# GTKTerm

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# **Chapter 1**

# GTKTerm: The source code architecture

This file describes the architecture of gtkterm. GtkTerm has several objects and uses signals to communicate between these objects.

## 1.1 General description

GTKTerm is build with the GTK4 framework. It uses Gobjects and communicates (mostly) through signals.

GTKTerm is the main application object. It is a holder for the keyfile. The commandline interfaces uses the application object framework to handle all commandline options. The options are connected to the relevant GObjects by signals.

The core of the application is the terminal. This is a VTE object and handles all communication to and from the serial port. The terminal window holds the configuration of the terminal window and the serial ports. The configuration is copied from the GTKTerm application which holds the keyfile. It is copied back to the keyfile if it is saved. For now the GTKTerm application has just one terminal window. The architecture of GTKTerm is able to support multiple terminal windows in future releases.

## 1.2 Objects

This part lists an overview of all objects used in GTKTerm. For details about implementation please use the GTKTERM.pdf which is a Doxygen generated overview of the GTKTerm source code.

- 1.2.1 GtkTerm
- 1.2.1.1 members
- 1.2.1.2 signals
- 1.2.2 GtkTermWindow
- 1.2.3 GtkTermTerminal
- 1.2.4 GtkTermConfiguration
- 1.2.5 GtkTermSerialPort

# Chapter 2

# **Class Index**

# 2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

_GtkTerm	
The main GtkTerm application class	7
_GtkTermConfiguration	9
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4 Class Index

# **Chapter 3**

# File Index

# 3.1 File List

Here is a list of all files with brief descriptions:

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cmdline.c	3	9
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gtkterm.h	4	9
gtkterm_window.c	5	2
gtkterm_window.h		3
interface.c	5	5
interface.h	5	7
macros.c	5	9
macros.h	6	3
resource_file.c		-
resource_file.h		0
serial.c	7	5
serial.h		7
terminal.c		-
terminal h	8	л.

6 File Index

# **Chapter 4**

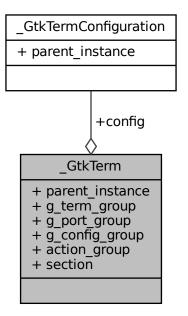
# **Class Documentation**

# 4.1 \_GtkTerm Struct Reference

The main GtkTerm application class.

#include <gtkterm.h>

Collaboration diagram for \_GtkTerm:



#### **Public Attributes**

- GtkApplication parent\_instance
- GOptionGroup \* g\_term\_group
- GOptionGroup \* g\_port\_group
- GOptionGroup \* g\_config\_group
- GActionGroup \* action\_group
- $\bullet \ \, {\sf GtkTermConfiguration} * {\sf config}$

App action group.

• char \* section

The Key file with the configurations.

#### 4.1.1 Detailed Description

The main GtkTerm application class.

All application specific variables are defined here.

#### 4.1.2 Member Data Documentation

#### 4.1.2.1 action\_group

```
GActionGroup* _GtkTerm::action_group
```

#### 4.1.2.2 config

```
GtkTermConfiguration* _GtkTerm::config
```

App action group.

#### 4.1.2.3 g\_config\_group

```
GOptionGroup* _GtkTerm::g_config_group
```

Referenced by gtkterm\_add\_cmdline\_options().

#### 4.1.2.4 g\_port\_group

```
GOptionGroup* _GtkTerm::g_port_group
```

Referenced by gtkterm\_add\_cmdline\_options().

#### 4.1.2.5 g\_term\_group

```
GOptionGroup* _GtkTerm::g_term_group
```

Referenced by gtkterm\_add\_cmdline\_options().

#### 4.1.2.6 parent\_instance

GtkApplication \_GtkTerm::parent\_instance

#### 4.1.2.7 section

```
char* _GtkTerm::section
```

The Key file with the configurations.

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

• gtkterm.h

# 4.2 \_GtkTermConfiguration Struct Reference

Collaboration diagram for \_GtkTermConfiguration:

\_GtkTermConfiguration + parent\_instance

#### **Public Attributes**

• GObject parent\_instance

#### 4.2.1 Member Data Documentation

#### 4.2.1.1 parent\_instance

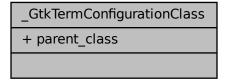
```
GObject _GtkTermConfiguration::parent_instance
```

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

· resource\_file.c

# 4.3 \_GtkTermConfigurationClass Struct Reference

Collaboration diagram for \_GtkTermConfigurationClass:



#### **Public Attributes**

• GObjectClass parent\_class

#### 4.3.1 Member Data Documentation

#### 4.3.1.1 parent\_class

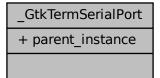
GObjectClass \_GtkTermConfigurationClass::parent\_class

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

resource\_file.c

#### 4.4 GtkTermSerialPort Struct Reference

Collaboration diagram for \_GtkTermSerialPort:



#### **Public Attributes**

• GObject parent\_instance

#### 4.4.1 Member Data Documentation

#### 4.4.1.1 parent\_instance

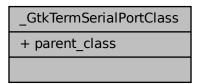
GObject \_GtkTermSerialPort::parent\_instance

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

· serial.c

# 4.5 \_GtkTermSerialPortClass Struct Reference

 $Collaboration\ diagram\ for\ \_GtkTermSerialPortClass:$ 



#### **Public Attributes**

• GObjectClass parent\_class

#### 4.5.1 Member Data Documentation

#### 4.5.1.1 parent\_class

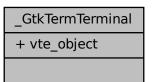
GObjectClass \_GtkTermSerialPortClass::parent\_class

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

• serial.c

# 4.6 \_GtkTermTerminal Struct Reference

Collaboration diagram for \_GtkTermTerminal:



#### **Public Attributes**

• VteTerminal vte\_object

## 4.6.1 Member Data Documentation

#### 4.6.1.1 vte\_object

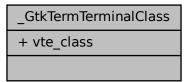
VteTerminal \_GtkTermTerminal::vte\_object

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

terminal.c

#### 4.7 GtkTermTerminalClass Struct Reference

 $Collaboration\ diagram\ for\ \_GtkTermTerminalClass:$ 



#### **Public Attributes**

VteTerminalClass vte\_class

#### 4.7.1 Member Data Documentation

#### 4.7.1.1 vte\_class

VteTerminalClass \_GtkTermTerminalClass::vte\_class

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

· terminal.c

# 4.8 \_GtkTermWindow Struct Reference

The main GtkTermWindow class.

Collaboration diagram for \_GtkTermWindow:

#### GtkTermWindow

- + parent\_instance
- + message
- + infobar
- + statusbox
- + status config
- + menubutton
- + toolmenu
- + scrolled window
- + terminal\_window
- + search\_bar and 8 more...

#### **Public Attributes**

- GtkApplicationWindow parent\_instance
- GtkWidget \* message
- GtkWidget \* infobar

Message for the infobar.

• GtkBox \* statusbox

Infobar.

• GtkBox \* status config

Box for statusbar messages.

• GtkWidget \* menubutton

Displays the actual used configuration.

• GMenuModel \* toolmenu

Toolbar.

• GtkScrolledWindow \* scrolled\_window

Menu.

• GtkTermTerminal \* terminal\_window

Make the terminal window scrolled.

GtkWidget \* search\_bar

The terminal window.

• GActionGroup \* action\_group

Searchbar.

• GtkWidget \* status\_config\_message [3]

Window action group.

- GtkWidget \* status\_serial\_signal [6]
- GtkWidget \* status message
- · int width
- · int height
- bool maximized
- · bool fullscreen

#### 4.8.1 Detailed Description

The main GtkTermWindow class.

MainWindow specific variables here.

#### 4.8.2 Member Data Documentation

#### 4.8.2.1 action\_group

GActionGroup\* \_GtkTermWindow::action\_group

Searchbar.

#### 4.8.2.2 fullscreen

bool \_GtkTermWindow::fullscreen

#### 4.8.2.3 height

int \_GtkTermWindow::height

#### 4.8.2.4 infobar

GtkWidget\* \_GtkTermWindow::infobar

Message for the infobar.

#### 4.8.2.5 maximized

bool \_GtkTermWindow::maximized

#### 4.8.2.6 menubutton

GtkWidget\* \_GtkTermWindow::menubutton

Displays the actual used configuration.

#### 4.8.2.7 message

 ${\tt GtkWidget*} \ \_{\tt GtkTermWindow::message}$ 

#### 4.8.2.8 parent\_instance

 ${\tt GtkApplicationWindow} \ \_{\tt GtkTermWindow} :: {\tt parent\_instance}$ 

#### 4.8.2.9 scrolled\_window

GtkScrolledWindow\* \_GtkTermWindow::scrolled\_window

Menu.

Referenced by create\_window().

#### 4.8.2.10 search\_bar

GtkWidget\* \_GtkTermWindow::search\_bar

The terminal window.

#### 4.8.2.11 status\_config

GtkBox\* \_GtkTermWindow::status\_config

Box for statusbar messages.

#### 4.8.2.12 status\_config\_message

GtkWidget\* \_GtkTermWindow::status\_config\_message[3]

Window action group.

#### 4.8.2.13 status\_message

 ${\tt GtkWidget*} \ \_{\tt GtkTermWindow::status\_message}$ 

#### 4.8.2.14 status\_serial\_signal

GtkWidget\* \_GtkTermWindow::status\_serial\_signal[6]

#### 4.8.2.15 statusbox

GtkBox\* \_GtkTermWindow::statusbox

Infobar.

#### 4.8.2.16 terminal\_window

 ${\tt GtkTermTerminal*} \ \_{\tt GtkTermWindow::terminal\_window}$ 

Make the terminal window scrolled.

Referenced by create\_window().

#### 4.8.2.17 toolmenu

GMenuModel\* \_GtkTermWindow::toolmenu

Toolbar.

