

**NAME**

sd – driver for SCSI disk drives

**SYNOPSIS**

```
#include <linux/hdreg.h>    /* for HDIO_GETGEO */
#include <linux/fs.h>        /* for BLKGETSIZE and BLKRRPART */
```

**CONFIGURATION**

The block device name has the following form: **sd***lp*, where *l* is a letter denoting the physical drive, and *p* is a number denoting the partition on that physical drive. Often, the partition number, *p*, will be left off when the device corresponds to the whole drive.

SCSI disks have a major device number of 8, and a minor device number of the form  $(16 * \text{drive\_number}) + \text{partition\_number}$ , where *drive\_number* is the number of the physical drive in order of detection, and *partition\_number* is as follows:

- partition 0 is the whole drive
- partitions 1–4 are the DOS "primary" partitions
- partitions 5–8 are the DOS "extended" (or "logical") partitions

For example, */dev/sda* will have major 8, minor 0, and will refer to all of the first SCSI drive in the system; and */dev/sdb3* will have major 8, minor 19, and will refer to the third DOS "primary" partition on the second SCSI drive in the system.

At this time, only block devices are provided. Raw devices have not yet been implemented.

**DESCRIPTION**

The following *ioctl*s are provided:

**HDIO\_GETGEO**

Returns the BIOS disk parameters in the following structure:

```
struct hd_geometry {
    unsigned char  heads;
    unsigned char  sectors;
    unsigned short cylinders;
    unsigned long  start;
};
```

A pointer to this structure is passed as the **ioctl**(2) parameter.

The information returned in the parameter is the disk geometry of the drive *as understood by DOS!* This geometry is *not* the physical geometry of the drive. It is used when constructing the drive's partition table, however, and is needed for convenient operation of **fdisk**(1), **efdisk**(1), and **lilo**(1). If the geometry information is not available, zero will be returned for all of the parameters.

**BLKGETSIZE**

Returns the device size in sectors. The **ioctl**(2) parameter should be a pointer to a *long*.

**BLKRRPART**

Forces a reread of the SCSI disk partition tables. No parameter is needed.

The SCSI **ioctl**(2) operations are also supported. If the **ioctl**(2) parameter is required, and it is NULL, then **ioctl**(2) fails with the error **EINVAL**.

**FILES**

```
/dev/sd[a–h]
    the whole device

/dev/sd[a–h][0–8]
    individual block partitions
```