

[NTFS General Information](#) > The Fat File System

## THE FAT FILE SYSTEMS. FAT32 FAT16 FAT12

The File Allocation Table (FAT) file system is a simple file system originally designed for small disks and simple folder structures. The FAT file system is named for its method of organization, the file allocation table, which resides at the beginning of the volume. To protect the volume, two copies of the table are kept, in case one becomes damaged. In addition, the file allocation tables and the root folder must be stored in a fixed location so that the files needed to start the system can be correctly located.

A volume formatted with the FAT file system is allocated in clusters. The default cluster size is determined by the size of the volume. For the FAT file system, the cluster number must fit in 16 bits and must be a power of two.

### Structure of a FAT Volume

The figure below illustrates how the FAT file system organizes a volume.

**Figure 4-1**



This section covers information about the FAT system. Topics covered are:

- [FAT Partition Boot Sector](#)
- [FAT File System](#)
- [FAT Root Folder](#)
- [FAT Folder Structure](#)
- [FAT32 Features](#)

Table 4-1 displays differences between the FAT systems:

### Table 4-1 Differences Between FAT Systems

System	Bytes Per Cluster Within File Allocation Table	Cluster limit
FAT12	1.5	Fewer than 4087 clusters.
FAT16	2	Between 4087 and 65526 clusters, inclusive.
FAT32	4	Between 65526 and 268,435,456 clusters, inclusive.

For more detailed information see resource kits on Microsoft's web site  
<http://www.microsoft.com/windows/reskits/webresources/default.asp>

or Microsoft Developers Network (MSDN)  
<http://msdn.microsoft.com>.

[contents](#) | [next](#)

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