#### 4.8.2.18 width

int \_GtkTermWindow::width

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

• gtkterm\_window.c

# 4.9 GtkTermConfigurationPrivate Struct Reference

Collaboration diagram for GtkTermConfigurationPrivate:

GtkTermConfigurationPrivate
+ key\_file
+ config\_file

#### **Public Attributes**

- GKeyFile \* key\_file
- GFile \* config\_file

The memory loaded keyfile.

#### 4.9.1 Member Data Documentation

#### 4.9.1.1 config\_file

GFile\* GtkTermConfigurationPrivate::config\_file

The memory loaded keyfile.

#### 4.9.1.2 key\_file

 ${\tt GKeyFile*\ GtkTermConfigurationPrivate::key\_file}$ 

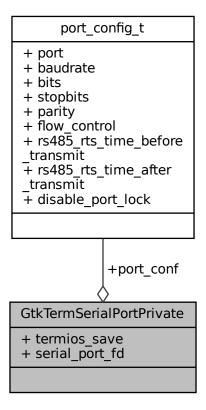
Referenced by check\_keyfile(), gtkterm\_configuration\_default\_configuration(), gtkterm\_configuration\_validate(), and on\_set\_config\_options().

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

· resource\_file.c

#### 4.10 GtkTermSerialPortPrivate Struct Reference

Collaboration diagram for GtkTermSerialPortPrivate:



#### **Public Attributes**

- port\_config\_t \* port\_conf
- struct termios termios\_save
- · int serial\_port\_fd

#### 4.10.1 Member Data Documentation

#### 4.10.1.1 port conf

port\_config\_t\* GtkTermSerialPortPrivate::port\_conf

Referenced by gtkterm serial port get string().

#### 4.10.1.2 serial\_port\_fd

int GtkTermSerialPortPrivate::serial\_port\_fd

Referenced by gtkterm\_serial\_port\_get\_string(), and gtkterm\_serial\_port\_status().

#### 4.10.1.3 termios\_save

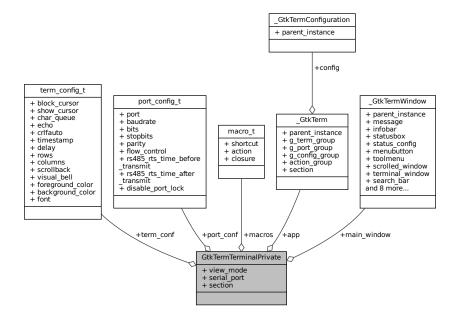
struct termios GtkTermSerialPortPrivate::termios\_save

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

· serial.c

#### 4.11 GtkTermTerminalPrivate Struct Reference

Collaboration diagram for GtkTermTerminalPrivate:



#### **Public Attributes**

- uint8\_t view\_mode
- GtkTermSerialPort \* serial\_port

ASCII or HEX view mode.

- term\_config\_t \* term\_conf
- port\_config\_t \* port\_conf

The configuration loaded from the keyfile.

• macro\_t \* macros

Port configuration used in this terminal.

• char \* section

TODO: convert macros -> object.

GtkTerm \* app

Section used in this terminal for configuration from config file.

GtkTermWindow \* main\_window

Pointer to the app for getting [section] and keyfile.

#### 4.11.1 Member Data Documentation

#### 4.11.1.1 app

```
GtkTerm* GtkTermTerminalPrivate::app
```

Section used in this terminal for configuration from config file.

#### 4.11.1.2 macros

```
macro_t* GtkTermTerminalPrivate::macros
```

Port configuration used in this terminal.

#### 4.11.1.3 main\_window

GtkTermWindow\* GtkTermTerminalPrivate::main\_window

Pointer to the app for getting [section] and keyfile.

#### 4.11.1.4 port\_conf

```
port_config_t* GtkTermTerminalPrivate::port_conf
```

The configuration loaded from the keyfile.

#### 4.11.1.5 section

char\* GtkTermTerminalPrivate::section

TODO: convert macros -> object.

#### 4.11.1.6 serial\_port

GtkTermSerialPort\* GtkTermTerminalPrivate::serial\_port

ASCII or HEX view mode.

#### 4.11.1.7 term\_conf

term\_config\_t\* GtkTermTerminalPrivate::term\_conf

#### 4.11.1.8 view\_mode

uint8\_t GtkTermTerminalPrivate::view\_mode

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

• terminal.c

## 4.12 macro\_t Struct Reference

TODO: Migrate to GObject.

#include <macros.h>

Collaboration diagram for macro\_t:

macro\_t
+ shortcut
+ action
+ closure

#### **Public Attributes**

- char \* shortcut
- char \* action

Shortcut of the macro.

• GClosure \* closure

Command to perform.

#### 4.12.1 Detailed Description

TODO: Migrate to GObject.

Define macro structure type

#### 4.12.2 Member Data Documentation

#### 4.12.2.1 action

char\* macro\_t::action

Shortcut of the macro.

Referenced by convert\_macros\_to\_string(), and convert\_string\_to\_macros().

#### 4.12.2.2 closure

GClosure\* macro\_t::closure

Command to perform.

#### 4.12.2.3 shortcut

char\* macro\_t::shortcut

Referenced by convert\_macros\_to\_string(), and convert\_string\_to\_macros().

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

· macros.h

# 4.13 port\_config\_t Struct Reference

#include <serial.h>

Collaboration diagram for port\_config\_t:

# port\_config\_t + port + baudrate + bits + stopbits + parity + flow\_control + rs485\_rts\_time\_before \_transmit + rs485\_rts\_time\_after \_transmit + disable\_port\_lock

#### **Public Attributes**

- char \* port
- · long int baudrate
- int bits
- int stopbits
- int parity
- int flow\_control
- int rs485\_rts\_time\_before\_transmit
- int rs485\_rts\_time\_after\_transmit
- bool disable\_port\_lock

#### 4.13.1 Member Data Documentation

#### 4.13.1.1 baudrate

long int port\_config\_t::baudrate

Referenced by gtkterm\_serial\_port\_get\_string().

#### 4.13.1.2 bits

int port\_config\_t::bits

Referenced by gtkterm\_serial\_port\_get\_string().

#### 4.13.1.3 disable\_port\_lock

bool port\_config\_t::disable\_port\_lock

#### 4.13.1.4 flow\_control

int port\_config\_t::flow\_control

## 4.13.1.5 parity

```
\verb"int port_config_t::parity"
```

Referenced by gtkterm\_serial\_port\_get\_string().

#### 4.13.1.6 port

```
char* port_config_t::port
```

Referenced by gtkterm\_serial\_port\_get\_string().

#### 4.13.1.7 rs485\_rts\_time\_after\_transmit

int port\_config\_t::rs485\_rts\_time\_after\_transmit

#### 4.13.1.8 rs485\_rts\_time\_before\_transmit

int port\_config\_t::rs485\_rts\_time\_before\_transmit

#### 4.13.1.9 stopbits

 $\verb"int port_config_t::stopbits"$ 

Referenced by gtkterm\_serial\_port\_get\_string().

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

· serial.h

#### 4.14 term\_config\_t Struct Reference

#include <terminal.h>

Collaboration diagram for term\_config\_t:

#### term\_config\_t

- + block\_cursor + show\_cursor + char\_queue

- + echo
- + crlfauto
- + timestamp
- + delay
- + rows
- + columns
- + scrollback
- + visual\_bell
- + foreground color
- + background color
- + font

#### **Public Attributes**

- · bool block cursor
- · bool show\_cursor
- char char\_queue
- · bool echo
- · bool crlfauto
- bool timestamp
- int delay
- int rows
- int columns
- int scrollback
- bool visual\_bell
- GdkRGBA foreground\_color
- GdkRGBA background\_color
- PangoFontDescription \* font

### 4.14.1 Member Data Documentation

28 Class Documentation

## 4.14.1.1 background\_color

GdkRGBA term\_config\_t::background\_color

## 4.14.1.2 block\_cursor

bool term\_config\_t::block\_cursor

#### 4.14.1.3 char\_queue

char term\_config\_t::char\_queue

#### 4.14.1.4 columns

int term\_config\_t::columns

#### 4.14.1.5 crlfauto

 $\verb|bool term_config_t::crlfauto|\\$ 

#### 4.14.1.6 delay

int term\_config\_t::delay

## 4.14.1.7 echo

 $\verb|bool term_config_t::echo|\\$ 

#### 4.14.1.8 font

PangoFontDescription\* term\_config\_t::font

#### 4.14.1.9 foreground\_color

 ${\tt GdkRGBA\ term\_config\_t::} for eground\_color$ 

#### 4.14.1.10 rows

int term\_config\_t::rows

#### 4.14.1.11 scrollback

int term\_config\_t::scrollback

#### 4.14.1.12 show\_cursor

bool term\_config\_t::show\_cursor

## 4.14.1.13 timestamp

bool term\_config\_t::timestamp

## 4.14.1.14 visual\_bell

 $\verb|bool term_config_t::visual\_bell|\\$ 

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

• terminal.h

30 Class Documentation

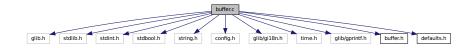
# **Chapter 5**

# **File Documentation**

## 5.1 README\_source.md File Reference

## 5.2 buffer.c File Reference

```
#include <glib.h>
#include <stdlib.h>
#include <stdint.h>
#include <stdbool.h>
#include <string.h>
#include <config.h>
#include <glib/gi18n.h>
#include <flib/gprintf.h>
#include "buffer.h"
#include "defaults.h"
Include dependency graph for buffer.c:
```



#### **Macros**

- #define MAX\_SECTION\_LENGTH 32
- #define TIMESTAMP\_SIZE 50

#### **Functions**

- · void create buffer (void)
- void delete\_buffer (void)
- unsigned int insert\_timestamp (char \*buffer)
- void put\_chars (const char \*chars, unsigned int size, bool crlf\_auto)
- void write buffer (void)
- void write\_buffer\_with\_func (void(\*func)(const char \*, unsigned int))
- void clear\_buffer (void)
- void set\_clear\_func (void(\*func)(void))
- void unset\_clear\_func (void(\*func)(void))
- void set display func (void(\*func)(const char \*, unsigned int))
- void unset\_display\_func (void(\*func)(const char \*, unsigned int))

#### **Variables**

- · bool timestamp on
- · char overlapped
- · unsigned int virt col pos
- void(\* write\_func )(const char \*, unsigned int) = NULL
- void(\* clear\_func )(void) = NULL

#### **5.2.1** Macro Definition Documentation

#### 5.2.1.1 MAX\_SECTION\_LENGTH

```
#define MAX_SECTION_LENGTH 32
```

#### 5.2.1.2 TIMESTAMP\_SIZE

```
#define TIMESTAMP_SIZE 50
```

#### 5.2.2 Function Documentation

#### 5.2.2.1 clear\_buffer()

```
void clear_buffer (
     void )
```

References clear\_func.

