Boot Sector Interpretation

- 00-02: eb 3c 90   Instructions to jump to boot code
- 03-0a: 4d 53 44 4f 53 35 2e 30
-                    Name string (MSDOS5.0)
- 0b-0c: 00 02   Bytes/sector (0x0200 = 512)
- 0d   : 01   Sectors/cluster (1)
- 0e-0f: 01 00   Size of reserved area (1 sector)
- 10   : 02   Number of FATs (2)
- 11-12: e0 00   Max. number of root directory entries (0x00e0 = 224)
- 13-14: 40 0b   Total number of sectors (0x0b40 = 2,880)
- 15   : f0   Media type (removable)
- 16-17: 09 00   FAT size (0x0009 = 9 sectors)
- 18-19: 12 00   Sectors/track (0x0012 = 18)
- 1a-1b: 02 00   Number of heads (0x0002 = 2)
- 1c-1f: 00 00 00 00 Number of sector before partition (0)
- 20-23: 00 00 00 00 Total number of sectors (0 because 2B value not equal 0)
- 24   : 00   Drive number (0)
- 25   : 00   Unused
- 26   : 29   Extended boot signature
- 27-2a: cf cd b1 c4 Volume serial number (C4B1-CDCF)
- 2b-35: 4e 4f 20 4e 41 4d 45 20 20 20 20
-                    Volume label ("NO NAME ")
- 36-3d: 46 41 54 31 32 20 20 20
-                    File system type label ("FAT12 ")
- 3e-1fd : [snip]   Not used
- 1fe-1ff: 55 aa   Signature value (0xaa55)

Root Directory SFN Entry Data Structure

Bytes	Purpose
0	First character of file name (ASCII) *or* allocation status (0x00=unallocated, 0xe5=deleted)
1-10	Characters 2-11 of the file name (ASCII); the "." is implied between bytes 7 and 8
11	File attributes (see File Attributes table)
12	Reserved
13	File creation time (in tenths of seconds)*
14-15	Creation time (hours, minutes, seconds)*
16-17	Creation date*
18-19	Access date*
20-21	High-order 2 bytes of address of first cluster (0 for FAT12/16)*
22-23	Modified time (hours, minutes, seconds)
24-25	Modified date
26-27	Low-order 2 bytes of address of first cluster
28-31	File size (0 for directories)

File Attributes

Flag Value	Description
0000 0001 (0x01)	Read-only
0000 0010 (0x02)	Hidden file
0000 0100 (0x04)	System file
0000 1000 (0x08)	Volume label
0000 1111 (0x0f)	Long file name
0001 0000 (0x10)	Directory
0010 0000 (0x20)	Archive

* Bytes 13-22 are unused by DOS

Long file name

...	
Entry	} 32 bytes
Entry ext N	} 32 bytes
...	
Entry ext 2	
Entry ext 1	
Entry	
Entry	
...	

Entry ext

Offset	# byte	mean
0	1	Entry order (start at 1)
1	A (10d)	5 Unicode characters –UTF16
B (11d)	1	If entry ext (= 0Fh)
E (14d)	C (12d)	6 unicode characters
1C (28d)	4	2 unicode characters

FAT

Boot Sector
- FAT type
- FAT size
- Root Directory size

Sector 0

B/S
FAT #1
FAT# 2
RootDir

Data Area

2 3 4 5

6 7 8 9

Root Directory
tyui.jpg
 - start cluster = 2
 - length = 1400B
mes.doc
 - start cluster = 5
 - length = 980B

FATs
2: 3
3: 4
4: 0xFFF
5: 6
6: 0xFFF
7: 0x000
8: 0x000
9: 0x000