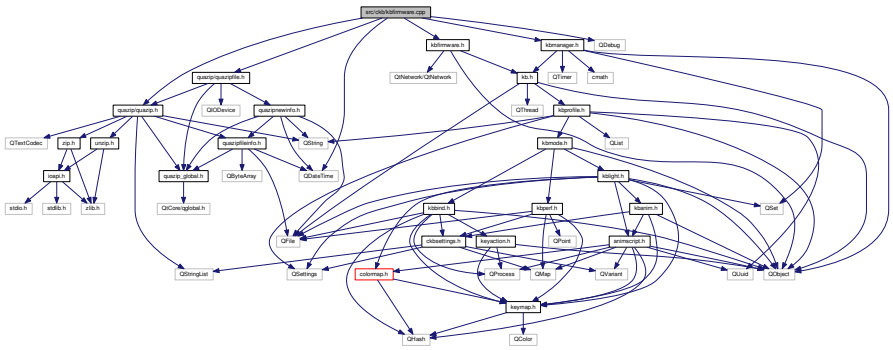
Namespaces

- Ui

13.94 src/ckb/kbfirmware.cpp File Reference

```
#include "kbfirmware.h"
#include "kbmanager.h"
#include "quazip/quazip.h"
#include "quazip/quazipfile.h"
#include <QDateTime>
#include <QDebug>
```

Include dependency graph for kbfirmware.cpp:



Functions

- static QString tableName (const QString &features)

Variables

- static const quint64 AUTO_CHECK_TIME = 60 ∗ 60 ∗ 1000

13.94.1 Function Documentation

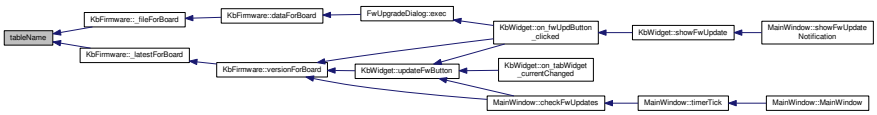
13.94.1.1 static QString tableName (const QString & *features*) [static]

Definition at line 153 of file kbfirmware.cpp.

Referenced by KbFirmware::_fileForBoard(), and KbFirmware::_latestForBoard().

```
153                                                 {
154     QStringList components = features.split(" ");
155     if(components.length() < 2)
156         return "";
157     // First two components are vendor and model
158     QString vendorModel = components[0].toUpper() + "-" + components[1].toUpper();
159     // Add "RGB" on RGB boards
160     if(features.contains("rgb") && !features.contains("monochrome"))
161         vendorModel += "RGB";
162     return vendorModel;
163 }
```

Here is the caller graph for this function:



13.94.2 Variable Documentation

13.94.2.1 const quint64 AUTO_CHECK_TIME = 60 ∗ 60 ∗ 1000 [static]

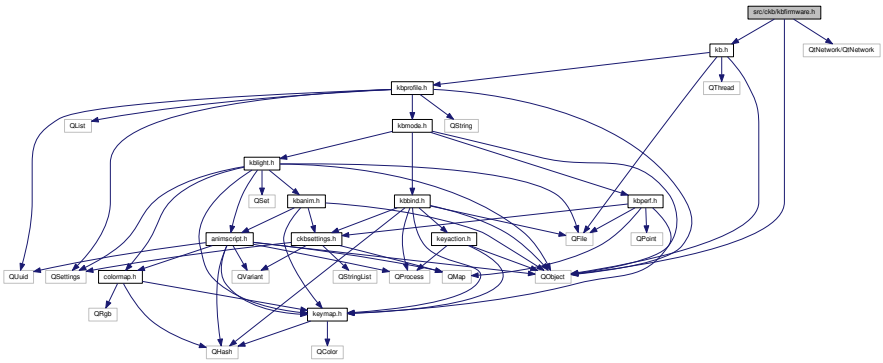
Definition at line 9 of file kbfirmware.cpp.

Referenced by KbFirmware::_checkUpdates().

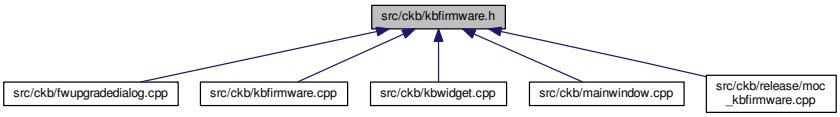
13.95 src/ckb/kbfirmware.h File Reference

```
#include "kb.h"
#include <QObject>
#include <QtNetwork/QtNetwork>
```

Include dependency graph for kbfirmware.h:



This graph shows which files directly or indirectly include this file:



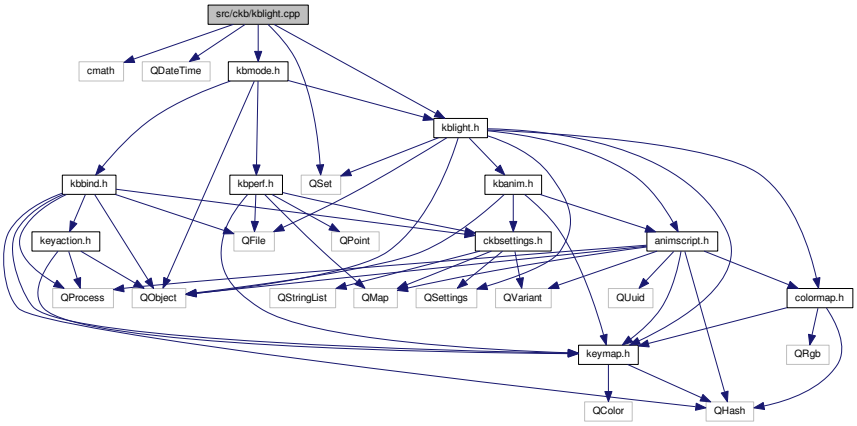
Data Structures

- class KbFirmware
- struct KbFirmware::FW

13.96 src/ckb/kblight.cpp File Reference

```
#include <cmath>
#include <QDateTime>
#include <QSet>
#include "kblight.h"
#include "kbmode.h"
```

Include dependency graph for kblight.cpp:



Functions

- static float sToL (float srgb)
- static float lToS (float linear)
- QRgb monoRgb (float r, float g, float b)

Variables

- static int _shareDimming = -1
- static QSet< KbLight * > activeLights

13.96.1 Function Documentation

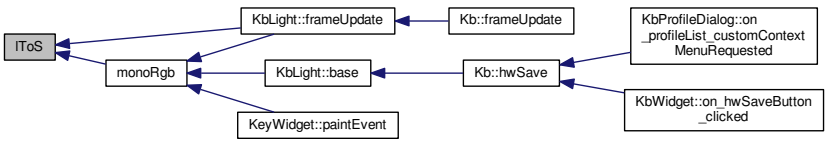
13.96.1.1 static float lToS (float *linear*) [static]

Definition at line 277 of file kblight.cpp.

Referenced by KbLight::frameUpdate(), and monoRgb().

```
277                                {
278     if(linear <= 0.0031308f)
279         return 12.92f * linear * 255.f;
280     return (1.055f * pow(linear, 1.f / 2.4f) - 0.055f) * 255.f;
281 }
```

Here is the caller graph for this function:



13.96.1.2 QRgb monoRgb (float *r*, float *g*, float *b*)

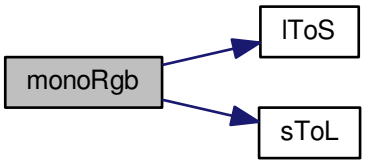
Definition at line 284 of file kblight.cpp.

References lToS(), and sToL().

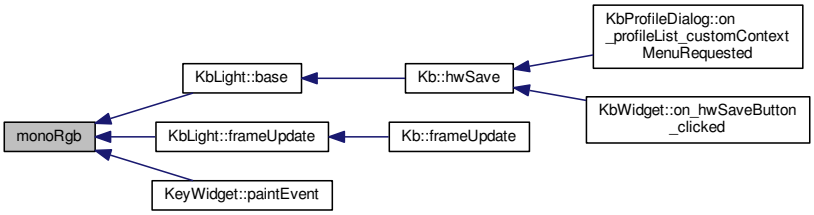
Referenced by KbLight::base(), KbLight::frameUpdate(), and KeyWidget::paintEvent().

```
284                                     {
285     // It's important to use a linear colorspace for this, otherwise the colors will appear inconsistent
286     // Note that although we could use linear space for alpha blending or the animation blending functions,
        we don't.
287     // The reason for this is that photo manipulation programs don't do it either, so even though the
        result would technically be more correct,
288     // it would look wrong to most people.
289     r = sToL(r);
290     g = sToL(g);
291     b = sToL(b);
292     int value = round(lToS((r + g + b) / 3.f));
293     return qRgb(value, value, value);
294 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



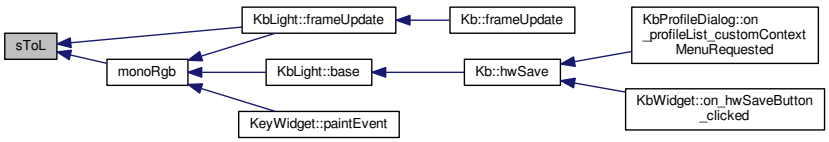
13.96.1.3 static float sToL (float *srgb*) [static]

Definition at line 270 of file kblight.cpp.

Referenced by KbLight::frameUpdate(), and monoRgb().

```
270                             {
271     srgb /= 255.f;
272     if(srgb <= 0.04045f)
273         return srgb / 12.92f;
274     return pow((srgb + 0.055f) / 1.055f, 2.4f);
275 }
```

Here is the caller graph for this function:



13.96.2 Variable Documentation

13.96.2.1 int _shareDimming = -1 [static]

Definition at line 7 of file kblight.cpp.

Referenced by KbLight::dimming(), KbLight::open(), and KbLight::shareDimming().

13.96.2.2 QSet<KbLight*> activeLights [static]

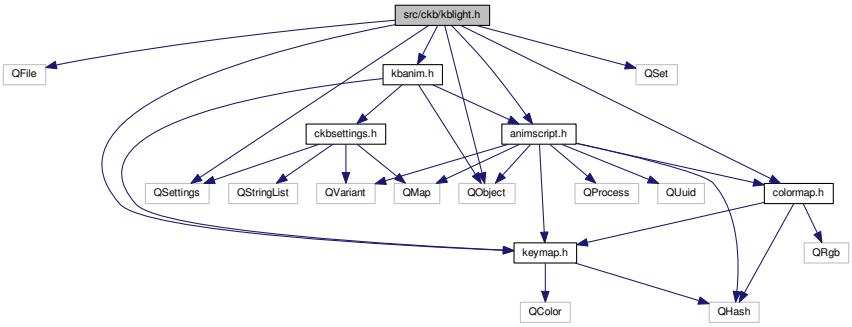
Definition at line 8 of file kblight.cpp.

Referenced by KbLight::close(), KbLight::open(), KbLight::shareDimming(), and KbLight::~KbLight().

13.97 src/ckb/kblight.h File Reference

```
#include <QFile>
#include <QObject>
#include <QSet>
#include <QSettings>
#include "animscript.h"
#include "kbanim.h"
#include "keymap.h"
#include "colormap.h"
```

Include dependency graph for kblight.h:



This graph shows which files directly or indirectly include this file:

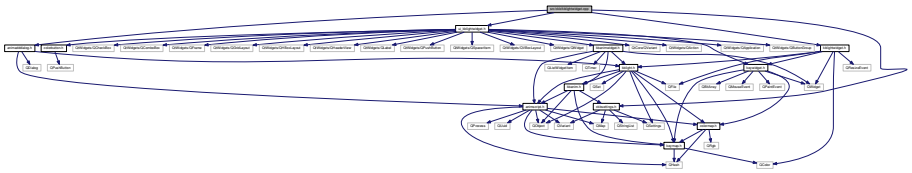
Data Structures

- class KbLight

13.98 src/ckb/kblightwidget.cpp File Reference

```
#include "animadddialog.h"
#include "ckbsettings.h"
#include "kblightwidget.h"
#include "ui_kblightwidget.h"
```

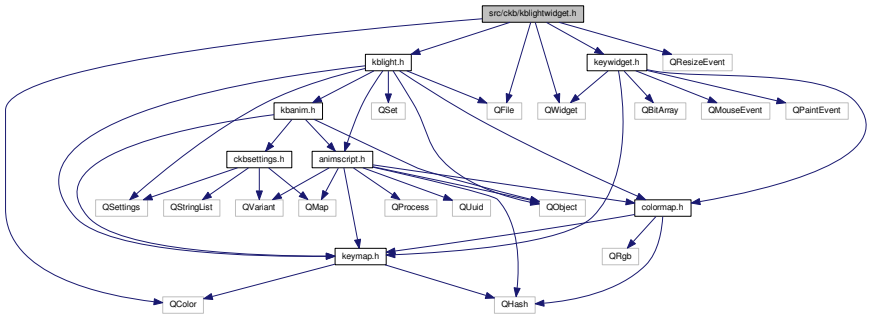
Include dependency graph for kblightwidget.cpp:



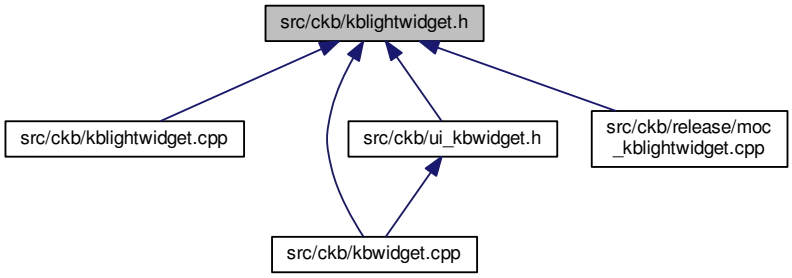
13.99 src/ckb/kblightwidget.h File Reference

```
#include <QWidget>
#include <QColor>
#include <QFile>
#include <QResizeEvent>
#include "kblight.h"
#include "keywidget.h"
```

Include dependency graph for kblightwidget.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class KbLightWidget

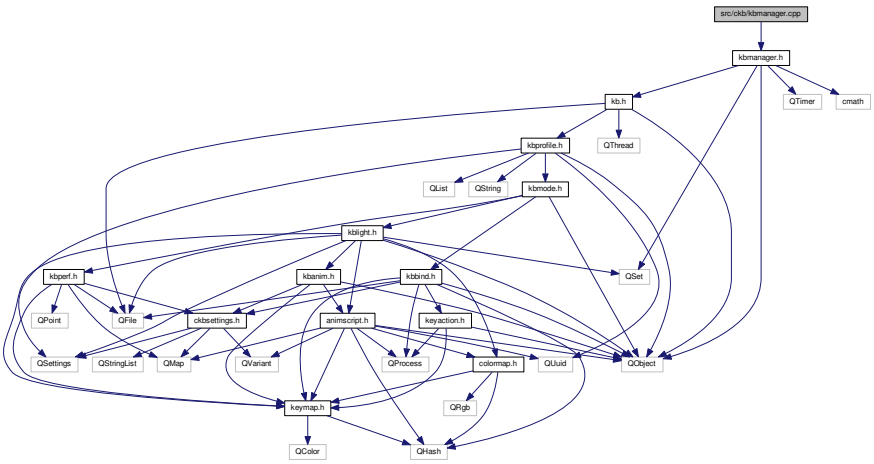
Namespaces

- Ui

13.100 src/ckb/kbmanager.cpp File Reference

```
#include "kbmanager.h"
```

Include dependency graph for kbmanager.cpp:



Variables

- QString devpath = "/dev/input/ckb%1"

13.100.1 Variable Documentation

13.100.1.1 QString devpath = "/dev/input/ckb%1"

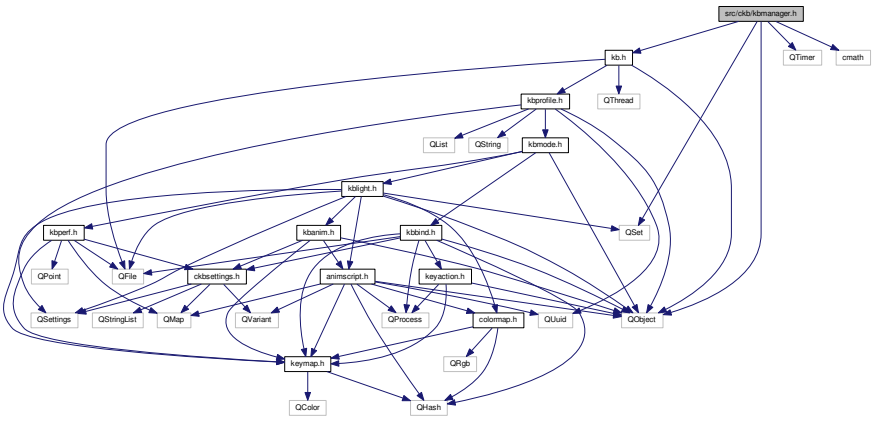
Definition at line 4 of file kbmanager.cpp.

Referenced by _setupusb(), closeusb(), main(), os_inputmain(), os_setupusb(), and KbManager::scanKeyboards().

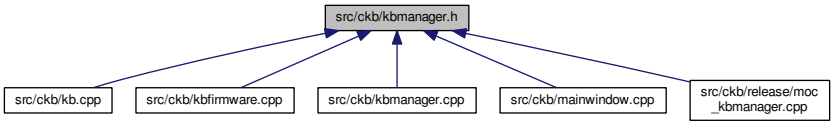
13.101 src/ckb/kbmanager.h File Reference

```
#include <QObject>
#include <QTimer>
#include <cmath>
#include <QSet>
#include "kb.h"
```

Include dependency graph for kbmanager.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class KbManager

Macros

- #define DAEMON_UNAVAILABLE_STR "<unavailable>"

13.101.1 Macro Definition Documentation

13.101.1.1 #define DAEMON_UNAVAILABLE_STR "<unavailable>"

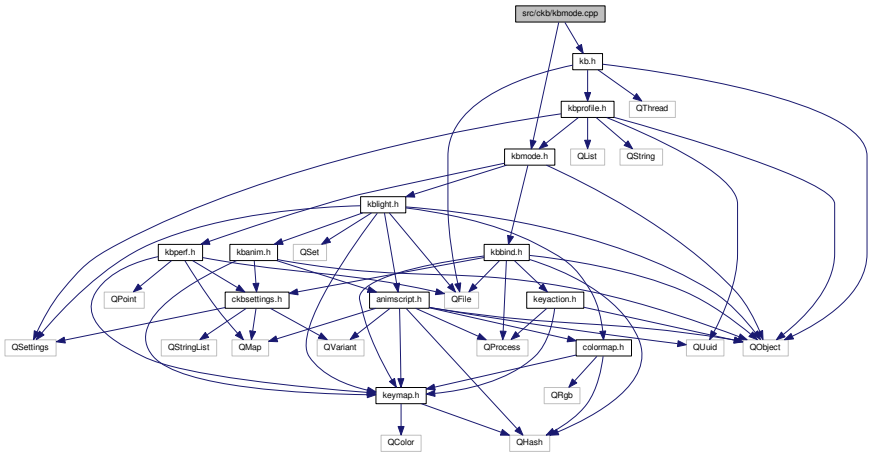
Definition at line 12 of file kbmanager.h.

Referenced by KbManager::ckbDaemonVersionF(), KbManager::scanKeyboards(), and MainWindow::updateVersion().

13.102 src/ckb/kbmode.cpp File Reference

```
#include "kbmode.h"
#include "kb.h"
```

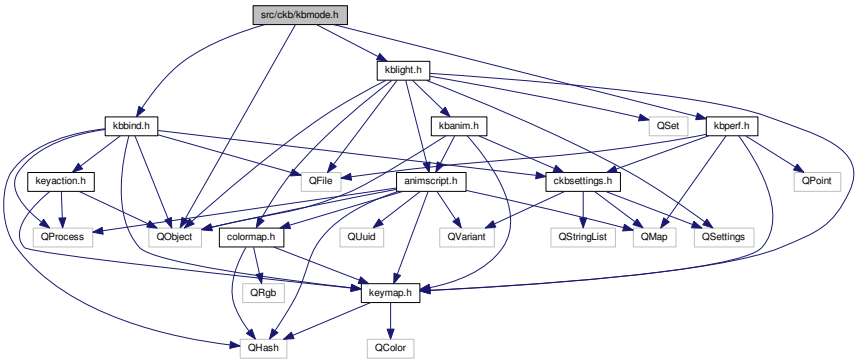
Include dependency graph for kbmode.cpp:



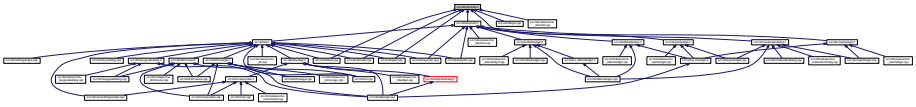
13.103 src/ckb/kbmode.h File Reference

```
#include <QObject>
#include "kblight.h"
#include "kbbind.h"
#include "kbperf.h"
```

Include dependency graph for kbmode.h:



This graph shows which files directly or indirectly include this file:



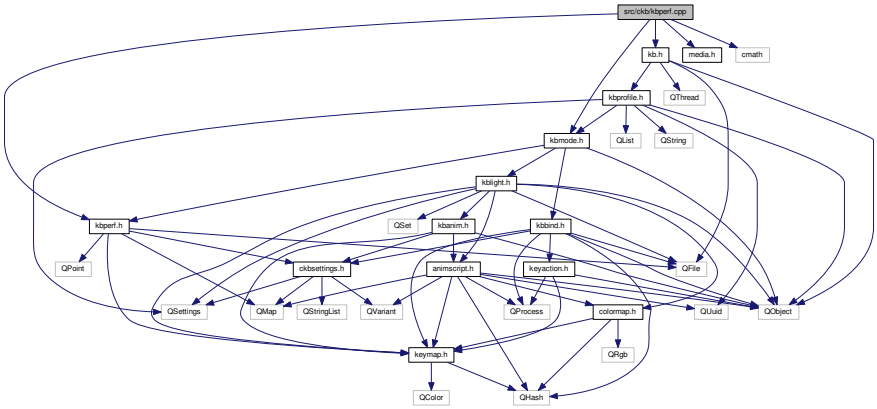
Data Structures

- struct UsbId
- class KbMode

13.104 src/ckb/kbperf.cpp File Reference

```
#include "kbperf.h"
#include "kbmode.h"
#include "kb.h"
#include "media.h"
#include <cmath>
```

Include dependency graph for kbperf.cpp:



Macros

- #define map_last(map) ((map).last())

13.104.1 Macro Definition Documentation

13.104.1.1 #define map_last(*map*) ((map).last())

Definition at line 8 of file kbperf.cpp.

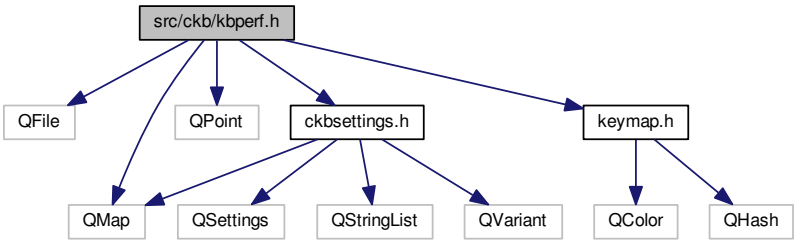
Referenced by KbPerf::popDpi().

13.105 src/ckb/kbperf.h File Reference

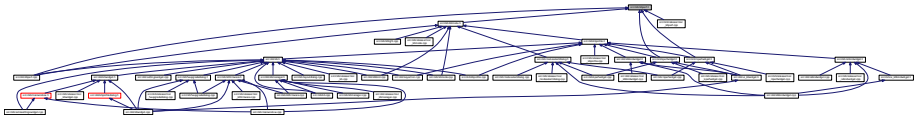
```
#include <QFile>
```

```
#include <QMap>
#include <QPoint>
#include "ckbsettings.h"
#include "keymap.h"
```

Include dependency graph for kbperf.h:



This graph shows which files directly or indirectly include this file:



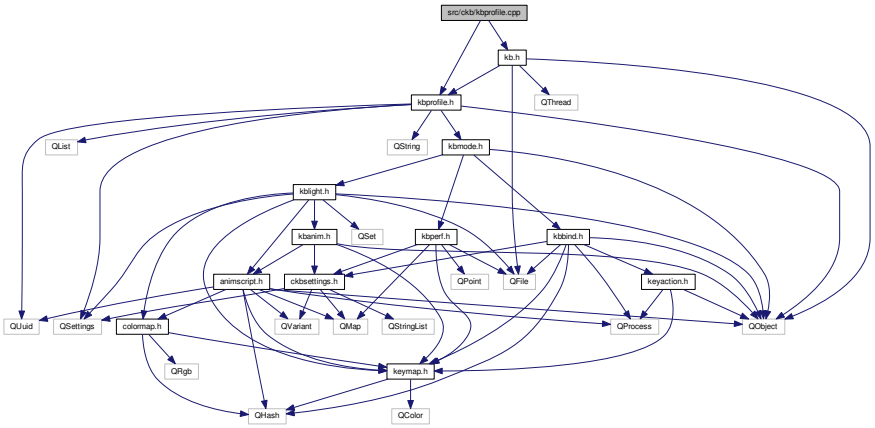
Data Structures

- class KbPerf

13.106 src/ckb/kbprofile.cpp File Reference

```
#include "kbprofile.h"
#include "kb.h"
```

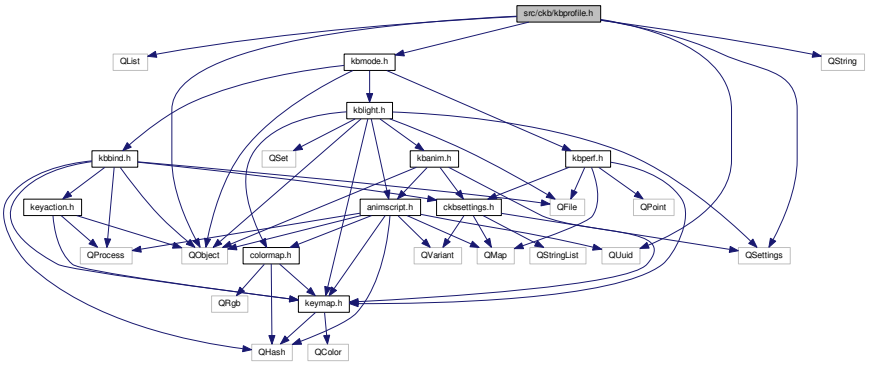
Include dependency graph for kbprofile.cpp:



13.107 src/ckb/kbprofile.h File Reference

```
#include <QList>
#include <QObject>
#include <QSettings>
#include <QString>
#include <QUuid>
#include "kbmode.h"
```

Include dependency graph for kbprofile.h:



This graph shows which files directly or indirectly include this file:

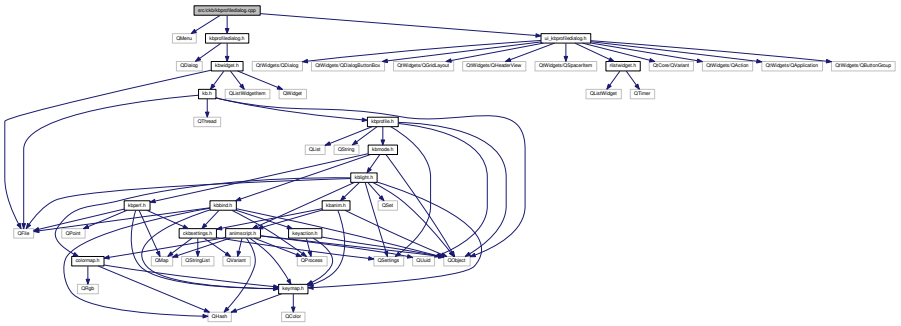
Data Structures

- class KbProfile

13.108 src/ckb/kbprofiledialog.cpp File Reference

```
#include <QMenu>
#include "kbprofiledialog.h"
#include "ui_kbprofiledialog.h"
```

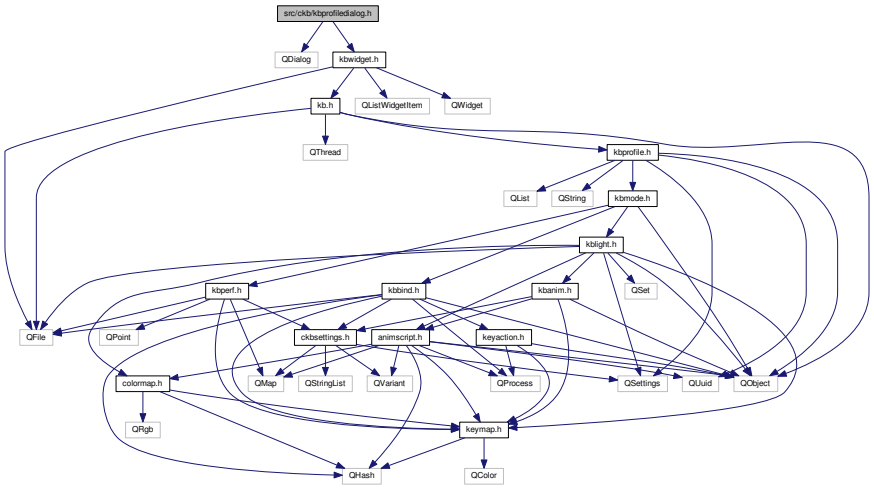
Include dependency graph for kbprofiledialog.cpp:



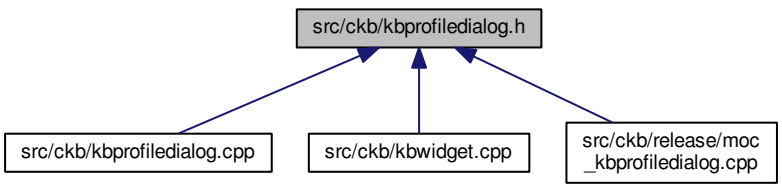
13.109 src/ckb/kbprofiledialog.h File Reference

```
#include <QDialog>
#include "kbwidget.h"
```

Include dependency graph for kbprofiledialog.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class KbProfileDialog

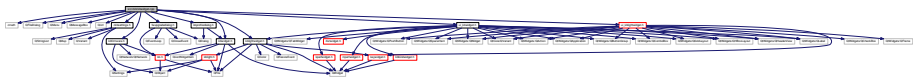
Namespaces

- Ui

13.110 src/ckb/kbwidget.cpp File Reference

```
#include <cmath>
#include <QFileDialog>
#include <QMenu>
#include <QMessageBox>
#include <QUrl>
#include "ckbsettings.h"
#include "fwupgradedialog.h"
#include "kbfirmware.h"
#include "kbwidget.h"
#include "kblightwidget.h"
#include "kbprofiledialog.h"
#include "ui_kbwidget.h"
#include "ui_kblightwidget.h"
```

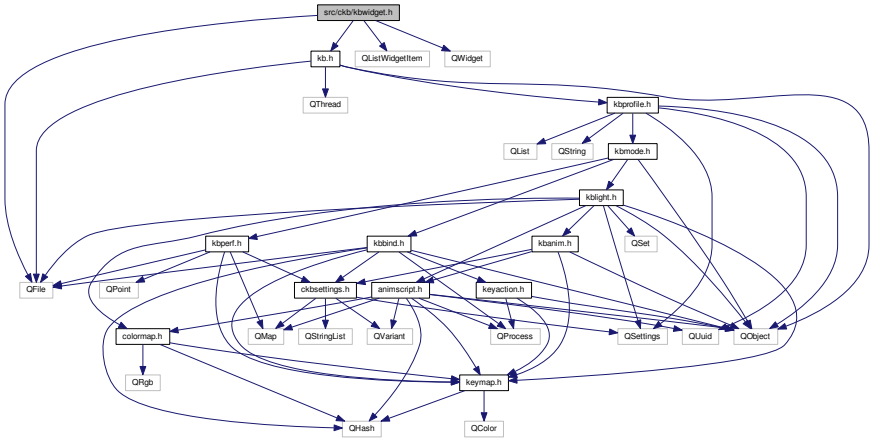
Include dependency graph for kbwidget.cpp:



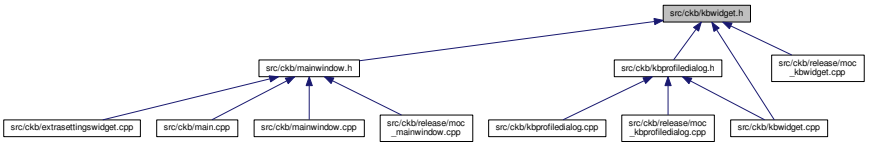
13.111 src/ckb/kbwidget.h File Reference

```
#include <QFile>
#include <QListWidgetItem>
#include <QWidget>
#include "kb.h"
```

Include dependency graph for kbwidget.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class KbWidget

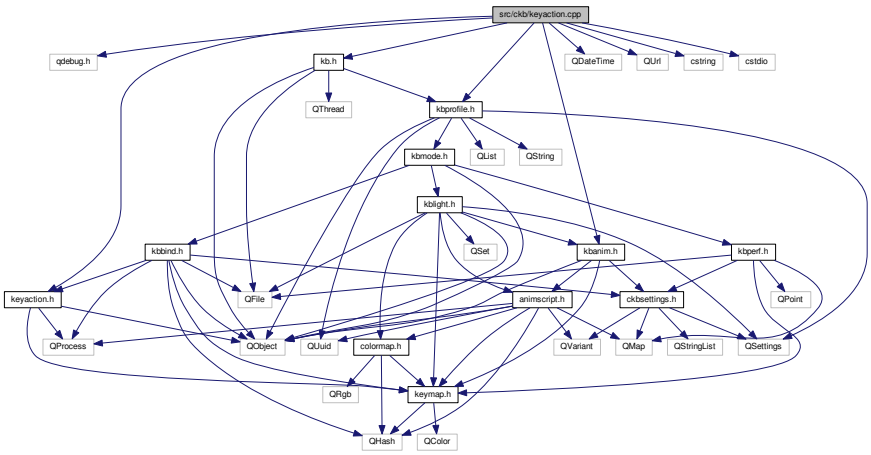
Namespaces

- Ui

13.112 src/ckb/keyaction.cpp File Reference

```
#include <qdebug.h>
#include "keyaction.h"
#include "kb.h"
#include "kbanim.h"
#include "kbprofile.h"
#include <QDateTime>
#include <QUrl>
#include <cstring>
#include <cstdio>
```

Include dependency graph for keyaction.cpp:



Variables

- static const int ANIM_ONCE = 0x1
- static const int ANIM_KRSTOP = 0x2

13.112.1 Variable Documentation

13.112.1.1 const int ANIM_KRSTOP = 0x2 [static]

Definition at line 173 of file keyaction.cpp.

Referenced by KeyAction::animAction(), and KeyAction::animInfo().

13.112.1.2 const int ANIM_ONCE = 0x1 [static]

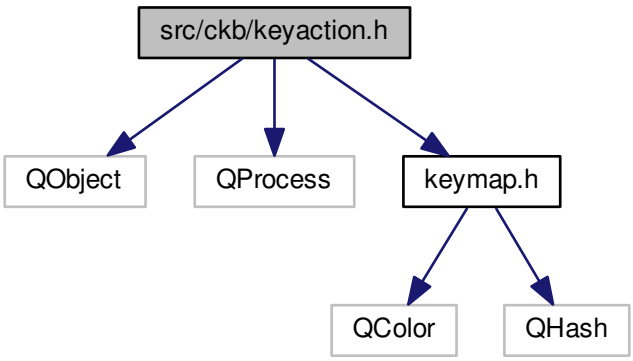
Definition at line 173 of file keyaction.cpp.

Referenced by KeyAction::animAction(), and KeyAction::animInfo().

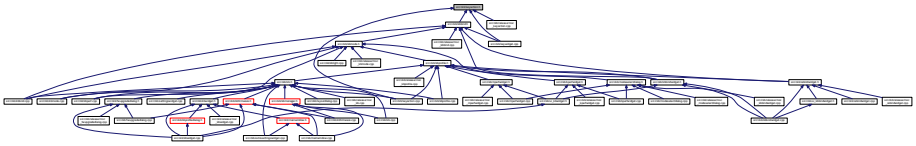
13.113 src/ckb/keyaction.h File Reference

```
#include <QObject>
#include <QProcess>
#include "keymap.h"
```

Include dependency graph for keyaction.h:



This graph shows which files directly or indirectly include this file:



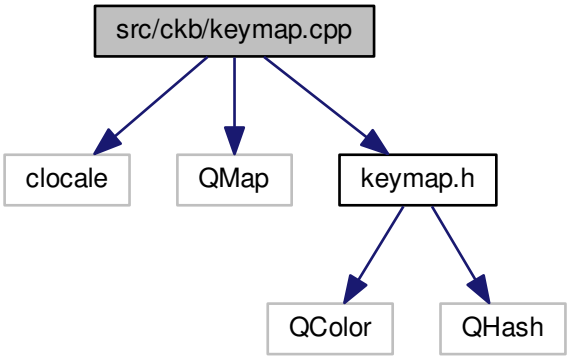
Data Structures

- class KeyAction

13.114 src/ckb/keymap.cpp File Reference

```
#include <clocale>
#include <QMap>
#include "keymap.h"
```

Include dependency graph for keymap.cpp:



Data Structures

- struct KeyPatch

Macros

- #define NS 12, 12
- #define KEYCOUNT_K95 (sizeof(K95Keys) / sizeof(Key))
- #define ANSI_ENTER_X 199
- #define ANSI_ENTER_Y 51
- #define ANSI_ENTER_W 26
- #define ANSI_ENTER_H 12
- #define ANSI_LSHIFT_X 45
- #define ANSI_LSHIFT_W 26
- #define PATCH_COUNT(patch) (sizeof(patch) / sizeof(KeyPatch))
- #define patch(map, patches) _patch(map, patches, PATCH_COUNT(patches))
- #define K95_WIDTH 298
- #define K95_HEIGHT 76
- #define K70_X_START 38
- #define K70_WIDTH (K95_WIDTH - K70_X_START)
- #define K70_HEIGHT K95_HEIGHT
- #define K65_WIDTH 209
- #define K65_HEIGHT K70_HEIGHT
- #define K65_TOP_COUNT (sizeof(K65TopRow) / sizeof(Key))
- #define KSTRAFE_X_START 12
- #define KSTRAFE_WIDTH (K70_WIDTH + (KSTRAFE_X_START * 2))
- #define KSTRAFE_HEIGHT K95_HEIGHT
- #define KEYCOUNT_M65 (sizeof(M65Keys) / sizeof(Key))

- #define M65_WIDTH 52
- #define M65_HEIGHT 67
- #define KEYCOUNT_SABRE (sizeof(SabreKeys) / sizeof(Key))
- #define SABRE_WIDTH M65_WIDTH
- #define SABRE_HEIGHT M65_HEIGHT
- #define KEYCOUNT_SCIM (sizeof(ScimKeys) / sizeof(Key))
- #define SCIM_WIDTH M65_WIDTH
- #define SCIM_HEIGHT M65_HEIGHT
- #define N_MODELS KeyMap::_MODEL_MAX
- #define N_LAYOUTS KeyMap::_LAYOUT_MAX

Functions

- static void _patch (QHash< QString, Key > &map, const KeyPatch *patches, int patchCount)
- static void patchISO (QHash< QString, Key > &map)
- static void patchANSI (QHash< QString, Key > &map)
- static QHash< QString, Key > getMap (KeyMap::Model model, KeyMap::Layout layout)

Variables

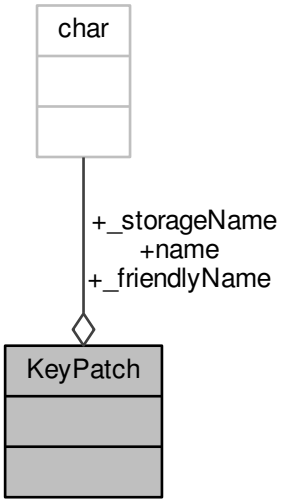
- static const Key K95Keys []
- static const KeyPatch patchDK []
- static const KeyPatch patchEU []
- static const KeyPatch patchFR []
- static const KeyPatch patchDE []
- static const KeyPatch patchIT []
- static const KeyPatch patchNO []
- static const KeyPatch patchMX []
- static const KeyPatch patchES []
- static const KeyPatch patchSE []
- static const KeyPatch patchDvorak []
- static const Key K65TopRow []
- static const Key KStrafeKeys []
- static const Key M65Keys []
- static const Key SabreKeys []
- static const Key ScimKeys []
- static QHash< QString, Key > K95BaseMap
- static QHash< QString, Key > standardMaps [KeyMap::_MODEL_MAX][KeyMap::_LAYOUT_MAX]

13.114.1 Data Structure Documentation

13.114.1.1 struct KeyPatch

Definition at line 30 of file keymap.cpp.

Collaboration diagram for KeyPatch:



Data Fields

const char *	_friendlyName	
const char *	_storageName	
const char *	name	

13.114.2 Macro Definition Documentation

13.114.2.1 #define ANSI_ENTER_H 12

Definition at line 25 of file keymap.cpp.

Referenced by patchANSI().

13.114.2.2 #define ANSI_ENTER_W 26

Definition at line 24 of file keymap.cpp.

Referenced by patchANSI().

13.114.2.3 #define ANSI_ENTER_X 199

Definition at line 22 of file keymap.cpp.

Referenced by patchANSI().

13.114.2.4 #define ANSI_ENTER_Y 51

Definition at line 23 of file keymap.cpp.

Referenced by patchANSI().

13.114.2.5 #define ANSI_LSHIFT_W 26

Definition at line 27 of file keymap.cpp.

Referenced by patchANSI().

13.114.2.6 #define ANSI_LSHIFT_X 45

Definition at line 26 of file keymap.cpp.

Referenced by patchANSI().

13.114.2.7 #define K65_HEIGHT K70_HEIGHT

Definition at line 143 of file keymap.cpp.

13.114.2.8 #define K65_TOP_COUNT (sizeof(K65TopRow) / sizeof(Key))

Definition at line 148 of file keymap.cpp.

Referenced by getMap().

13.114.2.9 #define K65_WIDTH 209

Definition at line 142 of file keymap.cpp.

Referenced by getMap(), and KeyMap::modelWidth().

13.114.2.10 #define K70_HEIGHT K95_HEIGHT

Definition at line 139 of file keymap.cpp.

13.114.2.11 #define K70_WIDTH (K95_WIDTH - K70_X_START)

Definition at line 138 of file keymap.cpp.

Referenced by KeyMap::modelWidth().

13.114.2.12 #define K70_X_START 38

Definition at line 137 of file keymap.cpp.

Referenced by getMap().

13.114.2.13 #define K95_HEIGHT 76

Definition at line 134 of file keymap.cpp.

Referenced by KeyMap::modelHeight().

13.114.2.14 #define K95_WIDTH 298

Definition at line 133 of file keymap.cpp.

Referenced by KeyMap::modelWidth().

13.114.2.15 #define KEYCOUNT_K95 (sizeof(K95Keys) / sizeof(Key))

Definition at line 19 of file keymap.cpp.

Referenced by getMap().

13.114.2.16 #define KEYCOUNT_M65 (sizeof(M65Keys) / sizeof(Key))

Definition at line 170 of file keymap.cpp.

Referenced by getMap().

13.114.2.17 #define KEYCOUNT_SABRE (sizeof(SabreKeys) / sizeof(Key))

Definition at line 183 of file keymap.cpp.

Referenced by getMap().

13.114.2.18 #define KEYCOUNT_SCIM (sizeof(ScimKeys) / sizeof(Key))

Definition at line 200 of file keymap.cpp.

Referenced by getMap().

13.114.2.19 #define KSTRAFE_HEIGHT K95_HEIGHT

Definition at line 153 of file keymap.cpp.

13.114.2.20 #define KSTRAFE_WIDTH (K70_WIDTH + (KSTRAFE_X_START * 2))

Definition at line 152 of file keymap.cpp.

Referenced by KeyMap::modelWidth().

13.114.2.21 #define KSTRAFE_X_START 12

Definition at line 151 of file keymap.cpp.

Referenced by getMap().

13.114.2.22 #define M65_HEIGHT 67

Definition at line 173 of file keymap.cpp.

Referenced by KeyMap::modelHeight().

13.114.2.23 #define M65_WIDTH 52

Definition at line 172 of file keymap.cpp.

Referenced by KeyMap::modelWidth().

13.114.2.24 #define N_LAYOUTS KeyMap::_LAYOUT_MAX

Definition at line 207 of file keymap.cpp.

Referenced by getMap().

13.114.2.25 #define N_MODELS KeyMap::_MODEL_MAX

Definition at line 206 of file keymap.cpp.

Referenced by getMap().

13.114.2.26 #define NS 12, 12

Definition at line 6 of file keymap.cpp.

13.114.2.27 #define patch(*map, patches*) _patch(map, patches, PATCH_COUNT(patches))

Definition at line 106 of file keymap.cpp.

Referenced by getMap().

13.114.2.28 #define PATCH_COUNT(patch) (sizeof(patch) / sizeof(KeyPatch))

Definition at line 105 of file keymap.cpp.

13.114.2.29 #define SABRE_HEIGHT M65_HEIGHT

Definition at line 186 of file keymap.cpp.

13.114.2.30 #define SABRE_WIDTH M65_WIDTH

Definition at line 185 of file keymap.cpp.

13.114.2.31 #define SCIM_HEIGHT M65_HEIGHT

Definition at line 203 of file keymap.cpp.

13.114.2.32 #define SCIM_WIDTH M65_WIDTH

Definition at line 202 of file keymap.cpp.

13.114.3 Function Documentation

13.114.3.1 static void _patch (QHash< QString, Key > & *map,* const KeyPatch * *patches,* int *patchCount*) [static]

Definition at line 107 of file keymap.cpp.

References Key::_friendlyName, and Key::_storageName.

```
107                                                                                 {
108     for(const KeyPatch* p = patches; p < patches + patchCount; p++){
109         Key& key = map[p->name];
110         key._storageName = p->_storageName;
```

```
111         key._friendlyName = p->_friendlyName;
112     }
113 }
```

13.114.3.2 static QHash<QString, Key> getMap (KeyMap::Model *model*, KeyMap::Layout *layout*) [static]

Definition at line 210 of file keymap.cpp.

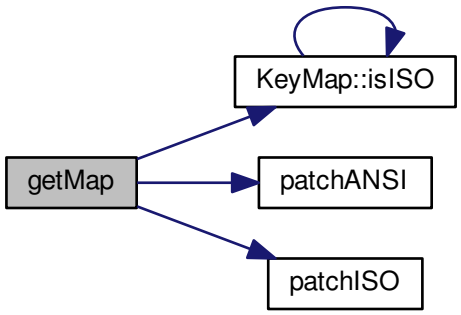
References KeyMap::DE, KeyMap::DK, KeyMap::ES, KeyMap::EU, KeyMap::EU_DVORAK, KeyMap::FR, KeyMap::GB_DVORAK, Key::height, KeyMap::isISO(), KeyMap::IT, KeyMap::K65, K65_TOP_COUNT, K65_WIDTH, KeyMap::K70, K70_X_START, KeyMap::K95, K95BaseMap, KEYCOUNT_K95, KEYCOUNT_M65, KEYCOUNT_SABRE, KEYCOUNT_SCIM, KSTRAFE_X_START, KeyMap::M65, KeyMap::MX, N_LAYOUTS, N_MODELS, key::name, KeyMap::NO, patch, patchANSI(), patchISO(), KeyMap::SABRE, KeyMap::SCIMITAR, KeyMap::SE, standardMaps, KeyMap::STRAFE, KeyMap::US_DVORAK, Key::width, Key::x, and Key::y.

```
210                                                                     {
211     if(model < 0 || layout < 0 || model >= N_MODELS || layout >=
    N_LAYOUTS)
212         return QHash<QString, Key>();
213     // Return the map if it's already filled out
214     QHash<QString, Key>& map = standardMaps[model][layout];
215     if(!map.empty())
216         return map;
217     // Otherwise, create it
218     switch(model){
219     case KeyMap::K95:{
220         // The K95 maps serve as bases for all the other keyboards
221         // Fetch the master map, or create it if not yet done
222         if(K95BaseMap.empty()){
223             for(const Key* key = K95Keys; key < K95Keys +
    KEYCOUNT_K95; key++)
224                 K95BaseMap[key->name] = *key;
225         }
226         map = K95BaseMap;
227         // Patch the map for the layout
228         switch(layout){
229         case KeyMap::DK:
230             patch(map, patchDK);
231             break;
232         case KeyMap::EU_DVORAK:
233             patch(map, patchDvorak);    // fall through
234         case KeyMap::EU:
235             patch(map, patchEU);
236             break;
237         case KeyMap::GB_DVORAK:
238         case KeyMap::US_DVORAK:
239             patch(map, patchDvorak);
240             break;
241         case KeyMap::FR:
242             patch(map, patchFR);
243             break;
244         case KeyMap::DE:
245             patch(map, patchDE);
246             break;
247         case KeyMap::IT:
248             patch(map, patchIT);
249             break;
250         case KeyMap::NO:
251             patch(map, patchNO);
252             break;
253         case KeyMap::MX:
254             patch(map, patchMX);
255             break;
256         case KeyMap::ES:
257             patch(map, patchES);
258             break;
259         case KeyMap::SE:
260             patch(map, patchSE);
261             break;
262         default:;
263             // English QWERTY - no patch needed
264         }
265         if(KeyMap::isISO(layout))
266             patchISO(map);
267         else
268             patchANSI(map);
269         // Done! return the map
270         break;
271     }
```

```
272     case KeyMap::K70:{
273         // The K70 maps are based on the K95 maps. However all the keys are shifted left and the G keys are
     removed
274         map = getMap(KeyMap::K95, layout);
275         QMutableHashIterator<QString, Key> i(map);
276         while(i.hasNext()){
277             i.next();
278             // Move key to left. Remove it if it fell off the edge
279             if((i.value().x -= K70_X_START) < 0)
280                 i.remove();
281         }
282         // Remove the M buttons as well
283         map.remove("mr");
284         map.remove("m1");
285         map.remove("m2");
286         map.remove("m3");
287         // Done!
288         break;
289     }
290     case KeyMap::K65:{
291         // The K65 maps additionally remove the numpad and have a modified top row
292         map = getMap(KeyMap::K70, layout);
293         QMutableHashIterator<QString, Key> i(map);
294         while(i.hasNext()){
295             i.next();
296             if(i.value().x >= K65_WIDTH)
297                 i.remove();
298         }
299         for(const Key* key = K65TopRow; key < K65TopRow +
    K65_TOP_COUNT; key++)
300             map[key->name] = *key;
301         // Done!
302         break;
303     }
304     case KeyMap::STRAFE:{
305         // The Strafe RGB maps are based on the K70 map minus the media keys
306         map = getMap(KeyMap::K70, layout);
307         //move light and lock right
308         map["light"].x=285 - K70_X_START;
309         //map["light"].hasLed=false;
310         map["lock"].x=297 - K70_X_START;
311         //map["lock"].hasLed=false;
312         // move everything right to make the space for the left sidelight
313         QMutableHashIterator<QString, Key> i(map);
314         while(i.hasNext()){
315             i.next();
316             i.value().x += KSTRAFE_X_START;
317         }
318         // Add Strafe lights and keys
319         map["lsidel"] = KStrafeKeys[0];
320         map["rsidel"] = KStrafeKeys[1];
321         map["logo"] = KStrafeKeys[2];
322         map["fn"] = KStrafeKeys[3];
323         map.remove("rwin");
324         // remove media controls
325         map.remove("mute");
326         map.remove("volup");
327         map.remove("voldn");
328         map.remove("stop");
329         map.remove("prev");
330         map.remove("play");
331         map.remove("next");
332         // Done!
333         break;
334     }
335     case KeyMap::M65:{
336         // M65 isn't a keyboard; all mouse maps are unique.
337         for(const Key* key = M65Keys; key < M65Keys +
    KEYCOUNT_M65; key++){
338             // Keyboard keys are written from the center because that's where the LEDs are, but the mouse
     buttons are odd shapes so they're
339             // written from the upper left
340             Key translatedKey = *key;
341             translatedKey.x += translatedKey.width / 2;
342             translatedKey.y += translatedKey.height / 2;
343             map[key->name] = translatedKey;
344         }
345         // Mice also have no layout patches - no other changes necessary
346         break;
347     }
348     case KeyMap::SABRE:{
349         // Scimitar mouse
350         for(const Key* key = SabreKeys; key < SabreKeys +
    KEYCOUNT_SABRE; key++){
351             // Like the M65, the keys are upper-left justified
352             Key translatedKey = *key;
353             translatedKey.x += translatedKey.width / 2;
```

```
354             translatedKey.y += translatedKey.height / 2;
355             map[key->name] = translatedKey;
356         }
357         break;
358     }
359     case KeyMap::SCIMITAR:{
360         // Scimitar mouse
361         for(const Key* key = ScimKeys; key < ScimKeys +
    KEYCOUNT_SCIM; key++){
362             Key translatedKey = *key;
363             translatedKey.x += translatedKey.width / 2;
364             translatedKey.y += translatedKey.height / 2;
365             map[key->name] = translatedKey;
366         }
367         break;
368     }
369     default:;    // <- stop GCC from complaining
370     }
371     // Map is finished, return result
372     return map;
373 }
```

Here is the call graph for this function:



13.114.3.3 static void patchANSI (QHash< QString, Key > & *map*) [static]

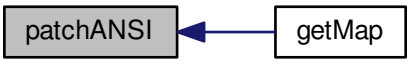
Definition at line 119 of file keymap.cpp.

References ANSI_ENTER_H, ANSI_ENTER_W, ANSI_ENTER_X, ANSI_ENTER_Y, ANSI_LSHIFT_W, ANSI_LSHIFT_X, Key::height, Key::width, Key::x, and Key::y.

Referenced by getMap().

```
119                                                 {
120     map.remove("bslash_iso");
121     map.remove("hash");
122     Key& enter = map["enter"];
123     enter.x = ANSI_ENTER_X;
124     enter.y = ANSI_ENTER_Y;
125     enter.width = ANSI_ENTER_W;
126     enter.height = ANSI_ENTER_H;
127     Key& lshift = map["lshift"];
128     lshift.x = ANSI_LSHIFT_X;
129     lshift.width = ANSI_LSHIFT_W;
130 }
```

Here is the caller graph for this function:



13.114.3.4 static void patchISO (QHash< QString, Key > & *map*) [static]

Definition at line 116 of file keymap.cpp.

Referenced by getMap().

```
116                                         {
117     map.remove("bslash");
118 }
```

Here is the caller graph for this function:

13.114.4 Variable Documentation

13.114.4.1 const Key K65TopRow[] [static]

Initial value:

```
= {
    {0, "Brightness", "light", 164 -  38 , 0, 12, 12, true, true}, {0, "Mute", "mute", 176 -  38 , 0, 12,
      12, true, true}, {0, "Volume Down", "voldn", 192 -  38 , 0, 14, 8, true, true}, {0, "Volume Up", "volup", 205
       -  38 , 0, 14, 8, true, true}, {0, "Windows Lock", "lock", 222 -  38 , 0, 12, 12, true, true}
}
```

Definition at line 145 of file keymap.cpp.

13.114.4.2 QHash<QString, Key> K95BaseMap [static]

Definition at line 208 of file keymap.cpp.

Referenced by getMap().

13.114.4.3 const Key K95Keys[] [static]

Initial value:

```
= {
    {0, 0, "mr", 38, 0,  12, 12 , true, true}, {0, 0, "m1", 50, 0,  12, 12 , true, true}, {0, 0, "m2", 62,
      0,  12, 12 , true, true}, {0, 0, "m3", 74, 0,  12, 12 , true, true}, {0, "Brightness", "light", 222, 0,  12,
       12 , true, true}, {0, "Windows Lock", "lock", 234, 0,  12, 12 , true, true}, {0, "Mute", "mute", 273, 0, 13
      , 8, true, true}, {0, "Volume Up", "volup", 290, -2, 18, 6, false, true}, {0, "Volume down", "voldn", 290, 2
      , 18, 6, false, true},
    {0, 0, "g1", 0, 14,  12, 12 , true, true}, {0, 0, "g2", 11, 14,  12, 12 , true, true}, {0, 0, "g3", 22,
       14,  12, 12 , true, true}, {0, "Esc", "esc", 38, 14,  12, 12 , true, true}, {0, 0, "f1", 58, 14,  12, 12 ,
      true, true}, {0, 0, "f2", 70, 14,  12, 12 , true, true}, {0, 0, "f3", 82, 14,  12, 12 , true, true}, {0, 0,
      "f4", 94, 14,  12, 12 , true, true}, {0, 0, "f5", 114, 14,  12, 12 , true, true}, {0, 0, "f6", 126, 14,  12,
       12 , true, true}, {0, 0, "f7", 138, 14,  12, 12 , true, true}, {0, 0, "f8", 150, 14,  12, 12 , true, true},
       {0, 0, "f9", 170, 14,  12, 12 , true, true}, {0, 0, "f10", 182, 14,  12, 12 , true, true}, {0, 0, "f11",
      194, 14,  12, 12 , true, true}, {0, 0, "f12", 206, 14,  12, 12 , true, true}, {0, "Print Screen\nSysRq", "
      prtscn", 222, 14,  12, 12 , true, true}, {0, "Scroll Lock", "scroll", 234, 14,  12, 12 , true, true}, {0, "Pause
      \nBreak", "pause", 246, 14,  12, 12 , true, true}, {0, "Stop", "stop", 262, 14, 12, 8, true, true}, {0, "
      Previous", "prev", 273, 14, 13, 8, true, true}, {0, "Play/Pause", "play", 285, 14, 13, 8, true, true}, {0, "
      Next", "next", 296, 14, 12, 8, true, true},
    {0, 0, "g4", 0, 25,  12, 12 , true, true}, {0, 0, "g5", 11, 25,  12, 12 , true, true}, {0, 0, "g6", 22,
       25,  12, 12 , true, true}, {0, "`", "grave", 38, 27,  12, 12 , true, true}, {0, 0, "1", 50, 27,  12, 12 ,
      true, true}, {0, 0, "2", 62, 27,  12, 12 , true, true}, {0, 0, "3", 74, 27,  12, 12 , true, true}, {0, 0, "4"
      , 86, 27,  12, 12 , true, true}, {0, 0, "5", 98, 27,  12, 12 , true, true}, {0, 0, "6", 110, 27,  12, 12 ,
      true, true}, {0, 0, "7", 122, 27,  12, 12 , true, true}, {0, 0, "8", 134, 27,  12, 12 , true, true}, {0, 0, "
      9", 146, 27,  12, 12 , true, true}, {0, 0, "0", 158, 27,  12, 12 , true, true}, {0, "-", "minus", 170, 27,
      12, 12 , true, true}, {0, "=", "equal", 182, 27,  12, 12 , true, true}, {0, "Backspace", "bspace", 200, 27,
      24, 12, true, true}, {0, "Insert", "ins", 222, 27,  12, 12 , true, true}, {0, "Home", "home", 234, 27,  12,
      12 , true, true}, {0, "Page Up", "pgup", 246, 27,  12, 12 , true, true}, {0, "Num Lock", "numlock", 261, 27,
        12, 12 , true, true}, {0, "NumPad /", "numslash", 273, 27,  12, 12 , true, true}, {0, "NumPad *", "numstar
      ", 285, 27,  12, 12 , true, true}, {0, "NumPad -", "numminus", 297, 27,  12, 12 , true, true},
    {0, 0, "g7", 0, 39,  12, 12 , true, true}, {0, 0, "g8", 11, 39,  12, 12 , true, true}, {0, 0, "g9", 22,
       39,  12, 12 , true, true}, {0, "Tab", "tab", 41, 39, 18, 12, true, true}, {0, 0, "q", 56, 39,  12, 12 ,
      true, true}, {0, 0, "w", 68, 39,  12, 12 , true, true}, {0, 0, "e", 80, 39,  12, 12 , true, true}, {0, 0, "r",
      92, 39,  12, 12 , true, true}, {0, 0, "t", 104, 39,  12, 12 , true, true}, {0, 0, "y", 116, 39,  12, 12 ,
      true, true}, {0, 0, "u", 128, 39,  12, 12 , true, true}, {0, 0, "i", 140, 39,  12, 12 , true, true}, {0, 0, "o
      ", 152, 39,  12, 12 , true, true}, {0, 0, "p", 164, 39,  12, 12 , true, true}, {0, "[", "lbrace", 176, 39,
      12, 12 , true, true}, {0, "]", "rbrace", 188, 39,  12, 12 , true, true}, {0, "\\", "bslash", 203, 39, 18, 12
      , true, true}, {0, "Enter", "enter", 203, 39, 18, 24, true, true}, {0, "Delete", "del", 222, 39,  12, 12 ,
      true, true}, {0, "End", "end", 234, 39,  12, 12 , true, true}, {0, "Page Down", "pgdn", 246, 39,  12, 12 ,
      true, true}, {0, "NumPad 7", "num7", 261, 39,  12, 12 , true, true}, {0, "NumPad 8", "num8", 273, 39,  12, 12
      , true, true}, {0, "NumPad 9", "num9", 285, 39,  12, 12 , true, true}, {0, "NumPad +", "numplus", 297, 45,
      12, 24, true, true},
    {0, 0, "g10", 0, 50,  12, 12 , true, true}, {0, 0, "g11", 11, 50,  12, 12 , true, true}, {0, 0, "g12",
      22, 50,  12, 12 , true, true}, {0, "Caps Lock", "caps", 42, 51, 20, 12, true, true}, {0, 0, "a", 59, 51,  12
      , 12 , true, true}, {0, 0, "s", 71, 51,  12, 12 , true, true}, {0, 0, "d", 83, 51,  12, 12 , true, true}, {0
      , 0, "f", 95, 51,  12, 12 , true, true}, {0, 0, "g", 107, 51,  12, 12 , true, true}, {0, 0, "h", 119, 51,
      12, 12 , true, true}, {0, 0, "j", 131, 51,  12, 12 , true, true}, {0, 0, "k", 143, 51,  12, 12 , true, true},
       {0, 0, "l", 155, 51,  12, 12 , true, true}, {0, ";", "colon", 167, 51,  12, 12 , true, true}, {0, "'", "
      quote", 179, 51,  12, 12 , true, true}, {0, "#", "hash", 191, 51,  12, 12 , true, true}, {0, "NumPad 4", "num4"
      , 261, 51,  12, 12 , true, true}, {0, "NumPad 5", "num5", 273, 51,  12, 12 , true, true}, {0, "NumPad 6", "
      num6", 285, 51,  12, 12 , true, true},
    {0, 0, "g13", 0, 64,  12, 12 , true, true}, {0, 0, "g14", 11, 64,  12, 12 , true, true}, {0, 0, "g15",
      22, 64,  12, 12 , true, true}, {0, "Left Shift", "lshift", 39, 63, 14, 12, true, true}, {"bslash", "\\", "
      bslash_iso", 53, 63,  12, 12 , true, true}, {0, 0, "z", 65, 63,  12, 12 , true, true}, {0, 0, "x", 77, 63,  12
      , 12 , true, true}, {0, 0, "c", 89, 63,  12, 12 , true, true}, {0, 0, "v", 101, 63,  12, 12 , true, true}, {
      0, 0, "b", 113, 63,  12, 12 , true, true}, {0, 0, "n", 125, 63,  12, 12 , true, true}, {0, 0, "m", 137, 63,
       12, 12 , true, true}, {0, ",", "comma", 149, 63,  12, 12 , true, true}, {0, ".", "dot", 161, 63,  12, 12 ,
      true, true}, {0, "/", "slash", 173, 63,  12, 12 , true, true}, {0, "Right Shift", "rshift", 196, 63, 32, 12,
       true, true}, {0, "Up", "up", 234, 63,  12, 12 , true, true}, {0, "NumPad 1", "num1", 261, 63,  12, 12 ,
      true, true}, {0, "NumPad 2", "num2", 273, 63,  12, 12 , true, true}, {0, "NumPad 3", "num3", 285, 63,  12, 12 ,
       true, true}, {0, "NumPad Enter", "numenter", 297, 69, 12, 24, true, true},
    {0, 0, "g16", 0, 75,  12, 12 , true, true}, {0, 0, "g17", 11, 75,  12, 12 , true, true}, {0, 0, "g18",
      22, 75,  12, 12 , true, true}, {0, "Left Ctrl", "lctrl", 40, 75, 16, 12, true, true}, {0, "Left Windows", "
      lwin", 54, 75,  12, 12 , true, true}, {0, "Left Alt", "lalt", 67, 75, 14, 12, true, true}, {0, "Space", "
      space", 116, 75, 84, 12, true, true}, {0, "Right Alt", "ralt", 165, 75, 14, 12, true, true}, {0, "Right Windows"
      , "rwin", 178, 75,  12, 12 , true, true}, {0, "Menu", "rmenu", 190, 75,  12, 12 , true, true}, {0, "Right
       Ctrl", "rctrl", 204, 75, 16, 12, true, true}, {0, "Left", "left", 222, 75,  12, 12 , true, true}, {0, "Down",
      "down", 234, 75,  12, 12 , true, true}, {0, "Right", "right", 246, 75,  12, 12 , true, true}, {0, "NumPad 0"
      , "num0", 267, 75, 24, 12, true, true}, {0, "NumPad .", "numdot", 285, 75,  12, 12 , true, true}
}
```

Definition at line 10 of file keymap.cpp.

13.114.4.4 const Key KStrafeKeys[] [static]

Initial value:

```
= {
```

```
    {0, "Sidelight", "lsidel", 0,   76  /2,  12 ,   76  , true, false},
    {0, "Sidelight", "rsidel",  ( ( 298  -  38 )  + ( 12  * 2)) ,   76  /2,  12 ,   76  , true, false},
    {0, "Logo", "logo",  12 , 0,  12, 12 , true, false},
    {0, "Function", "fn", 152, 75,  12, 12 , true, true}
}
```

Definition at line 155 of file keymap.cpp.

13.114.4.5 const Key M65Keys[] [static]

Initial value:

```
= {
    {0, "Left Mouse", "mouse1", 8, 0, 14, 32, false, true}, {0, "Right Mouse", "mouse2", 30, 0, 14, 32,
      false, true}, {0, "Middle Mouse", "mouse3", 22, 8, 8, 7, false, true},
    {0, "Wheel Up", "wheelup", 22, 4, 8, 5, false, true}, {0, "Wheel Down", "wheeldn", 22, 14, 8, 5, false,
       true}, {0, "Wheel Light", "front", 22, 15, 8, 8, true, false},
    {0, "DPI Up", "dpiup", 22, 19, 8, 6, false, true}, {0, "DPI Light", "dpi", 22, 24, 8, 8, true, false},
      {0, "DPI Down", "dpidn", 22, 31, 8, 6, false, true},
    {0, "Forward", "mouse5", 5, 24, 5, 9, false, true}, {0, "Back", "mouse4", 5, 33, 5, 10, false, true}, {
      0, "Sniper", "sniper", 0, 25, 5, 15, false, true},
    {0, "Logo", "back", 14, 55, 24, 12, true, false}
}
```

Definition at line 163 of file keymap.cpp.

13.114.4.6 const KeyPatch patchDE[] [static]

Initial value:

```
= {
    {"caret", "^", "grave"}, {"ss", "ß", "minus"}, {"grave", "´", "equal"},
    {"z", "Z", "y"}, {"ue", "Ü", "lbrace"}, {"plus", "+", "rbrace"},
    {"oe", "Ö", "colon"}, {"ae", "Ä", "quote"},
    {"angle", "<", "bslash_iso"}, {"y", "Y", "z"}, {"minus", "-", "slash"}
}
```

Definition at line 55 of file keymap.cpp.

13.114.4.7 const KeyPatch patchDK[] [static]

Initial value:

```
= {
    {0, "§", "grave"}, {0, "+", "minus"}, {0, "´", "equal"},
    {0, "Å", "lbrace"}, {0, "¨", "rbrace"},
    {0, "Æ", "colon"}, {0, "Ø", "quote"}, {0, "’", "hash"},
    {0, "<", "bslash_iso"}, {0, "-", "slash"},
}
```

Definition at line 36 of file keymap.cpp.

13.114.4.8 const KeyPatch patchDvorak[] [static]

Initial value:

```
= {
    {0, "[", "minus"}, {0, "]", "equal"},
    {0, "'", "q"}, {0, ",", "w"}, {0, ".", "e"}, {0, "P", "r"}, {0, "Y", "t"}, {0, "F", "y"}, {0, "G", "u"}
      , {0, "C", "i"}, {0, "R", "o"}, {0, "L", "p"}, {0, "/", "lbrace"}, {0, "=", "rbrace"},
    {0, "O", "s"}, {0, "E", "d"}, {0, "U", "f"}, {0, "I", "g"}, {0, "D", "h"}, {0, "H", "j"}, {0, "T", "k"}
      , {0, "N", "l"}, {0, "S", "colon"}, {0, "-", "quote"},
    {0, ";", "z"}, {0, "Q", "x"}, {0, "J", "c"}, {0, "K", "v"}, {0, "X", "b"}, {0, "B", "n"}, {0, "W", "
      comma"}, {0, "V", "dot"}, {0, "Z", "slash"},
}
```

Definition at line 97 of file keymap.cpp.

13.114.4.9 const KeyPatch patchES[] [static]

Initial value:

```
= {
    {"oa", "°", "grave"}, {"quote", "’", "minus"}, {"lexclam", "¡", "equal"},
    {"grave", "`", "lbrace"}, {"plus", "+", "rbrace"},
    {"nn", "Ñ", "colon"}, {"accent", "´", "quote"}, {"cc", "Ç", "hash"},
    {"angle", "<", "bslash_iso"}, {"minus", "-", "slash"},
}
```

Definition at line 83 of file keymap.cpp.

13.114.4.10 const KeyPatch patchEU[] [static]

Initial value:

```
= {
    {0, "\\ (R)", "hash"},
    {0, "\\ (L)", "bslash_iso"}
}
```

Definition at line 43 of file keymap.cpp.

13.114.4.11 const KeyPatch patchFR[] [static]

Initial value:

```
= {
    {"sup2", "²", "grave"}, {0, "&", "1"}, {0, "É", "2"}, {0, "\"", "3"}, {0, "’", "4"}, {0, "(", "5"}, {0,
      "-", "6"}, {0, "È", "7"}, {0, "_", "8"}, {0, "Ç", "9"}, {0, "À", "0"}, {"rparen", ")", "minus"},
    {"a", "A", "q"}, {"z", "Z", "w"}, {"caret", "^", "lbrace"}, {"dollar", "$", "rbrace"},
    {"q", "Q", "a"}, {"m", "M", "colon"}, {"percent", "Ù", "quote"}, {"star", "*", "hash"},
    {"angle", "<", "bslash_iso"}, {"w", "W", "z"}, {"comma", ",", "m"}, {"semicolon", ";", "comma"}, {"
      colon", ":", "dot"}, {"exclam", "!", "slash"},
}
```

Definition at line 48 of file keymap.cpp.

13.114.4.12 const KeyPatch patchIT[] [static]

Initial value:

```
= {
    {0, "\\", "grave"}, {0, "’", "minus"}, {0, "ì", "equal"},
    {0, "è", "lbrace"}, {0, "+", "rbrace"},
    {0, "ò", "colon"}, {0, "à", "quote"}, {0, "ù", "hash"},
    {0, "<", "bslash_iso"}, {0, "-", "slash"},
}
```

Definition at line 62 of file keymap.cpp.

13.114.4.13 const KeyPatch patchMX[] [static]

Initial value:

```
= {
    {0, "|", "grave"}, {0, "’", "minus"}, {0, "¿", "equal"},
    {0, "´", "lbrace"}, {0, "+", "rbrace"},
    {0, "Ñ", "colon"}, {0, "{", "quote"}, {0, "}", "hash"},
    {0, "<", "bslash_iso"}, {0, "-", "slash"},
}
```

Definition at line 76 of file keymap.cpp.

13.114.4.14 const KeyPatch patchNO[] [static]

Initial value:

```
= {
    {0, "§", "grave"}, {0, "+", "minus"}, {0, "´", "equal"},
    {0, "Å", "lbrace"}, {0, "¨", "rbrace"},
    {0, "Ø", "colon"}, {0, "Æ", "quote"}, {0, "’", "hash"},
    {0, "<", "bslash_iso"}, {0, "-", "slash"},
}
```

Definition at line 69 of file keymap.cpp.

13.114.4.15 const KeyPatch patchSE[] [static]

Initial value:

```
= {
    {"section", "§", "grave"}, {"plus", "+", "minus"}, {"grave", "´", "equal"},
    {"aa", "Å", "lbrace"}, {"umlaut", "¨", "rbrace"},
    {"oe", "Ö", "colon"}, {"ae", "Ä", "quote"}, {"quote", "’", "hash"},
    {"angle", "<", "bslash_iso"}, {"minus", "-", "slash"},
}
```

Definition at line 90 of file keymap.cpp.

13.114.4.16 const Key SabreKeys[] [static]

Initial value:

```
= {
    {0, "Left Mouse", "mouse1", 8, 0, 14, 32, false, true}, {0, "Right Mouse", "mouse2", 30, 0, 14, 32,
      false, true}, {0, "Middle Mouse", "mouse3", 22, 9, 8, 7, false, true}, {0, "Front light", "front", 8, -2, 14, 8
      , true, false },
    {0, "Wheel Up", "wheelup", 22, 5, 8, 5, false, true}, {0, "Wheel Down", "wheeldn", 22, 15, 8, 5, false,
       true}, {0, "Wheel Light", "wheel", 22, 5, 8, 15, true, false}, {0, "Extra button", "thumb1", 22, 20, 8, 18,
       false, true},
    {0, "DPI Up", "dpiup", 5, 3, 5, 7, false, true}, {0, "DPI Down", "dpidn", 5, 10, 5, 7, false, true}, {0
      , "DPI Light", "dpi", 5, 4, 5, 12, true, false},
    {0, "Forward", "mouse5", 5, 24, 5, 9, false, true}, {0, "Back", "mouse4", 5, 33, 5, 10, false, true},
    {0, "Logo", "back", 14, 50, 24, 12, true, false}
}
```

Definition at line 176 of file keymap.cpp.

13.114.4.17 const Key ScimKeys[] [static]

Initial value:

```
= {
    {0, "Left Mouse", "mouse1", 8, 0, 14, 32, false, true}, {0, "Right Mouse", "mouse2", 30, 0, 12, 32,
      false, true}, {0, "Middle Mouse", "mouse3", 22, 9, 8, 6, false, true}, {0, "Front light", "front", 30, 0, 12, 8
      , true, false },
    {0, "Wheel Up", "wheelup", 22, 3, 8, 6, false, true}, {0, "Wheel Down", "wheeldn", 22, 14, 8, 6, false,
       true}, {0, "Wheel Light", "wheel", 22, 3, 8, 17, true, false},
    {0, "DPI Up", "dpiup", 22, 19, 8, 9, false, true}, {0, "DPI Light", "dpi", 1, 12, 8, 4, true, false}, {
      0, "DPI Down", "dpidn", 22, 28, 8, 9, false, true},
    {0, "Thumb light", "thumb", 0, 21, 10, 24, true, false},
    {0, "1", "thumb1", -13, 18, 7, 7, false, true}, {0, "2", "thumb2", -6, 18, 7, 7, false, true}, {0, "3",
       "thumb3", 1, 18, 7, 7, false, true},
    {0, "4", "thumb4", -13, 25, 7, 7, false, true}, {0, "5", "thumb5", -6, 25, 7, 7, false, true}, {0, "6",
       "thumb6", 1, 25, 7, 7, false, true},
    {0, "7", "thumb7", -13, 32, 7, 7, false, true}, {0, "8", "thumb8", -6, 32, 7, 7, false, true}, {0, "9",
       "thumb9", 1, 32, 7, 7, false, true},
    {0, "10", "thumb10", -13, 39, 7, 7, false, true}, {0, "11", "thumb11", -6, 39, 7, 7, false, true}, {0,
      "12", "thumb12", 1, 39, 7, 7, false, true},
    {0, "Logo", "back", 14, 50, 24, 16, true, false}
}
```

Definition at line 189 of file keymap.cpp.

13.114.4.18 QHash<QString, Key> standardMaps[KeyMap::_MODEL_MAX][KeyMap::_LAYOUT_MAX] [static]

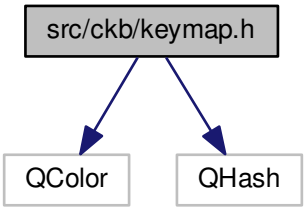
Definition at line 209 of file keymap.cpp.

Referenced by getMap().

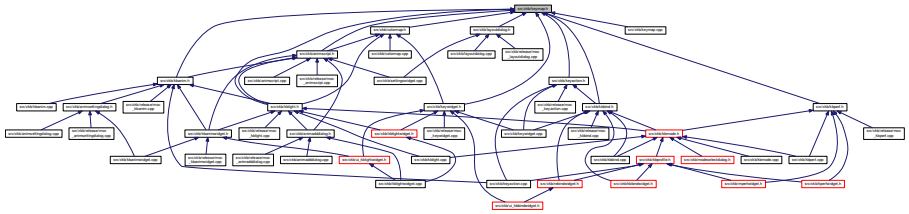
13.115 src/ckb/keymap.h File Reference

```
#include <QColor>
#include <QHash>
```

Include dependency graph for keymap.h:



This graph shows which files directly or indirectly include this file:



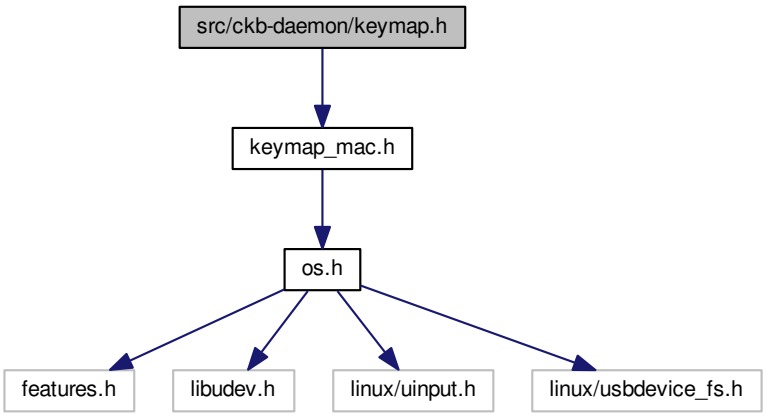
Data Structures

- struct Key
- class KeyMap

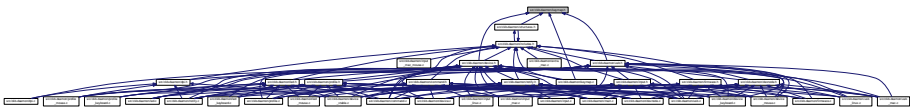
13.116 src/ckb-daemon/keymap.h File Reference

```
#include "keymap_mac.h"
```

Include dependency graph for keymap.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct key

Macros

- #define KEY_NONE -1
- #define KEY_CORSAIR -2
- #define KEY_UNBOUND -3
- #define BTN_WHEELUP 0x1f01
- #define BTN_WHEELDOWN 0x1f02
- #define KEY_BACKSLASH_ISO KEY_BACKSLASH
- #define N_KEYS_HW 152
- #define N_KEYBYTES_HW ((N_KEYS_HW + 7) / 8)
- #define N_KEY_ZONES 3
- #define N_KEYS_EXTRA 12
- #define N_BUTTONS_HW 20
- #define N_BUTTONS_EXTENDED 25
- #define MOUSE_BUTTON_FIRST (N_KEYS_HW + N_KEY_ZONES + N_KEYS_EXTRA)
- #define MOUSE_EXTRA_FIRST (MOUSE_BUTTON_FIRST + N_BUTTONS_HW)
- #define N_KEYS_INPUT (MOUSE_BUTTON_FIRST + N_BUTTONS_EXTENDED)
- #define N_KEYBYTES_INPUT ((N_KEYS_INPUT + 7) / 8)
- #define LED_MOUSE N_KEYS_HW
- #define N_MOUSE_ZONES 5
- #define N_MOUSE_ZONES_EXTENDED 11

- #define LED_DPI (LED_MOUSE + 2)
- #define N_KEYS_EXTENDED (N_KEYS_INPUT + N_MOUSE_ZONES_EXTENDED)
- #define N_KEYBYTES_EXTENDED ((N_KEYS_EXTENDED + 7) / 8)
- #define SCAN_SILENT 0x8000
- #define SCAN_KBD 0
- #define SCAN_MOUSE 0x1000

Functions

- void hid_kb_translate (unsigned char *kbinput, int endpoint, int length, const unsigned char *urbinput)
- void hid_mouse_translate (unsigned char *kbinput, short *xaxis, short *yaxis, int endpoint, int length, const unsigned char *urbinput)
- void corsair_kbcopy (unsigned char *kbinput, int endpoint, const unsigned char *urbinput)
- void corsair_mousecopy (unsigned char *kbinput, int endpoint, const unsigned char *urbinput)

Variables

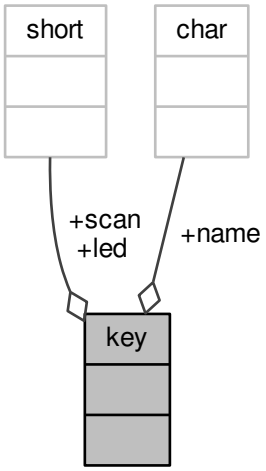
- const key keymap [(((152+3+12)+25)+11)]

13.116.1 Data Structure Documentation

13.116.1.1 struct key

Definition at line 49 of file keymap.h.

Collaboration diagram for key:



Data Fields

short	led	
const char *	name	
short	scan	

13.116.2 Macro Definition Documentation

13.116.2.1 #define BTN_WHEELDOWN 0x1f02

Definition at line 13 of file keymap.h.

Referenced by os_keypress().

13.116.2.2 #define BTN_WHEELUP 0x1f01

Definition at line 12 of file keymap.h.

Referenced by os_keypress().

13.116.2.3 #define KEY_BACKSLASH_ISO KEY_BACKSLASH

Definition at line 20 of file keymap.h.

13.116.2.4 #define KEY_CORSAIR -2

Definition at line 8 of file keymap.h.

13.116.2.5 #define KEY_NONE -1

Definition at line 7 of file keymap.h.

13.116.2.6 #define KEY_UNBOUND -3

Definition at line 9 of file keymap.h.

Referenced by cmd_unbind().

13.116.2.7 #define LED_DPI (LED_MOUSE + 2)

Definition at line 43 of file keymap.h.

Referenced by loadrgb_mouse(), and savergb_mouse().

13.116.2.8 #define LED_MOUSE N_KEYS_HW

Definition at line 39 of file keymap.h.

Referenced by isblack(), loaddpi(), loadrgb_mouse(), rgbcmp(), savedpi(), savergb_mouse(), and updatergb_mouse().

13.116.2.9 #define MOUSE_BUTTON_FIRST (N_KEYS_HW + N_KEY_ZONES + N_KEYS_EXTRA)

Definition at line 33 of file keymap.h.

Referenced by corsair_mousecopy(), and hid_mouse_translate().

13.116.2.10 #define MOUSE_EXTRA_FIRST (MOUSE_BUTTON_FIRST + N_BUTTONS_HW)

Definition at line 34 of file keymap.h.

Referenced by hid_mouse_translate().

13.116.2.11 #define N_BUTTONS_EXTENDED 25

Definition at line 32 of file keymap.h.

13.116.2.12 #define N_BUTTONS_HW 20

Definition at line 31 of file keymap.h.

Referenced by corsair_mousecopy().

13.116.2.13 #define N_KEY_ZONES 3

Definition at line 27 of file keymap.h.

13.116.2.14 #define N_KEYBYTES_EXTENDED ((N_KEYS_EXTENDED + 7) / 8)

Definition at line 46 of file keymap.h.

13.116.2.15 #define N_KEYBYTES_HW ((N_KEYS_HW + 7) / 8)

Definition at line 25 of file keymap.h.

Referenced by corsair_kbcopy().

13.116.2.16 #define N_KEYBYTES_INPUT ((N_KEYS_INPUT + 7) / 8)

Definition at line 37 of file keymap.h.

Referenced by _cmd_macro(), inputupdate_keys(), and macromask().

13.116.2.17 #define N_KEYS_EXTENDED (N_KEYS_INPUT + N_MOUSE_ZONES_EXTENDED)

Definition at line 45 of file keymap.h.

Referenced by printrgb(), and readcmd().

13.116.2.18 #define N_KEYS_EXTRA 12

Definition at line 29 of file keymap.h.

13.116.2.19 #define N_KEYS_HW 152

Definition at line 24 of file keymap.h.

Referenced by loadrgb_kb(), makergb_512(), rgbcmp(), and setactive_kb().

13.116.2.20 #define N_KEYS_INPUT (MOUSE_BUTTON_FIRST + N_BUTTONS_EXTENDED)

Definition at line 36 of file keymap.h.

Referenced by _cmd_get(), _cmd_macro(), cmd_bind(), cmd_notify(), cmd_rebind(), cmd_unbind(), initbind(), and inputupdate_keys().

13.116.2.21 #define N_MOUSE_ZONES 5

Definition at line 40 of file keymap.h.

Referenced by isblack(), loaddpi(), rgbcmp(), savedpi(), and updatergb_mouse().

13.116.2.22 #define N_MOUSE_ZONES_EXTENDED 11

Definition at line 41 of file keymap.h.

13.116.2.23 #define SCAN_KBD 0

Definition at line 57 of file keymap.h.

13.116.2.24 #define SCAN_MOUSE 0x1000

Definition at line 58 of file keymap.h.

Referenced by os_keypress().

13.116.2.25 #define SCAN_SILENT 0x8000

Definition at line 56 of file keymap.h.

Referenced by inputupdate_keys().

13.116.3 Function Documentation

13.116.3.1 void corsair_kbcopy (unsigned char * *kbinput,* int *endpoint,* const unsigned char * *urbinput*)

Definition at line 394 of file keymap.c.

References N_KEYBYTES_HW.

Referenced by os_inputmain().

```
394                                                                                 {
395     if(endpoint == 2 || endpoint == -2){
396         if(urbinput[0] != 3)
397             return;
398         urbinput++;
399     }
400     memcpy(kbinput, urbinput, N_KEYBYTES_HW);
401 }
```

Here is the caller graph for this function:

13.116.3.2 void corsair_mousecopy (unsigned char * *kbinput*, int *endpoint*, const unsigned char * *urbinput*)

Definition at line 403 of file keymap.c.

References BUTTON_HID_COUNT, CLEAR_KEYBIT, MOUSE_BUTTON_FIRST, N_BUTTONS_HW, and SET_KEYBIT.

Referenced by os_inputmain().

```
403                                                                                                 {
404     if(endpoint == 2 || endpoint == -2){
405         if(urbinput[0] != 3)
406             return;
407         urbinput++;
408     }
409     for(int bit = BUTTON_HID_COUNT; bit < N_BUTTONS_HW; bit++){
410         int byte = bit / 8;
411         uchar test = 1 << (bit % 8);
412         if(urbinput[byte] & test)
413             SET_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
414         else
415             CLEAR_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
416     }
417 }
```

Here is the caller graph for this function:

13.116.3.3 void hid_kb_translate (unsigned char * *kbinput*, int *endpoint*, int *length*, const unsigned char * *urbinput*)

Definition at line 223 of file keymap.c.

References ckb_warn, CLEAR_KEYBIT, and SET_KEYBIT.

Referenced by os_inputmain().

```
223                                                                                                 {
224     if(length < 1)
225         return;
226     // LUT for HID -> Corsair scancodes (-1 for no scan code, -2 for currently unsupported)
227     // Modified from Linux drivers/hid/usbhid/usbkbd.c, key codes replaced with array indices and K95 keys
      added
228     static const short hid_codes[256] = {
229         -1,  -1,  -1,  -1,  37,  54,  52,  39,  27,  40,  41,  42,  32,  43,  44,  45,
230         56,  55,  33,  34,  25,  28,  38,  29,  31,  53,  26,  51,  30,  50,  13,  14,
231         15,  16,  17,  18,  19,  20,  21,  22,  82,   0,  86,  24,  64,  23,  84,  35,
232         79,  80,  81,  46,  47,  12,  57,  58,  59,  36,   1,   2,   3,   4,   5,   6,
233          7,   8,   9,  10,  11,  72,  73,  74,  75,  76,  77,  78,  87,  88,  89,  95,
234         93,  94,  92, 102, 103, 104, 105, 106, 107, 115, 116, 117, 112, 113, 114, 108,
235        109, 110, 118, 119,  49,  69,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,
236         -2,  -2,  -2,  -2,  -2,  -2,  -2,  -2,  98,  -2,  -2,  -2,  -2,  -2,  -2,  97,
237        130, 131,  -1,  -1,  -1,  -2,  -1,  -2,  -2,  -2,  -2,  -2,  -2,  -1,  -1,  -1,
238         -2,  -2,  -2,  -2,  -2,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
239         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
240         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,
241         -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -1,  -3,  -1,  -1,  -1,  // <- -3 = non-RGB
      program key
```

```
242         120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 136, 137, 138, 139, 140, 141,
243          60,  48,  62,  61,  91,  90,  67,  68, 142, 143,  99, 101,  -2, 130, 131,  97,
244          -2, 133, 134, 135,  -2,  96,  -2, 132,  -2,  -2,  71,  71,  71,  71,  -1,  -1,
245     };
246     switch(endpoint){
247     case 1:
248     case -1:
249         // EP 1: 6KRO input (RGB and non-RGB)
250         // Clear previous input
251         for(int i = 0; i < 256; i++){
252             if(hid_codes[i] >= 0)
253                 CLEAR_KEYBIT(kbinput, hid_codes[i]);
254         }
255         // Set new input
256         for(int i = 0; i < 8; i++){
257             if((urbinput[0] >> i) & 1)
258                 SET_KEYBIT(kbinput, hid_codes[i + 224]);
259         }
260         for(int i = 2; i < length; i++){
261             if(urbinput[i] > 3){
262                 int scan = hid_codes[urbinput[i]];
263                 if(scan >= 0)
264                     SET_KEYBIT(kbinput, scan);
265                 else
266                     ckb_warn("Got unknown key press %d on EP 1\n", urbinput[i]);
267             }
268         }
269         break;
270     case -2:
271         // EP 2 RGB: NKRO input
272         if(urbinput[0] == 1){
273             // Type 1: standard key
274             if(length != 21)
275                 return;
276             for(int bit = 0; bit < 8; bit++){
277                 if((urbinput[1] >> bit) & 1)
278                     SET_KEYBIT(kbinput, hid_codes[bit + 224]);
279                 else
280                     CLEAR_KEYBIT(kbinput, hid_codes[bit + 224]);
281             }
282             for(int byte = 0; byte < 19; byte++){
283                 char input = urbinput[byte + 2];
284                 for(int bit = 0; bit < 8; bit++){
285                     int keybit = byte * 8 + bit;
286                     int scan = hid_codes[keybit];
287                     if((input >> bit) & 1){
288                         if(scan >= 0)
289                             SET_KEYBIT(kbinput, hid_codes[keybit]);
290                         else
291                             ckb_warn("Got unknown key press %d on EP 2\n", keybit);
292                     } else if(scan >= 0)
293                         CLEAR_KEYBIT(kbinput, hid_codes[keybit]);
294                 }
295             }
296             break;
297         } else if(urbinput[0] == 2)
298             ;       // Type 2: media key (fall through)
299         else
300             break;  // No other known types
301     case 2:
302         // EP 2 Non-RGB: media keys
303         CLEAR_KEYBIT(kbinput, 97);          // mute
304         CLEAR_KEYBIT(kbinput, 98);          // stop
305         CLEAR_KEYBIT(kbinput, 99);          // prev
306         CLEAR_KEYBIT(kbinput, 100);         // play
307         CLEAR_KEYBIT(kbinput, 101);         // next
308         CLEAR_KEYBIT(kbinput, 130);         // volup
309         CLEAR_KEYBIT(kbinput, 131);         // voldn
310         for(int i = 0; i < length; i++){
311             switch(urbinput[i]){
312             case 181:
313                 SET_KEYBIT(kbinput, 101);   // next
314                 break;
315             case 182:
316                 SET_KEYBIT(kbinput, 99);    // prev
317                 break;
318             case 183:
319                 SET_KEYBIT(kbinput, 98);    // stop
320                 break;
321             case 205:
322                 SET_KEYBIT(kbinput, 100);   // play
323                 break;
324             case 226:
325                 SET_KEYBIT(kbinput, 97);    // mute
326                 break;
327             case 233:
328                 SET_KEYBIT(kbinput, 130);   // volup
```

```
329                 break;
330             case 234:
331                 SET_KEYBIT(kbinput, 131);   // voldn
332                 break;
333             }
334         }
335         break;
336     case 3:
337         // EP 3 non-RGB: NKRO input
338         if(length != 15)
339             return;
340         for(int bit = 0; bit < 8; bit++){
341             if((urbinput[0] >> bit) & 1)
342                 SET_KEYBIT(kbinput, hid_codes[bit + 224]);
343             else
344                 CLEAR_KEYBIT(kbinput, hid_codes[bit + 224]);
345         }
346         for(int byte = 0; byte < 14; byte++){
347             char input = urbinput[byte + 1];
348             for(int bit = 0; bit < 8; bit++){
349                 int keybit = byte * 8 + bit;
350                 int scan = hid_codes[keybit];
351                 if((input >> bit) & 1){
352                     if(scan >= 0)
353                         SET_KEYBIT(kbinput, hid_codes[keybit]);
354                     else
355                         ckb_warn("Got unknown key press %d on EP 3\n", keybit);
356                 } else if(scan >= 0)
357                     CLEAR_KEYBIT(kbinput, hid_codes[keybit]);
358             }
359         }
360         break;
361     }
362 }
```

Here is the caller graph for this function:

13.116.3.4 void hid_mouse_translate (unsigned char * *kbinput*, short * *xaxis*, short * *yaxis*, int *endpoint*, int *length*, const unsigned char * *urbinput*)

Definition at line 366 of file keymap.c.

References BUTTON_HID_COUNT, CLEAR_KEYBIT, MOUSE_BUTTON_FIRST, MOUSE_EXTRA_FIRST, and SET_KEYBIT.

Referenced by os_inputmain().

```
366
                                {
367     if((endpoint != 2 && endpoint != -2) || length < 10)
368         return;
369     // EP 2: mouse input
370     if(urbinput[0] != 1)
371         return;
372     // Byte 1 = mouse buttons (bitfield)
373     for(int bit = 0; bit < BUTTON_HID_COUNT; bit++){
374         if(urbinput[1] & (1 << bit))
375             SET_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
376         else
377             CLEAR_KEYBIT(kbinput, MOUSE_BUTTON_FIRST + bit);
378     }
379     // Bytes 5 - 8: movement
380     *xaxis += *(short*)(urbinput + 5);
381     *yaxis += *(short*)(urbinput + 7);
382     // Byte 9: wheel
383     char wheel = urbinput[9];
384     if(wheel > 0)
385         SET_KEYBIT(kbinput, MOUSE_EXTRA_FIRST);         // wheelup
386     else
387         CLEAR_KEYBIT(kbinput, MOUSE_EXTRA_FIRST);
388     if(wheel < 0)
```

```
389         SET_KEYBIT(kbinput, MOUSE_EXTRA_FIRST + 1);     // wheeldn
390     else
391         CLEAR_KEYBIT(kbinput, MOUSE_EXTRA_FIRST + 1);
392 }
```

Here is the caller graph for this function:

13.116.4 Variable Documentation

13.116.4.1 const key keymap[(((152+3+12)+25)+11)]

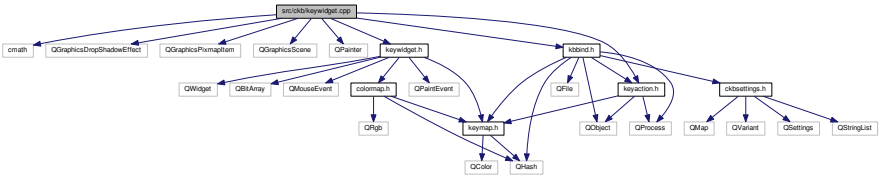
Definition at line 5 of file keymap.c.

Referenced by _cmd_get(), _cmd_macro(), cmd_bind(), cmd_rebind(), cmd_rgb(), initbind(), inputupdate_keys(), nprintkey(), printrgb(), readcmd(), and setactive_kb().

13.117 src/ckb/keywidget.cpp File Reference

```
#include <cmath>
#include <QGraphicsDropShadowEffect>
#include <QGraphicsPixmapItem>
#include <QGraphicsScene>
#include <QPainter>
#include "keywidget.h"
#include "keyaction.h"
#include "kbbind.h"
```

Include dependency graph for keywidget.cpp:



Functions

- QRgb monoRgb (float r, float g, float b)

Variables

- static const int KEY_SIZE = 12
- static QImage * m65Overlay = 0
- static QImage * sabOverlay = 0
- static QImage * scimOverlay = 0

13.117.1 Function Documentation

13.117.1.1 QRgb monoRgb (float *r*, float *g*, float *b*)

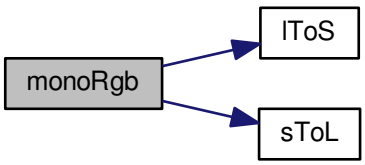
Definition at line 284 of file kblight.cpp.

References lToS(), and sToL().

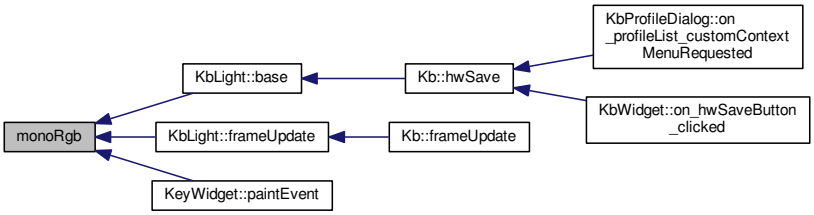
Referenced by KbLight::base(), KbLight::frameUpdate(), and KeyWidget::paintEvent().