5.2 buffer.c File Reference 33

#### 5.2.2.2 create\_buffer()

```
void create_buffer (
     void )
```

#### 5.2.2.3 delete\_buffer()

```
void delete_buffer (
     void )
```

#### 5.2.2.4 insert\_timestamp()

```
unsigned int insert_timestamp ( {\tt char} \, * \, buffer \, )
```

#### 5.2.2.5 put\_chars()

References RECEIVE\_BUFFER, timestamp\_on, and TIMESTAMP\_SIZE.

#### 5.2.2.6 set\_clear\_func()

References clear\_func.

#### 5.2.2.7 set\_display\_func()

References write\_func.

#### 5.2.2.8 unset\_clear\_func()

References clear\_func.

#### 5.2.2.9 unset\_display\_func()

References write\_func.

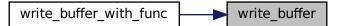
#### 5.2.2.10 write\_buffer()

```
void write_buffer (
     void )
```

References overlapped, and write\_func.

Referenced by write\_buffer\_with\_func().

Here is the caller graph for this function:



#### 5.2.2.11 write\_buffer\_with\_func()

References write\_buffer(), and write\_func.

Here is the call graph for this function:



5.2 buffer.c File Reference 35

#### 5.2.3 Variable Documentation

#### 5.2.3.1 clear\_func

```
void(* clear_func) (void) (
     void ) = NULL
```

Referenced by clear\_buffer(), set\_clear\_func(), and unset\_clear\_func().

#### 5.2.3.2 overlapped

char overlapped

Referenced by write\_buffer().

#### 5.2.3.3 timestamp\_on

```
bool timestamp_on [extern]
```

Referenced by put\_chars().

#### 5.2.3.4 virt\_col\_pos

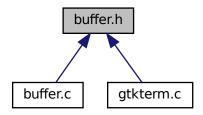
```
unsigned int virt_col_pos [extern]
```

#### 5.2.3.5 write\_func

Referenced by set\_display\_func(), unset\_display\_func(), write\_buffer(), and write\_buffer\_with\_func().

## 5.3 buffer.h File Reference

This graph shows which files directly or indirectly include this file:



#### **Macros**

• #define BUFFER\_SIZE (128 \* 1024)

#### **Functions**

- void create\_buffer (void)
- void delete\_buffer (void)
- void put\_chars (const char \*, unsigned int, bool)
- void clear\_buffer (void)
- void write\_buffer (void)
- void set\_display\_func (void(\*func)(const char \*, uint32\_t))
- void unset\_display\_func (void(\*func)(const char \*, uint32\_t))
- void set\_clear\_func (void(\*func)(void))
- void unset\_clear\_func (void(\*func)(void))
- void write\_buffer\_with\_func (void(\*func)(const char \*, uint32\_t))

#### 5.3.1 Macro Definition Documentation

## 5.3.1.1 BUFFER\_SIZE

#define BUFFER\_SIZE (128 \* 1024)

#### 5.3.2 Function Documentation

5.3 buffer.h File Reference 37

#### 5.3.2.1 clear\_buffer()

```
void clear_buffer (
     void )
```

References clear\_func.

#### 5.3.2.2 create\_buffer()

```
void create_buffer (
     void )
```

#### 5.3.2.3 delete\_buffer()

```
void delete_buffer (
     void )
```

#### 5.3.2.4 put\_chars()

References RECEIVE\_BUFFER, timestamp\_on, and TIMESTAMP\_SIZE.

#### 5.3.2.5 set\_clear\_func()

References clear\_func.

#### 5.3.2.6 set\_display\_func()

#### 5.3.2.7 unset\_clear\_func()

References clear\_func.

## 5.3.2.8 unset\_display\_func()

#### 5.3.2.9 write\_buffer()

```
void write_buffer (
     void )
```

References overlapped, and write\_func.

Referenced by write\_buffer\_with\_func().

Here is the caller graph for this function:



## 5.3.2.10 write\_buffer\_with\_func()

5.4 buffer.h 39

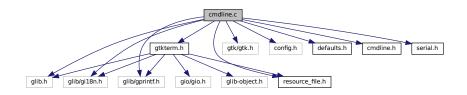
#### 5.4 buffer.h

#### Go to the documentation of this file.

```
2 /* buffer.h
              GTKTerm Software
                          (c) Julien Schmitt
8 /*
9 /*
      Purpose
10 /*
          Management of a local buffer of data received
11 /*
          - Header file -
13 /*
        - 0.99.7 : removed auto crlf stuff - (use macros instead)
14 /*
15 /*
           - 0.98.4 : file creation by Julien
16 /*
19 #ifndef BUFFER_H_
20 #define BUFFER_H_
2.1
22 #define BUFFER SIZE (128 * 1024)
23
24 void create_buffer(void);
25 void delete_buffer(void);
26 void put_chars(const char *, unsigned int, bool);
27 void clear_buffer(void);
28 void write_buffer(void);
29 void set_display_func(void (*func)(const char *, uint32_t));
30 void unset_display_func(void (*func)(const char *, uint32_t));
31 void set_clear_func(void (*func)(void));
32 void unset_clear_func(void (*func)(void));
33 void write_buffer_with_func(void (*func)(const char *, uint32_t));
35 #endif
```

#### 5.5 cmdline.c File Reference

```
#include <glib.h>
#include <glib/gi18n.h>
#include <gtk/gtk.h>
#include <glib/gprintf.h>
#include <config.h>
#include "defaults.h"
#include "gtkterm.h"
#include "resource_file.h"
#include "cmdline.h"
#include "serial.h"
Include dependency graph for cmdline.c:
```



#### **Functions**

void gtkterm\_add\_cmdline\_options (GtkTerm \*app)

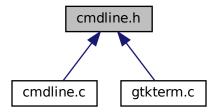
#### 5.5.1 Function Documentation

#### 5.5.1.1 gtkterm\_add\_cmdline\_options()

References BUFFER\_LENGTH, \_GtkTerm::g\_config\_group, \_GtkTerm::g\_port\_group, and \_GtkTerm::g\_term\_group.

## 5.6 cmdline.h File Reference

This graph shows which files directly or indirectly include this file:



#### **Functions**

void gtkterm\_add\_cmdline\_options (GtkTerm \*app)

## **Variables**

• GOptionGroup \* g\_term\_group

#### 5.6.1 Function Documentation

#### 5.6.1.1 gtkterm\_add\_cmdline\_options()

 $References \ BUFFER\_LENGTH, \_GtkTerm::g\_config\_group, \_GtkTerm::g\_port\_group, \ and \_GtkTerm::g\_term\_group.$ 

5.7 cmdline.h

#### 5.6.2 Variable Documentation

#### 5.6.2.1 g\_term\_group

```
GOptionGroup* g_term_group [extern]
```

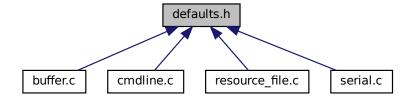
## 5.7 cmdline.h

#### Go to the documentation of this file.

```
4 /*
            GTKTerm Software
5 /*
                      (c) Julien Schmitt
6 /*
8 /*
     Purpose
      Reads the command line
- Header file -
10 /*
11 /*
11 /*
12 /*
13 /* ChangeLog
14 /* - 2.0 : migrated to GTK4
15 /* - 0.98 : file creation by Julien
*g_term_group;
18
19 #ifndef CMDLINE_H
20 #define CMDLINE_H
22 void gtkterm_add_cmdline_options (GtkTerm *app);
24 #endif // CMDLINE_H
```

## 5.8 defaults.h File Reference

This graph shows which files directly or indirectly include this file:



#### **Macros**

- #define DEFAULT\_FONT "Monospace 12"
  - Default for VTE-terminal.
- #define DEFAULT\_SCROLLBACK 10000
- #define DEFAULT DELAY 0
- #define DEFAULT\_CHAR -1
- #define DEFAULT\_DELAY\_RS485 30
- #define DEFAULT ECHO "false"
- #define DEFAULT\_VISUAL\_BELL "false"
- #define DEFAULT\_PORT "/dev/ttyS0"

#### Default for serial ports.

- #define DEFAULT BAUDRATE 115200
- #define DEFAULT\_PARITY "none"
- #define DEFAULT\_BITS 8
- #define DEFAULT STOPBITS 1
- #define DEFAULT\_FLOW "none"
- #define RECEIVE\_BUFFER 8192
- #define TRANSMIT BUFFER 4096
- #define LINE\_FEED 0x0A
- #define POLL DELAY 100
- #define BUFFER\_LENGTH 256

Generic defaults.

• #define MAX\_SECTION\_LENGTH 32

#### 5.8.1 Macro Definition Documentation

#### 5.8.1.1 BUFFER LENGTH

#define BUFFER\_LENGTH 256

Generic defaults.

