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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'termios.h.0p' command

$ man termios.h.0p

termios.h(0P) POSIX Programmer's Manual termios.h(0P)

PROLOG

This manual page is part of the POSIX Programmer's Manual. The Linux implementation of this interface may differ (consult the corresponding Linux manual page for details of Linux behavior), or the interface may not be implemented on Linux.

NAME

termios.h ? define values for termios

SYNOPSIS

#include <termios.h>

DESCRIPTION

The <termios.h> header shall contain the definitions used by the termi? nal I/O interfaces (see Chapter 11, General Terminal Interface for the structures and names defined).

The termios Structure

The <termios.h> header shall define the following data types through typedef:

cc_t Used for terminal special characters.

speed_t Used for terminal baud rates.

tcflag_t Used for terminal modes.

The above types shall be all unsigned integer types.

The implementation shall support one or more programming environments in which the widths of cc_t, speed_t, and tcflag_t are no greater than

the width of type long. The names of these programming environments can be obtained using the confstr() function or the getconf utility.

The <termios.h> header shall define the termios structure, which shall include at least the following members:

tcflag_t c_iflag Input modes.

tcflag_t c_oflag Output modes.

tcflag_t c_cflag Control modes.

tcflag_t c_lflag Local modes.

cc_t c_cc[NCCS] Control characters.

The <termios.h> header shall define the following symbolic constant:

NCCS Size of the array c_cc for control characters.

The <termios.h> header shall define the following symbolic constants for use as subscripts for the array c_cc:

Subscript Usage		
Canonical Mode	Non-Canonical Mode	Description
VEOF		EOF character.
VEOL		EOL character.
VERASE		ERASE character.
VINTR	VINTR	INTR character.
VKILL		KILL character.
	VMIN	MIN value.
VQUIT	VQUIT	QUIT character.
VSTART	VSTART	START character.
VSTOP	VSTOP	STOP character.
VSUSP	VSUSP	SUSP character.
	VTIME	TIME value.

The subscript values shall be suitable for use in #if preprocessing directives and shall be distinct, except that the VMIN and VTIME subscripts may have the same values as the VEOF and VEOL subscripts, respectively.

Input Modes

The <termios.h> header shall define the following symbolic constants for use as flags in the c_iflag field. The c_iflag field describes the basic terminal input control.

BRKINT Signal interrupt on break.

ICRNL Map CR to NL on input.

IGNBRK Ignore break condition.

IGNCR Ignore CR.

IGNPAR Ignore characters with parity errors.

INLCR Map NL to CR on input.

INPCK Enable input parity check.

ISTRIP Strip character.

IXANY Enable any character to restart output.

IXOFF Enable start/stop input control.

IXON Enable start/stop output control.

PARMRK Mark parity errors.

Output Modes

The <termios.h> header shall define the following symbolic constants for use as flags in the c_oflag field. The c_oflag field specifies the system treatment of output.

OPOST Post-process output.

ONLCR Map NL to CR-NL on output.

OCRNL Map CR to NL on output.

ONOCR No CR output at column 0.

ONLRET NL performs CR function.

OFDEL Fill is DEL.

OFILL Use fill characters for delay.

NLDLY Select newline delays:

NL0 Newline type 0.

NL1 Newline type 1.

CRDLY Select carriage-return delays:

CR0 Carriage-return delay type 0.

CR1 Carriage-return delay type 1.

CR2 Carriage-return delay type 2.

CR3 Carriage-return delay type 3.

TABDLY Select horizontal-tab delays:

TAB0 Horizontal-tab delay type 0.

TAB1 Horizontal-tab delay type 1.

TAB2 Horizontal-tab delay type 2.

TAB3 Expand tabs to spaces.

BSDLY Select backspace delays:

BS0 Backspace-delay type 0.

BS1 Backspace-delay type 1.

VTDLY Select vertical-tab delays:

VT0 Vertical-tab delay type 0.

VT1 Vertical-tab delay type 1.

FFDLY Select form-feed delays:

FF0 Form-feed delay type 0.

FF1 Form-feed delay type 1.

