MCM 3130SS / 3130AP

MAGNETO OPTICAL (MO) DISK DRIVES



MCM 3130SS / MCM 3130AP 1.3 GB Magneto-Optical Disk Drives

- Maximum I.3 GB capacity per media
- 23 ms average access time
- Up to 6.7 MB/s internal data transfer rate
- Fully downward compatible to 640 MB, 540, 230 and 128 MB MO Disks
- ULTRA SCSI or ATAPI interface







This new generation of **Fujitsu's** 3.5" MO Disk Drives offer the user highest performance and superior reliability for data stored on MO disks.

The total cost of ownership is extremely low, ie. one 1.3 GB MO disk costs just 0.01 per MB. These new internal devices are available with either an ATAPI or an ULTRA SCSI interface, which means system integration is very simple. The small form factor of 3.5" by 1" height, means these devices can be assembled directly into the 3.5" (Floppy Disk) bay of a PC giving the user a powerful and easy-to-handle backup system. Of course, the strength of Fujitsu's 3.5" MO Disk Drives is not only the extremely high

security for data stored on MO disks. Unlike some other removable storage systems, MO Drives allow direct access to stored data with similar performance to a hard disk drive. This makes working with MO Drives very easy. Emails, presentations, graphic files, business data, images, photos, audio/video files or documents – all your valuable data can be safely archived on MO disks and accessed quickly and simply.

