

## FAT12/FAT16 Boot Sector/Boot Record Layout.

The data contained in the boot sector after the OEM name string is referred to as the BIOS parameter block or BPB.

Offset	Length	Field
00h	3	Machine code for jump over the data.
03h	8	OEM name string (of OS which formatted the disk).
0Bh	2	Bytes per sector, nearly always 512 but can be 1024,2048 or 4096.
0Dh	1	Sectors per cluster, valid number are: 1,2,4,8,16,32,64 and 128, but a cluster size larger than 32K should not occur.
0Eh	2	Reserved sectors (number of sectors before the first FAT including the boot sector), usually 1.
10h	1	Number of FAT's (nearly always 2).
11h	2	Maximum number of root directory entries.
13h	2	Total number of sectors (for small disks only, if the disk is too big this is set to 0 and offset 20h is used instead).
15h	1	Media descriptor byte , pretty meaningless now (see below).
16h	2	Sectors per FAT.
18h	2	Sectors per track.
1Ah	2	Total number of heads/sides.
1Ch	4	Number of hidden sectors (those preceding the boot sector).
20h	4	Total number of sectors for large disks.
24h	26	Either extended BPB (see below) or machine code.
3Eh	448	Machine code.
1FEh	2	Boot Signature AA55h.

## FAT32 Boot Sector/Boot Record Layout.

The data contained in the boot sector after the OEM name string is referred to as the BIOS parameter block or BPB.

Offset	Length	Field
00h	3	Machine code for jump over the data.
03h	8	OEM name string (of OS which formatted the disk).
0Bh	2	Bytes per sector, nearly always 512 but can be 1024,2048 or 4096.
0Dh	1	Sectors per cluster, valid number are: 1,2,4,8,16,32,64 and 128, but a cluster size larger than 32K should not occur.
0Eh	2	Reserved sectors (number of sectors before the first FAT including the boot sector), usually 32.
10h	1	Number of FAT's (nearly always 2).
11h	2	Maximum number of root directory entries.
13h	2	0
15h	1	Media descriptor byte , pretty meaningless now (see below).
16h	2	0
18h	2	Sectors per track.
1Ah	2	Total number of heads/sides.
1Ch	4	Number of hidden sectors (those preceding the boot sector).
20h	4	Total number of sectors.
24h	4	FAT32 sectors per FAT.
28h	2	If bit 7 is clear then all FAT's are updated other wise bits 0-3 give the current active FAT, all other bits are reserved.
2Ah	2	High byte is major revision number, low byte is minor revision number, currently both are 0.
2Ch	4	Root directory starting cluster.

30h	2	File system information sector.
32h	2	If non-zero this gives the sector which holds a copy of the boot record, usually 6.
34h	12	Reserved, set to 0.
40h	1	Physical drive number (BIOS system ie 80h is first HDD, 00h is first FDD)
41h	1	Reserved.
42h	1	Signature (must be 28h or 29h to be recognised by NT).
43h	4	The serial number, the serial number is stored in reverse order and is the hex representation of the bytes stored here.
47h	11	Volume label.
52h	8	File system ID "FAT32 ".
5Ah	8	Machine code.
1FEh	2	Boot Signature AA55h.

#### Media Descriptor Byte.

The Media descriptor byte is meaningless because of the duplications, F0h for example.

Byte	Type of disk	Sectors	Heads	Tracks	Capacity	Byte	Type of disk	Sectors	Heads	Tracks	Capacity
FFh	5 1/4"	8	2	40	320KB	F9h	3 1/2"	9	2	80	720KB
FEh	5 1/4"	8	1	40	160KB	F0h	3 1/2"	18	2	80	1440KB
FDh	5 1/4"	9	2	40	360KB	F0h	3 1/2"	36	2	80	2880KB
FCh	5 1/4"	9	1	40	180KB	F8h	hard disk	NA	NA	NA	NA
FBh	both	9	2	80	640KB						
FAh	both	9	1	80	320KB						
F9h	5 1/4"	15	2	80	1200KB						