NAME

termios, tcgetattr, tcsetattr, cfgetispeed, cfgetospeed, cfsetispeed, cfsetospeed, tcsendbreak, tcdrain, tcflush, tcflow − change terminal attributes

SYNOPSIS

#include <termios.h>

int tcgetattr(int *fd***, struct termios ***tp***)**
int tcsetattr(int *fd***, int** *action***, const struct termios ***tp***)**

speed_t cfgetispeed(const struct termios ***tp*)**
speed_t cfgetospeed(const struct termios ***tp*)**
int cfsetispeed(struct termios ***tp*, speed_t** *speed***)**
int cfsetospeed(struct termios ***tp*, speed_t** *speed***)**

int tcsendbreak(int *fd***, int** *duration***)**
int tcdrain(int *fd***)**
int tcflush(int *fd***, int** *queue_selector***)**
int tcflow(int *fd***, int** *action***)**

DESCRIPTION

These are the user functions that modify the tty attributes mentioned in **tty**(4). In the following, *fd* refers to an open terminal device file, *tp* is the address of a **struct termios**, and *speed* and values of type **speed_t** are equal to one of the **B0**, **B50**, etc. baud rate symbols. All functions, symbols, and types are declared in **<termios.h>**.

The effects of the tty functions are:

tcgetattr(*fd***,** *tp***)**
: Get the current settings of the tty attributes.

tcsetattr(*fd***, TCSANOW,** *tp***)**
: Set the terminal attributes. The change occurs immediately.

tcsetattr(*fd***, TCSADRAIN,** *tp***)**
: Set the terminal attributes. The change occurs once all the output waiting in the output queues has been transmitted. This should be used when options affecting output are changed.

tcsetattr(*fd***, TCSAFLUSH,** *tp***)**
: Set the terminal attributes. But first wait until all the output waiting in the output queues has been transmitted. All input waiting in the input queues is then discarded and the change is made. This should be used when switching from canonical to non-canonical mode or vice-versa. (Oddly enough, this is seldom what you want, because it discards typeahead. An editing shell does the Right Thing if it uses **TCSANOW** instead. POSIX may not guarantee good results, but in practice most systems make the canonical input available in raw mode.)

cfgetispeed(*tp***)**
: Return the input baud rate encoded in the termios structure.

cfgetospeed(*tp***)**
: Return the output baud rate encoded in the termios structure.

cfsetispeed(*tp***,** *speed***)**
: Encode the new input baud rate into the termios structure.

cfsetospeed(*tp***,** *speed***)**
: Encode the new output baud rate into the termios structure.

tcsendbreak(*fd***,** *duration***)**
: Emit a break condition on a serial line for a time indicated by *duration*. (Always 0.4 seconds under Minix, *duration* is ignored.)

tcdrain(*fd***)**
Wait until all output waiting in the output queues has been transmitted.

tcflush(*fd***, TCIFLUSH)**
Flush the input queue. (I.e. discard it.)

tcflush(*fd***, TCOFLUSH)**
Flush the output queue.

tcflush(*fd***, TCIOFLUSH)**
Flush the input and output queues.

tcflow(*fd***, TCOOFF)**
Suspend output. (Like the effect of **STOP**.)

tcflow(*fd***, TCOON)**
Restart output. (Like the effect of **START**.)

tcflow(*fd***, TCIOFF)**
Transmit a **STOP** character intended to make the remote device stop transmitting data.

tcflow(*fd***, TCION)**
Transmit a **START** character to restart the remote device.

SEE ALSO

stty(1), **tty**(4).

DIAGNOSTICS

All functions return 0 unless otherwise specified, and −1 on error with **errno** set to indicate the type of error. The most notable errors are **ENOTTY** if *fd* does not refer to a terminal device, and **EINTR** if one of the functions waiting for output to drain is interrupted.

NOTES

It may be interesting to know that the functions operating on the tty are directly translated into the following Minix **ioctl** requests: **TCGETS**, **TCSETS** (now), **TCSETSW** (drain), **TCSETSF**, (flush), **TCSBRK**, **TCDRAIN**, **TCFLSH**, and **TCFLOW**. You should only use this knowledge when trying to understand the tty driver code, of course.

BUGS

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