#### 5.8.1.2 DEFAULT\_BAUDRATE

#define DEFAULT\_BAUDRATE 115200

#### 5.8.1.3 DEFAULT\_BITS

#define DEFAULT\_BITS 8

## 5.8.1.4 DEFAULT\_CHAR

#define DEFAULT\_CHAR -1

## 5.8.1.5 DEFAULT\_DELAY

#define DEFAULT\_DELAY 0

## 5.8.1.6 DEFAULT\_DELAY\_RS485

#define DEFAULT\_DELAY\_RS485 30

## 5.8.1.7 DEFAULT\_ECHO

#define DEFAULT\_ECHO "false"

## 5.8.1.8 DEFAULT\_FLOW

#define DEFAULT\_FLOW "none"

## 5.8.1.9 **DEFAULT\_FONT**

#define DEFAULT\_FONT "Monospace 12"

Default for VTE-terminal.

## 5.8.1.10 DEFAULT\_PARITY

#define DEFAULT\_PARITY "none"

## 5.8.1.11 DEFAULT\_PORT

#define DEFAULT\_PORT "/dev/ttyS0"

Default for serial ports.

#### 5.8.1.12 DEFAULT\_SCROLLBACK

#define DEFAULT\_SCROLLBACK 10000

## 5.8.1.13 DEFAULT\_STOPBITS

#define DEFAULT\_STOPBITS 1

#### 5.8.1.14 DEFAULT\_VISUAL\_BELL

#define DEFAULT\_VISUAL\_BELL "false"

## 5.8.1.15 LINE\_FEED

#define LINE\_FEED 0x0A

#### 5.8.1.16 MAX\_SECTION\_LENGTH

#define MAX\_SECTION\_LENGTH 32

## 5.8.1.17 POLL\_DELAY

#define POLL\_DELAY 100

5.9 defaults.h 45

#### 5.8.1.18 RECEIVE\_BUFFER

#define RECEIVE\_BUFFER 8192

#### 5.8.1.19 TRANSMIT\_BUFFER

#define TRANSMIT\_BUFFER 4096

#### 5.9 defaults.h

#### Go to the documentation of this file.

```
1 //! Default for VTE-terminal
2 #define DEFAULT_FONT
                                    "Monospace 12"
3 #define DEFAULT_SCROLLBACK
4 #define DEFAULT_DELAY
5 #define DEFAULT_CHAR
6 #define DEFAULT_DELAY_RS485
7 #define DEFAULT_ECHO
                                   "false"
                                   "false"
8 #define DEFAULT_VISUAL_BELL
10 //! Default for serial ports
11 #define DEFAULT_PORT
                                    "/dev/ttyS0"
12 #define DEFAULT_BAUDRATE
13 #define DEFAULT_PARITY
                                    "none"
14 #define DEFAULT_BITS
15 #define DEFAULT_STOPBITS
16 #define DEFAULT_FLOW
                                     "none"
18 #define RECEIVE_BUFFER
                                    8192
19 #define TRANSMIT_BUFFER
                                    4096
20 #define LINE_FEED
                                    0x0A
21 #define POLL_DELAY
                                    100
                                                       //! in ms (for control signals)
2.2
23 //! Generic defaults
24 #define BUFFER_LENGTH
25 #define MAX_SECTION_LENGTH
```

### 5.10 files.c File Reference

```
#include <gtk/gtk.h>
#include <stdio.h>
#include <unistd.h>
#include <fcntl.h>
#include <sys/types.h>
#include <sys/stat.h>
#include <errno.h>
#include <string.h>
#include <glib.h>
#include <config.h>
#include <glib/gi18n.h>
Include dependency graph for files.c:
```



#### **Variables**

• char \* default\_filename = NULL

#### 5.10.1 Variable Documentation

#### 5.10.1.1 default\_filename

```
char* default_filename = NULL
```

## 5.11 files.h File Reference

#### **Functions**

- void send\_raw\_file (GAction \*action, gpointer data)
- void save\_raw\_file (GAction \*action, gpointer data)
- void add\_input (void)

#### **Variables**

- gboolean waiting\_for\_char
- char \* default\_filename

#### 5.11.1 Function Documentation

#### 5.11.1.1 add\_input()

```
void add_input (
     void )
```

## 5.11.1.2 save\_raw\_file()

5.12 files.h 47

#### 5.11.1.3 send\_raw\_file()

#### 5.11.2 Variable Documentation

#### 5.11.2.1 default filename

```
char* default_filename [extern]
```

#### 5.11.2.2 waiting\_for\_char

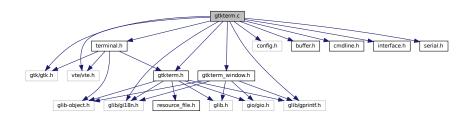
```
gboolean waiting_for_char [extern]
```

## 5.12 files.h

#### Go to the documentation of this file.

## 5.13 gtkterm.c File Reference

```
#include <gtk/gtk.h>
#include <vte/vte.h>
#include <glib/gi18n.h>
#include <glib/gprintf.h>
#include "config.h"
#include "gtkterm.h"
#include "gtkterm_window.h"
#include "terminal.h"
#include "buffer.h"
#include "cmdline.h"
#include "interface.h"
#include dependency graph for gtkterm.c:
```



#### **Functions**

• int main (int argc, char \*argv[])

#### **Variables**

• unsigned int gtkterm\_signals [LAST\_GTKTERM\_SIGNAL]

## 5.13.1 Function Documentation

#### 5.13.1.1 main()

```
int main (
                int argc,
                char * argv[] )
```

References GTKTERM\_TYPE\_APP.

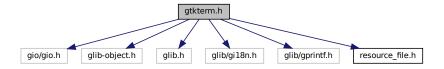
#### 5.13.2 Variable Documentation

#### 5.13.2.1 gtkterm\_signals

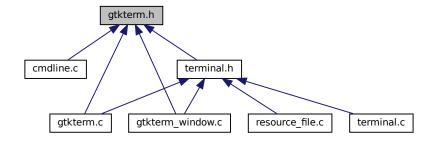
 $unsigned\ int\ gtkterm\_signals[LAST\_GTKTERM\_SIGNAL]$ 

## 5.14 gtkterm.h File Reference

```
#include <gio/gio.h>
#include <glib-object.h>
#include <glib.h>
#include <glib/gi18n.h>
#include <glib/gprintf.h>
#include "resource_file.h"
Include dependency graph for gtkterm.h:
```



This graph shows which files directly or indirectly include this file:



#### **Classes**

struct GtkTerm

The main GtkTerm application class.

#### **Macros**

• #define GTKTERM\_TYPE\_APP gtkterm\_get\_type()

## **Typedefs**

• typedef struct \_GtkTerm GtkTerm

#### **Enumerations**

enum {
 SIGNAL\_GTKTERM\_LOAD\_CONFIG, SIGNAL\_GTKTERM\_SAVE\_CONFIG, SIGNAL\_GTKTERM\_REMOVE\_SECTION
 , SIGNAL\_GTKTERM\_PRINT\_SECTION,
 SIGNAL\_GTKTERM\_COPY\_SECTION, SIGNAL\_GTKTERM\_CONFIG\_TERMINAL, SIGNAL\_GTKTERM\_CONFIG\_SERIAL
 , SIGNAL\_GTKTERM\_TERMINAL\_CHANGED,
 LAST\_GTKTERM\_SIGNAL }

#### **Variables**

• unsigned int gtkterm\_signals []

#### 5.14.1 Macro Definition Documentation

#### 5.14.1.1 GTKTERM\_TYPE\_APP

#define GTKTERM\_TYPE\_APP gtkterm\_get\_type()

## 5.14.2 Typedef Documentation

#### 5.14.2.1 GtkTerm

typedef struct \_GtkTerm GtkTerm

## 5.14.3 Enumeration Type Documentation

#### 5.14.3.1 anonymous enum

anonymous enum

5.15 gtkterm.h 51

#### Enumerator

SIGNAL_GTKTERM_LOAD_CONFIG	
SIGNAL_GTKTERM_SAVE_CONFIG	
SIGNAL_GTKTERM_REMOVE_SECTION	
SIGNAL_GTKTERM_PRINT_SECTION	
SIGNAL_GTKTERM_COPY_SECTION	
SIGNAL_GTKTERM_CONFIG_TERMINAL	
SIGNAL_GTKTERM_CONFIG_SERIAL	
SIGNAL_GTKTERM_TERMINAL_CHANGED	
LAST_GTKTERM_SIGNAL	

#### 5.14.4 Variable Documentation

#### 5.14.4.1 gtkterm\_signals

```
unsigned int gtkterm_signals[] [extern]
```

## 5.15 gtkterm.h

#### Go to the documentation of this file.

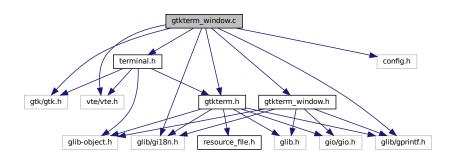
```
2 #ifndef GTKTERM_H
3 #define GTKTERM_H
5 #include <gio/gio.h>
6 #include <glib-object.h>
7 #include <glib.h>
8 #include <glib/gi18n.h>
9 #include <glib/gprintf.h>
10
11 #include "resource_file.h"
12
13 enum {
     SIGNAL_GTKTERM_LOAD_CONFIG,
14
15
        SIGNAL_GTKTERM_SAVE_CONFIG,
        SIGNAL_GTKTERM_REMOVE_SECTION,
       SIGNAL_GTKTERM_PRINT_SECTION,
SIGNAL_GTKTERM_COPY_SECTION,
SIGNAL_GTKTERM_CONFIG_TERMINAL,
SIGNAL_GTKTERM_CONFIG_SERIAL,
17
18
19
20
         SIGNAL_GTKTERM_TERMINAL_CHANGED,
         LAST_GTKTERM_SIGNAL
23 };
24
25 extern unsigned int gtkterm_signals[];
26
27 G_BEGIN_DECLS
28
29 //! @brief The main GtkTerm application class.
30 //! All application specific variables are defined here.
31 struct <u>_GtkTerm</u> {
32
33
     GtkApplication parent_instance;
34
     GOptionGroup *g_term_group;
GOptionGroup *g_port_group;
35
36
37
     GOptionGroup *g_config_group;
38
39
     GActionGroup *action_group;
                                                       //! App action group
```

```
41 GtkTermConfiguration *config; //! The Key file with the configurations
42 char *section; //! The section provided from the cli.
43 //! Terminals have their own section pointer
44 };
45
46 #define GTKTERM_TYPE_APP gtkterm_get_type()
47 typedef struct _GtkTerm GtkTerm;
48 G_DECLARE_FINAL_TYPE (GtkTerm, gtkterm, GTKTERM, APP, GtkApplication)
49
50
51 #endif // GTKTERM_H
```

## 5.16 gtkterm\_window.c File Reference

```
#include <gtk/gtk.h>
#include <vte/vte.h>
#include <glib/gi18n.h>
#include <glib/gprintf.h>
#include "config.h"
#include "gtkterm.h"
#include "gtkterm_window.h"
#include "terminal.h"
```

Include dependency graph for gtkterm\_window.c:



#### **Classes**

struct GtkTermWindow

The main GtkTermWindow class.