```
284                                     {
285     // It's important to use a linear colorspace for this, otherwise the colors will appear inconsistent
286     // Note that although we could use linear space for alpha blending or the animation blending functions,
        we don't.
287     // The reason for this is that photo manipulation programs don't do it either, so even though the
        result would technically be more correct,
288     // it would look wrong to most people.
289     r = sToL(r);
290     g = sToL(g);
291     b = sToL(b);
292     int value = round(lToS((r + g + b) / 3.f));
293     return qRgb(value, value, value);
294 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.117.2 Variable Documentation

13.117.2.1 const int KEY_SIZE = 12 [static]

Definition at line 10 of file keywidget.cpp.

Referenced by KeyWidget::drawInfo(), and KeyWidget::map().

13.117.2.2 QImage* m65Overlay = 0 [static]

Definition at line 12 of file keywidget.cpp.

Referenced by KeyWidget::paintEvent().

13.117.2.3 QImage * sabOverlay = 0 [static]

Definition at line 12 of file keywidget.cpp.

Referenced by KeyWidget::paintEvent().

13.117.2.4 QImage * scimOverlay = 0 [static]

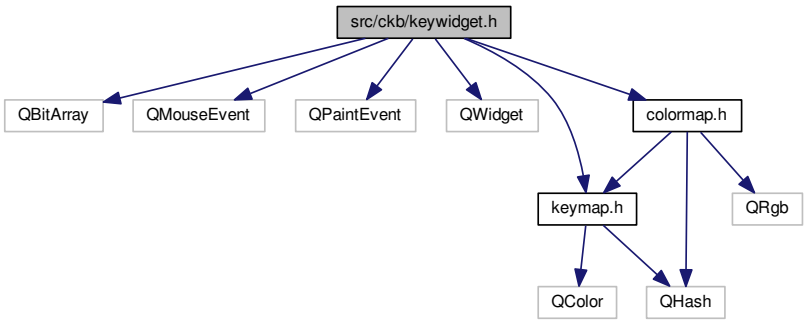
Definition at line 12 of file keywidget.cpp.

Referenced by KeyWidget::paintEvent().

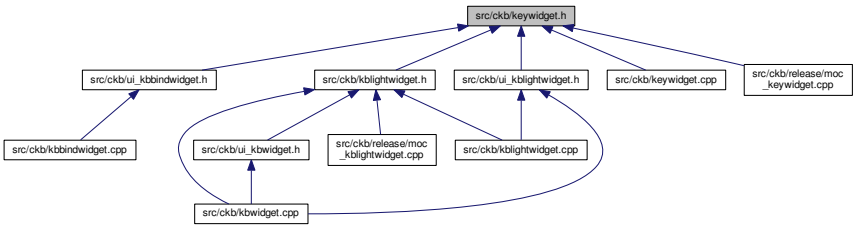
13.118 src/ckb/keywidget.h File Reference

```
#include <QBitArray>
#include <QMouseEvent>
#include <QPaintEvent>
#include <QWidget>
#include "keymap.h"
#include "colormap.h"
```

Include dependency graph for keywidget.h:



This graph shows which files directly or indirectly include this file:



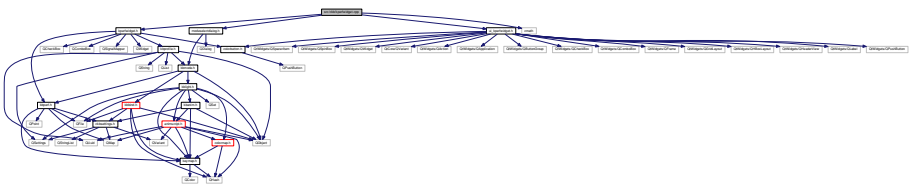
Data Structures

- class KeyWidget

13.119 src/ckb/kperfwidget.cpp File Reference

```
#include "kperfwidget.h"
#include "ui_kperfwidget.h"
#include "modeselectdialog.h"
#include <cmath>
```

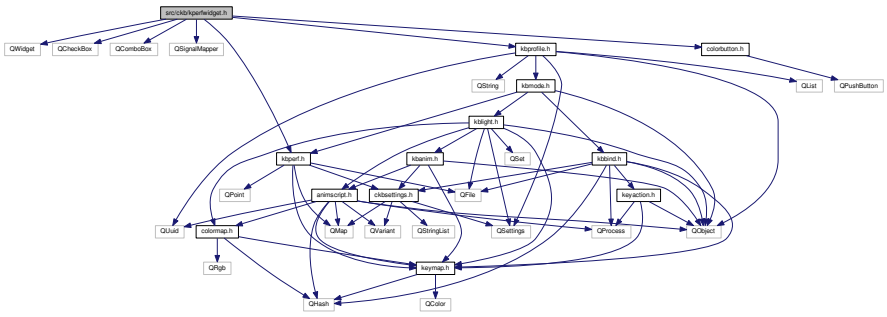
Include dependency graph for kperfwidget.cpp:



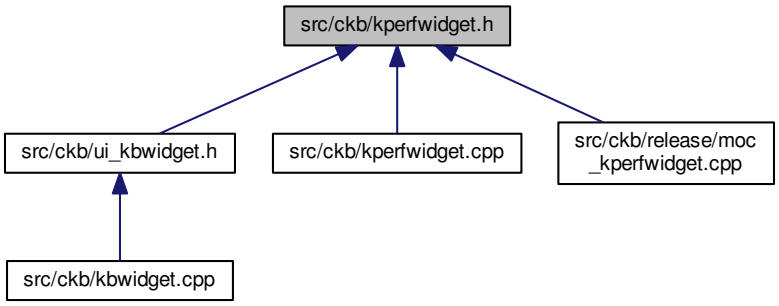
13.120 src/ckb/kperfwidget.h File Reference

```
#include <QWidget>
#include <QCheckBox>
#include <QComboBox>
#include <QSignalMapper>
#include "kbperf.h"
#include "kbprofile.h"
#include "colorbutton.h"
```

Include dependency graph for kperfwidget.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class KPerfWidget
- struct KPerfWidget::IndicatorUi

Namespaces

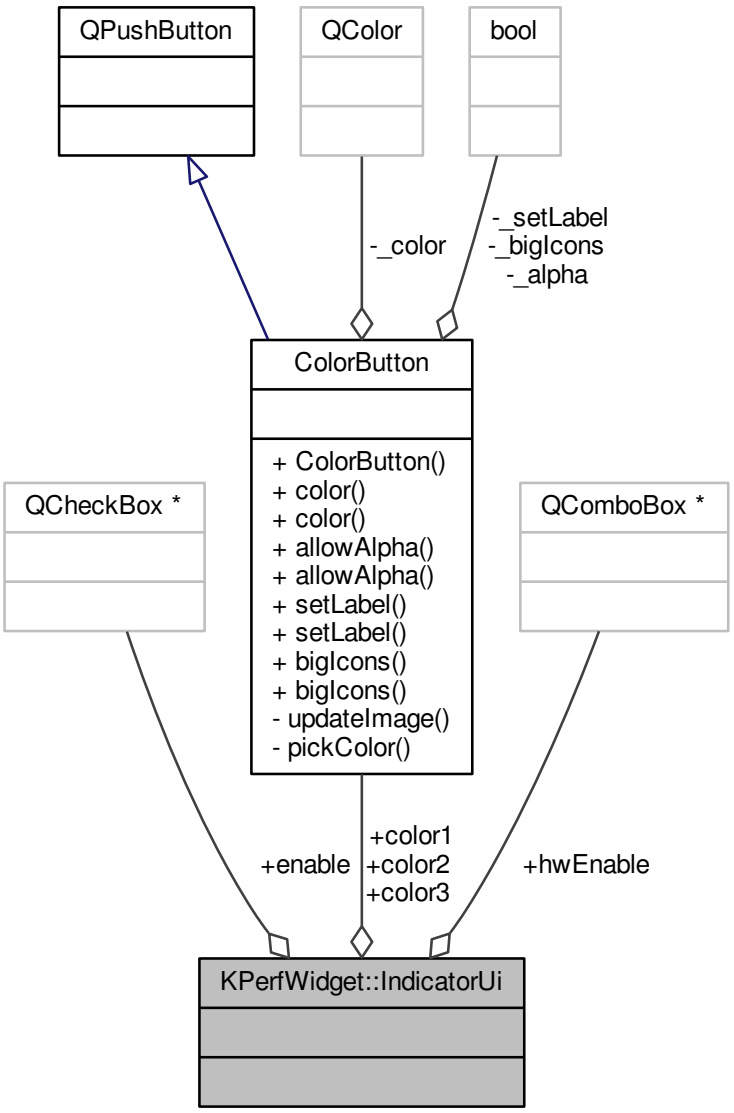
- Ui

13.120.1 Data Structure Documentation

13.120.1.1 struct KPerfWidget::IndicatorUi

Definition at line 54 of file kperfwidget.h.

Collaboration diagram for KPerfWidget::IndicatorUi:



Data Fields

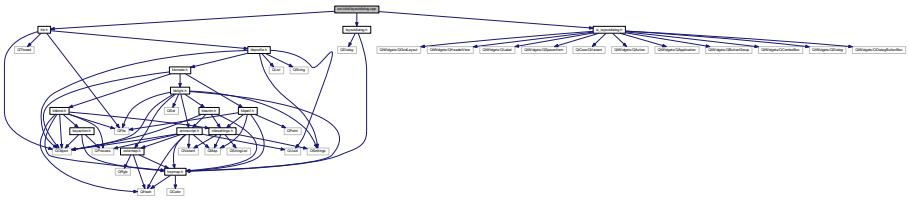
ColorButton *	color1	
ColorButton *	color2	
ColorButton *	color3	
QCheckBox *	enable	
QComboBox *	hwEnable	

13.121 src/ckb/layoutdialog.cpp File Reference

```
#include "layoutdialog.h"
```

```
#include "kb.h"
#include "ui_layoutdialog.h"
```

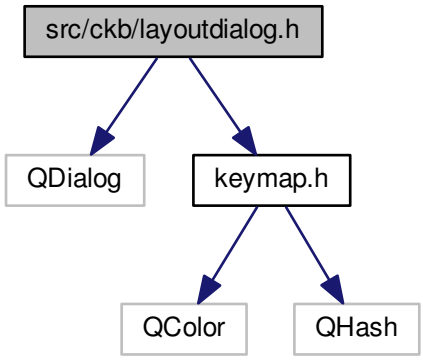
Include dependency graph for layoutdialog.cpp:



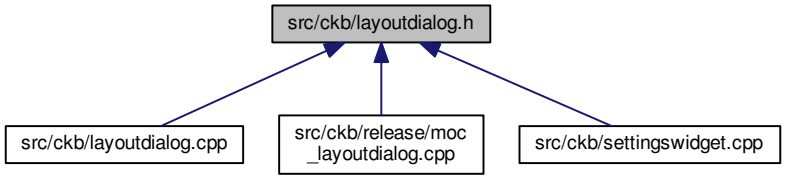
13.122 src/ckb/layoutdialog.h File Reference

```
#include <QDialog>
#include "keymap.h"
```

Include dependency graph for layoutdialog.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class LayoutDialog

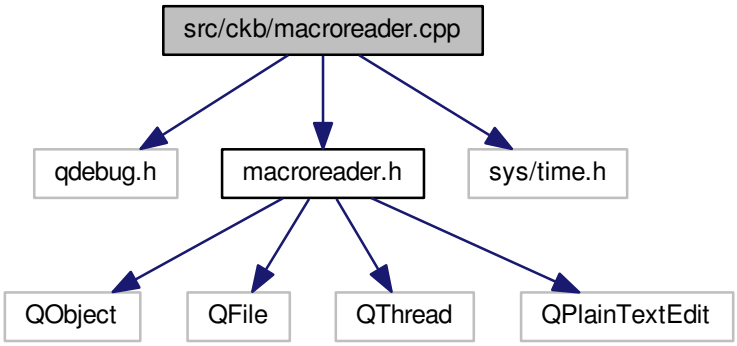
Namespaces

- Ui

13.123 src/ckb/macroreader.cpp File Reference

```
#include <qdebug.h>
#include "macroreader.h"
#include <sys/time.h>
```

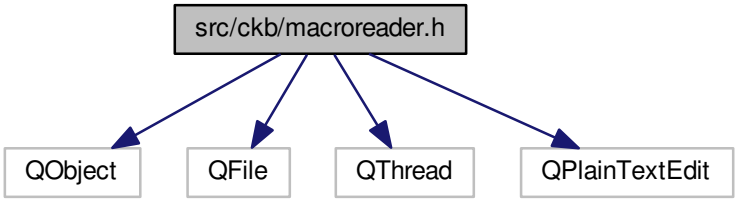
Include dependency graph for macroreader.cpp:



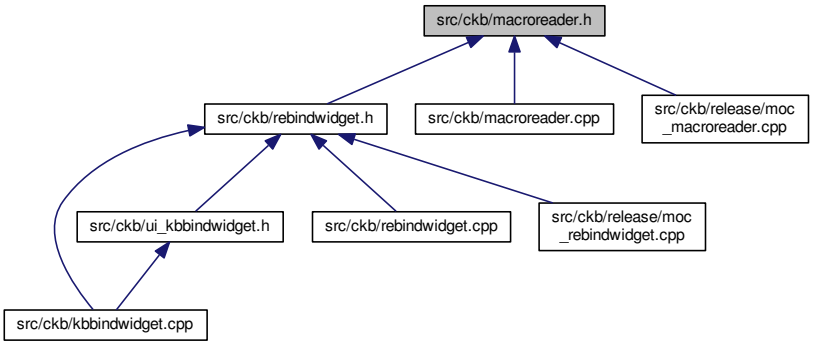
13.124 src/ckb/macroreader.h File Reference

```
#include <QObject>
#include <QFile>
#include <QThread>
#include <QPlainTextEdit>
```

Include dependency graph for macroreader.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class MacroReaderThread

  The MacroReaderThread class is responsible for reading Macro Key Values. It is created as a separate thread (worker thread) for reading macro commands from an fresh opened notify channel. Standard notify channel for macro definitions is number 2.

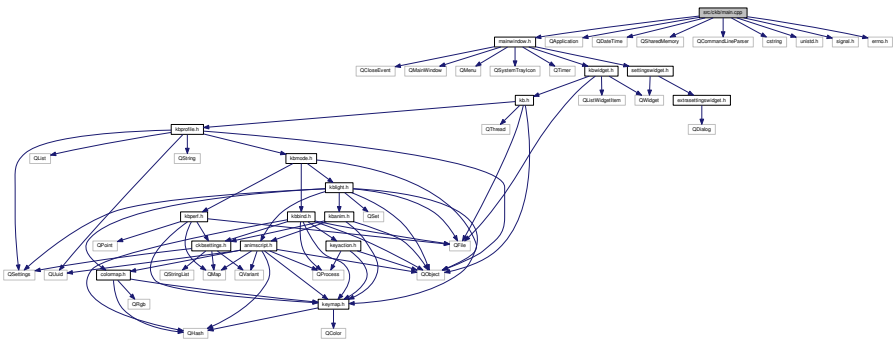
- class MacroReader

  The MacroReader class creates a worker thread object. It does a connect do delayed deletion of thread local variables in the case the worker thread terminates.

13.125 src/ckb/main.cpp File Reference

```
#include "mainwindow.h"
#include <QApplication>
#include <QDateTime>
#include <QSharedMemory>
#include <QCommandLineParser>
#include <cstring>
#include <unistd.h>
#include <signal.h>
#include <errno.h>
```

Include dependency graph for main.cpp:



Macros

- #define SHMEM_SIZE 128 ∗ 1024
- #define SHMEM_SIZE_V015 16

Enumerations

- enum CommandLineParseResults {
  CommandLineOK, CommandLineError, CommandLineVersionRequested, CommandLineHelpRequested,
  CommandLineClose, CommandLineBackground }

Functions

- QSharedMemory appShare ("ckb")
- CommandLineParseResults parseCommandLine (QCommandLineParser &parser, QString ∗errorMessage)

  parseCommandLine - Setup options and parse command line arguments.
- static bool pidActive (const QStringList &lines)
- static bool isRunning (const char ∗command)
- int main (int argc, char ∗argv[])

13.125.1 Macro Definition Documentation

13.125.1.1 #define SHMEM_SIZE 128 ∗ 1024

Definition at line 20 of file main.cpp.

Referenced by isRunning().

13.125.1.2 #define SHMEM_SIZE_V015 16

Definition at line 21 of file main.cpp.

Referenced by isRunning().

13.125.2 Enumeration Type Documentation

13.125.2.1 enum CommandLineParseResults

Enumerator

CommandLineOK

CommandLineError

CommandLineVersionRequested

CommandLineHelpRequested

CommandLineClose

CommandLineBackground

Definition at line 24 of file main.cpp.

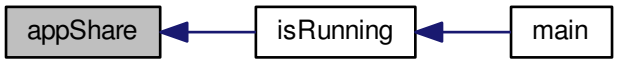
```
24                              {
25     CommandLineOK,
26     CommandLineError,
27     CommandLineVersionRequested,
28     CommandLineHelpRequested,
29     CommandLineClose,
30     CommandLineBackground
31 };
```

13.125.3 Function Documentation

13.125.3.1 QSharedMemory appShare ("ckb")

Referenced by isRunning().

Here is the caller graph for this function:



13.125.3.2 static bool isRunning (const char * *command*) [static]

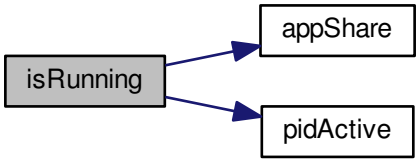
Definition at line 109 of file main.cpp.

References appShare(), pidActive(), SHMEM_SIZE, and SHMEM_SIZE_V015.

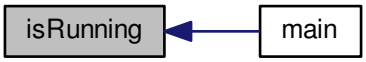
Referenced by main().

```
109                                         {
110     // Try to create shared memory (if successful, application was not already running)
111     if(!appShare.create(SHMEM_SIZE) || !appShare.lock()){
112         // Lock existing shared memory
113         if(!appShare.attach() || !appShare.lock())
114             return true;
115         bool running = false;
116         if(appShare.size() == SHMEM_SIZE_V015){
117             // Old shmem - no PID listed so assume the process is running, and print the command directly
    to the buffer
118             if(command){
119                 void* data = appShare.data();
120                 snprintf((char*)data, SHMEM_SIZE_V015, "%s", command);
121             }
122             running = true;
123         } else {
124             // New shmem. Scan the contents of the shared memory for a PID
125             QStringList lines = QString((const char*)appShare.constData()).split("\n");
126             if(pidActive(lines)){
127                 running = true;
128                 // Append the command
129                 if(command){
130                     lines.append(QString("Option ") + command);
131                     QByteArray newMem = lines.join("\n").left(SHMEM_SIZE).toLatin1();
132                     // Copy the NUL byte as well as the string
133                     memcpy(appShare.data(), newMem.constData(), newMem.length() + 1);
134                 }
135             }
136         }
137         if(running){
138             appShare.unlock();
139             return true;
140         }
141     }
142     // Not already running. Initialize the shared memory with our PID
143     snprintf((char*)appShare.data(), appShare.size(), "PID %ld", (long)getpid());
144     appShare.unlock();
145     return false;
146 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.125.3.3 int main (int *argc*, char * *argv[]*)

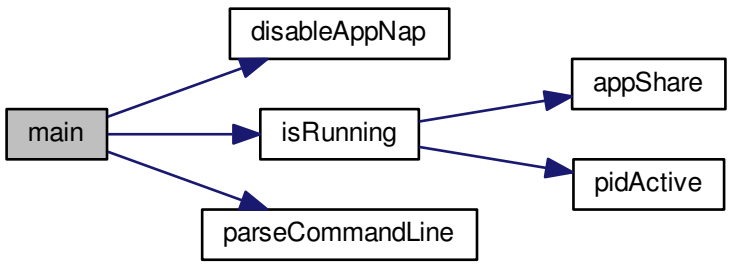
Definition at line 148 of file main.cpp.

References CommandLineBackground, CommandLineClose, CommandLineError, CommandLineHelpRequested, CommandLineOK, CommandLineVersionRequested, disableAppNap(), isRunning(), and parseCommandLine().

```
148                                {
149     // Setup main application
150     QApplication a(argc, argv);
151 
152     // Setup names and versions
153     QCoreApplication::setOrganizationName("ckb");
154     QCoreApplication::setApplicationVersion(CKB_VERSION_STR);
155     QCoreApplication::setApplicationName("ckb");
156 
157     // Setup argument parser
158     QCommandLineParser parser;
159     QString errorMessage;
160     parser.setApplicationDescription("Open Source Corsair Input Device Driver for Linux and OSX.");
161     bool background = 0;
162 
163     // Although the daemon runs as root, the GUI needn't and shouldn't be, as it has the potential to
      corrupt settings data.
164     if(getuid() == 0){
165         printf("The ckb GUI should not be run as root.\n");
166         return 0;
167     }
168 
169     // Seed the RNG for UsbIds
170     qsrand(QDateTime::currentMSecsSinceEpoch());
171 #ifdef Q_OS_MACX
172     disableAppNap();
173 #endif
174 #if QT_VERSION >= QT_VERSION_CHECK(5, 3, 0)
175     // Enable HiDPI support
176     qApp->setAttribute(Qt::AA_UseHighDpiPixmaps);
177 #endif
178 
```

```
179     // Parse arguments
180     switch (parseCommandLine(parser, &errorMessage)) {
181     case CommandLineOK:
182         // If launched with no argument
183         break;
184     case CommandLineError:
185         fputs(qPrintable(errorMessage), stderr);
186         fputs("\n\n", stderr);
187         fputs(qPrintable(parser.helpText()), stderr);
188         return 1;
189     case CommandLineVersionRequested:
190         // If launched with --version, print version info and then quit
191         printf("%s %s\n", qPrintable(QCoreApplication::applicationName()),
192                qPrintable(QCoreApplication::applicationVersion()));
193         return 0;
194     case CommandLineHelpRequested:
195         // If launched with --help, print help and then quit
196         parser.showHelp();
197         return 0;
198     case CommandLineClose:
199         // If launched with --close, kill existing app
200         if (isRunning("Close"))
201             printf("Asking existing instance to close.\n");
202         else
203             printf("ckb is not running.\n");
204         return 0;
205     case CommandLineBackground:
206         // If launched with --background, launch in background
207         background = 1;
208         break;
209     }
210
211     // Launch in background if requested, or if re-launching a previous session
212     if(qApp->isSessionRestored())
213             background = 1;
214     if(isRunning(background ? 0 : "Open")){
215         printf("ckb is already running. Exiting.\n");
216         return 0;
217     }
218     MainWindow w;
219     if(!background)
220         w.show();
221
222     return a.exec();
223 }
```

Here is the call graph for this function:



13.125.3.4 CommandLineParseResults parseCommandLine (QCommandLineParser & *parser*, QString * *errorMessage*)

Parameters

parser	parser instance to use for parse the arguments
errorMessage	argument parse error message

Returns

integer, representing the requested argument

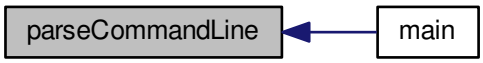
Definition at line 41 of file main.cpp.

References CommandLineBackground, CommandLineClose, CommandLineError, CommandLineHelpRequested, CommandLineOK, and CommandLineVersionRequested.

Referenced by main().

```
41                                                                                                  {
42     // setup parser to interpret -abc as -a -b -c
43     parser.setSingleDashWordOptionMode(QCommandLineParser::ParseAsCompactedShortOptions);
44
45     /* add command line options */
46     // add -v, --version
47     const QCommandLineOption versionOption = parser.addVersionOption();
48     // add -h, --help (/? on windows)
49     const QCommandLineOption helpOption = parser.addHelpOption();
50     // add -b, --background
51     const QCommandLineOption backgroundOption(QStringList() << "b" << "background",
52                                               "Starts in background, without displaying the main window.");
53     parser.addOption(backgroundOption);
54     // add -c, --close
55     const QCommandLineOption closeOption(QStringList() << "c" << "close",
56                                          "Causes already running instance (if any) to exit.");
57     parser.addOption(closeOption);
58
59     /* parse arguments */
60     if (!parser.parse(QCoreApplication::arguments())) {
61         // set error, if there already are some
62         *errorMessage = parser.errorText();
63         return CommandLineError;
64     }
65
66     /* return requested operation/setup */
67     if (parser.isSet(versionOption)) {
68         // print version and exit
69         return CommandLineVersionRequested;
70     }
71
72     if (parser.isSet(helpOption)) {
73         // print help and exit
74         return CommandLineHelpRequested;
75     }
76
77     if (parser.isSet(backgroundOption)) {
78         // open application in background
79         return CommandLineBackground;
80     }
81
82     if (parser.isSet(closeOption)) {
83         // close already running application instances, if any
84         return CommandLineClose;
85     }
86
87     /* no explicit argument was passed */
88     return CommandLineOK;
89 };
```

Here is the caller graph for this function:



13.125.3.5 static bool pidActive (const QStringList & *lines*) [static]

Definition at line 92 of file main.cpp.

Referenced by isRunning().

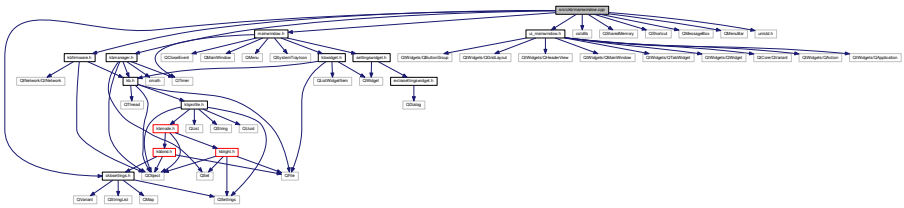
```
92                                                  {
93     foreach(const QString& line, lines){
94         if(line.startsWith("PID ")){
95             bool ok;
96             pid_t pid;
97             // Valid PID found?
98             if((pid = line.split(" ")[1].toLong(&ok)) > 0 && ok){
99                 // kill -0 does nothing to the application, but checks if it's running
100                 return (kill(pid, 0) == 0 || errno != ESRCH);
101             }
102         }
103     }
104     // If the PID wasn't listed in the shmem, assume it is running
105     return true;
106 }
```

Here is the caller graph for this function:

13.126 src/ckb/mainwindow.cpp File Reference

```
#include "ckbsettings.h"
#include "kbmanager.h"
#include "kbfirmware.h"
#include "mainwindow.h"
#include "ui_mainwindow.h"
#include <cstdlib>
#include <QSharedMemory>
#include <QShortcut>
#include <QMessageBox>
#include <QMenuBar>
#include <unistd.h>
```

Include dependency graph for mainwindow.cpp:



Variables

- QSharedMemory appShare
- static const QString configLabel = "Settings"

13.126.1 Variable Documentation

13.126.1.1 QSharedMemory appShare

Referenced by MainWindow::timerTick().

13.126.1.2 const QString configLabel = "Settings" [static]

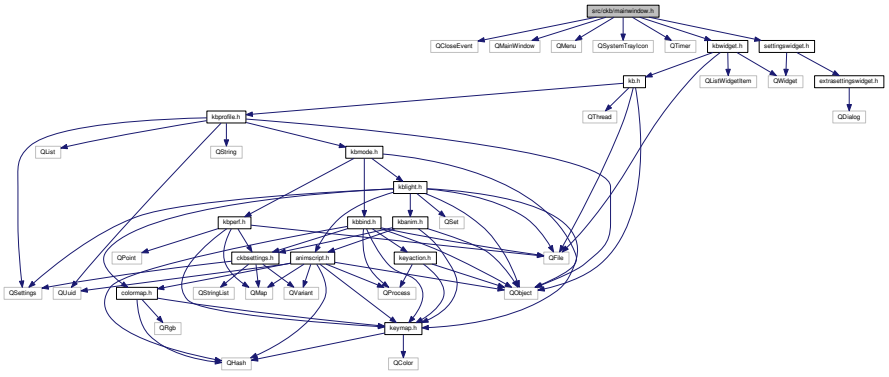
Definition at line 15 of file mainwindow.cpp.

Referenced by MainWindow::MainWindow().

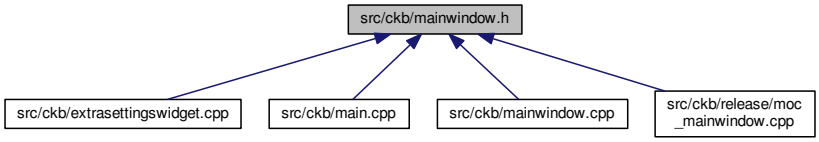
13.127 src/ckb/mainwindow.h File Reference

```
#include <QCloseEvent>
#include <QMainWindow>
#include <QMenu>
#include <QSystemTrayIcon>
#include <QTimer>
#include "kbwidget.h"
#include "settingswidget.h"
```

Include dependency graph for mainwindow.h:



This graph shows which files directly or indirectly include this file:



Data Structures

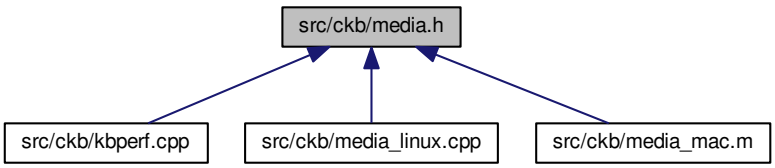
- class MainWindow

Namespaces

- Ui

13.128 src/ckb/media.h File Reference

This graph shows which files directly or indirectly include this file:



Macros

- #define EXTERN_C extern
- #define ENUM_C(name) typedef enum
- #define ENUM_END_C(name) name

Enumerations

- enum muteState { UNKNOWN = -1, UNMUTED, MUTED }

Functions

- muteState getMuteState ()

13.128.1 Macro Definition Documentation

13.128.1.1 #define ENUM_C(*name*) typedef enum

Definition at line 13 of file media.h.

13.128.1.2 #define ENUM_END_C(*name*) name

Definition at line 14 of file media.h.

13.128.1.3 #define EXTERN_C extern

Definition at line 12 of file media.h.

13.128.2 Enumeration Type Documentation

13.128.2.1 enum muteState

Enumerator

UNKNOWN

UNMUTED

MUTED

Definition at line 19 of file media.h.

```
19                  {
20     UNKNOWN = -1,
21     UNMUTED,
22     MUTED
23 } ENUM_END_C(muteState);
```

13.128.3 Function Documentation

13.128.3.1 muteState getMuteState ( )

Definition at line 9 of file media_linux.cpp.

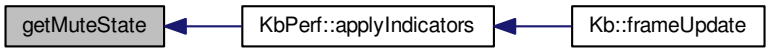
References MUTED, muteProcess, UNKNOWN, and UNMUTED.

Referenced by KbPerf::applyIndicators().

```
9                       {
10     // Get default sink mute state from pulseaudio
11     static muteState lastKnown = UNKNOWN;
12     static quint64 lastTime = 0;
13     // Instead of running a command to check the state and waiting for it to finish, run the command now
       but wait to check it until the next frame
14     // (locking up the GUI thread is bad)
15     if(lastTime > 0 && muteProcess.state() == QProcess::NotRunning){
16         if(muteProcess.exitCode() != 0)
17             lastKnown = UNKNOWN;
18         QString output = muteProcess.readLine().trimmed();
19         if(output == "yes")
20             lastKnown = MUTED;
21         else if(output == "no")
22             lastKnown = UNMUTED;
23     }
24     quint64 time = QDateTime::currentMSecsSinceEpoch();
25     if(time - lastTime < 33)
26         // Don't run it than 30 times per second
27         return lastKnown;
28     lastTime = time;
29     if(muteProcess.state() == QProcess::NotRunning)
```

```
30         // Shamelessly taken from pulseaudio-ctl
31         muteProcess.start("sh", QStringList() << "-c" << "pacmd list-sinks|grep -A 15 '*
       index'|awk '/muted:/{ print $2 }'");
32     return lastKnown;
33 }
```

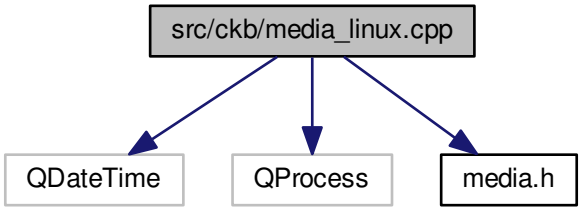
Here is the caller graph for this function:



13.129 src/ckb/media_linux.cpp File Reference

```
#include <QDateTime>
#include <QProcess>
#include "media.h"
```

Include dependency graph for media_linux.cpp:



Functions

- muteState getMuteState ()

Variables

- static QProcess muteProcess

13.129.1 Function Documentation

13.129.1.1 muteState getMuteState ( )

Definition at line 9 of file media_linux.cpp.

References MUTED, muteProcess, UNKNOWN, and UNMUTED.

```
9                       {
10      // Get default sink mute state from pulseaudio
11      static muteState lastKnown = UNKNOWN;
12      static quint64 lastTime = 0;
13      // Instead of running a command to check the state and waiting for it to finish, run the command now
        but wait to check it until the next frame
14      // (locking up the GUI thread is bad)
15      if(lastTime > 0 && muteProcess.state() == QProcess::NotRunning){
16          if(muteProcess.exitCode() != 0)
17              lastKnown = UNKNOWN;
18          QString output = muteProcess.readLine().trimmed();
19          if(output == "yes")
20              lastKnown = MUTED;
21          else if(output == "no")
22              lastKnown = UNMUTED;
23      }
24      quint64 time = QDateTime::currentMSecsSinceEpoch();
25      if(time - lastTime < 33)
26          // Don't run it than 30 times per second
27          return lastKnown;
28      lastTime = time;
29      if(muteProcess.state() == QProcess::NotRunning)
30          // Shamelessly taken from pulseaudio-ctl
31          muteProcess.start("sh", QStringList() << "-c" << "pacmd list-sinks|grep -A 15 '*
        index'|awk '/muted:/{ print $2 }'");
32      return lastKnown;
33  }
```

13.129.2 Variable Documentation

13.129.2.1 QProcess muteProcess [static]

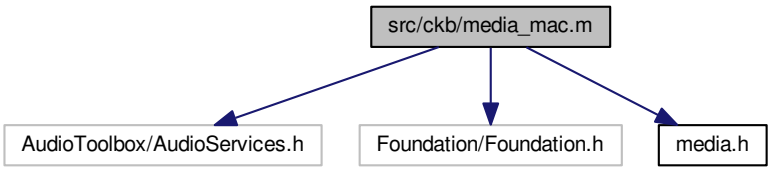
Definition at line 7 of file media_linux.cpp.

Referenced by getMuteState().

13.130 src/ckb/media_mac.m File Reference

```
#import <AudioToolbox/AudioServices.h>
#import <Foundation/Foundation.h>
#include "media.h"
```

Include dependency graph for media_mac.m:



Functions

- muteState getMuteState ()
- void disableAppNap ()

13.130.1 Function Documentation

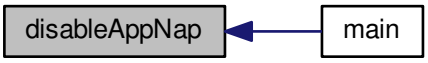
13.130.1.1 void disableAppNap ( )

Definition at line 34 of file media_mac.m.

Referenced by main().

```
34                      {
35      [[NSProcessInfo processInfo] beginActivityWithOptions:NSActivityUserInitiatedAllowingIdleSystemSleep
        reason:@"Keyboard animation"];
36 }
```

Here is the caller graph for this function:



13.130.1.2 muteState getMuteState ( )

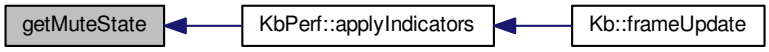
Definition at line 5 of file media_mac.m.

References MUTED, UNKNOWN, and UNMUTED.

Referenced by KbPerf::applyIndicators().

```
5                       {
6      // Get the system's default audio device
7      AudioObjectPropertyAddress propertyAddress = {
8          kAudioHardwarePropertyDefaultOutputDevice,
9          kAudioObjectPropertyScopeGlobal,
10          kAudioObjectPropertyElementMaster
11     };
12     AudioDeviceID deviceID = 0;
13     UInt32 dataSize = sizeof(deviceID);
14     if(AudioHardwareServiceGetPropertyData(kAudioObjectSystemObject, &propertyAddress, 0, NULL, &dataSize,
       &deviceID)
15             != kAudioHardwareNoError){
16         return UNKNOWN;
17     }
18     // Grab the mute property
19     AudioObjectPropertyAddress propertyAddress2 = {
20         kAudioDevicePropertyMute,
21         kAudioDevicePropertyScopeOutput,
22         kAudioObjectPropertyElementMaster
23     };
24     if(!AudioHardwareServiceHasProperty(deviceID, &propertyAddress2))
25         return UNKNOWN;
26     bool state = 0;
27     dataSize = sizeof(state);
28     if(AudioHardwareServiceGetPropertyData(deviceID, &propertyAddress2, 0, NULL, &dataSize, &state)
29             != kAudioHardwareNoError)
30         return UNKNOWN;
31     return state ? MUTED : UNMUTED;
32 }
```

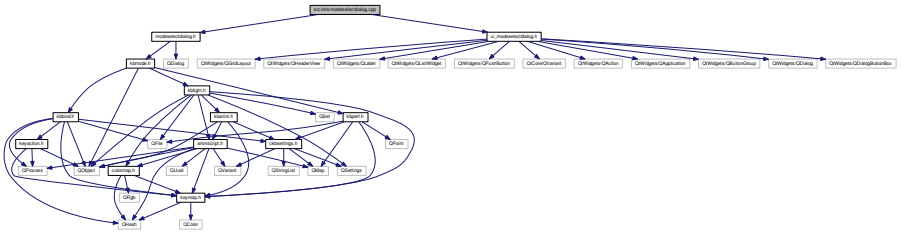
Here is the caller graph for this function:



13.131 src/ckb/modeselectdialog.cpp File Reference

```
#include "modeselectdialog.h"
#include "ui_modeselectdialog.h"
```

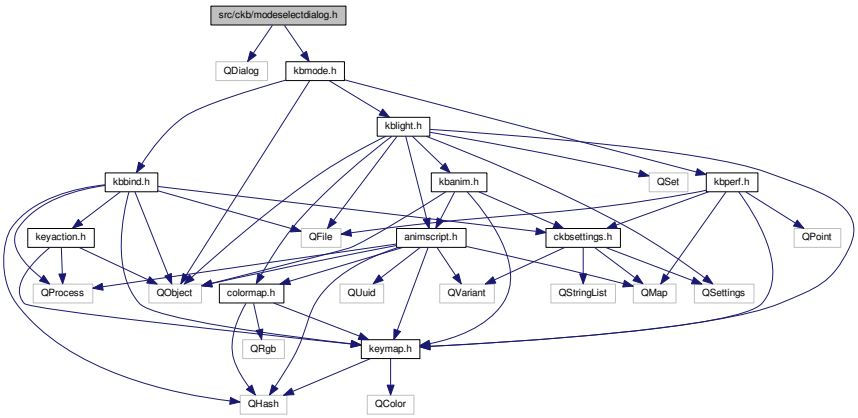
Include dependency graph for modeselectdialog.cpp:



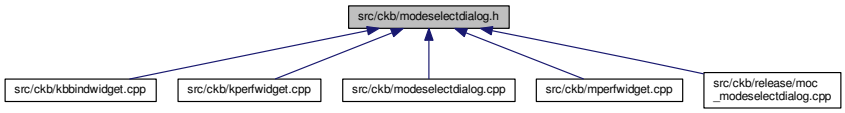
13.132 src/ckb/modeselectdialog.h File Reference

```
#include <QDialog>
#include "kbmode.h"
```

Include dependency graph for modeselectdialog.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class ModeSelectDialog

Namespaces

- Ui

13.133 src/ckb/mperfwidget.cpp File Reference

```
#include "mperfwidget.h"
#include "ui_mperfwidget.h"
#include "modeselectdialog.h"
#include <cmath>
```

Include dependency graph for mperfwidget.cpp:

Macros

- #define SET_START if(isSetting) return; isSetting = true
- #define SET_END isSetting = false

Functions

- int dpiExp (int value, int min, int max)
- int dpiLog (int value, int min, int max)
- int dpiRound (int value)

Variables

- static const QString xyLinkPath = "UI/DPI/UnlinkXY"
- static const double DPI_BASE = (double)KbPerf::DPI_MAX / (double)KbPerf::DPI_MIN

13.133.1 Macro Definition Documentation

13.133.1.1 #define SET_END isSetting = false

Definition at line 126 of file mperfwidget.cpp.

Referenced by MPerfWidget::boxXChanged(), MPerfWidget::boxYChanged(), MPerfWidget::sliderXMoved(), and MPerfWidget::sliderYMoved().

13.133.1.2 #define SET_START if(isSetting) return; isSetting = true

Definition at line 125 of file mperfwidget.cpp.

Referenced by MPerfWidget::boxXChanged(), MPerfWidget::boxYChanged(), MPerfWidget::sliderXMoved(), and MPerfWidget::sliderYMoved().

13.133.2 Function Documentation

13.133.2.1 int dpiExp (int *value,* int *min,* int *max*) [inline]

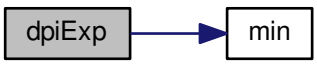
Definition at line 105 of file mperfwidget.cpp.

References DPI_BASE, KbPerf::DPI_MIN, and min().

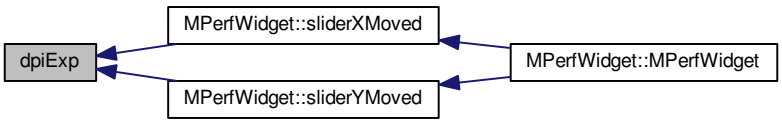
Referenced by MPerfWidget::sliderXMoved(), and MPerfWidget::sliderYMoved().

```
105                                                {
106     double val = (value - min) / (double)(max - min);
107     val = pow(DPI_BASE, val);
108     return round(KbPerf::DPI_MIN * val);
109 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.133.2.2 int dpiLog (int *value*, int *min*, int *max*) [inline]

Definition at line 111 of file mperfwidget.cpp.

References DPI_BASE, and KbPerf::DPI_MIN.

Referenced by MPerfWidget::boxXChanged(), and MPerfWidget::boxYChanged().

```
111                                                 {
112     double val = value / (double)KbPerf::DPI_MIN;
113     val = log(val) / log(DPI_BASE);
114     return round(val * (max - min) + min);
115 }
```

Here is the caller graph for this function:

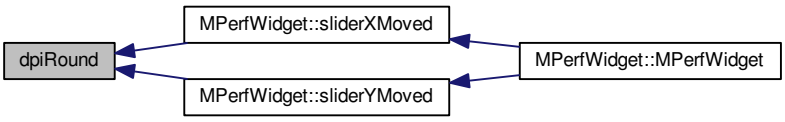
13.133.2.3 int dpiRound (int *value*) [inline]

Definition at line 117 of file mperfwidget.cpp.

Referenced by MPerfWidget::sliderXMoved(), and MPerfWidget::sliderYMoved().

```
117                                 {
118     if(value > 1000)
119         return round(value / 100.) * 100;
120     else
121         return round(value / 50.) * 50;
122 }
```

Here is the caller graph for this function:



13.133.3 Variable Documentation

13.133.3.1 const double DPI_BASE = (double)KbPerf::DPI_MAX / (double)KbPerf::DPI_MIN [static]

Definition at line 103 of file mperfwidget.cpp.

Referenced by dpiExp(), and dpiLog().

13.133.3.2 const QString xyLinkPath = "UI/DPI/UnlinkXY" [static]

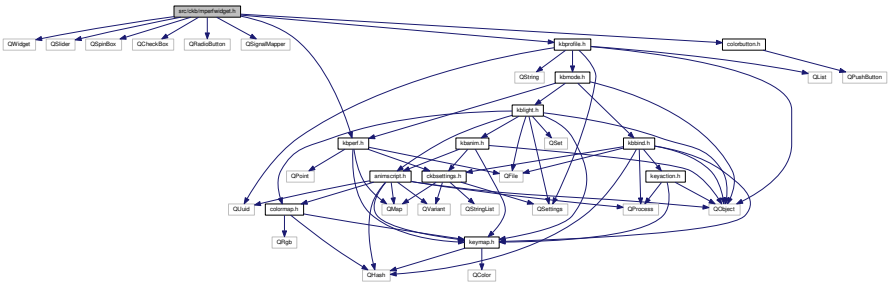
Definition at line 6 of file mperfwidget.cpp.

Referenced by MPerfWidget::on_xyBox_clicked().

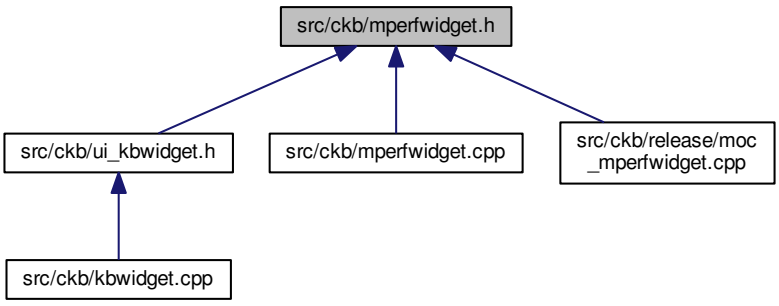
13.134 src/ckb/mperfwidget.h File Reference

```
#include <QWidget>
#include <QSlider>
#include <QSpinBox>
#include <QCheckBox>
#include <QRadioButton>
#include <QSignalMapper>
#include "kbperf.h"
#include "kbprofile.h"
#include "colorbutton.h"
```

Include dependency graph for mperfwidget.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class MPerfWidget
- struct MPerfWidget::DpiUi

Namespaces

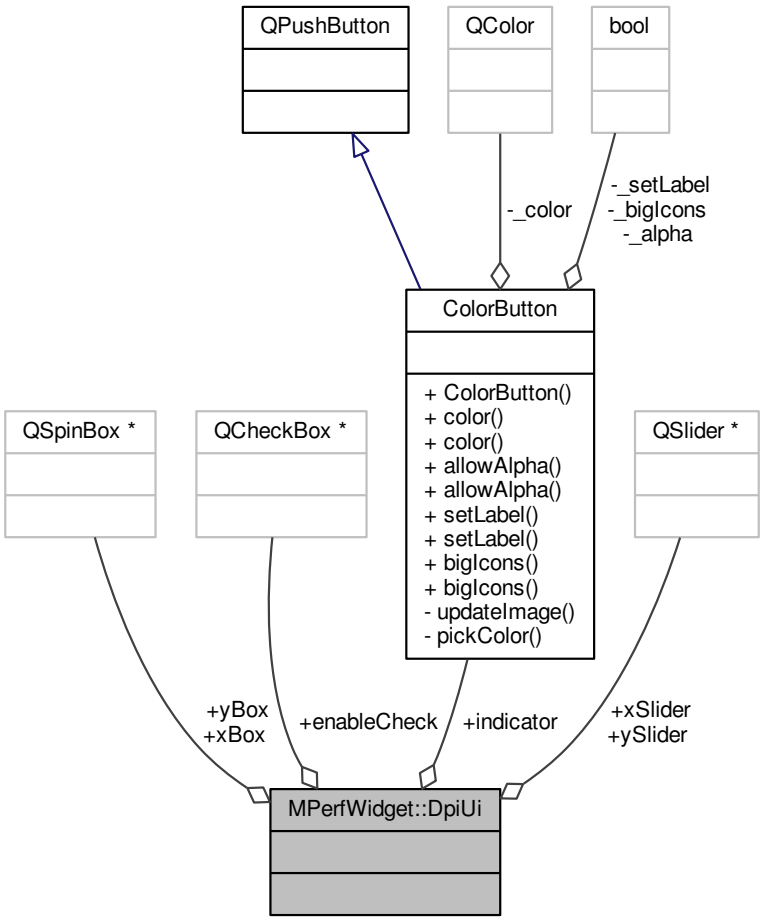
- Ui

13.134.1 Data Structure Documentation

13.134.1.1 struct MPerfWidget::DpiUi

Definition at line 37 of file mperfwidget.h.

Collaboration diagram for MPerfWidget::DpiUi:



Data Fields

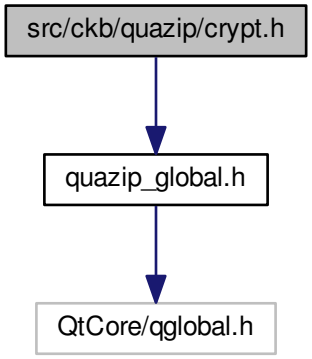
QCheckBox *	enableCheck	
ColorButton *	indicator	
QSpinBox *	xBox	

QSlider *	xSlider	
QSpinBox *	yBox	
QSlider *	ySlider	

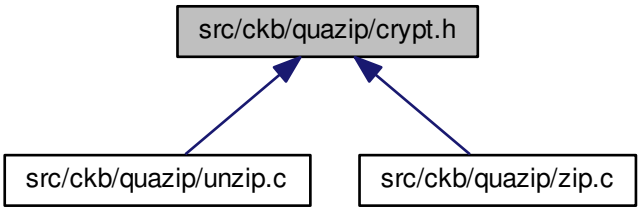
13.135 src/ckb/quazip/crypt.h File Reference

```
#include "quazip_global.h"
```

Include dependency graph for crypt.h:



This graph shows which files directly or indirectly include this file:



Macros

- #define CRC32(c, b) ((*(pcrc_32_tab+(((int)(c) ^ (b)) & 0xff))) ^ ((c) >> 8))
- #define zdecode(pkeys, pcrc_32_tab, c) (update_keys(pkeys,pcrc_32_tab,c ^= decrypt_byte(pkeys,pcrc_32_tab)))
- #define zencode(pkeys, pcrc_32_tab, c, t) (t=decrypt_byte(pkeys,pcrc_32_tab), update_keys(pkeys,pcrc_32_tab,c), t^(c))

Functions

- static int decrypt_byte (unsigned long *pkeys, const z_crc_t FAR *pcrc_32_tab)
- static int update_keys (unsigned long *pkeys, const z_crc_t FAR *pcrc_32_tab, int c)
- static void init_keys (const char *passwd, unsigned long *pkeys, const z_crc_t FAR *pcrc_32_tab)

13.135.1 Macro Definition Documentation

13.135.1.1 #define CRC32(*c*, *b*) ((*(pcrc_32_tab+(((int)(c) ^ (b)) & 0xff))) ^ ((c) >> 8))

Definition at line 32 of file crypt.h.

Referenced by update_keys().

13.135.1.2 #define zdecode(*pkeys*, *pcrc_32_tab*, *c*) (update_keys(pkeys,pcrc_32_tab,c ^= decrypt_byte(pkeys,pcrc_32_tab)))

Definition at line 79 of file crypt.h.

Referenced by unzOpenCurrentFile3(), and unzReadCurrentFile().

13.135.1.3 #define zencode(*pkeys*, *pcrc_32_tab*, *c*, *t*) (t=decrypt_byte(pkeys,pcrc_32_tab), update_keys(pkeys,pcrc_32_tab,c), t^(c))

Definition at line 82 of file crypt.h.

Referenced by zip64FlushWriteBuffer().

13.135.2 Function Documentation

13.135.2.1 static int decrypt_byte (unsigned long * *pkeys*, const z_crc_t FAR * *pcrc_32_tab*) [static]

Definition at line 37 of file crypt.h.

```
38 {
39     //(void) pcrc_32_tab; /* avoid "unused parameter" warning */
40     unsigned temp;  /* POTENTIAL BUG:  temp*(temp^1) may overflow in an
41                      * unpredictable manner on 16-bit systems; not a problem
42                      * with any known compiler so far, though */
43
44     temp = ((unsigned)(*(pkeys+2)) & 0xffff) | 2;
45     return (int)(((temp * (temp ^ 1)) >> 8) & 0xff);
46 }
```

13.135.2.2 static void init_keys (const char * *passwd*, unsigned long * *pkeys*, const z_crc_t FAR * *pcrc_32_tab*) [static]

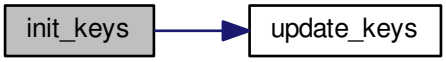
Definition at line 68 of file crypt.h.

References update_keys().

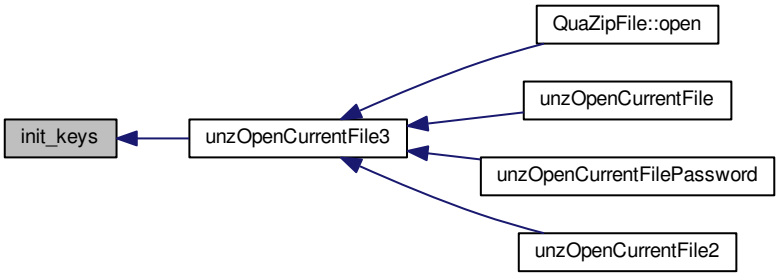
Referenced by unzOpenCurrentFile3().

```
69 {
70     *(pkeys+0) = 305419896L;
71     *(pkeys+1) = 591751049L;
72     *(pkeys+2) = 878082192L;
73     while (*passwd != '\0') {
74         update_keys(pkeys,pcrc_32_tab,(int)*passwd);
75         passwd++;
76     }
77 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.135.2.3 static int update_keys (unsigned long * *pkeys,* const z_crc_t FAR * *pcrc_32_tab,* int *c*) [static]

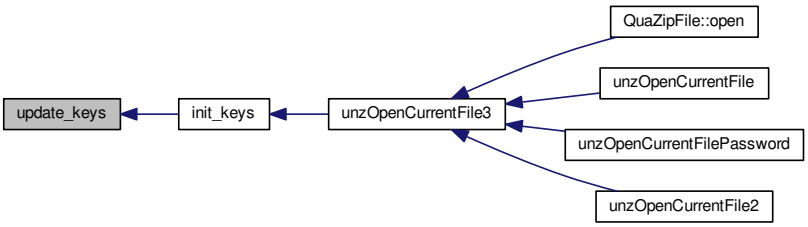
Definition at line 51 of file crypt.h.

References CRC32.

Referenced by init_keys().

```
52 {
53     (*(pkeys+0)) = CRC32((*(pkeys+0)), c);
54     (*(pkeys+1)) += (*(pkeys+0)) & 0xff;
55     (*(pkeys+1)) = (*(pkeys+1)) * 134775813L + 1;
56     {
57       register int keyshift = (int)((*(pkeys+1)) >> 24);
58       (*(pkeys+2)) = CRC32((*(pkeys+2)), keyshift);
59     }
60     return c;
61 }
```

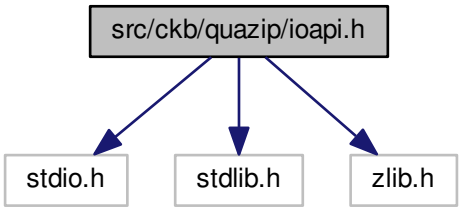
Here is the caller graph for this function:



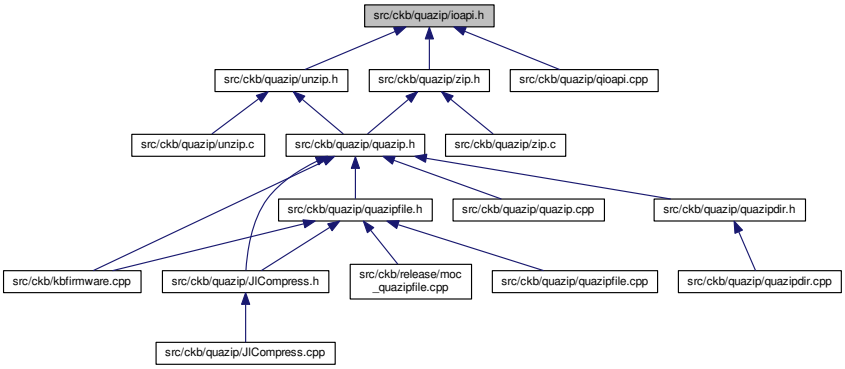
13.136 src/ckb/quazip/ioapi.h File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include "zlib.h"
```

Include dependency graph for ioapi.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct zlib_filefunc_def_s
- struct zlib_filefunc64_def_s
- struct zlib_filefunc64_32_def_s

Macros

- #define __USE_FILE_OFFSET64
- #define __USE_LARGEFILE64
- #define _LARGEFILE64_SOURCE
- #define _FILE_OFFSET_BIT 64
- #define OF _Z_OF
- #define ZLIB_FILEFUNC_SEEK_CUR (1)
- #define ZLIB_FILEFUNC_SEEK_END (2)
- #define ZLIB_FILEFUNC_SEEK_SET (0)
- #define ZLIB_FILEFUNC_MODE_READ (1)
- #define ZLIB_FILEFUNC_MODE_WRITE (2)
- #define ZLIB_FILEFUNC_MODE_READWRITEFILTER (3)
- #define ZLIB_FILEFUNC_MODE_EXISTING (4)
- #define ZLIB_FILEFUNC_MODE_CREATE (8)
- #define ZCALLBACK
- #define ZREAD64(filefunc, filestream, buf, size) ((*((filefunc).zfile_func64.zread_file)) ((filefunc).zfile_-func64.opaque,filestream,buf,size))
- #define ZWRITE64(filefunc, filestream, buf, size) ((*((filefunc).zfile_func64.zwrite_file)) ((filefunc).zfile_-func64.opaque,filestream,buf,size))
- #define ZCLOSE64(filefunc, filestream) ((*((filefunc).zfile_func64.zclose_file)) ((filefunc).zfile_func64.-opaque,filestream))
- #define ZFAKECLOSE64(filefunc, filestream) ((*((filefunc).zfile_func64.zfakeclose_file)) ((filefunc).zfile_-func64.opaque,filestream))
- #define ZERROR64(filefunc, filestream) ((*((filefunc).zfile_func64.zerror_file)) ((filefunc).zfile_func64.-opaque,filestream))
- #define ZOPEN64(filefunc, filename, mode) (call_zopen64((&(filefunc)),(filename),(mode)))
- #define ZTELL64(filefunc, filestream) (call_ztell64((&(filefunc)),(filestream)))
- #define ZSEEK64(filefunc, filestream, pos, mode) (call_zseek64((&(filefunc)),(filestream),(pos),(mode)))

Typedefs

- typedef unsigned long long int ZPOS64_T
- typedef voidpf open_file_func _Z_OF ((voidpf opaque, voidpf file, int mode))

  Addition for GDAL : START.
- typedef struct zlib_filefunc_def_s zlib_filefunc_def
- typedef struct zlib_filefunc64_def_s zlib_filefunc64_def
- typedef struct zlib_filefunc64_32_def_s zlib_filefunc64_32_def

Functions

- void fill_qiodevice64_filefunc _Z_OF ((zlib_filefunc64_def *pzlib_filefunc_def))
- void fill_qiodevice_filefunc _Z_OF ((zlib_filefunc_def *pzlib_filefunc_def))
- voidpf call_zopen64 _Z_OF ((const zlib_filefunc64_32_def *pfilefunc, voidpf file, int mode))
- int call_zseek64 _Z_OF ((const zlib_filefunc64_32_def *pfilefunc, voidpf filestream, ZPOS64_T offset, int origin))

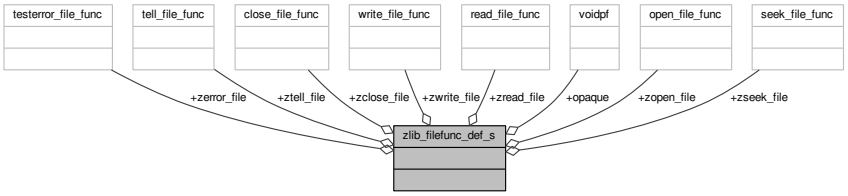
- ZPOS64_T call_ztell64 _Z_OF ((const zlib_filefunc64_32_def ∗pfilefunc, voidpf filestream))
- void fill_zlib_filefunc64_32_def_from_filefunc32 (zlib_filefunc64_32_def ∗p_filefunc64_32, const zlib_filefunc_def ∗p_filefunc32)

13.136.1 Data Structure Documentation

13.136.1.1 struct zlib_filefunc_def_s

Definition at line 143 of file ioapi.h.

Collaboration diagram for zlib_filefunc_def_s:



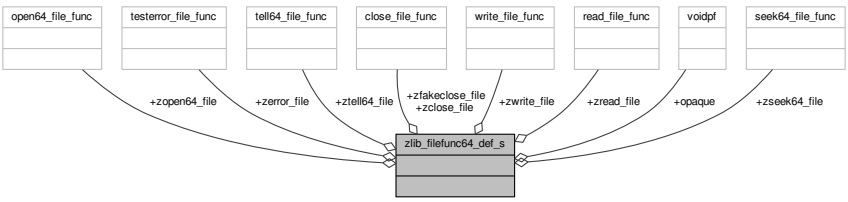
Data Fields

voidpf	opaque	
close_file_func	zclose_file	
testerror_file_func	zerror_file	
open_file_func	zopen_file	
read_file_func	zread_file	
seek_file_func	zseek_file	
tell_file_func	ztell_file	
write_file_func	zwrite_file	

13.136.1.2 struct zlib_filefunc64_def_s

Definition at line 159 of file ioapi.h.

Collaboration diagram for zlib_filefunc64_def_s:



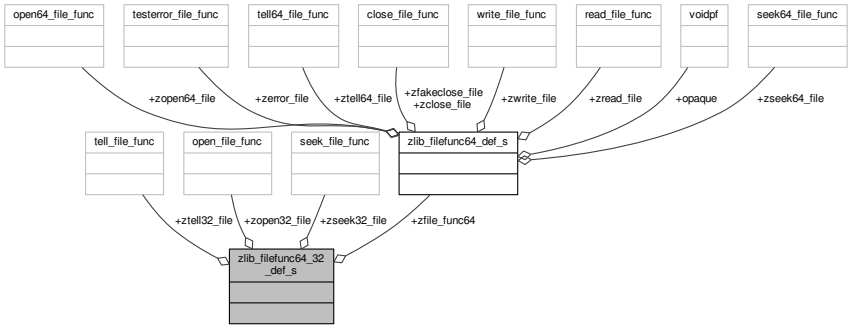
Data Fields

voidpf	opaque	
close_file_func	zclose_file	
testerror_file_-func	zerror_file	
close_file_func	zfakeclose_file	
open64_file_-func	zopen64_file	
read_file_func	zread_file	
seek64_file_func	zseek64_file	
tell64_file_func	ztell64_file	
write_file_func	zwrite_file	

13.136.1.3 struct zlib_filefunc64_32_def_s

Definition at line 176 of file ioapi.h.

Collaboration diagram for zlib_filefunc64_32_def_s:



Data Fields

zlib_filefunc64_-def	zfile_func64	
open_file_func	zopen32_file	
seek_file_func	zseek32_file	
tell_file_func	ztell32_file	

13.136.2 Macro Definition Documentation

13.136.2.1 #define __USE_FILE_OFFSET64

Definition at line 32 of file ioapi.h.

13.136.2.2 #define __USE_LARGEFILE64

Definition at line 35 of file ioapi.h.

13.136.2.3 #define _FILE_OFFSET_BIT 64

Definition at line 41 of file ioapi.h.

13.136.2.4 #define _LARGEFILE64_SOURCE

Definition at line 38 of file ioapi.h.

13.136.2.5 #define OF _Z_OF

Definition at line 106 of file ioapi.h.

13.136.2.6 #define ZCALLBACK

Definition at line 125 of file ioapi.h.

13.136.2.7 #define ZCLOSE64(*filefunc, filestream*) ((∗((filefunc).zfile_func64.zclose_file)) ((filefunc).zfile_func64.opaque,filestream))

Definition at line 189 of file ioapi.h.

Referenced by LoadCentralDirectoryRecord(), unzClose(), unzOpenInternal(), zipClose(), and zipOpen3().

13.136.2.8 #define ZERROR64(*filefunc, filestream*) ((∗((filefunc).zfile_func64.zerror_file)) ((filefunc).zfile_func64.opaque,filestream))

Definition at line 191 of file ioapi.h.

Referenced by unz64local_getByte(), and zip64local_getByte().

13.136.2.9 #define ZFAKECLOSE64(*filefunc, filestream*) ((∗((filefunc).zfile_func64.zfakeclose_file)) ((filefunc).zfile_func64.opaque,filestream))

Definition at line 190 of file ioapi.h.

Referenced by LoadCentralDirectoryRecord(), unzClose(), unzOpenInternal(), zipClose(), and zipOpen3().

13.136.2.10 #define ZLIB_FILEFUNC_MODE_CREATE (8)

Definition at line 118 of file ioapi.h.

Referenced by qiodevice_open_file_func(), and zipOpen3().

13.136.2.11 #define ZLIB_FILEFUNC_MODE_EXISTING (4)

Definition at line 117 of file ioapi.h.

Referenced by qiodevice_open_file_func(), unzOpenInternal(), and zipOpen3().

13.136.2.12 #define ZLIB_FILEFUNC_MODE_READ (1)

Definition at line 113 of file ioapi.h.

Referenced by qiodevice_open_file_func(), unzOpenInternal(), and zipOpen3().

13.136.2.13 #define ZLIB_FILEFUNC_MODE_READWRITEFILTER (3)

Definition at line 115 of file ioapi.h.

Referenced by qiodevice_open_file_func().

13.136.2.14 #define ZLIB_FILEFUNC_MODE_WRITE (2)

Definition at line 114 of file ioapi.h.

Referenced by zipOpen3().

13.136.2.15 #define ZLIB_FILEFUNC_SEEK_CUR (1)

Definition at line 109 of file ioapi.h.

Referenced by qiodevice64_seek_file_func(), qiodevice_seek_file_func(), and unz64local_GetCurrentFileInfoInternal().

13.136.2.16 #define ZLIB_FILEFUNC_SEEK_END (2)

Definition at line 110 of file ioapi.h.

Referenced by qiodevice64_seek_file_func(), qiodevice_seek_file_func(), unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), zip64local_SearchCentralDir(), and zip64local_SearchCentralDir64().

13.136.2.17 #define ZLIB_FILEFUNC_SEEK_SET (0)

Definition at line 111 of file ioapi.h.

Referenced by LoadCentralDirectoryRecord(), qiodevice64_seek_file_func(), qiodevice_seek_file_func(), unz64local_CheckCurrentFileCoherencyHeader(), unz64local_GetCurrentFileInfoInternal(), unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), unzGetGlobalComment(), unzGetLocalExtrafield(), unzOpenInternal(), unzReadCurrentFile(), zip64local_SearchCentralDir(), zip64local_SearchCentralDir64(), and zipCloseFileInZipRaw64().

13.136.2.18 #define ZOPEN64(*filefunc, filename, mode*) (call_zopen64((&(filefunc)),(filename),(mode)))

Definition at line 199 of file ioapi.h.

Referenced by unzOpenInternal(), and zipOpen3().

13.136.2.19 #define ZREAD64(*filefunc, filestream, buf, size*) ((∗((filefunc).zfile_func64.zread_file)) ((filefunc).zfile_func64.opaque,filestream,buf,size))

Definition at line 185 of file ioapi.h.

Referenced by LoadCentralDirectoryRecord(), unz64local_getByte(), unz64local_GetCurrentFileInfoInternal(), unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), unzGetGlobalComment(), unzGetLocalExtrafield(), unzOpenCurrentFile3(), unzReadCurrentFile(), zip64local_getByte(), zip64local_SearchCentralDir(), and zip64local_SearchCentralDir64().

13.136.2.20 #define ZSEEK64(*filefunc, filestream, pos, mode*) (call_zseek64((&(filefunc)),(filestream),(pos),(mode)))

Definition at line 201 of file ioapi.h.

Referenced by LoadCentralDirectoryRecord(), unz64local_CheckCurrentFileCoherencyHeader(), unz64local_GetCurrentFileInfoInternal(), unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), unzGetGlobalComment(), unzGetLocalExtrafield(), unzOpenCurrentFile3(), unzOpenInternal(), unzReadCurrentFile(), zip64local_SearchCentralDir(), zip64local_SearchCentralDir64(), zipCloseFileInZipRaw64(), and zipOpen3().

13.136.2.21 #define ZTELL64(*filefunc, filestream*) (call_ztell64((&(filefunc)),(filestream)))

Definition at line 200 of file ioapi.h.

Referenced by unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), Write_LocalFileHeader(), zip64local_SearchCentralDir(), zip64local_SearchCentralDir64(), zipClose(), zipCloseFileInZipRaw64(), zipOpen3(), and zipOpenNewFileInZip4_64().

13.136.2.22 #define ZWRITE64(*filefunc, filestream, buf, size*) ((∗((filefunc).zfile_func64.zwrite_file)) ((filefunc).zfile_func64.opaque,filestream,buf,size))

Definition at line 186 of file ioapi.h.

Referenced by Write_GlobalComment(), Write_LocalFileHeader(), zip64FlushWriteBuffer(), zip64local_putValue(), zipClose(), and zipOpenNewFileInZip4_64().

13.136.3 Typedef Documentation

13.136.3.1 zipFile ZEXPORT zipOpen64 _Z_OF ((voidpf opaque, voidpf file, int mode))

Addition for GDAL : END.

Definition at line 132 of file ioapi.h.

13.136.3.2 typedef struct zlib_filefunc64_32_def_s zlib_filefunc64_32_def

13.136.3.3 typedef struct zlib_filefunc64_def_s zlib_filefunc64_def

13.136.3.4 typedef struct zlib_filefunc_def_s zlib_filefunc_def

13.136.3.5 typedef unsigned long long int ZPOS64_T

Definition at line 94 of file ioapi.h.

13.136.4 Function Documentation

13.136.4.1 void fill_qiodevice64_filefunc _Z_OF ((zlib_filefunc64_def ∗pzlib_filefunc_def))

13.136.4.2 void fill_qiodevice_filefunc _Z_OF ((zlib_filefunc_def ∗pzlib_filefunc_def))

13.136.4.3 voidpf call_zopen64 _Z_OF ((const zlib_filefunc64_32_def ∗pfilefunc, voidpf file, int mode))

13.136.4.4 int call_zseek64 _Z_OF ((const zlib_filefunc64_32_def ∗pfilefunc, voidpf filestream, ZPOS64_T offset, int origin))

13.136.4.5 ZPOS64_T call_ztell64 _Z_OF ((const zlib_filefunc64_32_def ∗pfilefunc, voidpf filestream))

13.136.4.6 void fill_zlib_filefunc64_32_def_from_filefunc32 (zlib_filefunc64_32_def * *p_filefunc64_32,* const zlib_filefunc_def * *p_filefunc32*)

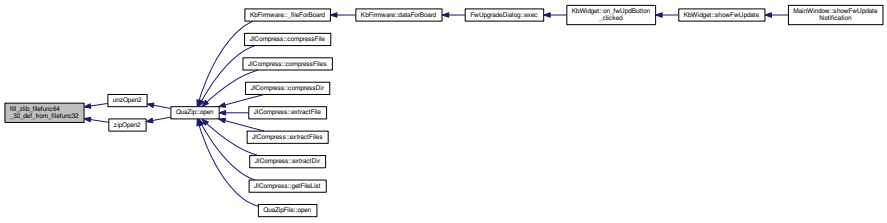
Definition at line 346 of file qioapi.cpp.

References zlib_filefunc_def_s::opaque, zlib_filefunc64_def_s::opaque, zlib_filefunc_def_s::zclose_file, zlib_filefunc64_def_s::zclose_file, zlib_filefunc_def_s::zerror_file, zlib_filefunc64_def_s::zerror_file, zlib_filefunc64_def_s::zfakeclose_file, zlib_filefunc64_32_def_s::zfile_func64, zlib_filefunc64_32_def_s::zopen32_file, zlib_filefunc64_def_s::zopen64_file, zlib_filefunc_def_s::zopen_file, zlib_filefunc_def_s::zread_file, zlib_filefunc64_def_s::zread_file, zlib_filefunc64_32_def_s::zseek32_file, zlib_filefunc64_def_s::zseek64_file, zlib_filefunc_def_s::zseek_file, zlib_filefunc64_32_def_s::ztell32_file, zlib_filefunc64_def_s::ztell64_file, zlib_filefunc_def_s::ztell_file, zlib_filefunc_def_s::zwrite_file, and zlib_filefunc64_def_s::zwrite_file.

Referenced by unzOpen2(), and zipOpen2().

```
347 {
348     p_filefunc64_32->zfile_func64.zopen64_file = NULL;
349     p_filefunc64_32->zopen32_file = p_filefunc32->zopen_file;
350     p_filefunc64_32->zfile_func64.zerror_file = p_filefunc32->
    zerror_file;
351     p_filefunc64_32->zfile_func64.zread_file = p_filefunc32->
    zread_file;
352     p_filefunc64_32->zfile_func64.zwrite_file = p_filefunc32->
    zwrite_file;
353     p_filefunc64_32->zfile_func64.ztell64_file = NULL;
354     p_filefunc64_32->zfile_func64.zseek64_file = NULL;
355     p_filefunc64_32->zfile_func64.zclose_file = p_filefunc32->
    zclose_file;
356     p_filefunc64_32->zfile_func64.zerror_file = p_filefunc32->
    zerror_file;
357     p_filefunc64_32->zfile_func64.opaque = p_filefunc32->
    opaque;
358     p_filefunc64_32->zfile_func64.zfakeclose_file = NULL;
359     p_filefunc64_32->zseek32_file = p_filefunc32->zseek_file;
360     p_filefunc64_32->ztell32_file = p_filefunc32->ztell_file;
361 }
```

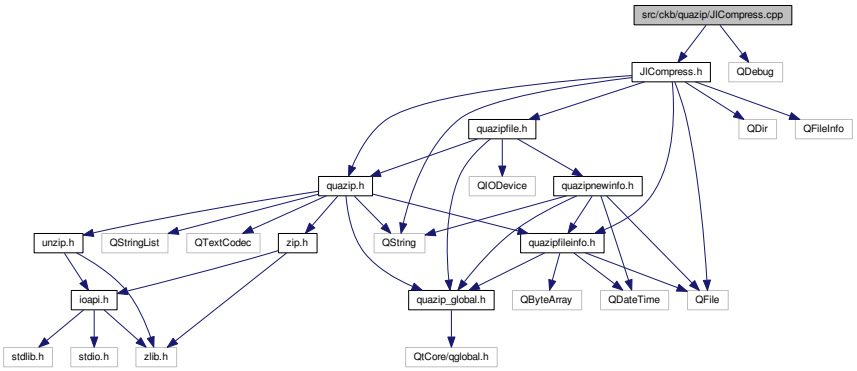
Here is the caller graph for this function:



13.137 src/ckb/quazip/JlCompress.cpp File Reference

```
#include "JlCompress.h"
#include <QDebug>
```

Include dependency graph for JlCompress.cpp:



Functions

- static bool copyData (QIODevice &inFile, QIODevice &outFile)

13.137.1 Function Documentation

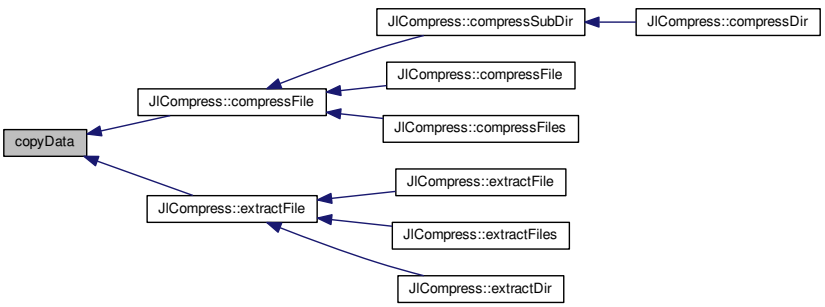
13.137.1.1 static bool copyData (QIODevice & *inFile,* QIODevice & *outFile*) [static]

Definition at line 29 of file JlCompress.cpp.

Referenced by JlCompress::compressFile(), and JlCompress::extractFile().

```
30 {
31     while (!inFile.atEnd()) {
32         char buf[4096];
33         qint64 readLen = inFile.read(buf, 4096);
34         if (readLen <= 0)
35             return false;
36         if (outFile.write(buf, readLen) != readLen)
37             return false;
38     }
39     return true;
40 }
```

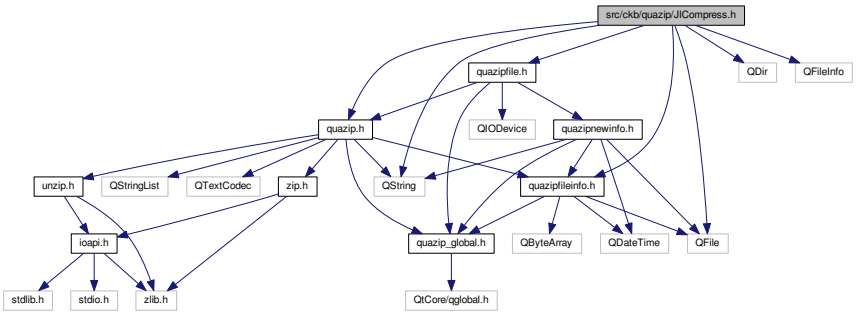
Here is the caller graph for this function:



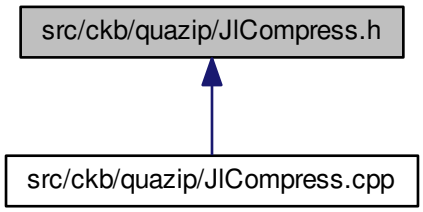
13.138 src/ckb/quazip/JlCompress.h File Reference

```
#include "quazip.h"
#include "quazipfile.h"
#include "quazipfileinfo.h"
#include <QString>
#include <QDir>
#include <QFileInfo>
#include <QFile>
```

Include dependency graph for JlCompress.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class JlCompress

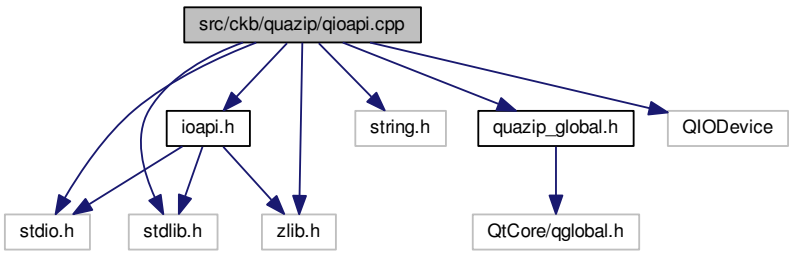
  Utility class for typical operations.

13.139 src/ckb/quazip/qioapi.cpp File Reference

```
#include <stdio.h>
```

```
#include <stdlib.h>
#include <string.h>
#include "zlib.h"
#include "ioapi.h"
#include "quazip_global.h"
#include <QIODevice>
```

Include dependency graph for qioapi.cpp:



Data Structures

- struct QIODevice_descriptor

Macros

- #define SEEK_CUR 1
- #define SEEK_END 2
- #define SEEK_SET 0

Functions

- voidpf call_zopen64 (const zlib_filefunc64_32_def *pfilefunc, voidpf file, int mode)
- int call_zseek64 (const zlib_filefunc64_32_def *pfilefunc, voidpf filestream, ZPOS64_T offset, int origin)
- ZPOS64_T call_ztell64 (const zlib_filefunc64_32_def *pfilefunc, voidpf filestream)
- voidpf qiodevice_open_file_func (voidpf opaque, voidpf file, int mode)
- uLong qiodevice_read_file_func (voidpf opaque, voidpf stream, void *buf, uLong size)
- uLong qiodevice_write_file_func (voidpf opaque, voidpf stream, const void *buf, uLong size)
- uLong qiodevice_tell_file_func (voidpf opaque, voidpf stream)
- ZPOS64_T qiodevice64_tell_file_func (voidpf opaque, voidpf stream)
- int qiodevice_seek_file_func (voidpf, voidpf stream, uLong offset, int origin)
- int qiodevice64_seek_file_func (voidpf, voidpf stream, ZPOS64_T offset, int origin)
- int qiodevice_close_file_func (voidpf opaque, voidpf stream)
- int qiodevice_fakeclose_file_func (voidpf opaque, voidpf)
- int qiodevice_error_file_func (voidpf, voidpf)
- void fill_qiodevice_filefunc (zlib_filefunc_def *pzlib_filefunc_def)
- void fill_qiodevice64_filefunc (zlib_filefunc64_def *pzlib_filefunc_def)
- void fill_zlib_filefunc64_32_def_from_filefunc32 (zlib_filefunc64_32_def *p_filefunc64_32, const zlib_filefunc_def *p_filefunc32)

13.139.1 Macro Definition Documentation

13.139.1.1 #define SEEK_CUR 1

Definition at line 29 of file qioapi.cpp.

13.139.1.2 #define SEEK_END 2

Definition at line 33 of file qioapi.cpp.

13.139.1.3 #define SEEK_SET 0

Definition at line 37 of file qioapi.cpp.

Referenced by unzOpenCurrentFile3().

13.139.2 Function Documentation

13.139.2.1 voidpf call_zopen64 (const zlib_filefunc64_32_def * *pfilefunc,* voidpf *file,* int *mode*)

Definition at line 40 of file qioapi.cpp.

References zlib_filefunc64_def_s::opaque, zlib_filefunc64_32_def_s::zfile_func64, zlib_filefunc64_32_def_s::zopen32_file, and zlib_filefunc64_def_s::zopen64_file.

```
41 {
42     if (pfilefunc->zfile_func64.zopen64_file != NULL)
43         return (*(pfilefunc->zfile_func64.zopen64_file)) (pfilefunc->
      zfile_func64.opaque,file,mode);
44     else
45     {
46         return (*(pfilefunc->zopen32_file))(pfilefunc->zfile_func64.
      opaque,file,mode);
47     }
48 }
```

13.139.2.2 int call_zseek64 (const zlib_filefunc64_32_def * *pfilefunc,* voidpf *filestream,* ZPOS64_T *offset,* int *origin*)

Definition at line 50 of file qioapi.cpp.

References zlib_filefunc64_def_s::opaque, zlib_filefunc64_32_def_s::zfile_func64, zlib_filefunc64_32_def_s::zseek32_file, and zlib_filefunc64_def_s::zseek64_file.

```
51 {
52     if (pfilefunc->zfile_func64.zseek64_file != NULL)
53         return (*(pfilefunc->zfile_func64.zseek64_file)) (pfilefunc->
      zfile_func64.opaque,filestream,offset,origin);
54     else
55     {
56         uLong offsetTruncated = (uLong)offset;
57         if (offsetTruncated != offset)
58             return -1;
59         else
60             return (*(pfilefunc->zseek32_file))(pfilefunc->
      zfile_func64.opaque,filestream,offsetTruncated,origin);
61     }
62 }
```

13.139.2.3 ZPOS64_T call_ztell64 (const zlib_filefunc64_32_def * *pfilefunc,* voidpf *filestream*)

Definition at line 64 of file qioapi.cpp.

References zlib_filefunc64_def_s::opaque, zlib_filefunc64_32_def_s::zfile_func64, zlib_filefunc64_def_s::zseek64_file, zlib_filefunc64_32_def_s::ztell32_file, and zlib_filefunc64_def_s::ztell64_file.

```
65 {
66     if (pfilefunc->zfile_func64.zseek64_file != NULL)
67         return (*(pfilefunc->zfile_func64.ztell64_file)) (pfilefunc->
      zfile_func64.opaque,filestream);
68     else
69     {
70         uLong tell_uLong = (*(pfilefunc->ztell32_file))(pfilefunc->
      zfile_func64.opaque,filestream);
71         if ((tell_uLong) == ((uLong)-1))
72             return (ZPOS64_T)-1;
73         else
74             return tell_uLong;
75     }
76 }
```

13.139.2.4 void fill_qiodevice64_filefunc (zlib_filefunc64_def * *pzlib_filefunc_def*)

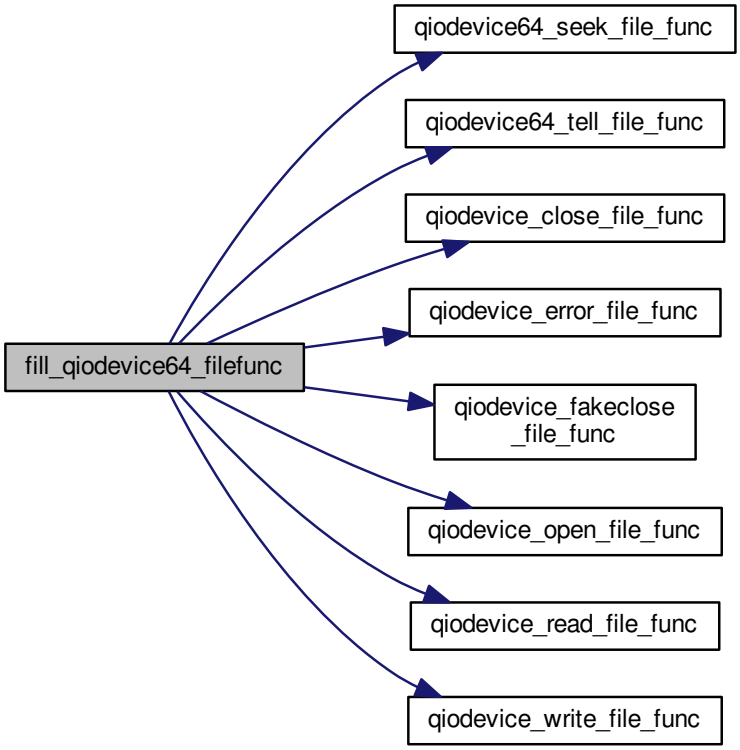
Definition at line 331 of file qioapi.cpp.

References zlib_filefunc64_def_s::opaque, qiodevice64_seek_file_func(), qiodevice64_tell_file_func(), qiodevice_close_file_func(), qiodevice_error_file_func(), qiodevice_fakeclose_file_func(), qiodevice_open_file_func(), qiodevice_read_file_func(), qiodevice_write_file_func(), zlib_filefunc64_def_s::zclose_file, zlib_filefunc64_def_s::zerror_file, zlib_filefunc64_def_s::zfakeclose_file, zlib_filefunc64_def_s::zopen64_file, zlib_filefunc64_def_s::zread_file, zlib_filefunc64_def_s::zseek64_file, zlib_filefunc64_def_s::ztell64_file, and zlib_filefunc64_def_s::zwrite_file.

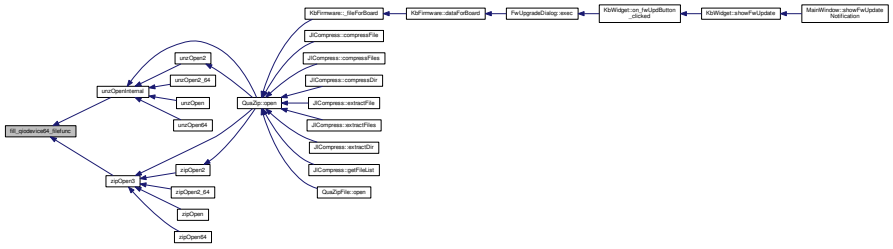
Referenced by unzOpenInternal(), and zipOpen3().

```
333 {
334     // Open functions are the same for Qt.
335     pzlib_filefunc_def->zopen64_file = qiodevice_open_file_func;
336     pzlib_filefunc_def->zread_file = qiodevice_read_file_func;
337     pzlib_filefunc_def->zwrite_file = qiodevice_write_file_func;
338     pzlib_filefunc_def->ztell64_file = qiodevice64_tell_file_func;
339     pzlib_filefunc_def->zseek64_file = qiodevice64_seek_file_func;
340     pzlib_filefunc_def->zclose_file = qiodevice_close_file_func;
341     pzlib_filefunc_def->zerror_file = qiodevice_error_file_func;
342     pzlib_filefunc_def->opaque = new QIODevice_descriptor;
343     pzlib_filefunc_def->zfakeclose_file =
      qiodevice_fakeclose_file_func;
344 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.139.2.5 void fill_qiodevice_filefunc (zlib_filefunc_def * *pzlib_filefunc_def*)

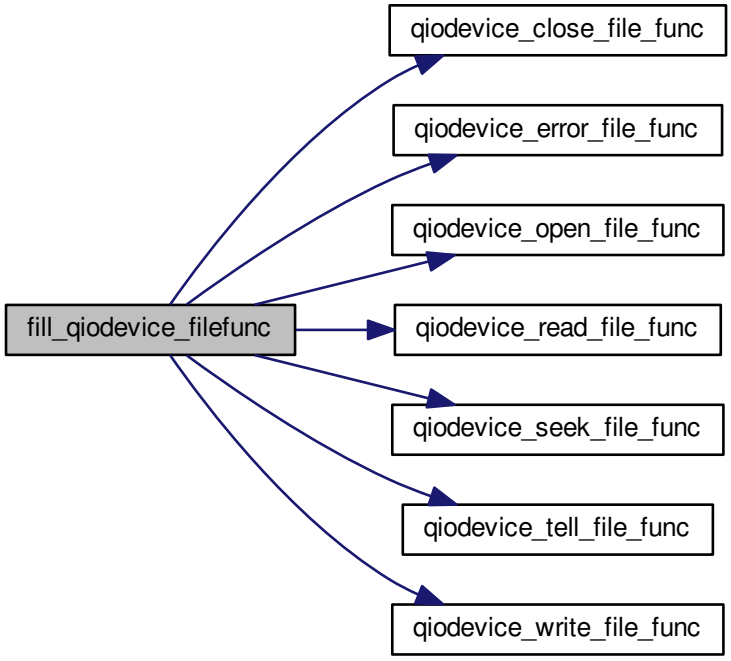
Definition at line 318 of file qioapi.cpp.

References zlib_filefunc_def_s::opaque, qiodevice_close_file_func(), qiodevice_error_file_func(), qiodevice_open_file_func(), qiodevice_read_file_func(), qiodevice_seek_file_func(), qiodevice_tell_file_func(), qiodevice_write_file_func(), zlib_filefunc_def_s::zclose_file, zlib_filefunc_def_s::zerror_file, zlib_filefunc_def_s::zopen_file, zlib_filefunc_def_s::zread_file, zlib_filefunc_def_s::zseek_file, zlib_filefunc_def_s::ztell_file, and zlib_filefunc_def_s::zwrite_file.

```
320 {
```

```
321     pzlib_filefunc_def->zopen_file = qiodevice_open_file_func;
322     pzlib_filefunc_def->zread_file = qiodevice_read_file_func;
323     pzlib_filefunc_def->zwrite_file = qiodevice_write_file_func;
324     pzlib_filefunc_def->ztell_file = qiodevice_tell_file_func;
325     pzlib_filefunc_def->zseek_file = qiodevice_seek_file_func;
326     pzlib_filefunc_def->zclose_file = qiodevice_close_file_func;
327     pzlib_filefunc_def->zerror_file = qiodevice_error_file_func;
328     pzlib_filefunc_def->opaque = new QIODevice_descriptor;
329 }
```

Here is the call graph for this function:



13.139.2.6 void fill_zlib_filefunc64_32_def_from_filefunc32 (zlib_filefunc64_32_def * *p_filefunc64_32*, const zlib_filefunc_def * *p_filefunc32*)

Definition at line 346 of file qioapi.cpp.

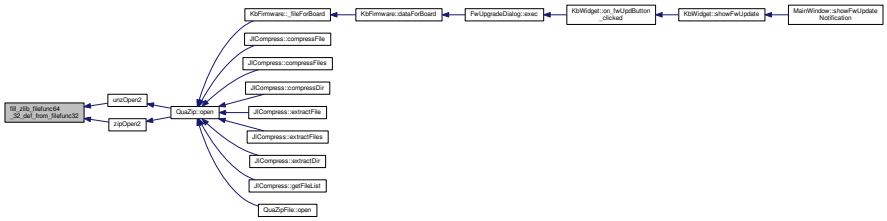
References zlib_filefunc_def_s::opaque, zlib_filefunc64_def_s::opaque, zlib_filefunc_def_s::zclose_file, zlib_filefunc64_def_s::zclose_file, zlib_filefunc_def_s::zerror_file, zlib_filefunc64_def_s::zerror_file, zlib_filefunc64_def_s::zfakeclose_file, zlib_filefunc64_32_def_s::zfile_func64, zlib_filefunc64_32_def_s::zopen32_file, zlib_filefunc64_def_s::zopen64_file, zlib_filefunc_def_s::zopen_file, zlib_filefunc_def_s::zread_file, zlib_filefunc64_def_s::zread_file, zlib_filefunc64_32_def_s::zseek32_file, zlib_filefunc64_def_s::zseek64_file, zlib_filefunc_def_s::zseek_file, zlib_filefunc64_32_def_s::ztell32_file, zlib_filefunc64_def_s::ztell64_file, zlib_filefunc_def_s::ztell_file, zlib_filefunc_def_s::zwrite_file, and zlib_filefunc64_def_s::zwrite_file.

Referenced by unzOpen2(), and zipOpen2().

```
347 {
348     p_filefunc64_32->zfile_func64.zopen64_file = NULL;
349     p_filefunc64_32->zopen32_file = p_filefunc32->zopen_file;
350     p_filefunc64_32->zfile_func64.zerror_file = p_filefunc32->
      zerror_file;
351     p_filefunc64_32->zfile_func64.zread_file = p_filefunc32->
```

```
    zread_file;
352   p_filefunc64_32->zfile_func64.zwrite_file = p_filefunc32->
    zwrite_file;
353   p_filefunc64_32->zfile_func64.ztell64_file = NULL;
354   p_filefunc64_32->zfile_func64.zseek64_file = NULL;
355   p_filefunc64_32->zfile_func64.zclose_file = p_filefunc32->
    zclose_file;
356   p_filefunc64_32->zfile_func64.zerror_file = p_filefunc32->
    zerror_file;
357   p_filefunc64_32->zfile_func64.opaque = p_filefunc32->
    opaque;
358   p_filefunc64_32->zfile_func64.zfakeclose_file = NULL;
359   p_filefunc64_32->zseek32_file = p_filefunc32->zseek_file;
360   p_filefunc64_32->ztell32_file = p_filefunc32->ztell_file;
361 }
```

Here is the caller graph for this function:



13.139.2.7 int qiodevice64_seek_file_func (voidpf , voidpf *stream*, ZPOS64_T *offset*, int *origin*)

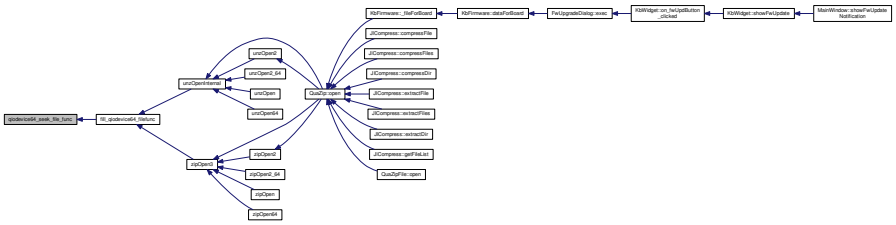
Definition at line 244 of file qioapi.cpp.

References ZLIB_FILEFUNC_SEEK_CUR, ZLIB_FILEFUNC_SEEK_END, and ZLIB_FILEFUNC_SEEK_SET.

Referenced by fill_qiodevice64_filefunc().

```
249 {
250     QIODevice *iodevice = reinterpret_cast<QIODevice*>(stream);
251     if (iodevice->isSequential()) {
252         if (origin == ZLIB_FILEFUNC_SEEK_END
253                 && offset == 0) {
254             // sequential devices are always at end (needed in mdAppend)
255             return 0;
256         } else {
257             qWarning("qiodevice_seek_file_func() called for sequential device");
258             return -1;
259         }
260     }
261     qint64 qiodevice_seek_result=0;
262     int ret;
263     switch (origin)
264     {
265     case ZLIB_FILEFUNC_SEEK_CUR :
266         qiodevice_seek_result = ((QIODevice*)stream)->pos() + offset;
267         break;
268     case ZLIB_FILEFUNC_SEEK_END :
269         qiodevice_seek_result = ((QIODevice*)stream)->size() - offset;
270         break;
271     case ZLIB_FILEFUNC_SEEK_SET :
272         qiodevice_seek_result = offset;
273         break;
274     default:
275         return -1;
276     }
277     ret = !iodevice->seek(qiodevice_seek_result);
278     return ret;
279 }
```

Here is the caller graph for this function:



13.139.2.8 ZPOS64_T qiodevice64_tell_file_func (voidpf *opaque*, voidpf *stream*)

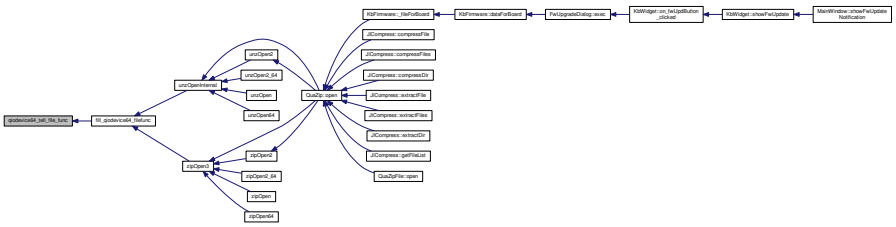
Definition at line 192 of file qioapi.cpp.

References QIODevice_descriptor::pos.

Referenced by fill_qiodevice64_filefunc().

```
195 {
196     QIODevice_descriptor *d = reinterpret_cast<
      QIODevice_descriptor*>(opaque);
197     QIODevice *iodevice = reinterpret_cast<QIODevice*>(stream);
198     qint64 ret;
199     if (iodevice->isSequential()) {
200         ret = d->pos;
201     } else {
202         ret = iodevice->pos();
203     }
204     return static_cast<ZPOS64_T>(ret);
205 }
```

Here is the caller graph for this function:



13.139.2.9 int qiodevice_close_file_func (voidpf *opaque*, voidpf *stream*)

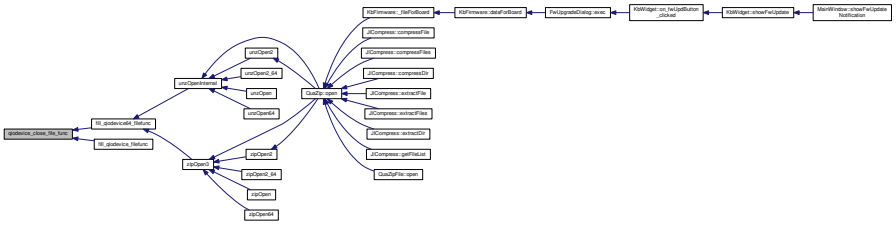
Definition at line 281 of file qioapi.cpp.

Referenced by fill_qiodevice64_filefunc(), and fill_qiodevice_filefunc().

