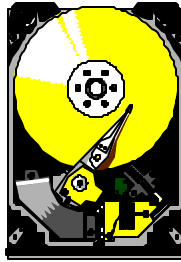# Build Or Buy PC News

Selecting Partition Sizes On Hard Drives—

DOS utilizes varying size clusters depending on the size of the *partitions* selected when formatting a hard drive. *The larger the partition—the larger the cluster; as follows:*

Partition Size	Clusters
Up to 16 MB	1 KB
> 16 - 128 MB	2 KB
>1 28 - 256 MB	4 KB
>256 - 512 MB	8 KB
>512 - 1024 MB	16 KB
> 1 GB and Up	32 KB

Cluster size is important! It establishes the smallest possible disk space to be taken up by a file.

 While a file may only show 150 bytes, it will occupy the amount of disk space determined by cluster size; from 1 KB to 32 KB. Three 150 byte files would actually occupy a minimum of 3 KB (3 x 1 KB) up to a maximum of 96 KB (3 x 32 MB), depending on partition size set up. Hard drives occasionally indicate they are full when total bytes on a drive will appear a long way from being full. HD *fullness depends on occupied clusters, not total bytes stored.*

Therefore, in determining partition size to set up on your hard drive, consideration must be given to the anticipated file size to be used by the programs on your HD. If you utilize many small files, then use smaller clusters. If you utilize many large files, (*as in CAD or video programs*) use larger size clusters.

There are tradeoffs between the extreme ends of the spectrum. Partition sizes in the 190 MB range will probably suffice for the average user.

A 540 MB hard drive could be formatted for 190 MB as C: drive, 190 MB as D: drive, and the remaining 160 MB as E: drive. *Many possibilities abound!* Or, a user might prefer one physical Hard Drive with two partitions, such as—C:\ 270 megs. & D:\ 270 megs. Or, one physical Hard Drive, all as one partition of 540 megs. The numbers are approximate depending on what software we use. Some apps. define 1 meg as 1,000,000 bytes. While other apps see 1 meg as 1,240,000 bytes (1024K).

When dealing with Hard Drives of 540 megs or greater, other variables must be taken into consideration. What is the total capacity of the hard drive? Is the hard drive IDE or EIDE? For a 1.2 Gigabyte Hard Drive, we might prefer a HD with equal partition sizes of 256 megs. ($1,280 \div 5 = 256$). This material only covers one aspect of the equation.

For more details see the Electronic Computer Dictionary on disk!

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Definitions

{ byte —holds the equivalent of a single character, such as the letter A, a dollar sign or decimal point. For numbers, a byte can hold a single decimal digit (0 to 9), two numeric digits (packed decimal) or a number from 0 to 255 (binary numbers).

kilobyte
One thousand bytes. (KB, Kbyte and K-byte)
megabyte
One million bytes. (MB, Mbyte and M-byte)
gigabyte
One billion bytes. (GB, Gbyte and G-byte)