Baud Rate Selection

The <termios.h> header shall define the following symbolic constants for use as values of objects of type speed_t.

The input and output baud rates are stored in the termios structure.

These are the valid values for objects of type speed_t. Not all baud rates need be supported by the underlying hardware.

B0 Hang up

B50 50 baud

B75 75 baud

B110 110 baud

B134 134.5 baud

B150 150 baud

B200 200 baud

B300 300 baud

B600 600 baud

B1200 1200 baud

B1800 1800 baud

B2400 2400 baud

B4800 4800 baud

B9600 9600 baud

B19200 19200 baud

B38400 38400 baud

Control Modes

The <termios.h> header shall define the following symbolic constants for use as flags in the c_cflag field. The c_cflag field describes the hardware control of the terminal; not all values specified are required to be supported by the underlying hardware.

CSIZE Character size:

CS5 5 bits

CS6 6 bits

CS7 7 bits

CS8 8 bits

CSTOPB Send two stop bits, else one.

CREAD Enable receiver.

PARENB Parity enable.

PARODD Odd parity, else even.

HUPCL Hang up on last close.

CLOCAL Ignore modem status lines.

The implementation shall support the functionality associated with the symbols CS7, CS8, CSTOPB, PARODD, and PARENB.

Local Modes

The <termios.h> header shall define the following symbolic constants for use as flags in the c_lflag field. The c_lflag field of the argu? ment structure is used to control various terminal functions.

ECHO Enable echo.

ECHOE Echo erase character as error-correcting backspace.

ECHOK Echo KILL.

ECHONL Echo NL.

ICANON Canonical input (erase and kill processing).

IEXTEN Enable extended input character processing.

ISIG Enable signals.

NOFLSH Disable flush after interrupt or quit.

TOSTOP Send SIGTTOU for background output.

Attribute Selection

The <termios.h> header shall define the following symbolic constants for use with tcsetattr():

TCSANOW Change attributes immediately.

TCSADRAIN Change attributes when output has drained.

TCSAFLUSH Change attributes when output has drained; also flush pending input.

Line Control

The <termios.h> header shall define the following symbolic constants for use with tcflush():

TCIFLUSH Flush pending input.

TCIOFLUSH Flush both pending input and untransmitted output.

TCOFLUSH Flush untransmitted output.

The <termios.h> header shall define the following symbolic constants for use with tcflow():

TCIOFF Transmit a STOP character, intended to suspend input data.

TCION Transmit a START character, intended to restart input data.

TCOOFF Suspend output.

TCOON Restart output.

The <termios.h> header shall define the pid_t type as described in <sys/types.h>.

The following shall be declared as functions and may also be defined as macros. Function prototypes shall be provided.

```
speed_t cfgetispeed(const struct termios *);
speed_t cfgetospeed(const struct termios *);
int     cfsetispeed(struct termios *, speed_t);
int     cfsetospeed(struct termios *, speed_t);
int     tcdrain(int);
int     tcflow(int, int);
int     tcflush(int, int);
```

```
int     tcgetattr(int, struct termios *);
pid_t   tcgetsid(int);
int     tcsendbreak(int, int);
int     tcsetattr(int, int, const struct termios *);
```

The following sections are informative.

APPLICATION USAGE

The following names are reserved for XSI-conformant systems to use as an extension to the above; therefore strictly conforming applications shall not use them:

CBAUD EXTB VDSUSP

DEFECHO FLUSHO VLNEXT

ECHOCTL LOBLK VREPRINT

ECHOKE PENDIN VSTATUS

ECHOPRT SWTCH VWERASE

EXTA VDISCARD

RATIONALE

None.

FUTURE DIRECTIONS

None.

SEE ALSO

<sys_types.h>

The System Interfaces volume of POSIX.1?2017, cfgetispeed(), cfge? tospeed(), cfsetispeed(), cfsetospeed(), confstr(), tcdrain(), tcflow(), tcflush(), tcgetattr(), tcgetsid(), tcsendbreak(), tcse? tattr()

The Shell and Utilities volume of POSIX.1?2017, Chapter 11, General Terminal Interface, getconf

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