```
284 {
285     QIODevice_descriptor *d = reinterpret_cast<
      QIODevice_descriptor*>(opaque);
286     delete d;
287     QIODevice *device = reinterpret_cast<QIODevice*>(stream);
288 #ifdef QUAZIP_QSAVEFILE_BUG_WORKAROUND
289     // QSaveFile terribly breaks the is-a idiom:
290     // it IS a QIODevice, but it is NOT compatible with it: close() is private
291     QSaveFile *file = qobject_cast<QSaveFile*>(device);
292     if (file != NULL) {
293         // We have to call the ugly commit() instead:
294         return file->commit() ? 0 : -1;
295     }
```

```
296 #endif
297     device->close();
298     return 0;
299 }
```

Here is the caller graph for this function:



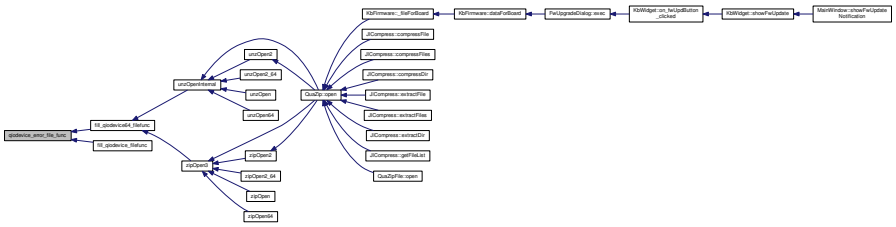
13.139.2.10 int qiodevice_error_file_func (voidpf , voidpf)

Definition at line 310 of file qioapi.cpp.

Referenced by fill_qiodevice64_filefunc(), and fill_qiodevice_filefunc().

```
313 {
314     // can't check for error due to the QIODevice API limitation
315     return 0;
316 }
```

Here is the caller graph for this function:



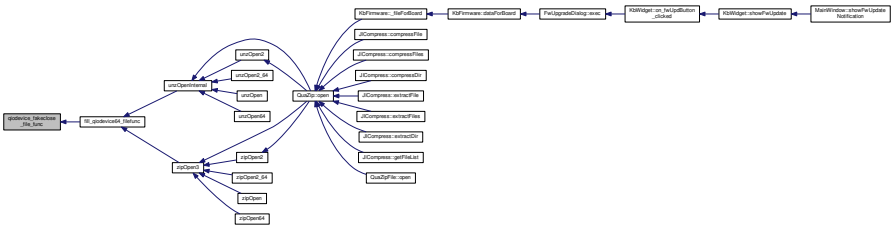
13.139.2.11 int qiodevice_fakeclose_file_func (voidpf *opaque,* voidpf)

Definition at line 301 of file qioapi.cpp.

Referenced by fill_qiodevice64_filefunc().

```
304 {
305     QIODevice_descriptor *d = reinterpret_cast<
    QIODevice_descriptor*>(opaque);
306     delete d;
307     return 0;
308 }
```

Here is the caller graph for this function:



13.139.2.12 voidpf qiodevice_open_file_func (voidpf *opaque,* voidpf *file,* int *mode*)

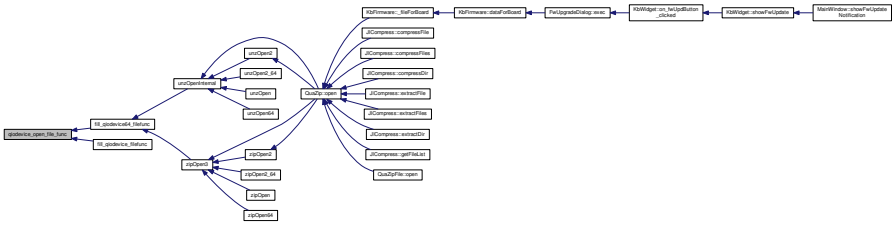
Definition at line 86 of file qioapi.cpp.

References QIODevice_descriptor::pos, ZLIB_FILEFUNC_MODE_CREATE, ZLIB_FILEFUNC_MODE_EXISTING, ZLIB_FILEFUNC_MODE_READ, and ZLIB_FILEFUNC_MODE_READWRITEFILTER.

Referenced by fill_qiodevice64_filefunc(), and fill_qiodevice_filefunc().

```
90 {
91     QIODevice_descriptor *d = reinterpret_cast<
      QIODevice_descriptor*>(opaque);
92     QIODevice *iodevice = reinterpret_cast<QIODevice*>(file);
93     QIODevice::OpenMode desiredMode;
94     if ((mode & ZLIB_FILEFUNC_MODE_READWRITEFILTER)==
      ZLIB_FILEFUNC_MODE_READ)
95         desiredMode = QIODevice::ReadOnly;
96     else if (mode & ZLIB_FILEFUNC_MODE_EXISTING)
97         desiredMode = QIODevice::ReadWrite;
98     else if (mode & ZLIB_FILEFUNC_MODE_CREATE)
99         desiredMode = QIODevice::WriteOnly;
100     if (iodevice->isOpen()) {
101         if ((iodevice->openMode() & desiredMode) == desiredMode) {
102             if (desiredMode != QIODevice::WriteOnly
103                     && iodevice->isSequential()) {
104                 // We can use sequential devices only for writing.
105                 delete d;
106                 return NULL;
107             } else {
108                 if ((desiredMode & QIODevice::WriteOnly) != 0) {
109                     // open for writing, need to seek existing device
110                     if (!iodevice->isSequential()) {
111                         iodevice->seek(0);
112                     } else {
113                         d->pos = iodevice->pos();
114                     }
115                 }
116             }
117             return iodevice;
118         } else {
119             delete d;
120             return NULL;
121         }
122     }
123     iodevice->open(desiredMode);
124     if (iodevice->isOpen()) {
125         if (desiredMode != QIODevice::WriteOnly && iodevice->isSequential()) {
126             // We can use sequential devices only for writing.
127             iodevice->close();
128             delete d;
129             return NULL;
130         } else {
131             return iodevice;
132         }
133     } else {
134         delete d;
135         return NULL;
136     }
137 }
```

Here is the caller graph for this function:



13.139.2.13 uLong qiodevice_read_file_func (voidpf *opaque*, voidpf *stream*, void * *buf*, uLong *size*)

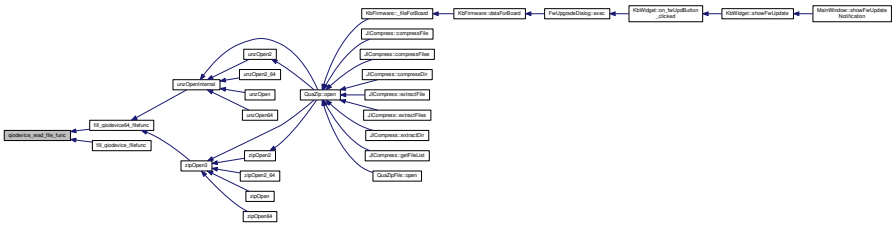
Definition at line 140 of file qioapi.cpp.

References QIODevice_descriptor::pos.

Referenced by fill_qiodevice64_filefunc(), and fill_qiodevice_filefunc().

```
145 {
146     QIODevice_descriptor *d = reinterpret_cast<
    QIODevice_descriptor*>(opaque);
147     QIODevice *iodevice = reinterpret_cast<QIODevice*>(stream);
148     qint64 ret64 = iodevice->read((char*)buf,size);
149     uLong ret;
150     ret = (uLong) ret64;
151     if (ret64 != -1) {
152         d->pos += ret64;
153     }
154     return ret;
155 }
```

Here is the caller graph for this function:



13.139.2.14 int qiodevice_seek_file_func (voidpf , voidpf *stream*, uLong *offset*, int *origin*)

Definition at line 207 of file qioapi.cpp.

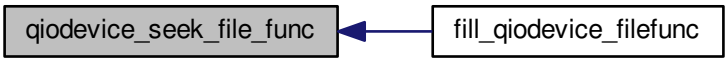
References ZLIB_FILEFUNC_SEEK_CUR, ZLIB_FILEFUNC_SEEK_END, and ZLIB_FILEFUNC_SEEK_SET.

Referenced by fill_qiodevice_filefunc().

```
212 {
213     QIODevice *iodevice = reinterpret_cast<QIODevice*>(stream);
214     if (iodevice->isSequential()) {
215         if (origin == ZLIB_FILEFUNC_SEEK_END
216                 && offset == 0) {
217             // sequential devices are always at end (needed in mdAppend)
218             return 0;
219         } else {
220             qWarning("qiodevice_seek_file_func() called for sequential device");
221             return -1;
```

```
222         }
223     }
224     uLong qiodevice_seek_result=0;
225     int ret;
226     switch (origin)
227     {
228     case ZLIB_FILEFUNC_SEEK_CUR :
229         qiodevice_seek_result = ((QIODevice*)stream)->pos() + offset;
230         break;
231     case ZLIB_FILEFUNC_SEEK_END :
232         qiodevice_seek_result = ((QIODevice*)stream)->size() - offset;
233         break;
234     case ZLIB_FILEFUNC_SEEK_SET :
235         qiodevice_seek_result = offset;
236         break;
237     default:
238         return -1;
239     }
240     ret = !iodevice->seek(qiodevice_seek_result);
241     return ret;
242 }
```

Here is the caller graph for this function:



13.139.2.15 uLong qiodevice_tell_file_func (voidpf *opaque*, voidpf *stream*)

Definition at line 175 of file qioapi.cpp.

References QIODevice_descriptor::pos.

Referenced by fill_qiodevice_filefunc().

```
178 {
179     QIODevice_descriptor *d = reinterpret_cast<
      QIODevice_descriptor*>(opaque);
180     QIODevice *iodevice = reinterpret_cast<QIODevice*>(stream);
181     uLong ret;
182     qint64 ret64;
183     if (iodevice->isSequential()) {
184         ret64 = d->pos;
185     } else {
186         ret64 = iodevice->pos();
187     }
188     ret = static_cast<uLong>(ret64);
189     return ret;
190 }
```

Here is the caller graph for this function:

13.139.2.16 uLong qiodevice_write_file_func (voidpf *opaque*, voidpf *stream*, const void * *buf*, uLong *size*)

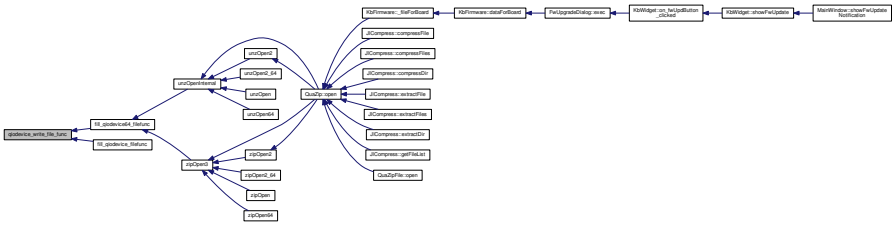
Definition at line 158 of file qioapi.cpp.

References QIODevice_descriptor::pos.

Referenced by fill_qiodevice64_filefunc(), and fill_qiodevice_filefunc().

```
163 {
164     QIODevice_descriptor *d = reinterpret_cast<
      QIODevice_descriptor*>(opaque);
165     QIODevice *iodevice = reinterpret_cast<QIODevice*>(stream);
166     uLong ret;
167     qint64 ret64 = iodevice->write((char*)buf,size);
168     if (ret64 != -1) {
169         d->pos += ret64;
170     }
171     ret = (uLong) ret64;
172     return ret;
173 }
```

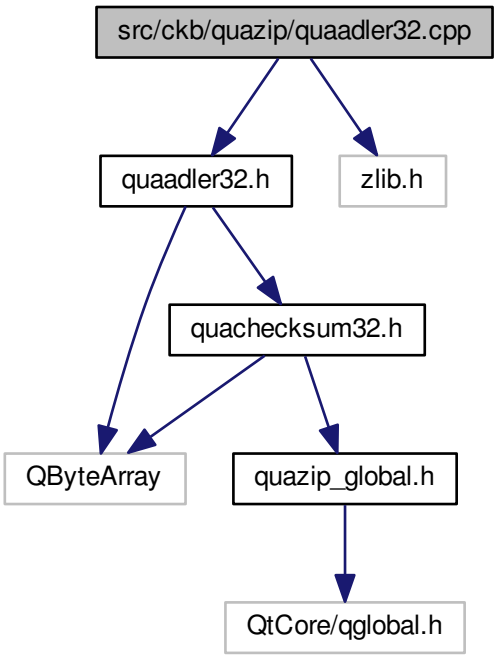
Here is the caller graph for this function:



13.140 src/ckb/quazip/quaadler32.cpp File Reference

```
#include "quaadler32.h"
#include "zlib.h"
```

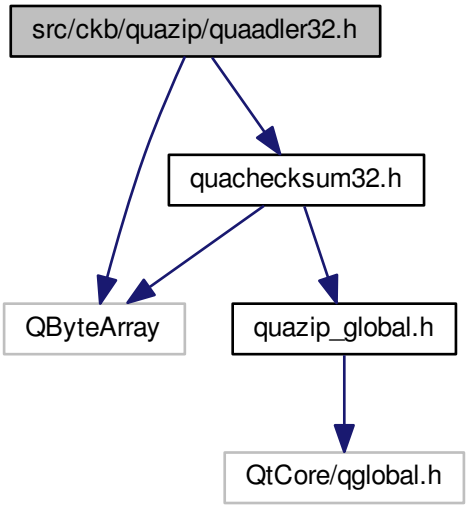
Include dependency graph for quaadler32.cpp:



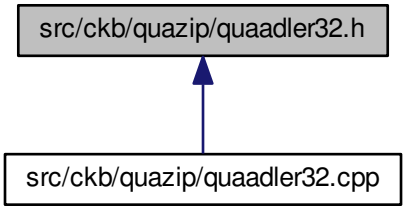
13.141 src/ckb/quazip/quaadler32.h File Reference

```
#include <QByteArray>
#include "quachecksum32.h"
```

Include dependency graph for quaadler32.h:



This graph shows which files directly or indirectly include this file:



Data Structures

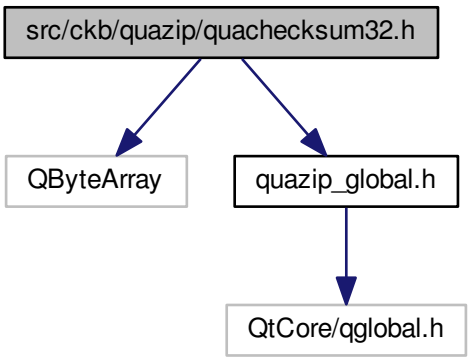
- class QuaAdler32

  Adler32 checksum.

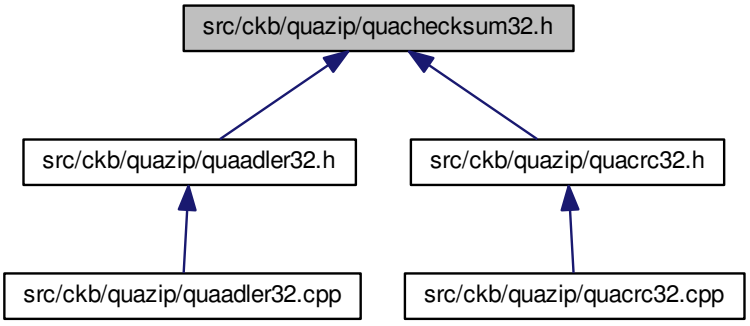
13.142 src/ckb/quazip/quachecksum32.h File Reference

```
#include <QByteArray>
#include "quazip_global.h"
```

Include dependency graph for quachecksum32.h:



This graph shows which files directly or indirectly include this file:



Data Structures

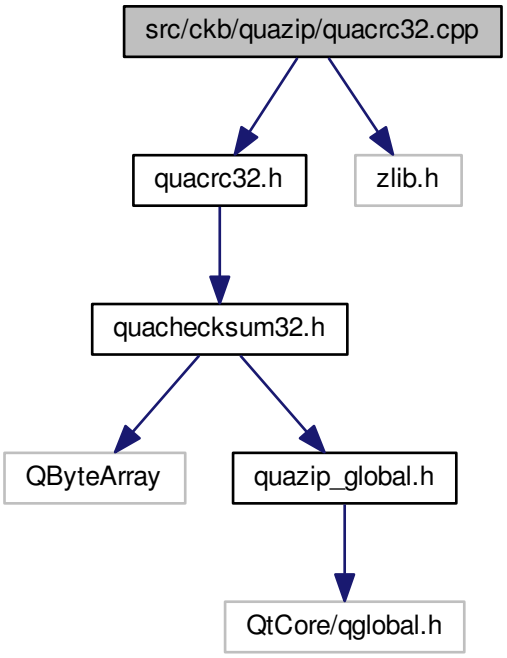
- class QuaChecksum32

  Checksum interface.

13.143 src/ckb/quazip/quacrc32.cpp File Reference

```
#include "quacrc32.h"
#include "zlib.h"
```

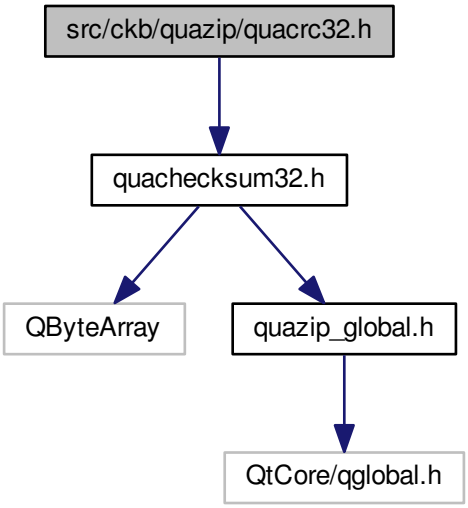
Include dependency graph for quacrc32.cpp:



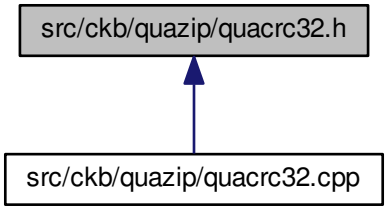
13.144 src/ckb/quazip/quacrc32.h File Reference

```
#include "quachecksum32.h"
```

Include dependency graph for quacrc32.h:



This graph shows which files directly or indirectly include this file:



Data Structures

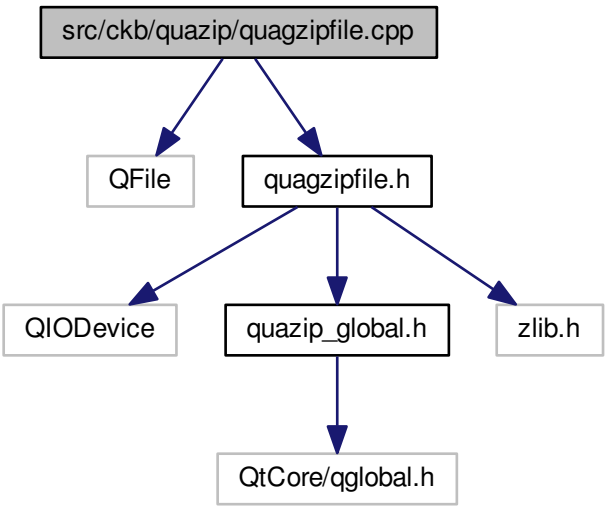
- class QuaCrc32

  CRC32 checksum.

13.145 src/ckb/quazip/quagzipfile.cpp File Reference

```
#include <QFile>
#include "quagzipfile.h"
```

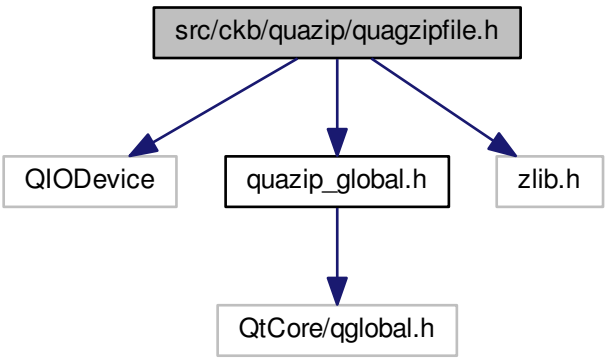
Include dependency graph for quagzipfile.cpp:



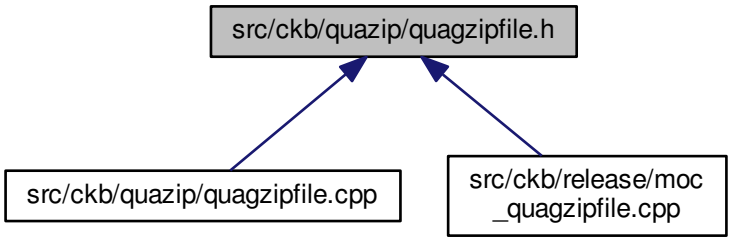
13.146 src/ckb/quazip/quagzipfile.h File Reference

```
#include <QIODevice>
#include "quazip_global.h"
#include <zlib.h>
```

Include dependency graph for quagzipfile.h:



This graph shows which files directly or indirectly include this file:

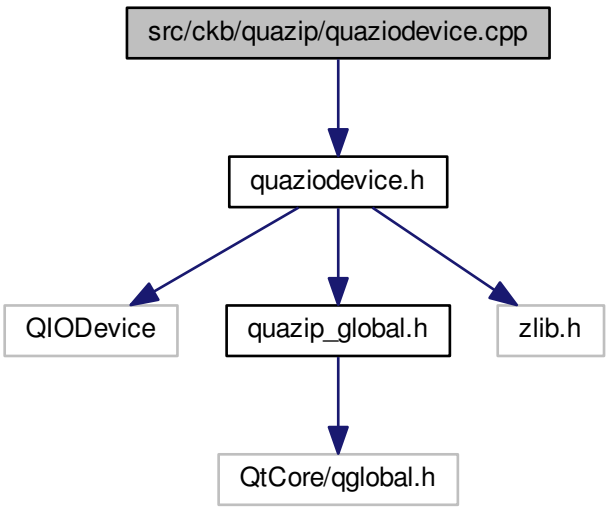


Data Structures

- class QuaGzipFile
  GZIP file.

13.147 src/ckb/quazip/quaziodevice.cpp File Reference

```
#include "quaziodevice.h"
```
Include dependency graph for quaziodevice.cpp:



Macros

- #define QUAZIO_INBUFSIZE 4096

- #define QUAZIO_OUTBUFSIZE 4096

13.147.1 Macro Definition Documentation

13.147.1.1 #define QUAZIO_INBUFSIZE 4096

Definition at line 27 of file quaziodevice.cpp.

Referenced by QuaZIODevice::readData().

13.147.1.2 #define QUAZIO_OUTBUFSIZE 4096

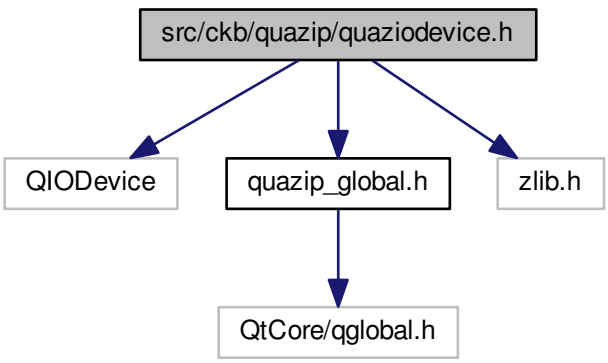
Definition at line 28 of file quaziodevice.cpp.

Referenced by QuaZIODevice::flush(), and QuaZIODevice::writeData().

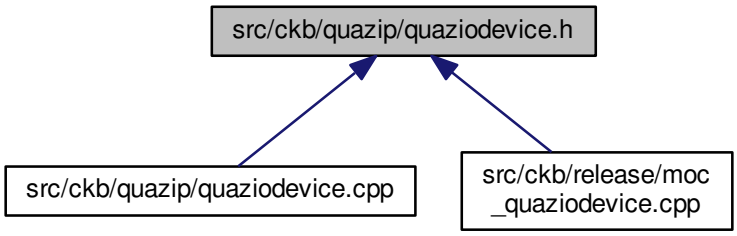
13.148 src/ckb/quazip/quaziodevice.h File Reference

```
#include <QIODevice>
#include "quazip_global.h"
#include <zlib.h>
```

Include dependency graph for quaziodevice.h:



This graph shows which files directly or indirectly include this file:



Data Structures

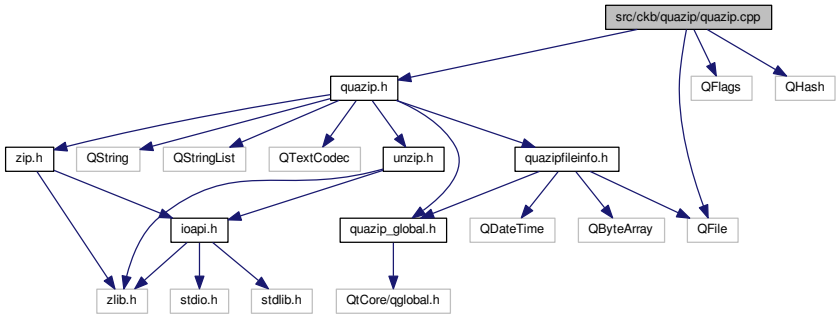
- class QuaZIODevice

  A class to compress/decompress QIODevice.

13.149 src/ckb/quazip/quazip.cpp File Reference

```
#include <QFile>
#include <QFlags>
#include <QHash>
#include "quazip.h"
```

Include dependency graph for quazip.cpp:



Data Structures

- class QuaZipPrivate

  All the internal stuff for the QuaZip class.

Functions

- template<typename TFileInfo >
  TFileInfo QuaZip_getFileInfo (QuaZip *zip, bool *ok)

- template<>
  QuaZipFileInfo QuaZip_getFileInfo (QuaZip *zip, bool *ok)
- template<>
  QuaZipFileInfo64 QuaZip_getFileInfo (QuaZip *zip, bool *ok)
- template<>
  QString QuaZip_getFileInfo (QuaZip *zip, bool *ok)

13.149.1 Function Documentation

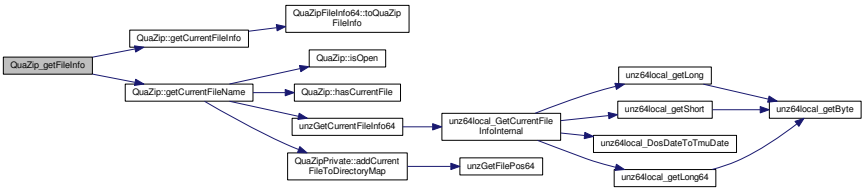
13.149.1.1 template<typename TFileInfo > TFileInfo QuaZip_getFileInfo (QuaZip * *zip*, bool * *ok*)

Definition at line 663 of file quazip.cpp.

References QuaZip::getCurrentFileInfo(), and QuaZip::getCurrentFileName().

```
664 {
665     QuaZipFileInfo info;
666     *ok = zip->getCurrentFileInfo(&info);
667     return info;
668 }
```

Here is the call graph for this function:



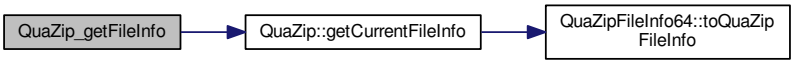
13.149.1.2 template<> QuaZipFileInfo QuaZip_getFileInfo (QuaZip * *zip*, bool * *ok*)

Definition at line 663 of file quazip.cpp.

References QuaZip::getCurrentFileInfo().

```
664 {
665     QuaZipFileInfo info;
666     *ok = zip->getCurrentFileInfo(&info);
667     return info;
668 }
```

Here is the call graph for this function:



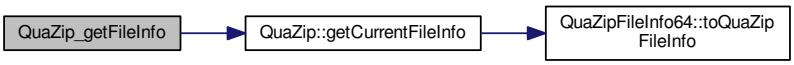
13.149.1.3 template<> QuaZipFileInfo64 QuaZip_getFileInfo (QuaZip * *zip*, bool * *ok*)

Definition at line 671 of file quazip.cpp.

References QuaZip::getCurrentFileInfo().

```
672 {
673     QuaZipFileInfo64 info;
674     *ok = zip->getCurrentFileInfo(&info);
675     return info;
676 }
```

Here is the call graph for this function:



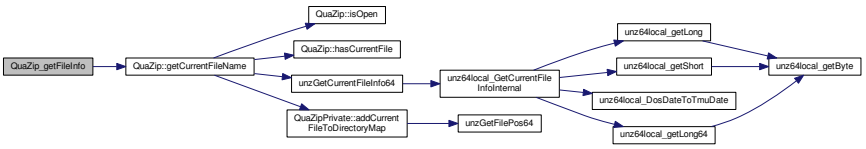
13.149.1.4 template<> QString QuaZip_getFileInfo (QuaZip * *zip*, bool * *ok*)

Definition at line 679 of file quazip.cpp.

References QuaZip::getCurrentFileName().

```
680 {
681     QString name = zip->getCurrentFileName();
682     *ok = !name.isEmpty();
683     return name;
684 }
```

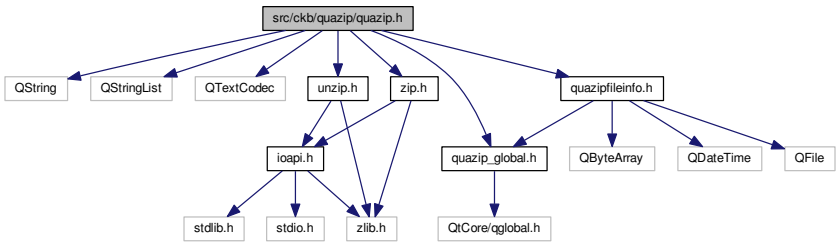
Here is the call graph for this function:



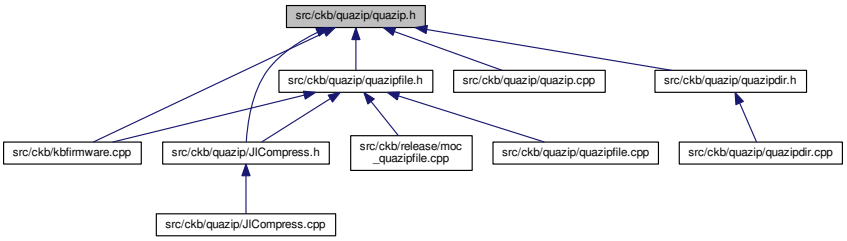
13.150 src/ckb/quazip/quazip.h File Reference

```
#include <QString>
#include <QStringList>
#include <QTextCodec>
#include "zip.h"
#include "unzip.h"
#include "quazip_global.h"
#include "quazipfileinfo.h"
```

Include dependency graph for quazip.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class QuaZip

  ZIP archive.

Macros

- #define UNZ_OPENERROR -1000

13.150.1 Macro Definition Documentation

13.150.1.1 #define UNZ_OPENERROR -1000

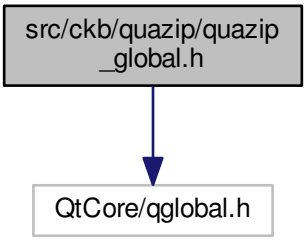
Definition at line 41 of file quazip.h.

Referenced by QuaZip::open().

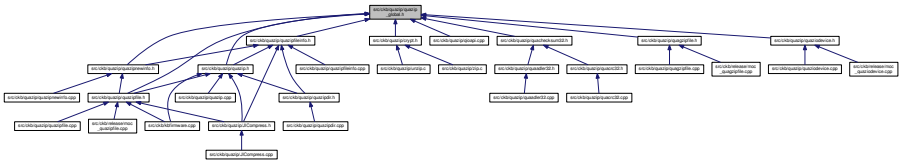
13.151 src/ckb/quazip/quazip_global.h File Reference

```
#include <QtCore/qglobal.h>
```

Include dependency graph for quazip_global.h:



This graph shows which files directly or indirectly include this file:



Macros

- #define QUAZIP_EXPORT Q_DECL_IMPORT

  This is automatically defined when building a static library, but when including QuaZip sources directly into a project, QUAZIP_STATIC should be defined explicitly to avoid possible troubles with unnecessary importing/exporting.
- #define UNUSED
- #define QUAZIP_EXTRA_NTFS_MAGIC 0x000Au
- #define QUAZIP_EXTRA_NTFS_TIME_MAGIC 0x0001u

13.151.1 Macro Definition Documentation

13.151.1.1 #define QUAZIP_EXPORT Q_DECL_IMPORT

When building a DLL with MSVC, QUAZIP_BUILD must be defined. qglobal.h takes care of defining Q_DECL_∗ correctly for msvc/gcc.

Definition at line 46 of file quazip_global.h.

13.151.1.2 #define QUAZIP_EXTRA_NTFS_MAGIC 0x000Au

Definition at line 56 of file quazip_global.h.

Referenced by getNTFSTime(), and setNTFSTime().

13.151.1.3 #define QUAZIP_EXTRA_NTFS_TIME_MAGIC 0x0001u

Definition at line 57 of file quazip_global.h.

Referenced by getNTFSTime(), and setNTFSTime().

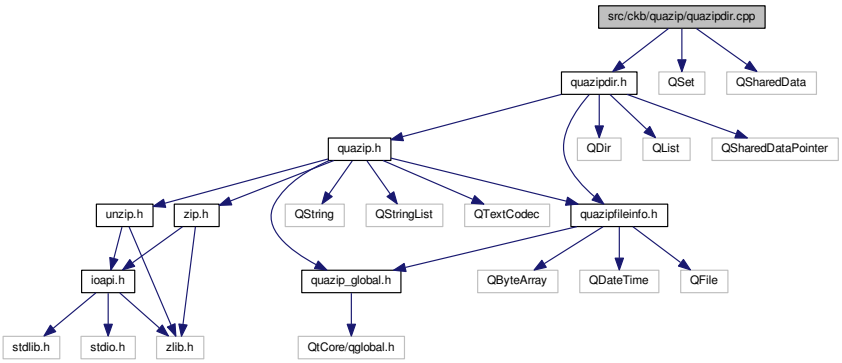
13.151.1.4 #define UNUSED

Definition at line 53 of file quazip_global.h.

13.152 src/ckb/quazip/quazipdir.cpp File Reference

```
#include "quazipdir.h"
#include <QSet>
#include <QSharedData>
```

Include dependency graph for quazipdir.cpp:



Functions

- QuaZipFileInfo64 QuaZipDir_getFileInfo (QuaZip *zip, bool *ok, const QString &relativeName, bool isReal)
- static void QuaZipDir_convertInfoList (const QList< QuaZipFileInfo64 > &from, QList< QuaZipFileInfo64 > &to)
- static void QuaZipDir_convertInfoList (const QList< QuaZipFileInfo64 > &from, QStringList &to)
- static void QuaZipDir_convertInfoList (const QList< QuaZipFileInfo64 > &from, QList< QuaZipFileInfo > &to)

13.152.1 Function Documentation

13.152.1.1 static void QuaZipDir_convertInfoList (const QList< QuaZipFileInfo64 > & *from*, QList< QuaZipFileInfo64 > & *to*) [static]

Definition at line 188 of file quazipdir.cpp.

```
190 {
191     to = from;
192 }
```

13.152.1.2 static void QuaZipDir_convertInfoList (const QList< QuaZipFileInfo64 > & *from*, QStringList & *to*) [static]

Definition at line 194 of file quazipdir.cpp.

```
196 {
197     to.clear();
198     for (QList<QuaZipFileInfo64>::const_iterator i = from.constBegin();
199             i != from.constEnd();
200             ++i) {
201         to.append(i->name);
202     }
203 }
```

13.152.1.3 static void QuaZipDir_convertInfoList (const QList< QuaZipFileInfo64 > & *from,* QList< QuaZipFileInfo > & *to*) [static]

Definition at line 205 of file quazipdir.cpp.

```
207 {
208     to.clear();
209     for (QList<QuaZipFileInfo64>::const_iterator i = from.constBegin();
210             i != from.constEnd();
211             ++i) {
212         QuaZipFileInfo info32;
213         i->toQuaZipFileInfo(info32);
214         to.append(info32);
215     }
216 }
```

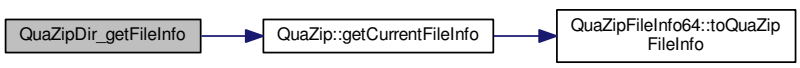
13.152.1.4 QuaZipFileInfo64 QuaZipDir_getFileInfo (QuaZip * *zip,* bool * *ok,* const QString & *relativeName,* bool *isReal*)

Definition at line 165 of file quazipdir.cpp.

References QuaZipFileInfo64::compressedSize, QuaZipFileInfo64::crc, QuaZipFileInfo64::diskNumberStart, QuaZipFileInfo64::externalAttr, QuaZipFileInfo64::flags, QuaZip::getCurrentFileInfo(), QuaZipFileInfo64::internalAttr, QuaZipFileInfo64::method, QuaZipFileInfo64::name, QuaZipFileInfo64::uncompressedSize, QuaZipFileInfo64::versionCreated, and QuaZipFileInfo64::versionNeeded.

```
168 {
169     QuaZipFileInfo64 info;
170     if (isReal) {
171         *ok = zip->getCurrentFileInfo(&info);
172     } else {
173         *ok = true;
174         info.compressedSize = 0;
175         info.crc = 0;
176         info.diskNumberStart = 0;
177         info.externalAttr = 0;
178         info.flags = 0;
179         info.internalAttr = 0;
180         info.method = 0;
181         info.uncompressedSize = 0;
182         info.versionCreated = info.versionNeeded = 0;
183     }
184     info.name = relativeName;
185     return info;
186 }
```

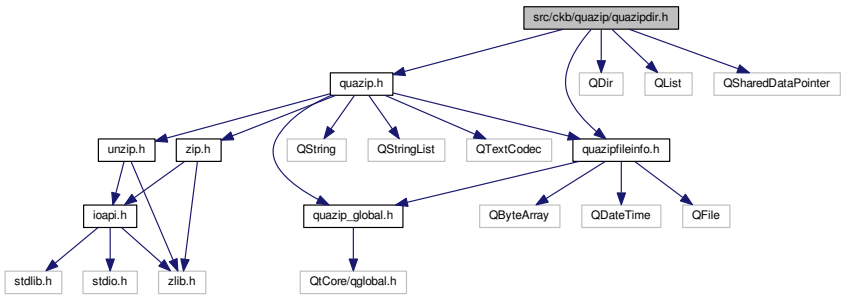
Here is the call graph for this function:



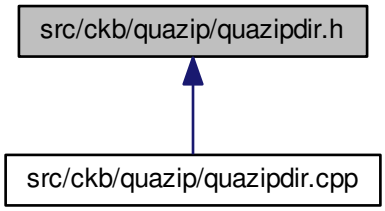
13.153 src/ckb/quazip/quazipdir.h File Reference

```
#include "quazip.h"
#include "quazipfileinfo.h"
#include <QDir>
#include <QList>
#include <QSharedDataPointer>
```

Include dependency graph for quazipdir.h:



This graph shows which files directly or indirectly include this file:



Data Structures

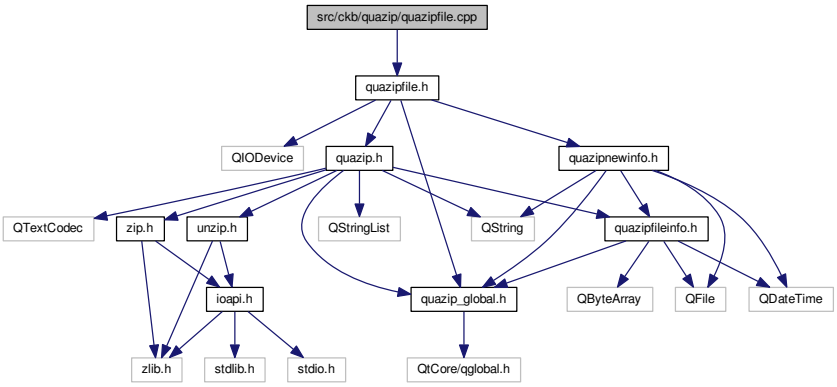
- class QuaZipDir

  Provides ZIP archive navigation.

13.154 src/ckb/quazip/quazipfile.cpp File Reference

```
#include "quazipfile.h"
```

Include dependency graph for quazipfile.cpp:



Data Structures

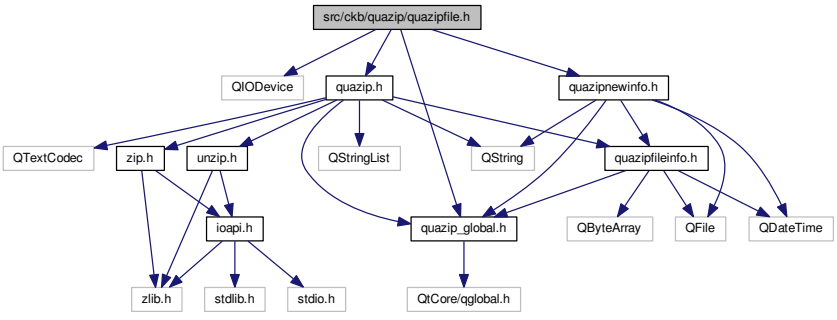
- class QuaZipFilePrivate

  The implementation class for QuaZip.

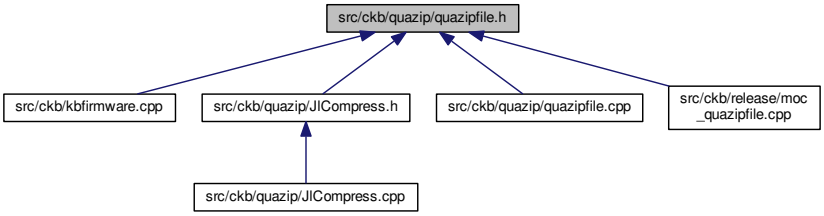
13.155 src/ckb/quazip/quazipfile.h File Reference

```
#include <QIODevice>
#include "quazip_global.h"
#include "quazip.h"
#include "quazipnewinfo.h"
```

Include dependency graph for quazipfile.h:



This graph shows which files directly or indirectly include this file:



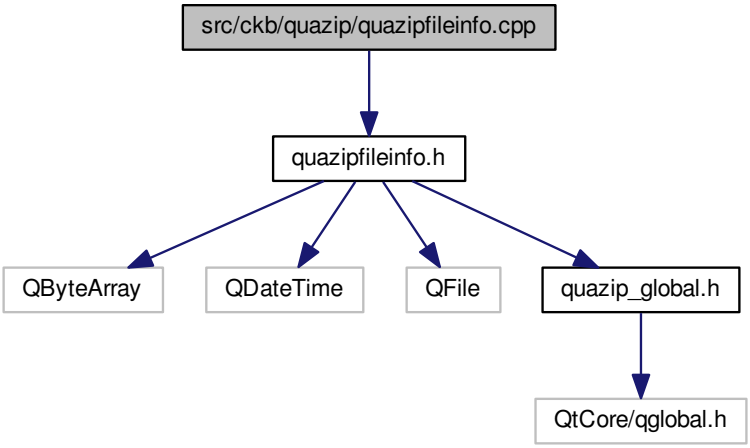
Data Structures

- class QuaZipFile

  A file inside ZIP archive.

13.156 src/ckb/quazip/quazipfileinfo.cpp File Reference

`#include "quazipfileinfo.h"`
Include dependency graph for quazipfileinfo.cpp:



Functions

- static QFile::Permissions permissionsFromExternalAttr (quint32 externalAttr)
- static QDateTime getNTFSTime (const QByteArray &extra, int position, int *fineTicks)

13.156.1 Function Documentation

13.156.1.1 static QDateTime getNTFSTime (const QByteArray & *extra*, int *position*, int * *fineTicks*) [static]

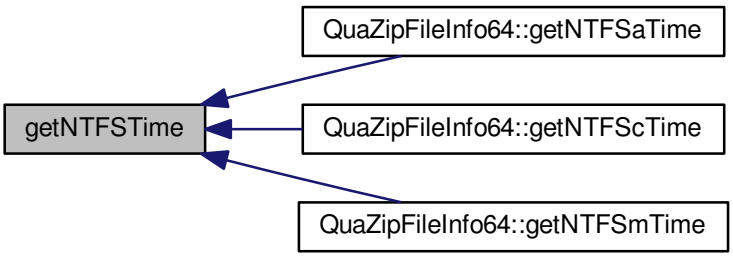
Definition at line 92 of file quazipfileinfo.cpp.

References QUAZIP_EXTRA_NTFS_MAGIC, and QUAZIP_EXTRA_NTFS_TIME_MAGIC.

Referenced by QuaZipFileInfo64::getNTFSaTime(), QuaZipFileInfo64::getNTFScTime(), and QuaZipFileInfo64::getNTFSmTime().

```
94 {
95     QDateTime dateTime;
96     for (int i = 0; i <= extra.size() - 4; ) {
97         unsigned type = static_cast<unsigned>(static_cast<unsigned char>(
98                                                   extra.at(i)))
99                 | (static_cast<unsigned>(static_cast<unsigned char>(
100                                                   extra.at(i + 1))) << 8);
101         i += 2;
102         unsigned length = static_cast<unsigned>(static_cast<unsigned char>(
103                                                   extra.at(i)))
104                 | (static_cast<unsigned>(static_cast<unsigned char>(
105                                                   extra.at(i + 1))) << 8);
106         i += 2;
107         if (type == QUAZIP_EXTRA_NTFS_MAGIC && length >= 32) {
108             i += 4; // reserved
109             while (i <= extra.size() - 4) {
110                 unsigned tag = static_cast<unsigned>(
111                             static_cast<unsigned char>(extra.at(i)))
112                         | (static_cast<unsigned>(
113                                 static_cast<unsigned char>(extra.at(i + 1)))
114                             << 8);
115                 i += 2;
116                 int tagsize = static_cast<unsigned>(
117                             static_cast<unsigned char>(extra.at(i)))
118                         | (static_cast<unsigned>(
119                                 static_cast<unsigned char>(extra.at(i + 1)))
120                             << 8);
121                 i += 2;
122                 if (tag == QUAZIP_EXTRA_NTFS_TIME_MAGIC
123                         && tagsize >= position + 8) {
124                     i += position;
125                     quint64 mtime = static_cast<quint64>(
126                                 static_cast<unsigned char>(extra.at(i)))
127                         | (static_cast<quint64>(static_cast<unsigned char>(
128                                                   extra.at(i + 1))) << 8)
129                         | (static_cast<quint64>(static_cast<unsigned char>(
130                                                   extra.at(i + 2))) << 16)
131                         | (static_cast<quint64>(static_cast<unsigned char>(
132                                                   extra.at(i + 3))) << 24)
133                         | (static_cast<quint64>(static_cast<unsigned char>(
134                                                   extra.at(i + 4))) << 32)
135                         | (static_cast<quint64>(static_cast<unsigned char>(
136                                                   extra.at(i + 5))) << 40)
137                         | (static_cast<quint64>(static_cast<unsigned char>(
138                                                   extra.at(i + 6))) << 48)
139                         | (static_cast<quint64>(static_cast<unsigned char>(
140                                                   extra.at(i + 7))) << 56);
141                     // the NTFS time is measured from 1601 for whatever reason
142                     QDateTime base(QDate(1601, 1, 1), QTime(0, 0), Qt::UTC);
143                     dateTime = base.addMSecs(mtime / 10000);
144                     if (fineTicks != NULL) {
145                         *fineTicks = static_cast<int>(mtime % 10000);
146                     }
147                     i += tagsize - position;
148                 } else {
149                     i += tagsize;
150                 }
151 
152             }
153         } else {
154             i += length;
155         }
156     }
157     if (fineTicks != NULL && dateTime.isNull()) {
158         *fineTicks = 0;
159     }
160     return dateTime;
161 }
```

Here is the caller graph for this function:



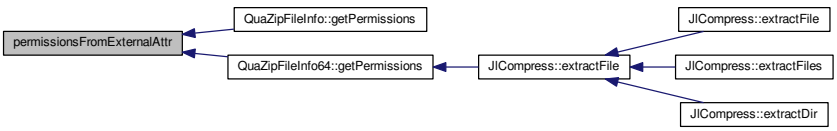
13.156.1.2 static QFile::Permissions permissionsFromExternalAttr (quint32 *externalAttr*) [static]

Definition at line 27 of file quazipfileinfo.cpp.

Referenced by QuaZipFileInfo::getPermissions(), and QuaZipFileInfo64::getPermissions().

```
27                                                                      {
28     quint32 uPerm = (externalAttr & 0xFFFF0000u) >> 16;
29     QFile::Permissions perm = 0;
30     if ((uPerm & 0400) != 0)
31         perm |= QFile::ReadOwner;
32     if ((uPerm & 0200) != 0)
33         perm |= QFile::WriteOwner;
34     if ((uPerm & 0100) != 0)
35         perm |= QFile::ExeOwner;
36     if ((uPerm & 0040) != 0)
37         perm |= QFile::ReadGroup;
38     if ((uPerm & 0020) != 0)
39         perm |= QFile::WriteGroup;
40     if ((uPerm & 0010) != 0)
41         perm |= QFile::ExeGroup;
42     if ((uPerm & 0004) != 0)
43         perm |= QFile::ReadOther;
44     if ((uPerm & 0002) != 0)
45         perm |= QFile::WriteOther;
46     if ((uPerm & 0001) != 0)
47         perm |= QFile::ExeOther;
48     return perm;
49
50 }
```

Here is the caller graph for this function:

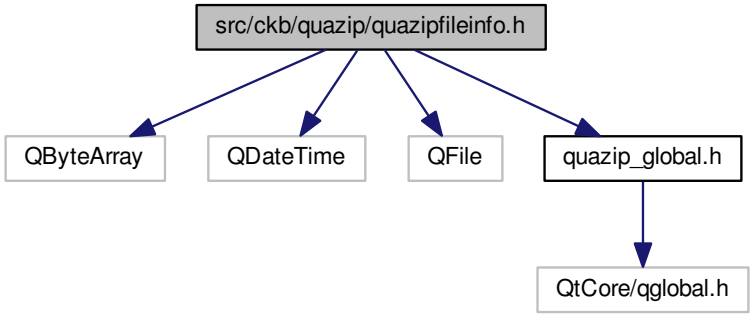


13.157 src/ckb/quazip/quazipfileinfo.h File Reference

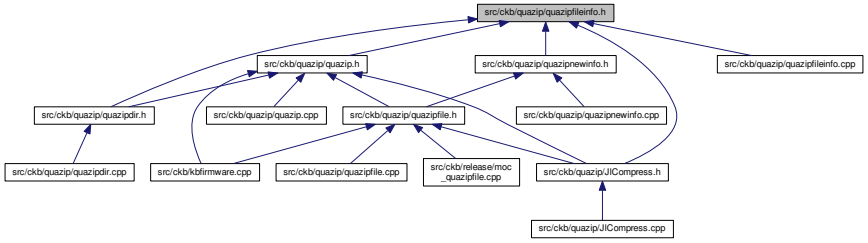
```
#include <QByteArray>
```

```
#include <QDateTime>
#include <QFile>
#include "quazip_global.h"
```

Include dependency graph for quazipfileinfo.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct QuaZipFileInfo

  Information about a file inside archive.

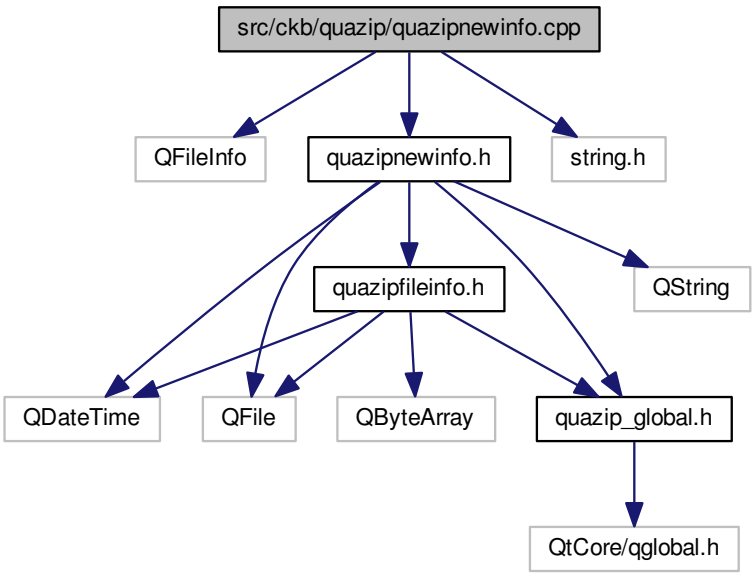
- struct QuaZipFileInfo64

  Information about a file inside archive (with zip64 support).

13.158 src/ckb/quazip/quazipnewinfo.cpp File Reference

```
#include <QFileInfo>
#include "quazipnewinfo.h"
#include <string.h>
```

Include dependency graph for quazipnewinfo.cpp:



Functions

- static void QuaZipNewInfo_setPermissions (QuaZipNewInfo *info, QFile::Permissions perm, bool isDir)
- template<typename FileInfo >
  void QuaZipNewInfo_init (QuaZipNewInfo &self, const FileInfo &existing)
- static void setNTFSTime (QByteArray &extra, const QDateTime &time, int position, int fineTicks)

13.158.1 Function Documentation

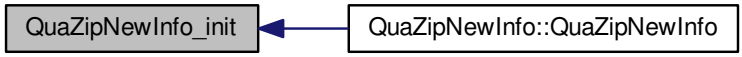
13.158.1.1 template<typename FileInfo > void QuaZipNewInfo_init (QuaZipNewInfo & *self*, const FileInfo & *existing*)

Definition at line 57 of file quazipnewinfo.cpp.

Referenced by QuaZipNewInfo::QuaZipNewInfo().

```
58 {
59     self.name = existing.name;
60     self.dateTime = existing.dateTime;
61     self.internalAttr = existing.internalAttr;
62     self.externalAttr = existing.externalAttr;
63     self.comment = existing.comment;
64     self.extraLocal = existing.extra;
65     self.extraGlobal = existing.extra;
66     self.uncompressedSize = existing.uncompressedSize;
67 }
```

Here is the caller graph for this function:



13.158.1.2 static void QuaZipNewInfo_setPermissions (QuaZipNewInfo * *info*, QFile::Permissions *perm*, bool *isDir*) [static]

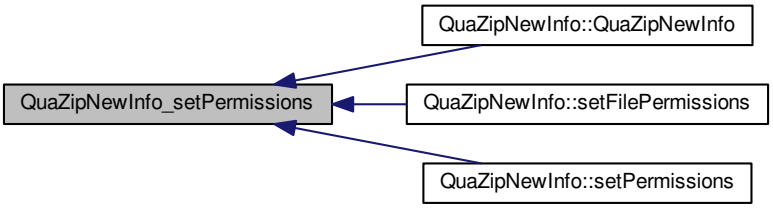
Definition at line 31 of file quazipnewinfo.cpp.

References QuaZipNewInfo::externalAttr.

Referenced by QuaZipNewInfo::QuaZipNewInfo(), QuaZipNewInfo::setFilePermissions(), and QuaZipNewInfo::setPermissions().

```
33 {
34     quint32 uPerm = isDir ? 0040000 : 0100000;
35     if ((perm & QFile::ReadOwner) != 0)
36         uPerm |= 0400;
37     if ((perm & QFile::WriteOwner) != 0)
38         uPerm |= 0200;
39     if ((perm & QFile::ExeOwner) != 0)
40         uPerm |= 0100;
41     if ((perm & QFile::ReadGroup) != 0)
42         uPerm |= 0040;
43     if ((perm & QFile::WriteGroup) != 0)
44         uPerm |= 0020;
45     if ((perm & QFile::ExeGroup) != 0)
46         uPerm |= 0010;
47     if ((perm & QFile::ReadOther) != 0)
48         uPerm |= 0004;
49     if ((perm & QFile::WriteOther) != 0)
50         uPerm |= 0002;
51     if ((perm & QFile::ExeOther) != 0)
52         uPerm |= 0001;
53     info->externalAttr = (info->externalAttr & ~0xFFFF0000u) | (uPerm << 16);
54 }
```

Here is the caller graph for this function:



13.158.1.3 static void setNTFSTime (QByteArray & *extra*, const QDateTime & *time*, int *position*, int *fineTicks*) [static]

Definition at line 131 of file quazipnewinfo.cpp.

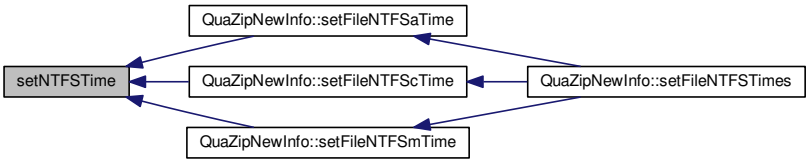
References QUAZIP_EXTRA_NTFS_MAGIC, and QUAZIP_EXTRA_NTFS_TIME_MAGIC.

Referenced by QuaZipNewInfo::setFileNTFSaTime(), QuaZipNewInfo::setFileNTFScTime(), and QuaZipNewInfo::setFileNTFSmTime().

```
132                                     {
133     int ntfsPos = -1, timesPos = -1;
134     unsigned ntfsLength = 0, ntfsTimesLength = 0;
135     for (int i = 0; i <= extra.size() - 4; ) {
136         unsigned type = static_cast<unsigned>(static_cast<unsigned char>(
137                                                 extra.at(i)))
138                 | (static_cast<unsigned>(static_cast<unsigned char>(
139                                                 extra.at(i + 1))) << 8);
140         i += 2;
141         unsigned length = static_cast<unsigned>(static_cast<unsigned char>(
142                                                 extra.at(i)))
143                 | (static_cast<unsigned>(static_cast<unsigned char>(
144                                                 extra.at(i + 1))) << 8);
145         i += 2;
146         if (type == QUAZIP_EXTRA_NTFS_MAGIC) {
147             ntfsPos = i - 4; // the beginning of the NTFS record
148             ntfsLength = length;
149             if (length <= 4) {
150                 break; // no times in the NTFS record
151             }
152             i += 4; // reserved
153             while (i <= extra.size() - 4) {
154                 unsigned tag = static_cast<unsigned>(
155                             static_cast<unsigned char>(extra.at(i)))
156                         | (static_cast<unsigned>(
157                                 static_cast<unsigned char>(extra.at(i + 1)))
158                             << 8);
159                 i += 2;
160                 unsigned tagsize = static_cast<unsigned>(
161                             static_cast<unsigned char>(extra.at(i)))
162                         | (static_cast<unsigned>(
163                                 static_cast<unsigned char>(extra.at(i + 1)))
164                             << 8);
165                 i += 2;
166                 if (tag == QUAZIP_EXTRA_NTFS_TIME_MAGIC) {
167                     timesPos = i - 4; // the beginning of the NTFS times tag
168                     ntfsTimesLength = tagsize;
169                     break;
170                 } else {
171                     i += tagsize;
172                 }
173             }
174             break; // I ain't going to search for yet another NTFS record!
175         } else {
176             i += length;
177         }
178     }
179     if (ntfsPos == -1) {
180         // No NTFS record, need to create one.
181         ntfsPos = extra.size();
182         ntfsLength = 32;
183         extra.resize(extra.size() + 4 + ntfsLength);
184         // the NTFS record header
185         extra[ntfsPos] = static_cast<char>(QUAZIP_EXTRA_NTFS_MAGIC);
186         extra[ntfsPos + 1] = static_cast<char>(QUAZIP_EXTRA_NTFS_MAGIC >> 8);
187         extra[ntfsPos + 2] = 32; // the 2-byte size in LittleEndian
188         extra[ntfsPos + 3] = 0;
189         // zero the record
190         memset(extra.data() + ntfsPos + 4, 0, 32);
191         timesPos = ntfsPos + 8;
192         // now set the tag data
193         extra[timesPos] = static_cast<char>(QUAZIP_EXTRA_NTFS_TIME_MAGIC);
194         extra[timesPos + 1] = static_cast<char>(QUAZIP_EXTRA_NTFS_TIME_MAGIC
195                                                 >> 8);
196         // the size:
197         extra[timesPos + 2] = 24;
198         extra[timesPos + 3] = 0;
199         ntfsTimesLength = 24;
200     }
201     if (timesPos == -1) {
202         // No time tag in the NTFS record, need to add one.
203         timesPos = ntfsPos + 4 + ntfsLength;
204         extra.resize(extra.size() + 28);
205         // Now we need to move the rest of the field
206         // (possibly zero bytes, but memmove() is OK with that).
207         // 0 ......... ntfsPos .. ntfsPos + 4   ... timesPos
208         // <some data> <header>   <NTFS record>     <need-to-move data>    <end>
209         memmove(extra.data() + timesPos + 28, extra.data() + timesPos,
210                 extra.size() - 28 - timesPos);
211         ntfsLength += 28;
212         // now set the tag data
```

```
213         extra[timesPos] = static_cast<char>(QUAZIP_EXTRA_NTFS_TIME_MAGIC);
214         extra[timesPos + 1] = static_cast<char>(QUAZIP_EXTRA_NTFS_TIME_MAGIC
215                                                 >> 8);
216         // the size:
217         extra[timesPos + 2] = 24;
218         extra[timesPos + 3] = 0;
219         // zero the record
220         memset(extra.data() + timesPos + 4, 0, 24);
221         ntfsTimesLength = 24;
222     }
223     if (ntfsTimesLength < 24) {
224         // Broken times field. OK, this is really unlikely, but just in case...
225         size_t timesEnd = timesPos + 4 + ntfsTimesLength;
226         extra.resize(extra.size() + (24 - ntfsTimesLength));
227         // Move it!
228         // 0 ......... timesPos .... timesPos + 4 .. timesEnd
229         // <some data> <time header> <broken times> <need-to-move data> <end>
230         memmove(extra.data() + timesEnd + (24 - ntfsTimesLength),
231                 extra.data() + timesEnd,
232                 extra.size() - (24 - ntfsTimesLength) - timesEnd);
233         // Now we have to increase the NTFS record and time tag lengths.
234         ntfsLength += (24 - ntfsTimesLength);
235         ntfsTimesLength = 24;
236         extra[ntfsPos + 2] = static_cast<char>(ntfsLength);
237         extra[ntfsPos + 3] = static_cast<char>(ntfsLength >> 8);
238         extra[timesPos + 2] = static_cast<char>(ntfsTimesLength);
239         extra[timesPos + 3] = static_cast<char>(ntfsTimesLength >> 8);
240     }
241     QDateTime base(QDate(1601, 1, 1), QTime(0, 0), Qt::UTC);
242 #if (QT_VERSION >= 0x040700)
243     quint64 ticks = base.msecsTo(time) * 10000 + fineTicks;
244 #else
245     QDateTime utc = time.toUTC();
246     quint64 ticks = (static_cast<qint64>(base.date().daysTo(utc.date()))
247             * Q_INT64_C(86400000)
248             + static_cast<qint64>(base.time().msecsTo(utc.time())))
249         * Q_INT64_C(10000) + fineTicks;
250 #endif
251     extra[timesPos + 4 + position] = static_cast<char>(ticks);
252     extra[timesPos + 5 + position] = static_cast<char>(ticks >> 8);
253     extra[timesPos + 6 + position] = static_cast<char>(ticks >> 16);
254     extra[timesPos + 7 + position] = static_cast<char>(ticks >> 24);
255     extra[timesPos + 8 + position] = static_cast<char>(ticks >> 32);
256     extra[timesPos + 9 + position] = static_cast<char>(ticks >> 40);
257     extra[timesPos + 10 + position] = static_cast<char>(ticks >> 48);
258     extra[timesPos + 11 + position] = static_cast<char>(ticks >> 56);
259 }
```

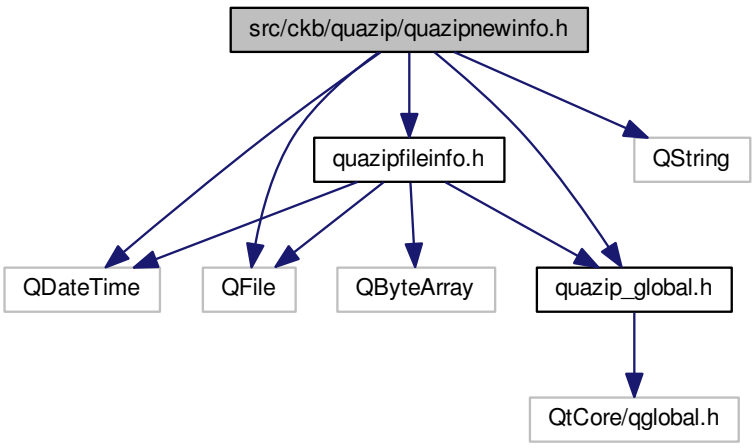
Here is the caller graph for this function:



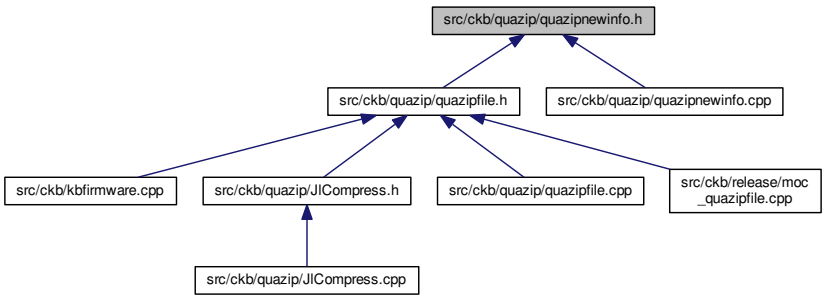
13.159 src/ckb/quazip/quazipnewinfo.h File Reference

```
#include <QDateTime>
#include <QFile>
#include <QString>
#include "quazip_global.h"
#include "quazipfileinfo.h"
```

Include dependency graph for quazipnewinfo.h:



This graph shows which files directly or indirectly include this file:



Data Structures

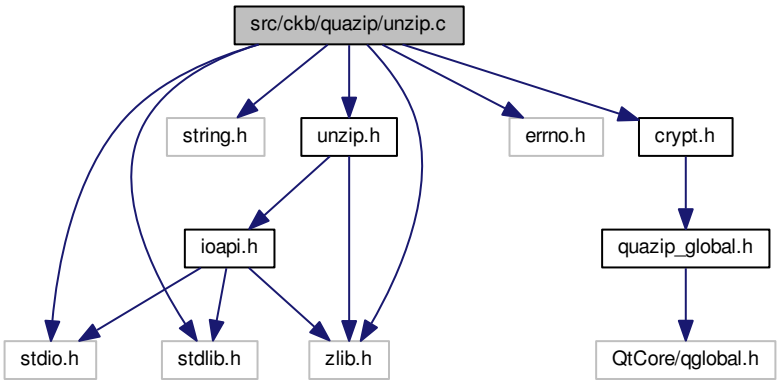
- struct QuaZipNewInfo

  Information about a file to be created.

13.160 src/ckb/quazip/unzip.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include "zlib.h"
#include "unzip.h"
#include <errno.h>
#include "crypt.h"
```

Include dependency graph for unzip.c:



Data Structures

- struct unz_file_info64_internal_s
- struct file_in_zip64_read_info_s
- struct unz64_s

Macros

- #define local static
- #define CASESENSITIVITYDEFAULT_NO
- #define UNZ_BUFSIZE (16384)
- #define UNZ_MAXFILENAMEINZIP (256)
- #define ALLOC(size) (malloc(size))
- #define TRYFREE(p) {if (p) free(p);}
- #define SIZECENTRALDIRITEM (0x2e)
- #define SIZEZIPLOCALHEADER (0x1e)
- #define CASESENSITIVITYDEFAULTVALUE 2
- #define STRCMPCASENOSENTIVEFUNCTION strcmpcasenosensitive_internal
- #define BUFREADCOMMENT (0x400)

Typedefs

- typedef uLongf z_crc_t
- typedef struct unz_file_info64_internal_s unz_file_info64_internal

Functions

- static int unz64local_getByte _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, int *pi))
- static int unz64local_getByte (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, int *pi)
- static int unz64local_getShort _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX))

- static int unz64local_getShort (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX)
- static int unz64local_getLong (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX)
- static int unz64local_getLong64 _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T *pX))
- static int unz64local_getLong64 (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T *pX)
- static int strcmpcasenosensitive_internal (const char *fileName1, const char *fileName2)
- int ZEXPORT unzStringFileNameCompare (const char *fileName1, const char *fileName2, int iCaseSensitivity)
- static ZPOS64_T unz64local_SearchCentralDir _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream))
- static ZPOS64_T unz64local_SearchCentralDir (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream)
- static ZPOS64_T unz64local_SearchCentralDir64 (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream)
- unzFile unzOpenInternal (voidpf file, zlib_filefunc64_32_def *pzlib_filefunc64_32_def, int is64bitOpenFunction, unsigned flags)
- unzFile ZEXPORT unzOpen2 (voidpf file, zlib_filefunc_def *pzlib_filefunc32_def)
- unzFile ZEXPORT unzOpen2_64 (voidpf file, zlib_filefunc64_def *pzlib_filefunc_def)
- unzFile ZEXPORT unzOpen (voidpf file)
- unzFile ZEXPORT unzOpen64 (voidpf file)
- int ZEXPORT unzClose (unzFile file)
- int ZEXPORT unzGetGlobalInfo64 (unzFile file, unz_global_info64 *pglobal_info)
- int ZEXPORT unzGetGlobalInfo (unzFile file, unz_global_info *pglobal_info32)
- static void unz64local_DosDateToTmuDate (ZPOS64_T ulDosDate, tm_unz *ptm)
- static int unz64local_GetCurrentFileInfoInternal _Z_OF ((unzFile file, unz_file_info64 *pfile_info, unz_file_info64_internal *pfile_info_internal, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize))
- static int unz64local_GetCurrentFileInfoInternal (unzFile file, unz_file_info64 *pfile_info, unz_file_info64_internal *pfile_info_internal, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize)
- int ZEXPORT unzGetCurrentFileInfo64 (unzFile file, unz_file_info64 *pfile_info, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize)
- int ZEXPORT unzGetCurrentFileInfo (unzFile file, unz_file_info *pfile_info, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize)
- int ZEXPORT unzGoToFirstFile (unzFile file)
- int ZEXPORT unzGoToNextFile (unzFile file)
- int ZEXPORT unzLocateFile (unzFile file, const char *szFileName, int iCaseSensitivity)
- int ZEXPORT unzGetFilePos64 (unzFile file, unz64_file_pos *file_pos)
- int ZEXPORT unzGetFilePos (unzFile file, unz_file_pos *file_pos)
- int ZEXPORT unzGoToFilePos64 (unzFile file, const unz64_file_pos *file_pos)
- int ZEXPORT unzGoToFilePos (unzFile file, unz_file_pos *file_pos)
- static int unz64local_CheckCurrentFileCoherencyHeader (unz64_s *s, uInt *piSizeVar, ZPOS64_T *poffset_local_extrafield, uInt *psize_local_extrafield)
- int ZEXPORT unzOpenCurrentFile3 (unzFile file, int *method, int *level, int raw, const char *password)
- int ZEXPORT unzOpenCurrentFile (unzFile file)
- int ZEXPORT unzOpenCurrentFilePassword (unzFile file, const char *password)
- int ZEXPORT unzOpenCurrentFile2 (unzFile file, int *method, int *level, int raw)
- ZPOS64_T ZEXPORT unzGetCurrentFileZStreamPos64 (unzFile file)

  Addition for GDAL : START.
- int ZEXPORT unzReadCurrentFile (unzFile file, voidp buf, unsigned len)

Addition for GDAL : END.

- z_off_t ZEXPORT unztell (unzFile file)
- ZPOS64_T ZEXPORT unztell64 (unzFile file)
- int ZEXPORT unzeof (unzFile file)
- int ZEXPORT unzGetLocalExtrafield (unzFile file, voidp buf, unsigned len)
- int ZEXPORT unzCloseCurrentFile (unzFile file)
- int ZEXPORT unzGetGlobalComment (unzFile file, char *szComment, uLong uSizeBuf)
- ZPOS64_T ZEXPORT unzGetOffset64 (unzFile file)
- uLong ZEXPORT unzGetOffset (unzFile file)
- int ZEXPORT unzSetOffset64 (unzFile file, ZPOS64_T pos)
- int ZEXPORT unzSetOffset (unzFile file, uLong pos)
- int ZEXPORT unzSetFlags (unzFile file, unsigned flags)
- int ZEXPORT unzClearFlags (unzFile file, unsigned flags)

Variables

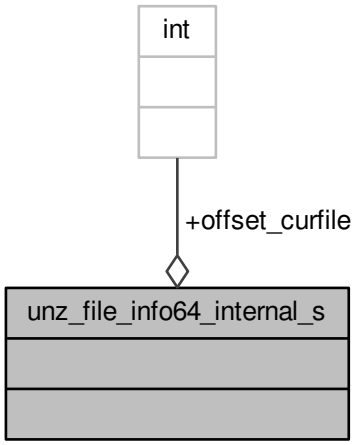
- const char unz_copyright []

13.160.1 Data Structure Documentation

13.160.1.1 struct unz_file_info64_internal_s

Definition at line 128 of file unzip.c.

Collaboration diagram for unz_file_info64_internal_s:



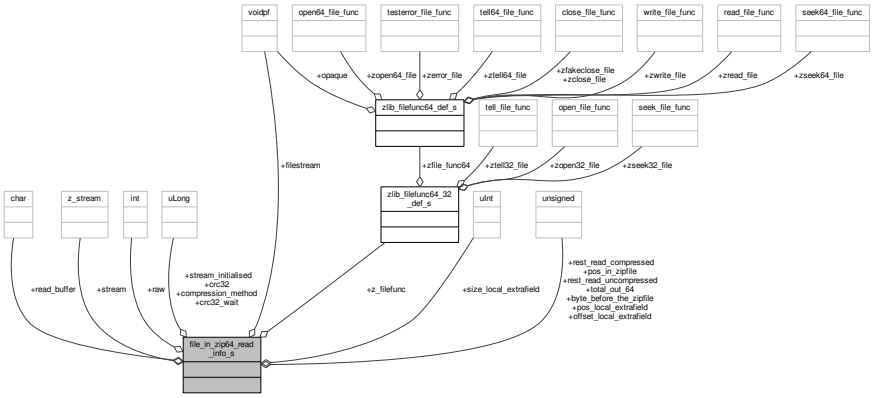
Data Fields

ZPOS64_T	offset_curfile	

13.160.1.2 struct file_in_zip64_read_info_s

Definition at line 136 of file unzip.c.

Collaboration diagram for file_in_zip64_read_info_s:



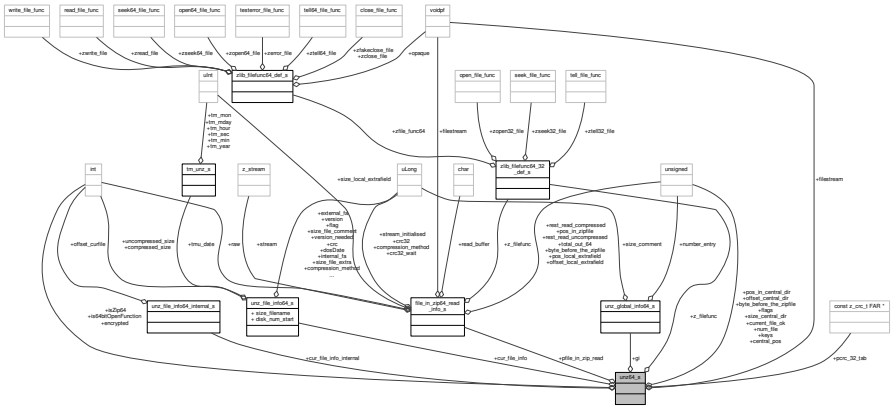
Data Fields

ZPOS64_T	byte_before_the-_zipfile	
uLong	compression_-method	
uLong	crc32	
uLong	crc32_wait	
voidpf	filestream	
ZPOS64_T	offset_local_-extrafield	
ZPOS64_T	pos_in_zipfile	
ZPOS64_T	pos_local_-extrafield	
int	raw	
char ∗	read_buffer	
ZPOS64_T	rest_read_-compressed	
ZPOS64_T	rest_read_-uncompressed	
uInt	size_local_-extrafield	
z_stream	stream	
uLong	stream_-initialised	
ZPOS64_T	total_out_64	
zlib_filefunc64_-32_def	z_filefunc	

13.160.1.3 struct unz64_s

Definition at line 167 of file unzip.c.

Collaboration diagram for unz64_s:



Data Fields

ZPOS64_T	byte_before_the-_zipfile	
ZPOS64_T	central_pos	
unz_file_info64	cur_file_info	
unz_file_info64_-internal	cur_file_info_-internal	
ZPOS64_T	current_file_ok	
int	encrypted	
voidpf	filestream	
unsigned	flags	
unz_global_-info64	gi	
int	is64bitOpen-Function	
int	isZip64	
unsigned long	keys[3]	
ZPOS64_T	num_file	
ZPOS64_T	offset_central_-dir	
const z_crc_t FAR *	pcrc_32_tab	
file_in_zip64_-read_info_s *	pfile_in_zip_read	
ZPOS64_T	pos_in_central_-dir	
ZPOS64_T	size_central_dir	
zlib_filefunc64_-32_def	z_filefunc	

13.160.2 Macro Definition Documentation

13.160.2.1 #define ALLOC(*size*) (malloc(size))

Definition at line 114 of file unzip.c.

Referenced by unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), unzOpenCurrentFile3(), and

unzOpenInternal().

13.160.2.2 #define BUFREADCOMMENT (0x400)

Definition at line 408 of file unzip.c.

Referenced by unz64local_SearchCentralDir(), and unz64local_SearchCentralDir64().

13.160.2.3 #define CASESENSITIVITYDEFAULT_NO

Definition at line 100 of file unzip.c.

13.160.2.4 #define CASESENSITIVITYDEFAULTVALUE 2

Definition at line 375 of file unzip.c.

Referenced by unzStringFileNameCompare().

13.160.2.5 #define local static

Definition at line 93 of file unzip.c.

13.160.2.6 #define SIZECENTRALDIRITEM (0x2e)

Definition at line 120 of file unzip.c.

Referenced by unzGoToNextFile().

13.160.2.7 #define SIZEZIPLOCALHEADER (0x1e)

Definition at line 121 of file unzip.c.

Referenced by unz64local_CheckCurrentFileCoherencyHeader(), and unzOpenCurrentFile3().

13.160.2.8 #define STRCMPCASENOSENTIVEFUNCTION strcmpcasenosensitive_internal

Definition at line 381 of file unzip.c.

Referenced by unzStringFileNameCompare().

13.160.2.9 #define TRYFREE(*p*) {if (p) free(p);}

Definition at line 117 of file unzip.c.

Referenced by unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), unzClose(), unzCloseCurrentFile(), and unzOpenCurrentFile3().

13.160.2.10 #define UNZ_BUFSIZE (16384)

Definition at line 106 of file unzip.c.

Referenced by unzOpenCurrentFile3(), and unzReadCurrentFile().

13.160.2.11 #define UNZ_MAXFILENAMEINZIP (256)

Definition at line 110 of file unzip.c.

Referenced by unzLocateFile().

13.160.3 Typedef Documentation

13.160.3.1 typedef struct unz_file_info64_internal_s unz_file_info64_internal

13.160.3.2 typedef uLongf z_crc_t

Definition at line 76 of file unzip.c.

13.160.4 Function Documentation

13.160.4.1 static int unz64local_getByte _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, int *pi)) [static]

13.160.4.2 static int unz64local_getShort _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX)) [static]

13.160.4.3 static int unz64local_getLong64 _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T *pX)) [static]

13.160.4.4 static ZPOS64_T unz64local_SearchCentralDir _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream)) [static]

13.160.4.5 static int unz64local_GetCurrentFileInfoInternal _Z_OF ((unzFile file, unz_file_info64 *pfile_info, unz_file_info64_internal *pfile_info_internal, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize)) [static]

13.160.4.6 static int strcmpcasenosensitive_internal (const char * *fileName1*, const char * *fileName2*) [static]

Definition at line 352 of file unzip.c.

```
353 {
354     for (;;)
355     {
356         char c1=*(fileName1++);
357         char c2=*(fileName2++);
358         if ((c1>='a') && (c1<='z'))
359             c1 -= 0x20;
360         if ((c2>='a') && (c2<='z'))
361             c2 -= 0x20;
362         if (c1=='\0')
363             return ((c2=='\0') ? 0 : -1);
364         if (c2=='\0')
365             return 1;
366         if (c1<c2)
367             return -1;
368         if (c1>c2)
369             return 1;
370     }
371 }
```

13.160.4.7 static int unz64local_CheckCurrentFileCoherencyHeader (unz64_s * *s*, uInt * *piSizeVar*, ZPOS64_T * *poffset_local_extrafield*, uInt * *psize_local_extrafield*) [static]

Definition at line 1393 of file unzip.c.

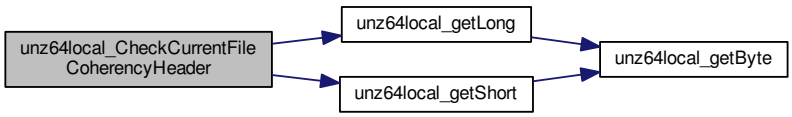
References unz64_s::byte_before_the_zipfile, unz_file_info64_s::compressed_size, unz_file_info64_s::compression_method, unz_file_info64_s::crc, unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::filestream, unz_file_info64_internal_s::offset_curfile, unz_file_info64_s::size_filename, SIZEZIPLOCALHEADER, unz_file_info64_s::uncompressed_size, unz64local_getLong(), unz64local_getShort(), UNZ_BADZIPFILE, UNZ_ERRNO, UNZ_OK, Z_BZIP2ED, unz64_s::z_filefunc, ZLIB_FILEFUNC_SEEK_SET, and ZSEEK64.

Referenced by unzOpenCurrentFile3().

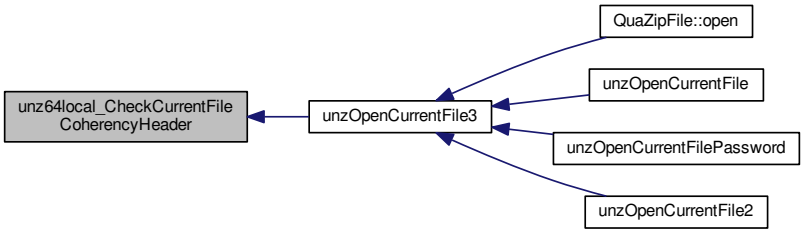
```
1396 {
1397     uLong uMagic,uData,uFlags;
1398     uLong size_filename;
1399     uLong size_extra_field;
1400     int err=UNZ_OK;
1401
1402     *piSizeVar = 0;
1403     *poffset_local_extrafield = 0;
1404     *psize_local_extrafield = 0;
1405
1406     if (ZSEEK64(s->z_filefunc, s->filestream,s->
     cur_file_info_internal.offset_curfile +
1407                                 s->byte_before_the_zipfile,
     ZLIB_FILEFUNC_SEEK_SET)!=0)
1408         return UNZ_ERRNO;
1409
1410
1411     if (err==UNZ_OK)
1412     {
1413         if (unz64local_getLong(&s->z_filefunc, s->
     filestream,&uMagic) != UNZ_OK)
1414             err=UNZ_ERRNO;
1415         else if (uMagic!=0x04034b50)
1416             err=UNZ_BADZIPFILE;
1417     }
1418
1419     if (unz64local_getShort(&s->z_filefunc, s->
     filestream,&uData) != UNZ_OK)
1420         err=UNZ_ERRNO;
1421 /*
1422     else if ((err==UNZ_OK) && (uData!=s->cur_file_info.wVersion))
1423         err=UNZ_BADZIPFILE;
1424 */
1425     if (unz64local_getShort(&s->z_filefunc, s->
     filestream,&uFlags) != UNZ_OK)
1426         err=UNZ_ERRNO;
1427
1428     if (unz64local_getShort(&s->z_filefunc, s->
     filestream,&uData) != UNZ_OK)
1429         err=UNZ_ERRNO;
1430     else if ((err==UNZ_OK) && (uData!=s->cur_file_info.
     compression_method))
1431         err=UNZ_BADZIPFILE;
1432
1433     if ((err==UNZ_OK) && (s->cur_file_info.compression_method!=0) &&
1434 /* #ifdef HAVE_BZIP2 */
1435                         (s->cur_file_info.compression_method!=
     Z_BZIP2ED) &&
1436 /* #endif */
1437                         (s->cur_file_info.compression_method!=Z_DEFLATED))
1438         err=UNZ_BADZIPFILE;
1439
1440     if (unz64local_getLong(&s->z_filefunc, s->
     filestream,&uData) != UNZ_OK) /* date/time */
1441         err=UNZ_ERRNO;
1442
1443     if (unz64local_getLong(&s->z_filefunc, s->
     filestream,&uData) != UNZ_OK) /* crc */
1444         err=UNZ_ERRNO;
1445     else if ((err==UNZ_OK) && (uData!=s->cur_file_info.crc) && ((uFlags & 8)==0))
1446         err=UNZ_BADZIPFILE;
1447
1448     if (unz64local_getLong(&s->z_filefunc, s->
     filestream,&uData) != UNZ_OK) /* size compr */
1449         err=UNZ_ERRNO;
1450     else if (uData != 0xFFFFFFFF && (err==UNZ_OK) && (uData!=s->
     cur_file_info.compressed_size) && ((uFlags & 8)==0))
1451         err=UNZ_BADZIPFILE;
1452
1453     if (unz64local_getLong(&s->z_filefunc, s->
     filestream,&uData) != UNZ_OK) /* size uncompr */
1454         err=UNZ_ERRNO;
1455     else if (uData != 0xFFFFFFFF && (err==UNZ_OK) && (uData!=s->
     cur_file_info.uncompressed_size) && ((uFlags & 8)==0))
1456         err=UNZ_BADZIPFILE;
1457
1458     if (unz64local_getShort(&s->z_filefunc, s->
```

```
    filestream,&size_filename) != UNZ_OK)
1459        err=UNZ_ERRNO;
1460    else if ((err==UNZ_OK) && (size_filename!=s->cur_file_info.
    size_filename))
1461        err=UNZ_BADZIPFILE;
1462
1463    *piSizeVar += (uInt)size_filename;
1464
1465    if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&size_extra_field) != UNZ_OK)
1466        err=UNZ_ERRNO;
1467    *poffset_local_extrafield= s->cur_file_info_internal.
    offset_curfile +
1468                                SIZEZIPLOCALHEADER + size_filename;
1469    *psize_local_extrafield = (uInt)size_extra_field;
1470
1471    *piSizeVar += (uInt)size_extra_field;
1472
1473    return err;
1474 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.160.4.8 static void unz64local_DosDateToTmuDate (ZPOS64_T *ulDosDate*, tm_unz * *ptm*) [static]

Definition at line 862 of file unzip.c.

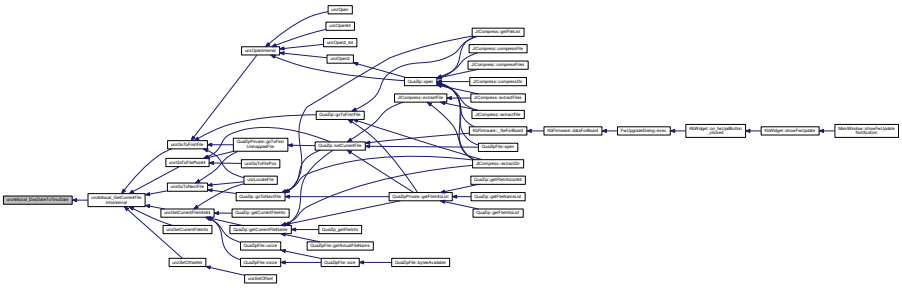
References tm_unz_s::tm_hour, tm_unz_s::tm_mday, tm_unz_s::tm_min, tm_unz_s::tm_mon, tm_unz_s::tm_sec, and tm_unz_s::tm_year.

Referenced by unz64local_GetCurrentFileInfoInternal().

```
863 {
864     ZPOS64_T uDate;
865     uDate = (ZPOS64_T)(ulDosDate>>16);
866     ptm->tm_mday = (uInt)(uDate&0x1f) ;
867     ptm->tm_mon =  (uInt)((((uDate)&0x1E0)/0x20)-1) ;
868     ptm->tm_year = (uInt)(((uDate&0x0FE00)/0x0200)+1980) ;
869
870     ptm->tm_hour = (uInt) ((ulDosDate &0xF800)/0x800);
871     ptm->tm_min =  (uInt) ((ulDosDate&0x7E0)/0x20) ;
```

```
872     ptm->tm_sec =  (uInt) (2*(ulDosDate&0x1f)) ;
873 }
```

Here is the caller graph for this function:



13.160.4.9 static int unz64local_getByte (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream,* int * *pi*) [static]

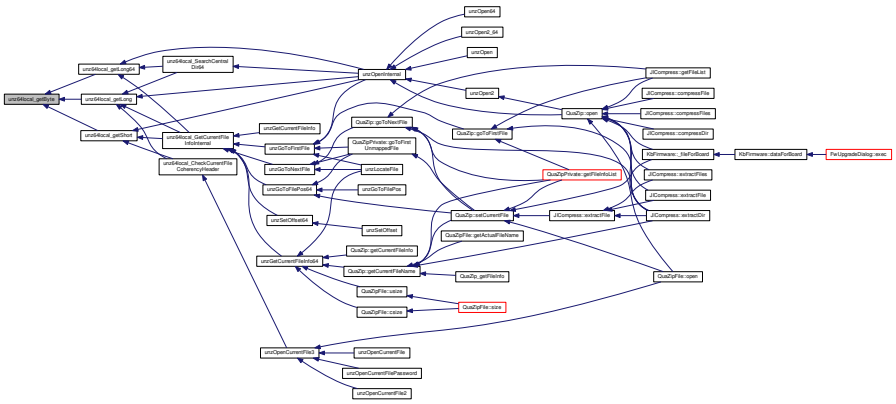
Definition at line 215 of file unzip.c.

References UNZ_EOF, UNZ_ERRNO, UNZ_OK, ZERROR64, and ZREAD64.

Referenced by unz64local_getLong(), unz64local_getLong64(), and unz64local_getShort().

```
216 {
217     unsigned char c;
218     int err = (int)ZREAD64(*pzlib_filefunc_def,filestream,&c,1);
219     if (err==1)
220     {
221         *pi = (int)c;
222         return UNZ_OK;
223     }
224     else
225     {
226         if (ZERROR64(*pzlib_filefunc_def,filestream))
227             return UNZ_ERRNO;
228         else
229             return UNZ_EOF;
230     }
231 }
```

Here is the caller graph for this function:



13.160.4.10 static int unz64local_GetCurrentFileInfoInternal (unzFile *file*, unz_file_info64 * *pfile_info*, unz_file_info64_internal * *pfile_info_internal*, char * *szFileName*, uLong *fileNameBufferSize*, void * *extraField*, uLong *extraFieldBufferSize*, char * *szComment*, uLong *commentBufferSize*) [static]

Definition at line 889 of file unzip.c.

References unz64_s::byte_before_the_zipfile, unz_file_info64_s::compressed_size, unz_file_info64_s::compression_method, unz_file_info64_s::crc, unz_file_info64_s::disk_num_start, unz_file_info64_s::dosDate, unz_file_info64_s::external_fa, unz64_s::filestream, unz_file_info64_s::flag, unz_file_info64_s::internal_fa, unz_file_info64_internal_s::offset_curfile, unz64_s::pos_in_central_dir, unz_file_info64_s::size_file_comment, unz_file_info64_s::size_file_extra, unz_file_info64_s::size_filename, unz_file_info64_s::tmu_date, unz_file_info64_s::uncompressed_size, unz64local_DosDateToTmuDate(), unz64local_getLong(), unz64local_getLong64(), unz64local_getShort(), UNZ_BADZIPFILE, UNZ_ERRNO, UNZ_OK, UNZ_PARAMERROR, unz_file_info64_s::version, unz_file_info64_s::version_needed, unz64_s::z_filefunc, ZLIB_FILEFUNC_SEEK_CUR, ZLIB_FILEFUNC_SEEK_SET, ZREAD64, and ZSEEK64.

Referenced by unzGetCurrentFileInfo(), unzGetCurrentFileInfo64(), unzGoToFilePos64(), unzGoToFirstFile(), unzGoToNextFile(), and unzSetOffset64().

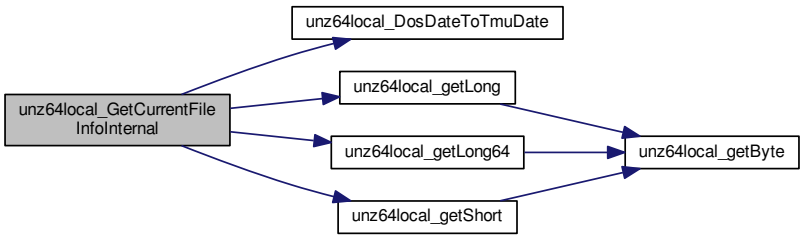
```
899 {
900     unz64_s* s;
901     unz_file_info64 file_info;
902     unz_file_info64_internal file_info_internal;
903     int err=UNZ_OK;
904     uLong uMagic;
905     ZPOS64_T llSeek=0;
906     uLong uL;
907
908     if (file==NULL)
909         return UNZ_PARAMERROR;
910     s=(unz64_s*)file;
911     if (ZSEEK64(s->z_filefunc, s->filestream,
912               s->pos_in_central_dir+s->byte_before_the_zipfile,
913               ZLIB_FILEFUNC_SEEK_SET)!=0)
914         err=UNZ_ERRNO;
915
916
917     /* we check the magic */
918     if (err==UNZ_OK)
919     {
920         if (unz64local_getLong(&s->z_filefunc, s->
    filestream,&uMagic) != UNZ_OK)
921             err=UNZ_ERRNO;
922         else if (uMagic!=0x02014b50)
923             err=UNZ_BADZIPFILE;
924     }
925
926     if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&file_info.version) != UNZ_OK)
927         err=UNZ_ERRNO;
928
929     if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&file_info.version_needed) != UNZ_OK)
930         err=UNZ_ERRNO;
931
932     if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&file_info.flag) != UNZ_OK)
933         err=UNZ_ERRNO;
934
935     if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&file_info.compression_method) != UNZ_OK)
936         err=UNZ_ERRNO;
937
938     if (unz64local_getLong(&s->z_filefunc, s->
    filestream,&file_info.dosDate) != UNZ_OK)
939         err=UNZ_ERRNO;
940
941     unz64local_DosDateToTmuDate(file_info.dosDate,&file_info.
    tmu_date);
942
943     if (unz64local_getLong(&s->z_filefunc, s->
    filestream,&file_info.crc) != UNZ_OK)
944         err=UNZ_ERRNO;
945
946     if (unz64local_getLong(&s->z_filefunc, s->
    filestream,&uL) != UNZ_OK)
947         err=UNZ_ERRNO;
948     file_info.compressed_size = uL;
949
950     if (unz64local_getLong(&s->z_filefunc, s->
```

```
    filestream,&uL) != UNZ_OK)
951         err=UNZ_ERRNO;
952       file_info.uncompressed_size = uL;
953
954       if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&file_info.size_filename) != UNZ_OK)
955         err=UNZ_ERRNO;
956
957       if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&file_info.size_file_extra) != UNZ_OK)
958         err=UNZ_ERRNO;
959
960       if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&file_info.size_file_comment) != UNZ_OK)
961         err=UNZ_ERRNO;
962
963       if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&file_info.disk_num_start) != UNZ_OK)
964         err=UNZ_ERRNO;
965
966       if (unz64local_getShort(&s->z_filefunc, s->
    filestream,&file_info.internal_fa) != UNZ_OK)
967         err=UNZ_ERRNO;
968
969       if (unz64local_getLong(&s->z_filefunc, s->
    filestream,&file_info.external_fa) != UNZ_OK)
970         err=UNZ_ERRNO;
971
972                 /* relative offset of local header */
973       if (unz64local_getLong(&s->z_filefunc, s->
    filestream,&uL) != UNZ_OK)
974         err=UNZ_ERRNO;
975       file_info_internal.offset_curfile = uL;
976
977       llSeek+=file_info.size_filename;
978       if ((err==UNZ_OK) && (szFileName!=NULL))
979       {
980           uLong uSizeRead ;
981           if (file_info.size_filename<fileNameBufferSize)
982           {
983               *(szFileName+file_info.size_filename)='\0';
984               uSizeRead = file_info.size_filename;
985           }
986           else
987               uSizeRead = fileNameBufferSize;
988
989           if ((file_info.size_filename>0) && (fileNameBufferSize>0))
990               if (ZREAD64(s->z_filefunc, s->filestream,szFileName,uSizeRead)!=
    uSizeRead)
991                   err=UNZ_ERRNO;
992           llSeek -= uSizeRead;
993       }
994
995       /* Read extrafield */
996       if ((err==UNZ_OK) && (extraField!=NULL))
997       {
998           ZPOS64_T uSizeRead ;
999           if (file_info.size_file_extra<extraFieldBufferSize)
1000              uSizeRead = file_info.size_file_extra;
1001          else
1002              uSizeRead = extraFieldBufferSize;
1003
1004          if (llSeek!=0)
1005          {
1006              if (ZSEEK64(s->z_filefunc, s->filestream,llSeek,
    ZLIB_FILEFUNC_SEEK_CUR)==0)
1007                  llSeek=0;
1008              else
1009                  err=UNZ_ERRNO;
1010          }
1011
1012          if ((file_info.size_file_extra>0) && (extraFieldBufferSize>0))
1013              if (ZREAD64(s->z_filefunc, s->filestream,extraField,(uLong)uSizeRead
    )!=uSizeRead)
1014                  err=UNZ_ERRNO;
1015
1016          llSeek += file_info.size_file_extra - (uLong)uSizeRead;
1017      }
1018      else
1019          llSeek += file_info.size_file_extra;
1020
1021
1022      if ((err==UNZ_OK) && (file_info.size_file_extra != 0))
1023      {
1024                                  uLong acc = 0;
1025
1026          /* since lSeek now points to after the extra field we need to move back */
```

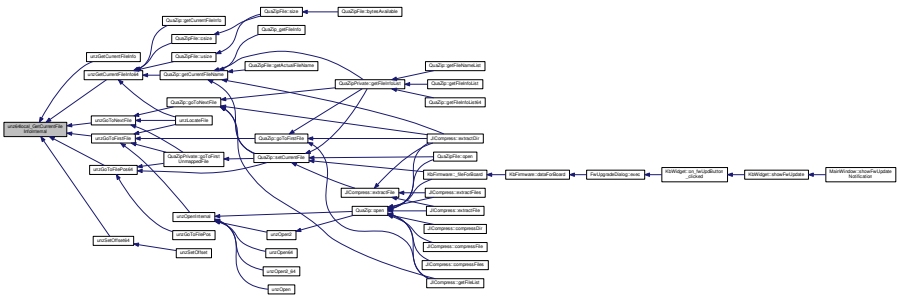
```
1027         llSeek -= file_info.size_file_extra;
1028
1029         if (llSeek!=0)
1030         {
1031             if (ZSEEK64(s->z_filefunc, s->filestream,llSeek,
     ZLIB_FILEFUNC_SEEK_CUR)==0)
1032                 llSeek=0;
1033             else
1034                 err=UNZ_ERRNO;
1035         }
1036
1037         while(acc < file_info.size_file_extra)
1038         {
1039             uLong headerId;
1040                                                 uLong dataSize;
1041
1042             if (unz64local_getShort(&s->z_filefunc, s->
     filestream,&headerId) != UNZ_OK)
1043                 err=UNZ_ERRNO;
1044
1045             if (unz64local_getShort(&s->z_filefunc, s->
     filestream,&dataSize) != UNZ_OK)
1046                 err=UNZ_ERRNO;
1047
1048             /* ZIP64 extra fields */
1049             if (headerId == 0x0001)
1050             {
1051                 uLong uL;
1052
1053                 if(file_info.uncompressed_size == (ZPOS64_T)0xFFFFFFFFu)
1054                 {
1055                     if (unz64local_getLong64(&s->z_filefunc, s->
     filestream,&file_info.uncompressed_size) != UNZ_OK)
1056                         err=UNZ_ERRNO;
1057                 }
1058
1059                 if(file_info.compressed_size == (ZPOS64_T)0xFFFFFFFFu)
1060                 {
1061                     if (unz64local_getLong64(&s->z_filefunc, s->
     filestream,&file_info.compressed_size) != UNZ_OK)
1062                         err=UNZ_ERRNO;
1063                 }
1064
1065                 if(file_info_internal.offset_curfile == (ZPOS64_T)0xFFFFFFFFu)
1066                 {
1067                     /* Relative Header offset */
1068                     if (unz64local_getLong64(&s->z_filefunc, s->
     filestream,&file_info_internal.offset_curfile) != UNZ_OK)
1069                         err=UNZ_ERRNO;
1070                 }
1071
1072                 if(file_info.disk_num_start == 0xFFFFFFFFu)
1073                 {
1074                     /* Disk Start Number */
1075                     if (unz64local_getLong(&s->z_filefunc, s->
     filestream,&uL) != UNZ_OK)
1076                         err=UNZ_ERRNO;
1077                 }
1078
1079             }
1080             else
1081             {
1082                 if (ZSEEK64(s->z_filefunc, s->filestream,dataSize,
     ZLIB_FILEFUNC_SEEK_CUR)!=0)
1083                     err=UNZ_ERRNO;
1084             }
1085
1086             acc += 2 + 2 + dataSize;
1087         }
1088     }
1089
1090     if ((err==UNZ_OK) && (szComment!=NULL))
1091     {
1092         uLong uSizeRead ;
1093         if (file_info.size_file_comment<commentBufferSize)
1094         {
1095             *(szComment+file_info.size_file_comment)='\0';
1096             uSizeRead = file_info.size_file_comment;
1097         }
1098         else
1099             uSizeRead = commentBufferSize;
1100
1101         if (llSeek!=0)
1102         {
1103             if (ZSEEK64(s->z_filefunc, s->filestream,llSeek,
     ZLIB_FILEFUNC_SEEK_CUR)==0)
1104                 llSeek=0;
```

```
1105             else
1106                 err=UNZ_ERRNO;
1107         }
1108
1109         if ((file_info.size_file_comment>0) && (commentBufferSize>0))
1110             if (ZREAD64(s->z_filefunc, s->filestream,szComment,uSizeRead)!=
     uSizeRead)
1111                 err=UNZ_ERRNO;
1112         llSeek+=file_info.size_file_comment - uSizeRead;
1113     }
1114     else
1115         llSeek+=file_info.size_file_comment;
1116
1117
1118     if ((err==UNZ_OK) && (pfile_info!=NULL))
1119         *pfile_info=file_info;
1120
1121     if ((err==UNZ_OK) && (pfile_info_internal!=NULL))
1122         *pfile_info_internal=file_info_internal;
1123
1124     return err;
1125 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.160.4.11 static int unz64local_getLong (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream,* uLong * *pX*) [static]

Definition at line 269 of file unzip.c.

