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## Linux Set the Block Size for a SCSI Tape Device

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[1]

**Q.** I've Debian Linux 4.0 Install on HP Server. This server has SCSI tape device. According to my tape documentation size should be 64k. How can I set the block size for a HP SCSI tape device?

**A.** You need to use standard tar or cpio command to set the block size for a SCSI tape device. There is no special setting exists to set the block for a tape.

### tar command set block size

The **-b** option use to set block size. The record size of Nx512 bytes (default is N=20). The following example, set a tape to 256k block to backup /data file system:

```
# tar -b 512 -cvf /dev/st0 /data
```

To extract simply use:

```
# tar -b 512 -xvf /dev/st0
```

Where,

- **-b 512** Use a blocksize of 512 i.e 512x512bytes
- **c** : Create archive
- **v** : Verbose (display progress)
- **f** : Tape device name /dev/st0
- **x** : Extract archive

So to set data transfer block size to 64k (64x64bytes), enter:

```
# tar -b 128 -cvf /dev/st0 /path/to/backup/directory
```

See more about [mt and tar command for making backups](#) <sup>[2]</sup> under Linux.

### cpio command

Pass the **--block-size BLOCK** option to [cpio command](#) <sup>[3]</sup>, enter:

```
# find /home | cpio --block-size 128 -o -H tar -F /dev/nst0
```

To Restore backup, enter the following command

```
# cpio --block-size 128 -i -F /dev/nst0
```

### How do I find out tape block size?

Refer to tape manufactures documentation or product web site. However, with the help of dd command (little trial and error) you can find actual blocksize of tape. All you have to do is provide **ibs=BLOCKSIZE**:

```
# dd if=/dev/st0 of=/tmp/test.file ibs=64k count=1
```

Output:

```
dd: reading `/dev/st0': Cannot allocate memory
0+0 records in
0+0 records out
```

If you get an error message, '**Cannot allocate memory**', try next blocksize as selected blocksize (64k) is too small:

```
# dd if=/dev/st0 of=testfile ibs=256k count=1
```

Output:

```
1+0 records in  
512+0 records out
```

So 256k is correct block size for this scsi tape device.

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[1] Image: <http://www.cyberciti.biz/faq/faq/category/linux/>

[2] mt and tar command for making backups: <http://www.cyberciti.biz/faq/linux-tape-backup-with-mt-and-tar-command-howto/>

[3] cpio command: <http://www.cyberciti.biz/faq/how-do-i-use-cpio-command-under-linux/>

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