#### **Functions**

- void set\_window\_title (GtkTermWindow \*, gpointer)
- void create\_window (GApplication \*app)

#### 5.16.1 Function Documentation

#### 5.16.1.1 create\_window()

```
void create_window ( {\tt GApplication} \ * \ app \ )
```

Create a new terminal window and send section and keyfile as parameter GTKTERM\_TERMINAL then can load the right section.

Make the VTE window scrollable

References gtkterm\_terminal\_new(), \_GtkTermWindow::scrolled\_window, and \_GtkTermWindow::terminal\_window.

Here is the call graph for this function:

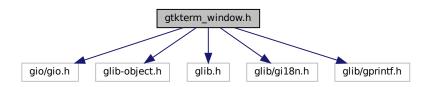


## 5.16.1.2 set\_window\_title()

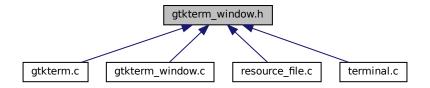
## 5.17 gtkterm\_window.h File Reference

```
#include <gio/gio.h>
#include <glib-object.h>
#include <glib.h>
#include <glib/gi18n.h>
#include <glib/gprintf.h>
```

Include dependency graph for gtkterm\_window.h:



This graph shows which files directly or indirectly include this file:



#### **Macros**

• #define GTKTERM\_TYPE\_GTKTERM\_WINDOW gtkterm\_window\_get\_type()

## **Typedefs**

typedef struct \_GtkTermWindow GtkTermWindow

#### **Functions**

• G\_END\_DECLS void create\_window (GApplication \*)

#### 5.17.1 Macro Definition Documentation

#### 5.17.1.1 GTKTERM\_TYPE\_GTKTERM\_WINDOW

#define GTKTERM\_TYPE\_GTKTERM\_WINDOW gtkterm\_window\_get\_type()

## 5.17.2 Typedef Documentation

#### 5.17.2.1 GtkTermWindow

typedef struct \_GtkTermWindow GtkTermWindow

#### 5.17.3 Function Documentation

5.18 gtkterm\_window.h 55

#### 5.17.3.1 create\_window()

```
G_END_DECLS void create_window ( {\tt GApplication} \ * \ app \ )
```

Create a new terminal window and send section and keyfile as parameter GTKTERM\_TERMINAL then can load the right section.

Make the VTE window scrollable

References gtkterm\_terminal\_new(), \_GtkTermWindow::scrolled\_window, and \_GtkTermWindow::terminal\_window.

Here is the call graph for this function:



## 5.18 gtkterm\_window.h

Go to the documentation of this file.

```
1 #include <gio/gio.h>
2 #include <glib-object.h>
3 #include <glib.h>
4 #include <glib/jinclude <glib/sinclude <glib/ginclude <gli>finclude <glib/ginclude <gli>finclude <glib/ginclude <gli>finclude <glib/ginclude <gli>finclude <gli>finclud
```

#### 5.19 interface.c File Reference

```
#include <gtk/gtk.h>
#include <stdlib.h>
#include <stdio.h>
#include <string.h>
#include <vte/vte.h>
#include <config.h>
#include <glib/gil8n.h>
#include <glib/gprintf.h>
```

#include "interface.h"
Include dependency graph for interface.c:



#### **Functions**

• void show\_message (char \*message, int type\_msg)

#### **Variables**

- bool timestamp\_on = 0
- int virt\_col\_pos = 0

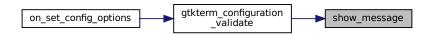
#### 5.19.1 Function Documentation

#### 5.19.1.1 show\_message()

References MSG\_ERR.

Referenced by gtkterm\_configuration\_validate().

Here is the caller graph for this function:



### 5.19.2 Variable Documentation

#### 5.19.2.1 timestamp\_on

bool timestamp\_on = 0

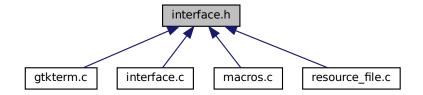
Referenced by put\_chars().

#### 5.19.2.2 virt\_col\_pos

int virt\_col\_pos = 0

## 5.20 interface.h File Reference

This graph shows which files directly or indirectly include this file:



#### **Macros**

- #define MSG\_WRN 0
- #define MSG\_ERR 1
- #define ASCII\_VIEW 0
- #define HEXADECIMAL\_VIEW 1

## **Functions**

• void show\_message (char \*, int)

#### **Variables**

- GtkWidget \* Text
- GtkWidget \* display

#### 5.20.1 Macro Definition Documentation

#### 5.20.1.1 ASCII\_VIEW

```
#define ASCII_VIEW 0
```

#### 5.20.1.2 HEXADECIMAL\_VIEW

```
#define HEXADECIMAL_VIEW 1
```

#### 5.20.1.3 MSG\_ERR

```
#define MSG_ERR 1
```

#### 5.20.1.4 MSG\_WRN

```
#define MSG_WRN 0
```

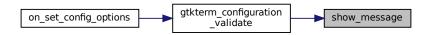
#### 5.20.2 Function Documentation

#### 5.20.2.1 show\_message()

References MSG\_ERR.

Referenced by gtkterm\_configuration\_validate().

Here is the caller graph for this function:



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#### 5.20.3 Variable Documentation

#### 5.20.3.1 display

```
GtkWidget* display [extern]
```

#### 5.20.3.2 Text

```
GtkWidget* Text [extern]
```

#### 5.21 interface.h

#### Go to the documentation of this file.

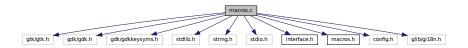
```
2 /* interface.h
4 /*
      GTKTerm Software
                    (c) Julien Schmitt
9 /* Purpose
10 /* Func
      Functions for the management of the GUI for the main window - Header file -
11 /*
15 #ifndef WIDGETS_H_
16 #define WIDGETS_H_
17
18 #define MSG_WRN
19 #define MSG_ERR
21 #define ASCII_VIEW
22 #define HEXADECIMAL_VIEW 1
2.3
24 extern GtkWidget *Text;
25 extern GtkWidget *display;
                                // Serial terminal (vte)
27 void show_message(char *, int);
29 #endif
```

## 5.22 macros.c File Reference

```
#include <gtk/gtk.h>
#include <gdk/gdk.h>
#include <gdk/gdkkeysyms.h>
#include <stdlib.h>
#include <string.h>
#include <stdio.h>
#include "interface.h"
#include "macros.h"
#include <config.h>
```

#include <glib/gi18n.h>

Include dependency graph for macros.c:



#### **Enumerations**

 enum { COLUMN\_SHORTCUT, COLUMN\_ACTION, NUM\_COLUMNS }
 TODO: Migrate to GObject.

#### **Functions**

- int macro\_count ()
- void convert\_string\_to\_macros (char \*\*string\_list, int size)

Convert the array of strings to macros.

int convert\_macros\_to\_string (char \*\*string\_list)

Convert the in memory macros to an array of strings for storage in file.

- macro\_t \* get\_shortcuts (int \*size)
- void remove\_shortcuts (void)

#### **Variables**

- macro\_t \* macros = NULL
- int nr\_of\_macros = 0

## 5.22.1 Enumeration Type Documentation

#### 5.22.1.1 anonymous enum

anonymous enum

TODO: Migrate to GObject.

#### Enumerator

COLUMN_SHORTCUT	
COLUMN_ACTION	
NUM_COLUMNS	

#### 5.22.2 Function Documentation

#### 5.22.2.1 convert\_macros\_to\_string()

Convert the in memory macros to an array of strings for storage in file.

Must be NULL terminated

Number of strings is 2x the macros (shortcut and action)

References macro\_t::action, macros, nr\_of\_macros, and macro\_t::shortcut.

#### 5.22.2.2 convert\_string\_to\_macros()

Convert the array of strings to macros.

References macro\_t::action, macros, nr\_of\_macros, remove\_shortcuts(), and macro\_t::shortcut.

Here is the call graph for this function:



#### 5.22.2.3 get\_shortcuts()

References macros.

#### 5.22.2.4 macro\_count()

```
int macro_count ( )
```

References nr\_of\_macros.

#### 5.22.2.5 remove\_shortcuts()

```
void remove_shortcuts ( \mbox{void} \quad \mbox{)}
```

Clean up all macros

References macros.

Referenced by convert\_string\_to\_macros().

Here is the caller graph for this function:



#### 5.22.3 Variable Documentation

#### 5.22.3.1 macros

```
macro_t* macros = NULL
```

Referenced by convert\_macros\_to\_string(), convert\_string\_to\_macros(), get\_shortcuts(), and remove\_shortcuts().