References unz64local_getByte(), UNZ_OK, and x.

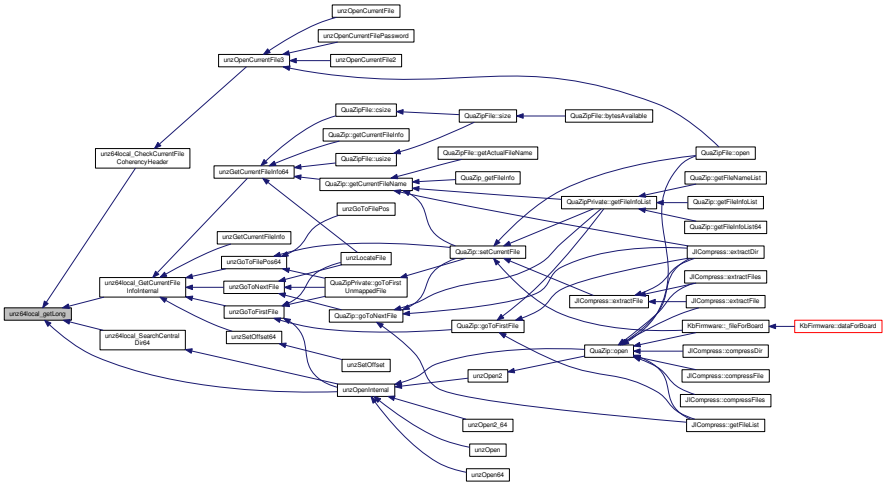
Referenced by unz64local_CheckCurrentFileCoherencyHeader(), unz64local_GetCurrentFileInfoInternal(), unz64local_SearchCentralDir64(), and unzOpenInternal().

```
272 {
273     uLong x ;
```

```
274     int i = 0;
275     int err;
276
277     err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
278     x = (uLong)i;
279
280     if (err==UNZ_OK)
281         err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
282     x |= ((uLong)i)<<8;
283
284     if (err==UNZ_OK)
285         err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
286     x |= ((uLong)i)<<16;
287
288     if (err==UNZ_OK)
289         err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
290     x += ((uLong)i)<<24;
291
292     if (err==UNZ_OK)
293         *pX = x;
294     else
295         *pX = 0;
296     return err;
297 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.160.4.12 static int unz64local_getLong64 (const zlib_filefunc64_32_def * *pzlib_filefunc_def*, voidpf *filestream*, ZPOS64_T * *pX*) [static]

Definition at line 305 of file unzip.c.

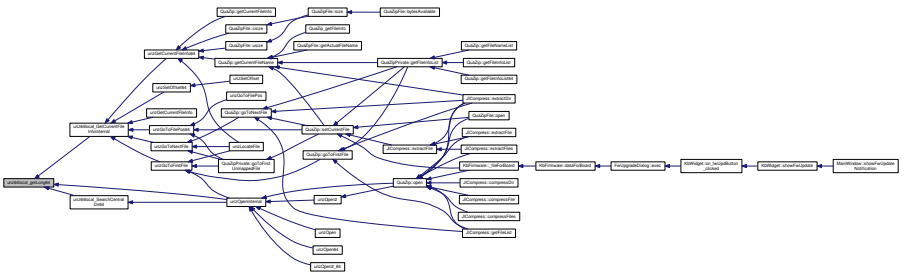
References unz64local_getByte(), UNZ_OK, and x.

Referenced by unz64local_GetCurrentFileInfoInternal(), unz64local_SearchCentralDir64(), and unzOpenInternal().

```
308 {
309     ZPOS64_T x ;
310     int i = 0;
311     int err;
312
313     err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
314     x = (ZPOS64_T)i;
315
316     if (err==UNZ_OK)
317         err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
318     x |= ((ZPOS64_T)i)<<8;
319
320     if (err==UNZ_OK)
321         err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
322     x |= ((ZPOS64_T)i)<<16;
323
324     if (err==UNZ_OK)
325         err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
326     x |= ((ZPOS64_T)i)<<24;
327
328     if (err==UNZ_OK)
329         err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
330     x |= ((ZPOS64_T)i)<<32;
331
332     if (err==UNZ_OK)
333         err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
334     x |= ((ZPOS64_T)i)<<40;
335
336     if (err==UNZ_OK)
337         err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
338     x |= ((ZPOS64_T)i)<<48;
339
340     if (err==UNZ_OK)
341         err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
342     x |= ((ZPOS64_T)i)<<56;
343
344     if (err==UNZ_OK)
345         *pX = x;
346     else
347         *pX = 0;
348     return err;
349 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.160.4.13 static int unz64local_getShort (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream,* uLong * *pX*) [static]

Definition at line 242 of file unzip.c.

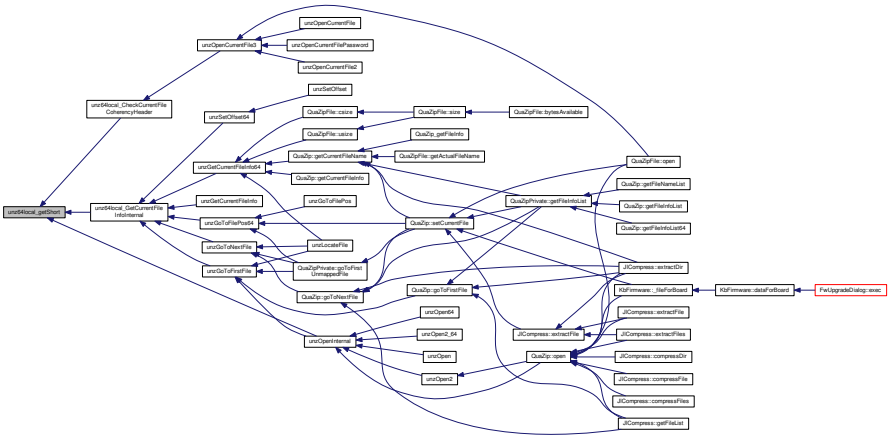
References unz64local_getByte(), UNZ_OK, and x.

Referenced by unz64local_CheckCurrentFileCoherencyHeader(), unz64local_GetCurrentFileInfoInternal(), and unzOpenInternal().

```
245 {
246     uLong x ;
247     int i = 0;
248     int err;
249
250     err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
251     x = (uLong)i;
252
253     if (err==UNZ_OK)
254         err = unz64local_getByte(pzlib_filefunc_def,filestream,&i);
255     x |= ((uLong)i)<<8;
256
257     if (err==UNZ_OK)
258         *pX = x;
259     else
260         *pX = 0;
261     return err;
262 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.160.4.14 static ZPOS64_T unz64local_SearchCentralDir (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream*) [static]

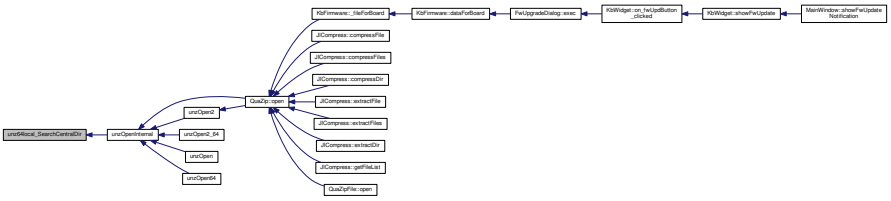
Definition at line 416 of file unzip.c.

References ALLOC, BUFREADCOMMENT, TRYFREE, ZLIB_FILEFUNC_SEEK_END, ZLIB_FILEFUNC_SEEK_-SET, ZREAD64, ZSEEK64, and ZTELL64.

Referenced by unzOpenInternal().

```
417 {
418     unsigned char* buf;
419     ZPOS64_T uSizeFile;
420     ZPOS64_T uBackRead;
421     ZPOS64_T uMaxBack=0xffff; /* maximum size of global comment */
422     ZPOS64_T uPosFound=0;
423
424     if (ZSEEK64(*pzlib_filefunc_def,filestream,0,ZLIB_FILEFUNC_SEEK_END) != 0)
425         return 0;
426
427
428     uSizeFile = ZTELL64(*pzlib_filefunc_def,filestream);
429
430     if (uMaxBack>uSizeFile)
431         uMaxBack = uSizeFile;
432
433     buf = (unsigned char*)ALLOC(BUFREADCOMMENT+4);
434     if (buf==NULL)
435         return 0;
436
437     uBackRead = 4;
438     while (uBackRead<uMaxBack)
439     {
440         uLong uReadSize;
441         ZPOS64_T uReadPos ;
442         int i;
443         if (uBackRead+BUFREADCOMMENT>uMaxBack)
444             uBackRead = uMaxBack;
445         else
446             uBackRead+=BUFREADCOMMENT;
447         uReadPos = uSizeFile-uBackRead ;
448
449         uReadSize = ((BUFREADCOMMENT+4) < (uSizeFile-uReadPos)) ?
450                      (BUFREADCOMMENT+4) : (uLong)(uSizeFile-uReadPos);
451         if (ZSEEK64(*pzlib_filefunc_def,filestream,uReadPos,
    ZLIB_FILEFUNC_SEEK_SET)!=0)
452             break;
453
454         if (ZREAD64(*pzlib_filefunc_def,filestream,buf,uReadSize)!=uReadSize)
455             break;
456
457         for (i=(int)uReadSize-3; (i--)>0;)
458             if (((*(buf+i))==0x50) && ((*(buf+i+1))==0x4b) &&
459                 ((*(buf+i+2))==0x05) && ((*(buf+i+3))==0x06))
460             {
461                 uPosFound = uReadPos+i;
462                 break;
463             }
464
465         if (uPosFound!=0)
466             break;
467     }
468     TRYFREE(buf);
469     return uPosFound;
470 }
```

Here is the caller graph for this function:



13.160.4.15 static ZPOS64_T unz64local_SearchCentralDir64 (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream*) [static]

Definition at line 481 of file unzip.c.

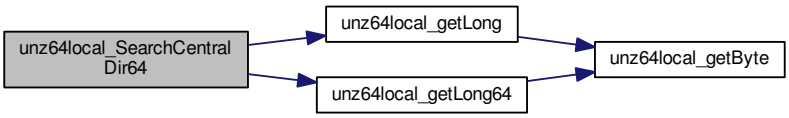
References ALLOC, BUFREADCOMMENT, TRYFREE, unz64local_getLong(), unz64local_getLong64(), UNZ_OK, ZLIB_FILEFUNC_SEEK_END, ZLIB_FILEFUNC_SEEK_SET, ZREAD64, ZSEEK64, and ZTELL64.

Referenced by unzOpenInternal().

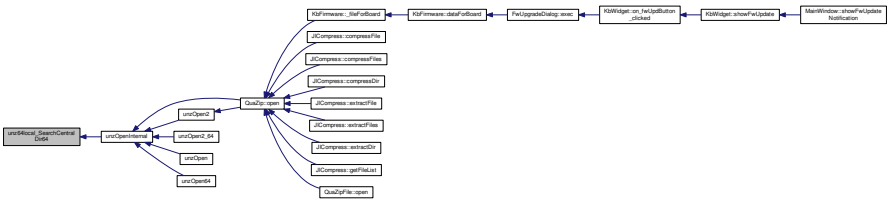
```
483 {
484     unsigned char* buf;
485     ZPOS64_T uSizeFile;
486     ZPOS64_T uBackRead;
487     ZPOS64_T uMaxBack=0xffff; /* maximum size of global comment */
488     ZPOS64_T uPosFound=0;
489     uLong uL;
490                 ZPOS64_T relativeOffset;
491
492     if (ZSEEK64(*pzlib_filefunc_def,filestream,0,ZLIB_FILEFUNC_SEEK_END) != 0)
493         return 0;
494
495
496     uSizeFile = ZTELL64(*pzlib_filefunc_def,filestream);
497
498     if (uMaxBack>uSizeFile)
499         uMaxBack = uSizeFile;
500
501     buf = (unsigned char*)ALLOC(BUFREADCOMMENT+4);
502     if (buf==NULL)
503         return 0;
504
505     uBackRead = 4;
506     while (uBackRead<uMaxBack)
507     {
508         uLong uReadSize;
509         ZPOS64_T uReadPos;
510         int i;
511         if (uBackRead+BUFREADCOMMENT>uMaxBack)
512             uBackRead = uMaxBack;
513         else
514             uBackRead+=BUFREADCOMMENT;
515         uReadPos = uSizeFile-uBackRead ;
516
517         uReadSize = ((BUFREADCOMMENT+4) < (uSizeFile-uReadPos)) ?
518                      (BUFREADCOMMENT+4) : (uLong)(uSizeFile-uReadPos);
519         if (ZSEEK64(*pzlib_filefunc_def,filestream,uReadPos,
    ZLIB_FILEFUNC_SEEK_SET)!=0)
520             break;
521
522         if (ZREAD64(*pzlib_filefunc_def,filestream,buf,uReadSize)!=uReadSize)
523             break;
524
525         for (i=(int)uReadSize-3; (i--)>0;)
526             if (((*(buf+i))==0x50) && ((*(buf+i+1))==0x4b) &&
527                 ((*(buf+i+2))==0x06) && ((*(buf+i+3))==0x07))
528             {
529                 uPosFound = uReadPos+i;
530                 break;
531             }
532
533         if (uPosFound!=0)
534             break;
535     }
536     TRYFREE(buf);
537     if (uPosFound == 0)
538         return 0;
539
540     /* Zip64 end of central directory locator */
541     if (ZSEEK64(*pzlib_filefunc_def,filestream, uPosFound,
    ZLIB_FILEFUNC_SEEK_SET)!=0)
542         return 0;
543
544     /* the signature, already checked */
545     if (unz64local_getLong(pzlib_filefunc_def,filestream,&uL)!=
    UNZ_OK)
546         return 0;
547
548     /* number of the disk with the start of the zip64 end of  central directory */
549     if (unz64local_getLong(pzlib_filefunc_def,filestream,&uL)!=
    UNZ_OK)
550         return 0;
551     if (uL != 0)
552         return 0;
```

```
553
554     /* relative offset of the zip64 end of central directory record */
555     if (unz64local_getLong64(pzlib_filefunc_def,filestream,&relativeOffset)!=
    UNZ_OK)
556         return 0;
557
558     /* total number of disks */
559     if (unz64local_getLong(pzlib_filefunc_def,filestream,&uL)!=
    UNZ_OK)
560         return 0;
561     if (uL != 1)
562         return 0;
563
564     /* Goto end of central directory record */
565     if (ZSEEK64(*pzlib_filefunc_def,filestream, relativeOffset,
    ZLIB_FILEFUNC_SEEK_SET)!=0)
566         return 0;
567
568      /* the signature */
569     if (unz64local_getLong(pzlib_filefunc_def,filestream,&uL)!=
    UNZ_OK)
570         return 0;
571
572     if (uL != 0x06064b50)
573         return 0;
574
575     return relativeOffset;
576 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.160.4.16 int ZEXPORT unzClearFlags (unzFile *file,* unsigned *flags*)

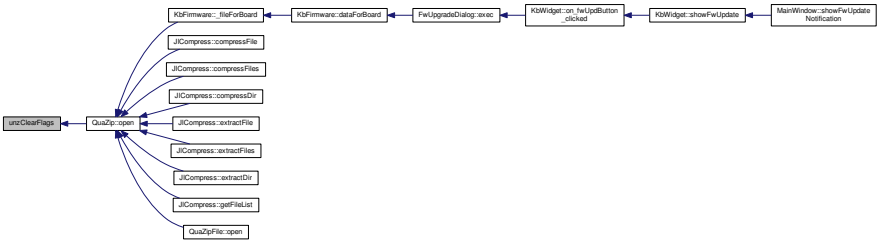
Definition at line 2147 of file unzip.c.

References unz64_s::flags, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZip::open().

```
2148 {
2149     unz64_s* s;
2150     if (file == NULL)
2151         return UNZ_PARAMERROR;
2152     s = (unz64_s*)file;
2153     s->flags &= ~flags;
2154     return UNZ_OK;
2155 }
```

Here is the caller graph for this function:



13.160.4.17 int ZEXPORT unzClose (unzFile *file*)

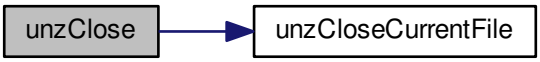
Definition at line 815 of file unzip.c.

References unz64_s::filestream, unz64_s::flags, unz64_s::pfile_in_zip_read, TRYFREE, UNZ_AUTO_CLOSE, UNZ_OK, UNZ_PARAMERROR, unzCloseCurrentFile(), unz64_s::z_filefunc, ZCLOSE64, and ZFAKECLOSE64.

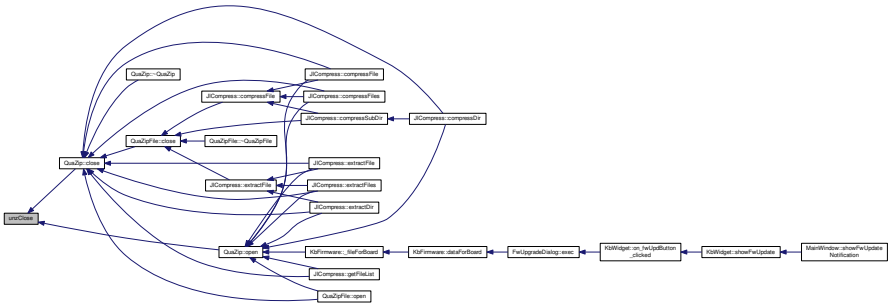
Referenced by QuaZip::close(), and QuaZip::open().

```
816 {
817     unz64_s* s;
818     if (file==NULL)
819         return UNZ_PARAMERROR;
820     s=(unz64_s*)file;
821
822     if (s->pfile_in_zip_read!=NULL)
823         unzCloseCurrentFile(file);
824
825     if ((s->flags & UNZ_AUTO_CLOSE) != 0)
826         ZCLOSE64(s->z_filefunc, s->filestream);
827     else
828         ZFAKECLOSE64(s->z_filefunc, s->filestream);
829     TRYFREE(s);
830     return UNZ_OK;
831 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.160.4.18 int ZEXPORT unzCloseCurrentFile (unzFile *file*)

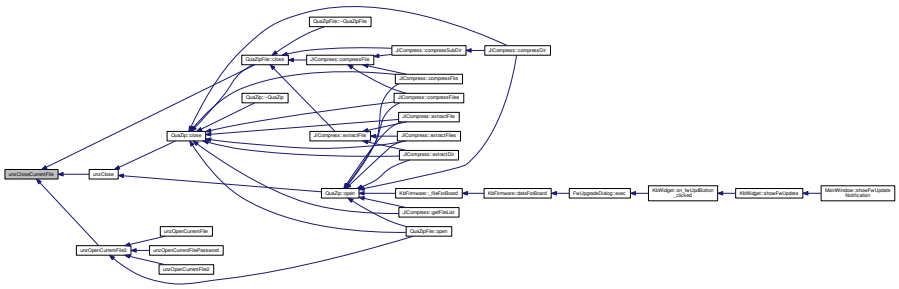
Definition at line 2012 of file unzip.c.

References file_in_zip64_read_info_s::crc32, file_in_zip64_read_info_s::crc32_wait, unz64_s::pfile_in_zip_read, file_in_zip64_read_info_s::raw, file_in_zip64_read_info_s::read_buffer, file_in_zip64_read_info_s::rest_read_uncompressed, file_in_zip64_read_info_s::stream, file_in_zip64_read_info_s::stream_initialised, TRYFREE, UNZ_CRCERROR, UNZ_OK, UNZ_PARAMERROR, and Z_BZIP2ED.

Referenced by QuaZipFile::close(), unzClose(), and unzOpenCurrentFile3().

```
2013 {
2014     int err=UNZ_OK;
2015
2016     unz64_s* s;
2017     file_in_zip64_read_info_s* pfile_in_zip_read_info;
2018     if (file==NULL)
2019         return UNZ_PARAMERROR;
2020     s=(unz64_s*)file;
2021     pfile_in_zip_read_info=s->pfile_in_zip_read;
2022
2023     if (pfile_in_zip_read_info==NULL)
2024         return UNZ_PARAMERROR;
2025
2026
2027     if ((pfile_in_zip_read_info->rest_read_uncompressed == 0) &&
2028         (!pfile_in_zip_read_info->raw))
2029     {
2030         if (pfile_in_zip_read_info->crc32 != pfile_in_zip_read_info->
    crc32_wait)
2031             err=UNZ_CRCERROR;
2032     }
2033
2034
2035     TRYFREE(pfile_in_zip_read_info->read_buffer);
2036     pfile_in_zip_read_info->read_buffer = NULL;
2037     if (pfile_in_zip_read_info->stream_initialised == Z_DEFLATED)
2038         inflateEnd(&pfile_in_zip_read_info->stream);
2039 #ifdef HAVE_BZIP2
2040     else if (pfile_in_zip_read_info->stream_initialised ==
    Z_BZIP2ED)
2041         BZ2_bzDecompressEnd(&pfile_in_zip_read_info->bstream);
2042 #endif
2043
2044
2045     pfile_in_zip_read_info->stream_initialised = 0;
2046     TRYFREE(pfile_in_zip_read_info);
2047
2048     s->pfile_in_zip_read=NULL;
2049
2050     return err;
2051 }
```

Here is the caller graph for this function:



13.160.4.19 int ZEXPORT unzeof (unzFile *file*)

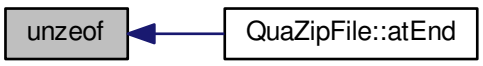
Definition at line 1932 of file unzip.c.

References unz64_s::pfile_in_zip_read, file_in_zip64_read_info_s::rest_read_uncompressed, and UNZ_PARAMERROR.

Referenced by QuaZipFile::atEnd().

```
1933 {
1934     unz64_s* s;
1935     file_in_zip64_read_info_s* pfile_in_zip_read_info;
1936     if (file==NULL)
1937         return UNZ_PARAMERROR;
1938     s=(unz64_s*)file;
1939     pfile_in_zip_read_info=s->pfile_in_zip_read;
1940
1941     if (pfile_in_zip_read_info==NULL)
1942         return UNZ_PARAMERROR;
1943
1944     if (pfile_in_zip_read_info->rest_read_uncompressed == 0)
1945         return 1;
1946     else
1947         return 0;
1948 }
```

Here is the caller graph for this function:



13.160.4.20 int ZEXPORT unzGetCurrentFileInfo (unzFile *file*, unz_file_info * *pfile_info*, char * *szFileName*, uLong *fileNameBufferSize*, void * *extraField*, uLong *extraFieldBufferSize*, char * *szComment*, uLong *commentBufferSize*)

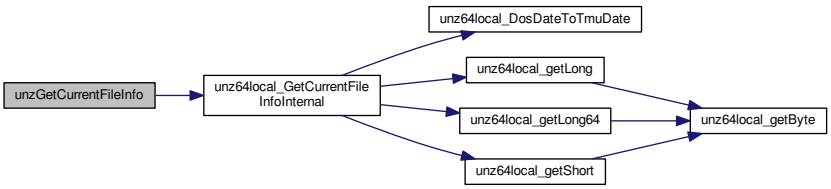
Definition at line 1146 of file unzip.c.

References unz_file_info64_s::compressed_size, unz_file_info_s::compressed_size, unz_file_info64_s::compression_method, unz_file_info_s::compression_method, unz_file_info64_s::crc, unz_file_info_s::crc, unz_file_info64_s::disk_num_start, unz_file_info_s::disk_num_start, unz_file_info64_s::dosDate, unz_file_info_s::dosDate,

unz_file_info64_s::external_fa, unz_file_info_s::external_fa, unz_file_info64_s::flag, unz_file_info_s::flag, unz_file_info64_s::internal_fa, unz_file_info_s::internal_fa, unz_file_info64_s::size_file_comment, unz_file_info_s::size_file_comment, unz_file_info64_s::size_file_extra, unz_file_info_s::size_file_extra, unz_file_info64_s::size_filename, unz_file_info_s::size_filename, unz_file_info64_s::tmu_date, unz_file_info_s::tmu_date, unz_file_info64_s::uncompressed_size, unz_file_info_s::uncompressed_size, unz64local_GetCurrentFileInfoInternal(), UNZ_OK, unz_file_info64_s::version, unz_file_info_s::version, unz_file_info64_s::version_needed, and unz_file_info_s::version_needed.

```
1151 {
1152     int err;
1153     unz_file_info64 file_info64;
1154     err = unz64local_GetCurrentFileInfoInternal(file,&file_info64,NULL
     ,
1155                                                 szFileName,fileNameBufferSize,
1156                                                 extraField,extraFieldBufferSize,
1157                                                 szComment,commentBufferSize);
1158     if (err==UNZ_OK && pfile_info != NULL)
1159     {
1160         pfile_info->version = file_info64.version;
1161         pfile_info->version_needed = file_info64.version_needed;
1162         pfile_info->flag = file_info64.flag;
1163         pfile_info->compression_method = file_info64.
     compression_method;
1164         pfile_info->dosDate = file_info64.dosDate;
1165         pfile_info->crc = file_info64.crc;
1166 
1167         pfile_info->size_filename = file_info64.size_filename;
1168         pfile_info->size_file_extra = file_info64.size_file_extra;
1169         pfile_info->size_file_comment = file_info64.
     size_file_comment;
1170 
1171         pfile_info->disk_num_start = file_info64.disk_num_start;
1172         pfile_info->internal_fa = file_info64.internal_fa;
1173         pfile_info->external_fa = file_info64.external_fa;
1174 
1175         pfile_info->tmu_date = file_info64.tmu_date,
1176 
1177 
1178         pfile_info->compressed_size = (uLong)file_info64.
     compressed_size;
1179         pfile_info->uncompressed_size = (uLong)file_info64.
     uncompressed_size;
1180 
1181     }
1182     return err;
1183 }
```

Here is the call graph for this function:



13.160.4.21 int ZEXPORT unzGetCurrentFileInfo64 (unzFile *file*, unz_file_info64 * *pfile_info*, char * *szFileName*, uLong *fileNameBufferSize*, void * *extraField*, uLong *extraFieldBufferSize*, char * *szComment*, uLong *commentBufferSize*)

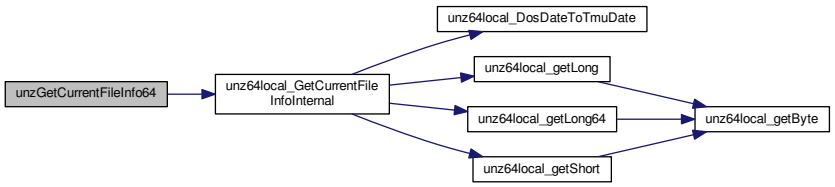
Definition at line 1134 of file unzip.c.

References unz64local_GetCurrentFileInfoInternal().

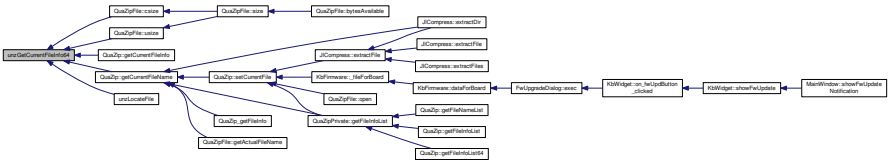
Referenced by QuaZipFile::csize(), QuaZip::getCurrentFileInfo(), QuaZip::getCurrentFileName(), unzLocateFile(), and QuaZipFile::usize().

```
1139 {
1140     return unz64local_GetCurrentFileInfoInternal(file,pfile_info,NULL,
1141                                                  szFileName,fileNameBufferSize,
1142                                                  extraField,extraFieldBufferSize,
1143                                                  szComment,commentBufferSize);
1144 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.160.4.22 ZPOS64_T ZEXPORT unzGetCurrentFileZStreamPos64 (unzFile *file*)

Definition at line 1666 of file unzip.c.

References file_in_zip64_read_info_s::byte_before_the_zipfile, unz64_s::pfile_in_zip_read, and file_in_zip64_-read_info_s::pos_in_zipfile.

```
1667 {
1668     unz64_s* s;
1669     file_in_zip64_read_info_s* pfile_in_zip_read_info;
1670     s=(unz64_s*)file;
1671     if (file==NULL)
1672         return 0; /*UNZ_PARAMERROR; */
1673     pfile_in_zip_read_info=s->pfile_in_zip_read;
1674     if (pfile_in_zip_read_info==NULL)
1675         return 0; /*UNZ_PARAMERROR; */
1676     return pfile_in_zip_read_info->pos_in_zipfile +
1677                          pfile_in_zip_read_info->byte_before_the_zipfile;
1678 }
```

13.160.4.23 int ZEXPORT unzGetFilePos (unzFile *file,* unz_file_pos * *file_pos*)

Definition at line 1334 of file unzip.c.

References unz_file_pos_s::num_of_file, unz64_file_pos_s::num_of_file, unz_file_pos_s::pos_in_zip_directory, unz64_file_pos_s::pos_in_zip_directory, UNZ_OK, and unzGetFilePos64().

```
1337 {
1338     unz64_file_pos file_pos64;
1339     int err = unzGetFilePos64(file,&file_pos64);
1340     if (err==UNZ_OK)
1341     {
```

```
1342         file_pos->pos_in_zip_directory = (uLong)file_pos64.
     pos_in_zip_directory;
1343         file_pos->num_of_file = (uLong)file_pos64.num_of_file;
1344     }
1345     return err;
1346 }
```

Here is the call graph for this function:

13.160.4.24 int ZEXPORT unzGetFilePos64 (unzFile *file*, unz64_file_pos * *file_pos*)

Definition at line 1318 of file unzip.c.

References unz64_s::current_file_ok, unz64_s::num_file, unz64_file_pos_s::num_of_file, unz64_s::pos_in_central_dir, unz64_file_pos_s::pos_in_zip_directory, UNZ_END_OF_LIST_OF_FILE, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZipPrivate::addCurrentFileToDirectoryMap(), and unzGetFilePos().

```
1319 {
1320     unz64_s* s;
1321
1322     if (file==NULL || file_pos==NULL)
1323         return UNZ_PARAMERROR;
1324     s=(unz64_s*)file;
1325     if (!s->current_file_ok)
1326         return UNZ_END_OF_LIST_OF_FILE;
1327
1328     file_pos->pos_in_zip_directory  = s->pos_in_central_dir;
1329     file_pos->num_of_file           = s->num_file;
1330
1331     return UNZ_OK;
1332 }
```

Here is the caller graph for this function:

13.160.4.25 int ZEXPORT unzGetGlobalComment (unzFile *file*, char * *szComment*, uLong *uSizeBuf*)

Definition at line 2059 of file unzip.c.

References unz64_s::central_pos, unz64_s::filestream, unz64_s::gi, unz_global_info64_s::size_comment, UNZ_ERRNO, UNZ_PARAMERROR, unz64_s::z_filefunc, ZLIB_FILEFUNC_SEEK_SET, ZREAD64, and ZSEEK64.

Referenced by QuaZip::getComment().

```
2060 {
2061     unz64_s* s;
2062     uLong uReadThis ;
2063     if (file==NULL)
2064         return (int)UNZ_PARAMERROR;
2065     s=(unz64_s*)file;
2066
2067     uReadThis = uSizeBuf;
2068     if (uReadThis>s->gi.size_comment)
2069         uReadThis = s->gi.size_comment;
2070
2071     if (ZSEEK64(s->z_filefunc,s->filestream,s->
     central_pos+22,ZLIB_FILEFUNC_SEEK_SET)!=0)
2072         return UNZ_ERRNO;
2073
2074     if (uReadThis>0)
2075     {
2076       *szComment='\0';
2077       if (ZREAD64(s->z_filefunc,s->filestream,szComment,uReadThis)!=uReadThis)
2078         return UNZ_ERRNO;
2079     }
2080
2081     if ((szComment != NULL) && (uSizeBuf > s->gi.size_comment))
2082         *(szComment+s->gi.size_comment)='\0';
2083     return (int)uReadThis;
2084 }
```

Here is the caller graph for this function:

13.160.4.26 int ZEXPORT unzGetGlobalInfo (unzFile *file*, unz_global_info * *pglobal_info32*)

Definition at line 848 of file unzip.c.

References unz64_s::gi, unz_global_info64_s::number_entry, unz_global_info_s::number_entry, unz_global_info64_s::size_comment, unz_global_info_s::size_comment, UNZ_OK, and UNZ_PARAMERROR.

```
849 {
850     unz64_s* s;
851     if (file==NULL)
852         return UNZ_PARAMERROR;
853     s=(unz64_s*)file;
854     /* to do : check if number_entry is not truncated */
855     pglobal_info32->number_entry = (uLong)s->gi.number_entry;
856     pglobal_info32->size_comment = s->gi.size_comment;
857     return UNZ_OK;
858 }
```

13.160.4.27 int ZEXPORT unzGetGlobalInfo64 (unzFile *file*, unz_global_info64 * *pglobal_info*)

Definition at line 838 of file unzip.c.

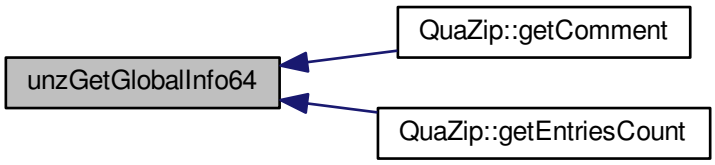
References unz64_s::gi, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZip::getComment(), and QuaZip::getEntriesCount().

```
839 {
840     unz64_s* s;
841     if (file==NULL)
```

```
842         return UNZ_PARAMERROR;
843     s=(unz64_s*)file;
844     *pglobal_info=s->gi;
845     return UNZ_OK;
846 }
```

Here is the caller graph for this function:



13.160.4.28 int ZEXPORT unzGetLocalExtrafield (unzFile *file*, voidp *buf*, unsigned *len*)

Definition at line 1964 of file unzip.c.

References file_in_zip64_read_info_s::filestream, file_in_zip64_read_info_s::offset_local_extrafield, unz64_s::pfile_in_zip_read, file_in_zip64_read_info_s::pos_local_extrafield, file_in_zip64_read_info_s::size_local_extrafield, UNZ_ERRNO, UNZ_PARAMERROR, file_in_zip64_read_info_s::z_filefunc, ZLIB_FILEFUNC_SEEK_SET, ZREAD64, and ZSEEK64.

```
1965 {
1966     unz64_s* s;
1967     file_in_zip64_read_info_s* pfile_in_zip_read_info;
1968     uInt read_now;
1969     ZPOS64_T size_to_read;
1970
1971     if (file==NULL)
1972         return UNZ_PARAMERROR;
1973     s=(unz64_s*)file;
1974     pfile_in_zip_read_info=s->pfile_in_zip_read;
1975
1976     if (pfile_in_zip_read_info==NULL)
1977         return UNZ_PARAMERROR;
1978
1979     size_to_read = (pfile_in_zip_read_info->size_local_extrafield -
1980                 pfile_in_zip_read_info->pos_local_extrafield);
1981
1982     if (buf==NULL)
1983         return (int)size_to_read;
1984
1985     if (len>size_to_read)
1986         read_now = (uInt)size_to_read;
1987     else
1988         read_now = (uInt)len ;
1989
1990     if (read_now==0)
1991         return 0;
1992
1993     if (ZSEEK64(pfile_in_zip_read_info->z_filefunc,
1994               pfile_in_zip_read_info->filestream,
1995               pfile_in_zip_read_info->offset_local_extrafield +
1996               pfile_in_zip_read_info->pos_local_extrafield,
1997               ZLIB_FILEFUNC_SEEK_SET)!=0)
1998         return UNZ_ERRNO;
1999
2000     if (ZREAD64(pfile_in_zip_read_info->z_filefunc,
2001               pfile_in_zip_read_info->filestream,
2002               buf,read_now)!=read_now)
2003         return UNZ_ERRNO;
2004
2005     return (int)read_now;
2006 }
```

13.160.4.29 uLong ZEXPORT unzGetOffset (unzFile *file*)

Definition at line 2102 of file unzip.c.

References unzGetOffset64().

```
2103 {
2104     ZPOS64_T offset64;
2105
2106     if (file==NULL)
2107           return 0; /*UNZ_PARAMERROR; */
2108     offset64 = unzGetOffset64(file);
2109     return (uLong)offset64;
2110 }
```

Here is the call graph for this function:

13.160.4.30 ZPOS64_T ZEXPORT unzGetOffset64 (unzFile *file*)

Definition at line 2087 of file unzip.c.

References unz64_s::current_file_ok, unz64_s::gi, unz64_s::num_file, unz_global_info64_s::number_entry, and unz64_s::pos_in_central_dir.

Referenced by unzGetOffset().

```
2088 {
2089     unz64_s* s;
2090
2091     if (file==NULL)
2092           return 0; /*UNZ_PARAMERROR; */
2093     s=(unz64_s*)file;
2094     if (!s->current_file_ok)
2095       return 0;
2096     if (s->gi.number_entry != 0 && s->gi.number_entry != 0xffff)
2097       if (s->num_file==s->gi.number_entry)
2098          return 0;
2099     return s->pos_in_central_dir;
2100 }
```

Here is the caller graph for this function:

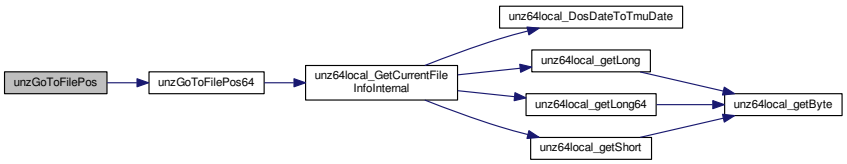
13.160.4.31 int ZEXPORT unzGoToFilePos (unzFile *file*, unz_file_pos * *file_pos*)

Definition at line 1370 of file unzip.c.

References unz_file_pos_s::num_of_file, unz64_file_pos_s::num_of_file, unz_file_pos_s::pos_in_zip_directory, unz64_file_pos_s::pos_in_zip_directory, UNZ_PARAMERROR, and unzGoToFilePos64().

```
1373 {
1374     unz64_file_pos file_pos64;
1375     if (file_pos == NULL)
1376         return UNZ_PARAMERROR;
1377
1378     file_pos64.pos_in_zip_directory = file_pos->
     pos_in_zip_directory;
1379     file_pos64.num_of_file = file_pos->num_of_file;
1380     return unzGoToFilePos64(file,&file_pos64);
1381 }
```

Here is the call graph for this function:



13.160.4.32 int ZEXPORT unzGoToFilePos64 (unzFile *file*, const unz64_file_pos * *file_pos*)

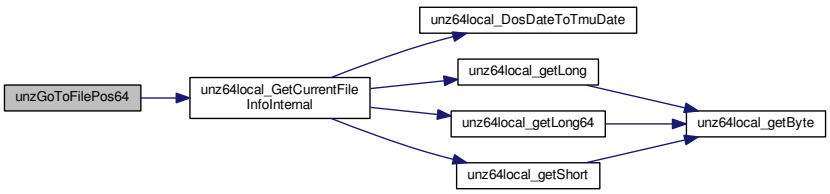
Definition at line 1348 of file unzip.c.

References unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::num_file, unz64_file_pos_s::num_of_file, unz64_s::pos_in_central_dir, unz64_file_pos_s::pos_in_zip_directory, unz64local-_GetCurrentFileInfoInternal(), UNZ_OK, and UNZ_PARAMERROR.

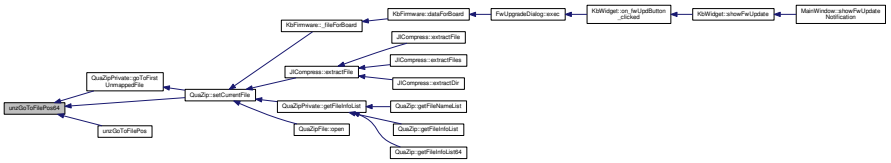
Referenced by QuaZipPrivate::goToFirstUnmappedFile(), QuaZip::setCurrentFile(), and unzGoToFilePos().

```
1349 {
1350     unz64_s* s;
1351     int err;
1352
1353     if (file==NULL || file_pos==NULL)
1354         return UNZ_PARAMERROR;
1355     s=(unz64_s*)file;
1356
1357     /* jump to the right spot */
1358     s->pos_in_central_dir = file_pos->pos_in_zip_directory;
1359     s->num_file           = file_pos->num_of_file;
1360
1361     /* set the current file */
1362     err = unz64local_GetCurrentFileInfoInternal(file,&s->
      cur_file_info,
1363                                                 &s->cur_file_info_internal,
1364                                                 NULL,0,NULL,0,NULL,0);
1365     /* return results */
1366     s->current_file_ok = (err == UNZ_OK);
1367     return err;
1368 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.160.4.33 int ZEXPORT unzGoToFirstFile (unzFile *file*)

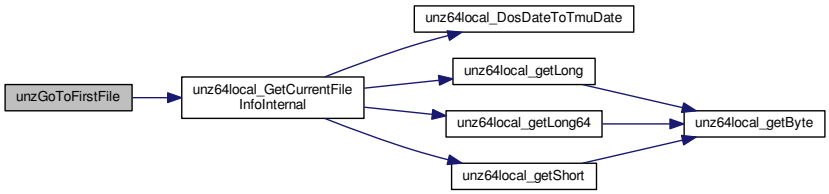
Definition at line 1188 of file unzip.c.

References unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::num_file, unz64_s::offset_central_dir, unz64_s::pos_in_central_dir, unz64local_GetCurrentFileInfoInternal(), UNZ_OK, and UNZ_PARAMERROR.

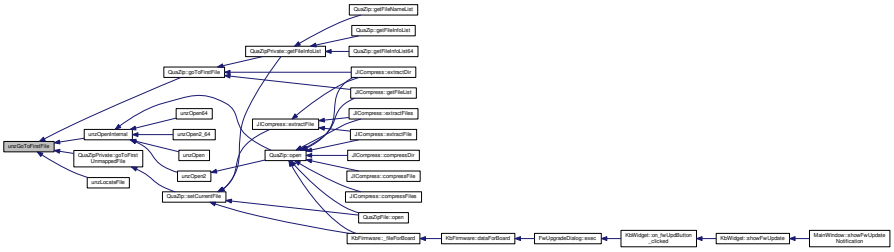
Referenced by QuaZip::goToFirstFile(), QuaZipPrivate::goToFirstUnmappedFile(), unzLocateFile(), and unzOpenInternal().

```
1189 {
1190     int err=UNZ_OK;
1191     unz64_s* s;
1192     if (file==NULL)
1193         return UNZ_PARAMERROR;
1194     s=(unz64_s*)file;
1195     s->pos_in_central_dir=s->offset_central_dir;
1196     s->num_file=0;
1197     err=unz64local_GetCurrentFileInfoInternal(file,&s->
      cur_file_info,
1198                                               &s->cur_file_info_internal,
1199                                               NULL,0,NULL,0,NULL,0);
1200     s->current_file_ok = (err == UNZ_OK);
1201     return err;
1202 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.160.4.34 int ZEXPORT unzGoToNextFile (unzFile *file*)

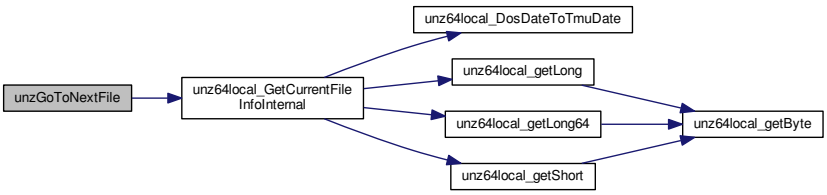
Definition at line 1209 of file unzip.c.

References unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::gi, unz64_s::num_file, unz_global_info64_s::number_entry, unz64_s::pos_in_central_dir, unz_file_info64_s::size_file_comment, unz_file_info64_s::size_file_extra, unz_file_info64_s::size_filename, SIZECENTRALDIRITEM, unz64local_GetCurrentFileInfoInternal(), UNZ_END_OF_LIST_OF_FILE, UNZ_OK, and UNZ_PARAMERROR.

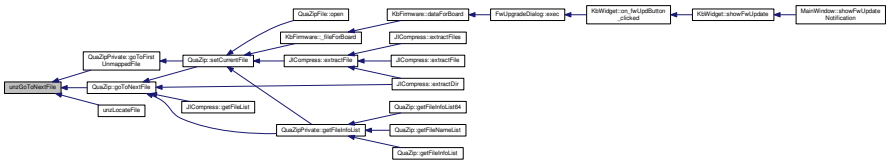
Referenced by QuaZipPrivate::goToFirstUnmappedFile(), QuaZip::goToNextFile(), and unzLocateFile().

```
1210 {
1211     unz64_s* s;
1212     int err;
1213
1214     if (file==NULL)
1215         return UNZ_PARAMERROR;
1216     s=(unz64_s*)file;
1217     if (!s->current_file_ok)
1218         return UNZ_END_OF_LIST_OF_FILE;
1219     if (s->gi.number_entry != 0xffff)    /* 2^16 files overflow hack */
1220       if (s->num_file+1==s->gi.number_entry)
1221         return UNZ_END_OF_LIST_OF_FILE;
1222
1223     s->pos_in_central_dir += SIZECENTRALDIRITEM + s->
     cur_file_info.size_filename +
1224             s->cur_file_info.size_file_extra + s->
     cur_file_info.size_file_comment ;
1225     s->num_file++;
1226     err = unz64local_GetCurrentFileInfoInternal(file,&s->
     cur_file_info,
1227                                                 &s->cur_file_info_internal,
1228                                                 NULL,0,NULL,0,NULL,0);
1229     s->current_file_ok = (err == UNZ_OK);
1230     return err;
1231 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



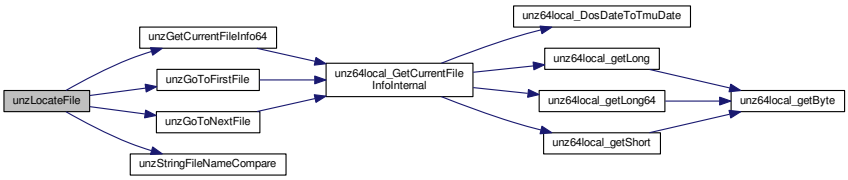
13.160.4.35 int ZEXPORT unzLocateFile (unzFile *file*, const char * *szFileName*, int *iCaseSensitivity*)

Definition at line 1242 of file unzip.c.

References unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::num_file, unz64_s::pos_in_central_dir, UNZ_END_OF_LIST_OF_FILE, UNZ_MAXFILENAMEINZIP, UNZ_OK, UNZ_PARAMERROR, unzGetCurrentFileInfo64(), unzGoToFirstFile(), unzGoToNextFile(), and unzStringFileNameCompare().

```
1243 {
1244     unz64_s* s;
1245     int err;
1246
1247     /* We remember the 'current' position in the file so that we can jump
1248      * back there if we fail.
1249      */
1250     unz_file_info64 cur_file_infoSaved;
1251     unz_file_info64_internal cur_file_info_internalSaved;
1252     ZPOS64_T num_fileSaved;
1253     ZPOS64_T pos_in_central_dirSaved;
1254
1255
1256     if (file==NULL)
1257         return UNZ_PARAMERROR;
1258
1259     if (strlen(szFileName)>=UNZ_MAXFILENAMEINZIP)
1260         return UNZ_PARAMERROR;
1261
1262     s=(unz64_s*)file;
1263     if (!s->current_file_ok)
1264         return UNZ_END_OF_LIST_OF_FILE;
1265
1266     /* Save the current state */
1267     num_fileSaved = s->num_file;
1268     pos_in_central_dirSaved = s->pos_in_central_dir;
1269     cur_file_infoSaved = s->cur_file_info;
1270     cur_file_info_internalSaved = s->cur_file_info_internal;
1271
1272     err = unzGoToFirstFile(file);
1273
1274     while (err == UNZ_OK)
1275     {
1276         char szCurrentFileName[UNZ_MAXFILENAMEINZIP+1];
1277         err = unzGetCurrentFileInfo64(file,NULL,
1278                                       szCurrentFileName,sizeof(szCurrentFileName)-1,
1279                                       NULL,0,NULL,0);
1280         if (err == UNZ_OK)
1281         {
1282             if (unzStringFileNameCompare(szCurrentFileName,
1283                                          szFileName,iCaseSensitivity)==0)
1284                 return UNZ_OK;
1285             err = unzGoToNextFile(file);
1286         }
1287     }
1288
1289     /* We failed, so restore the state of the 'current file' to where we
1290      * were.
1291      */
1292     s->num_file = num_fileSaved ;
1293     s->pos_in_central_dir = pos_in_central_dirSaved ;
1294     s->cur_file_info = cur_file_infoSaved;
1295     s->cur_file_info_internal = cur_file_info_internalSaved;
1296     return err;
1297 }
```

Here is the call graph for this function:



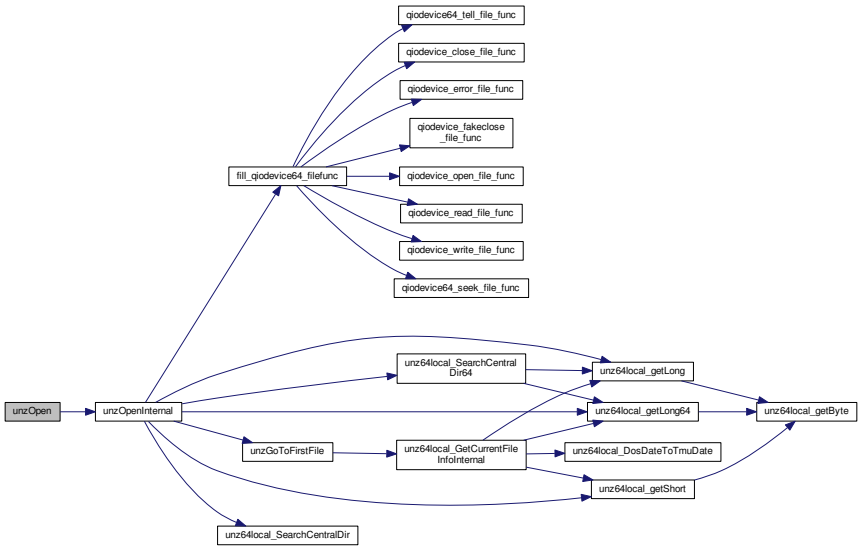
13.160.4.36 unzFile ZEXPORT unzOpen (voidpf *file*)

Definition at line 800 of file unzip.c.

References UNZ_DEFAULT_FLAGS, and unzOpenInternal().

```
801 {
802     return unzOpenInternal(file, NULL, 0, UNZ_DEFAULT_FLAGS);
803 }
```

Here is the call graph for this function:



13.160.4.37 unzFile ZEXPORT unzOpen2 (voidpf *file*, zlib_filefunc_def * *pzlib_filefunc32_def*)

Definition at line 772 of file unzip.c.

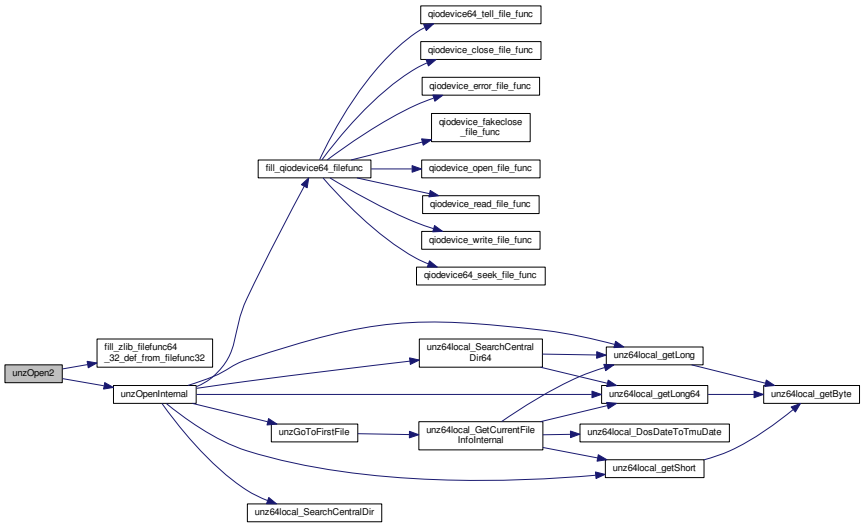
References fill_zlib_filefunc64_32_def_from_filefunc32(), UNZ_DEFAULT_FLAGS, and unzOpenInternal().

Referenced by QuaZip::open().

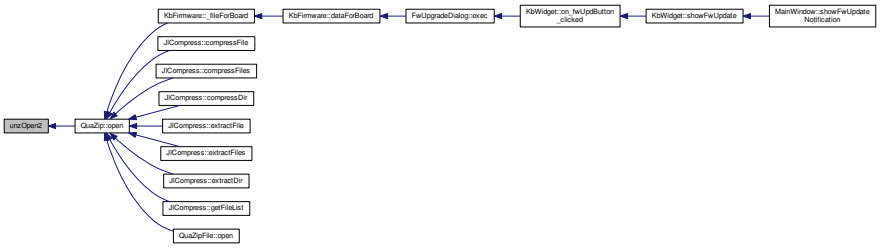
```
774 {
775     if (pzlib_filefunc32_def != NULL)
776     {
777         zlib_filefunc64_32_def zlib_filefunc64_32_def_fill;
778         fill_zlib_filefunc64_32_def_from_filefunc32(&
```

```
      zlib_filefunc64_32_def_fill,pzlib_filefunc32_def);
779         return unzOpenInternal(file, &zlib_filefunc64_32_def_fill, 0,
    UNZ_DEFAULT_FLAGS);
780     }
781     else
782         return unzOpenInternal(file, NULL, 0, UNZ_DEFAULT_FLAGS);
783 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.160.4.38 unzFile ZEXPORT unzOpen2_64 (voidpf *file*, zlib_filefunc64_def * *pzlib_filefunc_def*)

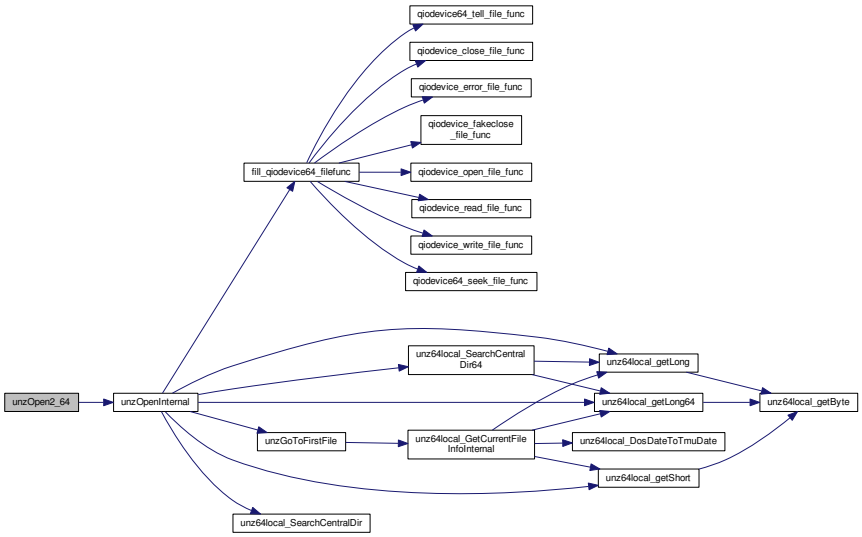
Definition at line 785 of file unzip.c.

References UNZ_DEFAULT_FLAGS, unzOpenInternal(), zlib_filefunc64_32_def_s::zfile_func64, zlib_filefunc64_-32_def_s::zseek32_file, and zlib_filefunc64_32_def_s::ztell32_file.

```
787 {
788     if (pzlib_filefunc_def != NULL)
789     {
790         zlib_filefunc64_32_def zlib_filefunc64_32_def_fill;
791         zlib_filefunc64_32_def_fill.zfile_func64 = *pzlib_filefunc_def;
792         zlib_filefunc64_32_def_fill.ztell32_file = NULL;
793         zlib_filefunc64_32_def_fill.zseek32_file = NULL;
794         return unzOpenInternal(file, &zlib_filefunc64_32_def_fill, 1,
    UNZ_DEFAULT_FLAGS);
795     }
796     else
```

```
797         return unzOpenInternal(file, NULL, 1, UNZ_DEFAULT_FLAGS);
798 }
```

Here is the call graph for this function:



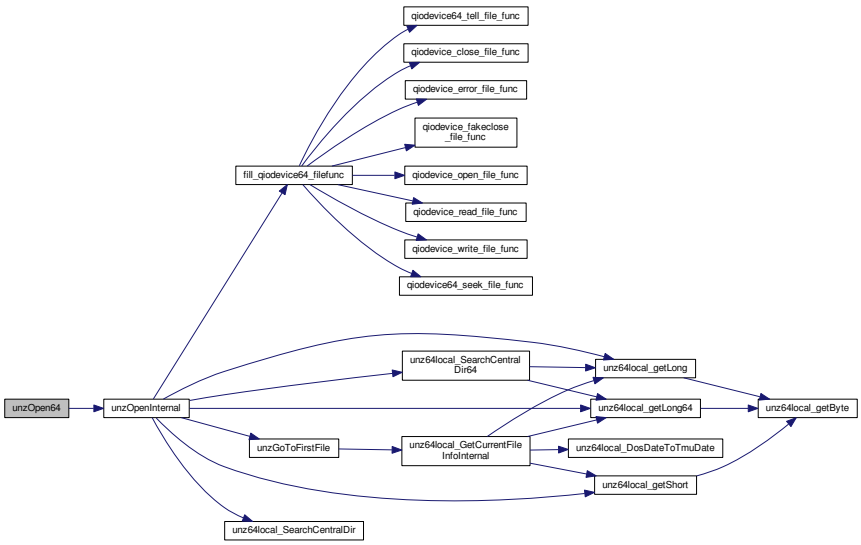
13.160.4.39 unzFile ZEXPORT unzOpen64 (voidpf *file*)

Definition at line 805 of file unzip.c.

References UNZ_DEFAULT_FLAGS, and unzOpenInternal().

```
806 {
807     return unzOpenInternal(file, NULL, 1, UNZ_DEFAULT_FLAGS);
808 }
```

Here is the call graph for this function:



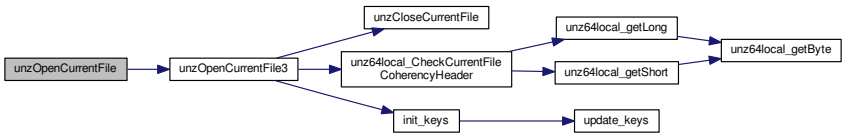
13.160.4.40 int ZEXPORT unzOpenCurrentFile (unzFile *file*)

Definition at line 1649 of file unzip.c.

References unzOpenCurrentFile3().

```
1650 {
1651     return unzOpenCurrentFile3(file, NULL, NULL, 0, NULL);
1652 }
```

Here is the call graph for this function:



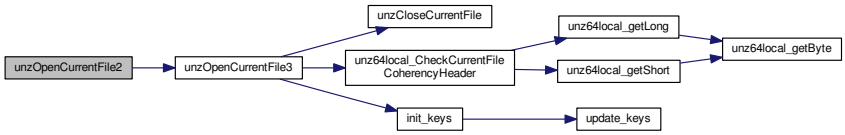
13.160.4.41 int ZEXPORT unzOpenCurrentFile2 (unzFile *file*, int * *method*, int * *level*, int *raw*)

Definition at line 1659 of file unzip.c.

References unzOpenCurrentFile3().

```
1660 {
1661     return unzOpenCurrentFile3(file, method, level, raw, NULL);
1662 }
```

Here is the call graph for this function:



13.160.4.42 int ZEXPORT unzOpenCurrentFile3 (unzFile *file*, int * *method*, int * *level*, int *raw*, const char * *password*)

Definition at line 1480 of file unzip.c.

References ALLOC, file_in_zip64_read_info_s::byte_before_the_zipfile, unz64_s::byte_before_the_zipfile, unz_file_info64_s::compressed_size, unz_file_info64_s::compression_method, file_in_zip64_read_info_s::compression_method, unz_file_info64_s::crc, file_in_zip64_read_info_s::crc32, file_in_zip64_read_info_s::crc32_wait, unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::encrypted, file_in_zip64_read_info_s::filestream, unz64_s::filestream, unz_file_info64_s::flag, init_keys(), unz64_s::keys, unz_file_info64_internal_s::offset_curfile, file_in_zip64_read_info_s::offset_local_extrafield, unz64_s::pcrc_32_tab, unz64_s::pfile_in_zip_read, file_in_zip64_read_info_s::pos_in_zipfile, file_in_zip64_read_info_s::pos_local_extrafield, file_in_zip64_read_info_s::raw, file_in_zip64_read_info_s::read_buffer, file_in_zip64_read_info_s::rest_read_compressed, file_in_zip64_read_info_s::rest_read_uncompressed, SEEK_SET, file_in_zip64_read_info_s::size_local_extrafield,

SIZEZIPLOCALHEADER, file_in_zip64_read_info_s::stream, file_in_zip64_read_info_s::stream_initialised, file_in_zip64_read_info_s::total_out_64, TRYFREE, unz_file_info64_s::uncompressed_size, unz64local_CheckCurrentFileCoherencyHeader(), UNZ_BADZIPFILE, UNZ_BUFSIZE, UNZ_INTERNALERROR, UNZ_OK, UNZ_PARAMERROR, unzCloseCurrentFile(), Z_BZIP2ED, file_in_zip64_read_info_s::z_filefunc, unz64_s::z_filefunc, zdecode, ZREAD64, and ZSEEK64.

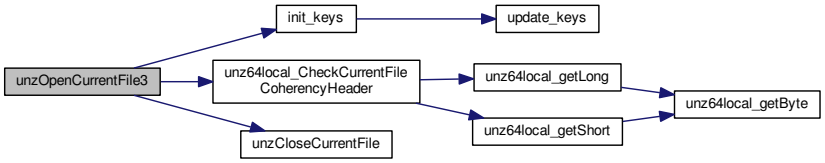
Referenced by QuaZipFile::open(), unzOpenCurrentFile(), unzOpenCurrentFile2(), and unzOpenCurrentFilePassword().

```
1482 {
1483     int err=UNZ_OK;
1484     uInt iSizeVar;
1485     unz64_s* s;
1486     file_in_zip64_read_info_s* pfile_in_zip_read_info;
1487     ZPOS64_T offset_local_extrafield;  /* offset of the local extra field */
1488     uInt  size_local_extrafield;    /* size of the local extra field */
1489 #    ifndef NOUNCRYPT
1490     char source[12];
1491 #    else
1492     if (password != NULL)
1493         return UNZ_PARAMERROR;
1494 #    endif
1495
1496     if (file==NULL)
1497         return UNZ_PARAMERROR;
1498     s=(unz64_s*)file;
1499     if (!s->current_file_ok)
1500         return UNZ_PARAMERROR;
1501
1502     if (s->pfile_in_zip_read != NULL)
1503         unzCloseCurrentFile(file);
1504
1505     if (unz64local_CheckCurrentFileCoherencyHeader(s,&iSizeVar, &
     offset_local_extrafield,&size_local_extrafield)!=UNZ_OK)
1506         return UNZ_BADZIPFILE;
1507
1508     pfile_in_zip_read_info = (file_in_zip64_read_info_s*)
     ALLOC(sizeof(file_in_zip64_read_info_s));
1509     if (pfile_in_zip_read_info==NULL)
1510         return UNZ_INTERNALERROR;
1511
1512     pfile_in_zip_read_info->read_buffer=(char*)ALLOC(UNZ_BUFSIZE);
1513     pfile_in_zip_read_info->offset_local_extrafield = offset_local_extrafield;
1514     pfile_in_zip_read_info->size_local_extrafield = size_local_extrafield;
1515     pfile_in_zip_read_info->pos_local_extrafield=0;
1516     pfile_in_zip_read_info->raw=raw;
1517
1518     if (pfile_in_zip_read_info->read_buffer==NULL)
1519     {
1520         TRYFREE(pfile_in_zip_read_info);
1521         return UNZ_INTERNALERROR;
1522     }
1523
1524     pfile_in_zip_read_info->stream_initialised=0;
1525
1526     if (method!=NULL)
1527         *method = (int)s->cur_file_info.compression_method;
1528
1529     if (level!=NULL)
1530     {
1531         *level = 6;
1532         switch (s->cur_file_info.flag & 0x06)
1533         {
1534           case 6 : *level = 1; break;
1535           case 4 : *level = 2; break;
1536           case 2 : *level = 9; break;
1537         }
1538     }
1539
1540     if ((s->cur_file_info.compression_method!=0) &&
1541 /* #ifdef HAVE_BZIP2 */
1542         (s->cur_file_info.compression_method!=
     Z_BZIP2ED) &&
1543 /* #endif */
1544         (s->cur_file_info.compression_method!=Z_DEFLATED))
1545
1546         err=UNZ_BADZIPFILE;
1547
1548     pfile_in_zip_read_info->crc32_wait=s->cur_file_info.
     crc;
1549     pfile_in_zip_read_info->crc32=0;
1550     pfile_in_zip_read_info->total_out_64=0;
1551     pfile_in_zip_read_info->compression_method = s->
     cur_file_info.compression_method;
```

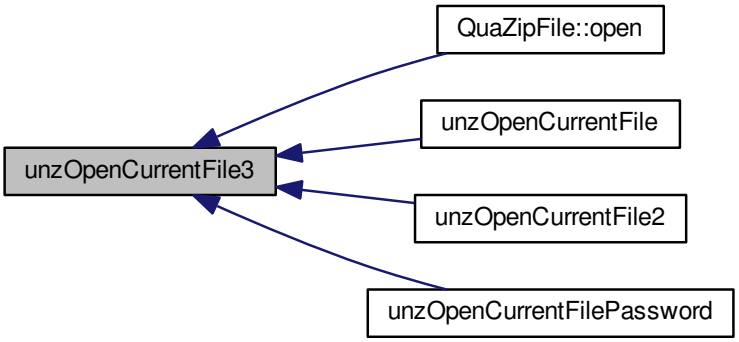
```
1552     pfile_in_zip_read_info->filestream=s->filestream;
1553     pfile_in_zip_read_info->z_filefunc=s->z_filefunc;
1554     pfile_in_zip_read_info->byte_before_the_zipfile=s->
     byte_before_the_zipfile;
1555
1556     pfile_in_zip_read_info->stream.total_out = 0;
1557
1558     if ((s->cur_file_info.compression_method==
     Z_BZIP2ED) && (!raw))
1559     {
1560 #ifdef HAVE_BZIP2
1561       pfile_in_zip_read_info->bstream.bzalloc = (void *(*) (void *, int, int))0;
1562       pfile_in_zip_read_info->bstream.bzfree = (free_func)0;
1563       pfile_in_zip_read_info->bstream.opaque = (voidpf)0;
1564       pfile_in_zip_read_info->bstream.state = (voidpf)0;
1565
1566       pfile_in_zip_read_info->stream.zalloc = (alloc_func)0;
1567       pfile_in_zip_read_info->stream.zfree = (free_func)0;
1568       pfile_in_zip_read_info->stream.opaque = (voidpf)0;
1569       pfile_in_zip_read_info->stream.next_in = (voidpf)0;
1570       pfile_in_zip_read_info->stream.avail_in = 0;
1571
1572       err=BZ2_bzDecompressInit(&pfile_in_zip_read_info->bstream, 0, 0);
1573       if (err == Z_OK)
1574         pfile_in_zip_read_info->stream_initialised=Z_BZIP2ED;
1575       else
1576       {
1577         TRYFREE(pfile_in_zip_read_info);
1578         return err;
1579       }
1580 #else
1581       pfile_in_zip_read_info->raw=1;
1582 #endif
1583     }
1584     else if ((s->cur_file_info.compression_method==Z_DEFLATED) && (!raw))
1585     {
1586       pfile_in_zip_read_info->stream.zalloc = (alloc_func)0;
1587       pfile_in_zip_read_info->stream.zfree = (free_func)0;
1588       pfile_in_zip_read_info->stream.opaque = (voidpf)0;
1589       pfile_in_zip_read_info->stream.next_in = 0;
1590       pfile_in_zip_read_info->stream.avail_in = 0;
1591
1592       err=inflateInit2(&pfile_in_zip_read_info->stream, -MAX_WBITS);
1593       if (err == Z_OK)
1594         pfile_in_zip_read_info->stream_initialised=Z_DEFLATED;
1595       else
1596       {
1597         TRYFREE(pfile_in_zip_read_info);
1598         return err;
1599       }
1600         /* windowBits is passed < 0 to tell that there is no zlib header.
1601          * Note that in this case inflate *requires* an extra "dummy" byte
1602          * after the compressed stream in order to complete decompression and
1603          * return Z_STREAM_END.
1604          * In unzip, i don't wait absolutely Z_STREAM_END because I known the
1605          * size of both compressed and uncompressed data
1606          */
1607     }
1608     pfile_in_zip_read_info->rest_read_compressed =
1609             s->cur_file_info.compressed_size ;
1610     pfile_in_zip_read_info->rest_read_uncompressed =
1611             s->cur_file_info.uncompressed_size ;
1612
1613
1614     pfile_in_zip_read_info->pos_in_zipfile =
1615             s->cur_file_info_internal.offset_curfile +
     SIZEZIPLOCALHEADER +
1616               iSizeVar;
1617
1618     pfile_in_zip_read_info->stream.avail_in = (uInt)0;
1619
1620     s->pfile_in_zip_read = pfile_in_zip_read_info;
1621                 s->encrypted = 0;
1622
1623 #    ifndef NOUNCRYPT
1624     if (password != NULL)
1625     {
1626         int i;
1627         s->pcrc_32_tab = get_crc_table();
1628         init_keys(password,s->keys,s->pcrc_32_tab);
1629         if (ZSEEK64(s->z_filefunc, s->filestream,
1630                   s->pfile_in_zip_read->pos_in_zipfile +
1631                      s->pfile_in_zip_read->
     byte_before_the_zipfile,
1632                   SEEK_SET)!=0)
1633             return UNZ_INTERNALERROR;
1634         if(ZREAD64(s->z_filefunc, s->filestream,source, 12)<12)
```

```
1635             return UNZ_INTERNALERROR;
1636
1637         for (i = 0; i<12; i++)
1638             zdecode(s->keys,s->pcrc_32_tab,source[i]);
1639
1640         s->pfile_in_zip_read->pos_in_zipfile+=12;
1641         s->encrypted=1;
1642     }
1643 #    endif
1644
1645
1646     return UNZ_OK;
1647 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



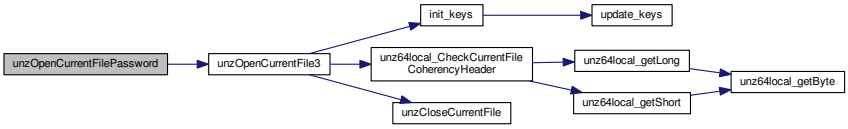
13.160.4.43 int ZEXPORT unzOpenCurrentFilePassword (unzFile *file*, const char * *password*)

Definition at line 1654 of file unzip.c.

References unzOpenCurrentFile3().

```
1655 {
1656     return unzOpenCurrentFile3(file, NULL, NULL, 0, password);
1657 }
```

Here is the call graph for this function:



13.160.4.44 unzFile unzOpenInternal (voidpf *file*, zlib_filefunc64_32_def * *pzlib_filefunc64_32_def*, int *is64bitOpenFunction*, unsigned *flags*)

Definition at line 587 of file unzip.c.

References ALLOC, unz64_s::byte_before_the_zipfile, unz64_s::central_pos, unz64_s::encrypted, unz64_s::filestream, fill_qiodevice64_filefunc(), unz64_s::flags, unz64_s::gi, unz64_s::is64bitOpenFunction, unz64_s::isZip64, unz_global_info64_s::number_entry, unz64_s::offset_central_dir, unz64_s::pfile_in_zip_read, unz64_s::size_central_dir, unz_global_info64_s::size_comment, unz64local_getLong(), unz64local_getLong64(), unz64local_getShort(), unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), UNZ_AUTO_CLOSE, UNZ_BADZIPFILE, unz_copyright, UNZ_ERRNO, UNZ_OK, unzGoToFirstFile(), unz64_s::z_filefunc, ZCLOSE64, ZFAKECLOSE64, zlib_filefunc64_32_def_s::zfile_func64, ZLIB_FILEFUNC_MODE_EXISTING, ZLIB_FILEFUNC_MODE_READ, ZLIB_FILEFUNC_SEEK_SET, ZOPEN64, zlib_filefunc64_32_def_s::zseek32_file, ZSEEK64, and zlib_filefunc64_32_def_s::ztell32_file.

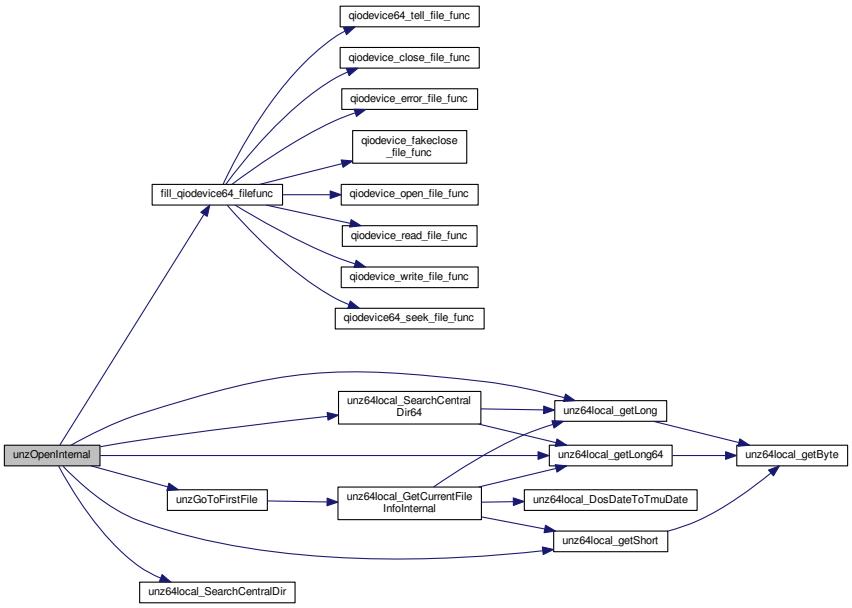
Referenced by QuaZip::open(), unzOpen(), unzOpen2(), unzOpen2_64(), and unzOpen64().

```
590 {
591     unz64_s us;
592     unz64_s *s;
593     ZPOS64_T central_pos;
594     uLong   uL;
595 
596     uLong number_disk;          /* number of the current dist, used for
597                                    spaning ZIP, unsupported, always 0*/
598     uLong number_disk_with_CD;  /* number the the disk with central dir, used
599                                    for spaning ZIP, unsupported, always 0*/
600     ZPOS64_T number_entry_CD;       /* total number of entries in
601                                    the central dir
602                                    (same than number_entry on nospan) */
603 
604     int err=UNZ_OK;
605 
606     if (unz_copyright[0]!=' ')
607         return NULL;
608 
609     us.flags = flags;
610     us.z_filefunc.zseek32_file = NULL;
611     us.z_filefunc.ztell32_file = NULL;
612     if (pzlib_filefunc64_32_def==NULL)
613         fill_qiodevice64_filefunc(&us.z_filefunc.
    zfile_func64);
614     else
615         us.z_filefunc = *pzlib_filefunc64_32_def;
616     us.is64bitOpenFunction = is64bitOpenFunction;
617 
618 
619 
620     us.filestream = ZOPEN64(us.z_filefunc,
621                                                 file,
622                                                 ZLIB_FILEFUNC_MODE_READ |
623                                                 ZLIB_FILEFUNC_MODE_EXISTING);
624     if (us.filestream==NULL)
625         return NULL;
626 
627     central_pos = unz64local_SearchCentralDir64(&us.
    z_filefunc,us.filestream);
628     if (central_pos)
629     {
630         uLong uS;
631         ZPOS64_T uL64;
632 
```

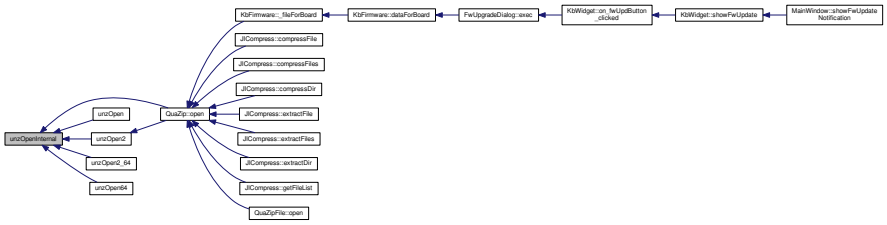
```
633         us.isZip64 = 1;
634
635         if (ZSEEK64(us.z_filefunc, us.filestream,
636                                         central_pos,ZLIB_FILEFUNC_SEEK_SET)!=0)
637         err=UNZ_ERRNO;
638
639         /* the signature, already checked */
640         if (unz64local_getLong(&us.z_filefunc, us.
    filestream,&uL)!=UNZ_OK)
641             err=UNZ_ERRNO;
642
643         /* size of zip64 end of central directory record */
644         if (unz64local_getLong64(&us.z_filefunc, us.
    filestream,&uL64)!=UNZ_OK)
645             err=UNZ_ERRNO;
646
647         /* version made by */
648         if (unz64local_getShort(&us.z_filefunc, us.
    filestream,&uS)!=UNZ_OK)
649             err=UNZ_ERRNO;
650
651         /* version needed to extract */
652         if (unz64local_getShort(&us.z_filefunc, us.
    filestream,&uS)!=UNZ_OK)
653             err=UNZ_ERRNO;
654
655         /* number of this disk */
656         if (unz64local_getLong(&us.z_filefunc, us.
    filestream,&number_disk)!=UNZ_OK)
657             err=UNZ_ERRNO;
658
659         /* number of the disk with the start of the central directory */
660         if (unz64local_getLong(&us.z_filefunc, us.
    filestream,&number_disk_with_CD)!=UNZ_OK)
661             err=UNZ_ERRNO;
662
663         /* total number of entries in the central directory on this disk */
664         if (unz64local_getLong64(&us.z_filefunc, us.
    filestream,&us.gi.number_entry)!=UNZ_OK)
665             err=UNZ_ERRNO;
666
667         /* total number of entries in the central directory */
668         if (unz64local_getLong64(&us.z_filefunc, us.
    filestream,&number_entry_CD)!=UNZ_OK)
669             err=UNZ_ERRNO;
670
671         if ((number_entry_CD!=us.gi.number_entry) ||
672             (number_disk_with_CD!=0) ||
673             (number_disk!=0))
674             err=UNZ_BADZIPFILE;
675
676         /* size of the central directory */
677         if (unz64local_getLong64(&us.z_filefunc, us.
    filestream,&us.size_central_dir)!=UNZ_OK)
678             err=UNZ_ERRNO;
679
680         /* offset of start of central directory with respect to the
681           starting disk number */
682         if (unz64local_getLong64(&us.z_filefunc, us.
    filestream,&us.offset_central_dir)!=UNZ_OK)
683             err=UNZ_ERRNO;
684
685         us.gi.size_comment = 0;
686       }
687       else
688       {
689         central_pos = unz64local_SearchCentralDir(&us.
    z_filefunc,us.filestream);
690         if (central_pos==0)
691             err=UNZ_ERRNO;
692
693         us.isZip64 = 0;
694
695         if (ZSEEK64(us.z_filefunc, us.filestream,
696                                         central_pos,ZLIB_FILEFUNC_SEEK_SET)!=0)
697             err=UNZ_ERRNO;
698
699         /* the signature, already checked */
700         if (unz64local_getLong(&us.z_filefunc, us.
    filestream,&uL)!=UNZ_OK)
701             err=UNZ_ERRNO;
702
703         /* number of this disk */
704         if (unz64local_getShort(&us.z_filefunc, us.
    filestream,&number_disk)!=UNZ_OK)
705             err=UNZ_ERRNO;
706
```

```
707         /* number of the disk with the start of the central directory */
708         if (unz64local_getShort(&us.z_filefunc, us.
    filestream,&number_disk_with_CD)!=UNZ_OK)
709             err=UNZ_ERRNO;
710
711         /* total number of entries in the central dir on this disk */
712         if (unz64local_getShort(&us.z_filefunc, us.
    filestream,&uL)!=UNZ_OK)
713             err=UNZ_ERRNO;
714         us.gi.number_entry = uL;
715
716         /* total number of entries in the central dir */
717         if (unz64local_getShort(&us.z_filefunc, us.
    filestream,&uL)!=UNZ_OK)
718             err=UNZ_ERRNO;
719         number_entry_CD = uL;
720
721         if ((number_entry_CD!=us.gi.number_entry) ||
722             (number_disk_with_CD!=0) ||
723             (number_disk!=0))
724             err=UNZ_BADZIPFILE;
725
726         /* size of the central directory */
727         if (unz64local_getLong(&us.z_filefunc, us.
    filestream,&uL)!=UNZ_OK)
728             err=UNZ_ERRNO;
729         us.size_central_dir = uL;
730
731         /* offset of start of central directory with respect to the
732             starting disk number */
733         if (unz64local_getLong(&us.z_filefunc, us.
    filestream,&uL)!=UNZ_OK)
734             err=UNZ_ERRNO;
735         us.offset_central_dir = uL;
736
737         /* zipfile comment length */
738         if (unz64local_getShort(&us.z_filefunc, us.
    filestream,&us.gi.size_comment)!=UNZ_OK)
739             err=UNZ_ERRNO;
740     }
741
742     if ((central_pos<us.offset_central_dir+us.size_central_dir) &&
743         (err==UNZ_OK))
744         err=UNZ_BADZIPFILE;
745
746     if (err!=UNZ_OK)
747     {
748         if ((us.flags & UNZ_AUTO_CLOSE) != 0)
749             ZCLOSE64(us.z_filefunc, us.filestream);
750         else
751             ZFAKECLOSE64(us.z_filefunc, us.filestream);
752         return NULL;
753     }
754
755     us.byte_before_the_zipfile = central_pos -
756                             (us.offset_central_dir+us.
    size_central_dir);
757     us.central_pos = central_pos;
758     us.pfile_in_zip_read = NULL;
759     us.encrypted = 0;
760
761
762     s=(unz64_s*)ALLOC(sizeof(unz64_s));
763     if( s != NULL)
764     {
765         *s=us;
766         unzGoToFirstFile((unzFile)s);
767     }
768     return (unzFile)s;
769 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.160.4.45 int ZEXPORT unzReadCurrentFile (unzFile *file,* voidp *buf,* unsigned *len*)

Definition at line 1692 of file unzip.c.

References file_in_zip64_read_info_s::byte_before_the_zipfile, file_in_zip64_read_info_s::compression_method, file_in_zip64_read_info_s::crc32, unz64_s::encrypted, file_in_zip64_read_info_s::filestream, unz64_s::keys, unz64_s::pcrc_32_tab, unz64_s::pfile_in_zip_read, file_in_zip64_read_info_s::pos_in_zipfile, file_in_zip64_read_info_s::raw, file_in_zip64_read_info_s::read_buffer, file_in_zip64_read_info_s::rest_read_compressed, file_in_zip64_read_info_s::rest_read_uncompressed, file_in_zip64_read_info_s::stream, file_in_zip64_read_info_s::total_out_64, UNZ_BUFSIZE, UNZ_END_OF_LIST_OF_FILE, UNZ_EOF, UNZ_ERRNO, UNZ_OK, UNZ_PARAMERROR, Z_BZIP2ED, file_in_zip64_read_info_s::z_filefunc, zdecode, ZLIB_FILEFUNC_SEEK_SET, ZREAD64, and ZSEEK64.

Referenced by QuaZipFile::readData().

```
1693 {
1694     int err=UNZ_OK;
1695     uInt iRead = 0;
1696     unz64_s* s;
1697     file_in_zip64_read_info_s* pfile_in_zip_read_info;
1698     if (file==NULL)
```

```
1699         return UNZ_PARAMERROR;
1700     s=(unz64_s*)file;
1701     pfile_in_zip_read_info=s->pfile_in_zip_read;
1702 
1703     if (pfile_in_zip_read_info==NULL)
1704         return UNZ_PARAMERROR;
1705 
1706 
1707     if (pfile_in_zip_read_info->read_buffer == NULL)
1708         return UNZ_END_OF_LIST_OF_FILE;
1709     if (len==0)
1710         return 0;
1711 
1712     pfile_in_zip_read_info->stream.next_out = (Bytef*)buf;
1713 
1714     pfile_in_zip_read_info->stream.avail_out = (uInt)len;
1715 
1716     if ((len>pfile_in_zip_read_info->rest_read_uncompressed) &&
1717         (!(pfile_in_zip_read_info->raw)))
1718         pfile_in_zip_read_info->stream.avail_out =
1719             (uInt)pfile_in_zip_read_info->rest_read_uncompressed;
1720 
1721     if ((len>pfile_in_zip_read_info->rest_read_compressed+
1722            pfile_in_zip_read_info->stream.avail_in) &&
1723          (pfile_in_zip_read_info->raw))
1724         pfile_in_zip_read_info->stream.avail_out =
1725             (uInt)pfile_in_zip_read_info->rest_read_compressed+
1726             pfile_in_zip_read_info->stream.avail_in;
1727 
1728     while (pfile_in_zip_read_info->stream.avail_out>0)
1729     {
1730         if ((pfile_in_zip_read_info->stream.avail_in==0) &&
1731             (pfile_in_zip_read_info->rest_read_compressed>0))
1732         {
1733             uInt uReadThis = UNZ_BUFSIZE;
1734             if (pfile_in_zip_read_info->rest_read_compressed<uReadThis)
1735                 uReadThis = (uInt)pfile_in_zip_read_info->rest_read_compressed;
1736             if (uReadThis == 0)
1737                 return UNZ_EOF;
1738             if (ZSEEK64(pfile_in_zip_read_info->z_filefunc,
1739                       pfile_in_zip_read_info->filestream,
1740                       pfile_in_zip_read_info->pos_in_zipfile +
1741                          pfile_in_zip_read_info->byte_before_the_zipfile,
1742                          ZLIB_FILEFUNC_SEEK_SET)!=0)
1743                 return UNZ_ERRNO;
1744             if (ZREAD64(pfile_in_zip_read_info->z_filefunc,
1745                       pfile_in_zip_read_info->filestream,
1746                       pfile_in_zip_read_info->read_buffer,
1747                       uReadThis)!=uReadThis)
1748                 return UNZ_ERRNO;
1749 
1750 
1751 #            ifndef NOUNCRYPT
1752             if(s->encrypted)
1753             {
1754                 uInt i;
1755                 for(i=0;i<uReadThis;i++)
1756                   pfile_in_zip_read_info->read_buffer[i] =
1757                       zdecode(s->keys,s->pcrc_32_tab,
1758                               pfile_in_zip_read_info->read_buffer[i]);
1759             }
1760 #            endif
1761 
1762 
1763             pfile_in_zip_read_info->pos_in_zipfile += uReadThis;
1764 
1765             pfile_in_zip_read_info->rest_read_compressed-=uReadThis;
1766 
1767             pfile_in_zip_read_info->stream.next_in =
1768                 (Bytef*)pfile_in_zip_read_info->read_buffer;
1769             pfile_in_zip_read_info->stream.avail_in = (uInt)uReadThis;
1770         }
1771 
1772         if ((pfile_in_zip_read_info->compression_method==0) || (pfile_in_zip_read_info->
    raw))
1773         {
1774             uInt uDoCopy,i ;
1775 
1776             if ((pfile_in_zip_read_info->stream.avail_in == 0) &&
1777                 (pfile_in_zip_read_info->rest_read_compressed == 0))
1778                 return (iRead==0) ? UNZ_EOF : iRead;
1779 
1780             if (pfile_in_zip_read_info->stream.avail_out <
1781                             pfile_in_zip_read_info->stream.avail_in)
1782                 uDoCopy = pfile_in_zip_read_info->stream.avail_out ;
1783             else
1784                 uDoCopy = pfile_in_zip_read_info->stream.avail_in ;
```

```
1785
1786            for (i=0;i<uDoCopy;i++)
1787                *(pfile_in_zip_read_info->stream.next_out+i) =
1788                        *(pfile_in_zip_read_info->stream.next_in+i);
1789
1790            pfile_in_zip_read_info->total_out_64 = pfile_in_zip_read_info->
    total_out_64 + uDoCopy;
1791
1792            pfile_in_zip_read_info->crc32 = crc32(pfile_in_zip_read_info->
    crc32,
1793                                  pfile_in_zip_read_info->stream.next_out,
1794                                  uDoCopy);
1795            pfile_in_zip_read_info->rest_read_uncompressed-=uDoCopy;
1796            pfile_in_zip_read_info->stream.avail_in -= uDoCopy;
1797            pfile_in_zip_read_info->stream.avail_out -= uDoCopy;
1798            pfile_in_zip_read_info->stream.next_out += uDoCopy;
1799            pfile_in_zip_read_info->stream.next_in += uDoCopy;
1800            pfile_in_zip_read_info->stream.total_out += uDoCopy;
1801            iRead += uDoCopy;
1802        }
1803        else if (pfile_in_zip_read_info->compression_method==
    Z_BZIP2ED)
1804        {
1805 #ifdef HAVE_BZIP2
1806            uLong uTotalOutBefore,uTotalOutAfter;
1807            const Bytef *bufBefore;
1808            uLong uOutThis;
1809
1810            pfile_in_zip_read_info->bstream.next_in        = (char*)pfile_in_zip_read_info->
    stream.next_in;
1811            pfile_in_zip_read_info->bstream.avail_in       = pfile_in_zip_read_info->
    stream.avail_in;
1812            pfile_in_zip_read_info->bstream.total_in_lo32  = pfile_in_zip_read_info->
    stream.total_in;
1813            pfile_in_zip_read_info->bstream.total_in_hi32  = 0;
1814            pfile_in_zip_read_info->bstream.next_out       = (char*)pfile_in_zip_read_info->
    stream.next_out;
1815            pfile_in_zip_read_info->bstream.avail_out      = pfile_in_zip_read_info->
    stream.avail_out;
1816            pfile_in_zip_read_info->bstream.total_out_lo32 = pfile_in_zip_read_info->
    stream.total_out;
1817            pfile_in_zip_read_info->bstream.total_out_hi32 = 0;
1818
1819            uTotalOutBefore = pfile_in_zip_read_info->bstream.total_out_lo32;
1820            bufBefore = (const Bytef *)pfile_in_zip_read_info->bstream.next_out;
1821
1822            err=BZ2_bzDecompress(&pfile_in_zip_read_info->bstream);
1823
1824            uTotalOutAfter = pfile_in_zip_read_info->bstream.total_out_lo32;
1825            uOutThis = uTotalOutAfter-uTotalOutBefore;
1826
1827            pfile_in_zip_read_info->total_out_64 = pfile_in_zip_read_info->
    total_out_64 + uOutThis;
1828
1829            pfile_in_zip_read_info->crc32 = crc32(pfile_in_zip_read_info->
    crc32,bufBefore, (uInt)(uOutThis));
1830            pfile_in_zip_read_info->rest_read_uncompressed -= uOutThis;
1831            iRead += (uInt)(uTotalOutAfter - uTotalOutBefore);
1832
1833            pfile_in_zip_read_info->stream.next_in   = (Bytef*)pfile_in_zip_read_info->bstream.
    next_in;
1834            pfile_in_zip_read_info->stream.avail_in  = pfile_in_zip_read_info->bstream.avail_in;
1835            pfile_in_zip_read_info->stream.total_in  = pfile_in_zip_read_info->bstream.total_in_lo32;
1836            pfile_in_zip_read_info->stream.next_out  = (Bytef*)pfile_in_zip_read_info->bstream.
    next_out;
1837            pfile_in_zip_read_info->stream.avail_out = pfile_in_zip_read_info->bstream.avail_out;
1838            pfile_in_zip_read_info->stream.total_out = pfile_in_zip_read_info->bstream.total_out_lo32
    ;
1839
1840            if (err==BZ_STREAM_END)
1841              return (iRead==0) ? UNZ_EOF : iRead;
1842            if (err!=BZ_OK)
1843              break;
1844 #endif
1845        } /* end Z_BZIP2ED */
1846        else
1847        {
1848            ZPOS64_T uTotalOutBefore,uTotalOutAfter;
1849            const Bytef *bufBefore;
1850            ZPOS64_T uOutThis;
1851            int flush=Z_SYNC_FLUSH;
1852
1853            uTotalOutBefore = pfile_in_zip_read_info->stream.total_out;
1854            bufBefore = pfile_in_zip_read_info->stream.next_out;
1855
1856            /*
1857            if ((pfile_in_zip_read_info->rest_read_uncompressed ==
```

```
1858                     pfile_in_zip_read_info->stream.avail_out) &&
1859                 (pfile_in_zip_read_info->rest_read_compressed == 0))
1860                 flush = Z_FINISH;
1861             */
1862             err=inflate(&pfile_in_zip_read_info->stream,flush);
1863 
1864             if ((err>=0) && (pfile_in_zip_read_info->stream.msg!=NULL))
1865               err = Z_DATA_ERROR;
1866 
1867             uTotalOutAfter = pfile_in_zip_read_info->stream.total_out;
1868             uOutThis = uTotalOutAfter-uTotalOutBefore;
1869 
1870             pfile_in_zip_read_info->total_out_64 = pfile_in_zip_read_info->
      total_out_64 + uOutThis;
1871 
1872             pfile_in_zip_read_info->crc32 =
1873                 crc32(pfile_in_zip_read_info->crc32,bufBefore,
1874                         (uInt)(uOutThis));
1875 
1876             pfile_in_zip_read_info->rest_read_uncompressed -=
1877                 uOutThis;
1878 
1879             iRead += (uInt)(uTotalOutAfter - uTotalOutBefore);
1880 
1881             if (err==Z_STREAM_END)
1882                 return (iRead==0) ? UNZ_EOF : iRead;
1883             if (err!=Z_OK)
1884                 break;
1885         }
1886     }
1887 
1888     if (err==Z_OK)
1889         return iRead;
1890     return err;
1891 }
```

Here is the caller graph for this function:

13.160.4.46 int ZEXPORT unzSetFlags (unzFile *file*, unsigned *flags*)

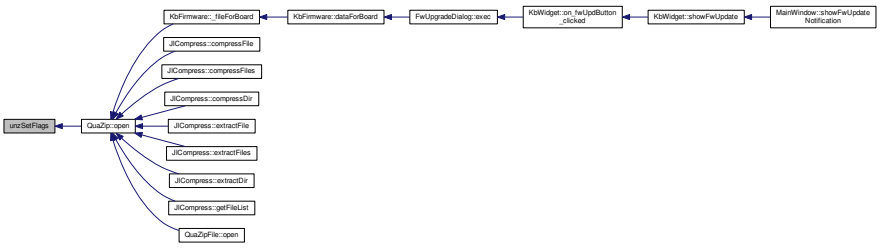
Definition at line 2136 of file unzip.c.

