

# Data Recovery from Bad Hard Disk

If a hard drive refuses to boot, or if the root file system on a hard drive is irrecoverable, you still may be able to extract the data from the /work file system. Here's how:

Boot the computer system using the Emergency Boot & Root Floppy set created on this computer. If there was not one made on this hard drive, you \*may\* be able to use a set from another computer, provided the following is true:

1) The hard drives on the two machines are of the same type (i.e. ESDI/MFM/SCSI) 2) The tape drive you plan to use to extract the data is defined \*exactly\* the same on the two machines.

```
# umask 000 (Change file creation mask to +rw for all users)
```

**NOTE:** These instructions assume that the data is in the /dev/u file system.

**NOTE:** If the file system you wish to mount is on an ESDI/MFM drive, and it is not on drive 0 (the first drive), you must first mount a file system on drive 0, then attempt to mount the file system on the non-zero drive. This is because the information needed to mount the non-zero drive is stored on drive 0. If you attempt to mount the non-zero drive's file system before mounting a drive 0 file system, you will have to reboot using the boot and root floppies and access a drive 0 file system first. The ideal sequence goes something like

```
# mount /dev/hdOroot /mnt (Mount hard drive O's root file system. Any file system on drive 0 will do--for example,/dev/u)
```

```
# umount /mnt (Unmount the same file system)
```

```
# mount /dev/w (Mount one of hard drive i's file systems)
```

```
# mount /dev/u mnt (Mount the first mounted file system in the floppy drive's /mnt directory)
```

If the mount failed (you got a "possibly damaged file system" message), clean it:

```
# fsck /dev/u
```

Assuming a successful fsck, try to mount the file system again (the previous step)

```
# cd /mnt (You're now in the "Nork" area)
```

You are now ready to make the tape.

**NOTE:** The next step recovers all the data in the current directory. If you don't want all the data, modify the find, command by substituting the files/directories you want from the current directory for the.

**NOTE:** If you are using a non-default tape drive to make the tape, substitute the name of that drive for 11/dev/rctOll in the next command. (Hint: A likely alternate will be a second SCSI tape drive, which is probably /dev/rStpi.)

**NOTE:** Do \*not\* produce absolute filenames with the find, command in the next command (i.e. don't type 'find /mnt/data ... 1), or you will not be able to restore the data properly on the destination machine.

```
# find . -depth -print | cpio -ocvduma > /dev/rcto (Make tape)
```

If you ran out of tape, you will have to start a new tape backup on a new tape. You will need to specify which specific files/directories you want for the in the "find" command.

Take the tape to the machine with the drive on which you want to recover this data, and extract the tape:

**NOTE:** The next command assumes you want to restore the data in the /work file system.

**# cd /work** (Go to the directory in which you wish to restore the data)

**NOTE:** If you are using a non-default tape drive to restore the tape, substitute the name of that drive for /dev/rct0ll in the next command. (Hint: A likely alternate will be a second SCSI tape drive, which is probably /dev/rStpi.)

**# cpio -icvduma < /dev/rcto**

Restore all the tapes you had to make from the other machine

When you are done with the \*source\* machine, shut down that system properly, or the emergency root floppy will be corrupted:

**# haltsys**

You may now remove the floppy from the drive.