Functional Specifications

orage capacity 128 MB 230 MB 540 MB 640 MB 1.3 GB orage capacity 128 MB 230 MB 540 MB 640 MB 1.3 GB informatted 725 bytes 775 bytes 2,584 bytes 2,048 bytes andard ISO/IEC 10900 ISO/IEC 13963 ISO/IEC 15041 - andard ISO/IEC 10900 ISO/IEC 13963 ISO/IEC 15041 - terface MCM 3130 SS ISO/IEC 13963 ISO/IEC 15041 - MCM 3130 SS ULTRA SCSI 3.54 - 5.94 MB/s 3.52 - 5.87 MB/s 3.92 - 6.70 MB/s ata transfer rate (max.) Drive 1.65 MB/s 2.00 - 3.16 MB/s 9.004 et , DMM Andez p.3.33 MB/s asynchron scording density (µm/bit) 1.64 (24,424 BPI) 0.87 (29,308 BPI) 0.48 (52,900 BPI) 0.285 (89,100 BPI) seck density (µm/bit) 1.60 (15,875 TPI) 1.39 (18,275 TPI) 1.10 (23,00 TPI) 0.90 (28,20 TPI) setk time Random seek 2.3 ms typ.) 1.3 (63 rpm setcroting code 2 - 7 RLLC 1.7 RLLC <td< th=""></td<>
Unformatted 725 bytes 725 bytes 778 bytes 2,584 bytes Formatted 512 bytes 2,048 bytes 2,048 bytes andard ISO/IEC 10090 ISO/IEC 13963 ISO/IEC 15041 - terface MCM 3130 AP ATAPI - - MCM 3130 SS ULTRA SCSI 3.52 - 5.87 MB/s 3.92 - 6.70 MB/s stat transfer rate (max.) Drive 1.65 MB/s 2.00 - 3.16 MB/s 3.52 - 5.87 MB/s 3.92 - 6.70 MB/s stat transfer rate (max.) Drive 1.65 MB/s 2.00 - 3.16 MB/s 3.52 - 5.87 MB/s 3.92 - 6.70 MB/s stat transfer rate (max.) Drive 1.65 MB/s 2.00 - 3.16 MB/s 3.54 - 5.94 MB/s 3.92 - 6.70 MB/s stat transfer rate (max.) Drive 1.65 MB/s 2.00 - 3.16 MB/s 3.54 - 5.94 MB/s 3.92 - 6.70 MB/s state transfer rate (max.) Interface ATAPI 1.66 MB/s (PtO Mode 4, DMA Mode 2), 33.3 MB/s asynchron 3.92 - 6.70 MB/s statianal speed 2.00 - 3.16 MB/s synchron, 5 MB/s asynchron 0.48 (52,900 BPI) 0.285 (89,100 BPI) strad time Random seek 2
Formatted 512 bytes 2,048 bytes andard ISO/IEC 10090 ISO/IEC 13963 ISO/IEC 15041 - terface MCM 3130 AP ATAPI - - MCM 3130 SS ULTRA SCSI - - - ata transfer rate (max.) Drive 1.65 MB/s 2.00 - 3.16 MB/s 3.52 - 5.87 MB/s 3.92 - 6.70 MB/s ata transfer rate (max.) Interface ATAPI - 1.65 MB/s (PIO Mode 4, DMA Mode 2), 3.33 MB/s asynchron - ack density (µm/bit) 1.04 (24,424 BPI) 0.87 (29,308 BPI) 0.48 (52,900 BPI) 0.285 (89,100 BPI) ack density (µm/bit) 1.60 (15,875 TPI) 1.39 (18,275 TPI) 1.10 (23,090 TPI) 0.90 (28,200 TPI) ack density (µm/bit) 1.60 (15,875 TPI) 1.39 (18,275 TPI) 1.10 (23,090 TPI) 0.90 (28,200 TPI) beek time Random seek 23 ms (typ.) - - - act density (µm/bit) 1.60 (15,875 TPI) 1.39 (18,275 TPI) 1.10 (23,090 TPI) 0.90 (28,200 TPI) beek time Random seek 23 ms (typ.) - - -
andard ISO/IEC 10090 ISO/IEC 13963 ISO/IEC 15041 - terface MCM 3130 AP ATAPI -
terface MCM 3130 AP ATAPI MCM 3130 SS ULTRA SCSI ata transfer rate (max.) Drive 1.65 MB/s 2.00 - 3.16 MB/s 3.54 - 5.94 MB/s 3.52 - 5.87 MB/s 3.92 - 6.70 MB/s Interface ATAPI 16.65 MB/s 16.66 MB/s (PI0 Mode 4, DMA Mode 2), 33.3 MB/s asynchron 3.92 - 6.70 MB/s Interface SI 200 - 3.16 MB/s 3.54 - 5.94 MB/s 3.92 - 6.70 MB/s interface ATAPI 16.66 MB/s (PI0 Mode 4, DMA Mode 2), 33.3 MB/s asynchron 3.92 - 6.70 MB/s interface SI 20 MB/s synchron, 5 MB/s asynchron 20 MB/s synchron 0.48 (52,900 BPI) 0.285 (89,100 BPI) ack density (µm/bit) 1.04 (24,424 BPI) 0.87 (29,308 BPI) 0.48 (52,900 BPI) 0.285 (89,100 BPI) ack density (µm/bit) 1.60 (15,875 TPI) 1.39 (18,275 TPI) 1.10 (23,090 TPI) 0.90 (28,200 TPI) ack density (µm/bit) 1.60 (15,875 TPI) 1.39 (18,275 TPI) 1.10 (23,090 TPI) 0.90 (28,200 TPI) ack density (µm/bit) 1.60 (15,875 TPI) 1.39 (18,275 TPI) 1.10 (23,090 TPI) 0.90 (28,200 TPI) ack density (µm/bit) 1.60 (15,875 TPI) 1.39 (18,275 TPI) 1.1