References unz64_s::flags, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZip::open().

```
2137 {
2138     unz64_s* s;
2139     if (file == NULL)
2140         return UNZ_PARAMERROR;
2141     s = (unz64_s*)file;
2142     s->flags |= flags;
2143     return UNZ_OK;
2144 }
```

Here is the caller graph for this function:



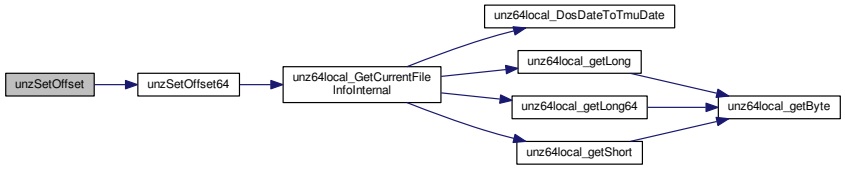
13.160.4.47 int ZEXPORT unzSetOffset (unzFile *file*, uLong *pos*)

Definition at line 2130 of file unzip.c.

References unzSetOffset64().

```
2131 {
2132     return unzSetOffset64(file,pos);
2133 }
```

Here is the call graph for this function:



13.160.4.48 int ZEXPORT unzSetOffset64 (unzFile *file*, ZPOS64_T *pos*)

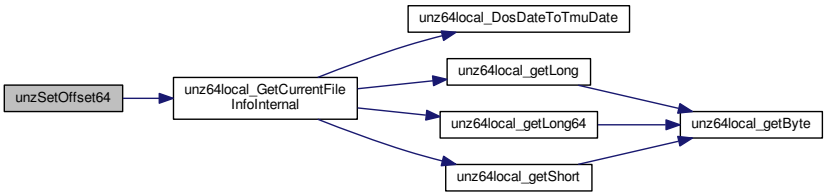
Definition at line 2112 of file unzip.c.

References unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::gi, unz64_s::num_file, unz_global_info64_s::number_entry, unz64_s::pos_in_central_dir, unz64local_GetCurrentFileInfoInternal(), UNZ_OK, and UNZ_PARAMERROR.

Referenced by unzSetOffset().

```
2113 {
2114     unz64_s* s;
2115     int err;
2116
2117     if (file==NULL)
2118         return UNZ_PARAMERROR;
2119     s=(unz64_s*)file;
2120
2121     s->pos_in_central_dir = pos;
2122     s->num_file = s->gi.number_entry;       /* hack */
2123     err = unz64local_GetCurrentFileInfoInternal(file,&s->
      cur_file_info,
2124                                                 &s->cur_file_info_internal,
2125                                                 NULL,0,NULL,0,NULL,0);
2126     s->current_file_ok = (err == UNZ_OK);
2127     return err;
2128 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.160.4.49 int ZEXPORT unzStringFileNameCompare (const char * *fileName1*, const char * *fileName2*, int *iCaseSensitivity*)

Definition at line 393 of file unzip.c.

References CASESENSITIVITYDEFAULTVALUE, and STRCMPCASENOSENTIVEFUNCTION.

Referenced by unzLocateFile().

```
397 {
398     if (iCaseSensitivity==0)
399         iCaseSensitivity=CASESENSITIVITYDEFAULTVALUE;
400
401     if (iCaseSensitivity==1)
402         return strcmp(fileName1,fileName2);
403
404     return STRCMPCASENOSENTIVEFUNCTION(fileName1,fileName2);
405 }
```

Here is the caller graph for this function:

13.160.4.50 z_off_t ZEXPORT unztell (unzFile *file*)

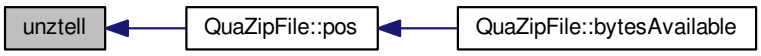
Definition at line 1897 of file unzip.c.

References unz64_s::pfile_in_zip_read, file_in_zip64_read_info_s::stream, and UNZ_PARAMERROR.

Referenced by QuaZipFile::pos().

```
1898 {
1899     unz64_s* s;
1900     file_in_zip64_read_info_s* pfile_in_zip_read_info;
1901     if (file==NULL)
1902         return UNZ_PARAMERROR;
1903     s=(unz64_s*)file;
1904     pfile_in_zip_read_info=s->pfile_in_zip_read;
1905
1906     if (pfile_in_zip_read_info==NULL)
1907         return UNZ_PARAMERROR;
1908
1909     return (z_off_t)pfile_in_zip_read_info->stream.total_out;
1910 }
```

Here is the caller graph for this function:



13.160.4.51 ZPOS64_T ZEXPORT unztell64 (unzFile *file*)

Definition at line 1912 of file unzip.c.

References unz64_s::pfile_in_zip_read, and file_in_zip64_read_info_s::total_out_64.

```
1913 {
1914
1915     unz64_s* s;
1916     file_in_zip64_read_info_s* pfile_in_zip_read_info;
1917     if (file==NULL)
1918         return (ZPOS64_T)-1;
1919     s=(unz64_s*)file;
1920     pfile_in_zip_read_info=s->pfile_in_zip_read;
1921
1922     if (pfile_in_zip_read_info==NULL)
1923         return (ZPOS64_T)-1;
1924
1925     return pfile_in_zip_read_info->total_out_64;
1926 }
```

13.160.5 Variable Documentation

13.160.5.1 const char unz_copyright[ ]

Initial value:

```
=
   " unzip 1.01 Copyright 1998-2004 Gilles Vollant - http://www.winimage.com/zLibDll"
```

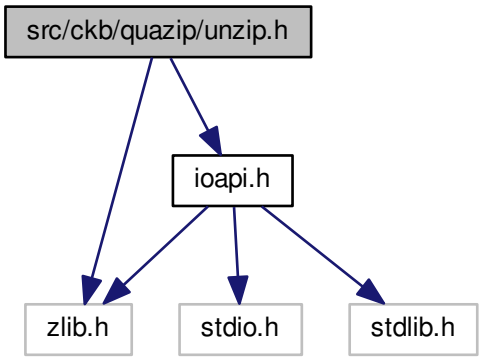
Definition at line 124 of file unzip.c.

Referenced by unzOpenInternal().

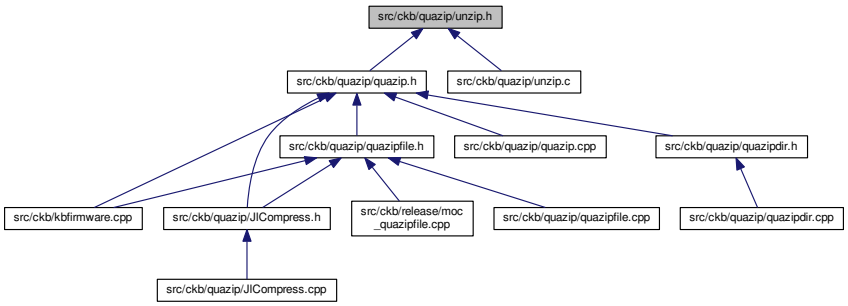
13.161 src/ckb/quazip/unzip.h File Reference

```
#include "zlib.h"
#include "ioapi.h"
```

Include dependency graph for unzip.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct tm_unz_s
- struct unz_global_info64_s
- struct unz_global_info_s
- struct unz_file_info64_s
- struct unz_file_info_s
- struct unz_file_pos_s
- struct unz64_file_pos_s

Macros

- #define Z_BZIP2ED 12

- #define UNZ_OK (0)
- #define UNZ_END_OF_LIST_OF_FILE (-100)
- #define UNZ_ERRNO (Z_ERRNO)
- #define UNZ_EOF (0)
- #define UNZ_PARAMERROR (-102)
- #define UNZ_BADZIPFILE (-103)
- #define UNZ_INTERNALERROR (-104)
- #define UNZ_CRCERROR (-105)
- #define UNZ_AUTO_CLOSE 0x01u
- #define UNZ_DEFAULT_FLAGS UNZ_AUTO_CLOSE

Typedefs

- typedef voidp unzFile
- typedef struct tm_unz_s tm_unz
- typedef struct unz_global_info64_s unz_global_info64
- typedef struct unz_global_info_s unz_global_info
- typedef struct unz_file_info64_s unz_file_info64
- typedef struct unz_file_info_s unz_file_info
- typedef struct unz_file_pos_s unz_file_pos
- typedef struct unz64_file_pos_s unz64_file_pos

Functions

- int ZEXPORT unzStringFileNameCompare _Z_OF ((const char ∗fileName1, const char ∗fileName2, int iCaseSensitivity))
- unzFile ZEXPORT unzOpen _Z_OF ((voidpf file))
- unzFile ZEXPORT unzOpen2 _Z_OF ((voidpf file, zlib_filefunc_def ∗pzlib_filefunc_def))
- unzFile ZEXPORT unzOpen2_64 _Z_OF ((voidpf file, zlib_filefunc64_def ∗pzlib_filefunc_def))
- unzFile unzOpenInternal (voidpf file, zlib_filefunc64_32_def ∗pzlib_filefunc64_32_def, int is64bitOpenFunction, unsigned flags)
- int ZEXPORT unzClose _Z_OF ((unzFile file))

  Addition for GDAL : START.
- int ZEXPORT unzGetGlobalInfo _Z_OF ((unzFile file, unz_global_info ∗pglobal_info))
- int ZEXPORT unzGetGlobalInfo64 _Z_OF ((unzFile file, unz_global_info64 ∗pglobal_info))
- int ZEXPORT unzGetGlobalComment _Z_OF ((unzFile file, char ∗szComment, uLong uSizeBuf))
- int ZEXPORT unzLocateFile _Z_OF ((unzFile file, const char ∗szFileName, int iCaseSensitivity))
- int ZEXPORT unzGetFilePos (unzFile file, unz_file_pos ∗file_pos)
- int ZEXPORT unzGoToFilePos (unzFile file, unz_file_pos ∗file_pos)
- int ZEXPORT unzGetFilePos64 (unzFile file, unz64_file_pos ∗file_pos)
- int ZEXPORT unzGoToFilePos64 (unzFile file, const unz64_file_pos ∗file_pos)
- int ZEXPORT unzGetCurrentFileInfo64 _Z_OF ((unzFile file, unz_file_info64 ∗pfile_info, char ∗szFileName, uLong fileNameBufferSize, void ∗extraField, uLong extraFieldBufferSize, char ∗szComment, uLong commentBufferSize))
- int ZEXPORT unzGetCurrentFileInfo _Z_OF ((unzFile file, unz_file_info ∗pfile_info, char ∗szFileName, uLong fileNameBufferSize, void ∗extraField, uLong extraFieldBufferSize, char ∗szComment, uLong commentBufferSize))
- int ZEXPORT unzOpenCurrentFilePassword _Z_OF ((unzFile file, const char ∗password))
- int ZEXPORT unzOpenCurrentFile2 _Z_OF ((unzFile file, int ∗method, int ∗level, int raw))
- int ZEXPORT unzOpenCurrentFile3 _Z_OF ((unzFile file, int ∗method, int ∗level, int raw, const char ∗password))
- int ZEXPORT unzReadCurrentFile _Z_OF ((unzFile file, voidp buf, unsigned len))
- ZPOS64_T ZEXPORT unzGetOffset64 (unzFile file)

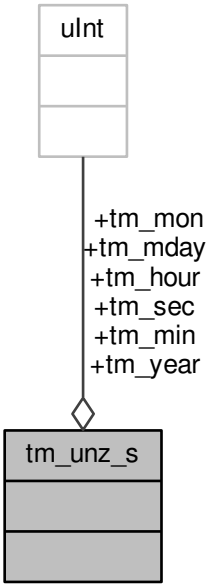
- uLong ZEXPORT unzGetOffset (unzFile file)
- int ZEXPORT unzSetOffset64 (unzFile file, ZPOS64_T pos)
- int ZEXPORT unzSetOffset (unzFile file, uLong pos)
- int ZEXPORT unzSetFlags (unzFile file, unsigned flags)
- int ZEXPORT unzClearFlags (unzFile file, unsigned flags)

13.161.1 Data Structure Documentation

13.161.1.1 struct tm_unz_s

Definition at line 92 of file unzip.h.

Collaboration diagram for tm_unz_s:



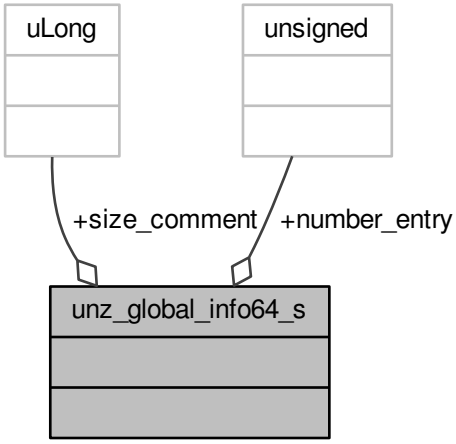
Data Fields

uInt	tm_hour	
uInt	tm_mday	
uInt	tm_min	
uInt	tm_mon	
uInt	tm_sec	
uInt	tm_year	

13.161.1.2 struct unz_global_info64_s

Definition at line 104 of file unzip.h.

Collaboration diagram for unz_global_info64_s:



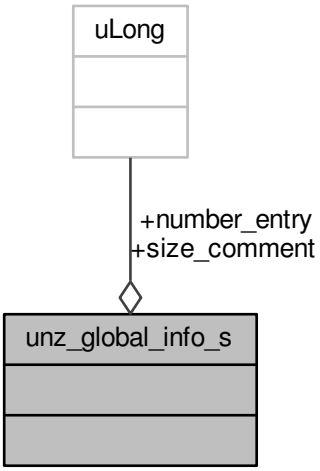
Data Fields

ZPOS64_T	number_entry	
uLong	size_comment	

13.161.1.3 struct unz_global_info_s

Definition at line 111 of file unzip.h.

Collaboration diagram for unz_global_info_s:



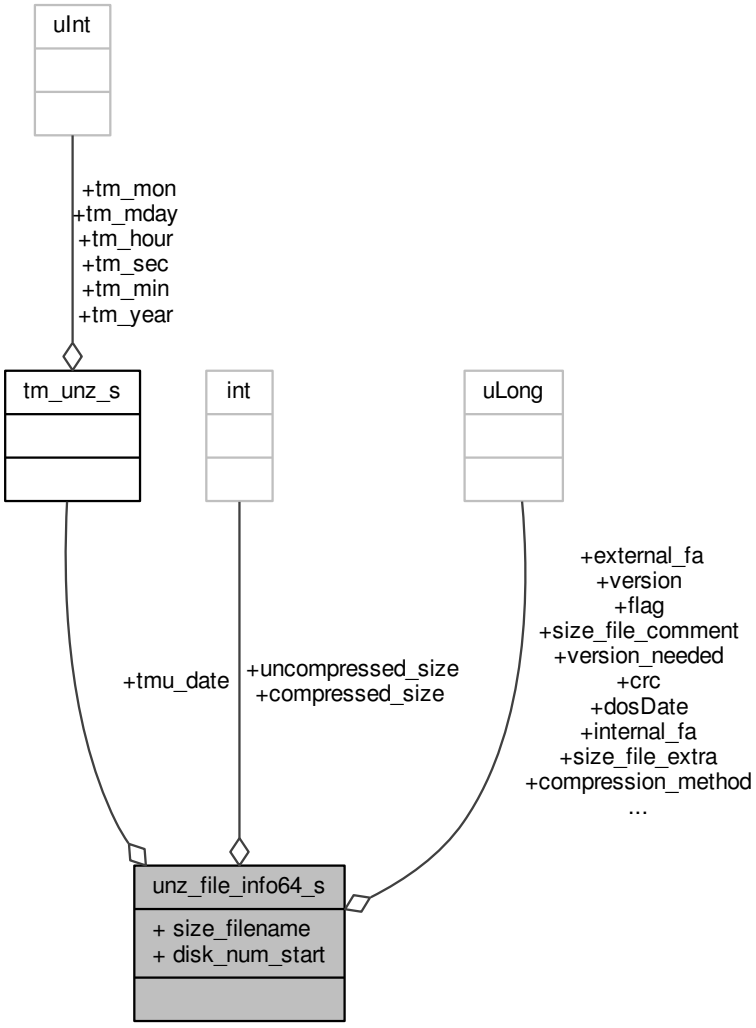
Data Fields

uLong	number_entry	
uLong	size_comment	

13.161.1.4 struct unz_file_info64_s

Definition at line 119 of file unzip.h.

Collaboration diagram for unz_file_info64_s:



Data Fields

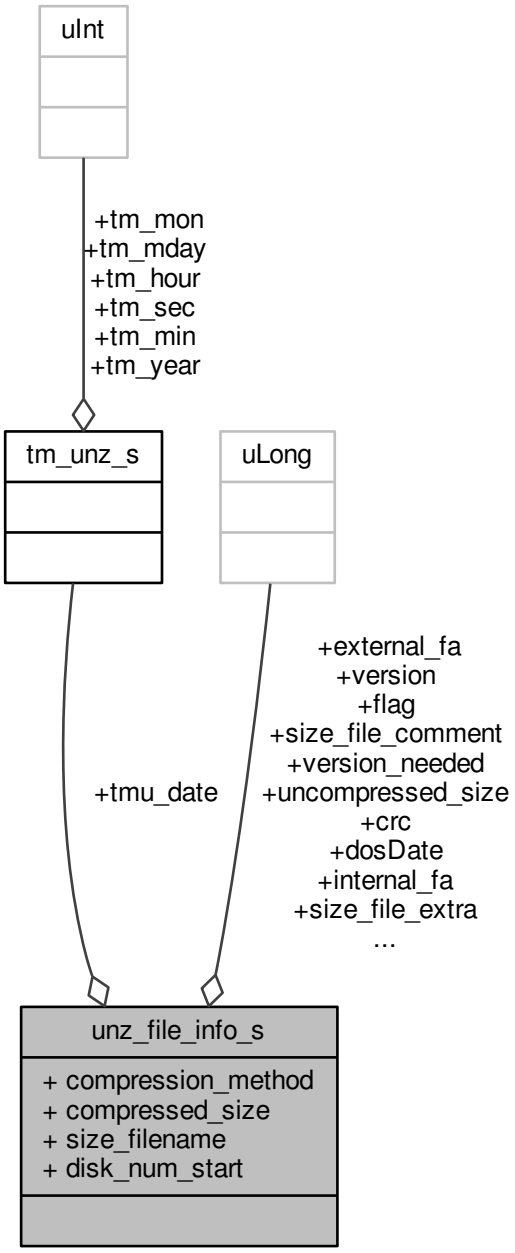
ZPOS64_T	compressed_-size	

uLong	compression_- method	
uLong	crc	
uLong	disk_num_start	
uLong	dosDate	
uLong	external_fa	
uLong	flag	
uLong	internal_fa	
uLong	size_file_- comment	
uLong	size_file_extra	
uLong	size_filename	
tm_unz	tmu_date	
ZPOS64_T	uncompressed_- size	
uLong	version	
uLong	version_needed	

13.161.1.5 struct unz_file_info_s

Definition at line 140 of file unzip.h.

Collaboration diagram for unz_file_info_s:



Data Fields

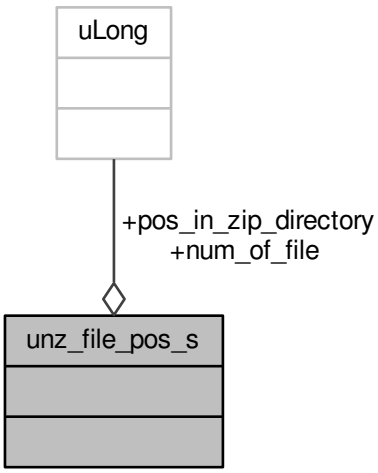
uLong	compressed_-size	

uLong	compression_-method	
uLong	crc	
uLong	disk_num_start	
uLong	dosDate	
uLong	external_fa	
uLong	flag	
uLong	internal_fa	
uLong	size_file_-comment	
uLong	size_file_extra	
uLong	size_filename	
tm_unz	tmu_date	
uLong	uncompressed_-size	
uLong	version	
uLong	version_needed	

13.161.1.6 struct unz_file_pos_s

Definition at line 278 of file unzip.h.

Collaboration diagram for unz_file_pos_s:



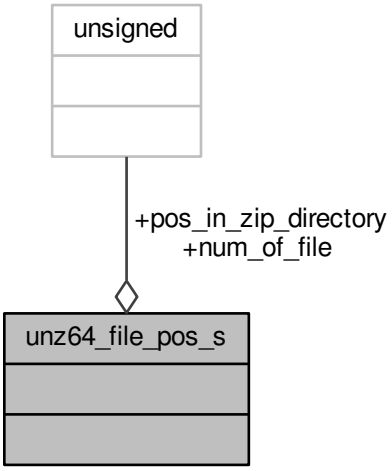
Data Fields

uLong	num_of_file	
uLong	pos_in_zip_-directory	

13.161.1.7 struct unz64_file_pos_s

Definition at line 292 of file unzip.h.

Collaboration diagram for unz64_file_pos_s:



Data Fields

ZPOS64_T	num_of_file	
ZPOS64_T	pos_in_zip_-directory	

13.161.2 Macro Definition Documentation

13.161.2.1 #define UNZ_AUTO_CLOSE 0x01u

Definition at line 88 of file unzip.h.

Referenced by QuaZip::open(), unzClose(), and unzOpenInternal().

13.161.2.2 #define UNZ_BADZIPFILE (-103)

Definition at line 84 of file unzip.h.

Referenced by unz64local_CheckCurrentFileCoherencyHeader(), unz64local_GetCurrentFileInfoInternal(), unzOpenCurrentFile3(), and unzOpenInternal().

13.161.2.3 #define UNZ_CRCERROR (-105)

Definition at line 86 of file unzip.h.

Referenced by unzCloseCurrentFile().

13.161.2.4 #define UNZ_DEFAULT_FLAGS UNZ_AUTO_CLOSE

Definition at line 89 of file unzip.h.

Referenced by unzOpen(), unzOpen2(), unzOpen2_64(), and unzOpen64().

13.161.2.5 #define UNZ_END_OF_LIST_OF_FILE (-100)

Definition at line 80 of file unzip.h.

Referenced by QuaZipPrivate::goToFirstUnmappedFile(), QuaZip::goToNextFile(), unzGetFilePos64(), unzGoToNextFile(), unzLocateFile(), and unzReadCurrentFile().

13.161.2.6 #define UNZ_EOF (0)

Definition at line 82 of file unzip.h.

Referenced by unz64local_getByte(), and unzReadCurrentFile().

13.161.2.7 #define UNZ_ERRNO (Z_ERRNO)

Definition at line 81 of file unzip.h.

Referenced by unz64local_CheckCurrentFileCoherencyHeader(), unz64local_getByte(), unz64local_GetCurrentFileInfoInternal(), unzGetGlobalComment(), unzGetLocalExtrafield(), unzOpenInternal(), and unzReadCurrentFile().

13.161.2.8 #define UNZ_INTERNALERROR (-104)

Definition at line 85 of file unzip.h.

Referenced by unzOpenCurrentFile3().

13.161.2.9 #define UNZ_OK (0)

Definition at line 79 of file unzip.h.

Referenced by QuaZip::close(), QuaZipFile::close(), JlCompress::compressFile(), QuaZipFile::csize(), JlCompress::extractFile(), QuaZipFile::getActualFileName(), QuaZip::getComment(), QuaZip::getCurrentFileInfo(), QuaZip::getCurrentFileName(), QuaZip::getEntriesCount(), QuaZipFile::getFileInfo(), QuaZipPrivate::getFileInfoList(), QuaZip::goToFirstFile(), QuaZipPrivate::goToFirstUnmappedFile(), QuaZip::goToNextFile(), QuaZip::open(), QuaZipFile::open(), QuaZipFile::readData(), QuaZipFilePrivate::resetZipError(), QuaZip::setCurrentFile(), QuaZipFilePrivate::setZipError(), unz64local_CheckCurrentFileCoherencyHeader(), unz64local_getByte(), unz64local_GetCurrentFileInfoInternal(), unz64local_getLong(), unz64local_getLong64(), unz64local_getShort(), unz64local_SearchCentralDir64(), unzClearFlags(), unzClose(), unzCloseCurrentFile(), unzGetCurrentFileInfo(), unzGetFilePos(), unzGetFilePos64(), unzGetGlobalInfo(), unzGetGlobalInfo64(), unzGoToFilePos64(), unzGoToFirstFile(), unzGoToNextFile(), unzLocateFile(), unzOpenCurrentFile3(), unzOpenInternal(), unzReadCurrentFile(), unzSetFlags(), unzSetOffset64(), and QuaZipFile::usize().

13.161.2.10 #define UNZ_PARAMERROR (-102)

Definition at line 83 of file unzip.h.

Referenced by QuaZip::setCurrentFile(), unz64local_GetCurrentFileInfoInternal(), unzClearFlags(), unzClose(), unzCloseCurrentFile(), unzeof(), unzGetFilePos64(), unzGetGlobalComment(), unzGetGlobalInfo(), unzGetGlobalInfo64(), unzGetLocalExtrafield(), unzGoToFilePos(), unzGoToFilePos64(), unzGoToFirstFile(), unzGoToNextFile(), unzLocateFile(), unzOpenCurrentFile3(), unzReadCurrentFile(), unzSetFlags(), unzSetOffset64(), and unztell().

13.161.2.11 #define Z_BZIP2ED 12

Definition at line 67 of file unzip.h.

Referenced by unz64local_CheckCurrentFileCoherencyHeader(), unzCloseCurrentFile(), unzOpenCurrentFile3(), unzReadCurrentFile(), zip64FlushWriteBuffer(), zipCloseFileInZipRaw64(), zipOpenNewFileInZip4_64(), and zipWriteInFileInZip().

13.161.3 Typedef Documentation

13.161.3.1 typedef struct tm_unz_s tm_unz

13.161.3.2 typedef struct unz64_file_pos_s unz64_file_pos

13.161.3.3 typedef struct unz_file_info_s unz_file_info

13.161.3.4 typedef struct unz_file_info64_s unz_file_info64

13.161.3.5 typedef struct unz_file_pos_s unz_file_pos

13.161.3.6 typedef struct unz_global_info_s unz_global_info

13.161.3.7 typedef struct unz_global_info64_s unz_global_info64

13.161.3.8 typedef voidp unzFile

Definition at line 75 of file unzip.h.

13.161.4 Function Documentation

13.161.4.1 int ZEXPORT unzStringFileNameCompare _Z_OF ((const char *fileName1, const char *fileName2, int iCaseSensitivity))

13.161.4.2 unzFile ZEXPORT unzOpen _Z_OF ((voidpf file))

13.161.4.3 unzFile ZEXPORT unzOpen2 _Z_OF ((voidpf file, zlib_filefunc_def *pzlib_filefunc_def))

13.161.4.4 unzFile ZEXPORT unzOpen2_64 _Z_OF ((voidpf file, zlib_filefunc64_def *pzlib_filefunc_def))

13.161.4.5 int ZEXPORT unzClose _Z_OF ((unzFile file))

Addition for GDAL : END.

13.161.4.6 int ZEXPORT unzGetGlobalInfo _Z_OF ((unzFile file, unz_global_info *pglobal_info))

13.161.4.7 int ZEXPORT unzGetGlobalInfo64 _Z_OF ((unzFile file, unz_global_info64 *pglobal_info))

13.161.4.8 int ZEXPORT unzGetGlobalComment _Z_OF ((unzFile file, char *szComment, uLong uSizeBuf))

13.161.4.9 int ZEXPORT unzLocateFile _Z_OF ((unzFile file, const char *szFileName, int iCaseSensitivity))

13.161.4.10 int ZEXPORT unzGetCurrentFileInfo64 _Z_OF ((unzFile file, unz_file_info64 *pfile_info, char *szFileName, uLong fileNameBufferSize, void *extraField, uLong extraFieldBufferSize, char *szComment, uLong commentBufferSize))

13.161.4.11 int ZEXPORT unzGetCurrentFileInfo _Z_OF ((unzFile file, unz_file_info ∗pfile_info, char ∗szFileName, uLong fileNameBufferSize, void ∗extraField, uLong extraFieldBufferSize, char ∗szComment, uLong commentBufferSize))

13.161.4.12 int ZEXPORT unzOpenCurrentFilePassword _Z_OF ((unzFile file, const char ∗password))

13.161.4.13 int ZEXPORT unzOpenCurrentFile2 _Z_OF ((unzFile file, int ∗method, int ∗level, int raw))

13.161.4.14 int ZEXPORT unzOpenCurrentFile3 _Z_OF ((unzFile file, int ∗method, int ∗level, int raw, const char ∗password))

13.161.4.15 int ZEXPORT unzReadCurrentFile _Z_OF ((unzFile file, voidp buf, unsigned len))

13.161.4.16 int ZEXPORT unzClearFlags (unzFile *file,* unsigned *flags*)

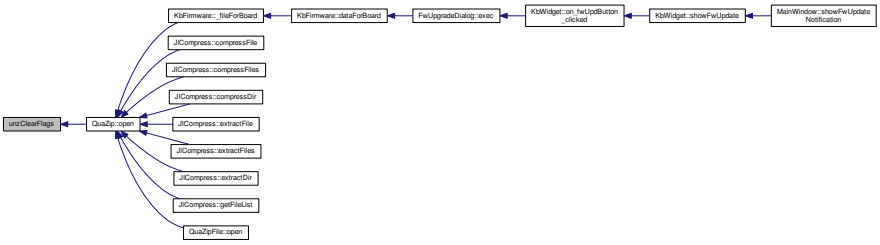
Definition at line 2147 of file unzip.c.

References unz64_s::flags, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZip::open().

```
2148 {
2149     unz64_s* s;
2150     if (file == NULL)
2151         return UNZ_PARAMERROR;
2152     s = (unz64_s*)file;
2153     s->flags &= ~flags;
2154     return UNZ_OK;
2155 }
```

Here is the caller graph for this function:



13.161.4.17 int ZEXPORT unzGetFilePos (unzFile *file,* unz_file_pos ∗ *file_pos*)

Definition at line 1334 of file unzip.c.

References unz_file_pos_s::num_of_file, unz64_file_pos_s::num_of_file, unz_file_pos_s::pos_in_zip_directory, unz64_file_pos_s::pos_in_zip_directory, UNZ_OK, and unzGetFilePos64().

```
1337 {
1338     unz64_file_pos file_pos64;
1339     int err = unzGetFilePos64(file,&file_pos64);
1340     if (err==UNZ_OK)
1341     {
1342         file_pos->pos_in_zip_directory = (uLong)file_pos64.
      pos_in_zip_directory;
1343         file_pos->num_of_file = (uLong)file_pos64.num_of_file;
1344     }
1345     return err;
1346 }
```

Here is the call graph for this function:

13.161.4.18 int ZEXPORT unzGetFilePos64 (unzFile *file*, unz64_file_pos * *file_pos*)

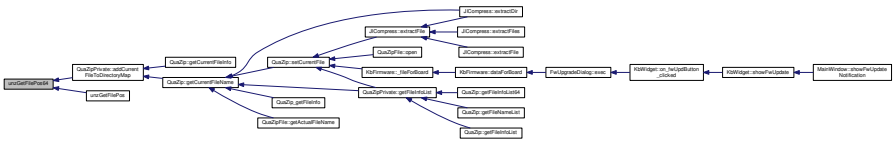
Definition at line 1318 of file unzip.c.

References unz64_s::current_file_ok, unz64_s::num_file, unz64_file_pos_s::num_of_file, unz64_s::pos_in_central_dir, unz64_file_pos_s::pos_in_zip_directory, UNZ_END_OF_LIST_OF_FILE, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZipPrivate::addCurrentFileToDirectoryMap(), and unzGetFilePos().

```
1319 {
1320     unz64_s* s;
1321
1322     if (file==NULL || file_pos==NULL)
1323         return UNZ_PARAMERROR;
1324     s=(unz64_s*)file;
1325     if (!s->current_file_ok)
1326         return UNZ_END_OF_LIST_OF_FILE;
1327
1328     file_pos->pos_in_zip_directory  = s->pos_in_central_dir;
1329     file_pos->num_of_file           = s->num_file;
1330
1331     return UNZ_OK;
1332 }
```

Here is the caller graph for this function:



13.161.4.19 uLong ZEXPORT unzGetOffset (unzFile *file*)

Definition at line 2102 of file unzip.c.

References unzGetOffset64().

```
2103 {
2104     ZPOS64_T offset64;
2105
2106     if (file==NULL)
2107           return 0; /*UNZ_PARAMERROR; */
2108     offset64 = unzGetOffset64(file);
2109     return (uLong)offset64;
2110 }
```

Here is the call graph for this function:

13.161.4.20 ZPOS64_T ZEXPORT unzGetOffset64 (unzFile *file*)

Definition at line 2087 of file unzip.c.

References unz64_s::current_file_ok, unz64_s::gi, unz64_s::num_file, unz_global_info64_s::number_entry, and unz64_s::pos_in_central_dir.

Referenced by unzGetOffset().

```
2088 {
2089     unz64_s* s;
2090
2091     if (file==NULL)
2092           return 0; /*UNZ_PARAMERROR; */
2093     s=(unz64_s*)file;
2094     if (!s->current_file_ok)
2095       return 0;
2096     if (s->gi.number_entry != 0 && s->gi.number_entry != 0xffff)
2097       if (s->num_file==s->gi.number_entry)
2098          return 0;
2099     return s->pos_in_central_dir;
2100 }
```

Here is the caller graph for this function:

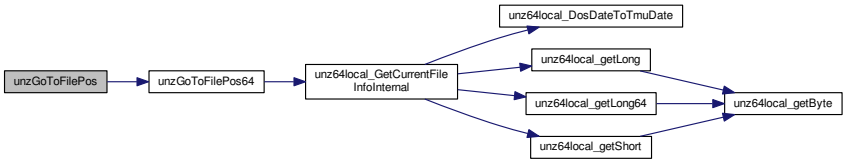
13.161.4.21 int ZEXPORT unzGoToFilePos (unzFile *file,* unz_file_pos * *file_pos*)

Definition at line 1370 of file unzip.c.

References unz_file_pos_s::num_of_file, unz64_file_pos_s::num_of_file, unz_file_pos_s::pos_in_zip_directory, unz64_file_pos_s::pos_in_zip_directory, UNZ_PARAMERROR, and unzGoToFilePos64().

```
1373 {
1374     unz64_file_pos file_pos64;
1375     if (file_pos == NULL)
1376         return UNZ_PARAMERROR;
1377
1378     file_pos64.pos_in_zip_directory = file_pos->
    pos_in_zip_directory;
1379     file_pos64.num_of_file = file_pos->num_of_file;
1380     return unzGoToFilePos64(file,&file_pos64);
1381 }
```

Here is the call graph for this function:



13.161.4.22 int ZEXPORT unzGoToFilePos64 (unzFile *file*, const unz64_file_pos * *file_pos*)

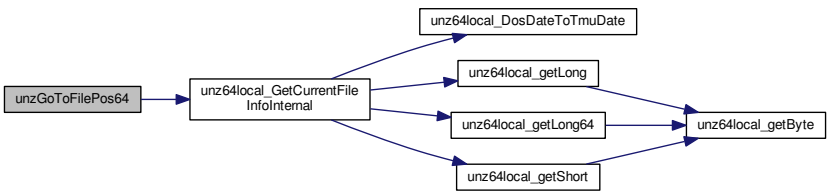
Definition at line 1348 of file unzip.c.

References unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::num_file, unz64_file_pos_s::num_of_file, unz64_s::pos_in_central_dir, unz64_file_pos_s::pos_in_zip_directory, unz64local_GetCurrentFileInfoInternal(), UNZ_OK, and UNZ_PARAMERROR.

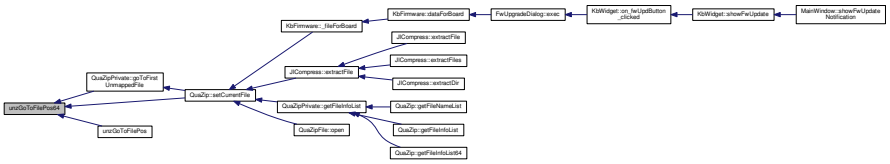
Referenced by QuaZipPrivate::goToFirstUnmappedFile(), QuaZip::setCurrentFile(), and unzGoToFilePos().

```
1349 {
1350     unz64_s* s;
1351     int err;
1352
1353     if (file==NULL || file_pos==NULL)
1354         return UNZ_PARAMERROR;
1355     s=(unz64_s*)file;
1356
1357     /* jump to the right spot */
1358     s->pos_in_central_dir = file_pos->pos_in_zip_directory;
1359     s->num_file           = file_pos->num_of_file;
1360
1361     /* set the current file */
1362     err = unz64local_GetCurrentFileInfoInternal(file,&s->
      cur_file_info,
1363                                                 &s->cur_file_info_internal,
1364                                                 NULL,0,NULL,0,NULL,0);
1365     /* return results */
1366     s->current_file_ok = (err == UNZ_OK);
1367     return err;
1368 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.161.4.23 unzFile unzOpenInternal (voidpf *file*, zlib_filefunc64_32_def * *pzlib_filefunc64_32_def*, int *is64bitOpenFunction*, unsigned *flags*)

Definition at line 587 of file unzip.c.

References ALLOC, unz64_s::byte_before_the_zipfile, unz64_s::central_pos, unz64_s::encrypted, unz64_s::filestream, fill_qiodevice64_filefunc(), unz64_s::flags, unz64_s::gi, unz64_s::is64bitOpenFunction, unz64_s::isZip64, unz_global_info64_s::number_entry, unz64_s::offset_central_dir, unz64_s::pfile_in_zip_read, unz64_s::size_central_dir, unz_global_info64_s::size_comment, unz64local_getLong(), unz64local_getLong64(), unz64local_getShort(), unz64local_SearchCentralDir(), unz64local_SearchCentralDir64(), UNZ_AUTO_CLOSE, UNZ_BADZIPFILE, unz_copyright, UNZ_ERRNO, UNZ_OK, unzGoToFirstFile(), unz64_s::z_filefunc, ZCLOSE64, ZFAKECLOSE64, zlib_filefunc64_32_def_s::zfile_func64, ZLIB_FILEFUNC_MODE_EXISTING, ZLIB_FILEFUNC_MODE_READ, ZLIB_FILEFUNC_SEEK_SET, ZOPEN64, zlib_filefunc64_32_def_s::zseek32_file, ZSEEK64, and zlib_filefunc64_32_def_s::ztell32_file.

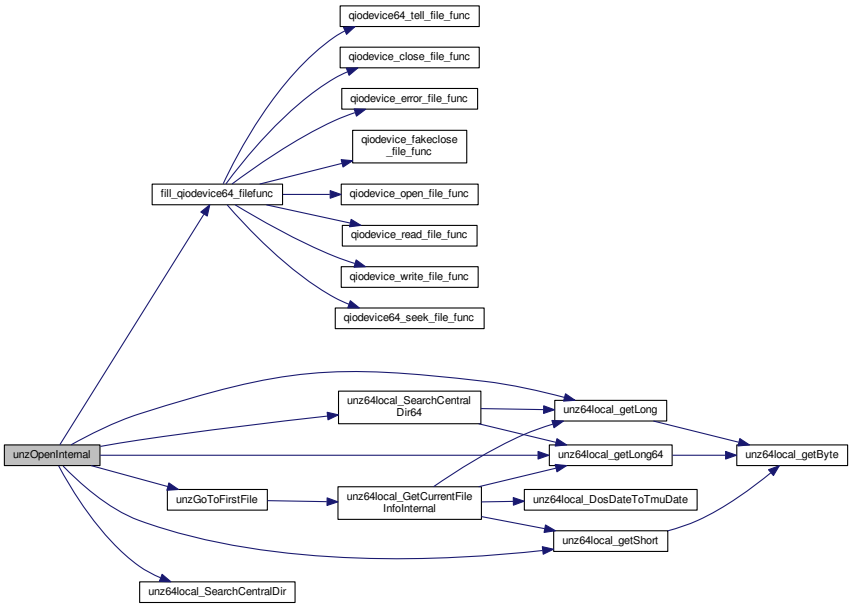
Referenced by QuaZip::open(), unzOpen(), unzOpen2(), unzOpen2_64(), and unzOpen64().

```
590 {
591     unz64_s us;
592     unz64_s *s;
593     ZPOS64_T central_pos;
594     uLong   uL;
595 
596     uLong number_disk;          /* number of the current dist, used for
597                                    spaning ZIP, unsupported, always 0*/
598     uLong number_disk_with_CD;  /* number the the disk with central dir, used
599                                    for spaning ZIP, unsupported, always 0*/
600     ZPOS64_T number_entry_CD;       /* total number of entries in
601                                    the central dir
602                                    (same than number_entry on nospan) */
603 
604     int err=UNZ_OK;
605 
606     if (unz_copyright[0]!=' ')
607         return NULL;
608 
609     us.flags = flags;
610     us.z_filefunc.zseek32_file = NULL;
611     us.z_filefunc.ztell32_file = NULL;
612     if (pzlib_filefunc64_32_def==NULL)
613         fill_qiodevice64_filefunc(&us.z_filefunc.
    zfile_func64);
614     else
615         us.z_filefunc = *pzlib_filefunc64_32_def;
616     us.is64bitOpenFunction = is64bitOpenFunction;
617 
618 
619 
620     us.filestream = ZOPEN64(us.z_filefunc,
621                                                 file,
622                                                 ZLIB_FILEFUNC_MODE_READ |
623                                                 ZLIB_FILEFUNC_MODE_EXISTING);
624     if (us.filestream==NULL)
625         return NULL;
626 
627     central_pos = unz64local_SearchCentralDir64(&us.
    z_filefunc,us.filestream);
628     if (central_pos)
629     {
630         uLong uS;
631         ZPOS64_T uL64;
632 
```

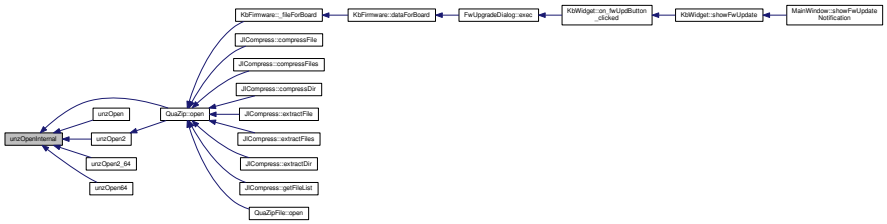
```
633         us.isZip64 = 1;
634
635         if (ZSEEK64(us.z_filefunc, us.filestream,
636                                         central_pos,ZLIB_FILEFUNC_SEEK_SET)!=0)
637         err=UNZ_ERRNO;
638
639         /* the signature, already checked */
640         if (unz64local_getLong(&us.z_filefunc, us.
    filestream,&uL)!=UNZ_OK)
641             err=UNZ_ERRNO;
642
643         /* size of zip64 end of central directory record */
644         if (unz64local_getLong64(&us.z_filefunc, us.
    filestream,&uL64)!=UNZ_OK)
645             err=UNZ_ERRNO;
646
647         /* version made by */
648         if (unz64local_getShort(&us.z_filefunc, us.
    filestream,&uS)!=UNZ_OK)
649             err=UNZ_ERRNO;
650
651         /* version needed to extract */
652         if (unz64local_getShort(&us.z_filefunc, us.
    filestream,&uS)!=UNZ_OK)
653             err=UNZ_ERRNO;
654
655         /* number of this disk */
656         if (unz64local_getLong(&us.z_filefunc, us.
    filestream,&number_disk)!=UNZ_OK)
657             err=UNZ_ERRNO;
658
659         /* number of the disk with the start of the central directory */
660         if (unz64local_getLong(&us.z_filefunc, us.
    filestream,&number_disk_with_CD)!=UNZ_OK)
661             err=UNZ_ERRNO;
662
663         /* total number of entries in the central directory on this disk */
664         if (unz64local_getLong64(&us.z_filefunc, us.
    filestream,&us.gi.number_entry)!=UNZ_OK)
665             err=UNZ_ERRNO;
666
667         /* total number of entries in the central directory */
668         if (unz64local_getLong64(&us.z_filefunc, us.
    filestream,&number_entry_CD)!=UNZ_OK)
669             err=UNZ_ERRNO;
670
671         if ((number_entry_CD!=us.gi.number_entry) ||
672             (number_disk_with_CD!=0) ||
673             (number_disk!=0))
674             err=UNZ_BADZIPFILE;
675
676         /* size of the central directory */
677         if (unz64local_getLong64(&us.z_filefunc, us.
    filestream,&us.size_central_dir)!=UNZ_OK)
678             err=UNZ_ERRNO;
679
680         /* offset of start of central directory with respect to the
681           starting disk number */
682         if (unz64local_getLong64(&us.z_filefunc, us.
    filestream,&us.offset_central_dir)!=UNZ_OK)
683             err=UNZ_ERRNO;
684
685         us.gi.size_comment = 0;
686       }
687       else
688       {
689         central_pos = unz64local_SearchCentralDir(&us.
    z_filefunc,us.filestream);
690         if (central_pos==0)
691             err=UNZ_ERRNO;
692
693         us.isZip64 = 0;
694
695         if (ZSEEK64(us.z_filefunc, us.filestream,
696                                         central_pos,ZLIB_FILEFUNC_SEEK_SET)!=0)
697             err=UNZ_ERRNO;
698
699         /* the signature, already checked */
700         if (unz64local_getLong(&us.z_filefunc, us.
    filestream,&uL)!=UNZ_OK)
701             err=UNZ_ERRNO;
702
703         /* number of this disk */
704         if (unz64local_getShort(&us.z_filefunc, us.
    filestream,&number_disk)!=UNZ_OK)
705             err=UNZ_ERRNO;
706
```

```
707         /* number of the disk with the start of the central directory */
708         if (unz64local_getShort(&us.z_filefunc, us.
    filestream,&number_disk_with_CD)!=UNZ_OK)
709             err=UNZ_ERRNO;
710
711         /* total number of entries in the central dir on this disk */
712         if (unz64local_getShort(&us.z_filefunc, us.
    filestream,&uL)!=UNZ_OK)
713             err=UNZ_ERRNO;
714         us.gi.number_entry = uL;
715
716         /* total number of entries in the central dir */
717         if (unz64local_getShort(&us.z_filefunc, us.
    filestream,&uL)!=UNZ_OK)
718             err=UNZ_ERRNO;
719         number_entry_CD = uL;
720
721         if ((number_entry_CD!=us.gi.number_entry) ||
722             (number_disk_with_CD!=0) ||
723             (number_disk!=0))
724             err=UNZ_BADZIPFILE;
725
726         /* size of the central directory */
727         if (unz64local_getLong(&us.z_filefunc, us.
    filestream,&uL)!=UNZ_OK)
728             err=UNZ_ERRNO;
729         us.size_central_dir = uL;
730
731         /* offset of start of central directory with respect to the
732             starting disk number */
733         if (unz64local_getLong(&us.z_filefunc, us.
    filestream,&uL)!=UNZ_OK)
734             err=UNZ_ERRNO;
735         us.offset_central_dir = uL;
736
737         /* zipfile comment length */
738         if (unz64local_getShort(&us.z_filefunc, us.
    filestream,&us.gi.size_comment)!=UNZ_OK)
739             err=UNZ_ERRNO;
740     }
741
742     if ((central_pos<us.offset_central_dir+us.size_central_dir) &&
743         (err==UNZ_OK))
744         err=UNZ_BADZIPFILE;
745
746     if (err!=UNZ_OK)
747     {
748         if ((us.flags & UNZ_AUTO_CLOSE) != 0)
749             ZCLOSE64(us.z_filefunc, us.filestream);
750         else
751             ZFAKECLOSE64(us.z_filefunc, us.filestream);
752         return NULL;
753     }
754
755     us.byte_before_the_zipfile = central_pos -
756                             (us.offset_central_dir+us.
    size_central_dir);
757     us.central_pos = central_pos;
758     us.pfile_in_zip_read = NULL;
759     us.encrypted = 0;
760
761
762     s=(unz64_s*)ALLOC(sizeof(unz64_s));
763     if( s != NULL)
764     {
765         *s=us;
766         unzGoToFirstFile((unzFile)s);
767     }
768     return (unzFile)s;
769 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.161.4.24 int ZEXPORT unzSetFlags (unzFile *file*, unsigned *flags*)

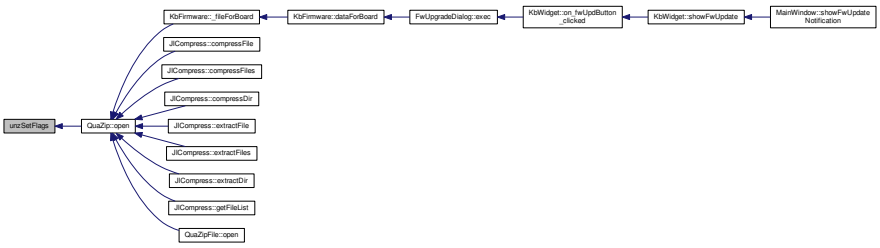
Definition at line 2136 of file unzip.c.

References unz64_s::flags, UNZ_OK, and UNZ_PARAMERROR.

Referenced by QuaZip::open().

```
2137 {
2138     unz64_s* s;
2139     if (file == NULL)
2140         return UNZ_PARAMERROR;
2141     s = (unz64_s*)file;
2142     s->flags |= flags;
2143     return UNZ_OK;
2144 }
```

Here is the caller graph for this function:



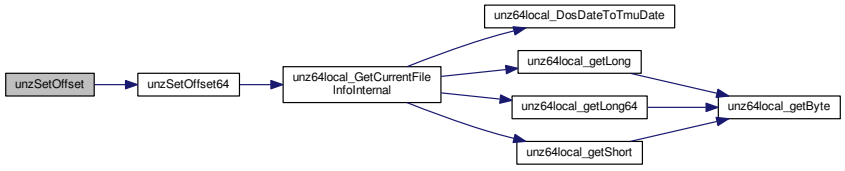
13.161.4.25 int ZEXPORT unzSetOffset (unzFile *file*, uLong *pos*)

Definition at line 2130 of file unzip.c.

References unzSetOffset64().

```
2131 {
2132     return unzSetOffset64(file,pos);
2133 }
```

Here is the call graph for this function:



13.161.4.26 int ZEXPORT unzSetOffset64 (unzFile *file*, ZPOS64_T *pos*)

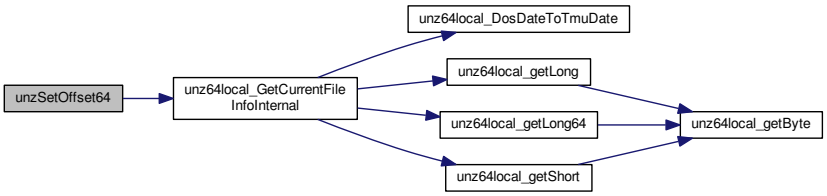
Definition at line 2112 of file unzip.c.

References unz64_s::cur_file_info, unz64_s::cur_file_info_internal, unz64_s::current_file_ok, unz64_s::gi, unz64_s::num_file, unz_global_info64_s::number_entry, unz64_s::pos_in_central_dir, unz64local_GetCurrentFileInfoInternal(), UNZ_OK, and UNZ_PARAMERROR.

Referenced by unzSetOffset().

```
2113 {
2114     unz64_s* s;
2115     int err;
2116
2117     if (file==NULL)
2118         return UNZ_PARAMERROR;
2119     s=(unz64_s*)file;
2120
2121     s->pos_in_central_dir = pos;
2122     s->num_file = s->gi.number_entry;       /* hack */
2123     err = unz64local_GetCurrentFileInfoInternal(file,&s->
      cur_file_info,
2124                                                 &s->cur_file_info_internal,
2125                                                 NULL,0,NULL,0,NULL,0);
2126     s->current_file_ok = (err == UNZ_OK);
2127     return err;
2128 }
```

Here is the call graph for this function:

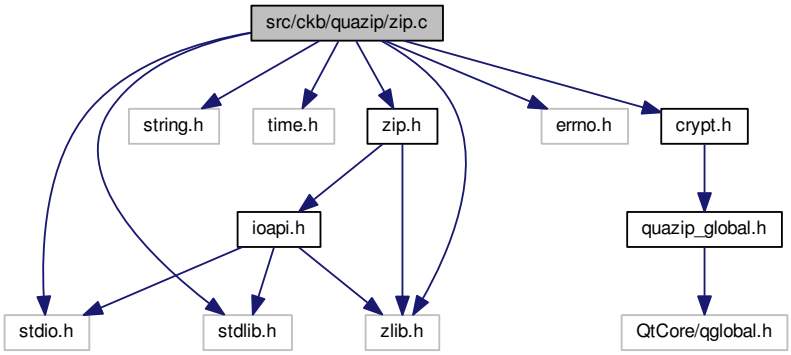


Here is the caller graph for this function:

13.162 src/ckb/quazip/zip.c File Reference

```
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <time.h>
#include "zlib.h"
#include "zip.h"
#include <errno.h>
#include "crypt.h"
```

Include dependency graph for zip.c:



Data Structures

- struct linkedlist_datablock_internal_s
- struct linkedlist_data_s
- struct curfile64_info
- struct zip64_internal

Macros

- #define local static
- #define VERSIONMADEBY (0x031e) /* best for standard pkware crypt */
- #define Z_BUFSIZE (64*1024) /* (16384) */
- #define Z_MAXFILENAMEINZIP (256)
- #define ALLOC(size) (malloc(size))
- #define TRYFREE(p) {if (p) free(p);}
- #define MAKEULONG64(a, b) ((ZPOS64_T)(((unsigned long)(a)) | ((ZPOS64_T)((unsigned long)(b))) << 32))
- #define SEEK_CUR 1
- #define SEEK_END 2
- #define SEEK_SET 0
- #define SIZEDATA_INDATABLOCK (4096-(4*4))
- #define LOCALHEADERMAGIC (0x04034b50)
- #define DESCRIPTORHEADERMAGIC (0x08074b50)
- #define CENTRALHEADERMAGIC (0x02014b50)
- #define ENDHEADERMAGIC (0x06054b50)
- #define ZIP64ENDHEADERMAGIC (0x6064b50)
- #define ZIP64ENDLOCHEADERMAGIC (0x7064b50)
- #define FLAG_LOCALHEADER_OFFSET (0x06)
- #define CRC_LOCALHEADER_OFFSET (0x0e)
- #define SIZECENTRALHEADER (0x2e) /* 46 */
- #define INCLUDECRYPTINGCODE_IFCRYPTALLOWED
- #define BUFREADCOMMENT (0x400)

Typedefs

- typedef uLongf z_crc_t
- typedef struct linkedlist_datablock_internal_s linkedlist_datablock_internal
- typedef struct linkedlist_data_s linkedlist_data

Functions

- static linkedlist_datablock_internal * allocate_new_datablock ()
- static void free_datablock (linkedlist_datablock_internal *ldi)
- static void init_linkedlist (linkedlist_data *ll)
- static void free_linkedlist (linkedlist_data *ll)
- static int add_data_in_datablock (linkedlist_data *ll, const void *buf, uLong len)
- static int zip64local_putValue _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T x, int nbByte))
- static int zip64local_putValue (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T x, int nbByte)
- static void zip64local_putValue_inmemory _Z_OF ((void *dest, ZPOS64_T x, int nbByte))

- static void zip64local_putValue_inmemory (void *dest, ZPOS64_T x, int nbByte)
- static uLong zip64local_TmzDateToDosDate (const tm_zip *ptm)
- static int zip64local_getByte _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, int *pi))
- static int zip64local_getByte (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, int *pi)
- static int zip64local_getShort _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX))
- static int zip64local_getShort (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX)
- static int zip64local_getLong (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX)
- static int zip64local_getLong64 _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T *pX))
- static int zip64local_getLong64 (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T *pX)
- static ZPOS64_T zip64local_SearchCentralDir _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream))
- static ZPOS64_T zip64local_SearchCentralDir (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream)
- static ZPOS64_T zip64local_SearchCentralDir64 (const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream)
- int LoadCentralDirectoryRecord (zip64_internal *pziinit)
- zipFile ZEXPORT zipOpen3 (voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc64_32_def *pzlib_filefunc64_32_def, unsigned flags)
- zipFile ZEXPORT zipOpen2 (voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc_def *pzlib_filefunc32_def)
- zipFile ZEXPORT zipOpen2_64 (voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc64_def *pzlib_filefunc_def)
- zipFile ZEXPORT zipOpen (voidpf file, int append)
- zipFile ZEXPORT zipOpen64 (voidpf file, int append)
- int Write_LocalFileHeader (zip64_internal *zi, const char *filename, uInt size_extrafield_local, const void *extrafield_local, uLong version_to_extract)
- int ZEXPORT zipOpenNewFileInZip4_64 (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting, uLong versionMadeBy, uLong flagBase, int zip64)
- int ZEXPORT zipOpenNewFileInZip4 (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting, uLong versionMadeBy, uLong flagBase)
- int ZEXPORT zipOpenNewFileInZip3 (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting)
- int ZEXPORT zipOpenNewFileInZip3_64 (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char *password, uLong crcForCrypting, int zip64)
- int ZEXPORT zipOpenNewFileInZip2 (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw)
- int ZEXPORT zipOpenNewFileInZip2_64 (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int raw, int zip64)
- int ZEXPORT zipOpenNewFileInZip64 (zipFile file, const char *filename, const zip_fileinfo *zipfi, const void *extrafield_local, uInt size_extrafield_local, const void *extrafield_global, uInt size_extrafield_global, const char *comment, int method, int level, int zip64)

- int ZEXPORT zipOpenNewFileInZip (zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level)
- static int zip64FlushWriteBuffer (zip64_internal ∗zi)
- int ZEXPORT zipWriteInFileInZip (zipFile file, const void ∗buf, unsigned int len)
- int ZEXPORT zipCloseFileInZipRaw (zipFile file, uLong uncompressed_size, uLong crc32)
- int ZEXPORT zipCloseFileInZipRaw64 (zipFile file, ZPOS64_T uncompressed_size, uLong crc32)
- int ZEXPORT zipCloseFileInZip (zipFile file)
- int Write_Zip64EndOfCentralDirectoryLocator (zip64_internal ∗zi, ZPOS64_T zip64eocd_pos_inzip)
- int Write_Zip64EndOfCentralDirectoryRecord (zip64_internal ∗zi, uLong size_centraldir, ZPOS64_T centraldir_pos_inzip)
- int Write_EndOfCentralDirectoryRecord (zip64_internal ∗zi, uLong size_centraldir, ZPOS64_T centraldir_pos_inzip)
- int Write_GlobalComment (zip64_internal ∗zi, const char ∗global_comment)
- int ZEXPORT zipClose (zipFile file, const char ∗global_comment)
- int ZEXPORT zipRemoveExtraInfoBlock (char ∗pData, int ∗dataLen, short sHeader)
- int ZEXPORT zipSetFlags (zipFile file, unsigned flags)
- int ZEXPORT zipClearFlags (zipFile file, unsigned flags)

Variables

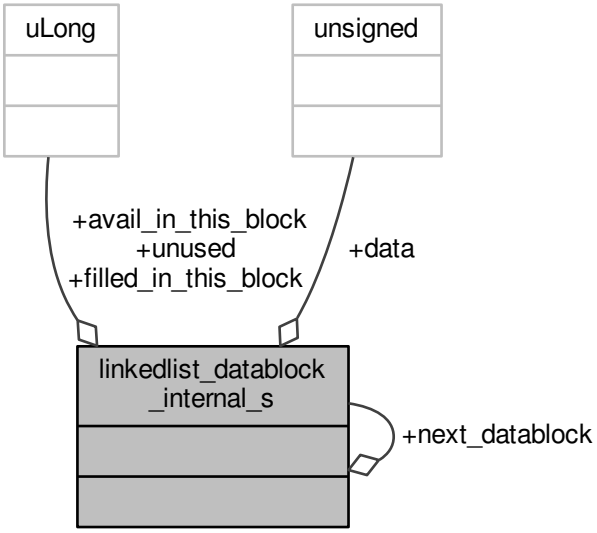
- const char zip_copyright [] =" zip 1.01 Copyright 1998-2004 Gilles Vollant - http://www.winimage.com/zLibDll"

13.162.1 Data Structure Documentation

13.162.1.1 struct linkedlist_datablock_internal_s

Definition at line 121 of file zip.c.

Collaboration diagram for linkedlist_datablock_internal_s:



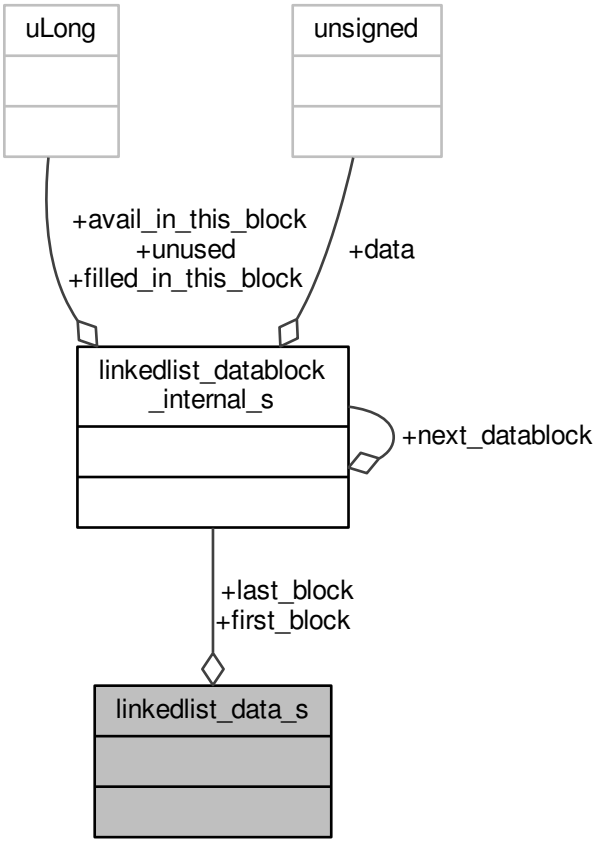
Data Fields

uLong	avail_in_this_-block	
unsigned char	data[(4096-(4 ∗4))]	
uLong	filled_in_this_-block	
struct linkedlist_-datablock_-internal_s ∗	next_datablock	
uLong	unused	

13.162.1.2 struct linkedlist_data_s

Definition at line 130 of file zip.c.

Collaboration diagram for linkedlist_data_s:



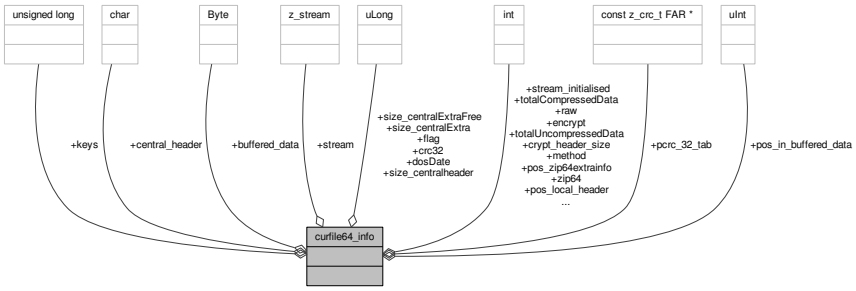
Data Fields

linkedlist_-datablock_-internal *	first_block	
linkedlist_-datablock_-internal *	last_block	

13.162.1.3 struct curfile64_info

Definition at line 137 of file zip.c.

Collaboration diagram for curfile64_info:



Data Fields

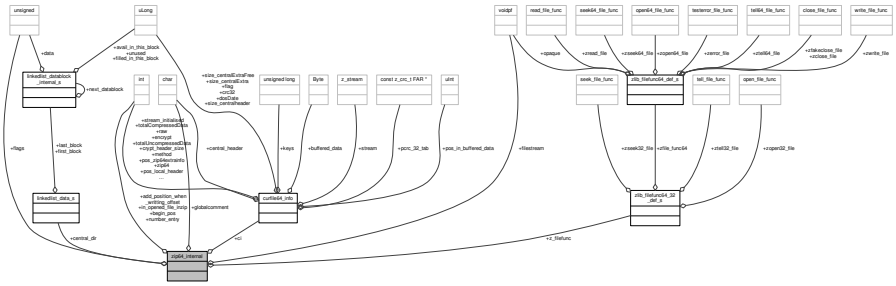
Byte	buffered_-data[(64 ∗1024)]	
char ∗	central_header	
uLong	crc32	
int	crypt_header_-size	
uLong	dosDate	
int	encrypt	
uLong	flag	
unsigned long	keys[3]	
int	method	
const z_crc_t FAR ∗	pcrc_32_tab	
uInt	pos_in_buffered-_data	
ZPOS64_T	pos_local_-header	
ZPOS64_T	pos_-zip64extrainfo	

int	raw	
uLong	size_central-Extra	
uLong	size_central-ExtraFree	
uLong	size_-centralheader	
z_stream	stream	
int	stream_-initialised	
ZPOS64_T	total-Compressed-Data	
ZPOS64_T	total-Uncompressed-Data	
int	zip64	

13.162.1.4 struct zip64_internal

Definition at line 172 of file zip.c.

Collaboration diagram for zip64_internal:



Data Fields

ZPOS64_T	add_position_-when_writting_-offset	
ZPOS64_T	begin_pos	
linkedlist_data	central_dir	
curfile64_info	ci	
voidpf	filestream	
unsigned	flags	
char *	globalcomment	
int	in_opened_file_-inzip	
ZPOS64_T	number_entry	
zlib_filefunc64_-32_def	z_filefunc	

13.162.2 Macro Definition Documentation

13.162.2.1 #define ALLOC(*size*) (malloc(size))

Definition at line 68 of file zip.c.

Referenced by allocate_new_datablock(), LoadCentralDirectoryRecord(), zip64local_SearchCentralDir(), zip64local_SearchCentralDir64(), zipOpen3(), zipOpenNewFileInZip4_64(), and zipRemoveExtraInfoBlock().

13.162.2.2 #define BUFREADCOMMENT (0x400)

Definition at line 481 of file zip.c.

Referenced by zip64local_SearchCentralDir(), and zip64local_SearchCentralDir64().

13.162.2.3 #define CENTRALHEADERMAGIC (0x02014b50)

Definition at line 111 of file zip.c.

Referenced by zipOpenNewFileInZip4_64().

13.162.2.4 #define CRC_LOCALHEADER_OFFSET (0x0e)

Definition at line 117 of file zip.c.

13.162.2.5 #define DESCRIPTORHEADERMAGIC (0x08074b50)

Definition at line 110 of file zip.c.

Referenced by zipCloseFileInZipRaw64().

13.162.2.6 #define ENDHEADERMAGIC (0x06054b50)

Definition at line 112 of file zip.c.

Referenced by Write_EndOfCentralDirectoryRecord().

13.162.2.7 #define FLAG_LOCALHEADER_OFFSET (0x06)

Definition at line 116 of file zip.c.

13.162.2.8 #define INCLUDECRYPTINGCODE_IFCRYPTALLOWED

Definition at line 194 of file zip.c.

13.162.2.9 #define local static

Definition at line 51 of file zip.c.

13.162.2.10 #define LOCALHEADERMAGIC (0x04034b50)

Definition at line 109 of file zip.c.

Referenced by Write_LocalFileHeader().

13.162.2.11 #define MAKEULONG64(a, b) ((ZPOS64_T)(((unsigned long)(a)) | ((ZPOS64_T)((unsigned long)(b))) << 32))

Definition at line 83 of file zip.c.

13.162.2.12 #define SEEK_CUR 1

Definition at line 86 of file zip.c.

13.162.2.13 #define SEEK_END 2

Definition at line 90 of file zip.c.

Referenced by zipOpen3().

13.162.2.14 #define SEEK_SET 0

Definition at line 94 of file zip.c.

13.162.2.15 #define SIZECENTRALHEADER (0x2e) /* 46 */

Definition at line 119 of file zip.c.

Referenced by zipOpenNewFileInZip4_64().

13.162.2.16 #define SIZEDATA_INDATABLOCK (4096-(4*4))

Definition at line 107 of file zip.c.

Referenced by allocate_new_datablock(), and LoadCentralDirectoryRecord().

13.162.2.17 #define TRYFREE(p) {if (p) free(p);}

Definition at line 71 of file zip.c.

Referenced by free_datablock(), LoadCentralDirectoryRecord(), zip64local_SearchCentralDir(), zip64local_SearchCentralDir64(), zipClose(), zipOpen3(), and zipRemoveExtraInfoBlock().

13.162.2.18 #define VERSIONMADEBY (0x031e) /* best for standard pkware crypt */

Definition at line 56 of file zip.c.

Referenced by zipOpenNewFileInZip(), zipOpenNewFileInZip2(), zipOpenNewFileInZip2_64(), zipOpenNewFileInZip3(), zipOpenNewFileInZip3_64(), and zipOpenNewFileInZip64().

13.162.2.19 #define Z_BUFSIZE (64*1024) /* (16384) */

Definition at line 60 of file zip.c.

Referenced by zipCloseFileInZipRaw64(), zipOpenNewFileInZip4_64(), and zipWriteInFileInZip().

13.162.2.20 #define Z_MAXFILENAMEINZIP (256)

Definition at line 64 of file zip.c.

13.162.2.21 #define ZIP64ENDHEADERMAGIC (0x6064b50)

Definition at line 113 of file zip.c.

Referenced by Write_Zip64EndOfCentralDirectoryRecord().

13.162.2.22 #define ZIP64ENDLOCHEADERMAGIC (0x7064b50)

Definition at line 114 of file zip.c.

Referenced by Write_Zip64EndOfCentralDirectoryLocator().

13.162.3 Typedef Documentation

13.162.3.1 typedef struct linkedlist_data_s linkedlist_data

13.162.3.2 typedef struct linkedlist_datablock_internal_s linkedlist_datablock_internal

13.162.3.3 typedef uLongf z_crc_t

Definition at line 34 of file zip.c.

13.162.4 Function Documentation

13.162.4.1 static int zip64local_putValue _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T x, int nbByte)) [static]

13.162.4.2 static void zip64local_putValue_inmemory _Z_OF ((void *dest, ZPOS64_T x, int nbByte)) [static]

13.162.4.3 static int zip64local_getByte _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, int *pi)) [static]

13.162.4.4 static int zip64local_getShort _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, uLong *pX)) [static]

13.162.4.5 static int zip64local_getLong64 _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream, ZPOS64_T *pX)) [static]

13.162.4.6 static ZPOS64_T zip64local_SearchCentralDir _Z_OF ((const zlib_filefunc64_32_def *pzlib_filefunc_def, voidpf filestream)) [static]

13.162.4.7 static int add_data_in_datablock (linkedlist_data * *ll*, const void * *buf*, uLong *len*) [static]

Definition at line 234 of file zip.c.

References allocate_new_datablock(), linkedlist_datablock_internal_s::avail_in_this_block, linkedlist_datablock_internal_s::data, linkedlist_datablock_internal_s::filled_in_this_block, linkedlist_data_s::first_block, linkedlist_data_s::last_block, linkedlist_datablock_internal_s::next_datablock, ZIP_INTERNALERROR, and ZIP_OK.

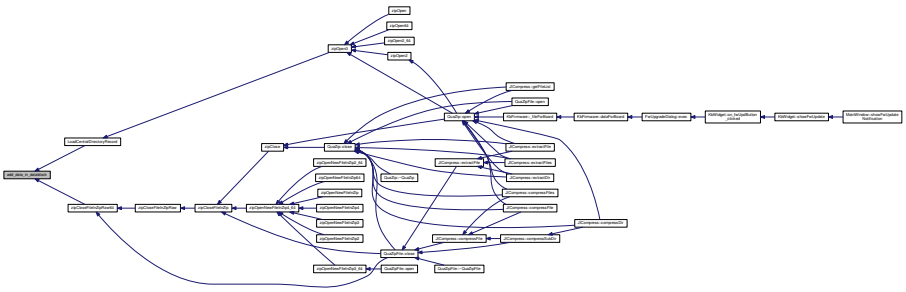
Referenced by LoadCentralDirectoryRecord(), and zipCloseFileInZipRaw64().

```
235 {
236     linkedlist_datablock_internal* ldi;
237     const unsigned char* from_copy;
238
239     if (ll==NULL)
240         return ZIP_INTERNALERROR;
241
242     if (ll->last_block == NULL)
243     {
```

```
244         ll->first_block = ll->last_block =
    allocate_new_datablock();
245         if (ll->first_block == NULL)
246             return ZIP_INTERNALERROR;
247     }
248
249     ldi = ll->last_block;
250     from_copy = (unsigned char*)buf;
251
252     while (len>0)
253     {
254         uInt copy_this;
255         uInt i;
256         unsigned char* to_copy;
257
258         if (ldi->avail_in_this_block==0)
259         {
260             ldi->next_datablock = allocate_new_datablock();
261             if (ldi->next_datablock == NULL)
262                 return ZIP_INTERNALERROR;
263             ldi = ldi->next_datablock ;
264             ll->last_block = ldi;
265         }
266
267         if (ldi->avail_in_this_block < len)
268             copy_this = (uInt)ldi->avail_in_this_block;
269         else
270             copy_this = (uInt)len;
271
272         to_copy = &(ldi->data[ldi->filled_in_this_block]);
273
274         for (i=0;i<copy_this;i++)
275             *(to_copy+i)=*(from_copy+i);
276
277         ldi->filled_in_this_block += copy_this;
278         ldi->avail_in_this_block -= copy_this;
279         from_copy += copy_this ;
280         len -= copy_this;
281     }
282     return ZIP_OK;
283 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.162.4.8 static linkedlist_datablock_internal* allocate_new_datablock ( ) [static]

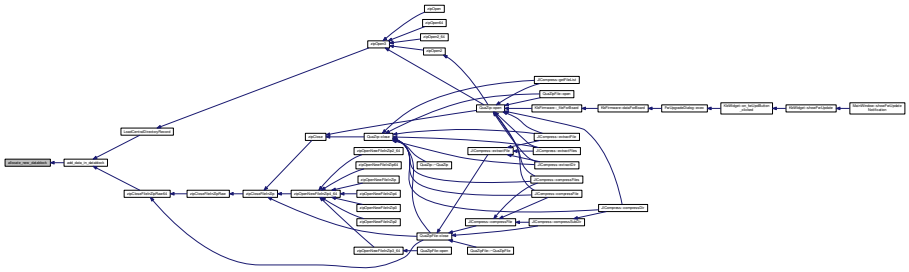
Definition at line 198 of file zip.c.

References ALLOC, linkedlist_datablock_internal_s::avail_in_this_block, linkedlist_datablock_internal_s::filled_in_this_block, linkedlist_datablock_internal_s::next_datablock, and SIZEDATA_INDATABLOCK.

Referenced by add_data_in_datablock().

```
199 {
200     linkedlist_datablock_internal* ldi;
201     ldi = (linkedlist_datablock_internal*)
202                 ALLOC(sizeof(linkedlist_datablock_internal));
203     if (ldi!=NULL)
204     {
205         ldi->next_datablock = NULL ;
206         ldi->filled_in_this_block = 0 ;
207         ldi->avail_in_this_block = SIZEDATA_INDATABLOCK ;
208     }
209     return ldi;
210 }
```

Here is the caller graph for this function:



13.162.4.9 static void free_datablock (linkedlist_datablock_internal * ldi) [static]

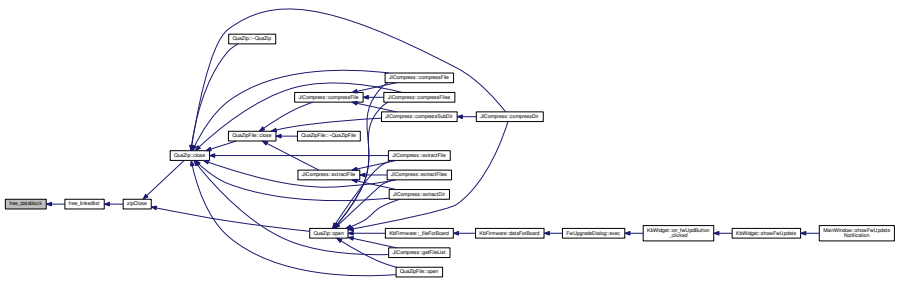
Definition at line 212 of file zip.c.

References linkedlist_datablock_internal_s::next_datablock, and TRYFREE.

Referenced by free_linkedlist().

```
213 {
214     while (ldi!=NULL)
215     {
216         linkedlist_datablock_internal* ldinext = ldi->
    next_datablock;
217         TRYFREE(ldi);
218         ldi = ldinext;
219     }
220 }
```

Here is the caller graph for this function:



13.162.4.10 static void free_linkedlist (linkedlist_data * ll) [static]

Definition at line 227 of file zip.c.

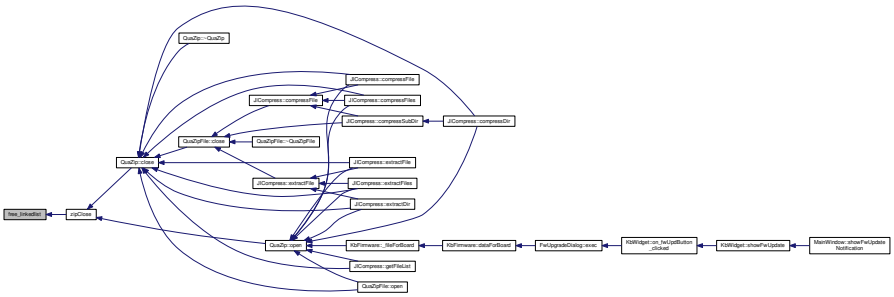
References linkedlist_data_s::first_block, free_datablock(), and linkedlist_data_s::last_block.

Referenced by zipClose().

```
228 {
229     free_datablock(ll->first_block);
230     ll->first_block = ll->last_block = NULL;
231 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.162.4.11 static void init_linkedlist (linkedlist_data * ll) [static]

Definition at line 222 of file zip.c.

References linkedlist_data_s::first_block, and linkedlist_data_s::last_block.

Referenced by zipOpen3().

```
223 {
224     ll->first_block = ll->last_block = NULL;
225 }
```

Here is the caller graph for this function:

13.162.4.12 int LoadCentralDirectoryRecord (zip64_internal * *pziinit*)

Definition at line 649 of file zip.c.

References add_data_in_datablock(), zip64_internal::add_position_when_writting_offset, ALLOC, zip64_internal::begin_pos, zip64_internal::central_dir, zip64_internal::filestream, zip64_internal::flags, zip64_internal::globalcomment, zip64_internal::number_entry, SIZEDATA_INDATABLOCK, TRYFREE, zip64_internal::z_filefunc, ZCLOSE64, ZFAKECLOSE64, zip64local_getLong(), zip64local_getLong64(), zip64local_getShort(), zip64local_SearchCentralDir(), zip64local_SearchCentralDir64(), ZIP_AUTO_CLOSE, ZIP_BADZIPFILE, ZIP_ERRNO, ZIP_OK, ZLIB_FILEFUNC_SEEK_SET, ZREAD64, and ZSEEK64.

Referenced by zipOpen3().

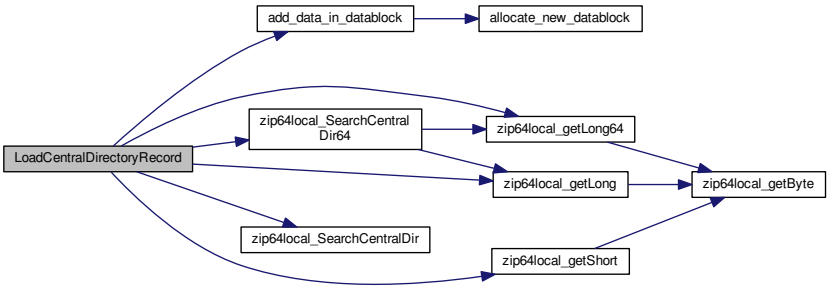
```
650 {
651   int err=ZIP_OK;
652   ZPOS64_T byte_before_the_zipfile;/* byte before the zipfile, (>0 for sfx)*/
653
654   ZPOS64_T size_central_dir;     /* size of the central directory  */
655   ZPOS64_T offset_central_dir;   /* offset of start of central directory */
656   ZPOS64_T central_pos;
657   uLong uL;
658
659   uLong number_disk;          /* number of the current dist, used for
660                                  spaning ZIP, unsupported, always 0*/
661   uLong number_disk_with_CD;  /* number the the disk with central dir, used
662                                  for spaning ZIP, unsupported, always 0*/
663   ZPOS64_T number_entry;
664   ZPOS64_T number_entry_CD;      /* total number of entries in
665                                    the central dir
666                                    (same than number_entry on nospan) */
667   uLong VersionMadeBy;
668   uLong VersionNeeded;
669   uLong size_comment;
670
671   int hasZIP64Record = 0;
672
673   /* check first if we find a ZIP64 record */
674   central_pos = zip64local_SearchCentralDir64(&pziinit->
      z_filefunc,pziinit->filestream);
675   if(central_pos > 0)
676   {
677     hasZIP64Record = 1;
678   }
679   else if(central_pos == 0)
680   {
681     central_pos = zip64local_SearchCentralDir(&pziinit->
      z_filefunc,pziinit->filestream);
682   }
683
684 /* disable to allow appending to empty ZIP archive
685         if (central_pos==0)
686             err=ZIP_ERRNO;
687 */
688
689   if(hasZIP64Record)
690   {
691     ZPOS64_T sizeEndOfCentralDirectory;
692     if (ZSEEK64(pziinit->z_filefunc, pziinit->filestream, central_pos,
      ZLIB_FILEFUNC_SEEK_SET) != 0)
693       err=ZIP_ERRNO;
694
695     /* the signature, already checked */
```

```
696     if (zip64local_getLong(&pziinit->z_filefunc, pziinit->
      filestream,&uL)!=ZIP_OK)
697       err=ZIP_ERRNO;
698
699     /* size of zip64 end of central directory record */
700     if (zip64local_getLong64(&pziinit->z_filefunc, pziinit->
      filestream, &sizeEndOfCentralDirectory)!=ZIP_OK)
701       err=ZIP_ERRNO;
702
703     /* version made by */
704     if (zip64local_getShort(&pziinit->z_filefunc, pziinit->
      filestream, &VersionMadeBy)!=ZIP_OK)
705       err=ZIP_ERRNO;
706
707     /* version needed to extract */
708     if (zip64local_getShort(&pziinit->z_filefunc, pziinit->
      filestream, &VersionNeeded)!=ZIP_OK)
709       err=ZIP_ERRNO;
710
711     /* number of this disk */
712     if (zip64local_getLong(&pziinit->z_filefunc, pziinit->
      filestream,&number_disk)!=ZIP_OK)
713       err=ZIP_ERRNO;
714
715     /* number of the disk with the start of the central directory */
716     if (zip64local_getLong(&pziinit->z_filefunc, pziinit->
      filestream,&number_disk_with_CD)!=ZIP_OK)
717       err=ZIP_ERRNO;
718
719     /* total number of entries in the central directory on this disk */
720     if (zip64local_getLong64(&pziinit->z_filefunc, pziinit->
      filestream, &number_entry)!=ZIP_OK)
721       err=ZIP_ERRNO;
722
723     /* total number of entries in the central directory */
724     if (zip64local_getLong64(&pziinit->z_filefunc, pziinit->
      filestream,&number_entry_CD)!=ZIP_OK)
725       err=ZIP_ERRNO;
726
727     if ((number_entry_CD!=number_entry) || (number_disk_with_CD!=0) || (number_disk!=0))
728       err=ZIP_BADZIPFILE;
729
730     /* size of the central directory */
731     if (zip64local_getLong64(&pziinit->z_filefunc, pziinit->
      filestream,&size_central_dir)!=ZIP_OK)
732       err=ZIP_ERRNO;
733
734     /* offset of start of central directory with respect to the
735     starting disk number */
736     if (zip64local_getLong64(&pziinit->z_filefunc, pziinit->
      filestream,&offset_central_dir)!=ZIP_OK)
737       err=ZIP_ERRNO;
738
739     /* TODO.. */
740     /* read the comment from the standard central header. */
741     size_comment = 0;
742   }
743   else
744   {
745     /* Read End of central Directory info */
746     if (ZSEEK64(pziinit->z_filefunc, pziinit->filestream, central_pos,
      ZLIB_FILEFUNC_SEEK_SET)!=0)
747       err=ZIP_ERRNO;
748
749     /* the signature, already checked */
750     if (zip64local_getLong(&pziinit->z_filefunc, pziinit->
      filestream,&uL)!=ZIP_OK)
751       err=ZIP_ERRNO;
752
753     /* number of this disk */
754     if (zip64local_getShort(&pziinit->z_filefunc, pziinit->
      filestream,&number_disk)!=ZIP_OK)
755       err=ZIP_ERRNO;
756
757     /* number of the disk with the start of the central directory */
758     if (zip64local_getShort(&pziinit->z_filefunc, pziinit->
      filestream,&number_disk_with_CD)!=ZIP_OK)
759       err=ZIP_ERRNO;
760
761     /* total number of entries in the central dir on this disk */
762     number_entry = 0;
763     if (zip64local_getShort(&pziinit->z_filefunc, pziinit->
      filestream, &uL)!=ZIP_OK)
764       err=ZIP_ERRNO;
765     else
766       number_entry = uL;
767
```

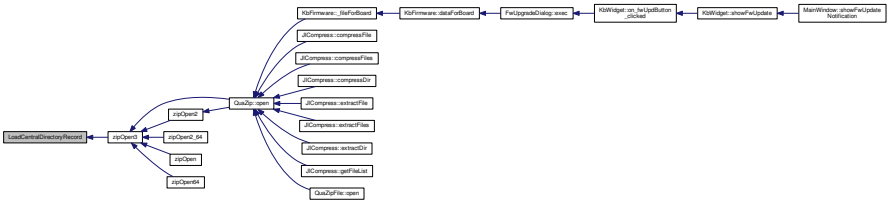
```
768     /* total number of entries in the central dir */
769     number_entry_CD = 0;
770     if (zip64local_getShort(&pziinit->z_filefunc, pziinit->
    filestream, &uL)!=ZIP_OK)
771       err=ZIP_ERRNO;
772     else
773       number_entry_CD = uL;
774
775     if ((number_entry_CD!=number_entry) || (number_disk_with_CD!=0) || (number_disk!=0))
776       err=ZIP_BADZIPFILE;
777
778     /* size of the central directory */
779     size_central_dir = 0;
780     if (zip64local_getLong(&pziinit->z_filefunc, pziinit->
    filestream, &uL)!=ZIP_OK)
781       err=ZIP_ERRNO;
782     else
783       size_central_dir = uL;
784
785     /* offset of start of central directory with respect to the starting disk number */
786     offset_central_dir = 0;
787     if (zip64local_getLong(&pziinit->z_filefunc, pziinit->
    filestream, &uL)!=ZIP_OK)
788       err=ZIP_ERRNO;
789     else
790       offset_central_dir = uL;
791
792
793     /* zipfile global comment length */
794     if (zip64local_getShort(&pziinit->z_filefunc, pziinit->
    filestream, &size_comment)!=ZIP_OK)
795       err=ZIP_ERRNO;
796   }
797
798   if ((central_pos<offset_central_dir+size_central_dir) &&
799     (err==ZIP_OK))
800     err=ZIP_BADZIPFILE;
801
802   if (err!=ZIP_OK)
803   {
804       if ((pziinit->flags & ZIP_AUTO_CLOSE) != 0) {
805         ZCLOSE64(pziinit->z_filefunc, pziinit->filestream);
806       } else {
807         ZFAKECLOSE64(pziinit->z_filefunc, pziinit->
    filestream);
808       }
809     return ZIP_ERRNO;
810   }
811
812   if (size_comment>0)
813   {
814     pziinit->globalcomment = (char*)ALLOC(size_comment+1);
815     if (pziinit->globalcomment)
816     {
817       size_comment = ZREAD64(pziinit->z_filefunc, pziinit->
    filestream, pziinit->globalcomment,size_comment);
818       pziinit->globalcomment[size_comment]=0;
819     }
820   }
821
822   byte_before_the_zipfile = central_pos - (offset_central_dir+size_central_dir);
823   pziinit->add_position_when_writting_offset = byte_before_the_zipfile;
824
825   {
826     ZPOS64_T size_central_dir_to_read = size_central_dir;
827     size_t buf_size = SIZEDATA_INDATABLOCK;
828     void* buf_read = (void*)ALLOC(buf_size);
829     if (ZSEEK64(pziinit->z_filefunc, pziinit->filestream, offset_central_dir +
    byte_before_the_zipfile, ZLIB_FILEFUNC_SEEK_SET) != 0)
830       err=ZIP_ERRNO;
831
832     while ((size_central_dir_to_read>0) && (err==ZIP_OK))
833     {
834       ZPOS64_T read_this = SIZEDATA_INDATABLOCK;
835       if (read_this > size_central_dir_to_read)
836         read_this = size_central_dir_to_read;
837
838       if (ZREAD64(pziinit->z_filefunc, pziinit->filestream,buf_read,(uLong)
    read_this) != read_this)
839         err=ZIP_ERRNO;
840
841       if (err==ZIP_OK)
842         err = add_data_in_datablock(&pziinit->central_dir,buf_read, (uLong)
    read_this);
843
844       size_central_dir_to_read-=read_this;
845     }
```

```
846     TRYFREE(buf_read);
847   }
848   pziinit->begin_pos = byte_before_the_zipfile;
849   pziinit->number_entry = number_entry_CD;
850
851   if (ZSEEK64(pziinit->z_filefunc, pziinit->filestream, offset_central_dir+
      byte_before_the_zipfile,ZLIB_FILEFUNC_SEEK_SET) != 0)
852     err=ZIP_ERRNO;
853
854   return err;
855 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.162.4.13 int Write_EndOfCentralDirectoryRecord (zip64_internal * *zi*, uLong *size_centraldir*, ZPOS64_T *centraldir_pos_inzip*)

Definition at line 1876 of file zip.c.

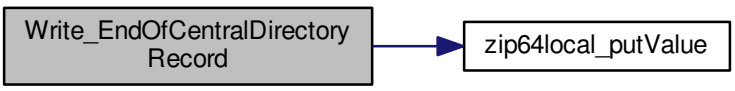
References zip64_internal::add_position_when_writting_offset, ENDHEADERMAGIC, zip64_internal::filestream, zip64_internal::number_entry, zip64_internal::z_filefunc, zip64local_putValue(), and ZIP_OK.

Referenced by zipClose().

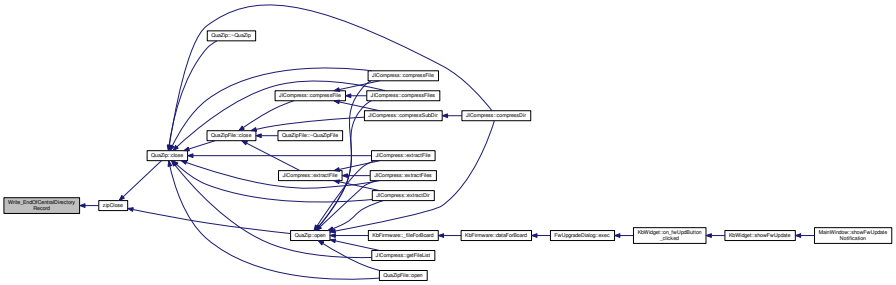
```
1877 {
1878   int err = ZIP_OK;
1879
1880   /*signature*/
1881   err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)ENDHEADERMAGIC,4);
1882
1883   if (err==ZIP_OK) /* number of this disk */
1884     err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)0,2);
1885
1886   if (err==ZIP_OK) /* number of the disk with the start of the central directory */
1887     err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)0,2);
1888
1889   if (err==ZIP_OK) /* total number of entries in the central dir on this disk */
```

```
1890   {
1891     {
1892       if(zi->number_entry >= 0xFFFF)
1893         err = zip64local_putValue(&zi->z_filefunc,zi->
     filestream,(uLong)0xffff,2); /* use value in ZIP64 record */
1894       else
1895         err = zip64local_putValue(&zi->z_filefunc,zi->
     filestream,(uLong)zi->number_entry,2);
1896     }
1897   }
1898
1899   if (err==ZIP_OK) /* total number of entries in the central dir */
1900   {
1901     if(zi->number_entry >= 0xFFFF)
1902       err = zip64local_putValue(&zi->z_filefunc,zi->
     filestream,(uLong)0xffff,2); /* use value in ZIP64 record */
1903     else
1904       err = zip64local_putValue(&zi->z_filefunc,zi->
     filestream,(uLong)zi->number_entry,2);
1905   }
1906
1907   if (err==ZIP_OK) /* size of the central directory */
1908     err = zip64local_putValue(&zi->z_filefunc,zi->
     filestream,(uLong)size_centraldir,4);
1909
1910   if (err==ZIP_OK) /* offset of start of central directory with respect to the starting disk number
     */
1911   {
1912     ZPOS64_T pos = centraldir_pos_inzip - zi->
     add_position_when_writting_offset;
1913     if(pos >= 0xffffffff)
1914     {
1915       err = zip64local_putValue(&zi->z_filefunc,zi->
     filestream, (uLong)0xffffffff,4);
1916     }
1917     else
1918                   err = zip64local_putValue(&zi->z_filefunc,zi->
     filestream, (uLong)(centraldir_pos_inzip - zi->
     add_position_when_writting_offset),4);
1919   }
1920
1921    return err;
1922 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.162.4.14 int Write_GlobalComment (zip64_internal * *zi,* const char * *global_comment*)

Definition at line 1924 of file zip.c.

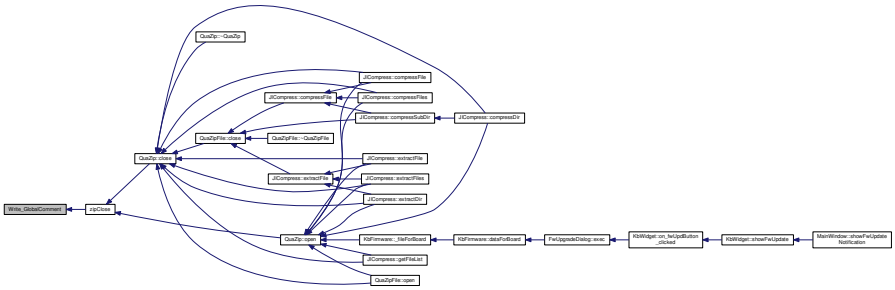
References zip64_internal::filestream, zip64_internal::z_filefunc, zip64local_putValue(), ZIP_ERRNO, ZIP_OK, and ZWRITE64.

Referenced by zipClose().

```
1925 {
1926   int err = ZIP_OK;
1927   uInt size_global_comment = 0;
1928
1929   if(global_comment != NULL)
1930     size_global_comment = (uInt)strlen(global_comment);
1931
1932   err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)size_global_comment,2);
1933
1934   if (err == ZIP_OK && size_global_comment > 0)
1935   {
1936     if (ZWRITE64(zi->z_filefunc,zi->filestream, global_comment,
      size_global_comment) != size_global_comment)
1937       err = ZIP_ERRNO;
1938   }
1939   return err;
1940 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.162.4.15 int Write_LocalFileHeader (zip64_internal * *zi,* const char * *filename,* uInt *size_extrafield_local,* const void * *extrafield_local,* uLong *version_to_extract*)

Definition at line 977 of file zip.c.

References zip64_internal::ci, curfile64_info::dosDate, zip64_internal::filestream, curfile64_info::flag, LOCALHEADERMAGIC, curfile64_info::method, curfile64_info::pos_zip64extrainfo, zip64_internal::z_filefunc, curfile64_info::zip64, zip64local_putValue(), ZIP_ERRNO, ZIP_OK, ZTELL64, and ZWRITE64.

