

### DISK ALLOCATION TABLE Format of SINGLIX FS1, FS2 file systems

0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	F0h	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh
FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh
FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh
FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh
FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh
FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh
FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh
byte 128 to byte 319 (as FFh)															
FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh
FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh
FFh	FFh	FFh	FFh	FFh	FFh	FFh	FFh	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
byte 384 to byte 479 (as 0)															
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Singlix FS Layout Example: a SINGLIX FS1 formatted 1.44 MB Floppy Disk DAT with 78 K (79872 bytes) Startup File.

### SINGLIX FS, 1.44 MB Floppy Disk Sectors:

- Sector 0 : Boot Sector
- Sector 1 : Master Allocation Table (Disk Allocation Table Header)
- Sector 2 : Disk Allocation Table (2880/8 = 360 bytes, 1 sector)
- Sector 3 : Root Directory Descriptor Table
- Sector 4 : Root Directory Data (128 directory entries, 128/256)
- Sector 5 : Root Directory Data (+128 directory entries, 256/256)
- Sector 6 : Startup File (Kernel or Boot file) Description Table
- Sector 7 to Sector 163 : Startup File Data (File Size: 78 KB)
- Sector 164 to Sector 2879 : Free Sectors

Sector 164 is pointed by bit 4 of byte (offset) 21 in the Disk Allocation Table

Sector : 167 166 165 164 163 162 161 160  
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 DAT byte 21 : 1 1 1 1 0 0 0 0 b (F0h)

#### NOTE:

Master Allocation Table is the header (descriptor) of Disk Allocation Table (DAT) sectors, just before disk allocation table sector 0. DAT is as a table of allocation bits, as 1 bit per 1 sector. One DAT byte represents eight contiguous sectors on the disk. Bit 0 represents the sector with lowest LBA address in the range and bit 7 represents the sectors with highest LBA address in the range.

If a bit is 1 (set) it means that, corresponding sector is free; if a bit is 0 (clear), corresponding sector is allocated.

Free sectors in the DAT, shown by the MAT. So, after every update of the DAT, free sectors must be counted and recorded into MAT free sectors value location. (Or free sectors can be calculated by adding and subtracting all bit values of all DAT bytes.)

Even if a DAT ends before end of the last DAT sector, trailing zeros in the last DAT sector also mean there are not any free sectors in that address range. (Trick for easy usage of the DAT)