MCM 3130 SS ULTRA SCSI ata transfer rate (max.) Drive 1.65 MB/s 2.00 - 3.16 MB/s 3.52 - 5.87 MB/s 3.92 - 6.70 MB/s interface ATAPI 16.6 MB/s (PI0 Mode 4, DMA Mode 2), 33.3 MB/s asynchron 3.382 - 5.87 MB/s 3.92 - 6.70 MB/s interface ATAPI 16.6 MB/s (PI0 Mode 4, DMA Mode 2), 33.3 MB/s asynchron 3.382 - 5.87 MB/s 3.92 - 6.70 MB/s interface ATAPI 16.6 MB/s (PI0 Mode 4, DMA Mode 2), 33.3 MB/s asynchron 0.000 EX 0.000 EX scording density (µm/bit) 1.04 (24,424 BPI) 0.87 (29,308 BPI) 0.48 (52,900 BPI) 0.285 (89,100 BPI) ack density (µm/bit) 1.60 (15,875 TPI) 1.39 (18,275 TPI) 1.10 (23,090 TPI) 0.90 (28,200 TPI) rerage latency time 5.5 ms 8.2 ms rerage latency time 5.455 rpm 3,637 rpm coording code 2 - 7 RLLC 1 - 7 RLLC ad time 8 sec. (typ.) 12 sec. (typ.) iffer size 1,844 KB 12 sec. (typ.) 'hysical Specifications 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) wer consumption Random read/write 5.8 W (typ.) Sle
ata transfer rate (max.) Drive 1.65 MB/s 2.00 - 3.16 MB/s 3.52 - 5.94 MB/s 3.52 - 5.87 MB/s 3.92 - 6.70 MB/s Interface ATAPI 16.6 MB/s (PI0 Mode 4, DMA Mode 2), 33.3 MB/s asynchron 20 MB/s synchron, 5 MB/s asynchron 3.92 - 6.70 MB/s cording density (µm/bit) 1.04 (24,424 BPI) 0.87 (29,308 BPI) 0.48 (52,900 BPI) 0.285 (89,100 BP) ack density (µm/bit) 1.60 (15,875 TPI) 1.39 (18,275 TPI) 1.10 (23,090 TPI) 0.90 (28,200 TPI) sek time Random seek 23 ms (typ.) 23 ms (typ.) 0.82 (29,008 PI) 0.90 (28,200 TPI) sectring code 2 - 7 RLLC 1.10 (23,090 TPI) 0.90 (28,200 TPI) 0.90 (28,200 TPI) sect dims seed 5.5 ms 8.2 ms 3,637 pm 3,637 pm secording code 2 - 7 RLLC 1 - 7 RLLC 1 - 7 RLLC vad time 8 sec. (typ.) 12 sec. (typ.) 110 as (44 KB 'hysical Specifications 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) Sec (typ.) wer consumption Random read/write 5.8 W (typ.) 1.2 W Sleep 1.2 W 25.4 mm x 10.0 mm
Interface ATAPI 16.6 MB/s (PI0 Mode 4, DMA Mode 2), 33.3 MB/s asynchron Interface SCSI 20 MB/s synchron, 5 MB/s asynchron according density (µm/bit) 1.04 (24,424 BPI) 0.87 (29,308 BPI) 0.48 (52,900 BPI) 0.285 (89,100 BPI) ack density (µm/bit) 1.04 (24,424 BPI) 0.87 (29,308 BPI) 0.48 (52,900 BPI) 0.285 (89,100 BPI) ack density (µm/bit) 1.60 (15,875 TPI) 1.39 (18,275 TPI) 1.10 (23,090 TPI) 0.90 (28,200 TPI) ekt time Random seek 23 ms (typ.) 23 ms (typ.) 248 (52,900 BPI) 0.90 (28,200 TPI) ekt time Random seek 23 ms (typ.) 25.5 ms 8.2 ms otational speed 5.5 ms 8.2 ms 3,637 rpm scording code 2 - 7 RLLC 1 - 7 RLLC 24 sec. (typ.) indeat time 4 sec. (typ.) 12 sec. (typ.) 10 ad time infer size 1,844 KB 25 Km x 10,844 KB 25 Km x 10,0 mm wer consumption Random read/write 5.8 W (typ.) 27 A (max.) Sleep 1.2 W 25.4 mm x 101.6 mm x 150.0 mm eight 410 g