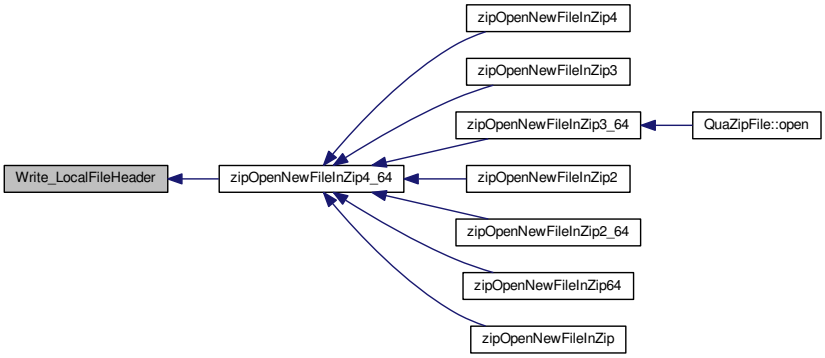
Referenced by zipOpenNewFileInZip4_64().

```
981 {
982   /* write the local header */
983   int err;
984   uInt size_filename = (uInt)strlen(filename);
985   uInt size_extrafield = size_extrafield_local;
986 
987   err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)LOCALHEADERMAGIC, 4);
988 
989   if (err==ZIP_OK)
990   {
991     if(zi->ci.zip64)
992       err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)45,2);/* version needed to extract */
993     else
994       err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)version_to_extract,2);
995   }
996 
997   if (err==ZIP_OK)
998     err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)zi->ci.flag,2);
999 
1000   if (err==ZIP_OK)
1001     err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)zi->ci.method,2);
1002 
1003   if (err==ZIP_OK)
1004     err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)zi->ci.dosDate,4);
1005 
1006   /* CRC / Compressed size / Uncompressed size will be filled in later and rewritten later */
1007   if (err==ZIP_OK)
1008     err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)0,4); /* crc 32, unknown */
1009   if (err==ZIP_OK)
1010   {
1011     if(zi->ci.zip64)
1012       err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)0xFFFFFFFF,4); /* compressed size, unknown */
1013     else
1014       err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)0,4); /* compressed size, unknown */
1015   }
1016   if (err==ZIP_OK)
1017   {
1018     if(zi->ci.zip64)
1019       err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)0xFFFFFFFF,4); /* uncompressed size, unknown */
1020     else
1021       err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)0,4); /* uncompressed size, unknown */
1022   }
1023 
1024   if (err==ZIP_OK)
1025     err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)size_filename,2);
1026 
1027   if(zi->ci.zip64)
1028   {
1029     size_extrafield += 20;
1030   }
1031 
1032   if (err==ZIP_OK)
1033     err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)size_extrafield,2);
1034 
1035   if ((err==ZIP_OK) && (size_filename > 0))
1036   {
1037     if (ZWRITE64(zi->z_filefunc,zi->filestream,filename,size_filename)!=
      size_filename)
1038       err = ZIP_ERRNO;
1039   }
1040 
1041   if ((err==ZIP_OK) && (size_extrafield_local > 0))
1042   {
1043     if (ZWRITE64(zi->z_filefunc, zi->filestream, extrafield_local,
      size_extrafield_local) != size_extrafield_local)
1044       err = ZIP_ERRNO;
1045   }
1046 
1047 
1048   if ((err==ZIP_OK) && (zi->ci.zip64))
1049   {
1050       /* write the Zip64 extended info */
1051       short HeaderID = 1;
1052       short DataSize = 16;
```

```
1053        ZPOS64_T CompressedSize = 0;
1054        ZPOS64_T UncompressedSize = 0;
1055
1056        /* Remember position of Zip64 extended info for the local file header. (needed when we update size
     after done with file) */
1057        zi->ci.pos_zip64extrainfo = ZTELL64(zi->
    z_filefunc,zi->filestream);
1058
1059        err = zip64local_putValue(&zi->z_filefunc, zi->
    filestream, (short)HeaderID,2);
1060        err = zip64local_putValue(&zi->z_filefunc, zi->
    filestream, (short)DataSize,2);
1061
1062        err = zip64local_putValue(&zi->z_filefunc, zi->
    filestream, (ZPOS64_T)UncompressedSize,8);
1063        err = zip64local_putValue(&zi->z_filefunc, zi->
    filestream, (ZPOS64_T)CompressedSize,8);
1064      }
1065
1066      return err;
1067 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.162.4.16 int Write_Zip64EndOfCentralDirectoryLocator (zip64_internal * *zi*, ZPOS64_T *zip64eocd_pos_inzip*)

Definition at line 1815 of file zip.c.

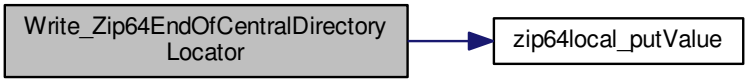
References zip64_internal::add_position_when_writting_offset, zip64_internal::filestream, zip64_internal::z_filefunc, ZIP64ENDLOCHEADERMAGIC, zip64local_putValue(), and ZIP_OK.

Referenced by zipClose().

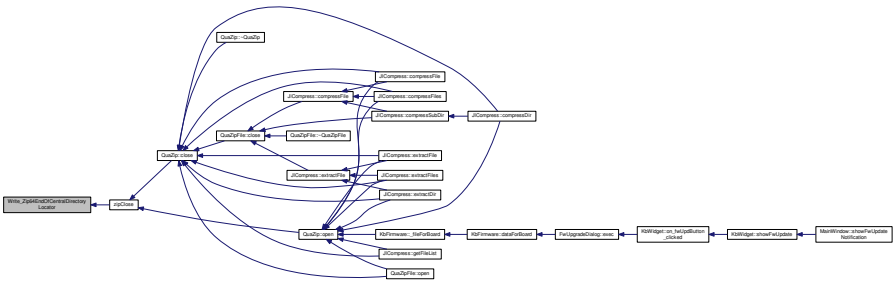
```
1816 {
1817   int err = ZIP_OK;
```

```
1818   ZPOS64_T pos = zip64eocd_pos_inzip - zi->
      add_position_when_writting_offset;
1819
1820   err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)ZIP64ENDLOCHEADERMAGIC,4);
1821
1822   /*num disks*/
1823     if (err==ZIP_OK) /* number of the disk with the start of the central directory */
1824       err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)0,4);
1825
1826   /*relative offset*/
1827     if (err==ZIP_OK) /* Relative offset to the Zip64EndOfCentralDirectory */
1828       err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream, pos,8);
1829
1830   /*total disks*/ /* Do not support spawning of disk so always say 1 here*/
1831     if (err==ZIP_OK) /* number of the disk with the start of the central directory */
1832       err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)1,4);
1833
1834     return err;
1835 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.162.4.17 int Write_Zip64EndOfCentralDirectoryRecord (zip64_internal * *zi*, uLong *size_centraldir*, ZPOS64_T *centraldir_pos_inzip*)

Definition at line 1837 of file zip.c.

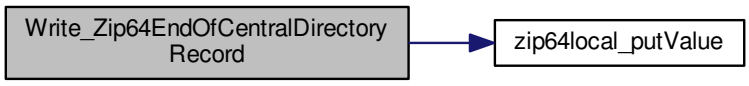
References zip64_internal::add_position_when_writting_offset, zip64_internal::filestream, zip64_internal::number_entry, zip64_internal::z_filefunc, ZIP64ENDHEADERMAGIC, zip64local_putValue(), and ZIP_OK.

Referenced by zipClose().

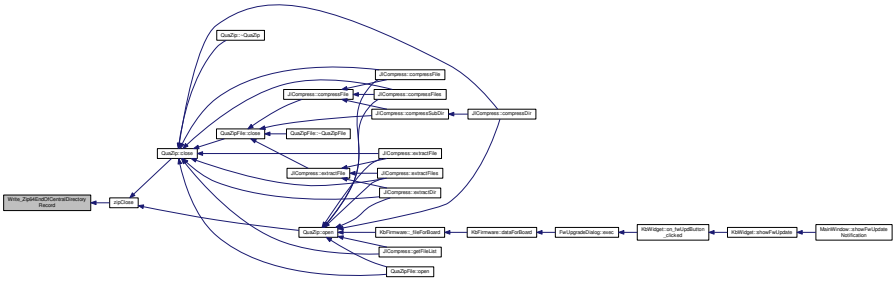
```
1838 {
1839   int err = ZIP_OK;
1840
1841   uLong Zip64DataSize = 44;
1842
1843   err = zip64local_putValue(&zi->z_filefunc,zi->
```

```
    filestream,(uLong)ZIP64ENDHEADERMAGIC,4);
1844
1845   if (err==ZIP_OK) /* size of this 'zip64 end of central directory' */
1846     err = zip64local_putValue(&zi->z_filefunc,zi->
    filestream,(ZPOS64_T)Zip64DataSize,8); /* why ZPOS64_T of this ? */
1847
1848   if (err==ZIP_OK) /* version made by */
1849     err = zip64local_putValue(&zi->z_filefunc,zi->
    filestream,(uLong)45,2);
1850
1851   if (err==ZIP_OK) /* version needed */
1852     err = zip64local_putValue(&zi->z_filefunc,zi->
    filestream,(uLong)45,2);
1853
1854   if (err==ZIP_OK) /* number of this disk */
1855     err = zip64local_putValue(&zi->z_filefunc,zi->
    filestream,(uLong)0,4);
1856
1857   if (err==ZIP_OK) /* number of the disk with the start of the central directory */
1858     err = zip64local_putValue(&zi->z_filefunc,zi->
    filestream,(uLong)0,4);
1859
1860   if (err==ZIP_OK) /* total number of entries in the central dir on this disk */
1861     err = zip64local_putValue(&zi->z_filefunc, zi->
    filestream, zi->number_entry, 8);
1862
1863   if (err==ZIP_OK) /* total number of entries in the central dir */
1864     err = zip64local_putValue(&zi->z_filefunc, zi->
    filestream, zi->number_entry, 8);
1865
1866   if (err==ZIP_OK) /* size of the central directory */
1867     err = zip64local_putValue(&zi->z_filefunc,zi->
    filestream,(ZPOS64_T)size_centraldir,8);
1868
1869   if (err==ZIP_OK) /* offset of start of central directory with respect to the starting disk number
    */
1870   {
1871     ZPOS64_T pos = centraldir_pos_inzip - zi->
    add_position_when_writting_offset;
1872     err = zip64local_putValue(&zi->z_filefunc,zi->
    filestream, (ZPOS64_T)pos,8);
1873   }
1874   return err;
1875 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.162.4.18 static int zip64FlushWriteBuffer (zip64_internal * *zi*) [static]

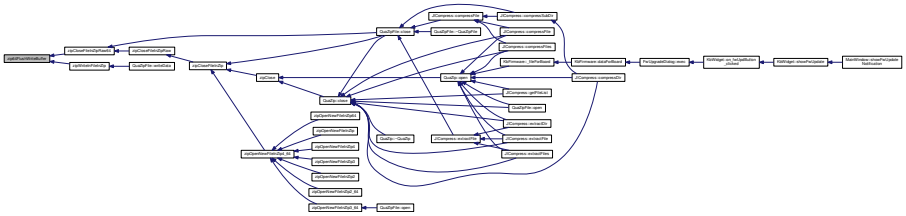
Definition at line 1403 of file zip.c.

References curfile64_info::buffered_data, zip64_internal::ci, curfile64_info::encrypt, zip64_internal::filestream, curfile64_info::keys, curfile64_info::method, curfile64_info::pcrc_32_tab, curfile64_info::pos_in_buffered_data, curfile64_info::stream, curfile64_info::totalCompressedData, curfile64_info::totalUncompressedData, Z_BZIP2ED, zip64_internal::z_filefunc, zencode, ZIP_ERRNO, ZIP_OK, and ZWRITE64.

Referenced by zipCloseFileInZipRaw64(), and zipWriteInFileInZip().

```
1404 {
1405     int err=ZIP_OK;
1406
1407     if (zi->ci.encrypt != 0)
1408     {
1409 #ifndef NOCRYPT
1410         uInt i;
1411         int t;
1412         for (i=0;i<zi->ci.pos_in_buffered_data;i++)
1413             zi->ci.buffered_data[i] = zencode(zi->ci.
      keys, zi->ci.pcrc_32_tab, zi->ci.buffered_data[i],t);
1414 #endif
1415     }
1416
1417     if (ZWRITE64(zi->z_filefunc,zi->filestream,zi->
      ci.buffered_data,zi->ci.pos_in_buffered_data) != zi->
      ci.pos_in_buffered_data)
1418       err = ZIP_ERRNO;
1419
1420     zi->ci.totalCompressedData += zi->ci.
      pos_in_buffered_data;
1421
1422 #ifdef HAVE_BZIP2
1423     if(zi->ci.method == Z_BZIP2ED)
1424     {
1425       zi->ci.totalUncompressedData += zi->ci.bstream.total_in_lo32;
1426       zi->ci.bstream.total_in_lo32 = 0;
1427       zi->ci.bstream.total_in_hi32 = 0;
1428     }
1429     else
1430 #endif
1431     {
1432       zi->ci.totalUncompressedData += zi->ci.stream.total_in;
1433       zi->ci.stream.total_in = 0;
1434     }
1435
1436
1437     zi->ci.pos_in_buffered_data = 0;
1438
1439     return err;
1440 }
```

Here is the caller graph for this function:



13.162.4.19 static int zip64local_getByte (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream,* int * *pi*) [static]

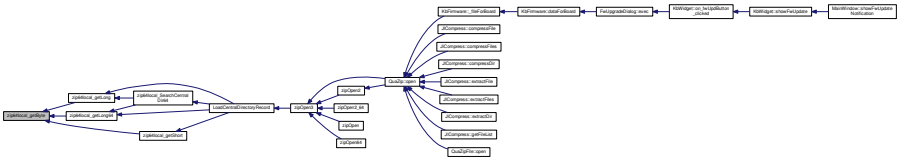
Definition at line 358 of file zip.c.

References ZERROR64, ZIP_EOF, ZIP_ERRNO, ZIP_OK, and ZREAD64.

Referenced by zip64local_getLong(), zip64local_getLong64(), and zip64local_getShort().

```
359 {
360     unsigned char c;
361     int err = (int)ZREAD64(*pzlib_filefunc_def,filestream,&c,1);
362     if (err==1)
363     {
364         *pi = (int)c;
365         return ZIP_OK;
366     }
367     else
368     {
369         if (ZERROR64(*pzlib_filefunc_def,filestream))
370             return ZIP_ERRNO;
371         else
372             return ZIP_EOF;
373     }
374 }
```

Here is the caller graph for this function:



13.162.4.20 static int zip64local_getLong (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream,* uLong * *pX*) [static]

Definition at line 404 of file zip.c.

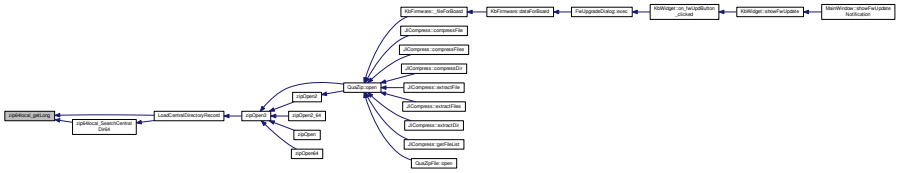
References x, zip64local_getByte(), and ZIP_OK.

Referenced by LoadCentralDirectoryRecord(), and zip64local_SearchCentralDir64().

```
405 {
406     uLong x ;
407     int i = 0;
408     int err;
409
410     err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
411     x = (uLong)i;
412
413     if (err==ZIP_OK)
414         err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
415     x += ((uLong)i)<<8;
416
417     if (err==ZIP_OK)
418         err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
419     x += ((uLong)i)<<16;
420
421     if (err==ZIP_OK)
422         err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
423     x += ((uLong)i)<<24;
424
425     if (err==ZIP_OK)
426         *pX = x;
427     else
428         *pX = 0;
429     return err;
430 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.162.4.21 static int zip64local_getLong64 (const zlib_filefunc64_32_def * *pzlib_filefunc_def*, voidpf *filestream*, ZPOS64_T * *pX*) [static]

Definition at line 435 of file zip.c.

References x, zip64local_getByte(), and ZIP_OK.

Referenced by LoadCentralDirectoryRecord(), and zip64local_SearchCentralDir64().

```
436 {
437   ZPOS64_T x;
438   int i = 0;
439   int err;
440
441   err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
442   x = (ZPOS64_T)i;
443
444   if (err==ZIP_OK)
445     err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
446   x += ((ZPOS64_T)i)<<8;
447
448   if (err==ZIP_OK)
449     err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
450   x += ((ZPOS64_T)i)<<16;
451
452   if (err==ZIP_OK)
453     err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
454   x += ((ZPOS64_T)i)<<24;
455
456   if (err==ZIP_OK)
457     err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
458   x += ((ZPOS64_T)i)<<32;
459
460   if (err==ZIP_OK)
461     err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
462   x += ((ZPOS64_T)i)<<40;
463
464   if (err==ZIP_OK)
465     err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
466   x += ((ZPOS64_T)i)<<48;
467
468   if (err==ZIP_OK)
469     err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
470   x += ((ZPOS64_T)i)<<56;
471
472   if (err==ZIP_OK)
473     *pX = x;
```

```
474   else
475     *pX = 0;
476
477   return err;
478 }
```

Here is the call graph for this function:

Here is the caller graph for this function:

13.162.4.22 static int zip64local_getShort (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream,* uLong * *pX*) [static]

Definition at line 382 of file zip.c.

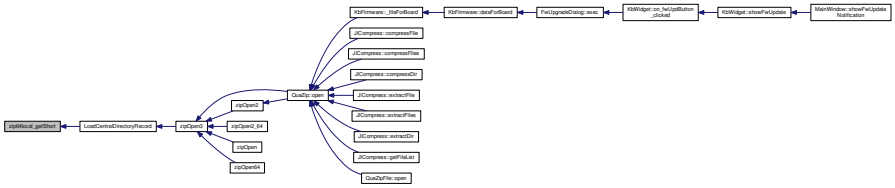
References x, zip64local_getByte(), and ZIP_OK.

Referenced by LoadCentralDirectoryRecord().

```
383 {
384     uLong x ;
385     int i = 0;
386     int err;
387
388     err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
389     x = (uLong)i;
390
391     if (err==ZIP_OK)
392         err = zip64local_getByte(pzlib_filefunc_def,filestream,&i);
393     x += ((uLong)i)<<8;
394
395     if (err==ZIP_OK)
396         *pX = x;
397     else
398         *pX = 0;
399     return err;
400 }
```

Here is the call graph for this function:

Here is the caller graph for this function:



13.162.4.23 static int zip64local_putValue (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream,* ZPOS64_T *x,* int *nbByte*) [static]

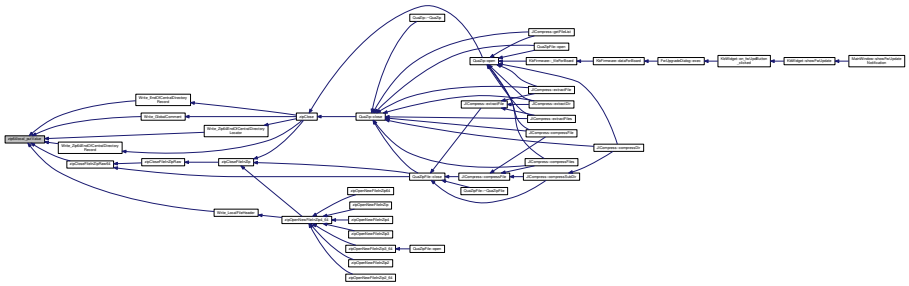
Definition at line 296 of file zip.c.

References ZIP_ERRNO, ZIP_OK, and ZWRITE64.

Referenced by Write_EndOfCentralDirectoryRecord(), Write_GlobalComment(), Write_LocalFileHeader(), Write_Zip64EndOfCentralDirectoryLocator(), Write_Zip64EndOfCentralDirectoryRecord(), and zipCloseFileInZipRaw64().

```
297 {
298     unsigned char buf[8];
299     int n;
300     for (n = 0; n < nbByte; n++)
301     {
302         buf[n] = (unsigned char)(x & 0xff);
303         x >>= 8;
304     }
305     if (x != 0)
306       {     /* data overflow - hack for ZIP64 (X Roche) */
307       for (n = 0; n < nbByte; n++)
308         {
309           buf[n] = 0xff;
310         }
311       }
312
313     if (ZWRITE64(*pzlib_filefunc_def,filestream,buf,nbByte)!=(uLong)nbByte)
314         return ZIP_ERRNO;
315     else
316         return ZIP_OK;
317 }
```

Here is the caller graph for this function:



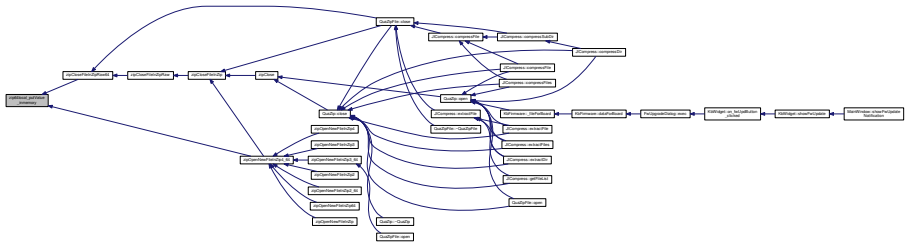
13.162.4.24 static void zip64local_putValue_inmemory (void * *dest*, ZPOS64_T *x*, int *nbByte*) [static]

Definition at line 320 of file zip.c.

Referenced by zipCloseFileInZipRaw64(), and zipOpenNewFileInZip4_64().

```
321 {
322     unsigned char* buf=(unsigned char*)dest;
323     int n;
324     for (n = 0; n < nbByte; n++) {
325         buf[n] = (unsigned char)(x & 0xff);
326         x >>= 8;
327     }
328
329     if (x != 0)
330     {     /* data overflow - hack for ZIP64 */
331        for (n = 0; n < nbByte; n++)
332        {
333           buf[n] = 0xff;
334        }
335     }
336 }
```

Here is the caller graph for this function:



13.162.4.25 static ZPOS64_T zip64local_SearchCentralDir (const zlib_filefunc64_32_def * *pzlib_filefunc_def*, voidpf *filestream*) [static]

Definition at line 489 of file zip.c.

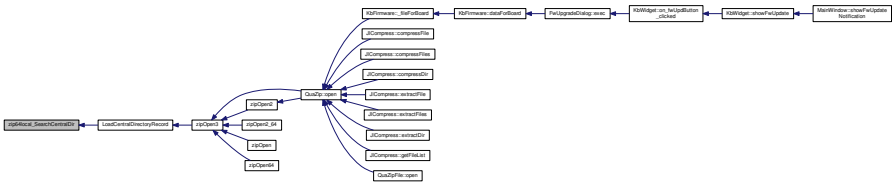
References ALLOC, BUFREADCOMMENT, TRYFREE, ZLIB_FILEFUNC_SEEK_END, ZLIB_FILEFUNC_SEEK_-SET, ZREAD64, ZSEEK64, and ZTELL64.

Referenced by LoadCentralDirectoryRecord().

```
490 {
491   unsigned char* buf;
492   ZPOS64_T uSizeFile;
```

```
493   ZPOS64_T uBackRead;
494   ZPOS64_T uMaxBack=0xffff; /* maximum size of global comment */
495   ZPOS64_T uPosFound=0;
496
497   if (ZSEEK64(*pzlib_filefunc_def,filestream,0,ZLIB_FILEFUNC_SEEK_END) != 0)
498     return 0;
499
500
501   uSizeFile = ZTELL64(*pzlib_filefunc_def,filestream);
502
503   if (uMaxBack>uSizeFile)
504     uMaxBack = uSizeFile;
505
506   buf = (unsigned char*)ALLOC(BUFREADCOMMENT+4);
507   if (buf==NULL)
508     return 0;
509
510   uBackRead = 4;
511   while (uBackRead<uMaxBack)
512   {
513     uLong uReadSize;
514     ZPOS64_T uReadPos ;
515     int i;
516     if (uBackRead+BUFREADCOMMENT>uMaxBack)
517       uBackRead = uMaxBack;
518     else
519       uBackRead+=BUFREADCOMMENT;
520     uReadPos = uSizeFile-uBackRead ;
521
522     uReadSize = ((BUFREADCOMMENT+4) < (uSizeFile-uReadPos)) ?
523       (BUFREADCOMMENT+4) : (uLong)(uSizeFile-uReadPos);
524     if (ZSEEK64(*pzlib_filefunc_def,filestream,uReadPos,
      ZLIB_FILEFUNC_SEEK_SET)!=0)
525       break;
526
527     if (ZREAD64(*pzlib_filefunc_def,filestream,buf,uReadSize)!=uReadSize)
528       break;
529
530     for (i=(int)uReadSize-3; (i--)>0;)
531       if (((*(buf+i))==0x50) && ((*(buf+i+1))==0x4b) &&
532         ((*(buf+i+2))==0x05) && ((*(buf+i+3))==0x06))
533       {
534         uPosFound = uReadPos+i;
535         break;
536       }
537
538     if (uPosFound!=0)
539       break;
540   }
541   TRYFREE(buf);
542   return uPosFound;
543 }
```

Here is the caller graph for this function:



13.162.4.26 static ZPOS64_T zip64local_SearchCentralDir64 (const zlib_filefunc64_32_def * *pzlib_filefunc_def,* voidpf *filestream*) [static]

Definition at line 551 of file zip.c.

References ALLOC, BUFREADCOMMENT, TRYFREE, zip64local_getLong(), zip64local_getLong64(), ZIP_OK, ZLIB_FILEFUNC_SEEK_END, ZLIB_FILEFUNC_SEEK_SET, ZREAD64, ZSEEK64, and ZTELL64.

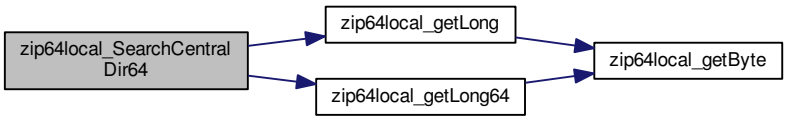
Referenced by LoadCentralDirectoryRecord().

```
552 {
```

```
553   unsigned char* buf;
554   ZPOS64_T uSizeFile;
555   ZPOS64_T uBackRead;
556   ZPOS64_T uMaxBack=0xffff; /* maximum size of global comment */
557   ZPOS64_T uPosFound=0;
558   uLong uL;
559   ZPOS64_T relativeOffset;
560
561   if (ZSEEK64(*pzlib_filefunc_def,filestream,0,ZLIB_FILEFUNC_SEEK_END) != 0)
562     return 0;
563
564   uSizeFile = ZTELL64(*pzlib_filefunc_def,filestream);
565
566   if (uMaxBack>uSizeFile)
567     uMaxBack = uSizeFile;
568
569   buf = (unsigned char*)ALLOC(BUFREADCOMMENT+4);
570   if (buf==NULL)
571     return 0;
572
573   uBackRead = 4;
574   while (uBackRead<uMaxBack)
575   {
576     uLong uReadSize;
577     ZPOS64_T uReadPos;
578     int i;
579     if (uBackRead+BUFREADCOMMENT>uMaxBack)
580       uBackRead = uMaxBack;
581     else
582       uBackRead+=BUFREADCOMMENT;
583     uReadPos = uSizeFile-uBackRead ;
584
585     uReadSize = ((BUFREADCOMMENT+4) < (uSizeFile-uReadPos)) ?
586       (BUFREADCOMMENT+4) : (uLong)(uSizeFile-uReadPos);
587     if (ZSEEK64(*pzlib_filefunc_def,filestream,uReadPos,
    ZLIB_FILEFUNC_SEEK_SET)!=0)
588       break;
589
590     if (ZREAD64(*pzlib_filefunc_def,filestream,buf,uReadSize)!=uReadSize)
591       break;
592
593     for (i=(int)uReadSize-3; (i--)>0;)
594     {
595       /* Signature "0x07064b50" Zip64 end of central directory locater */
596       if (((*(buf+i))==0x50) && ((*(buf+i+1))==0x4b) && ((*(buf+i+2))==0x06) && ((*(buf+i+3))==0x07))
597       {
598         uPosFound = uReadPos+i;
599         break;
600       }
601     }
602
603       if (uPosFound!=0)
604         break;
605   }
606
607   TRYFREE(buf);
608   if (uPosFound == 0)
609     return 0;
610
611   /* Zip64 end of central directory locator */
612   if (ZSEEK64(*pzlib_filefunc_def,filestream, uPosFound,
    ZLIB_FILEFUNC_SEEK_SET)!=0)
613     return 0;
614
615   /* the signature, already checked */
616   if (zip64local_getLong(pzlib_filefunc_def,filestream,&uL)!=
    ZIP_OK)
617     return 0;
618
619   /* number of the disk with the start of the zip64 end of  central directory */
620   if (zip64local_getLong(pzlib_filefunc_def,filestream,&uL)!=
    ZIP_OK)
621     return 0;
622   if (uL != 0)
623     return 0;
624
625   /* relative offset of the zip64 end of central directory record */
626   if (zip64local_getLong64(pzlib_filefunc_def,filestream,&relativeOffset)!=
    ZIP_OK)
627     return 0;
628
629   /* total number of disks */
630   if (zip64local_getLong(pzlib_filefunc_def,filestream,&uL)!=
    ZIP_OK)
631     return 0;
632   if (uL != 1)
633     return 0;
```

```
634
635   /* Goto Zip64 end of central directory record */
636   if (ZSEEK64(*pzlib_filefunc_def,filestream, relativeOffset,
      ZLIB_FILEFUNC_SEEK_SET)!=0)
637     return 0;
638
639   /* the signature */
640   if (zip64local_getLong(pzlib_filefunc_def,filestream,&uL)!=
      ZIP_OK)
641     return 0;
642
643   if (uL != 0x06064b50) /* signature of 'Zip64 end of central directory' */
644     return 0;
645
646   return relativeOffset;
647 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.162.4.27 static uLong zip64local_TmzDateToDosDate (const tm_zip * *ptm*) [static]

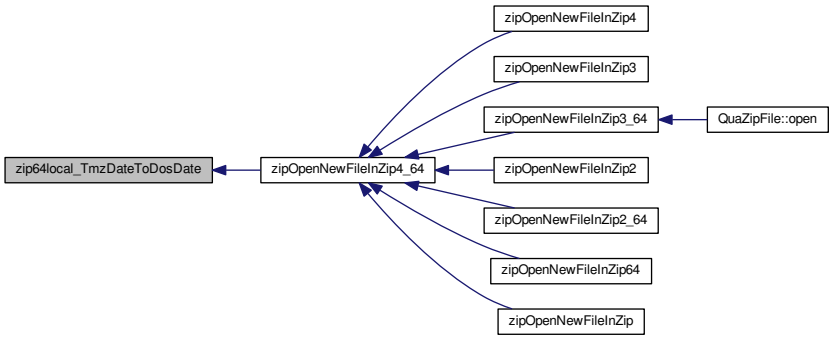
Definition at line 341 of file zip.c.

References tm_zip_s::tm_hour, tm_zip_s::tm_mday, tm_zip_s::tm_min, tm_zip_s::tm_mon, tm_zip_s::tm_sec, and tm_zip_s::tm_year.

Referenced by zipOpenNewFileInZip4_64().

```
342 {
343     uLong year = (uLong)ptm->tm_year;
344     if (year>=1980)
345         year-=1980;
346     else if (year>=80)
347         year-=80;
348     return
349       (uLong) (((ptm->tm_mday) + (32 * (ptm->tm_mon+1)) + (512 * year)) << 16) |
350         ((ptm->tm_sec/2) + (32* ptm->tm_min) + (2048 * (uLong)ptm->
      tm_hour));
351 }
```

Here is the caller graph for this function:



13.162.4.28 int ZEXPORT zipClearFlags (zipFile *file*, unsigned *flags*)

Definition at line 2091 of file zip.c.

References zip64_internal::flags, ZIP_OK, ZIP_PARAMERROR, ZIP_SEQUENTIAL, and ZIP_WRITE_DATA_DESCRIPTOR.

Referenced by QuaZipFile::open().

```
2092 {
2093     zip64_internal* zi;
2094     if (file == NULL)
2095         return ZIP_PARAMERROR;
2096     zi = (zip64_internal*)file;
2097     zi->flags &= ~flags;
2098     // If the data descriptor is not written, we can't use a non-seekable output.
2099     if ((zi->flags & ZIP_WRITE_DATA_DESCRIPTOR) == 0) {
2100         zi->flags &= ~ZIP_SEQUENTIAL;
2101     }
2102     return ZIP_OK;
2103 }
```

Here is the caller graph for this function:

13.162.4.29 int ZEXPORT zipClose (zipFile *file*, const char * *global_comment*)

Definition at line 1942 of file zip.c.

References zip64_internal::add_position_when_writting_offset, zip64_internal::central_dir, linkedlist_datablock_internal_s::data, zip64_internal::filestream, linkedlist_datablock_internal_s::filled_in_this_block, linkedlist_data_s::first_block, zip64_internal::flags, free_linkedlist(), zip64_internal::globalcomment, zip64_internal::in_opened_file_inzip, linkedlist_datablock_internal_s::next_datablock, zip64_internal::number_entry, TRYFREE, Write_EndOf-

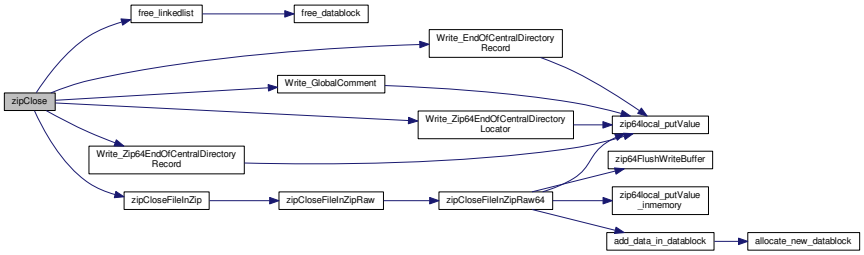
CentralDirectoryRecord(), Write_GlobalComment(), Write_Zip64EndOfCentralDirectoryLocator(), Write_Zip64EndOfCentralDirectoryRecord(), zip64_internal::z_filefunc, ZCLOSE64, ZFAKECLOSE64, ZIP_AUTO_CLOSE, ZIP_ERRNO, ZIP_OK, ZIP_PARAMERROR, zipCloseFileInZip(), ZTELL64, and ZWRITE64.

Referenced by QuaZip::close(), and QuaZip::open().

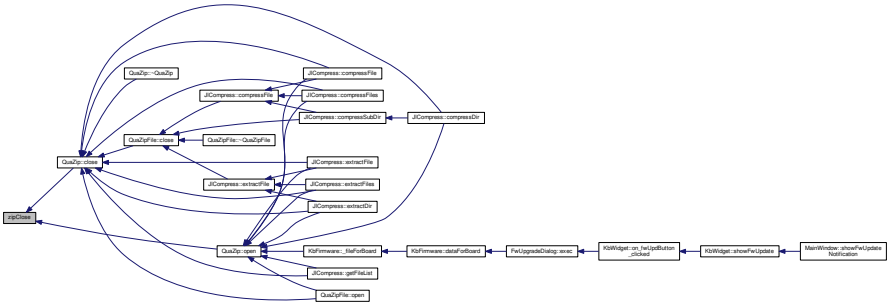
```
1943 {
1944     zip64_internal* zi;
1945     int err = 0;
1946     uLong size_centraldir = 0;
1947     ZPOS64_T centraldir_pos_inzip;
1948     ZPOS64_T pos;
1949 
1950     if (file == NULL)
1951         return ZIP_PARAMERROR;
1952 
1953     zi = (zip64_internal*)file;
1954 
1955     if (zi->in_opened_file_inzip == 1)
1956     {
1957         err = zipCloseFileInZip (file);
1958     }
1959 
1960 #ifndef NO_ADDFILEINEXISTINGZIP
1961     if (global_comment==NULL)
1962         global_comment = zi->globalcomment;
1963 #endif
1964 
1965     centraldir_pos_inzip = ZTELL64(zi->z_filefunc,zi->
     filestream);
1966 
1967     if (err==ZIP_OK)
1968     {
1969         linkedlist_datablock_internal* ldi = zi->
     central_dir.first_block;
1970         while (ldi!=NULL)
1971         {
1972             if ((err==ZIP_OK) && (ldi->filled_in_this_block>0))
1973             {
1974                 if (ZWRITE64(zi->z_filefunc,zi->filestream, ldi->
     data, ldi->filled_in_this_block) != ldi->
     filled_in_this_block)
1975                     err = ZIP_ERRNO;
1976             }
1977 
1978             size_centraldir += ldi->filled_in_this_block;
1979             ldi = ldi->next_datablock;
1980         }
1981     }
1982     free_linkedlist(&(zi->central_dir));
1983 
1984     pos = centraldir_pos_inzip - zi->add_position_when_writting_offset;
1985     if(pos >= 0xffffffff || zi->number_entry > 0xFFFF)
1986     {
1987       ZPOS64_T Zip64EOCDpos = ZTELL64(zi->z_filefunc,zi->
     filestream);
1988       Write_Zip64EndOfCentralDirectoryRecord(zi, size_centraldir,
     centraldir_pos_inzip);
1989 
1990       Write_Zip64EndOfCentralDirectoryLocator(zi, Zip64EOCDpos);
1991     }
1992 
1993     if (err==ZIP_OK)
1994       err = Write_EndOfCentralDirectoryRecord(zi, size_centraldir,
     centraldir_pos_inzip);
1995 
1996     if(err == ZIP_OK)
1997       err = Write_GlobalComment(zi, global_comment);
1998 
1999     if ((zi->flags & ZIP_AUTO_CLOSE) != 0) {
2000         if (ZCLOSE64(zi->z_filefunc,zi->filestream) != 0) {
2001             if (err == ZIP_OK)
2002                 err = ZIP_ERRNO;
2003         }
2004     } else {
2005         if (ZFAKECLOSE64(zi->z_filefunc,zi->filestream) != 0) {
2006             if (err == ZIP_OK)
2007                 err = ZIP_ERRNO;
2008         }
2009     }
2010 
2011 #ifndef NO_ADDFILEINEXISTINGZIP
2012     TRYFREE(zi->globalcomment);
2013 #endif
2014     TRYFREE(zi);
2015 
```

```
2016     return err;
2017 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.162.4.30 int ZEXPORT zipCloseFileInZip (zipFile *file*)

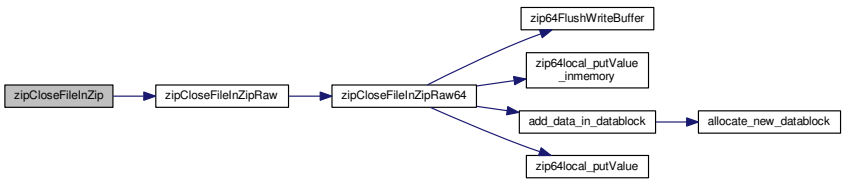
Definition at line 1810 of file zip.c.

References zipCloseFileInZipRaw().

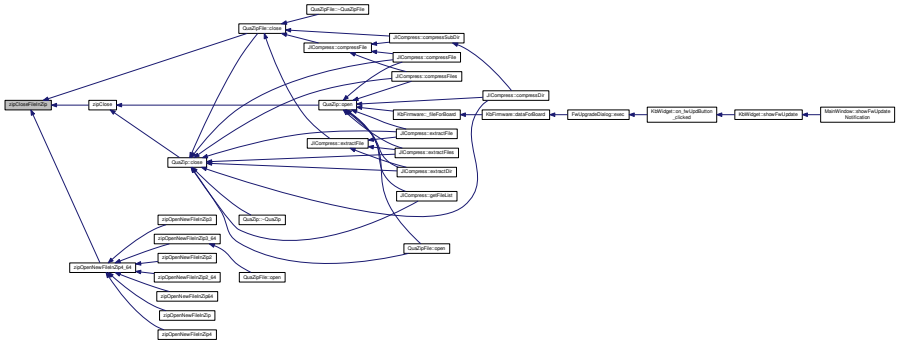
Referenced by QuaZipFile::close(), zipClose(), and zipOpenNewFileInZip4_64().

```
1811 {
1812     return zipCloseFileInZipRaw (file,0,0);
1813 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.162.4.31 int ZEXPORT zipCloseFileInZipRaw (zipFile *file,* uLong *uncompressed_size,* uLong *crc32*)

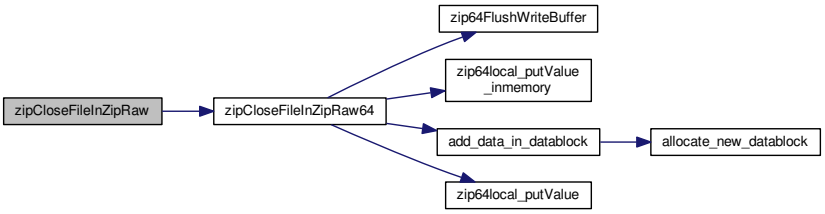
Definition at line 1549 of file zip.c.

References zipCloseFileInZipRaw64().

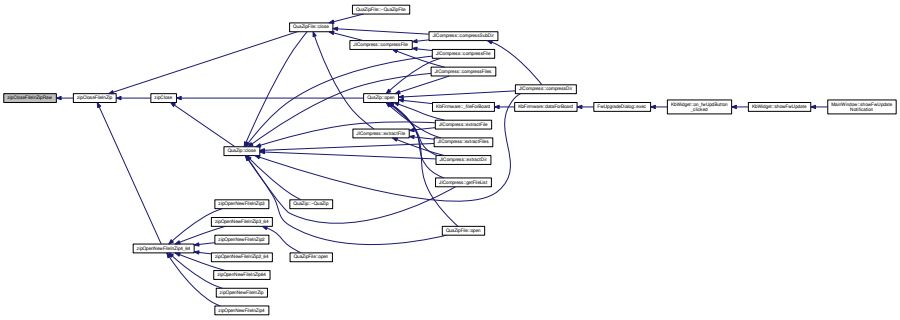
Referenced by zipCloseFileInZip().

```
1550 {
1551     return zipCloseFileInZipRaw64 (file, uncompressed_size, crc32);
1552 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.162.4.32 int ZEXPORT zipCloseFileInZipRaw64 (zipFile *file*, ZPOS64_T *uncompressed_size*, uLong *crc32*)

Definition at line 1554 of file zip.c.

References add_data_in_datablock(), curfile64_info::buffered_data, zip64_internal::central_dir, curfile64_info::central_header, zip64_internal::ci, curfile64_info::crc32, curfile64_info::crypt_header_size, DESCRIPTORHEADERMAGIC, zip64_internal::filestream, curfile64_info::flag, zip64_internal::flags, zip64_internal::in_opened_file_inzip, curfile64_info::method, zip64_internal::number_entry, curfile64_info::pos_in_buffered_data, curfile64_info::pos_local_header, curfile64_info::pos_zip64extrainfo, curfile64_info::raw, curfile64_info::size_centralExtra, curfile64_info::size_centralExtraFree, curfile64_info::size_centralheader, curfile64_info::stream, curfile64_info::stream_initialised, curfile64_info::totalCompressedData, curfile64_info::totalUncompressedData, Z_BUFSIZE, Z_BZIP2ED, zip64_internal::z_filefunc, curfile64_info::zip64, zip64FlushWriteBuffer(), zip64local_putValue(), zip64local_putValue_inmemory(), ZIP_BADZIPFILE, ZIP_ERRNO, ZIP_OK, ZIP_PARAMERROR, ZIP_SEQUENTIAL, ZLIB_FILEFUNC_SEEK_SET, ZSEEK64, and ZTELL64.

Referenced by QuaZipFile::close(), and zipCloseFileInZipRaw().

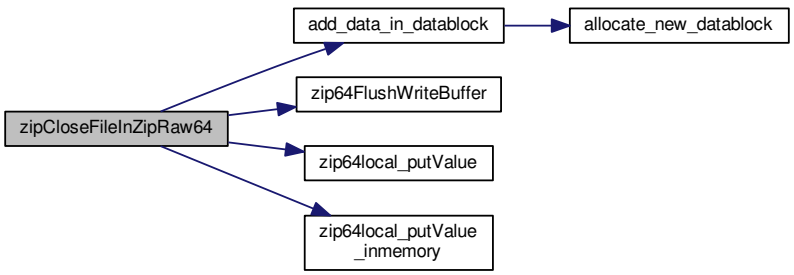
```
1555 {
1556     zip64_internal* zi;
1557     ZPOS64_T compressed_size;
1558     uLong invalidValue = 0xffffffff;
1559     short datasize = 0;
1560     int err=ZIP_OK;
1561
1562     if (file == NULL)
1563         return ZIP_PARAMERROR;
1564     zi = (zip64_internal*)file;
1565
1566     if (zi->in_opened_file_inzip == 0)
1567         return ZIP_PARAMERROR;
1568     zi->ci.stream.avail_in = 0;
1569
1570     if ((zi->ci.method == Z_DEFLATED) && (!zi->ci.raw))
1571                 {
1572                         while (err==ZIP_OK)
1573                         {
1574                                 uLong uTotalOutBefore;
1575                                 if (zi->ci.stream.avail_out == 0)
1576                                 {
1577                                         if (zip64FlushWriteBuffer(zi) ==
     ZIP_ERRNO)
1578                                                 err = ZIP_ERRNO;
1579                                         zi->ci.stream.avail_out = (uInt)
     Z_BUFSIZE;
1580                                         zi->ci.stream.next_out = zi->ci.
     buffered_data;
1581                                 }
1582                                 uTotalOutBefore = zi->ci.stream.total_out;
1583                                 err=deflate(&zi->ci.stream,  Z_FINISH);
1584                                 zi->ci.pos_in_buffered_data += (uInt)(zi->
     ci.stream.total_out - uTotalOutBefore) ;
1585                         }
1586                 }
1587     else if ((zi->ci.method == Z_BZIP2ED) && (!zi->ci.raw))
1588     {
1589 #ifdef HAVE_BZIP2
1590       err = BZ_FINISH_OK;
1591       while (err==BZ_FINISH_OK)
1592       {
1593         uLong uTotalOutBefore;
1594         if (zi->ci.bstream.avail_out == 0)
1595         {
1596           if (zip64FlushWriteBuffer(zi) == ZIP_ERRNO)
1597             err = ZIP_ERRNO;
1598           zi->ci.bstream.avail_out = (uInt)Z_BUFSIZE;
1599           zi->ci.bstream.next_out = (char*)zi->ci.buffered_data;
1600         }
1601         uTotalOutBefore = zi->ci.bstream.total_out_lo32;
1602         err=BZ2_bzCompress(&zi->ci.bstream,  BZ_FINISH);
1603         if(err == BZ_STREAM_END)
1604           err = Z_STREAM_END;
1605
1606         zi->ci.pos_in_buffered_data += (uInt)(zi->ci.bstream.total_out_lo32 -
     uTotalOutBefore);
1607       }
1608
1609       if(err == BZ_FINISH_OK)
1610         err = ZIP_OK;
1611 #endif
1612     }
1613
```

```
1614     if (err==Z_STREAM_END)
1615         err=ZIP_OK; /* this is normal */
1616
1617     if ((zi->ci.pos_in_buffered_data>0) && (err==ZIP_OK))
1618                 {
1619         if (zip64FlushWriteBuffer(zi)==ZIP_ERRNO)
1620             err = ZIP_ERRNO;
1621                 }
1622
1623     if ((zi->ci.method == Z_DEFLATED) && (!zi->ci.raw))
1624     {
1625         int tmp_err = deflateEnd(&zi->ci.stream);
1626         if (err == ZIP_OK)
1627             err = tmp_err;
1628         zi->ci.stream_initialised = 0;
1629     }
1630 #ifdef HAVE_BZIP2
1631     else if((zi->ci.method == Z_BZIP2ED) && (!zi->ci.raw))
1632     {
1633       int tmperr = BZ2_bzCompressEnd(&zi->ci.bstream);
1634                         if (err==ZIP_OK)
1635                                 err = tmperr;
1636                         zi->ci.stream_initialised = 0;
1637     }
1638 #endif
1639
1640     if (!zi->ci.raw)
1641     {
1642         crc32 = (uLong)zi->ci.crc32;
1643         uncompressed_size = zi->ci.totalUncompressedData;
1644     }
1645     compressed_size = zi->ci.totalCompressedData;
1646
1647 #    ifndef NOCRYPT
1648     compressed_size += zi->ci.crypt_header_size;
1649 #    endif
1650
1651     /* update Current Item crc and sizes, */
1652     if(compressed_size >= 0xffffffff || uncompressed_size >= 0xffffffff || zi->
      ci.pos_local_header >= 0xffffffff)
1653     {
1654       /*version Made by*/
1655       zip64local_putValue_inmemory(zi->ci.
      central_header+4,(uLong)45,2);
1656       /*version needed*/
1657       zip64local_putValue_inmemory(zi->ci.
      central_header+6,(uLong)45,2);
1658
1659     }
1660
1661     zip64local_putValue_inmemory(zi->ci.
      central_header+16,crc32,4); /*crc*/
1662
1663
1664     if(compressed_size >= 0xffffffff)
1665       zip64local_putValue_inmemory(zi->ci.
      central_header+20, invalidValue,4); /*compr size*/
1666     else
1667       zip64local_putValue_inmemory(zi->ci.
      central_header+20, compressed_size,4); /*compr size*/
1668
1669     /* set internal file attributes field */
1670     if (zi->ci.stream.data_type == Z_ASCII)
1671         zip64local_putValue_inmemory(zi->ci.
      central_header+36,(uLong)Z_ASCII,2);
1672
1673     if(uncompressed_size >= 0xffffffff)
1674       zip64local_putValue_inmemory(zi->ci.
      central_header+24, invalidValue,4); /*uncompr size*/
1675     else
1676       zip64local_putValue_inmemory(zi->ci.
      central_header+24, uncompressed_size,4); /*uncompr size*/
1677
1678     /* Add ZIP64 extra info field for uncompressed size */
1679     if(uncompressed_size >= 0xffffffff)
1680       datasize += 8;
1681
1682     /* Add ZIP64 extra info field for compressed size */
1683     if(compressed_size >= 0xffffffff)
1684       datasize += 8;
1685
1686     /* Add ZIP64 extra info field for relative offset to local file header of current file */
1687     if(zi->ci.pos_local_header >= 0xffffffff)
1688       datasize += 8;
1689
1690     if(datasize > 0)
1691     {
```

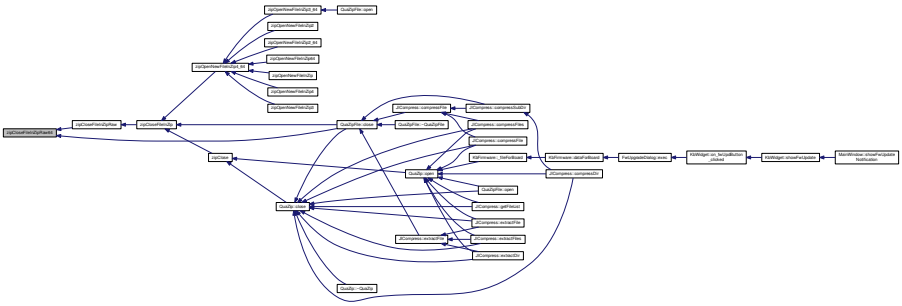
```
1692       char* p = NULL;
1693
1694       if((uLong)(datasize + 4) > zi->ci.size_centralExtraFree)
1695       {
1696         /* we can not write more data to the buffer that we have room for. */
1697         return ZIP_BADZIPFILE;
1698       }
1699
1700       p = zi->ci.central_header + zi->ci.size_centralheader;
1701
1702       /* Add Extra Information Header for 'ZIP64 information' */
1703       zip64local_putValue_inmemory(p, 0x0001, 2); /* HeaderID */
1704       p += 2;
1705       zip64local_putValue_inmemory(p, datasize, 2); /* DataSize */
1706       p += 2;
1707
1708       if(uncompressed_size >= 0xffffffff)
1709       {
1710         zip64local_putValue_inmemory(p, uncompressed_size, 8);
1711         p += 8;
1712       }
1713
1714       if(compressed_size >= 0xffffffff)
1715       {
1716         zip64local_putValue_inmemory(p, compressed_size, 8);
1717         p += 8;
1718       }
1719
1720       if(zi->ci.pos_local_header >= 0xffffffff)
1721       {
1722         zip64local_putValue_inmemory(p, zi->ci.
     pos_local_header, 8);
1723         p += 8;
1724       }
1725
1726       /* Update how much extra free space we got in the memory buffer */
1727       /* and increase the centralheader size so the new ZIP64 fields are included */
1728       /* ( 4 below is the size of HeaderID and DataSize field ) */
1729       zi->ci.size_centralExtraFree -= datasize + 4;
1730       zi->ci.size_centralheader += datasize + 4;
1731
1732       /* Update the extra info size field */
1733       zi->ci.size_centralExtra += datasize + 4;
1734       zip64local_putValue_inmemory(zi->ci.
     central_header+30,(uLong)zi->ci.size_centralExtra,2);
1735     }
1736
1737     if (err==ZIP_OK)
1738         err = add_data_in_datablock(&zi->central_dir, zi->
     ci.central_header, (uLong)zi->ci.size_centralheader);
1739
1740     free(zi->ci.central_header);
1741
1742     if (err==ZIP_OK)
1743     {
1744         if ((zi->flags & ZIP_SEQUENTIAL) == 0) {
1745             /* Update the LocalFileHeader with the new values. */
1746
1747             ZPOS64_T cur_pos_inzip = ZTELL64(zi->z_filefunc,zi->
     filestream);
1748
1749             if (ZSEEK64(zi->z_filefunc,zi->filestream, zi->
     ci.pos_local_header + 14,ZLIB_FILEFUNC_SEEK_SET)!=0)
1750                 err = ZIP_ERRNO;
1751
1752             if (err==ZIP_OK)
1753                 err = zip64local_putValue(&zi->z_filefunc,zi->
     filestream,crc32,4); /* crc 32, unknown */
1754
1755             if(uncompressed_size >= 0xffffffff || compressed_size >= 0xffffffff)
1756             {
1757                 if(zi->ci.pos_zip64extrainfo > 0)
1758                 {
1759                     /* Update the size in the ZIP64 extended field. */
1760                     if (ZSEEK64(zi->z_filefunc,zi->filestream, zi->
     ci.pos_zip64extrainfo + 4,ZLIB_FILEFUNC_SEEK_SET)!=0)
1761                         err = ZIP_ERRNO;
1762
1763                     if (err==ZIP_OK) /* compressed size, unknown */
1764                         err = zip64local_putValue(&zi->
     z_filefunc, zi->filestream, uncompressed_size, 8);
1765
1766                     if (err==ZIP_OK) /* uncompressed size, unknown */
1767                         err = zip64local_putValue(&zi->
     z_filefunc, zi->filestream, compressed_size, 8);
1768                 }
1769             }
```

```
1770            else
1771            {
1772                if (err==ZIP_OK) /* compressed size, unknown */
1773                    err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,compressed_size,4);
1774
1775                if (err==ZIP_OK) /* uncompressed size, unknown */
1776                    err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,uncompressed_size,4);
1777            }
1778
1779            if (ZSEEK64(zi->z_filefunc,zi->filestream, cur_pos_inzip,
      ZLIB_FILEFUNC_SEEK_SET)!=0)
1780                err = ZIP_ERRNO;
1781        }
1782
1783        if ((zi->ci.flag & 8) != 0) {
1784            /* Write local Descriptor after file data */
1785            if (err==ZIP_OK)
1786                err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,(uLong)DESCRIPTORHEADERMAGIC,4);
1787            if (err==ZIP_OK)
1788                err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,crc32,4); /* crc 32, unknown */
1789            if (zi->ci.zip64) {
1790                if (err==ZIP_OK) /* compressed size, unknown */
1791                    err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,compressed_size,8);
1792
1793                if (err==ZIP_OK) /* uncompressed size, unknown */
1794                    err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,uncompressed_size,8);
1795            } else {
1796                if (err==ZIP_OK) /* compressed size, unknown */
1797                    err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,compressed_size,4);
1798                if (err==ZIP_OK) /* uncompressed size, unknown */
1799                    err = zip64local_putValue(&zi->z_filefunc,zi->
      filestream,uncompressed_size,4);
1800            }
1801        }
1802    }
1803
1804    zi->number_entry ++;
1805    zi->in_opened_file_inzip = 0;
1806
1807    return err;
1808 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



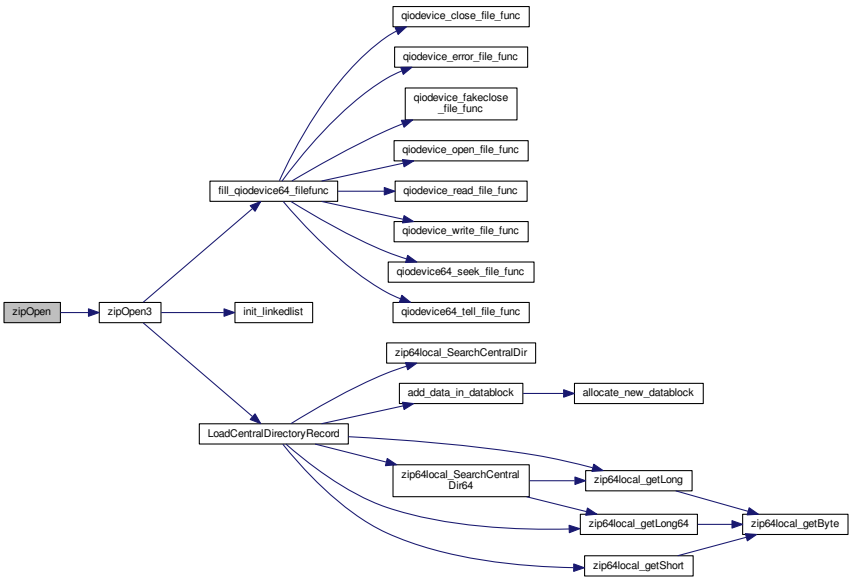
13.162.4.33 zipFile ZEXPORT zipOpen (voidpf *file*, int *append*)

Definition at line 967 of file zip.c.

References ZIP_DEFAULT_FLAGS, and zipOpen3().

```
968 {
969     return zipOpen3(file,append,NULL,NULL, ZIP_DEFAULT_FLAGS);
970 }
```

Here is the call graph for this function:



13.162.4.34 zipFile ZEXPORT zipOpen2 (voidpf *file*, int *append*, zipcharpc * *globalcomment*, zlib_filefunc_def * *pzlib_filefunc32_def*)

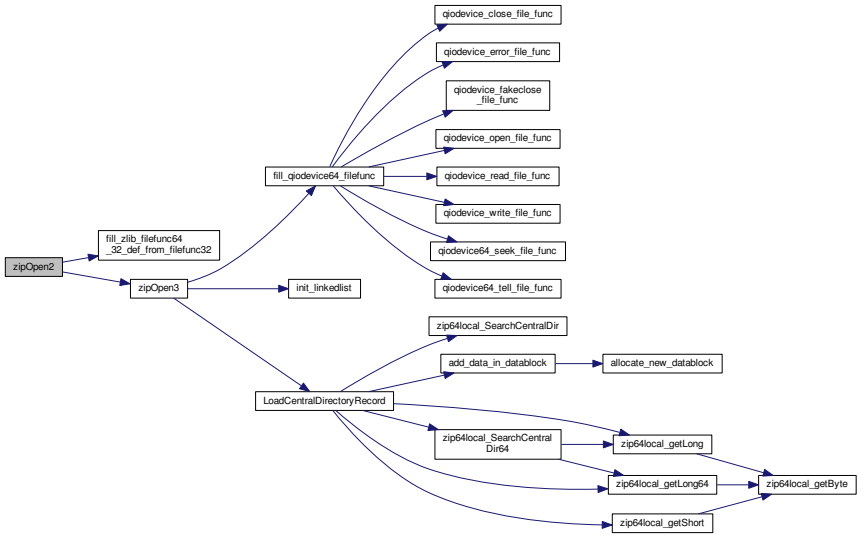
Definition at line 939 of file zip.c.

References fill_zlib_filefunc64_32_def_from_filefunc32(), ZIP_DEFAULT_FLAGS, and zipOpen3().

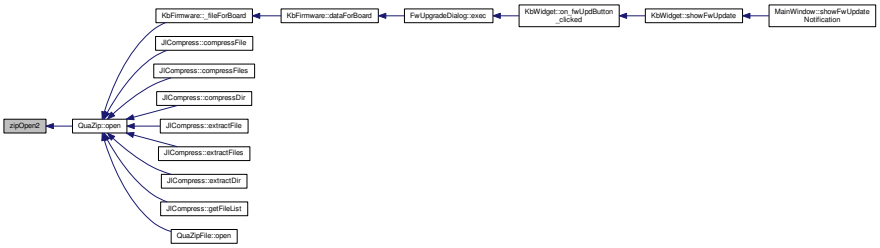
Referenced by QuaZip::open().

```
940 {
941     if (pzlib_filefunc32_def != NULL)
942     {
943         zlib_filefunc64_32_def zlib_filefunc64_32_def_fill;
944         fill_zlib_filefunc64_32_def_from_filefunc32(&
    zlib_filefunc64_32_def_fill,pzlib_filefunc32_def);
945         return zipOpen3(file, append, globalcomment, &zlib_filefunc64_32_def_fill,
    ZIP_DEFAULT_FLAGS);
946     }
947     else
948         return zipOpen3(file, append, globalcomment, NULL,
    ZIP_DEFAULT_FLAGS);
949 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.162.4.35 zipFile ZEXPORT zipOpen2_64 (voidpf *file*, int *append*, zipcharpc * *globalcomment*, zlib_filefunc64_def * *pzlib_filefunc_def*)

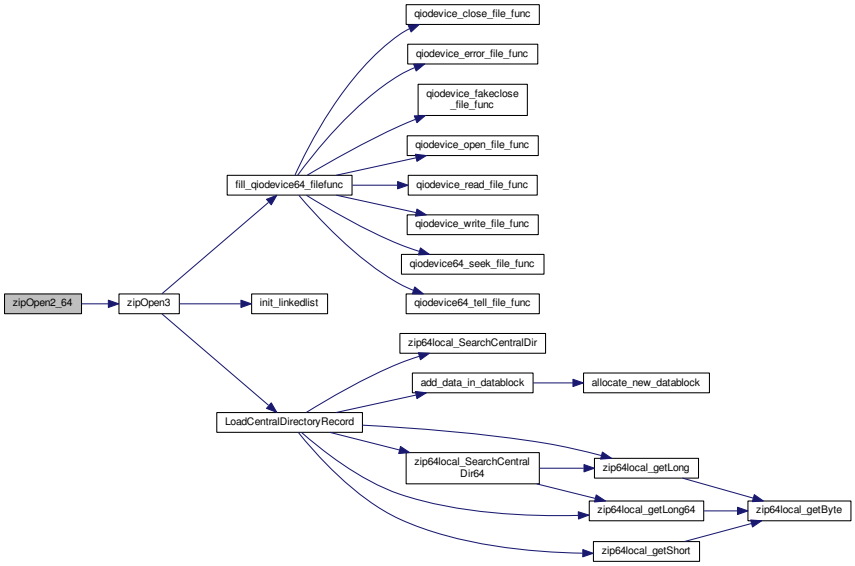
Definition at line 951 of file zip.c.

References zlib_filefunc64_32_def_s::zfile_func64, ZIP_DEFAULT_FLAGS, zipOpen3(), zlib_filefunc64_32_def_s::zseek32_file, and zlib_filefunc64_32_def_s::ztell32_file.

```
952 {
953     if (pzlib_filefunc_def != NULL)
954     {
```

```
955         zlib_filefunc64_32_def zlib_filefunc64_32_def_fill;
956         zlib_filefunc64_32_def_fill.zfile_func64 = *pzlib_filefunc_def;
957         zlib_filefunc64_32_def_fill.ztell32_file = NULL;
958         zlib_filefunc64_32_def_fill.zseek32_file = NULL;
959         return zipOpen3(file, append, globalcomment, &zlib_filefunc64_32_def_fill,
    ZIP_DEFAULT_FLAGS);
960     }
961     else
962         return zipOpen3(file, append, globalcomment, NULL,
    ZIP_DEFAULT_FLAGS);
963 }
```

Here is the call graph for this function:



13.162.4.36 zipFile ZEXPORT zipOpen3 (voidpf *file*, int *append*, zipcharpc * *globalcomment*, zlib_filefunc64_32_def * *pzlib_filefunc64_32_def*, unsigned *flags*)

Definition at line 862 of file zip.c.

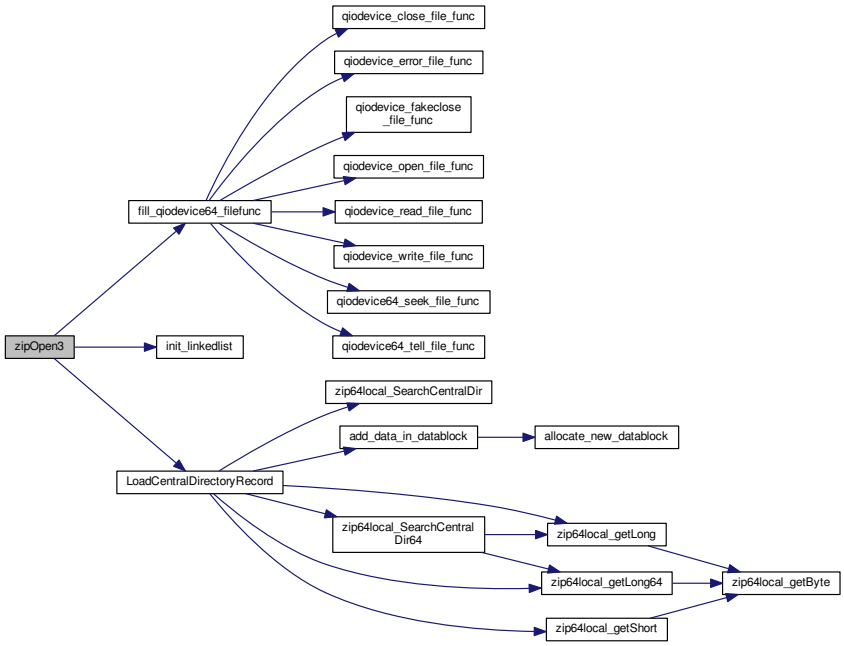
References zip64_internal::add_position_when_writting_offset, ALLOC, APPEND_STATUS_ADDINZIP, APPEND_STATUS_CREATE, APPEND_STATUS_CREATEAFTER, zip64_internal::begin_pos, zip64_internal::central_dir, zip64_internal::ci, zip64_internal::filestream, fill_qiodevice64_filefunc(), zip64_internal::flags, zip64_internal::globalcomment, zip64_internal::in_opened_file_inzip, init_linkedlist(), LoadCentralDirectoryRecord(), zip64_internal::number_entry, SEEK_END, curfile64_info::stream_initialised, TRYFREE, zip64_internal::z_filefunc, ZCLOSE64, ZFAKECLOSE64, zlib_filefunc64_32_def_s::zfile_func64, ZIP_AUTO_CLOSE, ZIP_OK, ZLIB_FILEFUNC_MODE_CREATE, ZLIB_FILEFUNC_MODE_EXISTING, ZLIB_FILEFUNC_MODE_READ, ZLIB_FILEFUNC_MODE_WRITE, ZOPEN64, zlib_filefunc64_32_def_s::zseek32_file, ZSEEK64, zlib_filefunc64_32_def_s::ztell32_file, and ZTELL64.

Referenced by QuaZip::open(), zipOpen(), zipOpen2(), zipOpen2_64(), and zipOpen64().

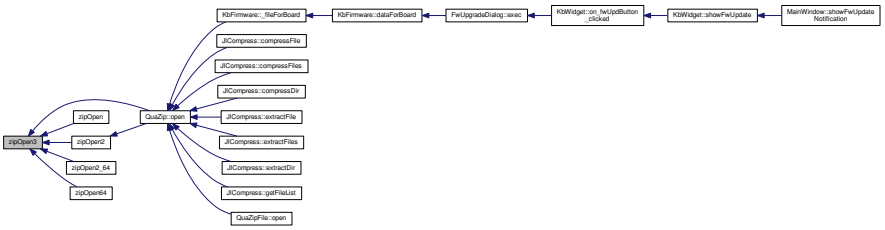
```
864 {
865     zip64_internal ziinit;
866     zip64_internal* zi;
867     int err=ZIP_OK;
868
869     ziinit.flags = flags;
870     ziinit.z_filefunc.zseek32_file = NULL;
871     ziinit.z_filefunc.ztell32_file = NULL;
872     if (pzlib_filefunc64_32_def==NULL)
873         fill_qiodevice64_filefunc(&ziinit.z_filefunc.
    zfile_func64);
```

```
874     else
875         ziinit.z_filefunc = *pzlib_filefunc64_32_def;
876
877     ziinit.filestream = ZOPEN64(ziinit.z_filefunc,
878                   file,
879                   (append == APPEND_STATUS_CREATE) ?
880                   (ZLIB_FILEFUNC_MODE_READ |
    ZLIB_FILEFUNC_MODE_WRITE | ZLIB_FILEFUNC_MODE_CREATE) :
881                     (ZLIB_FILEFUNC_MODE_READ |
    ZLIB_FILEFUNC_MODE_WRITE | ZLIB_FILEFUNC_MODE_EXISTING))
    ;
882
883     if (ziinit.filestream == NULL)
884         return NULL;
885
886     if (append == APPEND_STATUS_CREATEAFTER)
887         ZSEEK64(ziinit.z_filefunc,ziinit.filestream,0,
    SEEK_END);
888
889     ziinit.begin_pos = ZTELL64(ziinit.z_filefunc,ziinit.
    filestream);
890     ziinit.in_opened_file_inzip = 0;
891     ziinit.ci.stream_initialised = 0;
892     ziinit.number_entry = 0;
893     ziinit.add_position_when_writting_offset = 0;
894     init_linkedlist(&(ziinit.central_dir));
895
896
897
898     zi = (zip64_internal*)ALLOC(sizeof(zip64_internal));
899     if (zi==NULL)
900     {
901         if ((ziinit.flags & ZIP_AUTO_CLOSE) != 0) {
902             ZCLOSE64(ziinit.z_filefunc,ziinit.filestream);
903         } else {
904             ZFAKECLOSE64(ziinit.z_filefunc,ziinit.
    filestream);
905         }
906         return NULL;
907     }
908
909     /* now we add file in a zipfile */
910 #    ifndef NO_ADDFILEINEXISTINGZIP
911     ziinit.globalcomment = NULL;
912     if (append == APPEND_STATUS_ADDINZIP)
913     {
914       /* Read and Cache Central Directory Records */
915       err = LoadCentralDirectoryRecord(&ziinit);
916     }
917
918     if (globalcomment)
919     {
920       *globalcomment = ziinit.globalcomment;
921     }
922 #    endif /* !NO_ADDFILEINEXISTINGZIP*/
923
924     if (err != ZIP_OK)
925     {
926 #    ifndef NO_ADDFILEINEXISTINGZIP
927         TRYFREE(ziinit.globalcomment);
928 #    endif /* !NO_ADDFILEINEXISTINGZIP*/
929         TRYFREE(zi);
930         return NULL;
931     }
932     else
933     {
934         *zi = ziinit;
935         return (zipFile)zi;
936     }
937 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



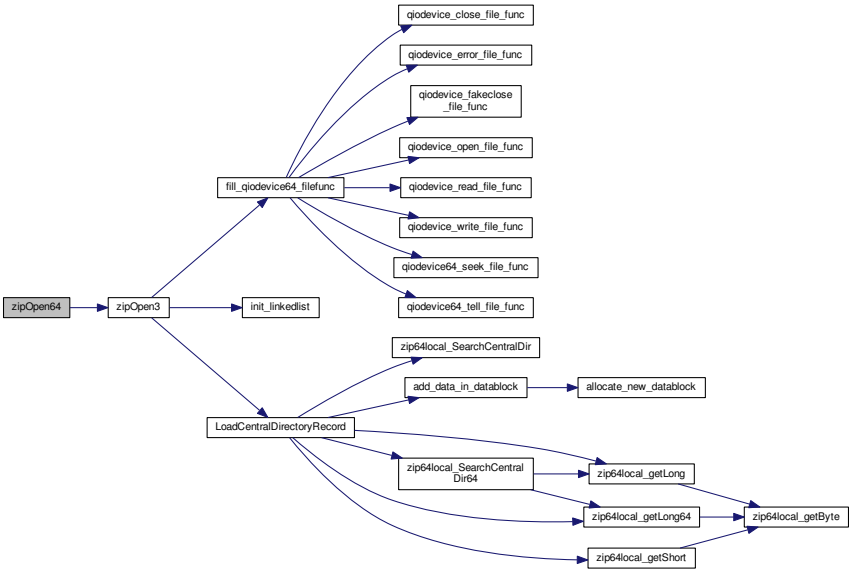
13.162.4.37 zipFile ZEXPORT zipOpen64 (voidpf *file,* int *append*)

Definition at line 972 of file zip.c.

References ZIP_DEFAULT_FLAGS, and zipOpen3().

```
973 {
974     return zipOpen3(file,append,NULL,NULL, ZIP_DEFAULT_FLAGS);
975 }
```

Here is the call graph for this function:



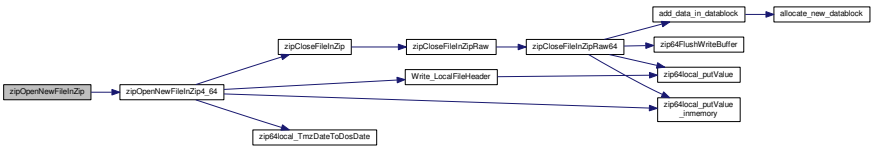
13.162.4.38 int ZEXPORT zipOpenNewFileInZip (zipFile *file*, const char * *filename*, const zip_fileinfo * *zipfi*, const void * *extrafield_local*, uInt *size_extrafield_local*, const void * *extrafield_global*, uInt *size_extrafield_global*, const char * *comment*, int *method*, int *level*)

Definition at line 1390 of file zip.c.

References DEF_MEM_LEVEL, VERSIONMADEBY, and zipOpenNewFileInZip4_64().

```
1394 {
1395     return zipOpenNewFileInZip4_64 (file, filename, zipfi,
1396                                     extrafield_local, size_extrafield_local,
1397                                     extrafield_global, size_extrafield_global,
1398                                     comment, method, level, 0,
1399                                     -MAX_WBITS, DEF_MEM_LEVEL, Z_DEFAULT_STRATEGY,
1400                                     NULL, 0, VERSIONMADEBY, 0, 0);
1401 }
```

Here is the call graph for this function:



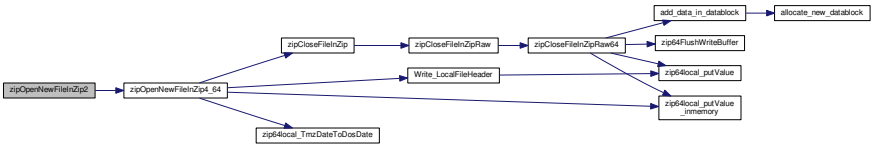
13.162.4.39 int ZEXPORT zipOpenNewFileInZip2 (zipFile *file*, const char * *filename*, const zip_fileinfo * *zipfi*, const void * *extrafield_local*, uInt *size_extrafield_local*, const void * *extrafield_global*, uInt *size_extrafield_global*, const char * *comment*, int *method*, int *level*, int *raw*)

Definition at line 1351 of file zip.c.

References DEF_MEM_LEVEL, VERSIONMADEBY, and zipOpenNewFileInZip4_64().

```
1355 {
1356     return zipOpenNewFileInZip4_64 (file, filename, zipfi,
1357                                     extrafield_local, size_extrafield_local,
1358                                     extrafield_global, size_extrafield_global,
1359                                     comment, method, level, raw,
1360                                     -MAX_WBITS, DEF_MEM_LEVEL, Z_DEFAULT_STRATEGY,
1361                                     NULL, 0, VERSIONMADEBY, 0, 0);
1362 }
```

Here is the call graph for this function:



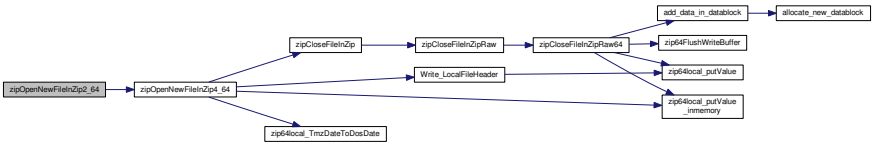
13.162.4.40 int ZEXPORT zipOpenNewFileInZip2_64 (zipFile *file*, const char * *filename*, const zip_fileinfo * *zipfi*, const void * *extrafield_local*, uInt *size_extrafield_local*, const void * *extrafield_global*, uInt *size_extrafield_global*, const char * *comment*, int *method*, int *level*, int *raw*, int *zip64*)

Definition at line 1364 of file zip.c.

References DEF_MEM_LEVEL, VERSIONMADEBY, and zipOpenNewFileInZip4_64().

```
1368 {
1369     return zipOpenNewFileInZip4_64 (file, filename, zipfi,
1370                                     extrafield_local, size_extrafield_local,
1371                                     extrafield_global, size_extrafield_global,
1372                                     comment, method, level, raw,
1373                                     -MAX_WBITS, DEF_MEM_LEVEL, Z_DEFAULT_STRATEGY,
1374                                     NULL, 0, VERSIONMADEBY, 0, zip64);
1375 }
```

Here is the call graph for this function:



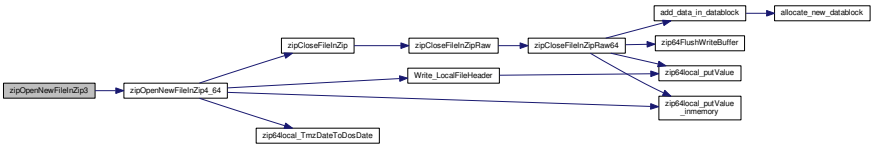
13.162.4.41 int ZEXPORT zipOpenNewFileInZip3 (zipFile *file*, const char * *filename*, const zip_fileinfo * *zipfi*, const void * *extrafield_local*, uInt *size_extrafield_local*, const void * *extrafield_global*, uInt *size_extrafield_global*, const char * *comment*, int *method*, int *level*, int *raw*, int *windowBits*, int *memLevel*, int *strategy*, const char * *password*, uLong *crcForCrypting*)

Definition at line 1321 of file zip.c.

References VERSIONMADEBY, and zipOpenNewFileInZip4_64().

```
1327 {
1328     return zipOpenNewFileInZip4_64 (file, filename, zipfi,
1329                                     extrafield_local, size_extrafield_local,
1330                                     extrafield_global, size_extrafield_global,
1331                                     comment, method, level, raw,
1332                                     windowBits, memLevel, strategy,
1333                                     password, crcForCrypting, VERSIONMADEBY, 0, 0);
1334 }
```

Here is the call graph for this function:



13.162.4.42 int ZEXPORT zipOpenNewFileInZip3_64 (zipFile *file*, const char * *filename*, const zip_fileinfo * *zipfi*, const void * *extrafield_local*, uInt *size_extrafield_local*, const void * *extrafield_global*, uInt *size_extrafield_global*, const char * *comment*, int *method*, int *level*, int *raw*, int *windowBits*, int *memLevel*, int *strategy*, const char * *password*, uLong *crcForCrypting*, int *zip64*)

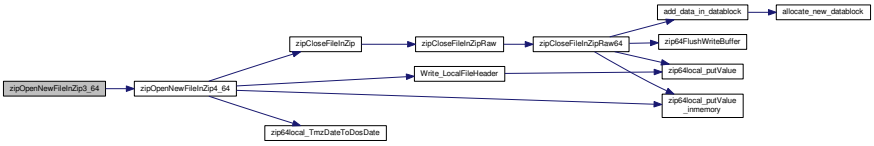
Definition at line 1336 of file zip.c.

References VERSIONMADEBY, and zipOpenNewFileInZip4_64().

Referenced by QuaZipFile::open().

```
1342 {
1343     return zipOpenNewFileInZip4_64 (file, filename, zipfi,
1344                                     extrafield_local, size_extrafield_local,
1345                                     extrafield_global, size_extrafield_global,
1346                                     comment, method, level, raw,
1347                                     windowBits, memLevel, strategy,
1348                                     password, crcForCrypting, VERSIONMADEBY, 0, zip64);
1349 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

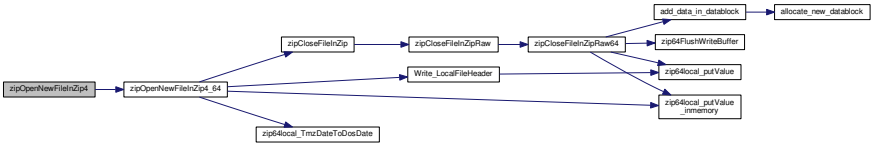
13.162.4.43 int ZEXPORT zipOpenNewFileInZip4 (zipFile *file*, const char * *filename*, const zip_fileinfo * *zipfi*, const void * *extrafield_local*, uInt *size_extrafield_local*, const void * *extrafield_global*, uInt *size_extrafield_global*, const char * *comment*, int *method*, int *level*, int *raw*, int *windowBits*, int *memLevel*, int *strategy*, const char * *password*, uLong *crcForCrypting*, uLong *versionMadeBy*, uLong *flagBase*)

Definition at line 1305 of file zip.c.

References zipOpenNewFileInZip4_64().

```
1312 {
1313     return zipOpenNewFileInZip4_64 (file, filename, zipfi,
1314                                     extrafield_local, size_extrafield_local,
1315                                     extrafield_global, size_extrafield_global,
1316                                     comment, method, level, raw,
1317                                     windowBits, memLevel, strategy,
1318                                     password, crcForCrypting, versionMadeBy, flagBase, 0);
1319 }
```

Here is the call graph for this function:



13.162.4.44 int ZEXPORT zipOpenNewFileInZip4_64 (zipFile *file*, const char * *filename*, const zip_fileinfo * *zipfi*, const void * *extrafield_local*, uInt *size_extrafield_local*, const void * *extrafield_global*, uInt *size_extrafield_global*, const char * *comment*, int *method*, int *level*, int *raw*, int *windowBits*, int *memLevel*, int *strategy*, const char * *password*, uLong *crcForCrypting*, uLong *versionMadeBy*, uLong *flagBase*, int *zip64*)

Definition at line 1077 of file zip.c.

References zip64_internal::add_position_when_writting_offset, ALLOC, curfile64_info::buffered_data, curfile64_info::central_header, CENTRALHEADERMAGIC, zip64_internal::ci, curfile64_info::crc32, curfile64_info::crypt_header_size, zip_fileinfo::dosDate, curfile64_info::dosDate, curfile64_info::encrypt, zip_fileinfo::external_fa, zip64_internal::filestream, curfile64_info::flag, zip64_internal::flags, zip64_internal::in_opened_file_inzip, zip_fileinfo::internal_fa, curfile64_info::keys, curfile64_info::method, curfile64_info::pcrc_32_tab, curfile64_info::pos_in_buffered_data, curfile64_info::pos_local_header, curfile64_info::pos_zip64extrainfo, curfile64_info::raw, curfile64_info::size_centralExtra, curfile64_info::size_centralExtraFree, curfile64_info::size_centralheader, SIZECENTRALHEADER, curfile64_info::stream, curfile64_info::stream_initialised, zip_fileinfo::tmz_date, curfile64_info::totalCompressedData, curfile64_info::totalUncompressedData, Write_LocalFileHeader(), Z_BUFSIZE, Z_BZIP2ED, zip64_internal::z_filefunc, curfile64_info::zip64, zip64local_putValue_inmemory(), zip64local_TmzDateToDosDate(), ZIP_ERRNO, ZIP_INTERNALERROR, ZIP_OK, ZIP_PARAMERROR, ZIP_SEQUENTIAL, ZIP_WRITE_DATA_DESCRIPTOR, zipCloseFileInZip(), ZTELL64, and ZWRITE64.

Referenced by zipOpenNewFileInZip(), zipOpenNewFileInZip2(), zipOpenNewFileInZip2_64(), zipOpenNewFileInZip3(), zipOpenNewFileInZip3_64(), zipOpenNewFileInZip4(), and zipOpenNewFileInZip64().

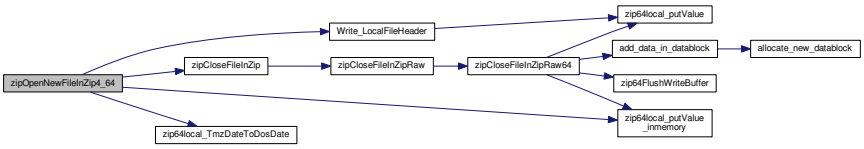
```
1084 {
1085     zip64_internal* zi;
1086     uInt size_filename;
1087     uInt size_comment;
1088     uInt i;
1089     int err = ZIP_OK;
1090     uLong version_to_extract;
1091
1092 #    ifdef NOCRYPT
1093     if (password != NULL)
1094         return ZIP_PARAMERROR;
1095 #    endif
1096
1097     if (file == NULL)
1098         return ZIP_PARAMERROR;
1099
1100 #ifdef HAVE_BZIP2
1101     if ((method!=0) && (method!=Z_DEFLATED) && (method!=Z_BZIP2ED))
1102       return ZIP_PARAMERROR;
1103 #else
1104     if ((method!=0) && (method!=Z_DEFLATED))
1105       return ZIP_PARAMERROR;
1106 #endif
```

```
1107
1108        zi = (zip64_internal*)file;
1109
1110        if (zi->in_opened_file_inzip == 1)
1111        {
1112            err = zipCloseFileInZip (file);
1113            if (err != ZIP_OK)
1114                return err;
1115        }
1116
1117        if (method == 0
1118                && (level == 0 || (zi->flags & ZIP_WRITE_DATA_DESCRIPTOR) == 0)
1119                && (zi->flags & ZIP_SEQUENTIAL) == 0)
1120        {
1121            version_to_extract = 10;
1122        }
1123        else
1124        {
1125            version_to_extract = 20;
1126        }
1127
1128        if (filename==NULL)
1129            filename="-";
1130
1131        if (comment==NULL)
1132            size_comment = 0;
1133        else
1134            size_comment = (uInt)strlen(comment);
1135
1136        size_filename = (uInt)strlen(filename);
1137
1138        if (zipfi == NULL)
1139            zi->ci.dosDate = 0;
1140        else
1141        {
1142            if (zipfi->dosDate != 0)
1143                zi->ci.dosDate = zipfi->dosDate;
1144            else
1145              zi->ci.dosDate = zip64local_TmzDateToDosDate(&zipfi->
    tmz_date);
1146        }
1147
1148        zi->ci.flag = flagBase;
1149        if ((level==8) || (level==9))
1150          zi->ci.flag |= 2;
1151        if (level==2)
1152          zi->ci.flag |= 4;
1153        if (level==1)
1154          zi->ci.flag |= 6;
1155        if (password != NULL)
1156          zi->ci.flag |= 1;
1157        if (version_to_extract >= 20
1158                && ((zi->flags & ZIP_WRITE_DATA_DESCRIPTOR) != 0
1159                    || (zi->flags & ZIP_SEQUENTIAL) != 0))
1160          zi->ci.flag |= 8;
1161
1162        zi->ci.crc32 = 0;
1163        zi->ci.method = method;
1164        zi->ci.encrypt = 0;
1165        zi->ci.stream_initialised = 0;
1166        zi->ci.pos_in_buffered_data = 0;
1167        zi->ci.raw = raw;
1168        zi->ci.pos_local_header = ZTELL64(zi->z_filefunc,zi->
    filestream);
1169
1170        zi->ci.size_centralheader = SIZECENTRALHEADER + size_filename +
    size_extrafield_global + size_comment;
1171        zi->ci.size_centralExtraFree = 32; /* Extra space we have reserved in case we
     need to add ZIP64 extra info data */
1172
1173        zi->ci.central_header = (char*)ALLOC((uInt)zi->ci.
    size_centralheader + zi->ci.size_centralExtraFree);
1174
1175        zi->ci.size_centralExtra = size_extrafield_global;
1176        zip64local_putValue_inmemory(zi->ci.
    central_header,(uLong)CENTRALHEADERMAGIC,4);
1177        /* version info */
1178        zip64local_putValue_inmemory(zi->ci.
    central_header+4,(uLong)versionMadeBy,2);
1179        zip64local_putValue_inmemory(zi->ci.
    central_header+6,(uLong)version_to_extract,2);
1180        zip64local_putValue_inmemory(zi->ci.
    central_header+8,(uLong)zi->ci.flag,2);
1181        zip64local_putValue_inmemory(zi->ci.
    central_header+10,(uLong)zi->ci.method,2);
1182        zip64local_putValue_inmemory(zi->ci.
    central_header+12,(uLong)zi->ci.dosDate,4);
```

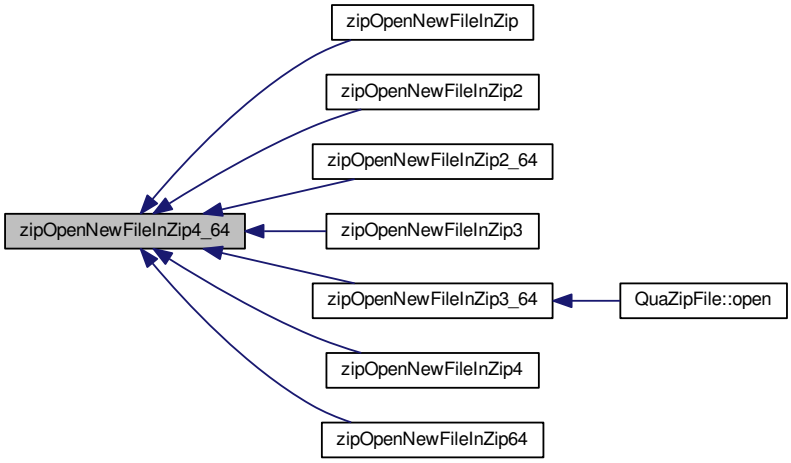
```
1183     zip64local_putValue_inmemory(zi->ci.
     central_header+16,(uLong)0,4); /*crc*/
1184     zip64local_putValue_inmemory(zi->ci.
     central_header+20,(uLong)0,4); /*compr size*/
1185     zip64local_putValue_inmemory(zi->ci.
     central_header+24,(uLong)0,4); /*uncompr size*/
1186     zip64local_putValue_inmemory(zi->ci.
     central_header+28,(uLong)size_filename,2);
1187     zip64local_putValue_inmemory(zi->ci.
     central_header+30,(uLong)size_extrafield_global,2);
1188     zip64local_putValue_inmemory(zi->ci.
     central_header+32,(uLong)size_comment,2);
1189     zip64local_putValue_inmemory(zi->ci.
     central_header+34,(uLong)0,2); /*disk nm start*/
1190
1191     if (zipfi==NULL)
1192         zip64local_putValue_inmemory(zi->ci.
     central_header+36,(uLong)0,2);
1193     else
1194         zip64local_putValue_inmemory(zi->ci.
     central_header+36,(uLong)zipfi->internal_fa,2);
1195
1196     if (zipfi==NULL)
1197         zip64local_putValue_inmemory(zi->ci.
     central_header+38,(uLong)0,4);
1198     else
1199         zip64local_putValue_inmemory(zi->ci.
     central_header+38,(uLong)zipfi->external_fa,4);
1200
1201     if(zi->ci.pos_local_header >= 0xffffffff)
1202       zip64local_putValue_inmemory(zi->ci.
     central_header+42,(uLong)0xffffffff,4);
1203     else
1204       zip64local_putValue_inmemory(zi->ci.
     central_header+42,(uLong)zi->ci.pos_local_header - zi->
     add_position_when_writting_offset,4);
1205
1206     for (i=0;i<size_filename;i++)
1207         *(zi->ci.central_header+SIZECENTRALHEADER+i) = *(filename+i);
1208
1209     for (i=0;i<size_extrafield_global;i++)
1210         *(zi->ci.central_header+SIZECENTRALHEADER+size_filename+i) =
1211               *(((const char*)extrafield_global)+i);
1212
1213     for (i=0;i<size_comment;i++)
1214         *(zi->ci.central_header+SIZECENTRALHEADER+size_filename+
1215               size_extrafield_global+i) = *(comment+i);
1216     if (zi->ci.central_header == NULL)
1217         return ZIP_INTERNALERROR;
1218
1219     zi->ci.zip64 = zip64;
1220     zi->ci.totalCompressedData = 0;
1221     zi->ci.totalUncompressedData = 0;
1222     zi->ci.pos_zip64extrainfo = 0;
1223
1224     err = Write_LocalFileHeader(zi, filename, size_extrafield_local,
1225                                 extrafield_local, version_to_extract);
1226
1227 #ifdef HAVE_BZIP2
1228     zi->ci.bstream.avail_in = (uInt)0;
1229     zi->ci.bstream.avail_out = (uInt)Z_BUFSIZE;
1230     zi->ci.bstream.next_out = (char*)zi->ci.buffered_data;
1231     zi->ci.bstream.total_in_hi32 = 0;
1232     zi->ci.bstream.total_in_lo32 = 0;
1233     zi->ci.bstream.total_out_hi32 = 0;
1234     zi->ci.bstream.total_out_lo32 = 0;
1235 #endif
1236
1237     zi->ci.stream.avail_in = (uInt)0;
1238     zi->ci.stream.avail_out = (uInt)Z_BUFSIZE;
1239     zi->ci.stream.next_out = zi->ci.buffered_data;
1240     zi->ci.stream.total_in = 0;
1241     zi->ci.stream.total_out = 0;
1242     zi->ci.stream.data_type = Z_BINARY;
1243
1244 #ifdef HAVE_BZIP2
1245     if ((err==ZIP_OK) && (zi->ci.method == Z_DEFLATED || zi->ci.
     method == Z_BZIP2ED) && (!zi->ci.raw))
1246 #else
1247     if ((err==ZIP_OK) && (zi->ci.method == Z_DEFLATED) && (!zi->ci.
     raw))
1248 #endif
1249     {
1250         if(zi->ci.method == Z_DEFLATED)
1251         {
1252           zi->ci.stream.zalloc = (alloc_func)0;
1253           zi->ci.stream.zfree = (free_func)0;
```

```
1254            zi->ci.stream.opaque = (voidpf)0;
1255
1256            if (windowBits>0)
1257                windowBits = -windowBits;
1258
1259            err = deflateInit2(&zi->ci.stream, level, Z_DEFLATED, windowBits, memLevel, strategy);
1260
1261            if (err==Z_OK)
1262                zi->ci.stream_initialised = Z_DEFLATED;
1263          }
1264          else if(zi->ci.method == Z_BZIP2ED)
1265          {
1266 #ifdef HAVE_BZIP2
1267              /* Init BZip stuff here */
1268            zi->ci.bstream.bzalloc = 0;
1269            zi->ci.bstream.bzfree = 0;
1270            zi->ci.bstream.opaque = (voidpf)0;
1271
1272            err = BZ2_bzCompressInit(&zi->ci.bstream, level, 0,35);
1273            if(err == BZ_OK)
1274              zi->ci.stream_initialised = Z_BZIP2ED;
1275 #endif
1276          }
1277
1278      }
1279
1280 #    ifndef NOCRYPT
1281      zi->ci.crypt_header_size = 0;
1282      if ((err==Z_OK) && (password != NULL))
1283      {
1284          unsigned char bufHead[RAND_HEAD_LEN];
1285          unsigned int sizeHead;
1286          zi->ci.encrypt = 1;
1287          zi->ci.pcrc_32_tab = get_crc_table();
1288          /*init_keys(password,zi->ci.keys,zi->ci.pcrc_32_tab);*/
1289          if (crcForCrypting == 0) {
1290              crcForCrypting = (uLong)zi->ci.dosDate << 16; /* ATTANTION! Without this row, you
     don't unpack your password protected archive in other app. */
1291          }
1292          sizeHead=crypthead(password,bufHead,RAND_HEAD_LEN,zi->ci.keys,zi->
      ci.pcrc_32_tab,crcForCrypting);
1293          zi->ci.crypt_header_size = sizeHead;
1294
1295          if (ZWRITE64(zi->z_filefunc,zi->filestream,bufHead,sizeHead) !=
     sizeHead)
1296                  err = ZIP_ERRNO;
1297      }
1298 #    endif
1299
1300      if (err==Z_OK)
1301          zi->in_opened_file_inzip = 1;
1302      return err;
1303 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



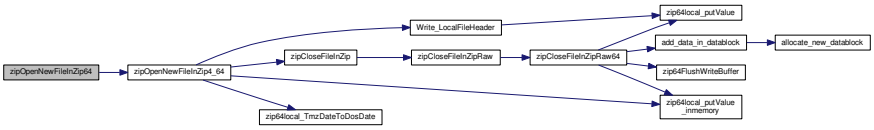
13.162.4.45 int ZEXPORT zipOpenNewFileInZip64 (zipFile *file*, const char * *filename*, const zip_fileinfo * *zipfi*, const void * *extrafield_local*, uInt *size_extrafield_local*, const void * *extrafield_global*, uInt *size_extrafield_global*, const char * *comment*, int *method*, int *level*, int *zip64*)

Definition at line 1377 of file zip.c.

References DEF_MEM_LEVEL, VERSIONMADEBY, and zipOpenNewFileInZip4_64().

```
1381 {
1382     return zipOpenNewFileInZip4_64 (file, filename, zipfi,
1383                                     extrafield_local, size_extrafield_local,
1384                                     extrafield_global, size_extrafield_global,
1385                                     comment, method, level, 0,
1386                                     -MAX_WBITS, DEF_MEM_LEVEL, Z_DEFAULT_STRATEGY,
1387                                     NULL, 0, VERSIONMADEBY, 0, zip64);
1388 }
```

Here is the call graph for this function:



13.162.4.46 int ZEXPORT zipRemoveExtraInfoBlock (char * *pData*, int * *dataLen*, short *sHeader*)

Definition at line 2019 of file zip.c.

References ALLOC, TRYFREE, ZIP_ERRNO, ZIP_OK, and ZIP_PARAMERROR.

```
2020 {
2021   char* p = pData;
2022   int size = 0;
```

```
2023   char* pNewHeader;
2024   char* pTmp;
2025   short header;
2026   short dataSize;
2027
2028   int retVal = ZIP_OK;
2029
2030   if(pData == NULL || *dataLen < 4)
2031     return ZIP_PARAMERROR;
2032
2033   pNewHeader = (char*)ALLOC(*dataLen);
2034   pTmp = pNewHeader;
2035
2036   while(p < (pData + *dataLen))
2037   {
2038     header = *(short*)p;
2039     dataSize = *(((short*)p)+1);
2040
2041     if( header == sHeader ) /* Header found. */
2042     {
2043       p += dataSize + 4; /* skip it. do not copy to temp buffer */
2044     }
2045     else
2046     {
2047       /* Extra Info block should not be removed, So copy it to the temp buffer. */
2048       memcpy(pTmp, p, dataSize + 4);
2049       p += dataSize + 4;
2050       size += dataSize + 4;
2051     }
2052
2053   }
2054
2055   if(size < *dataLen)
2056   {
2057     /* clean old extra info block. */
2058     memset(pData,0, *dataLen);
2059
2060     /* copy the new extra info block over the old */
2061     if(size > 0)
2062       memcpy(pData, pNewHeader, size);
2063
2064     /* set the new extra info size */
2065     *dataLen = size;
2066
2067     retVal = ZIP_OK;
2068   }
2069   else
2070     retVal = ZIP_ERRNO;
2071
2072   TRYFREE(pNewHeader);
2073
2074   return retVal;
2075 }
```

13.162.4.47 int ZEXPORT zipSetFlags (zipFile *file*, unsigned *flags*)

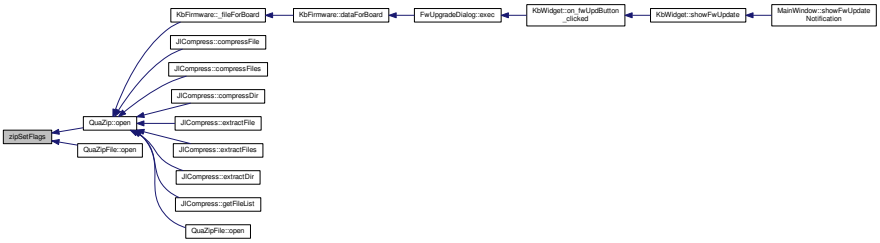
Definition at line 2077 of file zip.c.

References zip64_internal::flags, ZIP_OK, ZIP_PARAMERROR, ZIP_SEQUENTIAL, and ZIP_WRITE_DATA_DESCRIPTOR.

Referenced by QuaZip::open(), and QuaZipFile::open().