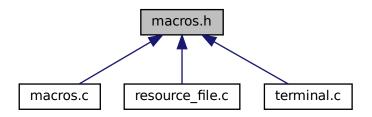
#### 5.22.3.2 nr\_of\_macros

```
int nr_of_macros = 0
```

Referenced by convert\_macros\_to\_string(), convert\_string\_to\_macros(), and macro\_count().

## 5.23 macros.h File Reference

This graph shows which files directly or indirectly include this file:



#### **Classes**

struct macro t

TODO: Migrate to GObject.

#### **Functions**

- void remove\_shortcuts (void)
- void add\_shortcuts (void)

Remove shortcuts from accel\_group and free memory.

- macro\_t \* get\_shortcuts (gint \*)
- void convert\_string\_to\_macros (char \*\*, int)

Convert the array of strings to macros.

int convert\_macros\_to\_string (char \*\*)

Convert the in memory macros to an array of strings for storage in file.

• int macro\_count ()

## **Variables**

• macro\_t \* macros

### 5.23.1 Function Documentation

### 5.23.1.1 add\_shortcuts()

```
void add_shortcuts (
     void )
```

Remove shortcuts from accel\_group and free memory.

#### 5.23.1.2 convert\_macros\_to\_string()

Convert the in memory macros to an array of strings for storage in file.

Must be NULL terminated

Number of strings is 2x the macros (shortcut and action)

References macro\_t::action, macros, nr\_of\_macros, and macro\_t::shortcut.

## 5.23.1.3 convert\_string\_to\_macros()

Convert the array of strings to macros.

References macro\_t::action, macros, nr\_of\_macros, remove\_shortcuts(), and macro\_t::shortcut.

Here is the call graph for this function:

```
convert_string_to_macros remove_shortcuts
```

#### 5.23.1.4 get shortcuts()

### 5.23.1.5 macro\_count()

```
int macro_count ( )
```

References nr\_of\_macros.

5.24 macros.h 65

### 5.23.1.6 remove\_shortcuts()

Clean up all macros

References macros.

Referenced by convert\_string\_to\_macros().

Here is the caller graph for this function:



## 5.23.2 Variable Documentation

#### 5.23.2.1 macros

```
macro_t* macros [extern]
```

Referenced by convert\_macros\_to\_string(), convert\_string\_to\_macros(), get\_shortcuts(), and remove\_shortcuts().

## 5.24 macros.h

## Go to the documentation of this file.

```
//! Command to perform
       char *action;
       GClosure *closure; //!
26 }
27 macro_t;
2.8
29 //void config_macros(GtkAction *action, gpointer data);
30 void remove_shortcuts(void);
                                              //! Remove shortcuts from accel_group and free memory
31 void add_shortcuts(void);
32 macro_t *get_shortcuts(gint *);
34 void convert_string_to_macros (char **, int);
35 int convert_macros_to_string (char **);
37 int macro_count ();
38
39 extern macro_t *macros;
40
41 #endif
```

## 5.25 resource\_file.c File Reference

```
#include <stdio.h>
#include <stdbool.h>
#include <sys/stat.h>
#include <glib.h>
#include <glib/gi18n.h>
#include <glib/gprintf.h>
#include <qlib-object.h>
#include <gtk/gtk.h>
#include <gio/gio.h>
#include <pango/pango-font.h>
#include "config.h"
#include "gtkterm_window.h"
#include "serial.h"
#include "terminal.h"
#include "defaults.h"
#include "resource_file.h"
#include "interface.h"
#include "macros.h"
Include dependency graph for resource file.c:
```



#### **Classes**

- struct GtkTermConfigurationPrivate
- struct \_GtkTermConfiguration
- struct \_GtkTermConfigurationClass

#### **Macros**

• #define CONFIGURATION FILENAME ".gtktermrc"

Default configuration filename.

#define BUFFER\_LENGTH 256

#### **Functions**

- void gtkterm\_configuration\_default\_configuration (GtkTermConfiguration \*self, char \*section)

  Create a new < default> configuration.
- void gtkterm\_configuration\_validate (GtkTermConfiguration \*self, char \*section) validate the configuration, given by the section
- int check\_keyfile (GtkTermConfiguration \*self, char \*section)
- bool on\_set\_config\_options (const char \*name, const char \*value, gpointer data, GError \*\*error)

  Set the config option in the keyfile.

#### **Variables**

const char GtkTermConfigurationItems [][CONF\_ITEM\_LENGTH]
 Used configuration options to hold consistency between load/save functions.

#### 5.25.1 Macro Definition Documentation

#### 5.25.1.1 BUFFER LENGTH

```
#define BUFFER_LENGTH 256
```

#### 5.25.1.2 CONFIGURATION\_FILENAME

```
#define CONFIGURATION_FILENAME ".gtktermrc"
```

Default configuration filename.

#### 5.25.2 Function Documentation

## 5.25.2.1 check\_keyfile()

Load keyfile if it is nog loaded yet

Check if the <section> exists in the key file.

References GtkTermConfigurationPrivate::key\_file.

#### 5.25.2.2 gtkterm\_configuration\_default\_configuration()

Create a new < default> configuration.

References CONF ITEM SERIAL BAUDRATE, CONF ITEM SERIAL BITS, CONF ITEM SERIAL DISABLE PORT LOCK, CONF ITEM SERIAL FLOW CONTROL, CONF ITEM SERIAL PARITY, CONF ITEM SERIAL PORT, CONF ITEM SERIAL RS485 RTS TIME AFTER TX, CONF ITEM SERIAL RS485 RTS TIME BEFORE TX, CONF ITEM SERIAL STOPBITS, CONF ITEM TERM BACKGROUND ALPHA, CONF ITEM TERM BACKGROUND BLUE, CONF\_ITEM\_TERM\_BACKGROUND\_GREEN, CONF\_ITEM\_TERM\_BACKGROUND\_RED, CONF\_ITEM\_TERM\_BLOCK\_CURSO CONF\_ITEM\_TERM\_COLS, CONF\_ITEM\_TERM\_CRLF\_AUTO, CONF\_ITEM\_TERM\_ECHO, CONF\_ITEM\_TERM\_FONT, CONF\_ITEM\_TERM\_FOREGROUND\_ALPHA, CONF\_ITEM\_TERM\_FOREGROUND\_BLUE, CONF\_ITEM\_TERM\_FOREGROUND CONF ITEM TERM FOREGROUND RED, CONF ITEM TERM MACROS, CONF ITEM TERM ROWS, CONF\_ITEM\_TERM\_SCROLLBACK, CONF\_ITEM\_TERM\_SHOW\_CURSOR, CONF\_ITEM\_TERM\_VISUAL\_BELL, CONF ITEM TERM WAIT CHAR, CONF ITEM TERM WAIT DELAY, DEFAULT BAUDRATE, DEFAULT BITS, DEFAULT CHAR, DEFAULT DELAY, DEFAULT DELAY RS485, DEFAULT ECHO, DEFAULT FLOW, DEFAULT FONT, DEFAULT PARITY, DEFAULT PORT, DEFAULT SCROLLBACK, DEFAULT STOPBITS, DEFAULT VISUAL BELL, GtkTermConfigurationItems, and GtkTermConfigurationPrivate::key file.

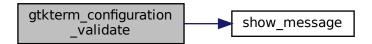
#### 5.25.2.3 gtkterm configuration validate()

validate the configuration, given by the section

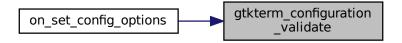
References CONF\_ITEM\_SERIAL\_BAUDRATE, CONF\_ITEM\_SERIAL\_BITS, CONF\_ITEM\_SERIAL\_STOPBITS, CONF\_ITEM\_TERM\_FONT, CONF\_ITEM\_TERM\_WAIT\_DELAY, DEFAULT\_BITS, DEFAULT\_DELAY, DEFAULT\_FONT, DEFAULT\_STOPBITS, GtkTermConfigurationItems, GtkTermConfigurationPrivate::key\_file, MSG\_ERR, and show message().

Referenced by on\_set\_config\_options().

Here is the call graph for this function:



Here is the caller graph for this function:



## 5.25.2.4 on\_set\_config\_options()

Set the config option in the keyfile.

Options are not saved. Point to the third charater ('-' in front of the cli option)

Search index for the option we want to set

Check for max path length. Exit if it is to long. Note: Serial port is also a path to a device.

We should not get here.

References CONF\_ITEM\_LAST, CONF\_ITEM\_SERIAL\_BAUDRATE, CONF\_ITEM\_SERIAL\_BITS, CONF\_ITEM\_SERIAL\_DISABLE CONF\_ITEM\_SERIAL\_FLOW\_CONTROL, CONF\_ITEM\_SERIAL\_PARITY, CONF\_ITEM\_SERIAL\_PORT, CONF\_ITEM\_SERIAL\_RS485\_RTS\_TIME\_AFTER\_TX, CONF\_ITEM\_SERIAL\_RS485\_RTS\_TIME\_BEFORE\_TX, CONF\_ITEM\_SERIAL\_STOPBITS, CONF\_ITEM\_TERM\_ECHO, CONF\_ITEM\_TERM\_RAW\_FILENAME, CONF\_ITEM\_TERM\_WAIT\_DELAY, gtkterm\_configuration\_validate(), GtkTermConfigurationItems, and GtkTermConfigurationPrivate::key\_file.

Here is the call graph for this function:



### 5.25.3 Variable Documentation

#### 5.25.3.1 GtkTermConfigurationItems

const char GtkTermConfigurationItems[][CONF\_ITEM\_LENGTH]

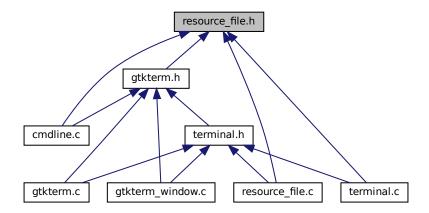
Used configuration options to hold consistency between load/save functions.

Configuration item names.

Referenced by gtkterm\_configuration\_default\_configuration(), gtkterm\_configuration\_validate(), and on\_set\_config\_options().

