

**RP(IV)**

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**NAME**

rp – RP-11/RP03 moving-head disk

**DESCRIPTION**

The files *rp0*, ..., *rp7* refer to sections of RP disk drive 0; the files *rp8*, ..., *rp15* refer to drive 1; etc. This is done since the size of a full RP drive is 81200 blocks and internally the system is only capable of addressing 65536 blocks. Since the disk is so large, this allows it to be broken up into more manageable pieces.

The origin and size of the pseudo-disks on each drive are as follows:

disk	start	length	cylinder
0	0	40600	0 thru 202
1	40600	40600	203 thru 405
2	0	9200	0 thru 45
3	72000	9200	360 thru 405
4	0	65535	0 thru 327
5	15600	65535	78 thru 405
6-7	unassigned		

It is unwise for all of these files to be present in one installation, since there is overlap in addresses and protection becomes a sticky matter. Here is a suggestion for two useful configurations: If the root of the file system is on some other device and the RP used as a mounted device, then *rp0* and *rp1*, which divide the disk into two equal size portions, is a good idea. Other things being equal, it is advantageous to have two equal-sized portions since one can always be copied onto the other, which is occasionally useful.

If the RP is the only disk and has to contain the root and the swap area, the root can be put on *rp2* and a mountable file system on *rp5*. Then the swap space can be put in the unused blocks 9200 to 15600 of *rp0* (or, equivalently, *rp4*). This arrangement puts the root file system, the swap area, and the i-list of the mounted file system relatively near each other and thus tends to minimize head movement.

The *rp* files access the disk via the system's normal buffering mechanism and may be read and written without regard to physical disk records. There is also a "raw" interface which provides for direct transmission between the disk and the user's read or write buffer. A single read or write call results in exactly one I/O operation and therefore raw I/O is considerably more efficient when many words are transmitted. The names of the raw RP files begin with *rrp* and end with a number which selects the same disk section as the corresponding *rp* file.

In raw I/O the buffer must begin on a word boundary, and counts should be a multiple of 512 bytes (a disk block). Likewise *seek* calls should specify a multiple of 512 bytes.

**FILES**

/dev/rp?, /dev/rrp?

**BUGS**