```
2078 {
2079     zip64_internal* zi;
2080     if (file == NULL)
2081         return ZIP_PARAMERROR;
2082     zi = (zip64_internal*)file;
2083     zi->flags |= flags;
2084     // If the output is non-seekable, the data descriptor is needed.
2085     if ((zi->flags & ZIP_SEQUENTIAL) != 0) {
2086         zi->flags |= ZIP_WRITE_DATA_DESCRIPTOR;
2087     }
2088     return ZIP_OK;
2089 }
```

Here is the caller graph for this function:



13.162.4.48 int ZEXPORT zipWriteInFileInZip (zipFile *file*, const void * *buf*, unsigned int *len*)

Definition at line 1442 of file zip.c.

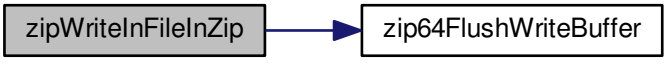
References curfile64_info::buffered_data, zip64_internal::ci, curfile64_info::crc32, zip64_internal::in_opened_file_inzip, curfile64_info::method, curfile64_info::pos_in_buffered_data, curfile64_info::raw, curfile64_info::stream, Z_BUFSIZE, Z_BZIP2ED, zip64FlushWriteBuffer(), ZIP_ERRNO, ZIP_OK, and ZIP_PARAMERROR.

Referenced by QuaZipFile::writeData().

```
1443 {
1444     zip64_internal* zi;
1445     int err=ZIP_OK;
1446
1447     if (file == NULL)
1448         return ZIP_PARAMERROR;
1449     zi = (zip64_internal*)file;
1450
1451     if (zi->in_opened_file_inzip == 0)
1452         return ZIP_PARAMERROR;
1453
1454     zi->ci.crc32 = crc32(zi->ci.crc32,buf,(uInt)len);
1455
1456 #ifdef HAVE_BZIP2
1457     if(zi->ci.method == Z_BZIP2ED && (!zi->ci.raw))
1458     {
1459       zi->ci.bstream.next_in = (void*)buf;
1460       zi->ci.bstream.avail_in = len;
1461       err = BZ_RUN_OK;
1462
1463       while ((err==BZ_RUN_OK) && (zi->ci.bstream.avail_in>0))
1464       {
1465         if (zi->ci.bstream.avail_out == 0)
1466         {
1467           if (zip64FlushWriteBuffer(zi) == ZIP_ERRNO)
1468             err = ZIP_ERRNO;
1469           zi->ci.bstream.avail_out = (uInt)Z_BUFSIZE;
1470           zi->ci.bstream.next_out = (char*)zi->ci.buffered_data;
1471         }
1472
1473
1474         if(err != BZ_RUN_OK)
1475           break;
1476
1477         if ((zi->ci.method == Z_BZIP2ED) && (!zi->ci.raw))
1478         {
1479           uLong uTotalOutBefore_lo = zi->ci.bstream.total_out_lo32;
1480 /*          uLong uTotalOutBefore_hi = zi->ci.bstream.total_out_hi32; */
1481           err=BZ2_bzCompress(&zi->ci.bstream,  BZ_RUN);
1482
1483           zi->ci.pos_in_buffered_data += (uInt)(zi->ci.bstream.total_out_lo32 -
      uTotalOutBefore_lo) ;
1484         }
1485       }
1486
1487       if(err == BZ_RUN_OK)
1488         err = ZIP_OK;
1489     }
1490     else
1491 #endif
1492     {
1493       zi->ci.stream.next_in = (Bytef*)buf;
```

```
1494        zi->ci.stream.avail_in = len;
1495
1496        while ((err==ZIP_OK) && (zi->ci.stream.avail_in>0))
1497        {
1498            if (zi->ci.stream.avail_out == 0)
1499            {
1500                if (zip64FlushWriteBuffer(zi) == ZIP_ERRNO)
1501                    err = ZIP_ERRNO;
1502                zi->ci.stream.avail_out = (uInt)Z_BUFSIZE;
1503                zi->ci.stream.next_out = zi->ci.buffered_data;
1504            }
1505
1506
1507            if(err != ZIP_OK)
1508                break;
1509
1510            if ((zi->ci.method == Z_DEFLATED) && (!zi->ci.raw))
1511            {
1512                uLong uTotalOutBefore = zi->ci.stream.total_out;
1513                err=deflate(&zi->ci.stream,  Z_NO_FLUSH);
1514                if(uTotalOutBefore > zi->ci.stream.total_out)
1515                {
1516                  int bBreak = 0;
1517                  bBreak++;
1518                }
1519
1520                zi->ci.pos_in_buffered_data += (uInt)(zi->ci.
    stream.total_out - uTotalOutBefore) ;
1521            }
1522            else
1523            {
1524                uInt copy_this,i;
1525                if (zi->ci.stream.avail_in < zi->ci.stream.avail_out)
1526                    copy_this = zi->ci.stream.avail_in;
1527                else
1528                    copy_this = zi->ci.stream.avail_out;
1529
1530                for (i = 0; i < copy_this; i++)
1531                    *(((char*)zi->ci.stream.next_out)+i) =
1532                        *(((const char*)zi->ci.stream.next_in)+i);
1533                {
1534                    zi->ci.stream.avail_in -= copy_this;
1535                    zi->ci.stream.avail_out-= copy_this;
1536                    zi->ci.stream.next_in+= copy_this;
1537                    zi->ci.stream.next_out+= copy_this;
1538                    zi->ci.stream.total_in+= copy_this;
1539                    zi->ci.stream.total_out+= copy_this;
1540                    zi->ci.pos_in_buffered_data += copy_this;
1541                }
1542            }
1543        }/* while(...) */
1544    }
1545
1546    return err;
1547 }
```

Here is the call graph for this function:



Here is the caller graph for this function:

13.162.5 Variable Documentation

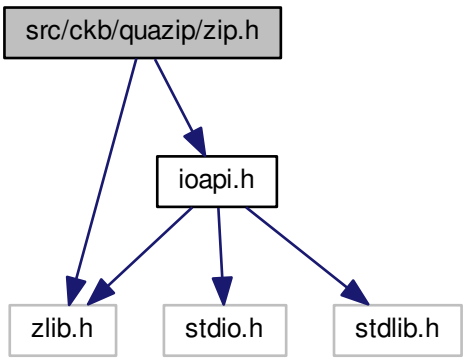
13.162.5.1 const char zip_copyright[ ] =" zip 1.01 Copyright 1998-2004 Gilles Vollant - http://www.winimage.com/zLibDll"

Definition at line 104 of file zip.c.

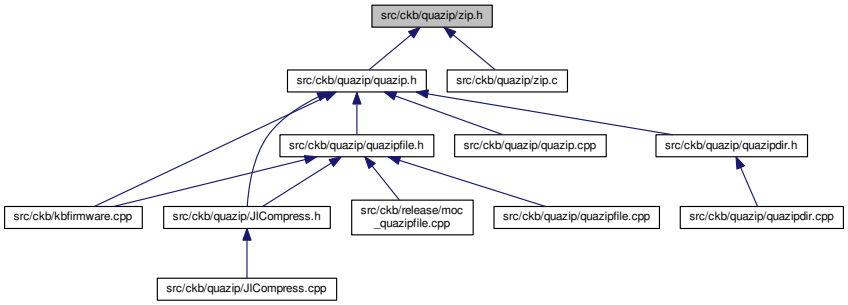
13.163 src/ckb/quazip/zip.h File Reference

```
#include "zlib.h"
#include "ioapi.h"
```

Include dependency graph for zip.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct tm_zip_s
- struct zip_fileinfo

Macros

- #define Z_BZIP2ED 12
- #define ZIP_OK (0)
- #define ZIP_EOF (0)
- #define ZIP_ERRNO (Z_ERRNO)
- #define ZIP_PARAMERROR (-102)
- #define ZIP_BADZIPFILE (-103)
- #define ZIP_INTERNALERROR (-104)
- #define ZIP_WRITE_DATA_DESCRIPTOR 0x8u
- #define ZIP_AUTO_CLOSE 0x1u
- #define ZIP_SEQUENTIAL 0x2u
- #define ZIP_DEFAULT_FLAGS (ZIP_AUTO_CLOSE | ZIP_WRITE_DATA_DESCRIPTOR)
- #define DEF_MEM_LEVEL MAX_MEM_LEVEL
- #define APPEND_STATUS_CREATE (0)
- #define APPEND_STATUS_CREATEAFTER (1)
- #define APPEND_STATUS_ADDINZIP (2)

Typedefs

- typedef voidp zipFile
- typedef struct tm_zip_s tm_zip
- typedef const char * zipcharpc

Functions

- zipFile ZEXPORT zipOpen _Z_OF ((voidpf file, int append))
- zipFile ZEXPORT zipOpen2 _Z_OF ((voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc_def *pzlib_filefunc_def))
- zipFile ZEXPORT zipOpen2_64 _Z_OF ((voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc64_def *pzlib_filefunc_def))
- zipFile ZEXPORT zipOpen3 (voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc64_32_def *pzlib_filefunc64_32_def, unsigned flags)

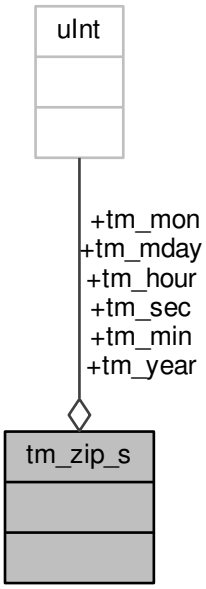
- int ZEXPORT zipOpenNewFileInZip _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level))
- int ZEXPORT zipOpenNewFileInZip64 _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level, int zip64))
- int ZEXPORT zipOpenNewFileInZip2 _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level, int raw))
- int ZEXPORT zipOpenNewFileInZip2_64 _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level, int raw, int zip64))
- int ZEXPORT zipOpenNewFileInZip3 _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char ∗password, uLong crcForCrypting))
- int ZEXPORT zipOpenNewFileInZip3_64 _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char ∗password, uLong crcForCrypting, int zip64))
- int ZEXPORT zipOpenNewFileInZip4 _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char ∗password, uLong crcForCrypting, uLong versionMadeBy, uLong flagBase))
- int ZEXPORT zipOpenNewFileInZip4_64 _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char ∗password, uLong crcForCrypting, uLong versionMadeBy, uLong flagBase, int zip64))
- int ZEXPORT zipWriteInFileInZip _Z_OF ((zipFile file, const void ∗buf, unsigned len))
- int ZEXPORT zipCloseFileInZip _Z_OF ((zipFile file))
- int ZEXPORT zipCloseFileInZipRaw _Z_OF ((zipFile file, uLong uncompressed_size, uLong crc32))
- int ZEXPORT zipCloseFileInZipRaw64 _Z_OF ((zipFile file, ZPOS64_T uncompressed_size, uLong crc32))
- int ZEXPORT zipClose _Z_OF ((zipFile file, const char ∗global_comment))
- int ZEXPORT zipRemoveExtraInfoBlock _Z_OF ((char ∗pData, int ∗dataLen, short sHeader))
- int ZEXPORT zipSetFlags (zipFile file, unsigned flags)
- int ZEXPORT zipClearFlags (zipFile file, unsigned flags)

13.163.1 Data Structure Documentation

13.163.1.1 struct tm_zip_s

Definition at line 100 of file zip.h.

Collaboration diagram for tm_zip_s:



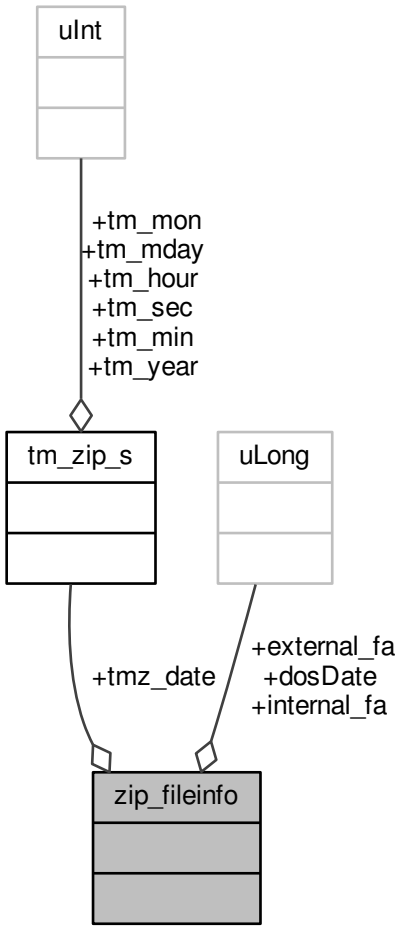
Data Fields

uInt	tm_hour	
uInt	tm_mday	
uInt	tm_min	
uInt	tm_mon	
uInt	tm_sec	
uInt	tm_year	

13.163.1.2 struct zip_fileinfo

Definition at line 110 of file zip.h.

Collaboration diagram for zip_fileinfo:



Data Fields

uLong	dosDate	
uLong	external_fa	
uLong	internal_fa	
tm_zip	tmz_date	

13.163.2 Macro Definition Documentation

13.163.2.1 #define APPEND_STATUS_ADDINZIP (2)

Definition at line 125 of file zip.h.

Referenced by QuaZip::open(), and zipOpen3().

13.163.2.2 #define APPEND_STATUS_CREATE (0)

Definition at line 123 of file zip.h.

Referenced by QuaZip::open(), and zipOpen3().

13.163.2.3 #define APPEND_STATUS_CREATEAFTER (1)

Definition at line 124 of file zip.h.

Referenced by QuaZip::open(), and zipOpen3().

13.163.2.4 #define DEF_MEM_LEVEL MAX_MEM_LEVEL

Definition at line 94 of file zip.h.

Referenced by zipOpenNewFileInZip(), zipOpenNewFileInZip2(), zipOpenNewFileInZip2_64(), and zipOpenNewFileInZip64().

13.163.2.5 #define Z_BZIP2ED 12

Definition at line 67 of file zip.h.

13.163.2.6 #define ZIP_AUTO_CLOSE 0x1u

Definition at line 86 of file zip.h.

Referenced by LoadCentralDirectoryRecord(), QuaZip::open(), zipClose(), and zipOpen3().

13.163.2.7 #define ZIP_BADZIPFILE (-103)

Definition at line 82 of file zip.h.

Referenced by LoadCentralDirectoryRecord(), and zipCloseFileInZipRaw64().

13.163.2.8 #define ZIP_DEFAULT_FLAGS (ZIP_AUTO_CLOSE | ZIP_WRITE_DATA_DESCRIPTOR)

Definition at line 88 of file zip.h.

Referenced by zipOpen(), zipOpen2(), zipOpen2_64(), and zipOpen64().

13.163.2.9 #define ZIP_EOF (0)

Definition at line 79 of file zip.h.

Referenced by zip64local_getByte().

13.163.2.10 #define ZIP_ERRNO (Z_ERRNO)

Definition at line 80 of file zip.h.

Referenced by LoadCentralDirectoryRecord(), Write_GlobalComment(), Write_LocalFileHeader(), zip64FlushWriteBuffer(), zip64local_getByte(), zip64local_putValue(), zipClose(), zipCloseFileInZipRaw64(), zipOpenNewFileInZip4_64(), zipRemoveExtraInfoBlock(), and zipWriteInFileInZip().

13.163.2.11 #define ZIP_INTERNALERROR (-104)

Definition at line 83 of file zip.h.

Referenced by add_data_in_datablock(), and zipOpenNewFileInZip4_64().

13.163.2.12 #define ZIP_OK (0)

Definition at line 78 of file zip.h.

Referenced by add_data_in_datablock(), LoadCentralDirectoryRecord(), Write_EndOfCentralDirectoryRecord(), Write_GlobalComment(), Write_LocalFileHeader(), Write_Zip64EndOfCentralDirectoryLocator(), Write_Zip64EndOfCentralDirectoryRecord(), QuaZipFile::writeData(), zip64FlushWriteBuffer(), zip64local_getByte(), zip64local_getLong(), zip64local_getLong64(), zip64local_getShort(), zip64local_putValue(), zip64local_SearchCentralDir64(), zipClearFlags(), zipClose(), zipCloseFileInZipRaw64(), zipOpen3(), zipOpenNewFileInZip4_64(), zipRemoveExtraInfoBlock(), zipSetFlags(), and zipWriteInFileInZip().

13.163.2.13 #define ZIP_PARAMERROR (-102)

Definition at line 81 of file zip.h.

Referenced by zipClearFlags(), zipClose(), zipCloseFileInZipRaw64(), zipOpenNewFileInZip4_64(), zipRemoveExtraInfoBlock(), zipSetFlags(), and zipWriteInFileInZip().

13.163.2.14 #define ZIP_SEQUENTIAL 0x2u

Definition at line 87 of file zip.h.

Referenced by QuaZip::open(), zipClearFlags(), zipCloseFileInZipRaw64(), zipOpenNewFileInZip4_64(), and zipSetFlags().

13.163.2.15 #define ZIP_WRITE_DATA_DESCRIPTOR 0x8u

Definition at line 85 of file zip.h.

Referenced by QuaZip::open(), QuaZipFile::open(), zipClearFlags(), zipOpenNewFileInZip4_64(), and zipSetFlags().

13.163.3 Typedef Documentation

13.163.3.1 typedef struct tm_zip_s tm_zip

13.163.3.2 typedef const char* zipcharpc

Definition at line 120 of file zip.h.

13.163.3.3 typedef voidp zipFile

Definition at line 75 of file zip.h.

13.163.4 Function Documentation

13.163.4.1 zipFile ZEXPORT zipOpen _Z_OF ((voidpf file, int append))

13.163.4.2 zipFile ZEXPORT zipOpen2 _Z_OF ((voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc_def *pzlib_filefunc_def))

13.163.4.3 zipFile ZEXPORT zipOpen2_64 _Z_OF ((voidpf file, int append, zipcharpc *globalcomment, zlib_filefunc64_def *pzlib_filefunc_def))

13.163.4.4 int ZEXPORT zipOpenNewFileInZip _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level))

13.163.4.5 int ZEXPORT zipOpenNewFileInZip64 _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level, int zip64))

13.163.4.6 int ZEXPORT zipOpenNewFileInZip2 _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level, int raw))

13.163.4.7 int ZEXPORT zipOpenNewFileInZip2_64 _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level, int raw, int zip64))

13.163.4.8 int ZEXPORT zipOpenNewFileInZip3 _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char ∗password, uLong crcForCrypting))

13.163.4.9 int ZEXPORT zipOpenNewFileInZip3_64 _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char ∗password, uLong crcForCrypting, int zip64))

13.163.4.10 int ZEXPORT zipOpenNewFileInZip4 _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char ∗password, uLong crcForCrypting, uLong versionMadeBy, uLong flagBase))

13.163.4.11 int ZEXPORT zipOpenNewFileInZip4_64 _Z_OF ((zipFile file, const char ∗filename, const zip_fileinfo ∗zipfi, const void ∗extrafield_local, uInt size_extrafield_local, const void ∗extrafield_global, uInt size_extrafield_global, const char ∗comment, int method, int level, int raw, int windowBits, int memLevel, int strategy, const char ∗password, uLong crcForCrypting, uLong versionMadeBy, uLong flagBase, int zip64))

13.163.4.12 int ZEXPORT zipWriteInFileInZip _Z_OF ((zipFile file, const void ∗buf, unsigned len))

13.163.4.13 int ZEXPORT zipCloseFileInZip _Z_OF ((zipFile file))

13.163.4.14 int ZEXPORT zipCloseFileInZipRaw _Z_OF ((zipFile file, uLong uncompressed_size, uLong crc32))

13.163.4.15 int ZEXPORT zipCloseFileInZipRaw64 _Z_OF ((zipFile file, ZPOS64_T uncompressed_size, uLong crc32))

13.163.4.16 int ZEXPORT zipClose _Z_OF ((zipFile file, const char ∗global_comment))

13.163.4.17 int ZEXPORT zipRemoveExtraInfoBlock _Z_OF ((char ∗pData, int ∗dataLen, short sHeader))

13.163.4.18 int ZEXPORT zipClearFlags (zipFile *file,* unsigned *flags*)

Definition at line 2091 of file zip.c.

References zip64_internal::flags, ZIP_OK, ZIP_PARAMERROR, ZIP_SEQUENTIAL, and ZIP_WRITE_DATA_DESCRIPTOR.

Referenced by QuaZipFile::open().

```
2092 {
2093     zip64_internal* zi;
```

```
2094     if (file == NULL)
2095         return ZIP_PARAMERROR;
2096     zi = (zip64_internal*)file;
2097     zi->flags &= ~flags;
2098     // If the data descriptor is not written, we can't use a non-seekable output.
2099     if ((zi->flags & ZIP_WRITE_DATA_DESCRIPTOR) == 0) {
2100         zi->flags &= ~ZIP_SEQUENTIAL;
2101     }
2102     return ZIP_OK;
2103 }
```

Here is the caller graph for this function:

13.163.4.19 zipFile ZEXPORT zipOpen3 (voidpf *file*, int *append*, zipcharpc * *globalcomment*, zlib_filefunc64_32_def * *pzlib_filefunc64_32_def*, unsigned *flags*)

Definition at line 862 of file zip.c.

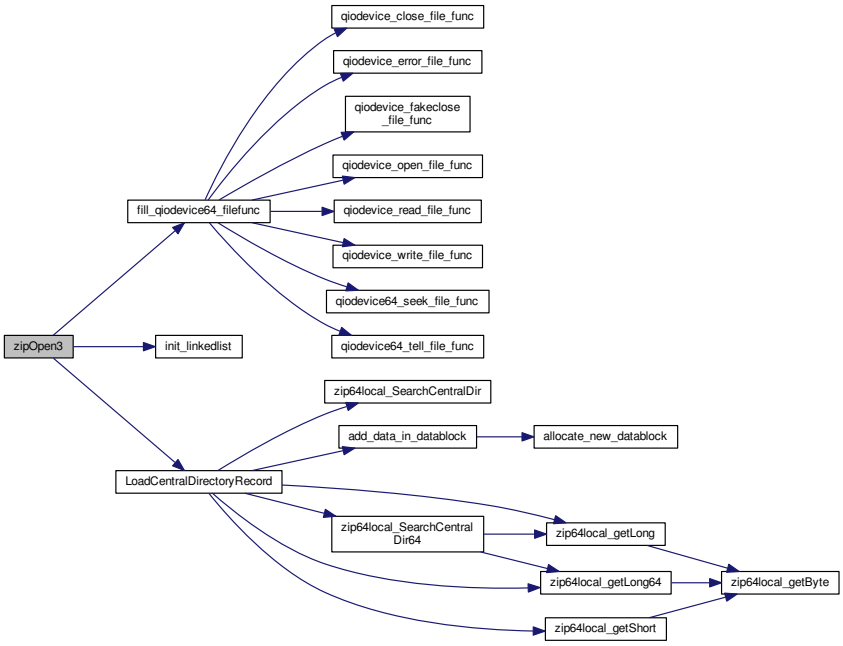
References zip64_internal::add_position_when_writting_offset, ALLOC, APPEND_STATUS_ADDINZIP, APPEND_STATUS_CREATE, APPEND_STATUS_CREATEAFTER, zip64_internal::begin_pos, zip64_internal::central_dir, zip64_internal::ci, zip64_internal::filestream, fill_qiodevice64_filefunc(), zip64_internal::flags, zip64_internal::globalcomment, zip64_internal::in_opened_file_inzip, init_linkedlist(), LoadCentralDirectoryRecord(), zip64_internal::number_entry, SEEK_END, curfile64_info::stream_initialised, TRYFREE, zip64_internal::z_filefunc, ZCLOSE64, ZFAKECLOSE64, zlib_filefunc64_32_def_s::zfile_func64, ZIP_AUTO_CLOSE, ZIP_OK, ZLIB_FILEFUNC_MODE_CREATE, ZLIB_FILEFUNC_MODE_EXISTING, ZLIB_FILEFUNC_MODE_READ, ZLIB_FILEFUNC_MODE_WRITE, ZOPEN64, zlib_filefunc64_32_def_s::zseek32_file, ZSEEK64, zlib_filefunc64_32_def_s::ztell32_file, and ZTELL64.

Referenced by QuaZip::open(), zipOpen(), zipOpen2(), zipOpen2_64(), and zipOpen64().

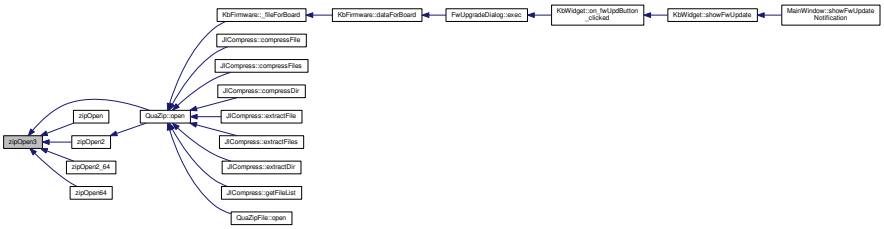
```
864 {
865     zip64_internal ziinit;
866     zip64_internal* zi;
867     int err=ZIP_OK;
868 
869     ziinit.flags = flags;
870     ziinit.z_filefunc.zseek32_file = NULL;
871     ziinit.z_filefunc.ztell32_file = NULL;
872     if (pzlib_filefunc64_32_def==NULL)
873         fill_qiodevice64_filefunc(&ziinit.z_filefunc.
      zfile_func64);
874     else
875         ziinit.z_filefunc = *pzlib_filefunc64_32_def;
876 
877     ziinit.filestream = ZOPEN64(ziinit.z_filefunc,
878                   file,
879                   (append == APPEND_STATUS_CREATE) ?
880                   (ZLIB_FILEFUNC_MODE_READ |
      ZLIB_FILEFUNC_MODE_WRITE | ZLIB_FILEFUNC_MODE_CREATE) :
881                     (ZLIB_FILEFUNC_MODE_READ |
      ZLIB_FILEFUNC_MODE_WRITE | ZLIB_FILEFUNC_MODE_EXISTING))
      ;
882 
883     if (ziinit.filestream == NULL)
884         return NULL;
885 
886     if (append == APPEND_STATUS_CREATEAFTER)
887         ZSEEK64(ziinit.z_filefunc,ziinit.filestream,0,
      SEEK_END);
888 
```

```
889     ziinit.begin_pos = ZTELL64(ziinit.z_filefunc,ziinit.
      filestream);
890     ziinit.in_opened_file_inzip = 0;
891     ziinit.ci.stream_initialised = 0;
892     ziinit.number_entry = 0;
893     ziinit.add_position_when_writting_offset = 0;
894     init_linkedlist(&(ziinit.central_dir));
895
896
897
898     zi = (zip64_internal*)ALLOC(sizeof(zip64_internal));
899     if (zi==NULL)
900     {
901         if ((ziinit.flags & ZIP_AUTO_CLOSE) != 0) {
902             ZCLOSE64(ziinit.z_filefunc,ziinit.filestream);
903         } else {
904             ZFAKECLOSE64(ziinit.z_filefunc,ziinit.
      filestream);
905         }
906         return NULL;
907     }
908
909     /* now we add file in a zipfile */
910 #    ifndef NO_ADDFILEINEXISTINGZIP
911     ziinit.globalcomment = NULL;
912     if (append == APPEND_STATUS_ADDINZIP)
913     {
914       /* Read and Cache Central Directory Records */
915       err = LoadCentralDirectoryRecord(&ziinit);
916     }
917
918     if (globalcomment)
919     {
920       *globalcomment = ziinit.globalcomment;
921     }
922 #    endif /* !NO_ADDFILEINEXISTINGZIP*/
923
924     if (err != ZIP_OK)
925     {
926 #    ifndef NO_ADDFILEINEXISTINGZIP
927         TRYFREE(ziinit.globalcomment);
928 #    endif /* !NO_ADDFILEINEXISTINGZIP*/
929         TRYFREE(zi);
930         return NULL;
931     }
932     else
933     {
934         *zi = ziinit;
935         return (zipFile)zi;
936     }
937 }
```

Here is the call graph for this function:



Here is the caller graph for this function:



13.163.4.20 int ZEXPORT zipSetFlags (zipFile *file*, unsigned *flags*)

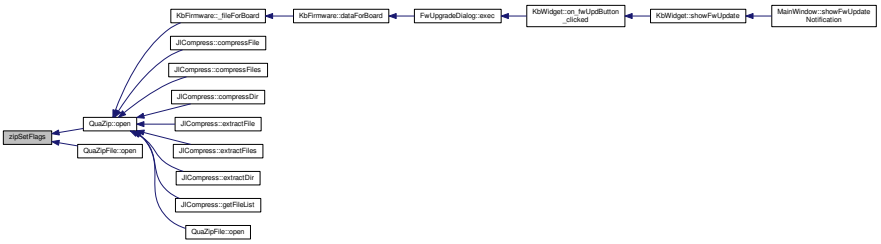
Definition at line 2077 of file zip.c.

References zip64_internal::flags, ZIP_OK, ZIP_PARAMERROR, ZIP_SEQUENTIAL, and ZIP_WRITE_DATA_DESCRIPTOR.

Referenced by QuaZip::open(), and QuaZipFile::open().

```
2078 {
2079     zip64_internal* zi;
2080     if (file == NULL)
2081         return ZIP_PARAMERROR;
2082     zi = (zip64_internal*)file;
2083     zi->flags |= flags;
2084     // If the output is non-seekable, the data descriptor is needed.
2085     if ((zi->flags & ZIP_SEQUENTIAL) != 0) {
2086         zi->flags |= ZIP_WRITE_DATA_DESCRIPTOR;
2087     }
2088     return ZIP_OK;
2089 }
```

Here is the caller graph for this function:



13.164 src/ckb/rebindwidget.cpp File Reference

```
#include <QStandardPaths>
#include "rebindwidget.h"
#include "ui_rebindwidget.h"
#include <qdebug.h>
```

Include dependency graph for rebindwidget.cpp:

Variables

- static const int DPI_OFFSET = -KeyAction::DPI_UP + 1
- static const int DPI_CUST_IDX = KeyAction::DPI_CUSTOM + DPI_OFFSET

13.164.1 Variable Documentation

13.164.1.1 const int DPI_CUST_IDX = KeyAction::DPI_CUSTOM + DPI_OFFSET [static]

Definition at line 7 of file rebindwidget.cpp.

Referenced by RebindWidget::on_dpiBox_currentIndexChanged().

13.164.1.2 const int DPI_OFFSET = -KeyAction::DPI_UP + 1 [static]

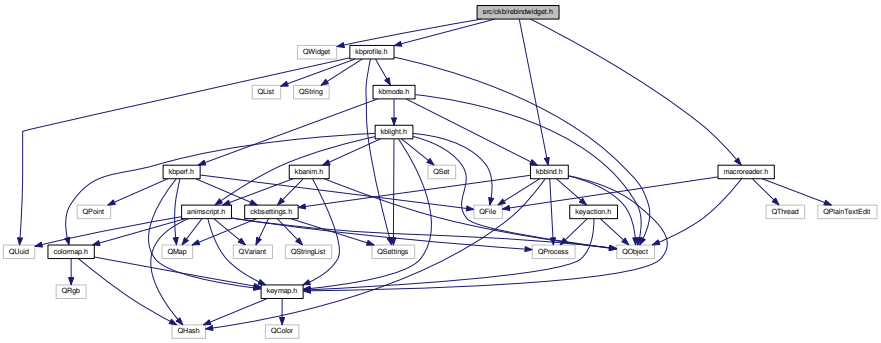
Definition at line 6 of file rebindwidget.cpp.

Referenced by RebindWidget::applyChanges(), and RebindWidget::setSelection().

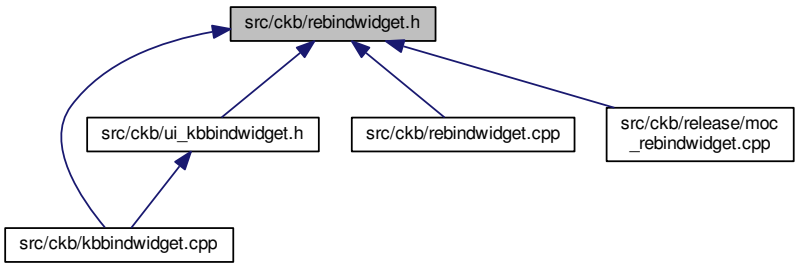
13.165 src/ckb/rebindwidget.h File Reference

```
#include <QWidget>
#include "kbbind.h"
#include "kbprofile.h"
#include "macroreader.h"
```

Include dependency graph for rebindwidget.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class RebindWidget

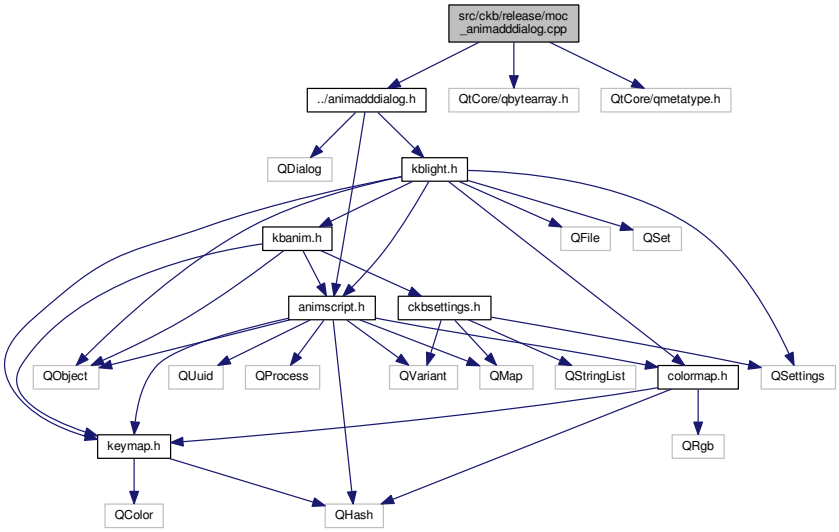
Namespaces

- Ui

13.166 src/ckb/release/moc_animadddialog.cpp File Reference

```
#include "../animadddialog.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_animadddialog.cpp:



Data Structures

- struct qt_meta_stringdata_AnimAddDialog_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

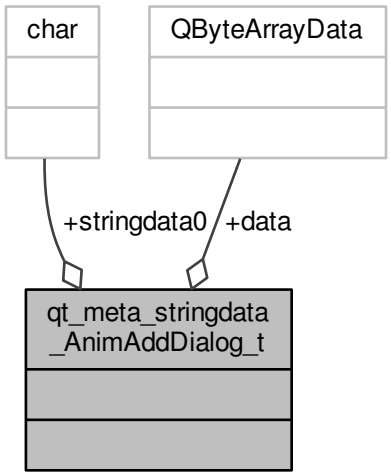
- static const qt_meta_stringdata_AnimAddDialog_t qt_meta_stringdata_AnimAddDialog
- static const uint qt_meta_data_AnimAddDialog []

13.166.1 Data Structure Documentation

13.166.1.1 struct qt_meta_stringdata_AnimAddDialog_t

Definition at line 21 of file moc_animadddialog.cpp.

Collaboration diagram for qt_meta_stringdata_AnimAddDialog_t:



Data Fields

QByteArrayData	data[7]	
char	stringdata0[95]	

13.166.2 Macro Definition Documentation

13.166.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_AnimAddDialog_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_animadddialog.cpp.

13.166.3 Variable Documentation

13.166.3.1 const uint qt_meta_data_AnimAddDialog[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       3,   14,
       0,    0,
       0,    0,
       0,    0,
```

```
       0,
       0,


       1,    1,   29,    2, 0x08 ,
       4,    1,   32,    2, 0x08 ,
       5,    1,   35,    2, 0x08 ,


    QMetaType::Void, QMetaType::Int,    3,
    QMetaType::Void, QMetaType::Int,    3,
    QMetaType::Void, QMetaType::Bool,    6,

       0
}
```

Definition at line 47 of file moc_animadddialog.cpp.

13.166.3.2 const qt_meta_stringdata_AnimAddDialog_t qt_meta_stringdata_AnimAddDialog [static]

Initial value:

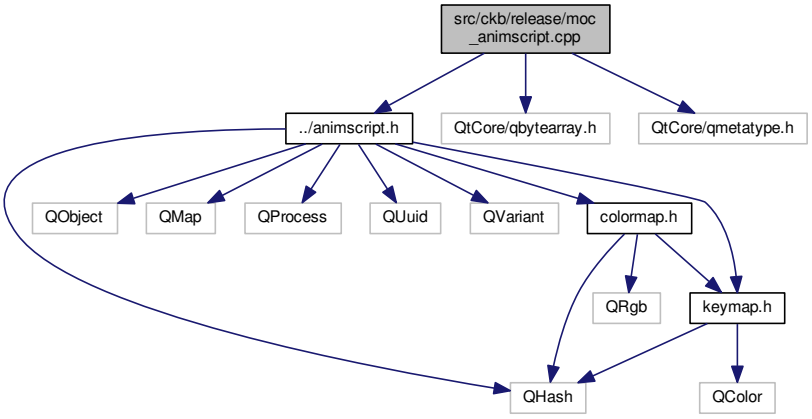
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimAddDialog_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimAddDialog_t, stringdata0) +  14    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimAddDialog_t, stringdata0) +  35    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimAddDialog_t, stringdata0) +  36    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 22 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimAddDialog_t, stringdata0) +  42    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimAddDialog_t, stringdata0) +  65    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimAddDialog_t, stringdata0) +  87    -  6  * sizeof(
      QByteArrayData))   )

    },
    "AnimAddDialog\0on_animBox_activated\0\0"
    "index\0on_presetBox_activated\0"
    "on_previewBox_clicked\0checked"
}
```

Definition at line 30 of file moc_animadddialog.cpp.

13.167 src/ckb/release/moc_animscript.cpp File Reference

```
#include "../animscript.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_animscript.cpp:



Data Structures

- struct qt_meta_stringdata_AnimScript_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

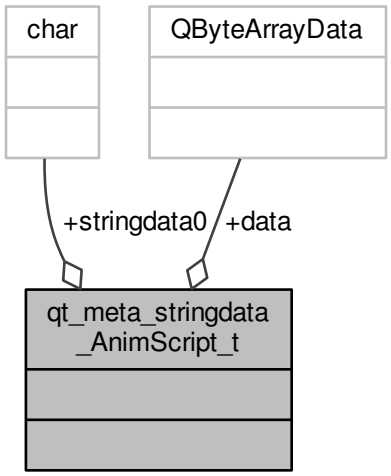
- static const qt_meta_stringdata_AnimScript_t qt_meta_stringdata_AnimScript
- static const uint qt_meta_data_AnimScript [ ]

13.167.1 Data Structure Documentation

13.167.1.1 struct qt_meta_stringdata_AnimScript_t

Definition at line 21 of file moc_animscript.cpp.

Collaboration diagram for qt_meta_stringdata_AnimScript_t:



Data Fields

QByteArrayData	data[3]	
char	stringdata0[24]	

13.167.2 Macro Definition Documentation

13.167.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_AnimScript_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_animscript.cpp.

13.167.3 Variable Documentation

13.167.3.1 const uint qt_meta_data_AnimScript[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       1,   14,
       0,    0,
       0,    0,
       0,    0,
       0,
```

```
        0,

        1,    0,   19,    2, 0x08 ,

    QMetaType::Void,

        0
}
```

Definition at line 41 of file moc_animscript.cpp.

13.167.3.2 const qt_meta_stringdata_AnimScript_t qt_meta_stringdata_AnimScript [static]

Initial value:

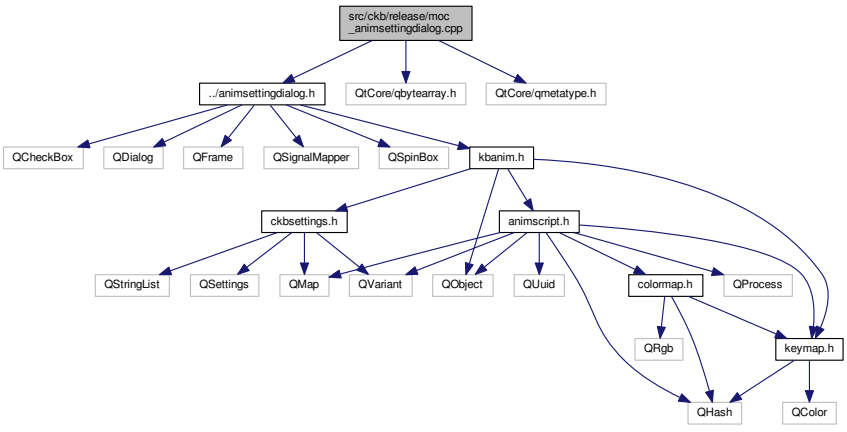
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 10 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimScript_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimScript_t, stringdata0) +  11    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimScript_t, stringdata0) +  23    -  2  * sizeof(
      QByteArrayData))   )

    },
    "AnimScript\0readProcess\0"
}
```

Definition at line 30 of file moc_animscript.cpp.

13.168 src/ckb/release/moc_animsettingdialog.cpp File Reference

```
#include "../animsettingdialog.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_animsettingdialog.cpp:



Data Structures

- struct qt_meta_stringdata_AnimSettingDialog_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

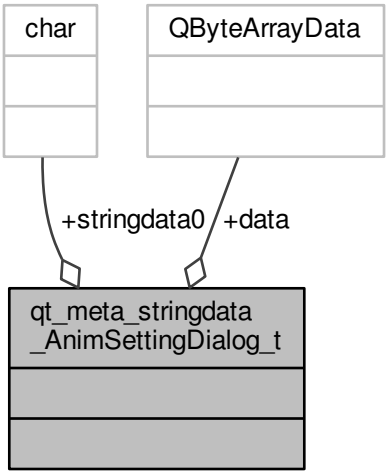
- static const qt_meta_stringdata_AnimSettingDialog_t qt_meta_stringdata_AnimSettingDialog
- static const uint qt_meta_data_AnimSettingDialog []

13.168.1 Data Structure Documentation

13.168.1.1 struct qt_meta_stringdata_AnimSettingDialog_t

Definition at line 21 of file moc_animsettingdialog.cpp.

Collaboration diagram for qt_meta_stringdata_AnimSettingDialog_t:



Data Fields

QByteArrayData	data[15]	
char	stringdata0[246]	

13.168.2 Macro Definition Documentation

13.168.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_AnimSettingDialog_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_animsettingdialog.cpp.

13.168.3 Variable Documentation

13.168.3.1 const uint qt_meta_data_AnimSettingDialog[] [static]

Definition at line 60 of file moc_animsettingdialog.cpp.

13.168.3.2 const qt_meta_stringdata_AnimSettingDialog_t qt_meta_stringdata_AnimSettingDialog [static]

Initial value:

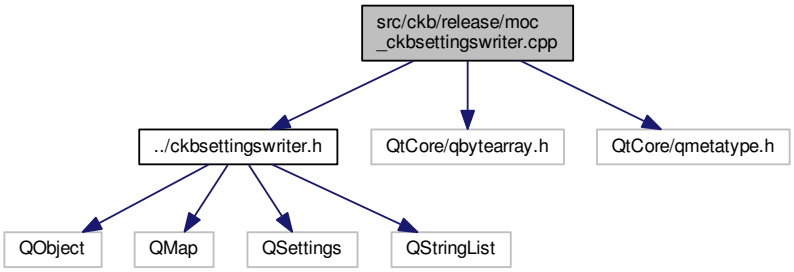
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 17 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  0    -  0  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  18    -  1  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  30    -  2  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  31    -  3  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  40    -  4  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  52    -  5  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  69    -  6  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 19 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  74    -  7  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  94    -  8  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 24 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  106    -  9
      * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  131    -  10
       * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 25 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  136    -  11
       * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 26 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  162    -  12
       * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 27 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  189    -  13
       * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 28 ,   qptrdiff(offsetof(
      qt_meta_stringdata_AnimSettingDialog_t, stringdata0) +  217    -  14
       * sizeof(QByteArrayData))   )

    },
    "AnimSettingDialog\0newDuration\0\0duration\0"
    "updateStops\0angleDialChanged\0name\0"
    "angleSpinnerChanged\0updateParam\0"
    "on_delayBox_valueChanged\0arg1\0"
    "on_repeatBox_valueChanged\0"
    "on_kpDelayBox_valueChanged\0"
    "on_kpRepeatBox_valueChanged\0"
    "on_kpReleaseBox_stateChanged"
}
```

Definition at line 30 of file moc_animsettingdialog.cpp.

13.169 src/ckb/release/moc_ckbsettingswriter.cpp File Reference

```
#include "../ckbsettingswriter.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_ckbsettingswriter.cpp:



Data Structures

- struct qt_meta_stringdata_CkbSettingsWriter_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

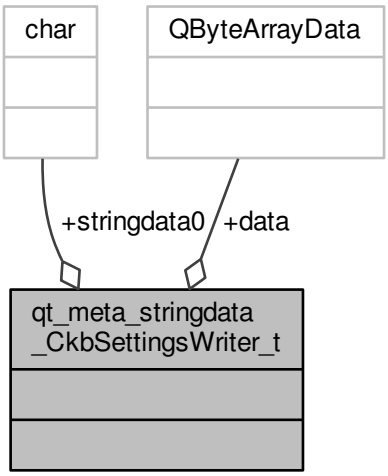
- static const qt_meta_stringdata_CkbSettingsWriter_t qt_meta_stringdata_CkbSettingsWriter
- static const uint qt_meta_data_CkbSettingsWriter [ ]

13.169.1 Data Structure Documentation

13.169.1.1 struct qt_meta_stringdata_CkbSettingsWriter_t

Definition at line 21 of file moc_ckbsettingswriter.cpp.

Collaboration diagram for qt_meta_stringdata_CkbSettingsWriter_t:



Data Fields

QByteArrayData	data[3]	
char	stringdata0[23]	

13.169.2 Macro Definition Documentation

13.169.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_CkbSettingsWriter_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_ckbsettingswriter.cpp.

13.169.3 Variable Documentation

13.169.3.1 const uint qt_meta_data_CkbSettingsWriter[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       1,   14,
       0,    0,
       0,    0,
       0,    0,
```

```
        0,
        0,

        1,    0,   19,    2, 0x0a ,

    QMetaType::Void,

        0
}
```

Definition at line 41 of file moc_ckbsettingswriter.cpp.

13.169.3.2 const qt_meta_stringdata_CkbSettingsWriter_t qt_meta_stringdata_CkbSettingsWriter [static]

Initial value:

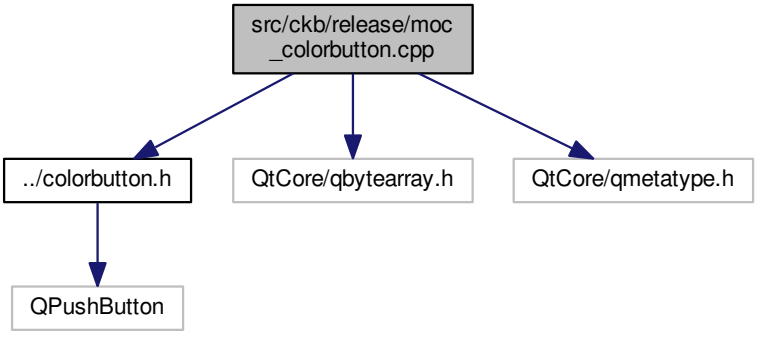
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 17 ,   qptrdiff(offsetof(
      qt_meta_stringdata_CkbSettingsWriter_t, stringdata0) +  0    -  0  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 3 ,   qptrdiff(offsetof(
      qt_meta_stringdata_CkbSettingsWriter_t, stringdata0) +  18    -  1  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_CkbSettingsWriter_t, stringdata0) +  22    -  2  *
       sizeof(QByteArrayData))   )

    },
    "CkbSettingsWriter\0run\0"
}
```

Definition at line 30 of file moc_ckbsettingswriter.cpp.

13.170 src/ckb/release/moc_colorbutton.cpp File Reference

```
#include "../colorbutton.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_colorbutton.cpp:



Data Structures

- struct qt_meta_stringdata_ColorButton_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

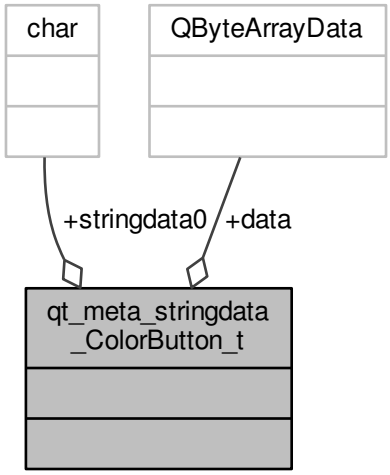
- static const qt_meta_stringdata_ColorButton_t qt_meta_stringdata_ColorButton
- static const uint qt_meta_data_ColorButton [ ]

13.170.1 Data Structure Documentation

13.170.1.1 struct qt_meta_stringdata_ColorButton_t

Definition at line 21 of file moc_colorbutton.cpp.

Collaboration diagram for qt_meta_stringdata_ColorButton_t:



Data Fields

QByteArrayData	data[5]	
char	stringdata0[45]	

13.170.2 Macro Definition Documentation

13.170.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_ColorButton_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_colorbutton.cpp.

13.170.3 Variable Documentation

13.170.3.1 const uint qt_meta_data_ColorButton[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       2,   14,
       0,    0,
       0,    0,
       0,    0,
       0,
       1,


       1,    1,   24,    2, 0x06 ,


       4,    0,   27,    2, 0x08 ,

    QMetaType::Void, QMetaType::QColor,    3,


    QMetaType::Void,

       0
}
```

Definition at line 44 of file moc_colorbutton.cpp.

13.170.3.2 const qt_meta_stringdata_ColorButton_t qt_meta_stringdata_ColorButton [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ColorButton_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ColorButton_t, stringdata0) +  12    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ColorButton_t, stringdata0) +  25    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ColorButton_t, stringdata0) +  26    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ColorButton_t, stringdata0) +  35    -  4  * sizeof(
      QByteArrayData))   )

    },
    "ColorButton\0colorChanged\0\0newColor\0"
    "pickColor"
}
```

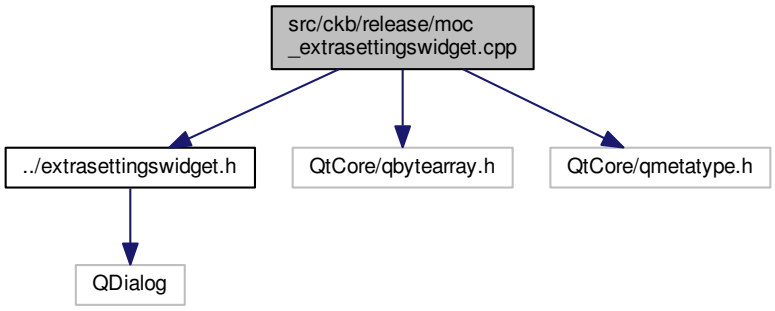
Definition at line 30 of file moc_colorbutton.cpp.

13.171 src/ckb/release/moc_extrasettingswidget.cpp File Reference

```
#include "../extrasettingswidget.h"
```

```
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_extrasettingswidget.cpp:



Data Structures

- struct qt_meta_stringdata_ExtraSettingsWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

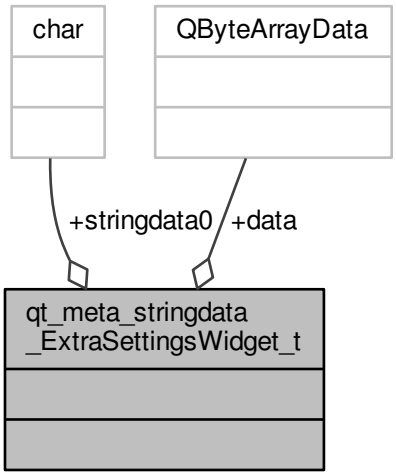
- static const qt_meta_stringdata_ExtraSettingsWidget_t qt_meta_stringdata_ExtraSettingsWidget
- static const uint qt_meta_data_ExtraSettingsWidget [ ]

13.171.1 Data Structure Documentation

13.171.1.1 struct qt_meta_stringdata_ExtraSettingsWidget_t

Definition at line 21 of file moc_extrasettingswidget.cpp.

Collaboration diagram for qt_meta_stringdata_ExtraSettingsWidget_t:



Data Fields

QByteArrayData	data[13]	
char	stringdata0[236]	

13.171.2 Macro Definition Documentation

13.171.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_ExtraSettingsWidget_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_extrasettingswidget.cpp.

13.171.3 Variable Documentation

13.171.3.1 const uint qt_meta_data_ExtraSettingsWidget[ ] [static]

Definition at line 57 of file moc_extrasettingswidget.cpp.

13.171.3.2 const qt_meta_stringdata_ExtraSettingsWidget_t qt_meta_stringdata_ExtraSettingsWidget [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 19 ,   qptrdiff(offsetof(
```

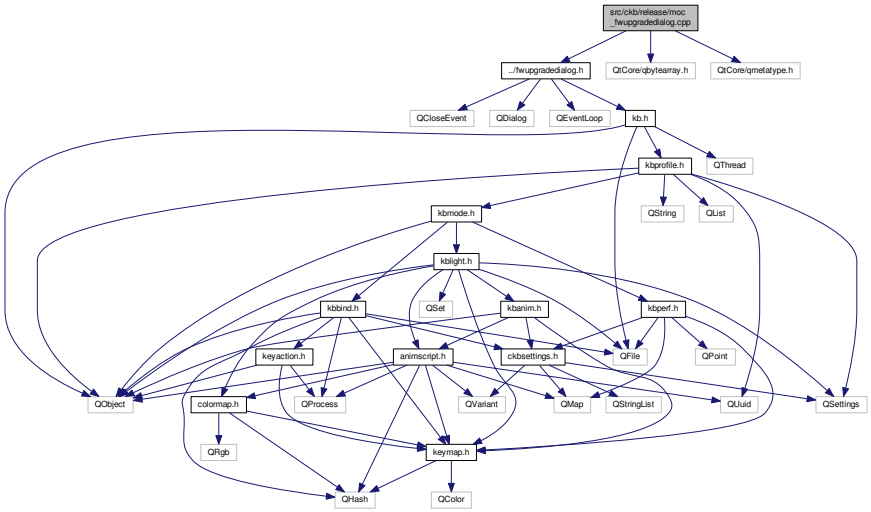
```
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  0    -  0
        * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 18 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  20    -
      1  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  39    -
      2  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  40    -
      3  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 24 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  48    -
      4  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 25 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  73    -
      5  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 22 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  99    -
      6  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  122    -
       7  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  127    -
       8  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  148    -
       9  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  169    -
       10  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 25 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  190    -
       11  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 19 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ExtraSettingsWidget_t, stringdata0) +  216    -
       12  * sizeof(QByteArrayData))   )

    },
    "ExtraSettingsWidget\0on_trayBox_clicked\0"
    "\0checked\0on_brightnessBox_clicked\0"
    "on_animScanButton_clicked\0"
    "on_fpsBox_valueChanged\0arg1\0"
    "on_ditherBox_clicked\0on_mAccelBox_clicked\0"
    "on_sAccelBox_clicked\0on_sSpeedBox_valueChanged\0"
    "on_delayBox_clicked"
}
```

Definition at line 30 of file moc_extrasettingswidget.cpp.

13.172 src/ckb/release/moc_fwupgradedialog.cpp File Reference

```
#include "../fwupgradedialog.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_fwupgradedialog.cpp:



Data Structures

- struct qt_meta_stringdata_FwUpgradeDialog_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

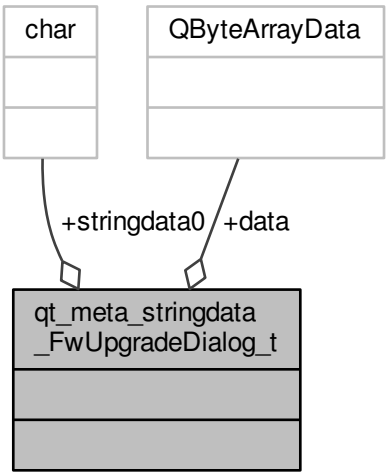
- static const qt_meta_stringdata_FwUpgradeDialog_t qt_meta_stringdata_FwUpgradeDialog
- static const uint qt_meta_data_FwUpgradeDialog [ ]

13.172.1 Data Structure Documentation

13.172.1.1 struct qt_meta_stringdata_FwUpgradeDialog_t

Definition at line 21 of file moc_fwupgradedialog.cpp.

Collaboration diagram for qt_meta_stringdata_FwUpgradeDialog_t:



Data Fields

QByteArrayData	data[10]	
char	stringdata0[133]	

13.172.2 Macro Definition Documentation

13.172.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_FwUpgradeDialog_t, stringdata0
      ) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_fwupgradedialog.cpp.

13.172.3 Variable Documentation

13.172.3.1 const uint qt_meta_data_FwUpgradeDialog[ ] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       5,   14,
       0,    0,
       0,    0,
       0,    0,
```

```
       0,
       0,


       1,    2,   39,    2, 0x08 ,
       5,    1,   44,    2, 0x08 ,
       7,    0,   47,    2, 0x08 ,
       8,    0,   48,    2, 0x08 ,
       9,    0,   49,    2, 0x08 ,


    QMetaType::Void, QMetaType::Int, QMetaType::Int,    3,    4,
    QMetaType::Void, QMetaType::Bool,    6,
    QMetaType::Void,
    QMetaType::Void,
    QMetaType::Void,

       0
}
```

Definition at line 51 of file moc_fwupgradedialog.cpp.

13.172.3.2 const qt_meta_stringdata_FwUpgradeDialog_t qt_meta_stringdata_FwUpgradeDialog [static]

Initial value:

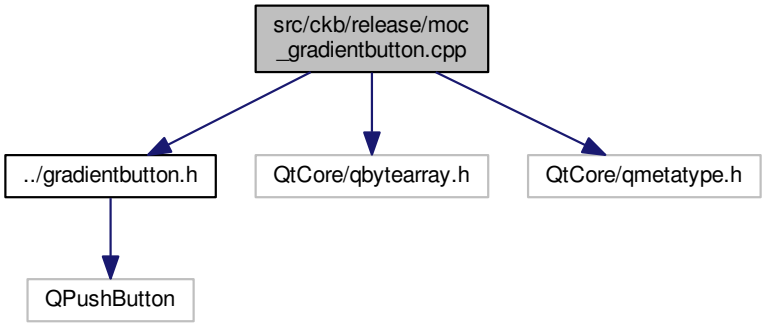
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 15 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  0    -  0  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  16    -  1  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  33    -  2  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  34    -  3  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  42    -  4  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  48    -  5  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  65    -  6  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  75    -  7  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  85    -  8  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_FwUpgradeDialog_t, stringdata0) +  109    -  9  *
      sizeof(QByteArrayData))   )

    },
    "FwUpgradeDialog\0fwUpdateProgress\0\0"
    "current\0total\0fwUpdateFinished\0succeeded\0"
    "removeDev\0on_cancelButton_clicked\0"
    "on_actionButton_clicked"
}
```

Definition at line 30 of file moc_fwupgradedialog.cpp.

13.173 src/ckb/release/moc_gradientbutton.cpp File Reference

```
#include "../gradientbutton.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_gradientbutton.cpp:



Data Structures

- struct qt_meta_stringdata_GradientButton_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

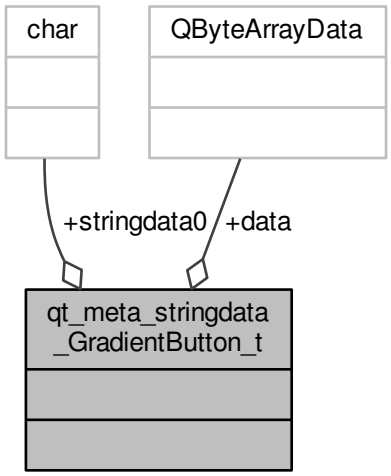
- static const qt_meta_stringdata_GradientButton_t qt_meta_stringdata_GradientButton
- static const uint qt_meta_data_GradientButton []

13.173.1 Data Structure Documentation

13.173.1.1 struct qt_meta_stringdata_GradientButton_t

Definition at line 21 of file moc_gradientbutton.cpp.

Collaboration diagram for qt_meta_stringdata_GradientButton_t:



Data Fields

QByteArrayData	data[4]	
char	stringdata0[45]	

13.173.2 Macro Definition Documentation

13.173.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_GradientButton_t, stringdata0)
      + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_gradientbutton.cpp.

13.173.3 Variable Documentation

13.173.3.1 const uint qt_meta_data_GradientButton[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       2,   14,
       0,    0,
       0,    0,
       0,    0,
```

```
        0,
        1,

        1,    0,   24,    2, 0x06 ,

        3,    0,   25,    2, 0x08 ,

    QMetaType::Void,

    QMetaType::Void,

        0
}
```

Definition at line 43 of file moc_gradientbutton.cpp.

13.173.3.2 const qt_meta_stringdata_GradientButton_t qt_meta_stringdata_GradientButton [static]

Initial value:

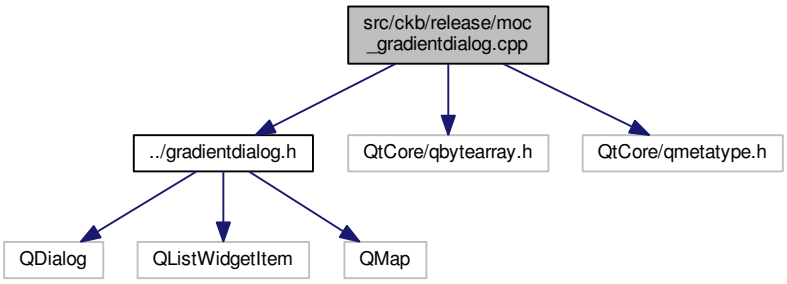
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientButton_t, stringdata0) +  0    -  0  * sizeof
      (QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 15 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientButton_t, stringdata0) +  15    -  1  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientButton_t, stringdata0) +  31    -  2  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientButton_t, stringdata0) +  32    -  3  *
      sizeof(QByteArrayData))   )

    },
    "GradientButton\0gradientChanged\0\0"
    "pickGradient"
}
```

Definition at line 30 of file moc_gradientbutton.cpp.

13.174 src/ckb/release/moc_gradientdialog.cpp File Reference

```
#include "../gradientdialog.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_gradientdialog.cpp:



Data Structures

- struct qt_meta_stringdata_GradientDialog_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

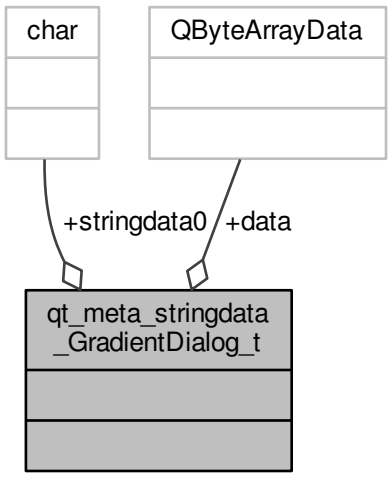
- static const qt_meta_stringdata_GradientDialog_t qt_meta_stringdata_GradientDialog
- static const uint qt_meta_data_GradientDialog [ ]

13.174.1 Data Structure Documentation

13.174.1.1 struct qt_meta_stringdata_GradientDialog_t

Definition at line 21 of file moc_gradientdialog.cpp.

Collaboration diagram for qt_meta_stringdata_GradientDialog_t:



Data Fields

QByteArrayData	data[17]	
char	stringdata0[266]	

13.174.2 Macro Definition Documentation

13.174.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_GradientDialog_t, stringdata0)
      + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_gradientdialog.cpp.

13.174.3 Variable Documentation

13.174.3.1 const uint qt_meta_data_GradientDialog[] [static]

Definition at line 62 of file moc_gradientdialog.cpp.

13.174.3.2 const qt_meta_stringdata_GradientDialog_t qt_meta_stringdata_GradientDialog [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  0    -  0  * sizeof
      (QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  15    -  1  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  30    -  2  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  31    -  3  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  37    -  4  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  49    -  5  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  58    -  6  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 32 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  71    -  7  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  104    -  8  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  121    -  9  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  129    -  10  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 24 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  138    -  11  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  163    -  12  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  168    -  13  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  190    -  14  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  214    -  15  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 27 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialog_t, stringdata0) +  238    -  16  *
      sizeof(QByteArrayData))   )

    },
    "GradientDialog\0currentChanged\0\0color\0"
    "spontaneous\0position\0colorChanged\0"
    "on_presetList_currentItemChanged\0"
    "QListWidgetItem*\0current\0previous\0"
```

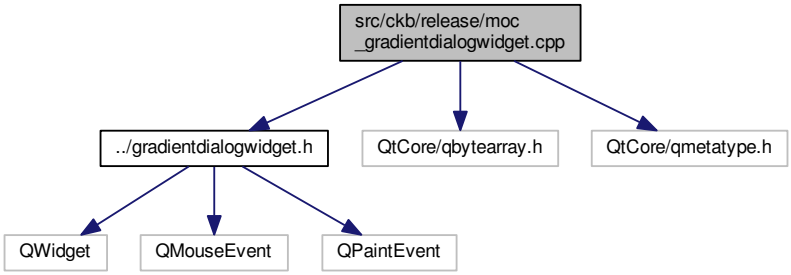
```
    "on_presetName_textEdited\0arg1\0"
    "on_presetSave_clicked\0on_presetDelete_clicked\0"
    "on_stopPos_valueChanged\0"
    "on_stopOpacity_valueChanged"
}
```

Definition at line 30 of file moc_gradientdialog.cpp.

13.175 src/ckb/release/moc_gradientdialogwidget.cpp File Reference

```
#include "../gradientdialogwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_gradientdialogwidget.cpp:



Data Structures

- struct qt_meta_stringdata_GradientDialogWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

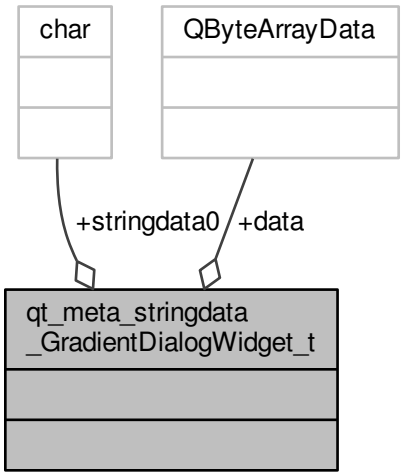
- static const qt_meta_stringdata_GradientDialogWidget_t qt_meta_stringdata_GradientDialogWidget
- static const uint qt_meta_data_GradientDialogWidget [ ]

13.175.1 Data Structure Documentation

13.175.1.1 struct qt_meta_stringdata_GradientDialogWidget_t

Definition at line 21 of file moc_gradientdialogwidget.cpp.

Collaboration diagram for qt_meta_stringdata_GradientDialogWidget_t:



Data Fields

QByteArrayData	data[6]	
char	stringdata0[64]	

13.175.2 Macro Definition Documentation

13.175.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_GradientDialogWidget_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_gradientdialogwidget.cpp.

13.175.3 Variable Documentation

13.175.3.1 const uint qt_meta_data_GradientDialogWidget[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       1,   14,
       0,    0,
       0,    0,
       0,    0,
```

```
       0,
       1,

       1,    3,   19,    2, 0x06 ,

    QMetaType::Void, QMetaType::QColor, QMetaType::Bool, QMetaType::Int,    3,    4,    5,

       0
}
```

Definition at line 45 of file moc_gradientdialogwidget.cpp.

13.175.3.2 const qt_meta_stringdata_GradientDialogWidget_t qt_meta_stringdata_GradientDialogWidget [static]

Initial value:

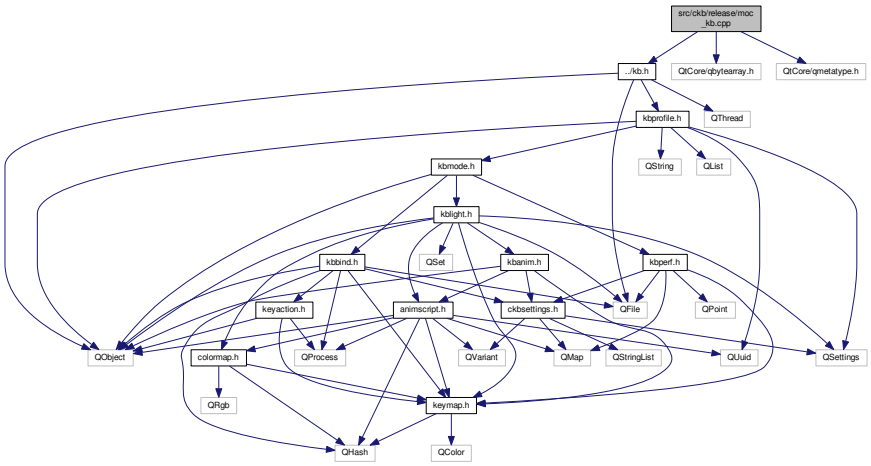
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialogWidget_t, stringdata0) +  0    -
       0  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialogWidget_t, stringdata0) +  21    -
        1  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialogWidget_t, stringdata0) +  36    -
        2  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialogWidget_t, stringdata0) +  37    -
        3  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialogWidget_t, stringdata0) +  43    -
        4  * sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_GradientDialogWidget_t, stringdata0) +  55    -
        5  * sizeof(QByteArrayData))   )

    },
    "GradientDialogWidget\0currentChanged\0"
    "\0color\0spontaneous\0position"
}
```

Definition at line 30 of file moc_gradientdialogwidget.cpp.

13.176 src/ckb/release/moc_kb.cpp File Reference

```
#include "../kb.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kb.cpp:



Data Structures

- struct qt_meta_stringdata_Kb_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

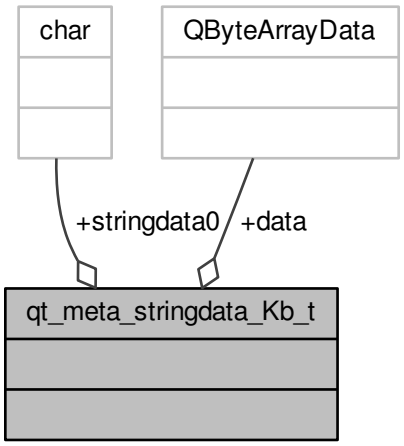
- static const qt_meta_stringdata_Kb_t qt_meta_stringdata_Kb
- static const uint qt_meta_data_Kb [ ]

13.176.1 Data Structure Documentation

13.176.1.1 struct qt_meta_stringdata_Kb_t

Definition at line 21 of file moc_kb.cpp.

Collaboration diagram for qt_meta_stringdata_Kb_t:



Data Fields

QByteArrayData	data[20]	
char	stringdata0[214]	

13.176.2 Macro Definition Documentation

13.176.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_Kb_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kb.cpp.

13.176.3 Variable Documentation

13.176.3.1 const uint qt_meta_data_Kb[] [static]

Definition at line 63 of file moc_kb.cpp.

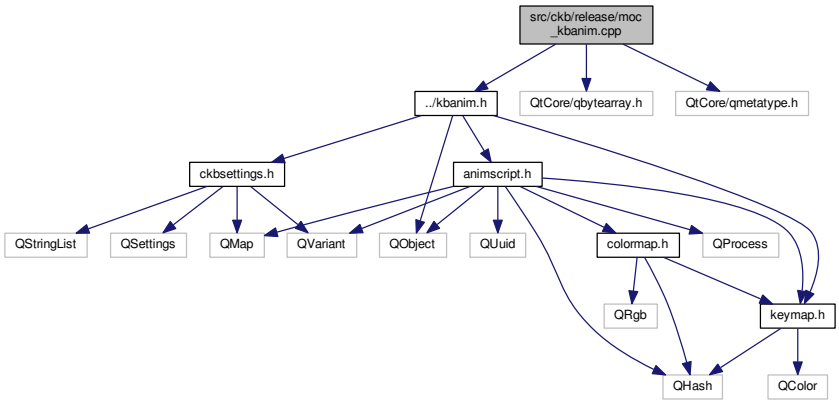
13.176.3.2 const qt_meta_stringdata_Kb_t qt_meta_stringdata_Kb [static]

Definition at line 30 of file moc_kb.cpp.

13.177 src/ckb/release/moc_kbanim.cpp File Reference

```
#include "../kbanim.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbanim.cpp:



Data Structures

- struct qt_meta_stringdata_KbAnim_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

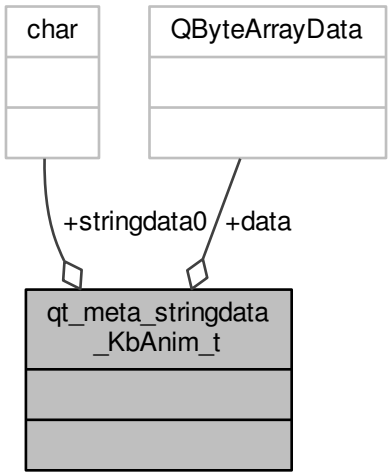
- static const qt_meta_stringdata_KbAnim_t qt_meta_stringdata_KbAnim
- static const uint qt_meta_data_KbAnim [ ]

13.177.1 Data Structure Documentation

13.177.1.1 struct qt_meta_stringdata_KbAnim_t

Definition at line 21 of file moc_kbanim.cpp.

Collaboration diagram for qt_meta_stringdata_KbAnim_t:



Data Fields

QByteArrayData	data[7]	
char	stringdata0[48]	

13.177.2 Macro Definition Documentation

13.177.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbAnim_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbanim.cpp.

13.177.3 Variable Documentation

13.177.3.1 const uint qt_meta_data_KbAnim[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       0,    0,
       0,    0,
       1,   14,
       0,    0,
       0,
```

```
        0,

        1, 0x0,    5,   18,

        2, uint(KbAnim::Normal),
        3, uint(KbAnim::Add),
        4, uint(KbAnim::Subtract),
        5, uint(KbAnim::Multiply),
        6, uint(KbAnim::Divide),

        0
}
```

Definition at line 46 of file moc_kbanim.cpp.

13.177.3.2 const qt_meta_stringdata_KbAnim_t qt_meta_stringdata_KbAnim [static]

Initial value:

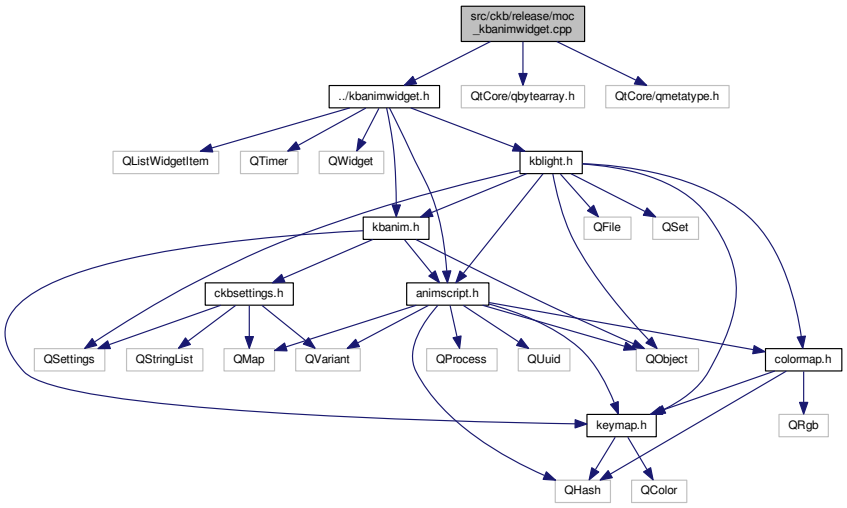
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbAnim_t, stringdata0) +  0    -  0  * sizeof(QByteArrayData)
      )   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbAnim_t, stringdata0) +  7    -  1  * sizeof(QByteArrayData)
      )   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbAnim_t, stringdata0) +  12    -  2  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 3 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbAnim_t, stringdata0) +  19    -  3  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbAnim_t, stringdata0) +  23    -  4  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbAnim_t, stringdata0) +  32    -  5  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbAnim_t, stringdata0) +  41    -  6  * sizeof(QByteArrayData
      ))   )

    },
    "KbAnim\0Mode\0Normal\0Add\0Subtract\0"
    "Multiply\0Divide"
}
```

Definition at line 30 of file moc_kbanim.cpp.

13.178 src/ckb/release/moc_kbanimwidget.cpp File Reference

```
#include "../kbanimwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbanimwidget.cpp:



Data Structures

- struct qt_meta_stringdata_KbAnimWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

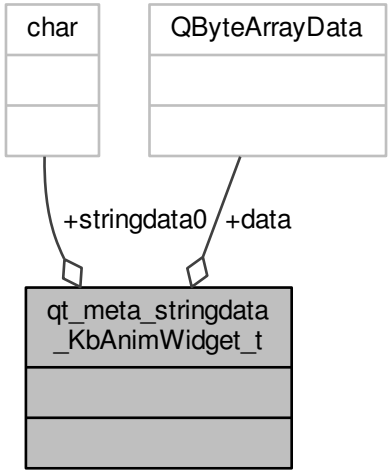
- static const qt_meta_stringdata_KbAnimWidget_t qt_meta_stringdata_KbAnimWidget
- static const uint qt_meta_data_KbAnimWidget []

13.178.1 Data Structure Documentation

13.178.1.1 struct qt_meta_stringdata_KbAnimWidget_t

Definition at line 21 of file moc_kbanimwidget.cpp.

Collaboration diagram for qt_meta_stringdata_KbAnimWidget_t:



Data Fields

QByteArrayData	data[25]	
char	stringdata0[383]	

13.178.2 Macro Definition Documentation

13.178.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbAnimWidget_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbanimwidget.cpp.

13.178.3 Variable Documentation

13.178.3.1 const uint qt_meta_data_KbAnimWidget[] [static]

Definition at line 74 of file moc_kbanimwidget.cpp.

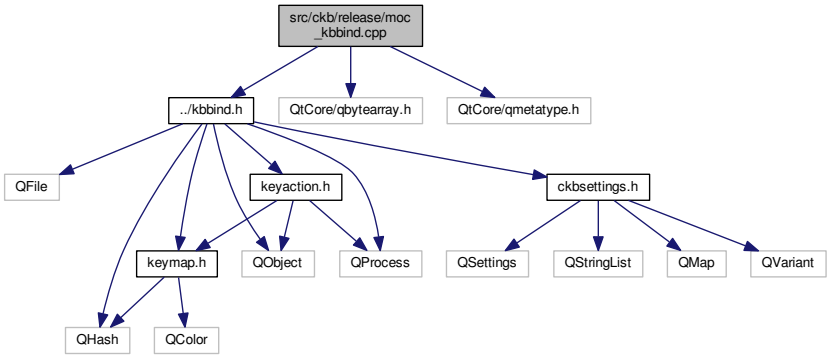
13.178.3.2 const qt_meta_stringdata_KbAnimWidget_t qt_meta_stringdata_KbAnimWidget [static]

Definition at line 30 of file moc_kbanimwidget.cpp.

13.179 src/ckb/release/moc_kbbind.cpp File Reference

```
#include "../kbbind.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbbind.cpp:



Data Structures

- struct qt_meta_stringdata_KbBind_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

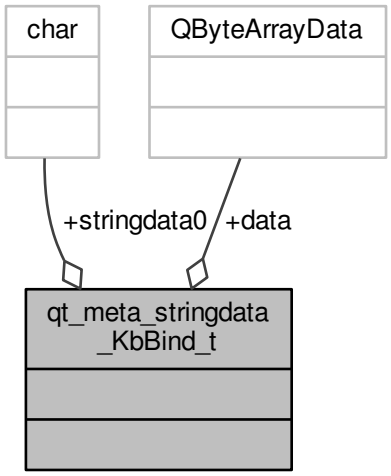
- static const qt_meta_stringdata_KbBind_t qt_meta_stringdata_KbBind
- static const uint qt_meta_data_KbBind []

13.179.1 Data Structure Documentation

13.179.1.1 struct qt_meta_stringdata_KbBind_t

Definition at line 21 of file moc_kbbind.cpp.

Collaboration diagram for qt_meta_stringdata_KbBind_t:



Data Fields

QByteArrayData	data[8]	
char	stringdata0[56]	

13.179.2 Macro Definition Documentation

13.179.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbBind_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbbind.cpp.

13.179.3 Variable Documentation

13.179.3.1 const uint qt_meta_data_KbBind[] [static]

Definition at line 47 of file moc_kbbind.cpp.

13.179.3.2 const qt_meta_stringdata_KbBind_t qt_meta_stringdata_KbBind [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  0    -  0  * sizeof(QByteArrayData)
```

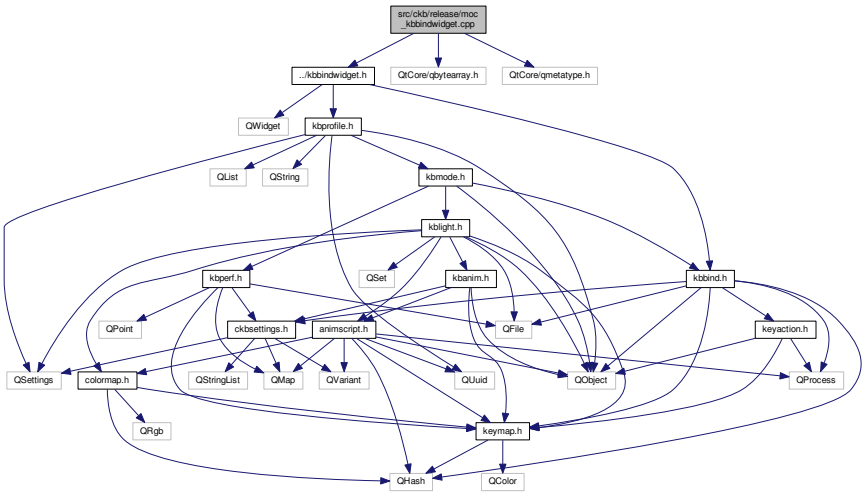
```
      )   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  7    -  1  * sizeof(QByteArrayData)
      )   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  15    -  2  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  16    -  3  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  30    -  4  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  38    -  5  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 3 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  47    -  6  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBind_t, stringdata0) +  51    -  7  * sizeof(QByteArrayData
      ))   )

    },
    "KbBind\0didLoad\0\0layoutChanged\0updated\0"
    "keyEvent\0key\0down"
}
```

Definition at line 30 of file moc_kbbind.cpp.

13.180 src/ckb/release/moc_kbbindwidget.cpp File Reference

```
#include "../kbbindwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbbindwidget.cpp:



Data Structures

- struct qt_meta_stringdata_KbBindWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

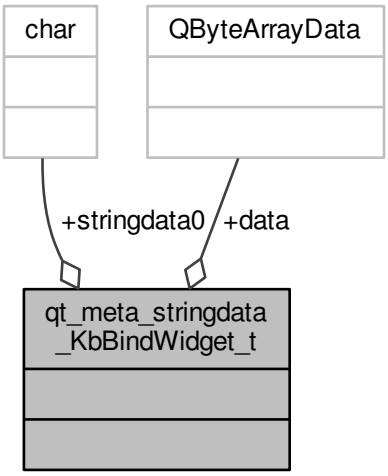
- static const qt_meta_stringdata_KbBindWidget_t qt_meta_stringdata_KbBindWidget
- static const uint qt_meta_data_KbBindWidget []

13.180.1 Data Structure Documentation

13.180.1.1 struct qt_meta_stringdata_KbBindWidget_t

Definition at line 21 of file moc_kbbindwidget.cpp.

Collaboration diagram for qt_meta_stringdata_KbBindWidget_t:



Data Fields

QByteArrayData	data[9]	
char	stringdata0[120]	

13.180.2 Macro Definition Documentation

13.180.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbBindWidget_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbbindwidget.cpp.

13.180.3 Variable Documentation

13.180.3.1 const uint qt_meta_data_KbBindWidget[] [static]

Definition at line 49 of file moc_kbbindwidget.cpp.

13.180.3.2 const qt_meta_stringdata_KbBindWidget_t qt_meta_stringdata_KbBindWidget [static]

Initial value:

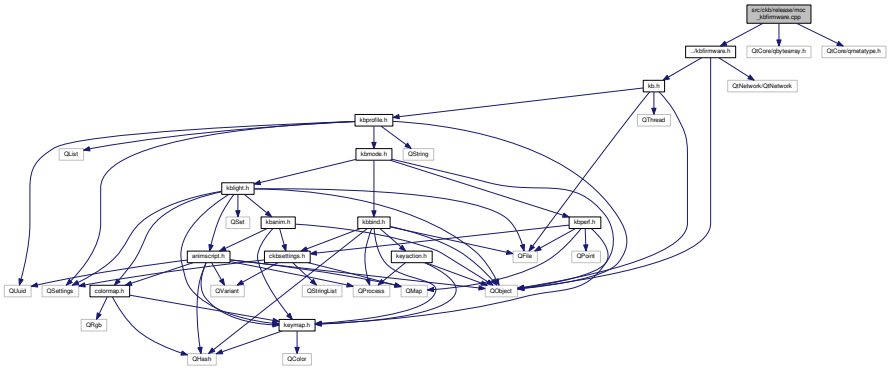
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 10 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  13    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  24    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  25    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  35    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  48    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  58    -  6  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 22 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  75    -  7  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbBindWidget_t, stringdata0) +  98    -  8  * sizeof(
      QByteArrayData))   )

    },
    "KbBindWidget\0updateBind\0\0newLayout\0"
    "newSelection\0selection\0updateSelDisplay\0"
    "on_resetButton_clicked\0on_copyButton_clicked"
}
```

Definition at line 30 of file moc_kbbindwidget.cpp.

13.181 src/ckb/release/moc_kbfirmware.cpp File Reference

```
#include "../kbfirmware.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbfirmware.cpp:



Data Structures

- struct qt_meta_stringdata_KbFirmware_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

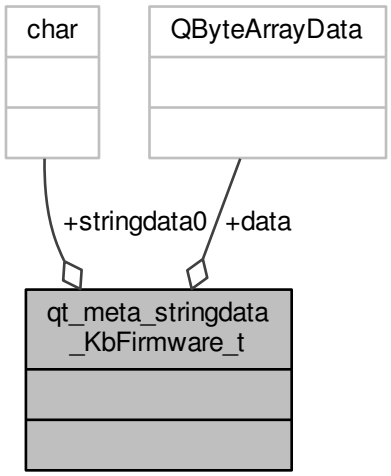
- static const qt_meta_stringdata_KbFirmware_t qt_meta_stringdata_KbFirmware
- static const uint qt_meta_data_KbFirmware [ ]

13.181.1 Data Structure Documentation

13.181.1.1 struct qt_meta_stringdata_KbFirmware_t

Definition at line 21 of file moc_kbfirmware.cpp.

Collaboration diagram for qt_meta_stringdata_KbFirmware_t:



Data Fields

QByteArrayData	data[7]	
char	stringdata0[77]	

13.181.2 Macro Definition Documentation

13.181.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbFirmware_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbfirmware.cpp.

13.181.3 Variable Documentation

13.181.3.1 const uint qt_meta_data_KbFirmware[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       3,   14,
       0,    0,
       0,    0,
       0,    0,
       0,
```

```
       1,

       1,    0,   29,    2, 0x06 ,

       3,    1,   30,    2, 0x08 ,
       6,    0,   33,    2, 0x08 ,

    QMetaType::Void,

    QMetaType::Void, 0x80000000 | 4,    5,
    QMetaType::Void,

       0
}
```

Definition at line 46 of file moc_kbfirmware.cpp.

13.181.3.2 const qt_meta_stringdata_KbFirmware_t qt_meta_stringdata_KbFirmware [static]

Initial value:

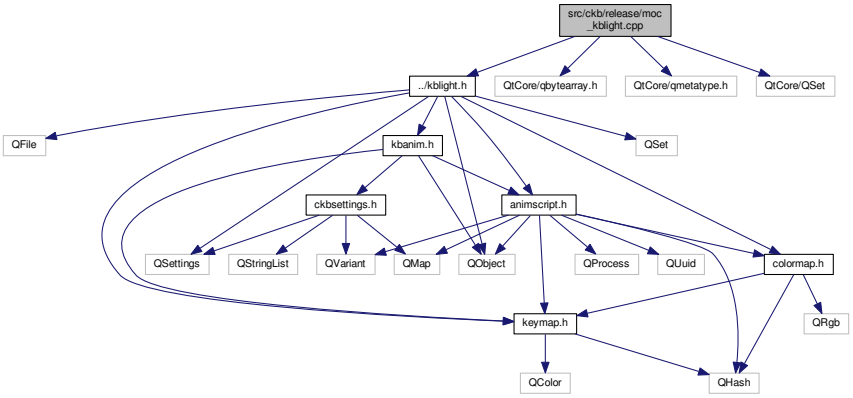
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 10 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbFirmware_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 10 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbFirmware_t, stringdata0) +  11    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbFirmware_t, stringdata0) +  22    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 15 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbFirmware_t, stringdata0) +  23    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbFirmware_t, stringdata0) +  39    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbFirmware_t, stringdata0) +  54    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbFirmware_t, stringdata0) +  60    -  6  * sizeof(
      QByteArrayData))   )

    },
    "KbFirmware\0downloaded\0\0processDownload\0"
    "QNetworkReply*\0reply\0downloadFinished"
}
```

Definition at line 30 of file moc_kbfirmware.cpp.

13.182 src/ckb/release/moc_kblight.cpp File Reference

```
#include "../kblight.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
#include <QtCore/QSet>
```

Include dependency graph for moc_kblight.cpp:



Data Structures

- struct qt_meta_stringdata_KbLight_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

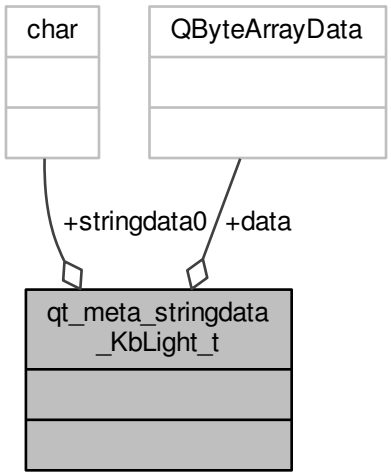
- static const qt_meta_stringdata_KbLight_t qt_meta_stringdata_KbLight
- static const uint qt_meta_data_KbLight [ ]

13.182.1 Data Structure Documentation

13.182.1.1 struct qt_meta_stringdata_KbLight_t

Definition at line 22 of file moc_kblight.cpp.

Collaboration diagram for qt_meta_stringdata_KbLight_t:



Data Fields

QByteArrayData	data[9]	
char	stringdata0[92]	

13.182.2 Macro Definition Documentation

13.182.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbLight_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 26 of file moc_kblight.cpp.

13.182.3 Variable Documentation

13.182.3.1 const uint qt_meta_data_KbLight[ ] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       3,   14,
       0,    0,
       0,    0,
       0,    0,
       0,
```

```
       3,

       1,    0,   29,    2, 0x06 ,
       3,    0,   30,    2, 0x06 ,
       4,    2,   31,    2, 0x06 ,

    QMetaType::Void,
    QMetaType::Void,
    QMetaType::Void, 0x80000000 | 5, 0x80000000 | 7,    6,    8,

       0
}
```

Definition at line 50 of file moc_kblight.cpp.

13.182.3.2 const qt_meta_stringdata_KbLight_t qt_meta_stringdata_KbLight [static]

Initial value:

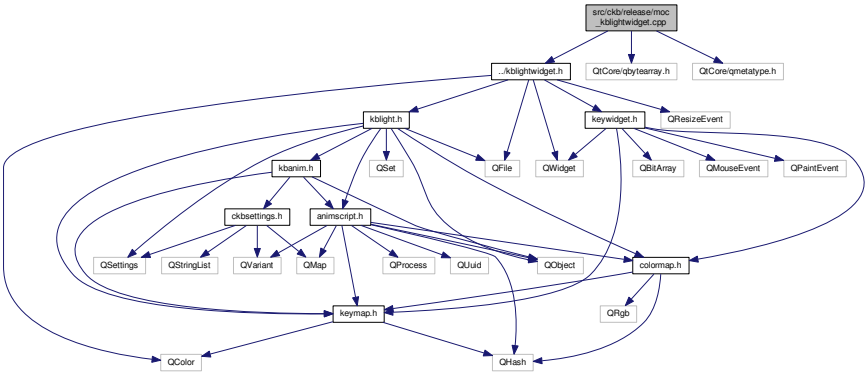
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  8    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  16    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  17    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  25    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  40    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  49    -  6  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  64    -  7  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbLight_t, stringdata0) +  78    -  8  * sizeof(
      QByteArrayData))   )

    },
    "KbLight\0didLoad\0\0updated\0frameDisplayed\0"
    "ColorMap\0animatedColors\0QSet<QString>\0"
    "indicatorList"
}
```

Definition at line 31 of file moc_kblight.cpp.

13.183 src/ckb/release/moc_kblightwidget.cpp File Reference

```
#include "../kblightwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kblightwidget.cpp:



Data Structures

- struct qt_meta_stringdata_KbLightWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

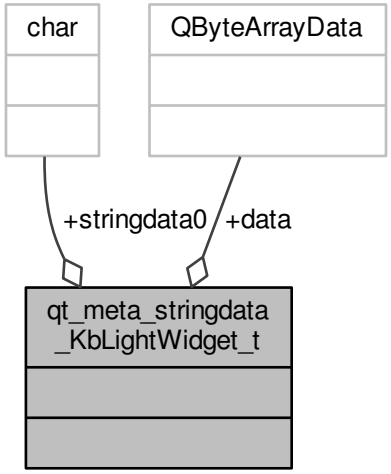
- static const qt_meta_stringdata_KbLightWidget_t qt_meta_stringdata_KbLightWidget
- static const uint qt_meta_data_KbLightWidget [ ]

13.183.1 Data Structure Documentation

13.183.1.1 struct qt_meta_stringdata_KbLightWidget_t

Definition at line 21 of file moc_kblightwidget.cpp.

Collaboration diagram for qt_meta_stringdata_KbLightWidget_t:



Data Fields

QByteArrayData	data[19]	
char	stringdata0[240]	

13.183.2 Macro Definition Documentation

13.183.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbLightWidget_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kblightwidget.cpp.

13.183.3 Variable Documentation

13.183.3.1 const uint qt_meta_data_KbLightWidget[] [static]

Definition at line 63 of file moc_kblightwidget.cpp.

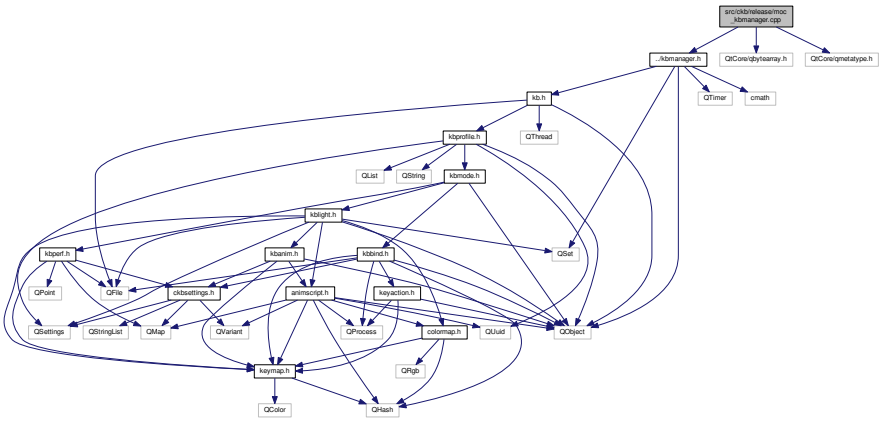
13.183.3.2 const qt_meta_stringdata_KbLightWidget_t qt_meta_stringdata_KbLightWidget [static]

Definition at line 30 of file moc_kblightwidget.cpp.

13.184 src/ckb/release/moc_kbmanager.cpp File Reference

```
#include "../kbmanager.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbmanager.cpp:



Data Structures

- struct qt_meta_stringdata_KbManager_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

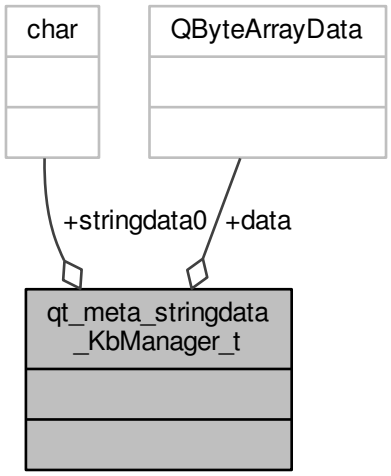
- static const qt_meta_stringdata_KbManager_t qt_meta_stringdata_KbManager
- static const uint qt_meta_data_KbManager [ ]

13.184.1 Data Structure Documentation

13.184.1.1 struct qt_meta_stringdata_KbManager_t

Definition at line 21 of file moc_kbmanager.cpp.

Collaboration diagram for qt_meta_stringdata_KbManager_t:



Data Fields

QByteArrayData	data[8]	
char	stringdata0[78]	

13.184.2 Macro Definition Documentation

13.184.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbManager_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbmanager.cpp.