Interface SCSI 20 MB/s synchron 5 MB/s asynchron secording density (µm/bit) 1.04 (24,424 BPI) 0.87 (29,308 BPI) 0.48 (52,900 BPI) 0.285 (89,100 BPI) ack density (µm/bit) 1.60 (15,875 TPI) 1.39 (18,275 TPI) 1.10 (23,090 TPI) 0.90 (28,200 TPI) seek time Random seek 23 ms (typ.) 23 ms (typ.) rerage latency time 5.5 ms 8.2 ms bact density (um/bit) 3,637 rpm 3,637 rpm secording code 2 - 7 RLLC 1 - 7 RLLC ad time 8 sec. (typ.) 12 sec. (typ.) nload time 4 sec. (typ.) 12 sec. (typ.) nload time 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) wer consumption Random read/write 5.8 W (typ.) Sleep 1.2 W mensions (H x W x D) 25.4 mm x 101.6 mm x 150.0 mm eight 5°C to 45°C
Second ing density (µm/bit) 1.04 (24,424 BPI) 0.87 (29,308 BPI) 0.48 (52,900 BPI) 0.285 (89,100 BPI) ack density (µm/bit) 1.60 (15,875 TPI) 1.39 (18,275 TPI) 1.10 (23,090 TPI) 0.90 (28,200 TPI) seek time Random seek 23 ms (typ.) 23 ms (typ.) verage latency time 5.5 ms 8.2 ms stational speed 5.455 rpm 3,637 rpm secording code 2 - 7 RLLC 1 - 7 RLLC ad time 8 sec. (typ.) 12 sec. (typ.) nload time 4 sec. (typ.) 12 sec. (typ.) nload time 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) Wer consumption Random read/write 5.8 W (typ.) 1.2 W mensions (H x W x D) 25.4 mm x 101.6 mm x 150.0 mm 410 g aight 410 g 410 g 410 g
ack density (µm/bit) 1.60 (15,875 TPI) 1.39 (18,275 TPI) 1.10 (23,090 TPI) 0.90 (28,200 TPI) rerage latency time 23 ms (typ.) 23 ms (typ.) 8.2 ms 8.2 ms rerage latency time 5.5 ms 8.2 ms 3,637 rpm rerage latency time 2 - 7 RLLC 1 - 7 RLLC read time 8 sec. (typ.) 12 sec. (typ.) ref size 1,844 KB 1,844 KB 'hysical Specifications 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) wer consumption Random read/write 5.8 W (typ.) Sleep 1.2 W mensions (H x W x D) 25.4 mm x 101.6 mm x 150.0 mm eight 410 g bibent temperature 0perating
Random seek 23 ms (typ.) verage latency time 5.5 ms secording code 5.455 rpm ad time 8 sec. (typ.) local time 4 sec. (typ.) local time 1 - 7 RLLC local time 8 sec. (typ.) local time 4 sec. (typ.) uffer size 1,844 KB Physical Specifications 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) wer requirements 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) wer consumption Random read/write Sleep 1.2 W mensions (H x W x D) 25.4 mm x 101.6 mm x 150.0 mm eight 410 g hbient temperature Operating
Back (pp) 8.2 ms obtational speed 5.5 ms 8.2 ms obtational speed 5,455 rpm 3,637 rpm scording code 2 - 7 RLLC 1 - 7 RLLC vad time 8 sec. (typ.) 12 sec. (typ.) load time 4 sec. (typ.) 12 sec. (typ.) load time 4 sec. (typ.) 12 sec. (typ.) load time 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) 12 sec. (typ.) wer requirements 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) 12 sec. (typ.) wer consumption Random read/write 5.8 W (typ.) 12 sec. (typ.) Sleep 1.2 W 1.2 W 1.2 W mensions (H x W x D) 25.4 mm x 101.6 mm x 150.0 mm 10 g olight 410 g 10 g hbient temperature 0perating 5°C to 45°C
Stational speed 5,455 rpm 3,637 rpm according code 2 - 7 RLLC 1 - 7 RLLC aad time 8 sec. (typ.) 12 sec. (typ.) aload time 4 sec. (typ.) 12 sec. (typ.) aload time 4 sec. (typ.) 12 sec. (typ.) aload time 4 sec. (typ.) 12 sec. (typ.) aload time 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) 12 sec. (typ.) wer requirements 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) 12 sec. (typ.) wer consumption Random read/write 5.8 W (typ.) 12 sec. Sleep 1.2 W 12 sec. 12 sec. mensions (H x W x D) 25.4 mm x 101.6 mm x 150.0 mm 14 0 g alight 410 g 10 sec. hbient temperature 0perating 5°C to 45°C
