

## Master Boot Record (sector 0 on the disk)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	Master Boot Code															
...																
1A0																
1B0															Boot ind <sup>1</sup>	Starting head
1C0	start Sect <sup>2</sup>	start Cyl <sup>2</sup>	Sys ID <sup>3</sup>	End Head	End sect <sup>2</sup>	End Cyl <sup>2</sup>	Relative Sectors				Total Sectors					
1D0																
1E0																
1F0															55	AA

1. Boot indicator 0x00 = non boot, 0x80 = bootable

2. Starting sector & starting cylinder are allocated bits, not bytes (0x1C0-0x1C1) same goes for end head and end sector

BIT	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Value	Starting sector						Starting Cylinder									

3. Common partition values.

0x01	FAT12 <32MB	0x42	Windows Dynamic volume
0x04	FAT16 <32MB	0x82	Linux swap
0x05	MS Extended partition using CHS	0x83	Linux
0x06	FAT16B	0x84	Windows hibernation partition
0x07	NTFS, HPFS, exFAT	0x85	Linux extended
0x0B	FAT32 CHS	0xAB	Mac OS X boot
0x0C	FAT32 LBA	0xAF	HFS, HFS+
0x0E	FAT16 LBA	0xEE	MS GPT
0x0F	MS Extended partition LBA	0xEF	Intel EFI

See [http://en.wikipedia.org/wiki/Partition\\_type](http://en.wikipedia.org/wiki/Partition_type) for more types and <http://technet.microsoft.com/en-us/library/bb457122.aspx> for more details on the MBR

## GPT Disk layout

Protective MBR	Sector 0
Primary GUID partition table header	Sector 1
GUID partition entry 1	Sector 2
GUID partition entry 1	...
....	....
GUID partition entry 128	Sector 33
Partition 1	
Partition 2	
.....	
Backup GUID partition entry 1	
Backup GUID partition entry 1	
....	
Backup GUID partition entry 128	
Backup GUID partition table header	Last Sector

## Protective MBR

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	Master Boot Code															
...																
1A0																
1B0															Boot ind 0x00	Starting head <sup>1</sup>
1C0	start Sect <sup>1</sup>	start Cyl <sup>1</sup>	Sys ID 0xEE	End Head <sup>2</sup> 0xFF	End sect <sup>2</sup> 0xFF	End Cyl <sup>2</sup> 0xFF	Relative Sectors 0x01000000				Total Sectors 0xFFFFFFFF				00	00
1D0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
1E0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
1F0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	55	AA

1. Starting LBA sector should be the second sector on the disk
2. Ending LBA sector, if value is too large for 1 byte 0xFF is used.

### Primary GUID Partition Table Header

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
0	Signature							Revision				Header Size 0x5C000000					
10	CRC32 Checksum of GPT header				Reserved 0x00000000				Primary Sector, always 0x0100000000000000								
20	Backup GPT Header							First usable sector									
30	Last usable sector							Disk GUID (16 bytes)									
40	Disk GUID							First Partition Entry, 0x0200000000000000									
50	Number of Partition Entries							Size of partition entries, 0x80000000									
60	Partition Entry Array CRC32																

### MS GUID Partition Entry

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
10	Partition Type GUID															
20	Unique Partition GUID															
30	Start Sector								End Sector							
40	Attribute Bits								Partition Name (72 bytes, 32 Unicode characters)							
50	Partition Name .....															

See [http://technet.microsoft.com/en-us/library/cc739412\(v=ws.10\)](http://technet.microsoft.com/en-us/library/cc739412(v=ws.10)) for more details on GPT

**Common GUID partition types** (more here: [http://en.wikipedia.org/wiki/GUID\\_Partition\\_Table#Partition\\_type\\_GUIDs](http://en.wikipedia.org/wiki/GUID_Partition_Table#Partition_type_GUIDs) )

GUID Value	Partition Type
00000000-0000-0000-0000-000000000000	Unused entry
0657FD6D-A4AB-43C4-84E5-0933C84B4F4F	Linux Swap partition
0FC63DAF-8483-4772-8E79-3D69D8477DE4	Linux filesystem data
16E3C9E3-5C0B-B84D-817D-F92DF00215AE	Microsoft Reserved partition
21686148-6449-6E6F-744E-656564454649	BIOS Boot partition
28732AC1-1FF8-D211-BA4B-00A0C93EC93B	Microsoft EFI System partition
48465300-0000-11AA-AA11-00306543ECAC	Hierarchical File System Plus (HFS+) partition
55465300-0000-11AA-AA11-00306543ECAC	Apple UFS
A0609BAF-3114-624F-BC68-3311714A69AD	MS LDM Data partition on a dynamic disk
A19D880F-05FC-4D3B-A006-743F0F84911E	Linux RAID partition
A2A0D0EB-E5B9-3344-87C0-68B6B72699C7	MS Primary partition on a basic disk
AAC80858-8F7E-E042-85D2-E1E90434CFB3	MS LDM Metadata partition on a dynamic disk