## 5.26 resource\_file.h File Reference

This graph shows which files directly or indirectly include this file:



### **Macros**

- #define CONF\_ITEM\_LENGTH 32
- #define DEFAULT SECTION "default"
- #define GTKTERM TYPE CONFIGURATION gtkterm configuration get type ()

## **Typedefs**

• typedef struct \_GtkTermConfiguration GtkTermConfiguration

#### **Enumerations**

• enum { CONF\_ITEM\_SERIAL\_PORT , CONF\_ITEM\_SERIAL\_BAUDRATE , CONF\_ITEM\_SERIAL\_BITS , CONF ITEM SERIAL STOPBITS, CONF ITEM SERIAL PARITY, CONF ITEM SERIAL FLOW CONTROL, CONF ITEM TERM WAIT DELAY , CONF ITEM TERM WAIT CHAR, CONF ITEM SERIAL RS485 RTS TIME BEFORE TX, CONF ITEM SERIAL RS485 RTS TIME AFTER TX , CONF\_ITEM\_TERM\_MACROS, CONF\_ITEM TERM RAW FILENAME, CONF\_ITEM\_TERM\_ECHO, CONF\_ITEM\_TERM\_CRLF\_AUTO, CONF\_ITEM\_SERIAL\_DISABLE\_PORT\_LOCK , CONF ITEM TERM FONT, CONF ITEM TERM TIMESTAMP, CONF ITEM TERM BLOCK CURSOR, CONF ITEM TERM SHOW CURSOR , CONF\_ITEM\_TERM\_ROWS, CONF\_ITEM\_TERM\_COLS, CONF\_ITEM\_TERM\_SCROLLBACK, CONF\_ITEM\_TERM\_VISUAL\_BELL, CONF\_ITEM\_TERM\_FOREGROUND\_RED, CONF\_ITEM\_TERM\_FOREGROUND\_GREEN, CONF\_ITEM\_TERM\_FOREGROUND\_BLUE, CONF\_ITEM\_TERM\_FOREG , CONF\_ITEM\_TERM\_BACKGROUND RED, CONF\_ITEM\_TERM\_BACKGROUND\_GREEN, CONF\_ITEM\_TERM\_BACKGROUND\_BLUE, CONF\_ITEM\_TERM\_BACKG , CONF ITEM LAST }

Define all configuration items which are used in the resource file.

#### **Functions**

- GtkTermConfiguration \* gtkterm\_configuration\_new (void)
- $\bullet \ \ bool\ on\_set\_config\_options\ (const\ char\ *,\ const\ char\ *,\ gpointer,\ GError\ **)\\$

Set the config option in the keyfile.

#### **Variables**

const char GtkTermConfigurationItems [][CONF\_ITEM\_LENGTH]

Configuration item names.

#### 5.26.1 Macro Definition Documentation

#### 5.26.1.1 CONF ITEM LENGTH

#define CONF\_ITEM\_LENGTH 32

## 5.26.1.2 DEFAULT\_SECTION

#define DEFAULT\_SECTION "default"

## 5.26.1.3 GTKTERM\_TYPE\_CONFIGURATION

#define GTKTERM\_TYPE\_CONFIGURATION gtkterm\_configuration\_get\_type ()

## 5.26.2 Typedef Documentation

## 5.26.2.1 GtkTermConfiguration

 ${\tt typedef \ struct \ \_GtkTermConfiguration \ GtkTermConfiguration}$ 

## 5.26.3 Enumeration Type Documentation

## 5.26.3.1 anonymous enum

anonymous enum

Define all configuration items which are used in the resource file.

it is an index to ConfigurationItem.

#### Enumerator

CONF_ITEM_SERIAL_PORT	
CONF_ITEM_SERIAL_BAUDRATE	
CONF_ITEM_SERIAL_BITS	
CONF_ITEM_SERIAL_STOPBITS	
CONF_ITEM_SERIAL_PARITY	
CONF_ITEM_SERIAL_FLOW_CONTROL	
CONF_ITEM_TERM_WAIT_DELAY	
CONF_ITEM_TERM_WAIT_CHAR	
CONF_ITEM_SERIAL_RS485_RTS_TIME_BEFORE_TX	
CONF_ITEM_SERIAL_RS485_RTS_TIME_AFTER_TX	
CONF_ITEM_TERM_MACROS	
CONF_ITEM_TERM_RAW_FILENAME	
CONF_ITEM_TERM_ECHO	
CONF_ITEM_TERM_CRLF_AUTO	
CONF_ITEM_SERIAL_DISABLE_PORT_LOCK	
CONF_ITEM_TERM_FONT	
CONF_ITEM_TERM_TIMESTAMP	
CONF_ITEM_TERM_BLOCK_CURSOR	
CONF_ITEM_TERM_SHOW_CURSOR	
CONF_ITEM_TERM_ROWS	
CONF_ITEM_TERM_COLS	
CONF_ITEM_TERM_SCROLLBACK	

#### **Enumerator**

CONF_ITEM_TERM_VISUAL_BELL	
CONF_ITEM_TERM_FOREGROUND_RED	
CONF_ITEM_TERM_FOREGROUND_GREEN	
CONF_ITEM_TERM_FOREGROUND_BLUE	
CONF_ITEM_TERM_FOREGROUND_ALPHA	
CONF_ITEM_TERM_BACKGROUND_RED	
CONF_ITEM_TERM_BACKGROUND_GREEN	
CONF_ITEM_TERM_BACKGROUND_BLUE	
CONF_ITEM_TERM_BACKGROUND_ALPHA	
CONF_ITEM_LAST	Checking as last item in the list.

#### 5.26.4 Function Documentation

#### 5.26.4.1 gtkterm configuration new()

#### 5.26.4.2 on\_set\_config\_options()

Set the config option in the keyfile.

Options are not saved. Point to the third charater ('-' in front of the cli option)

Search index for the option we want to set

Check for max path length. Exit if it is to long. Note: Serial port is also a path to a device.

We should not get here.

References CONF\_ITEM\_LAST, CONF\_ITEM\_SERIAL\_BAUDRATE, CONF\_ITEM\_SERIAL\_BITS, CONF\_ITEM\_SERIAL\_DISABLE CONF\_ITEM\_SERIAL\_FLOW\_CONTROL, CONF\_ITEM\_SERIAL\_PARITY, CONF\_ITEM\_SERIAL\_PORT, CONF\_ITEM\_SERIAL\_RS485\_RTS\_TIME\_AFTER\_TX, CONF\_ITEM\_SERIAL\_RS485\_RTS\_TIME\_BEFORE\_TX, CONF\_ITEM\_SERIAL\_STOPBITS, CONF\_ITEM\_TERM\_ECHO, CONF\_ITEM\_TERM\_RAW\_FILENAME, CONF\_ITEM\_TERM\_WAIT\_CHAR, CONF\_ITEM\_TERM\_WAIT\_DELAY, gtkterm\_configuration\_validate(), GtkTermConfigurationItems, and GtkTermConfigurationPrivate::key\_file.

Here is the call graph for this function:



#### 5.26.5 Variable Documentation

### 5.26.5.1 GtkTermConfigurationItems

```
const char GtkTermConfigurationItems[][CONF_ITEM_LENGTH] [extern]
```

Configuration item names.

Configuration item names.

Referenced by gtkterm configuration default configuration(), gtkterm configuration validate(), and on set config options().

## 5.27 resource\_file.h

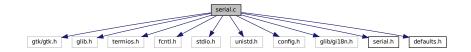
#### Go to the documentation of this file.

```
2 * resource_file.h
               GTKTerm Software
                           (c) Julien Schmitt
8 *
      \brief Purpose
          Load and save configuration file
10 *
           - Header file -
11 *
15 #ifndef RESOURCE FILE H
16 #define RESOURCE_FILE_H_
18 #define CONF_ITEM_LENGTH
19 #define DEFAULT_SECTION
                                     "default"
                                                       //! Default section if not specified
2.0
21 //! Define all configuration items which are used
22 //! in the resource file. it is an index to ConfigurationItem.
23 enum {
            CONF_ITEM_SERIAL_PORT,
25
            CONF_ITEM_SERIAL_BAUDRATE,
26
            CONF_ITEM_SERIAL_BITS,
            CONF_ITEM_SERIAL_STOPBITS,
27
           CONF_ITEM_SERIAL_PARITY,
CONF_ITEM_SERIAL_FLOW_CONTROL,
28
29
30
            CONF_ITEM_TERM_WAIT_DELAY,
            CONF_ITEM_TERM_WAIT_CHAR,
32
           CONF_ITEM_SERIAL_RS485_RTS_TIME_BEFORE_TX,
33
           CONF_ITEM_SERIAL_RS485_RTS_TIME_AFTER_TX,
            CONF_ITEM_TERM_MACROS,
34
           CONF_ITEM_TERM_RAW_FILENAME,
35
            CONF_ITEM_TERM_ECHO,
36
37
            CONF_ITEM_TERM_CRLF_AUTO,
38
           CONF_ITEM_SERIAL_DISABLE_PORT_LOCK,
           CONF_ITEM_TERM_FONT,
CONF_ITEM_TERM_TIMESTAMP,
39
40
            CONF_ITEM_TERM_BLOCK_CURSOR,
41
            CONF_ITEM_TERM_SHOW_CURSOR,
42
43
            CONF_ITEM_TERM_ROWS,
44
            CONF_ITEM_TERM_COLS,
           CONF_ITEM_TERM_SCROLLBACK,
CONF_ITEM_TERM_VISUAL_BELL,
CONF_ITEM_TERM_FOREGROUND_RED,
45
46
47
            CONF_ITEM_TERM_FOREGROUND_GREEN,
48
49
            CONF_ITEM_TERM_FOREGROUND_BLUE,
50
            CONF_ITEM_TERM_FOREGROUND_ALPHA,
           CONF_ITEM_TERM_BACKGROUND_RED,
CONF_ITEM_TERM_BACKGROUND_GREEN,
CONF_ITEM_TERM_BACKGROUND_BLUE,
51
52
53
54
            CONF_ITEM_TERM_BACKGROUND_ALPHA,
            CONF_ITEM_LAST
                                                      //! Checking as last item in the list.
```

