Macintosh: Free Space Available on Floppy Disks (12/95)

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TOPIC --

I have two floppy disks of the same size, but each one has a different amount of free space available even after initializing them. What is causing them to be different?

DISCUSSION --

Beginning with system software version 7.0, the Disk Initialization Manager tries to initialize a disk even if it contains some bad blocks; this feature is called bad block sparing.

Without bad block sparing, the Disk Initialization Manager considers a disk unusable even if just one block is bad. With bad block sparing, however, the Disk Initialization Manager attempts to work around the bad block by removing it from the pool of available free blocks. This prevents the File Manager from allocating the block to a file.

The bad block sparing occurs during the disk-zeroing phase of disk initialization - with the only visible sign of the sparing process being an additional dialog box containing the messgae "Re-verifying Disk."

Except in cases involving critical blocks on a disk, the Disk Initialization Manager can usually initialize a disk that would previously have been rejected as invalid. However, if more than 25 percent of the disk is found to contain bad blocks, if the I/O errors appear to be due to hardware failure rather than media failure, or if certain critical sectors are bad then the disk initialization fails just as it would have without the bad block sparing.

Critical sectors of a disk that must be good even on a spared disk include the boot blocks, the master and alternate master directory blocks, the volume bitmap, and the initial extents for the catalog and extents B-Tree files of the volume.

Note: This information is taken from Inside Macintosh: Files.
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