NAME

mtio − magnetic tape commands

SYNOPSIS

#include <sys/types.h>
#include <sys/mtio.h>
#include <sys/ioctl.h>

DESCRIPTION

The magnetic tape devices described in **sd**(4) may be sent commands or queried for their status using the following ioctl calls:

ioctl(*fd*, **MTIOCTOP**, &**struct mtop**)
ioctl(*fd*, **MTIOCGET**, &**struct mtget**)

The struct mtop, struct mtget and associated definitions are defined in <sys/mtio.h> as follows:

```
/* Tape operations: ioctl(fd, MTIOCTOP, &struct mtop) */

struct mtop {
	short	mt_op;		/* Operation (MTWEOF, etc.) */
	int	mt_count;		/* Repeat count. */
};

#define MTWEOF	0	/* Write End-Of-File Marker */
#define MTFSF	1	/* Forward Space File mark */
#define MTBSF	2	/* Backward Space File mark */
#define MTFSR	3	/* Forward Space Record */
#define MTBSR	4	/* Backward Space Record */
#define MTREW	5	/* Rewind tape */
#define MTOFFL	6	/* Rewind and take Offline */
#define MTNOP	7	/* No-Operation, set status only */
#define MTRETEN	8	/* Retension (completely wind and rewind) */
#define MTERASE	9	/* Erase the tape and rewind */
#define MTEOM	10	/* Position at End-Of-Media */
#define MTMODE	11	/* Select tape density */
#define MTBLKZ	12	/* Select tape block size */

/* Tape status: ioctl(fd, MTIOCGET, &struct mtget) */

struct mtget {
	short	mt_type;		/* Type of tape device. */

	/* Device dependent "registers". */
	short	mt_dsreg;		/* Drive status register. */
	short	mt_erreg;		/* Error register. */

	/* Misc info. */
	off_t	mt_resid;		/* Residual count. */
	off_t	mt_fileno;		/* Current File Number. */
	off_t	mt_blkno;		/* Current Block Number within file. */
	off_t	mt_blksize;		/* Current block size. */
};
```

See **mt**(1) for a detailed description on what each operation does. The mt_type field is always zero, there is no use for it yet. Mt_dsreg is 0 (OK), 1 (Error), or 2 (EOF encountered.) Mt_erreg holds the SCSI sense key of the last operation. Mt_blksize is the current tape block size in bytes, zero if the block size is variable.

Note that one can issue these commands on a file descriptor that is in use to read or write data, something that **mt** can't do. So you can add eof markers in the middle of an output stream, or get the status of a device before a rewind-on-close tape rewinds.

The driver will automatically add an end of file marker to a tape that is written to if you execute a space command. If you write eof markers yourself then the driver will not add one extra on close.

SEE ALSO

mt(1), **sd**(4).

AUTHOR

Kees J. Bot (kjb@cs.vu.nl)