secording code 2 - 7 RLLC 1 - 7 RLLC and time 8 sec. (typ.) 12 sec. (typ.) alload time 4 sec. (typ.) 12 sec. (typ.) alload time 4 sec. (typ.) 12 sec. (typ.) alload time 1,844 KB 1,844 KB hysical Specifications wer requirements 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) wer consumption Random read/write 5.8 W (typ.) Sleep 1.2 W mensions (H x W x D) 25.4 mm x 101.6 mm x 150.0 mm aight 410 g hbient temperature Operating
Bad time 8 sec. (typ.) 12 sec. (typ.) nload time 4 sec. (typ.) 12 sec. (typ.) uffer size 1,844 KB 1,844 KB Physical Specifications wer requirements 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) wer consumption Random read/write 5.8 W (typ.) Sleep 1.2 W mensions (H x W x D) 25.4 mm x 101.6 mm x 150.0 mm eight 410 g bient temperature Operating
Integration Constraint Integration 4 sec. (typ.) Infer size 1,844 KB Physical Specifications
Infer size 1,844 KB Physical Specifications
Physical Specifications wer requirements 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) wer consumption Random read/write Sleep 1.2 W mensions (H x W x D) 25.4 mm x 101.6 mm x 150.0 mm eight 410 g hbient temperature Operating
wer requirements 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) wer consumption Random read/write 5.8 W (typ.) Sleep 1.2 W mensions (H x W x D) 25.4 mm x 101.6 mm x 150.0 mm eight 410 g hbient temperature Operating 5°C to 45°C
wer requirements 5 V DC ± 5%, 1.2 A (typ.): 2.7 A (max.) wer consumption Random read/write 5.8 W (typ.) Sleep 1.2 W mensions (H x W x D) 25.4 mm x 101.6 mm x 150.0 mm eight 410 g hbient temperature Operating 5°C to 45°C
Sleep 1.2 W mensions (H x W x D) 25.4 mm x 101.6 mm x 150.0 mm eight 410 g nbient temperature Operating 5°C to 45°C
mensions (H x W x D) 25.4 mm x 101.6 mm x 150.0 mm eight 410 g nbient temperature Operating 5°C to 45°C
éight 410 g nbient temperature Operating 5°C to 45°C
hient temperature Operating 5°C to 45°C
Non-operating 0°C to 50°C
In the second se
Non-operating 10% to 85% (Non-condensing)
bration Operating 3.92 m/s² (0.4G) (5-500 Hz, sine sweep)
Non-operating 9.80 m/s ² (1.0G) (5-500 Hz, sine sweep)
ook resistance Operating 19.6 m/s² (2.0 G) (10 ms, half-sine pulse)
Non-operating 49 m/s ² (5.0 G) (10 ms, half-sine pulse)
Transport 980 m/s² (100 G) (10 ms, half-sine pulse)
titude Operating Less than 3,000 m
Non-operating Less than 12,000 m
coustion noise Less than 30 dBA
rflow requirement 0.02 m/s ² min. or lower 0.3 m/s or lower
Reliability Specifications
ean time between failures 120,000 power on hours
mponent life 5 years or 20,000 power on hours

Specifications are subject to change without notice. For the latest information, contact your local Fujitsu representative.

Fujitsu Europe Limited

Hayes Park Central Hayes End Road Hayes Middlesex UB4 8FE England Tel: (+44-(0)20) 8573 4444 Fax: (+44-(0)20) 8573 2643 www.fel.fujitsu.com

Fujitsu Italia S.p.A.

Via Nazario Sauro, 38 20099 Sesto San Giovanni (MI) Italy Tel: (+39) 0226294.1 Fax: (+39) 0226294.201 www.fis.fujitsu.com
 Fujitsu Deutschland GmbH

 Frankfurter Ring 211

 80807 Munich

 Germany

 Tel:
 (+49-(0)89) 32378-0

 Fax:
 (+49-(0)89) 32378-100

 www.fdg.fujitsu.com

