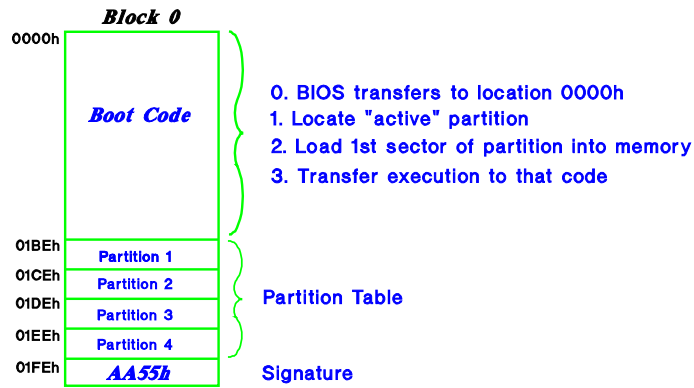


Master Boot Record

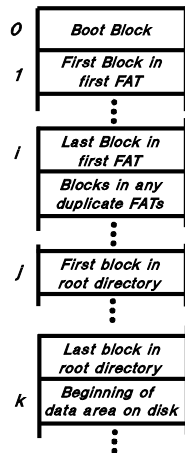
Block zero on the disk



DISK0010

DOS Partition

Disk Partition



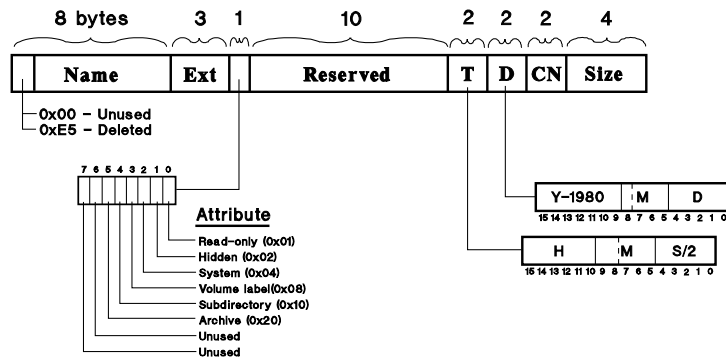
Boot Block Contents

```

0x00 0x02 <jump to bootstrap>
0x03 0x0a Computer mfg name
0x0b 0x0c Bytes per block (bpb)
0x0d     Blocks/cluster (bpc)
0x0e 0x0f Reserved blocks (for
           boot record) (rb)
0x10 0x10 # of FATs (nFAT)
0x11 0x12 # of root directory
           entries (nerd)
0x13 0x14 # of logical blocks
0x15 0x15 Medium Descriptor
0x16 0x17 # of blocks/FAT (bpf)
0x18 0x19 Sectors/track
0x1a 0x1b # of heads (surfaces)
0x1c 0x1d # of hidden blocks (hb)
0x1e .... Bootstrap program
    
```

DISK0020

DOS Directory Entry



8 entries per block

DISK0030

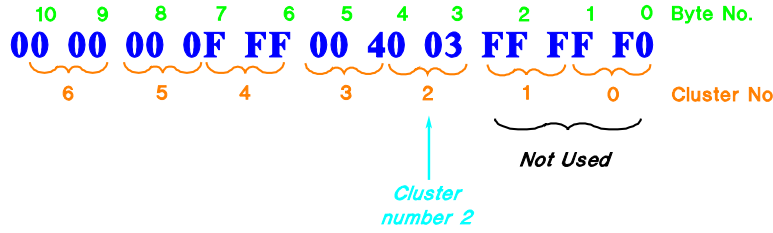
FAT Values

- 0x000 – Unused block
- 0xFF0 – 0xFF6 – Reserved
- 0xFF7 – Bad Cluster
- 0xFF8 – 0xFFF – Last cluster in file
- Anything else – next cluster in file

DISK0040

12 Bit FAT Example

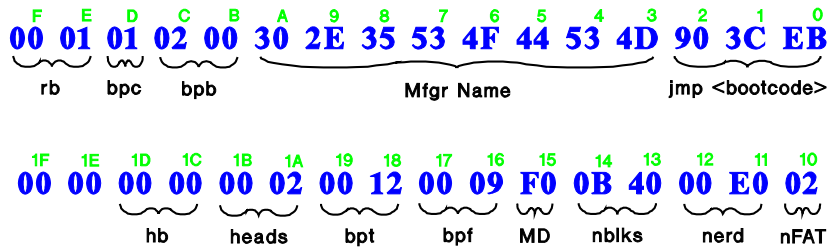
The following is the FAT table for a 1200 byte file,
1 block/cluster, 512 bytes/block, starting at
cluster number 2. DOS values are stored "little endian."



DISK0050

University of Idaho

Boot Sector Example



DISK0060

University of Idaho

Some Equations

Location of first FAT

$$\text{FATstr} = \text{hb} + \text{rb}$$

Location of i-th FAT

$$\text{FATstr}[i] = \text{hb} + \text{rb} + i * \text{bpf}$$

Number of blocks in root directory

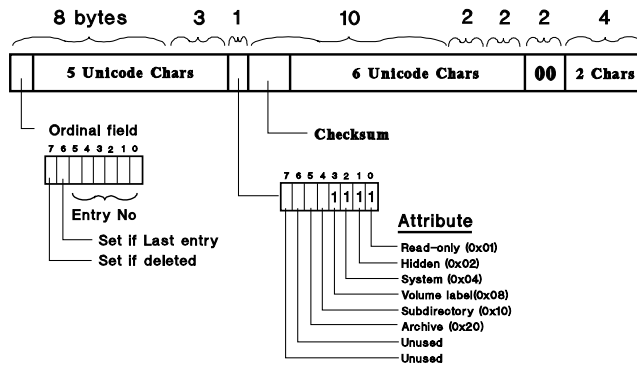
$$\text{nRoot} = (\text{nerd} * 32 + \text{bpb} - 1) / \text{bpb}$$

Logical block number of first block in a cluster

$$\text{lbn} = \text{hb} + \text{rb} + \text{nFAT} * \text{bpf} + \text{nRoot} + (\text{cln} - 2) * \text{bpc}$$

DISK0070

VFAT Long File Names



DISK0080

Example Long File Name

		Directory Entry No						
File 1	1	Name	Ext	Reserved	T	D	CN	Size
	2	3	5 Unicode Chars		6 Unicode Chars		00	2 Chars
	3	2	5 Unicode Chars		6 Unicode Chars		00	2 Chars
File 2	4	1	5 Unicode Chars		6 Unicode Chars		00	2 Chars
	5	Name	Ext	Reserved	T	D	CN	Size

DISK0090