13.184.3 Variable Documentation

13.184.3.1 const uint qt_meta_data_KbManager[] [static]

Definition at line 48 of file moc_kbmanager.cpp.

13.184.3.2 const qt_meta_stringdata_KbManager_t qt_meta_stringdata_KbManager [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  0    -  0  * sizeof(
```

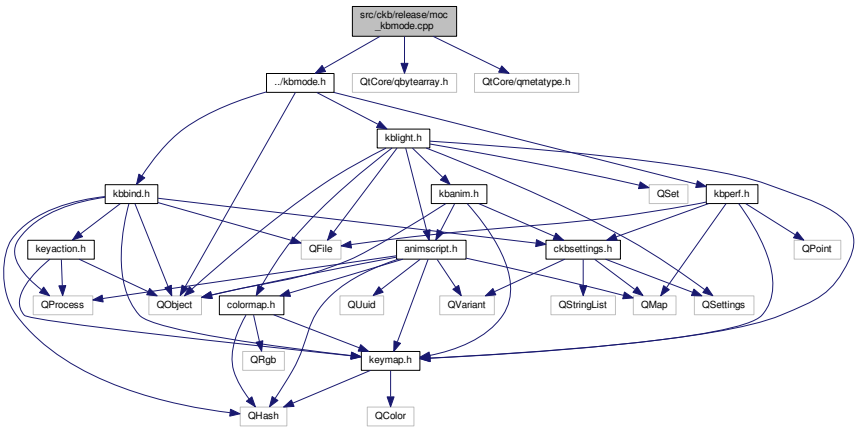
```
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  10    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  22    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 3 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  23    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  27    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  34    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  49    -  6  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbManager_t, stringdata0) +  64    -  7  * sizeof(
      QByteArrayData))   )

    },
    "KbManager\0kbConnected\0\0Kb*\0device\0"
    "kbDisconnected\0versionUpdated\0"
    "scanKeyboards"
}
```

Definition at line 30 of file moc_kbmanager.cpp.

13.185 src/ckb/release/moc_kbmode.cpp File Reference

```
#include "../kbmode.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbmode.cpp:



Data Structures

- struct qt_meta_stringdata_KbMode_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

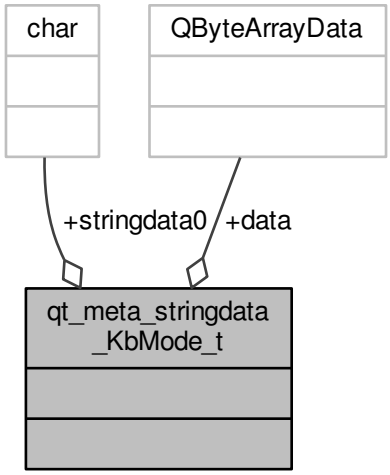
- static const qt_meta_stringdata_KbMode_t qt_meta_stringdata_KbMode
- static const uint qt_meta_data_KbMode [ ]

13.185.1 Data Structure Documentation

13.185.1.1 struct qt_meta_stringdata_KbMode_t

Definition at line 21 of file moc_kbmode.cpp.

Collaboration diagram for qt_meta_stringdata_KbMode_t:



Data Fields

QByteArrayData	data[4]	
char	stringdata0[25]	

13.185.2 Macro Definition Documentation

13.185.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbMode_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbmode.cpp.

13.185.3 Variable Documentation

13.185.3.1 const uint qt_meta_data_KbMode[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       2,   14,
       0,    0,
       0,    0,
       0,    0,
       0,
       1,


       1,    0,   24,    2, 0x06 ,


       3,    0,   25,    2, 0x08 ,


    QMetaType::Void,


    QMetaType::Void,

       0
}
```

Definition at line 42 of file moc_kbmode.cpp.

13.185.3.2 const qt_meta_stringdata_KbMode_t qt_meta_stringdata_KbMode [static]

Initial value:

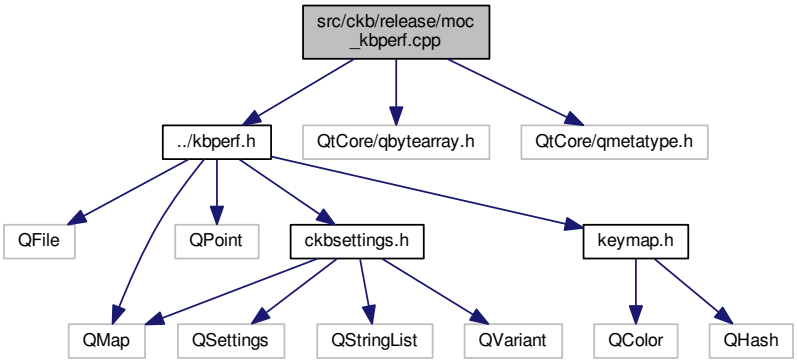
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbMode_t, stringdata0) +  0    -  0  * sizeof(QByteArrayData)
      )   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbMode_t, stringdata0) +  7    -  1  * sizeof(QByteArrayData)
      )   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbMode_t, stringdata0) +  15    -  2  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbMode_t, stringdata0) +  16    -  3  * sizeof(QByteArrayData
      ))   )

    },
    "KbMode\0updated\0\0doUpdate"
}
```

Definition at line 30 of file moc_kbmode.cpp.

13.186 src/ckb/release/moc_kbperf.cpp File Reference

```
#include "../kbperf.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbperf.cpp:



Data Structures

- struct qt_meta_stringdata_KbPerf_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

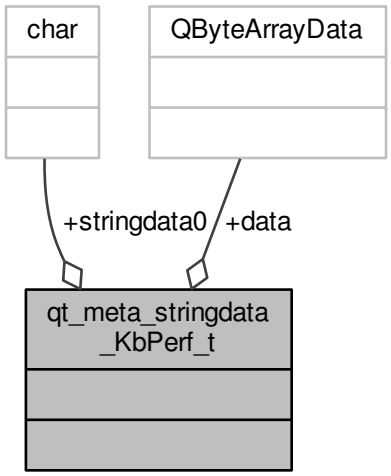
- static const qt_meta_stringdata_KbPerf_t qt_meta_stringdata_KbPerf
- static const uint qt_meta_data_KbPerf [ ]

13.186.1 Data Structure Documentation

13.186.1.1 struct qt_meta_stringdata_KbPerf_t

Definition at line 21 of file moc_kbperf.cpp.

Collaboration diagram for qt_meta_stringdata_KbPerf_t:



Data Fields

QByteArrayData	data[4]	
char	stringdata0[32]	

13.186.2 Macro Definition Documentation

13.186.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbPerf_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbperf.cpp.

13.186.3 Variable Documentation

13.186.3.1 const uint qt_meta_data_KbPerf[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       2,   14,
       0,    0,
       0,    0,
       0,    0,
       0,
```

```
        2,

        1,    0,   24,    2, 0x06 ,
        3,    0,   25,    2, 0x06 ,

    QMetaType::Void,
    QMetaType::Void,

        0
}
```

Definition at line 42 of file moc_kbperf.cpp.

13.186.3.2 const qt_meta_stringdata_KbPerf_t qt_meta_stringdata_KbPerf [static]

Initial value:

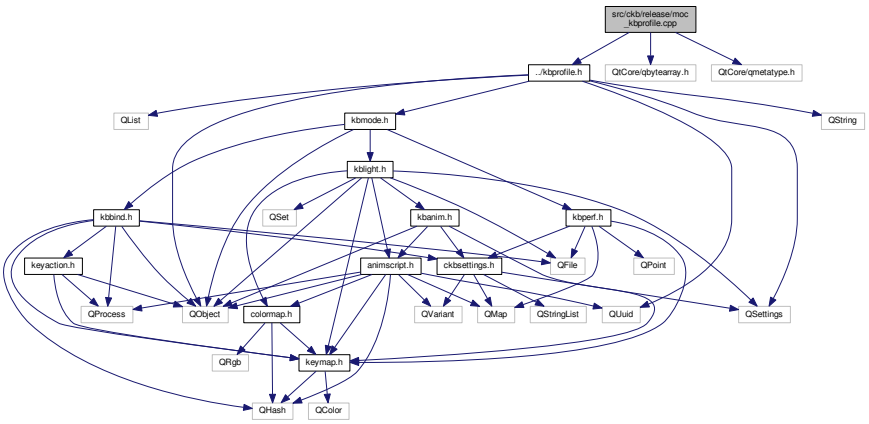
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbPerf_t, stringdata0) +  0    -  0  * sizeof(QByteArrayData)
      )   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbPerf_t, stringdata0) +  7    -  1  * sizeof(QByteArrayData)
      )   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbPerf_t, stringdata0) +  15    -  2  * sizeof(QByteArrayData
      ))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 15 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbPerf_t, stringdata0) +  16    -  3  * sizeof(QByteArrayData
      ))   )

    },
    "KbPerf\0didLoad\0\0settingsUpdated"
}
```

Definition at line 30 of file moc_kbperf.cpp.

13.187 src/ckb/release/moc_kbprofile.cpp File Reference

```
#include "../kbprofile.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbprofile.cpp:



Data Structures

- struct qt_meta_stringdata_KbProfile_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

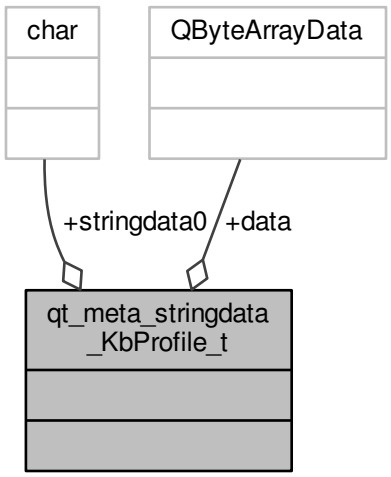
- static const qt_meta_stringdata_KbProfile_t qt_meta_stringdata_KbProfile
- static const uint qt_meta_data_KbProfile []

13.187.1 Data Structure Documentation

13.187.1.1 struct qt_meta_stringdata_KbProfile_t

Definition at line 21 of file moc_kbprofile.cpp.

Collaboration diagram for qt_meta_stringdata_KbProfile_t:



Data Fields

QByteArrayData	data[1]	
char	stringdata0[10]	

13.187.2 Macro Definition Documentation

13.187.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbProfile_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbprofile.cpp.

13.187.3 Variable Documentation

13.187.3.1 const uint qt_meta_data_KbProfile[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       0,    0,
       0,    0,
       0,    0,
       0,    0,
       0,
       0,

       0
}
```

Definition at line 39 of file moc_kbprofile.cpp.

13.187.3.2 const qt_meta_stringdata_KbProfile_t qt_meta_stringdata_KbProfile [static]

Initial value:

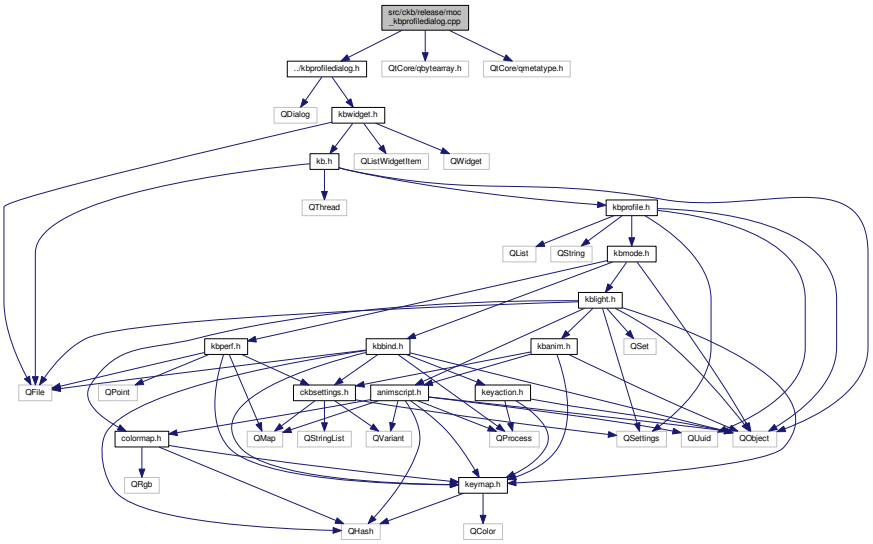
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfile_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   )

    },
    "KbProfile"
}
```

Definition at line 30 of file moc_kbprofile.cpp.

13.188 src/ckb/release/moc_kbprofiledialog.cpp File Reference

```
#include "../kbprofiledialog.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbprofiledialog.cpp:



Data Structures

- struct qt_meta_stringdata_KbProfileDialog_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

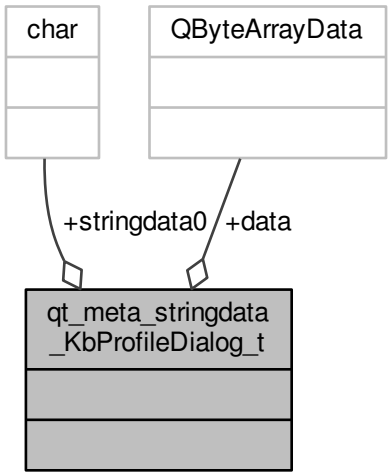
- static const qt_meta_stringdata_KbProfileDialog_t qt_meta_stringdata_KbProfileDialog
- static const uint qt_meta_data_KbProfileDialog []

13.188.1 Data Structure Documentation

13.188.1.1 struct qt_meta_stringdata_KbProfileDialog_t

Definition at line 21 of file moc_kbprofiledialog.cpp.

Collaboration diagram for qt_meta_stringdata_KbProfileDialog_t:



Data Fields

QByteArrayData	data[12]	
char	stringdata0[212]	

13.188.2 Macro Definition Documentation

13.188.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbProfileDialog_t, stringdata0
      ) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbprofiledialog.cpp.

13.188.3 Variable Documentation

13.188.3.1 const uint qt_meta_data_KbProfileDialog[ ] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       5,   14,
       0,    0,
       0,    0,
       0,    0,
```

```
        0,
        0,


        1,    0,   39,    2, 0x08 ,
        3,    2,   40,    2, 0x08 ,
        7,    1,   45,    2, 0x08 ,
        9,    1,   48,    2, 0x08 ,
       10,    1,   51,    2, 0x08 ,


    QMetaType::Void,
    QMetaType::Void, 0x80000000 | 4, 0x80000000 | 4,    5,    6,
    QMetaType::Void, 0x80000000 | 4,    8,
    QMetaType::Void, 0x80000000 | 4,    8,
    QMetaType::Void, QMetaType::QPoint,   11,

        0
}
```

Definition at line 56 of file moc_kbprofiledialog.cpp.

13.188.3.2 const qt_meta_stringdata_KbProfileDialog_t qt_meta_stringdata_KbProfileDialog [static]

Initial value:

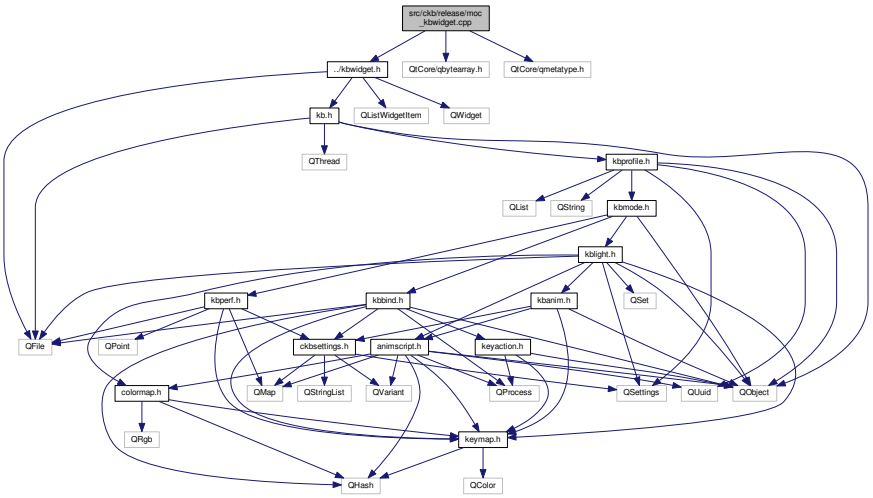
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 15 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  0    -  0  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  16    -  1  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  38    -  2  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 33 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  39    -  3  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  73    -  4  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  90    -  5  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  98    -  6  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 26 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  107    -  7  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  134    -  8  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 26 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  139    -  9  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 41 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  166    -  10  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 3 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KbProfileDialog_t, stringdata0) +  208    -  11  *
      sizeof(QByteArrayData))   )

    },
    "KbProfileDialog\0profileList_reordered\0"
    "\0on_profileList_currentItemChanged\0"
    "QListWidgetItem*\0current\0previous\0"
    "on_profileList_itemClicked\0item\0"
    "on_profileList_itemChanged\0"
    "on_profileList_customContextMenuRequested\0"
    "pos"
}
```

Definition at line 30 of file moc_kbprofiledialog.cpp.

13.189 src/ckb/release/moc_kbwidget.cpp File Reference

```
#include "../kbwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kbwidget.cpp:



Data Structures

- struct qt_meta_stringdata_KbWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

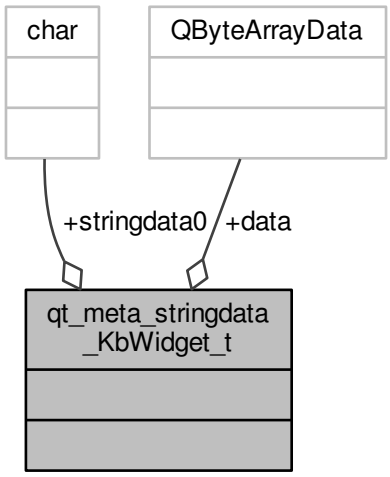
- static const qt_meta_stringdata_KbWidget_t qt_meta_stringdata_KbWidget
- static const uint qt_meta_data_KbWidget [ ]

13.189.1 Data Structure Documentation

13.189.1.1 struct qt_meta_stringdata_KbWidget_t

Definition at line 21 of file moc_kbwidget.cpp.

Collaboration diagram for qt_meta_stringdata_KbWidget_t:



Data Fields

QByteArrayData	data[29]	
char	stringdata0[442]	

13.189.2 Macro Definition Documentation

13.189.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KbWidget_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kbwidget.cpp.

13.189.3 Variable Documentation

13.189.3.1 const uint qt_meta_data_KbWidget[] [static]

Definition at line 80 of file moc_kbwidget.cpp.

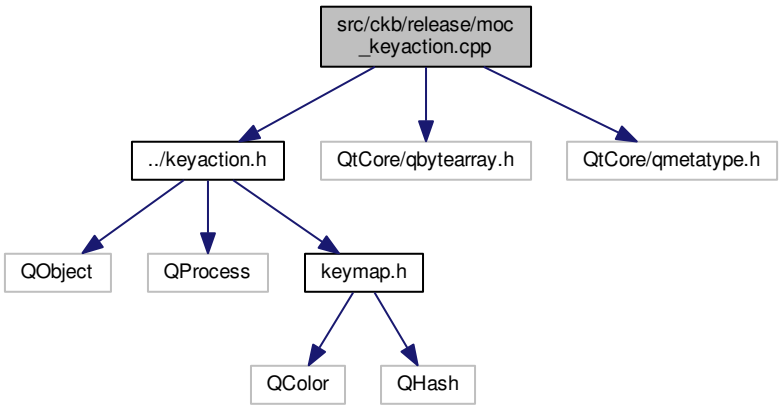
13.189.3.2 const qt_meta_stringdata_KbWidget_t qt_meta_stringdata_KbWidget [static]

Definition at line 30 of file moc_kbwidget.cpp.

13.190 src/ckb/release/moc_keyaction.cpp File Reference

```
#include "../keyaction.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_keyaction.cpp:



Data Structures

- struct qt_meta_stringdata_KeyAction_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

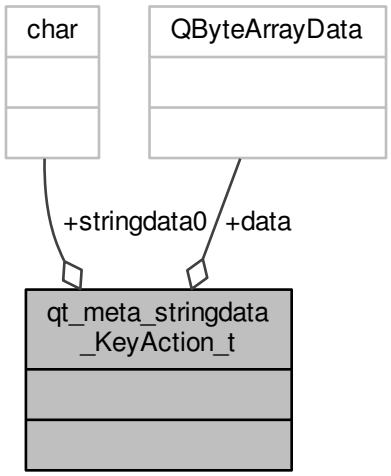
- static const qt_meta_stringdata_KeyAction_t qt_meta_stringdata_KeyAction
- static const uint qt_meta_data_KeyAction [ ]

13.190.1 Data Structure Documentation

13.190.1.1 struct qt_meta_stringdata_KeyAction_t

Definition at line 21 of file moc_keyaction.cpp.

Collaboration diagram for qt_meta_stringdata_KeyAction_t:



Data Fields

QByteArrayData	data[1]	
char	stringdata0[10]	

13.190.2 Macro Definition Documentation

13.190.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KeyAction_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_keyaction.cpp.

13.190.3 Variable Documentation

13.190.3.1 const uint qt_meta_data_KeyAction[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       0,    0,
       0,    0,
       0,    0,
       0,    0,
       0,
```

```
        0,

        0
}
```

Definition at line 39 of file moc_keyaction.cpp.

13.190.3.2 const qt_meta_stringdata_KeyAction_t qt_meta_stringdata_KeyAction [static]

Initial value:

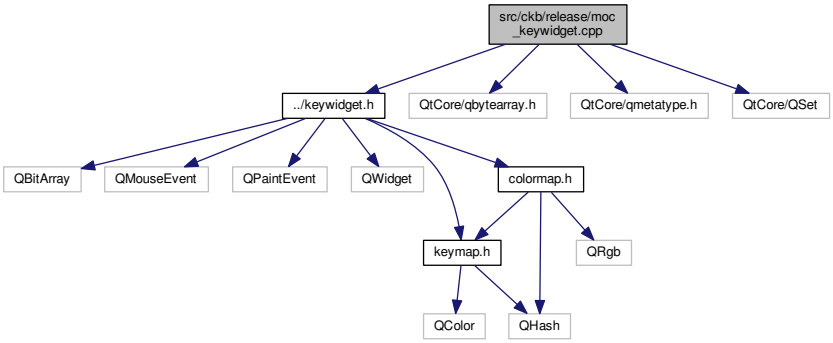
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyAction_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   )

    },
    "KeyAction"
}
```

Definition at line 30 of file moc_keyaction.cpp.

13.191 src/ckb/release/moc_keywidget.cpp File Reference

```
#include "../keywidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
#include <QtCore/QSet>
```

Include dependency graph for moc_keywidget.cpp:



Data Structures

- struct qt_meta_stringdata_KeyWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

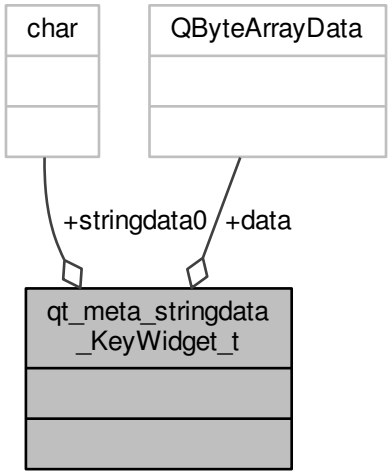
- static const qt_meta_stringdata_KeyWidget_t qt_meta_stringdata_KeyWidget
- static const uint qt_meta_data_KeyWidget [ ]

13.191.1 Data Structure Documentation

13.191.1.1 struct qt_meta_stringdata_KeyWidget_t

Definition at line 22 of file moc_keywidget.cpp.

Collaboration diagram for qt_meta_stringdata_KeyWidget_t:



Data Fields

QByteArrayData	data[10]	
char	stringdata0[118]	

13.191.2 Macro Definition Documentation

13.191.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KeyWidget_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 26 of file moc_keywidget.cpp.

13.191.3 Variable Documentation

13.191.3.1 const uint qt_meta_data_KeyWidget[] [static]

Definition at line 52 of file moc_keywidget.cpp.

13.191.3.2 const qt_meta_stringdata_KeyWidget_t qt_meta_stringdata_KeyWidget [static]

Initial value:

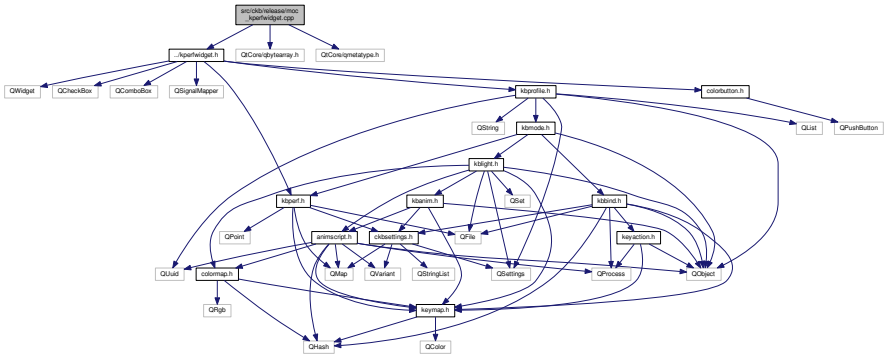
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  10    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  27    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  28    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  37    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 15 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  54    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 8 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  70    -  6  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  79    -  7  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  93    -  8  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 10 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KeyWidget_t, stringdata0) +  107    -  9  * sizeof(
      QByteArrayData))   )

    },
    "KeyWidget\0selectionChanged\0\0selected\0"
    "sidelightToggled\0displayColorMap\0"
    "ColorMap\0newDisplayMap\0QSet<QString>\0"
    "indicators"
}
```

Definition at line 31 of file moc_keywidget.cpp.

13.192 src/ckb/release/moc_kperfwidget.cpp File Reference

```
#include "../kperfwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_kperfwidget.cpp:



Data Structures

- struct qt_meta_stringdata_KPerfWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

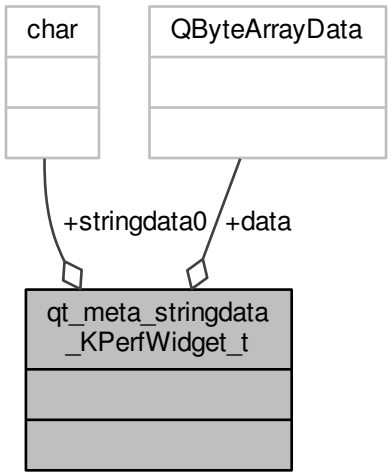
- static const qt_meta_stringdata_KPerfWidget_t qt_meta_stringdata_KPerfWidget
- static const uint qt_meta_data_KPerfWidget [ ]

13.192.1 Data Structure Documentation

13.192.1.1 struct qt_meta_stringdata_KPerfWidget_t

Definition at line 21 of file moc_kperfwidget.cpp.

Collaboration diagram for qt_meta_stringdata_KPerfWidget_t:



Data Fields

QByteArrayData	data[7]	
char	stringdata0[85]	

13.192.2 Macro Definition Documentation

13.192.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_KPerfWidget_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_kperfwidget.cpp.

13.192.3 Variable Documentation

13.192.3.1 const uint qt_meta_data_KPerfWidget[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       3,   14,
       0,    0,
       0,    0,
       0,    0,
```

```
       0,
       0,


       1,    1,   29,    2, 0x08 ,
       4,    1,   32,    2, 0x08 ,
       6,    0,   35,    2, 0x08 ,


    QMetaType::Void, QMetaType::Int,    3,
    QMetaType::Void, QMetaType::Int,    5,
    QMetaType::Void,

       0
}
```

Definition at line 47 of file moc_kperfwidget.cpp.

13.192.3.2 const qt_meta_stringdata_KPerfWidget_t qt_meta_stringdata_KPerfWidget [static]

Initial value:

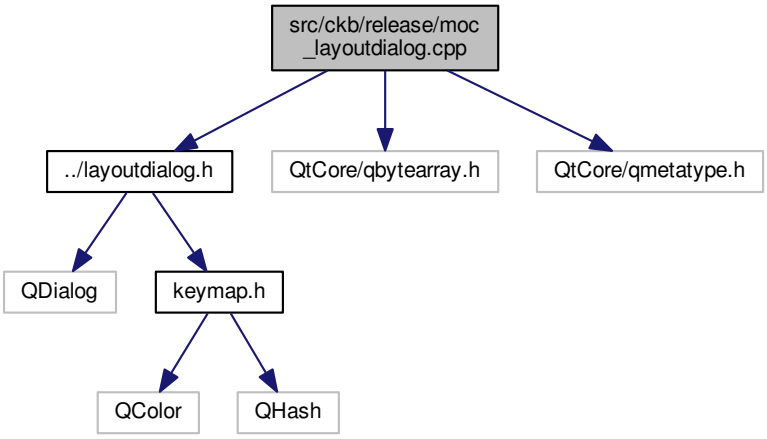
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KPerfWidget_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KPerfWidget_t, stringdata0) +  12    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KPerfWidget_t, stringdata0) +  22    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KPerfWidget_t, stringdata0) +  23    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 28 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KPerfWidget_t, stringdata0) +  29    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KPerfWidget_t, stringdata0) +  58    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_KPerfWidget_t, stringdata0) +  63    -  6  * sizeof(
      QByteArrayData))   )

    },
    "KPerfWidget\0uiUpdated\0\0index\0"
    "on_intensityBox_valueChanged\0arg1\0"
    "on_copyButton_clicked"
}
```

Definition at line 30 of file moc_kperfwidget.cpp.

13.193 src/ckb/release/moc_layoutdialog.cpp File Reference

```
#include "../layoutdialog.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_layoutdialog.cpp:



Data Structures

- struct qt_meta_stringdata_LayoutDialog_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

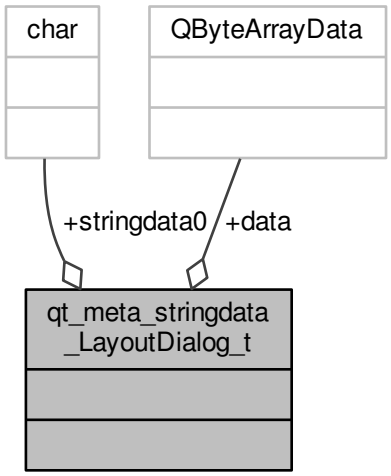
- static const qt_meta_stringdata_LayoutDialog_t qt_meta_stringdata_LayoutDialog
- static const uint qt_meta_data_LayoutDialog [ ]

13.193.1 Data Structure Documentation

13.193.1.1 struct qt_meta_stringdata_LayoutDialog_t

Definition at line 21 of file moc_layoutdialog.cpp.

Collaboration diagram for qt_meta_stringdata_LayoutDialog_t:



Data Fields

QByteArrayData	data[1]	
char	stringdata0[13]	

13.193.2 Macro Definition Documentation

13.193.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_LayoutDialog_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_layoutdialog.cpp.

13.193.3 Variable Documentation

13.193.3.1 const uint qt_meta_data_LayoutDialog[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       0,    0,
       0,    0,
       0,    0,
       0,    0,
```

```
        0,
        0,

        0
}
```

Definition at line 39 of file moc_layoutdialog.cpp.

13.193.3.2 const qt_meta_stringdata_LayoutDialog_t qt_meta_stringdata_LayoutDialog [static]

Initial value:

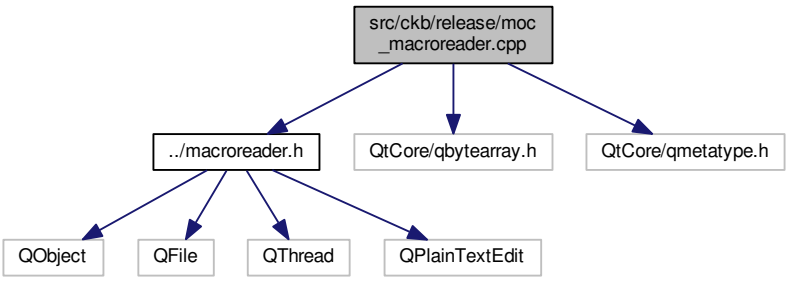
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_LayoutDialog_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   )

    },
    "LayoutDialog"
}
```

Definition at line 30 of file moc_layoutdialog.cpp.

13.194 src/ckb/release/moc_macroreader.cpp File Reference

```
#include "../macroreader.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_macroreader.cpp:



Data Structures

- struct qt_meta_stringdata_MacroReaderThread_t
- struct qt_meta_stringdata_MacroReader_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)
- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

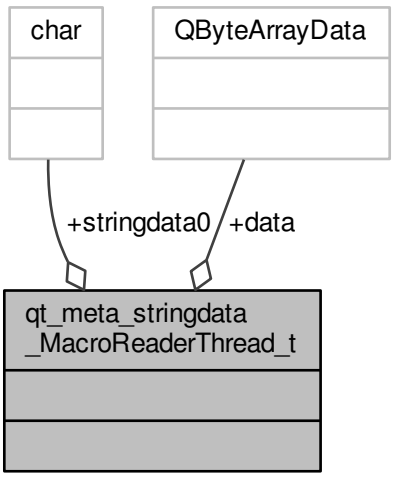
- static const qt_meta_stringdata_MacroReaderThread_t qt_meta_stringdata_MacroReaderThread
- static const uint qt_meta_data_MacroReaderThread []
- static const qt_meta_stringdata_MacroReader_t qt_meta_stringdata_MacroReader
- static const uint qt_meta_data_MacroReader []

13.194.1 Data Structure Documentation

13.194.1.1 struct qt_meta_stringdata_MacroReaderThread_t

Definition at line 21 of file moc_macroreader.cpp.

Collaboration diagram for qt_meta_stringdata_MacroReaderThread_t:



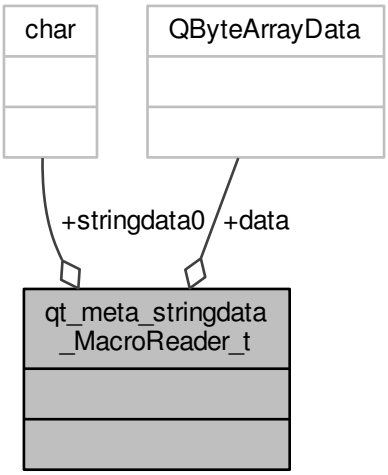
Data Fields

QByteArrayData	data[4]	
char	stringdata0[34]	

13.194.1.2 struct qt_meta_stringdata_MacroReader_t

Definition at line 111 of file moc_macroreader.cpp.

Collaboration diagram for qt_meta_stringdata_MacroReader_t:



Data Fields

QByteArrayData	data[1]	
char	stringdata0[12]	

13.194.2 Macro Definition Documentation

13.194.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_MacroReaderThread_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 115 of file moc_macroreader.cpp.

13.194.2.2 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_MacroReader_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 115 of file moc_macroreader.cpp.

13.194.3 Variable Documentation

13.194.3.1 const uint qt_meta_data_MacroReader[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       0,    0,
       0,    0,
       0,    0,
       0,    0,
       0,
       0,

       0
}
```

Definition at line 129 of file moc_macroreader.cpp.

13.194.3.2 const uint qt_meta_data_MacroReaderThread[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       1,   14,
       0,    0,
       0,    0,
       0,    0,
       0,
       0,


       1,    1,   19,    2, 0x08 ,


    QMetaType::Void, QMetaType::QString,    3,

       0
}
```

Definition at line 42 of file moc_macroreader.cpp.

13.194.3.3 const qt_meta_stringdata_MacroReader_t qt_meta_stringdata_MacroReader [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MacroReader_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   )

    },
    "MacroReader"
}
```

Definition at line 120 of file moc_macroreader.cpp.

13.194.3.4 const qt_meta_stringdata_MacroReaderThread_t qt_meta_stringdata_MacroReaderThread [static]

Initial value:

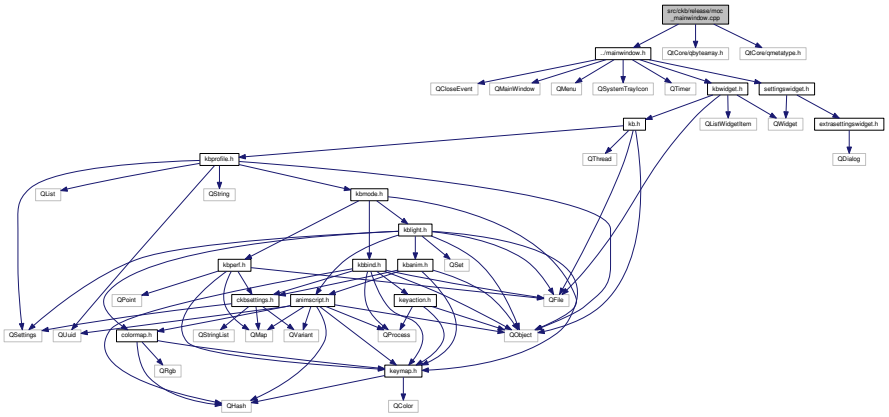
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 17 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MacroReaderThread_t, stringdata0) +  0    -  0  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MacroReaderThread_t, stringdata0) +  18    -  1  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MacroReaderThread_t, stringdata0) +  28    -  2  *
       sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MacroReaderThread_t, stringdata0) +  29    -  3  *
       sizeof(QByteArrayData))   )

    },
    "MacroReaderThread\0readMacro\0\0line"
}
```

Definition at line 30 of file moc_macroreader.cpp.

13.195 src/ckb/release/moc_mainwindow.cpp File Reference

```
#include "../mainwindow.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_mainwindow.cpp:



Data Structures

- struct qt_meta_stringdata_MainWindow_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

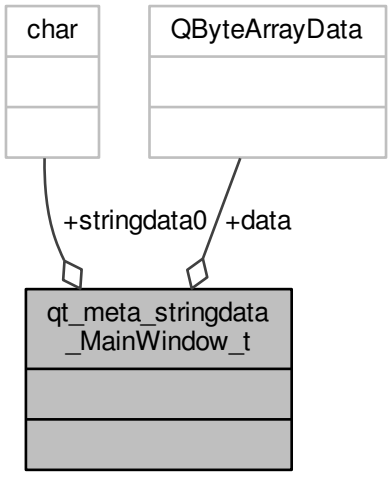
- static const qt_meta_stringdata_MainWindow_t qt_meta_stringdata_MainWindow
- static const uint qt_meta_data_MainWindow []

13.195.1 Data Structure Documentation

13.195.1.1 struct qt_meta_stringdata_MainWindow_t

Definition at line 21 of file moc_mainwindow.cpp.

Collaboration diagram for qt_meta_stringdata_MainWindow_t:



Data Fields

QByteArrayData	data[22]	
char	stringdata0[253]	

13.195.2 Macro Definition Documentation

13.195.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_MainWindow_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_mainwindow.cpp.

13.195.3 Variable Documentation

13.195.3.1 const uint qt_meta_data_MainWindow[] [static]

Definition at line 66 of file moc_mainwindow.cpp.

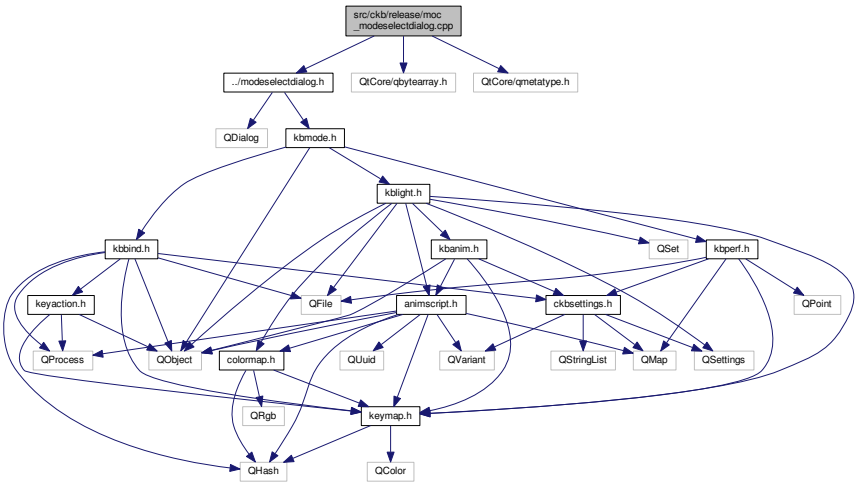
13.195.3.2 const qt_meta_stringdata_MainWindow_t qt_meta_stringdata_MainWindow [static]

Definition at line 30 of file moc_mainwindow.cpp.

13.196 src/ckb/release/moc_modeselectdialog.cpp File Reference

```
#include "../modeselectdialog.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_modeselectdialog.cpp:



Data Structures

- struct qt_meta_stringdata_ModeSelectDialog_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

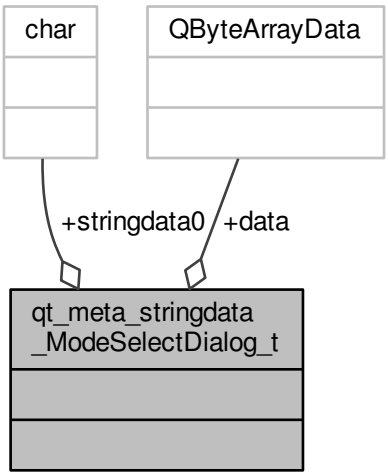
- static const qt_meta_stringdata_ModeSelectDialog_t qt_meta_stringdata_ModeSelectDialog
- static const uint qt_meta_data_ModeSelectDialog []

13.196.1 Data Structure Documentation

13.196.1.1 struct qt_meta_stringdata_ModeSelectDialog_t

Definition at line 21 of file moc_modeselectdialog.cpp.

Collaboration diagram for qt_meta_stringdata_ModeSelectDialog_t:



Data Fields

QByteArrayData	data[4]	
char	stringdata0[67]	

13.196.2 Macro Definition Documentation

13.196.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_ModeSelectDialog_t,
      stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_modeselectdialog.cpp.

13.196.3 Variable Documentation

13.196.3.1 const uint qt_meta_data_ModeSelectDialog[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       2,   14,
       0,    0,
       0,    0,
       0,    0,
```

```
        0,
        0,


        1,    0,   24,    2, 0x08 ,
        3,    0,   25,    2, 0x08 ,


    QMetaType::Void,
    QMetaType::Void,

        0
}
```

Definition at line 43 of file moc_modeselectdialog.cpp.

13.196.3.2 const qt_meta_stringdata_ModeSelectDialog_t qt_meta_stringdata_ModeSelectDialog [static]

Initial value:

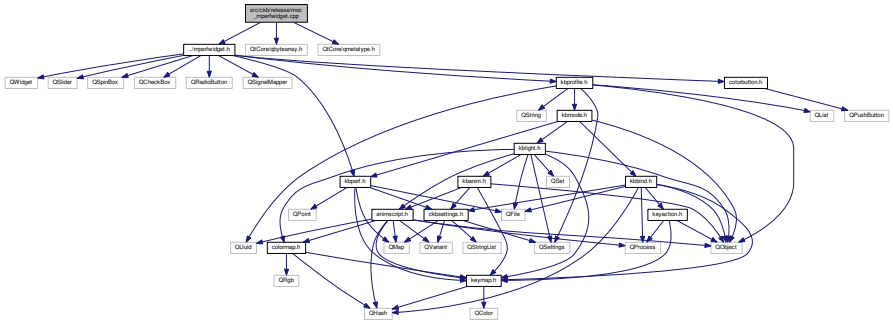
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ModeSelectDialog_t, stringdata0) +  0    -  0  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ModeSelectDialog_t, stringdata0) +  17    -  1  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ModeSelectDialog_t, stringdata0) +  41    -  2  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 24 ,   qptrdiff(offsetof(
      qt_meta_stringdata_ModeSelectDialog_t, stringdata0) +  42    -  3  *
      sizeof(QByteArrayData))   )

    },
    "ModeSelectDialog\0on_selAllButton_clicked\0"
    "\0on_selNoneButton_clicked"
}
```

Definition at line 30 of file moc_modeselectdialog.cpp.

13.197 src/ckb/release/moc_mperfwidget.cpp File Reference

```
#include "../mperfwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_mperfwidget.cpp:



Data Structures

- struct qt_meta_stringdata_MPerfWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

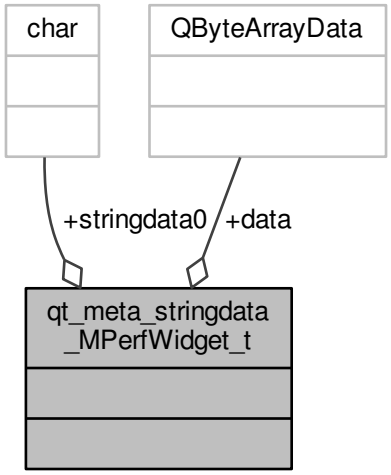
- static const qt_meta_stringdata_MPerfWidget_t qt_meta_stringdata_MPerfWidget
- static const uint qt_meta_data_MPerfWidget []

13.197.1 Data Structure Documentation

13.197.1.1 struct qt_meta_stringdata_MPerfWidget_t

Definition at line 21 of file moc_mperfwidget.cpp.

Collaboration diagram for qt_meta_stringdata_MPerfWidget_t:



Data Fields

QByteArrayData	data[18]	
char	stringdata0[249]	

13.197.2 Macro Definition Documentation

13.197.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_MPerfWidget_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_mperfwidget.cpp.

13.197.3 Variable Documentation

13.197.3.1 const uint qt_meta_data_MPerfWidget[] [static]

Definition at line 62 of file moc_mperfwidget.cpp.

13.197.3.2 const qt_meta_stringdata_MPerfWidget_t qt_meta_stringdata_MPerfWidget [static]

Initial value:

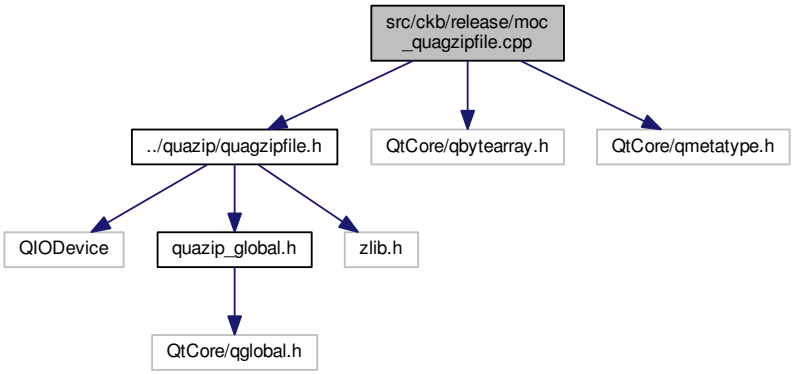
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  12    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  25    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  26    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  32    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  45    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  58    -  6  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  71    -  7  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  83    -  8  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 13 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  95    -  9  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  109    -  10  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  126    -  11  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 19 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  134    -  12  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 19 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  154    -  13  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  174    -  14  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  198    -  15  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  220    -  16  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_MPerfWidget_t, stringdata0) +  244    -  17  * sizeof(
      QByteArrayData))   )

    },
    "MPerfWidget\0colorClicked\0\0index\0"
    "colorChanged\0sliderXMoved\0sliderYMoved\0"
    "boxXChanged\0boxYChanged\0enableChanged\0"
    "on_xyBox_clicked\0checked\0on_indicBox_clicked\0"
    "on_aSnapBox_clicked\0on_lHeightBox_activated\0"
    "on_copyButton_clicked\0on_spinBox_valueChanged\0"
    "arg1"
}
```

Definition at line 30 of file moc_mperfwidget.cpp.

13.198 src/ckb/release/moc_quagzipfile.cpp File Reference

```
#include "../quazip/quagzipfile.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_quagzipfile.cpp:



Data Structures

- struct qt_meta_stringdata_QuaGzipFile_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

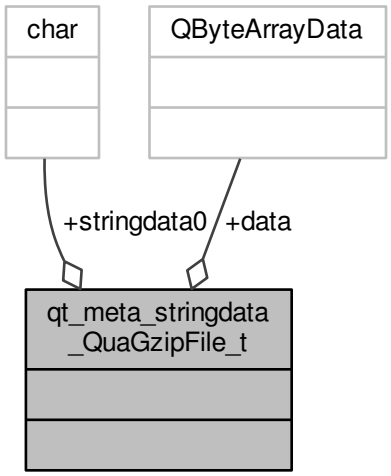
- static const qt_meta_stringdata_QuaGzipFile_t qt_meta_stringdata_QuaGzipFile
- static const uint qt_meta_data_QuaGzipFile []

13.198.1 Data Structure Documentation

13.198.1.1 struct qt_meta_stringdata_QuaGzipFile_t

Definition at line 21 of file moc_quagzipfile.cpp.

Collaboration diagram for qt_meta_stringdata_QuaGzipFile_t:



Data Fields

QByteArrayData	data[1]	
char	stringdata0[12]	

13.198.2 Macro Definition Documentation

13.198.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_QuaGzipFile_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_quagzipfile.cpp.

13.198.3 Variable Documentation

13.198.3.1 const uint qt_meta_data_QuaGzipFile[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       0,    0,
       0,    0,
       0,    0,
       0,    0,
```

```
        0,
        0,

        0
}
```

Definition at line 39 of file moc_quagzipfile.cpp.

13.198.3.2 const qt_meta_stringdata_QuaGzipFile_t qt_meta_stringdata_QuaGzipFile [static]

Initial value:

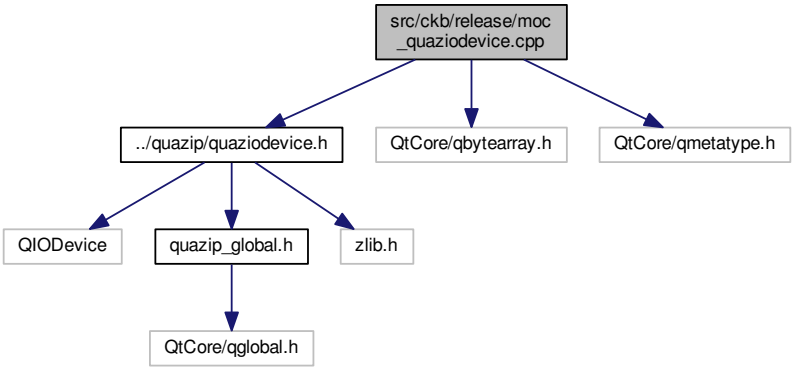
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
      qt_meta_stringdata_QuaGzipFile_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   )

    },
    "QuaGzipFile"
}
```

Definition at line 30 of file moc_quagzipfile.cpp.

13.199 src/ckb/release/moc_quaziodevice.cpp File Reference

```
#include "../quazip/quaziodevice.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_quaziodevice.cpp:



Data Structures

- struct qt_meta_stringdata_QuaZIODevice_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

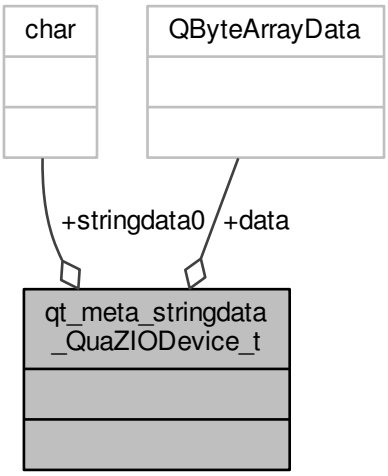
- static const qt_meta_stringdata_QuaZIODevice_t qt_meta_stringdata_QuaZIODevice
- static const uint qt_meta_data_QuaZIODevice []

13.199.1 Data Structure Documentation

13.199.1.1 struct qt_meta_stringdata_QuaZIODevice_t

Definition at line 21 of file moc_quaziodevice.cpp.

Collaboration diagram for qt_meta_stringdata_QuaZIODevice_t:



Data Fields

QByteArrayData	data[1]	
char	stringdata0[13]	

13.199.2 Macro Definition Documentation

13.199.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_QuaZIODevice_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_quaziodevice.cpp.

13.199.3 Variable Documentation

13.199.3.1 const uint qt_meta_data_QuaZIODevice[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       0,    0,
       0,    0,
       0,    0,
       0,    0,
       0,
       0,

       0
}
```

Definition at line 39 of file moc_quaziodevice.cpp.

13.199.3.2 const qt_meta_stringdata_QuaZIODevice_t qt_meta_stringdata_QuaZIODevice [static]

Initial value:

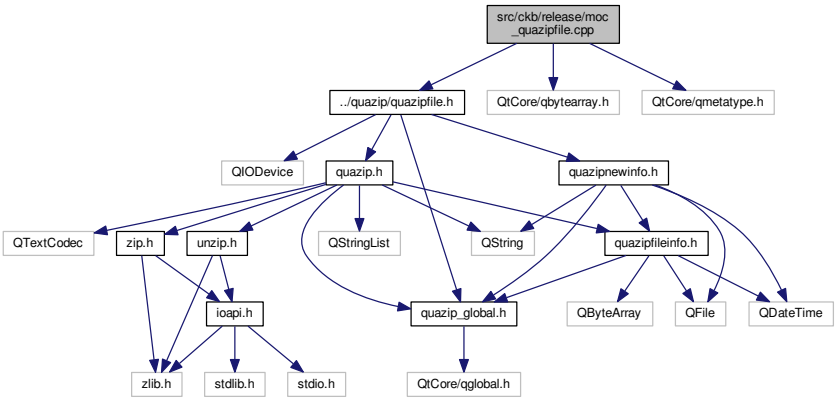
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_QuaZIODevice_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   )

    },
    "QuaZIODevice"
}
```

Definition at line 30 of file moc_quaziodevice.cpp.

13.200 src/ckb/release/moc_quazipfile.cpp File Reference

```
#include "../quazip/quazipfile.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_quazipfile.cpp:



Data Structures

- struct qt_meta_stringdata_QuaZipFile_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

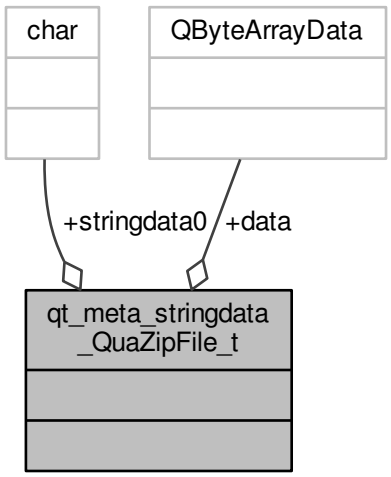
- static const qt_meta_stringdata_QuaZipFile_t qt_meta_stringdata_QuaZipFile
- static const uint qt_meta_data_QuaZipFile []

13.200.1 Data Structure Documentation

13.200.1.1 struct qt_meta_stringdata_QuaZipFile_t

Definition at line 21 of file moc_quazipfile.cpp.

Collaboration diagram for qt_meta_stringdata_QuaZipFile_t:



Data Fields

QByteArrayData	data[1]	
char	stringdata0[11]	

13.200.2 Macro Definition Documentation

13.200.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_QuaZipFile_t, stringdata0) + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_quazipfile.cpp.

13.200.3 Variable Documentation

13.200.3.1 const uint qt_meta_data_QuaZipFile[] [static]

Initial value:

```
= {

       7,
       0,
       0,    0,
       0,    0,
       0,    0,
       0,    0,
       0,    0,
       0,
       0,

       0
}
```

Definition at line 39 of file moc_quazipfile.cpp.

13.200.3.2 const qt_meta_stringdata_QuaZipFile_t qt_meta_stringdata_QuaZipFile [static]

Initial value:

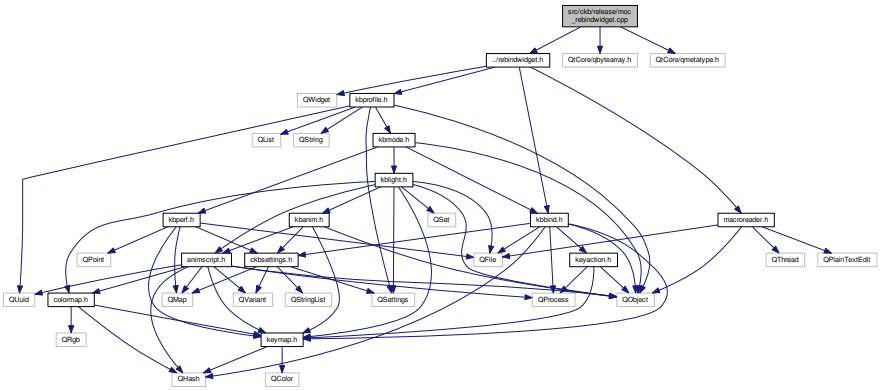
```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 10 ,   qptrdiff(offsetof(
      qt_meta_stringdata_QuaZipFile_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   )

    },
    "QuaZipFile"
}
```

Definition at line 30 of file moc_quazipfile.cpp.

13.201 src/ckb/release/moc_rebindwidget.cpp File Reference

```
#include "../rebindwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_rebindwidget.cpp:



Data Structures

- struct qt_meta_stringdata_RebindWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

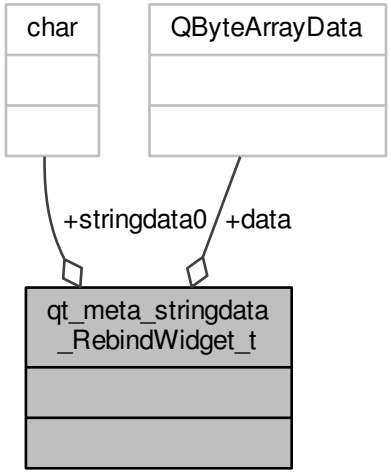
- static const qt_meta_stringdata_RebindWidget_t qt_meta_stringdata_RebindWidget
- static const uint qt_meta_data_RebindWidget [ ]

13.201.1 Data Structure Documentation

13.201.1.1 struct qt_meta_stringdata_RebindWidget_t

Definition at line 21 of file moc_rebindwidget.cpp.

Collaboration diagram for qt_meta_stringdata_RebindWidget_t:



Data Fields

QByteArrayData	data[51]	
char	stringdata0[1179]	

13.201.2 Macro Definition Documentation

13.201.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_RebindWidget_t, stringdata0) +
      ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_rebindwidget.cpp.

13.201.3 Variable Documentation

13.201.3.1 const uint qt_meta_data_RebindWidget[ ] [static]

Definition at line 124 of file moc_rebindwidget.cpp.

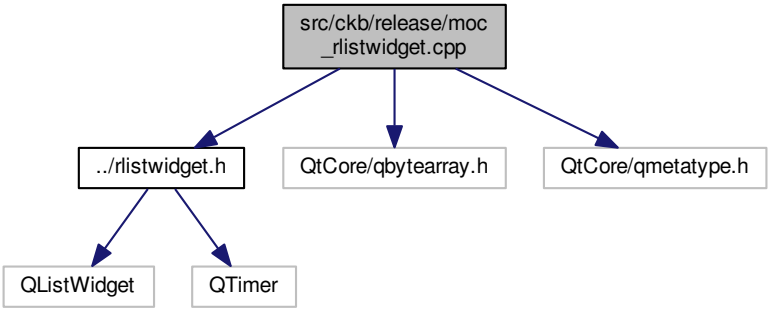
13.201.3.2 const qt_meta_stringdata_RebindWidget_t qt_meta_stringdata_RebindWidget [static]

Definition at line 30 of file moc_rebindwidget.cpp.

13.202 src/ckb/release/moc_rlistwidget.cpp File Reference

```
#include "../rlistwidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_rlistwidget.cpp:



Data Structures

- struct qt_meta_stringdata_RListWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

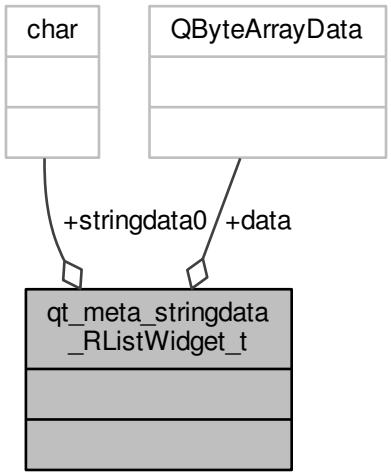
- static const qt_meta_stringdata_RListWidget_t qt_meta_stringdata_RListWidget
- static const uint qt_meta_data_RListWidget []

13.202.1 Data Structure Documentation

13.202.1.1 struct qt_meta_stringdata_RListWidget_t

Definition at line 21 of file moc_rlistwidget.cpp.

Collaboration diagram for qt_meta_stringdata_RListWidget_t:



Data Fields

QByteArrayData	data[8]	
char	stringdata0[71]	

13.202.2 Macro Definition Documentation

13.202.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_RListWidget_t, stringdata0) + ofs
      \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_rlistwidget.cpp.

13.202.3 Variable Documentation

13.202.3.1 const uint qt_meta_data_RListWidget[] [static]

Definition at line 47 of file moc_rlistwidget.cpp.

13.202.3.2 const qt_meta_stringdata_RListWidget_t qt_meta_stringdata_RListWidget [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 11 ,   qptrdiff(offsetof(
```

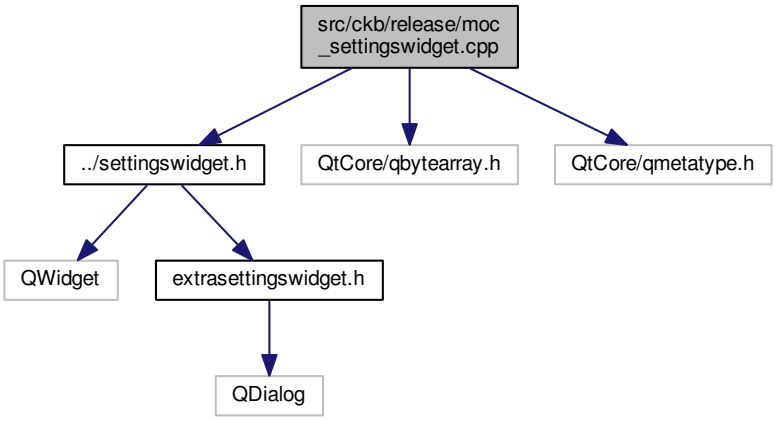
```
      qt_meta_stringdata_RListWidget_t, stringdata0) +  0    -  0  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 12 ,   qptrdiff(offsetof(
      qt_meta_stringdata_RListWidget_t, stringdata0) +  12    -  1  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_RListWidget_t, stringdata0) +  25    -  2  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 9 ,   qptrdiff(offsetof(
      qt_meta_stringdata_RListWidget_t, stringdata0) +  26    -  3  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_RListWidget_t, stringdata0) +  36    -  4  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_RListWidget_t, stringdata0) +  42    -  5  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 4 ,   qptrdiff(offsetof(
      qt_meta_stringdata_RListWidget_t, stringdata0) +  59    -  6  * sizeof(
      QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 6 ,   qptrdiff(offsetof(
      qt_meta_stringdata_RListWidget_t, stringdata0) +  64    -  7  * sizeof(
      QByteArrayData))   )

    },
    "RListWidget\0orderChanged\0\0timerTick\0"
    "enter\0QListWidgetItem*\0item\0change"
}
```

Definition at line 30 of file moc_rlistwidget.cpp.

13.203 src/ckb/release/moc_settingswidget.cpp File Reference

```
#include "../settingswidget.h"
#include <QtCore/qbytearray.h>
#include <QtCore/qmetatype.h>
```

Include dependency graph for moc_settingswidget.cpp:



Data Structures

- struct qt_meta_stringdata_SettingsWidget_t

Macros

- #define QT_MOC_LITERAL(idx, ofs, len)

Variables

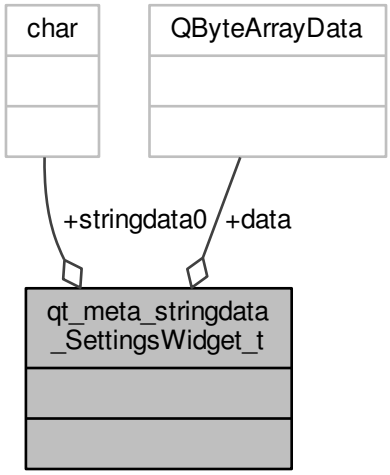
- static const qt_meta_stringdata_SettingsWidget_t qt_meta_stringdata_SettingsWidget
- static const uint qt_meta_data_SettingsWidget []

13.203.1 Data Structure Documentation

13.203.1.1 struct qt_meta_stringdata_SettingsWidget_t

Definition at line 21 of file moc_settingswidget.cpp.

Collaboration diagram for qt_meta_stringdata_SettingsWidget_t:



Data Fields

QByteArrayData	data[15]	
char	stringdata0[264]	

13.203.2 Macro Definition Documentation

13.203.2.1 #define QT_MOC_LITERAL(*idx, ofs, len*)

Value:

```
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET(len, \
    qptrdiff(offsetof(qt_meta_stringdata_SettingsWidget_t, stringdata0)
      + ofs \
        - idx * sizeof(QByteArrayData)) \
    )
```

Definition at line 25 of file moc_settingswidget.cpp.

13.203.3 Variable Documentation

13.203.3.1 const uint qt_meta_data_SettingsWidget[] [static]

Definition at line 59 of file moc_settingswidget.cpp.

13.203.3.2 const qt_meta_stringdata_SettingsWidget_t qt_meta_stringdata_SettingsWidget [static]

Initial value:

```
= {
    {
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 14 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  0    -  0  * sizeof
      (QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  15    -  1  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 0 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  37    -  2  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  38    -  3  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 5 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  59    -  4  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 21 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  65    -  5  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  87    -  6  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 19 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  108    -  7  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 19 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  128    -  8  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 20 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  148    -  9  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 7 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  169    -  10  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 23 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  177    -  11  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 22 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  201    -  12  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 16 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  224    -  13  *
      sizeof(QByteArrayData))   ),
Q_STATIC_BYTE_ARRAY_DATA_HEADER_INITIALIZER_WITH_OFFSET( 22 ,   qptrdiff(offsetof(
      qt_meta_stringdata_SettingsWidget_t, stringdata0) +  241    -  14  *
      sizeof(QByteArrayData))   )

    },
    "SettingsWidget\0on_pushButton_clicked\0"
    "\0on_capsBox_activated\0index\0"
    "on_shiftBox_activated\0on_ctrlBox_activated\0"
    "on_altBox_activated\0on_winBox_activated\0"
    "on_autoFWBox_clicked\0checked\0"
    "on_loginItemBox_clicked\0on_layoutBox_activated\0"
    "showLayoutDialog\0on_extraButton_clicked"
}
```

Definition at line 30 of file moc_settingswidget.cpp.

13.204 src/ckb/release/qrc_binary.cpp File Reference

Macros

- #define QT_RCC_PREPEND_NAMESPACE(name) name
- #define QT_RCC_MANGLE_NAMESPACE(name) name

Functions

- bool qRegisterResourceData (int, const unsigned char *, const unsigned char *, const unsigned char *)
- bool qUnregisterResourceData (int, const unsigned char *, const unsigned char *, const unsigned char *)
- int qInitResources_binary ()
- int qCleanupResources_binary ()

Variables

- static const unsigned char qt_resource_data []
- static const unsigned char qt_resource_name []
- static const unsigned char qt_resource_struct []

13.204.1 Macro Definition Documentation

13.204.1.1 #define QT_RCC_MANGLE_NAMESPACE(*name*) name

Definition at line 147 of file qrc_binary.cpp.

13.204.1.2 #define QT_RCC_PREPEND_NAMESPACE(*name*) name

Definition at line 146 of file qrc_binary.cpp.

Referenced by qCleanupResources_binary(), and qInitResources_binary().

13.204.2 Function Documentation

13.204.2.1 int qCleanupResources_binary ( )

Definition at line 171 of file qrc_binary.cpp.

References QT_RCC_PREPEND_NAMESPACE, qt_resource_data, qt_resource_name, qt_resource_struct, and qUnregisterResourceData().

```
172 {
173     QT_RCC_PREPEND_NAMESPACE(qUnregisterResourceData)
174         (0x01, qt_resource_struct, qt_resource_name,
      qt_resource_data);
175     return 1;
176 }
```

Here is the call graph for this function:

13.204.2.2 int qInitResources_binary ( )

Definition at line 163 of file qrc_binary.cpp.

References qRegisterResourceData(), QT_RCC_PREPEND_NAMESPACE, qt_resource_data, qt_resource_name, and qt_resource_struct.

```
164 {
165     QT_RCC_PREPEND_NAMESPACE(qRegisterResourceData)
166         (0x01, qt_resource_struct, qt_resource_name,
      qt_resource_data);
167     return 1;
168 }
```

Here is the call graph for this function:

13.204.2.3 bool qRegisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qInitResources_binary().

Here is the caller graph for this function:

13.204.2.4 bool qUnregisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qCleanupResources_binary().

Here is the caller graph for this function:

13.204.3 Variable Documentation

13.204.3.1 const unsigned char qt_resource_data[] [static]

Definition at line 9 of file qrc_binary.cpp.

Referenced by qCleanupResources_binary(), and qInitResources_binary().

13.204.3.2 const unsigned char qt_resource_name[] [static]

Initial value:

```
= {

  0x0,0x3,
  0x0,0x0,0x68,0xfe,
  0x0,0x62,
  0x0,0x69,0x0,0x6e,

  0x0,0x10,
  0x9,0x4b,0x25,0x27,
  0x0,0x63,
  0x0,0x6b,0x0,0x62,0x0,0x2d,0x0,0x6e,0x0,0x65,0x0,0x78,0x0,0x74,0x0,0x2d,0x0,0x6b,0x0,0x65,0x0,0x79,0x0,
      0x2e,0x0,0x67,0x0,0x70,0x0,0x67,

}
```

Definition at line 114 of file qrc_binary.cpp.

Referenced by qCleanupResources_binary(), and qInitResources_binary().

13.204.3.3 const unsigned char qt_resource_struct[] [static]

Initial value:

```
= {

  0x0,0x0,0x0,0x0,0x0,0x2,0x0,0x0,0x0,0x1,0x0,0x0,0x0,0x1,

  0x0,0x0,0x0,0x0,0x0,0x2,0x0,0x0,0x0,0x1,0x0,0x0,0x0,0x2,

  0x0,0x0,0x0,0xc,0x0,0x0,0x0,0x0,0x0,0x1,0x0,0x0,0x0,0x0,

}
```

Definition at line 128 of file qrc_binary.cpp.

Referenced by qCleanupResources_binary(), and qInitResources_binary().

13.205 src/ckb/release/qrc_image.cpp File Reference

Macros

- #define QT_RCC_PREPEND_NAMESPACE(name) name
- #define QT_RCC_MANGLE_NAMESPACE(name) name

Functions

- bool qRegisterResourceData (int, const unsigned char *, const unsigned char *, const unsigned char *)
- bool qUnregisterResourceData (int, const unsigned char *, const unsigned char *, const unsigned char *)
- int qInitResources_image ()
- int qCleanupResources_image ()

Variables

- static const unsigned char qt_resource_data []
- static const unsigned char qt_resource_name []
- static const unsigned char qt_resource_struct []

13.205.1 Macro Definition Documentation

13.205.1.1 #define QT_RCC_MANGLE_NAMESPACE(*name*) name

Definition at line 9796 of file qrc_image.cpp.

13.205.1.2 #define QT_RCC_PREPEND_NAMESPACE(*name*) name

Definition at line 9795 of file qrc_image.cpp.

Referenced by qCleanupResources_image(), and qInitResources_image().

13.205.2 Function Documentation

13.205.2.1 int qCleanupResources_image ( )

Definition at line 9820 of file qrc_image.cpp.

References QT_RCC_PREPEND_NAMESPACE, qt_resource_data, qt_resource_name, qt_resource_struct, and qUnregisterResourceData().

```
9821 {
9822     QT_RCC_PREPEND_NAMESPACE(qUnregisterResourceData)
9823         (0x01, qt_resource_struct, qt_resource_name,
      qt_resource_data);
9824     return 1;
9825 }
```

Here is the call graph for this function:

13.205.2.2 int qInitResources_image ( )

Definition at line 9812 of file qrc_image.cpp.

References qRegisterResourceData(), QT_RCC_PREPEND_NAMESPACE, qt_resource_data, qt_resource_name, and qt_resource_struct.

```
9813 {
9814     QT_RCC_PREPEND_NAMESPACE(qRegisterResourceData)
9815         (0x01, qt_resource_struct, qt_resource_name,
      qt_resource_data);
9816     return 1;
9817 }
```

Here is the call graph for this function:

13.205.2.3 bool qRegisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qInitResources_image().

Here is the caller graph for this function:

13.205.2.4 bool qUnregisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qCleanupResources_image().

Here is the caller graph for this function:

13.205.3 Variable Documentation

13.205.3.1 const unsigned char qt_resource_data[] [static]

Definition at line 9 of file qrc_image.cpp.

Referenced by qCleanupResources_image(), and qInitResources_image().

13.205.3.2 const unsigned char qt_resource_name[] [static]

Definition at line 9659 of file qrc_image.cpp.

Referenced by qCleanupResources_image(), and qInitResources_image().

13.205.3.3 const unsigned char qt_resource_struct[] [static]

Definition at line 9749 of file qrc_image.cpp.

Referenced by qCleanupResources_image(), and qInitResources_image().

13.206 src/ckb/release/qrc_text.cpp File Reference

Macros

- #define QT_RCC_PREPEND_NAMESPACE(name) name
- #define QT_RCC_MANGLE_NAMESPACE(name) name

Functions

- bool qRegisterResourceData (int, const unsigned char *, const unsigned char *, const unsigned char *)
- bool qUnregisterResourceData (int, const unsigned char *, const unsigned char *, const unsigned char *)
- int qInitResources_text ()
- int qCleanupResources_text ()

Variables

- static const unsigned char qt_resource_data []
- static const unsigned char qt_resource_name []
- static const unsigned char qt_resource_struct []

13.206.1 Macro Definition Documentation

13.206.1.1 #define QT_RCC_MANGLE_NAMESPACE(*name*) name

Definition at line 350 of file qrc_text.cpp.

13.206.1.2 #define QT_RCC_PREPEND_NAMESPACE(*name*) name

Definition at line 349 of file qrc_text.cpp.

Referenced by qCleanupResources_text(), and qInitResources_text().

13.206.2 Function Documentation

13.206.2.1 int qCleanupResources_text ( )

Definition at line 374 of file qrc_text.cpp.

References QT_RCC_PREPEND_NAMESPACE, qt_resource_data, qt_resource_name, qt_resource_struct, and qUnregisterResourceData().

```
375 {
376     QT_RCC_PREPEND_NAMESPACE(qUnregisterResourceData)
377         (0x01, qt_resource_struct, qt_resource_name,
      qt_resource_data);
378     return 1;
379 }
```

Here is the call graph for this function:

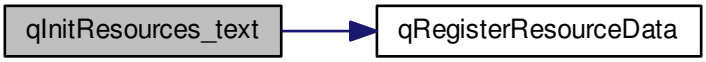
13.206.2.2 int qInitResources_text ( )

Definition at line 366 of file qrc_text.cpp.

References qRegisterResourceData(), QT_RCC_PREPEND_NAMESPACE, qt_resource_data, qt_resource_name, and qt_resource_struct.

```
367 {
368     QT_RCC_PREPEND_NAMESPACE(qRegisterResourceData)
369         (0x01, qt_resource_struct, qt_resource_name,
      qt_resource_data);
370     return 1;
371 }
```

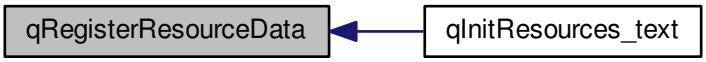
Here is the call graph for this function:



13.206.2.3 bool qRegisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qInitResources_text().

Here is the caller graph for this function:



13.206.2.4 bool qUnregisterResourceData (int , const unsigned char * , const unsigned char * , const unsigned char *)

Referenced by qCleanupResources_text().

Here is the caller graph for this function:

13.206.3 Variable Documentation

13.206.3.1 const unsigned char qt_resource_data[] [static]

Definition at line 9 of file qrc_text.cpp.

Referenced by qCleanupResources_text(), and qInitResources_text().

13.206.3.2 const unsigned char qt_resource_name[] [static]

Initial value:

```
= {

  0x0,0x3,
  0x0,0x0,0x7b,0xf4,
  0x0,0x74,
  0x0,0x78,0x0,0x74,

  0x0,0xb,
  0xa,0x1e,0x1,0xe0,
  0x0,0x63,
  0x0,0x6b,0x0,0x62,0x0,0x2e,0x0,0x64,0x0,0x65,0x0,0x73,0x0,0x6b,0x0,0x74,0x0,0x6f,0x0,0x70,

  0x0,0x10,
  0xe,0xac,0xaf,0x46,
  0x0,0x64,
  0x0,0x65,0x0,0x6d,0x0,0x6f,0x0,0x70,0x0,0x72,0x0,0x6f,0x0,0x66,0x0,0x69,0x0,0x6c,0x0,0x65,0x0,0x2e,0x0,
       0x63,0x0,0x6f,0x0,0x6e,0x0,0x66,

  0x0,0x11,
  0x0,0xd4,0x25,0xa4,
  0x0,0x63,
  0x0,0x6f,0x0,0x6d,0x0,0x2e,0x0,0x63,0x0,0x6b,0x0,0x62,0x0,0x2e,0x0,0x63,0x0,0x6b,0x0,0x62,0x0,0x2e,0x0,
       0x70,0x0,0x6c,0x0,0x69,0x0,0x73,0x0,0x74,


}
```

Definition at line 302 of file qrc_text.cpp.

Referenced by qCleanupResources_text(), and qInitResources_text().

13.206.3.3 const unsigned char qt_resource_struct[] [static]

Initial value:

```
= {

  0x0,0x0,0x0,0x0,0x0,0x2,0x0,0x0,0x0,0x1,0x0,0x0,0x0,0x1,
```

```
  0x0,0x0,0x0,0x0,0x0,0x2,0x0,0x0,0x0,0x3,0x0,0x0,0x0,0x2,
  0x0,0x0,0x0,0x4e,0x0,0x0,0x0,0x0,0x0,0x1,0x0,0x0,0xf,0x74,
  0x0,0x0,0x0,0xc,0x0,0x0,0x0,0x0,0x0,0x1,0x0,0x0,0x0,0x0,
  0x0,0x0,0x0,0x28,0x0,0x1,0x0,0x0,0x0,0x1,0x0,0x0,0x0,0xc6,
}
```

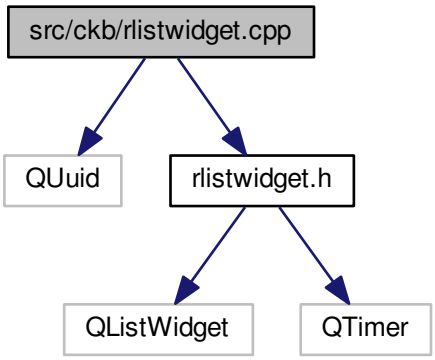
Definition at line 327 of file qrc_text.cpp.

Referenced by qCleanupResources_text(), and qInitResources_text().

13.207 src/ckb/rlistwidget.cpp File Reference

```
#include <QUuid>
#include "rlistwidget.h"
```

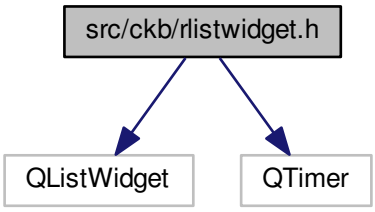
Include dependency graph for rlistwidget.cpp:



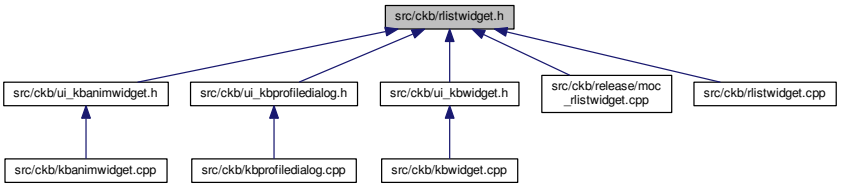
13.208 src/ckb/rlistwidget.h File Reference

```
#include <QListWidget>
#include <QTimer>
```

Include dependency graph for rlistwidget.h:



This graph shows which files directly or indirectly include this file:



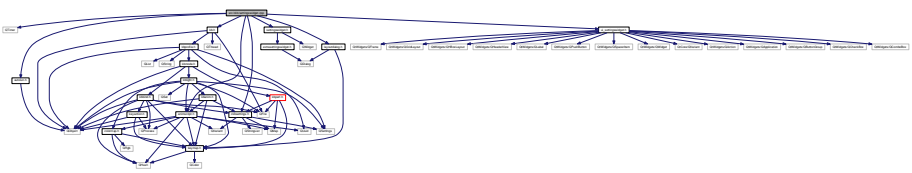
Data Structures

- class RListWidget

13.209 src/ckb/settingswidget.cpp File Reference

```
#include <QTimer>
#include "animscript.h"
#include "autorun.h"
#include "ckbsettings.h"
#include "kb.h"
#include "layoutdialog.h"
#include "settingswidget.h"
#include "ui_settingswidget.h"
```

Include dependency graph for settingswidget.cpp:



Functions

- static QString right (const QString &left)

Variables

- QString devpath

  Device path base ("/dev/input/ckb" or "/var/run/ckb")
- static QStringList modKeys
- static QStringList modNames

13.209.1 Function Documentation

13.209.1.1 static QString right (const QString & *left*) [inline], [static]

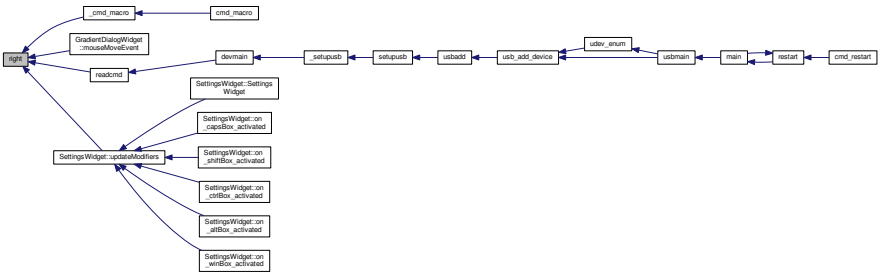
Definition at line 118 of file settingswidget.cpp.

References left.

Referenced by _cmd_macro(), GradientDialogWidget::mouseMoveEvent(), readcmd(), and SettingsWidget::updateModifiers().

```
118                                                 {
119     if(left[0] != 'l')
120         return left;
121     return "r" + left.mid(1);
122 }
```

Here is the caller graph for this function:



13.209.2 Variable Documentation

13.209.2.1 QString devpath

Definition at line 4 of file kbmanager.cpp.

Referenced by _mkdevpath(), _mknotifynode(), _rmnotifynode(), _setupusb(), _updateconnected(), closeusb(), main(), mkfwnode(), os_inputmain(), os_setupusb(), rmdevpath(), and KbManager::scanKeyboards().

13.209.2.2 QStringList modKeys [static]

Definition at line 13 of file settingswidget.cpp.

Referenced by SettingsWidget::SettingsWidget(), and SettingsWidget::updateModifiers().

13.209.2.3 QStringList modNames [static]

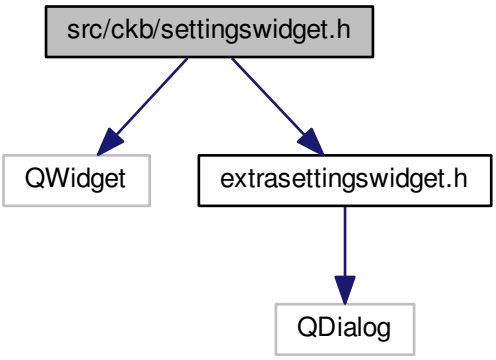
Definition at line 13 of file settingswidget.cpp.

Referenced by SettingsWidget::SettingsWidget().

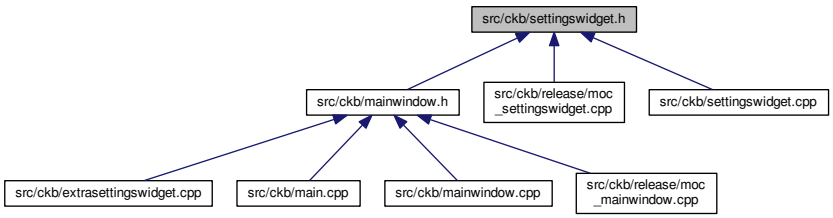
13.210 src/ckb/settingswidget.h File Reference

```
#include <QWidget>
#include "extrasettingswidget.h"
```

Include dependency graph for settingswidget.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class SettingsWidget

Namespaces

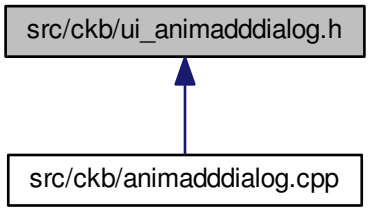
- Ui

13.211 src/ckb/ui_animadddialog.h File Reference

```
#include <QtCore/QVariant>
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QDialog>
#include <QtWidgets/QDialogButtonBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QSpacerItem>
```

Include dependency graph for ui_animadddialog.h:

This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_AnimAddDialog
- class Ui::AnimAddDialog

Namespaces

- Ui

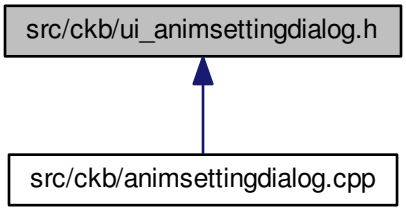
13.212 src/ckb/ui_animsettingdialog.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QDialog>
#include <QtWidgets/QDialogButtonBox>
#include <QtWidgets/QDoubleSpinBox>
#include <QtWidgets/QFrame>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QLineEdit>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QTabWidget>
#include <QtWidgets/QWidget>
```

Include dependency graph for ui_animsettingdialog.h:

This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_AnimSettingDialog
- class Ui::AnimSettingDialog

Namespaces

- Ui

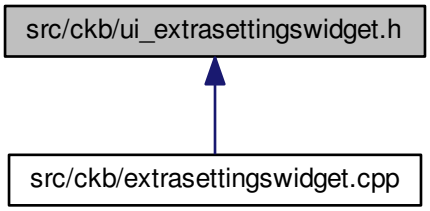
13.213 src/ckb/ui_extrasettingswidget.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QDialog>
#include <QtWidgets/QDialogButtonBox>
#include <QtWidgets/QFrame>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QSpinBox>
#include <QtWidgets/QWidget>
```

Include dependency graph for ui_extrasettingswidget.h:

This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_ExtraSettingsWidget
- class Ui::ExtraSettingsWidget

Namespaces

- Ui

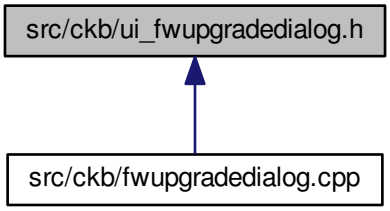
13.214 src/ckb/ui_fwupgradedialog.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QDialog>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QProgressBar>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
```

Include dependency graph for ui_fwupgradedialog.h:

This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_FwUpgradeDialog
- class Ui::FwUpgradeDialog

Namespaces

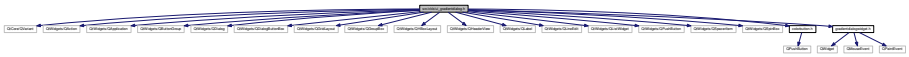
- Ui

13.215 src/ckb/ui_gradientdialog.h File Reference

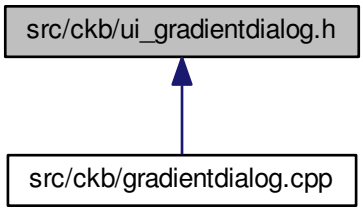
```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QDialog>
#include <QtWidgets/QDialogButtonBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QGroupBox>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QLineEdit>
#include <QtWidgets/QListWidget>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QSpinBox>
#include "colorbutton.h"
#include "gradientdialogwidget.h"
```

Include dependency graph for ui_gradientdialog.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_GradientDialog
- class Ui::GradientDialog

Namespaces

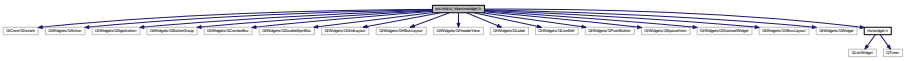
- Ui

13.216 src/ckb/ui_kbanimwidget.h File Reference

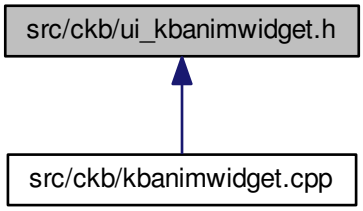
```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QDoubleSpinBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QLineEdit>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QStackedWidget>
#include <QtWidgets/QVBoxLayout>
#include <QtWidgets/QWidget>
#include "rlistwidget.h"
```

Include dependency graph for ui_kbanimwidget.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_KbAnimWidget
- class Ui::KbAnimWidget

Namespaces

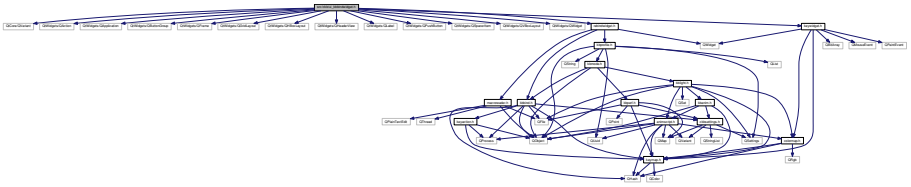
- Ui

13.217 src/ckb/ui_kbbindwidget.h File Reference

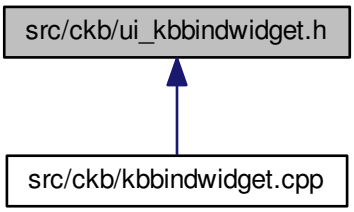
```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QFrame>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QVBoxLayout>
#include <QtWidgets/QWidget>
#include "keywidget.h"
#include "rebindwidget.h"
```

Include dependency graph for ui_kbbindwidget.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_KbBindWidget
- class Ui::KbBindWidget

Namespaces

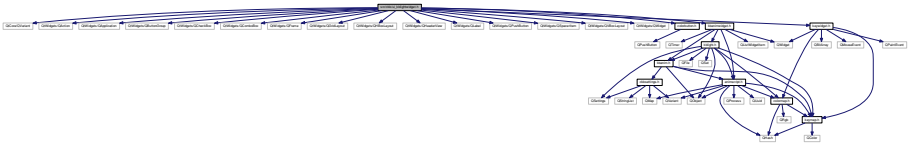
- Ui

13.218 src/ckb/ui_kblightwidget.h File Reference

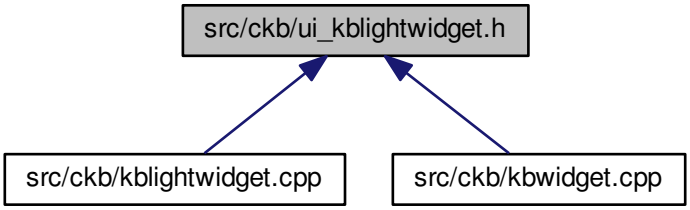
```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QFrame>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QVBoxLayout>
#include <QtWidgets/QWidget>
#include "colorbutton.h"
#include "kbanimwidget.h"
#include "keywidget.h"
```

Include dependency graph for ui_kblightwidget.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_KbLightWidget
- class Ui::KbLightWidget

Namespaces

- Ui

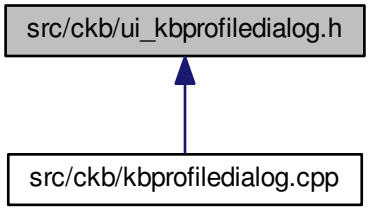
13.219 src/ckb/ui_kbprofiledialog.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QDialog>
#include <QtWidgets/QDialogButtonBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QSpacerItem>
#include "rlistwidget.h"
```

Include dependency graph for ui_kbprofiledialog.h:

This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_KbProfileDialog
- class Ui::KbProfileDialog

Namespaces

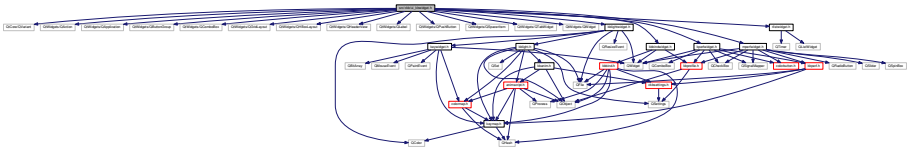
- Ui

13.220 src/ckb/ui_kbwidget.h File Reference

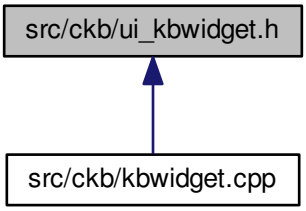
```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QTabWidget>
#include <QtWidgets/QWidget>
#include <kblightwidget.h>
#include "kbbindwidget.h"
#include "kperfwidget.h"
#include "mperfwidget.h"
#include "rlistwidget.h"
```

Include dependency graph for ui_kbwidget.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_KbWidget
- class Ui::KbWidget

Namespaces

- Ui

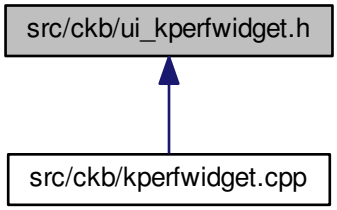
13.221 src/ckb/ui_kperfwidget.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QFrame>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QSpinBox>
#include <QtWidgets/QWidget>
#include <colorbutton.h>
```

Include dependency graph for ui_kperfwidget.h:

This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_KPerfWidget
- class Ui::KPerfWidget

Namespaces

- Ui

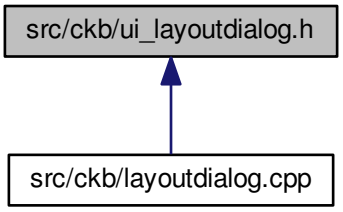
13.222 src/ckb/ui_layoutdialog.h File Reference

```
#include <QtCore/QVariant>
```

```
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QDialog>
#include <QtWidgets/QDialogButtonBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QSpacerItem>
```

Include dependency graph for ui_layoutdialog.h:

This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_LayoutDialog
- class Ui::LayoutDialog

Namespaces

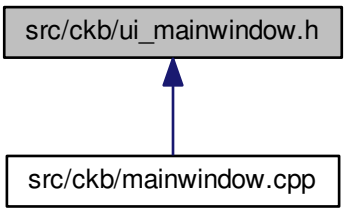
- Ui

13.223 src/ckb/ui_mainwindow.h File Reference

```
#include <QtCore/QVariant>
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QMainWindow>
#include <QtWidgets/QTabWidget>
#include <QtWidgets/QWidget>
```

Include dependency graph for ui_mainwindow.h:

This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_MainWindow
- class Ui::MainWindow

Namespaces

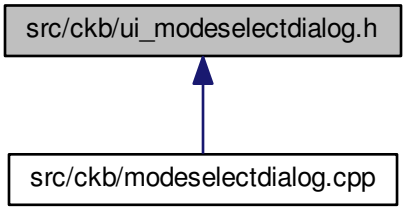
- Ui

13.224 src/ckb/ui_modeselectdialog.h File Reference

```
#include <QtCore/QVariant>
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QDialog>
#include <QtWidgets/QDialogButtonBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QListWidget>
#include <QtWidgets/QPushButton>
```

Include dependency graph for ui_modeselectdialog.h:

This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_ModeSelectDialog
- class Ui::ModeSelectDialog

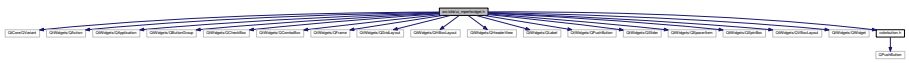
Namespaces

- Ui

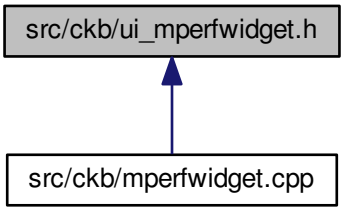
13.225 src/ckb/ui_mperfwidget.h File Reference

```
#include <QtCore/QVariant>
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QFrame>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSlider>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QSpinBox>
#include <QtWidgets/QVBoxLayout>
#include <QtWidgets/QWidget>
#include <colorbutton.h>
```

Include dependency graph for ui_mperfwidget.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_MPerfWidget
- class Ui::MPerfWidget

Namespaces

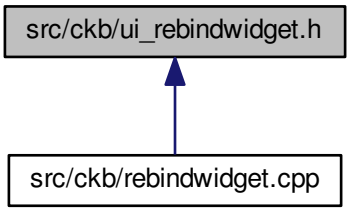
- Ui

13.226 src/ckb/ui_rebindwidget.h File Reference

```
#include <QtCore/QVariant>
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QGroupBox>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QLineEdit>
#include <QtWidgets/QPlainTextEdit>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QRadioButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QSpinBox>
#include <QtWidgets/QTabWidget>
#include <QtWidgets/QVBoxLayout>
#include <QtWidgets/QWidget>
```

Include dependency graph for ui_rebindwidget.h:

This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_RebindWidget
- class Ui::RebindWidget

Namespaces

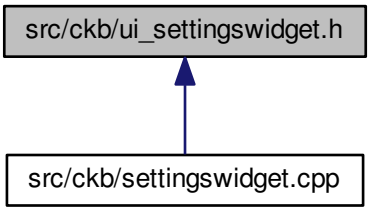
- Ui

13.227 src/ckb/ui_settingswidget.h File Reference

```
#include <QtCore/QVariant>
#include <QtWidgets/QAction>
#include <QtWidgets/QApplication>
#include <QtWidgets/QButtonGroup>
#include <QtWidgets/QCheckBox>
#include <QtWidgets/QComboBox>
#include <QtWidgets/QFrame>
#include <QtWidgets/QGridLayout>
#include <QtWidgets/QHBoxLayout>
#include <QtWidgets/QHeaderView>
#include <QtWidgets/QLabel>
#include <QtWidgets/QPushButton>
#include <QtWidgets/QSpacerItem>
#include <QtWidgets/QWidget>
```

Include dependency graph for ui_settingswidget.h:

This graph shows which files directly or indirectly include this file:



Data Structures

- class Ui_SettingsWidget
- class Ui::SettingsWidget

Namespaces

- Ui

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