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### 5.28 serial.c File Reference

```
#include <gtk/gtk.h>
#include <glib.h>
#include <termios.h>
#include <fcntl.h>
#include <stdio.h>
#include <unistd.h>
#include <config.h>
#include <glib/gi18n.h>
#include "serial.h"
#include "defaults.h"
Include dependency graph for serial.c:
```



### **Classes**

- struct GtkTermSerialPortPrivate
- struct \_GtkTermSerialPort
- struct \_GtkTermSerialPortClass

#### **Enumerations**

• enum { PROP\_0 , PROP\_PORT\_CONFIG , N\_PROPS }

#### **Functions**

- GtkTermSerialPort \* gtkterm\_serial\_port\_new (port\_config\_t \*port\_conf)
- char \* gtkterm\_serial\_port\_get\_string (GtkTermSerialPort \*self)
- int gtkterm\_serial\_port\_status (GtkTermSerialPort \*self)

## 5.28.1 Enumeration Type Documentation

## 5.28.1.1 anonymous enum

anonymous enum

#### Enumerator

PROP_0	
PROP_PORT_CONFIG	
N_PROPS	

## 5.28.2 Function Documentation

## 5.28.2.1 gtkterm\_serial\_port\_get\_string()

References port\_config\_t::baudrate, port\_config\_t::bits, port\_config\_t::parity, port\_config\_t::port, GtkTermSerialPortPrivate::port\_config\_t::stopbits.

## 5.28.2.2 gtkterm\_serial\_port\_new()

References GTKTERM\_TYPE\_SERIAL\_PORT.

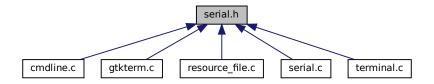
#### 5.28.2.3 gtkterm serial port status()

References GtkTermSerialPortPrivate::serial\_port\_fd.

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## 5.29 serial.h File Reference

This graph shows which files directly or indirectly include this file:



## **Classes**

struct port\_config\_t

#### **Macros**

• #define GTKTERM\_TYPE\_SERIAL\_PORT gtkterm\_serial\_port\_get\_type ()

## **Typedefs**

• typedef typedefG\_BEGIN\_DECLS struct \_GtkTermSerialPort GtkTermSerialPort

## **Functions**

- GtkTermSerialPort \* gtkterm\_serial\_port\_new (port\_config\_t \*)
- G\_END\_DECLS char \* gtkterm\_serial\_port\_get\_string (GtkTermSerialPort \*)
- int gtkterm\_serial\_port\_status (GtkTermSerialPort \*)

## 5.29.1 Macro Definition Documentation

## 5.29.1.1 GTKTERM\_TYPE\_SERIAL\_PORT

#define GTKTERM\_TYPE\_SERIAL\_PORT gtkterm\_serial\_port\_get\_type ()

## 5.29.2 Typedef Documentation

#### 5.29.2.1 GtkTermSerialPort

typedef typedefG\_BEGIN\_DECLS struct \_GtkTermSerialPort GtkTermSerialPort

## 5.29.3 Function Documentation

#### 5.29.3.1 gtkterm\_serial\_port\_get\_string()

References port\_config\_t::baudrate, port\_config\_t::bits, port\_config\_t::parity, port\_config\_t::port, GtkTermSerialPortPrivate::port\_config\_t::stopbits.

## 5.29.3.2 gtkterm\_serial\_port\_new()

References GTKTERM\_TYPE\_SERIAL\_PORT.

### 5.29.3.3 gtkterm\_serial\_port\_status()

References GtkTermSerialPortPrivate::serial\_port\_fd.

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## 5.30 serial.h

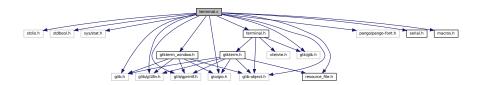
```
Go to the documentation of this file.
```

```
2 /* serial.h
              GTKTerm Software
                       (c) Julien Schmitt
8 /*
9 /* Purpose
        Serial port access functions
10 /*
          - Header file -
14
15 #ifndef SERIAL H
16 #define SERIAL_H_
18 typedef struct
19 {
20
       char *port;
                                        // 300 - 600 - 1200 - ... - 2000000
21
       long int baudrate:
                                        // 5 - 6 - 7 - 8
// 1 - 2
      int bits;
     int stopbits;
int parity;
int flow_control;
                                      // 0 : None, 1 : Odd, 2 : Even
// 0 : None, 1 : Xon/Xoff, 2 : RTS/CTS, 3 : RS485halfduplex
25
2.6
     int rs485_rts_time_before_transmit;
2.7
      int rs485_rts_time_after_transmit;
      bool disable_port_lock;
28
30 } port_config_t;
31
32 G_BEGIN_DECLS
33
34 typedef struct _GtkTermSerialPort GtkTermSerialPort;
35
36  #define GTKTERM_TYPE_SERIAL_PORT gtkterm_serial_port_get_type ()
37  G_DECLARE_FINAL_TYPE (GtkTermSerialPort, gtkterm_serial_port, GTKTERM, SERIAL_PORT, GObject)
39 GtkTermSerialPort *gtkterm_serial_port_new (port_config_t *);
40
43 char* gtkterm_serial_port_get_string (GtkTermSerialPort *);
44 int gtkterm_serial_port_status (GtkTermSerialPort *);
4.5
46 #endif
```

## 5.31 terminal.c File Reference

```
#include <stdio.h>
#include <stdbool.h>
#include <sys/stat.h>
#include <glib.h>
#include <glib/gil8n.h>
#include <glib/gprintf.h>
#include <glib-object.h>
#include <glib-object.h>
#include <grown constant for the constant
```

Include dependency graph for terminal.c:



### **Classes**

- struct GtkTermTerminalPrivate
- struct \_GtkTermTerminal
- struct \_GtkTermTerminalClass

#### **Enumerations**

enum {
 PROP\_0, PROP\_SECTION, PROP\_GTKTERM\_APP, PROP\_MAIN\_WINDOW,
 N\_PROPS}

## **Functions**

GtkTermTerminal \* gtkterm\_terminal\_new (char \*section, GtkTerm \*gtkterm\_app, GtkTermWindow \*main
 \_window)

## 5.31.1 Enumeration Type Documentation

## 5.31.1.1 anonymous enum

anonymous enum

### Enumerator

PROP_0	
PROP_SECTION	
PROP_GTKTERM_APP	
PROP_MAIN_WINDOW	
N_PROPS	

## 5.31.2 Function Documentation

#### 5.31.2.1 gtkterm\_terminal\_new()

References GTKTERM\_TYPE\_TERMINAL.

Referenced by create\_window().

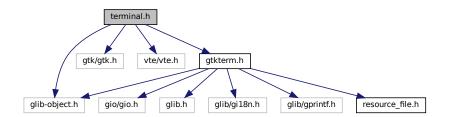
Here is the caller graph for this function:



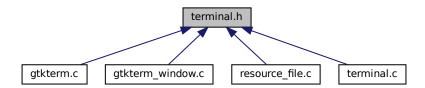
## 5.32 terminal.h File Reference

```
#include <glib-object.h>
#include <gtk/gtk.h>
#include <vte/vte.h>
#include "gtkterm.h"
```

Include dependency graph for terminal.h:



This graph shows which files directly or indirectly include this file:



## **Classes**

struct term\_config\_t

#### **Macros**

• #define GTKTERM\_TYPE\_TERMINAL gtkterm\_terminal\_get\_type()

#### **Functions**

• GtkTermTerminal \* gtkterm\_terminal\_new (char \*, GtkTerm \*, GtkTermWindow \*)

#### 5.32.1 Macro Definition Documentation

## 5.32.1.1 GTKTERM\_TYPE\_TERMINAL

```
#define GTKTERM_TYPE_TERMINAL gtkterm_terminal_get_type()
```

## 5.32.2 Function Documentation

#### 5.32.2.1 gtkterm\_terminal\_new()

References GTKTERM\_TYPE\_TERMINAL.

Referenced by create\_window().

Here is the caller graph for this function:



5.33 terminal.h

## 5.33 terminal.h

#### Go to the documentation of this file.

```
2 /* terminal.h
       GTKTerm Software
               (c) Julien Schmitt
6 /*
7 /* -----
8 /*
9 /* Purpose
      Handles all VTE in/output to/from serial port
- Header file -
10 /*
11 /*
14 #ifndef TERMINAL_H
15 #define TERMINAL_H
16
17 #include <glib-object.h>
18 #include <gtk/gtk.h>
19 #include <vte/vte.h>
20
21 #include "gtkterm.h"
23 typedef struct
24 {
25
      bool block_cursor;
26
     bool show_cursor;
                               // character in queue
// echo local
2.7
      char char_queue;
28
     bool echo;
     bool echo;
bool crlfauto;
                               // line feed auto
29
     bool timestamp;
31
     int delay;
                               // end of char delay: in ms
32
     int rows;
     int columns;
int scrollback;
33
34
35
     bool visual_bell;
36
     GdkRGBA foreground_color;
37
     GdkRGBA background_color;
38
     PangoFontDescription *font;
39
40 } term_config_t;
42 G_BEGIN_DECLS
44 #define GTKTERM_TYPE_TERMINAL gtkterm_terminal_get_type()
45 G_DECLARE_FINAL_TYPE (GtkTermTerminal, gtkterm_terminal, GTKTERM, TERMINAL, VteTerminal)
46
47 GtkTermTerminal *qtkterm_terminal_new (char *, GtkTerm *, GtkTermWindow *);
49 G_END_DECLS
50
51 #endif // TERMINAL_H
```

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