

Bios Parameter Block offset 0Bh into

BIOS begins @ offset 0B into BOOT Sector

BOOT
Sector

BIOS Parameter Block (BPB) Layout

Byte Offset	Field Length	Sample Value	Meaning
00h	Word	0200	Number of bytes per sector
02h	Byte	02	Number of sectors per cluster
03h	Word	0001	Number of reserved sectors starting at sector 0
05h	Byte	02	Number of FATs
06h	Word	0070	Maximum number of root directory entries
08h	Word	02D0	Total number of sectors (or 0 in V3 if > 65,535)
0Ah	Byte	FD	Media descriptor
0Bh	Word	0002	Number of sectors per FAT
0Dh	Word	0009	Number of sectors per track
0Fh	Word	0002	Number of heads
11h	Double word	00000000	Number of hidden sectors
15h	11 bytes	—	Reserved (before V3)
V3 BPB Extension			
15h	Double word	00000000	Total number of sectors if word at 08h = 0
19h	7 bytes	—	Reserved (BPB outside boot record area)
V4 Boot Record Extensions			
19h	Byte	00	Physical drive number
1Ah	Byte	00	Reserved
1Bh	Byte	29	Signature byte for extended boot record
1Ch	Double word	203D10CC	Volume serial number (made from date/time)
20h	11 bytes	NO NAME	Volume label
2Bh	8 bytes	FAT12	Reserved

Structure of the Directory Entry

Offset	Size	Meaning
00h	8 bytes	File name
08h	3 bytes	File extension
0Bh	Byte	File attribute
0Ch	10 bytes	Reserved (not used)
16h	Word	Time of last update
18h	Word	Date of last update
1Ah	Word 2	Beginning disk cluster
1Ch	Double word 4	File size

2
4
16

10 is odd, subtract 1

$10 \times 1.8 = 2A \times 1 = 2B$ offset

at 120, ED 01 $\Rightarrow$ (01) ED

use left three because odd

1E : 1 even

$1E \times 1.8 = 2D$

at 12D,

Special Meanings of a File Name's First Byte

Value of First Byte	Meaning
00h	Entry has never been used; no further entries follow this one.
05h	First character of the file name is actually E5h.
2Eh	Entry is an alias for the current subdirectory. If the next byte is 2Eh, the directory entry's beginning disk cluster field contains the cluster number of the parent of the current directory.
E5h	File erased.

An Attribute Byte

Bit	Meaning
76543210	
.....x	Read only
.....x.	Hidden
.....x..	System
....x...	Volume label
...x....	Subdirectory
..x.....	Archive
xx.....	Reserved (unused)

Encoding of the Time Field

Bits	Meaning
FEDCBA98	76543210
xxxxxx...	Hours
.....xxx	Minutes
.....	Two-second increments

Encoding of the Date Field

Bits	Meaning
FEDCBA98	76543210
xxxxxxx.	Year count (relative to 1980)
.....x	Month
.....	Day