

FFD™ Ultra-Wide SCSI

High-Performance Flash Disks



M-Systems' Fast Flash Disk (FFD) 2.5" and 3.5" Ultra-Wide SCSI deliver burst performance of 40 MB/sec, read/write performance as high as 30 MB/sec, and are equipped with sanitize functionality and fast security erase in just seconds. FFD Ultra-Wide SCSI is a solid-state disk with no moving parts, ideal to meet the reliability requirements of the military and aerospace, video and audio servers, and broadcasting systems. M-Systems' TrueFFS® flash management is embedded in FFD Ultra-Wide SCSI to guarantee data reliability and over 5 million write/erase cycles, far exceeding any comparable flash storage solutions.

M-Systems' FFD 2.5" and 3.5" Ultra-Wide SCSI are compatible with SCSI-2 and SCSI-3, and are used as drop-in replacements for rotating mechanical disks.

CAPACITY (MB)

Unformatted: 512, 1024, 1536, 2048, 3072, 4096, 5120, 6144, 7168, 8192, 9216, 10240, 12288, 14336, 16384, 18432, 20480, 22528, 24576, 26624, 28672, 30720, 32768, 34826

SCSI COMPATIBILITY

Industry Standard SCSI-2, SCSI-3 & CCS;
ANSI X3.131-1994; ANSI X3T9.2/85-82; ANSI X3.302-1998; ANSI X3.301-1997; ANSI NCITS 306-1998

PERFORMANCE

Burst Read/Write: 40.0 MB/sec
Sustained Read: 30.0 MB/sec
Sustained Write: 20.0 MB/sec
Access Time: <20 microseconds

PHYSICAL

Connector Type: 68-pin or SCA-2 80-pin
Form Factor: 2.5" and 3.5"
Dimensions (mm)
2.5" up to 3GB: 110.2(L)x69.9(W)x11.5(H)
3.5" up to 21GB: 146.1(L)x101.5(W)x25.4(H)
3.5" over 21GB: 146.1(L)x101.5(W)x40.6(H)
Weight
1GB: 0.34 kg
20.4GB: 0.60 kg
34.8GB: 0.95 kg

ENVIRONMENTAL

Operating Temperature
Commercial: 0°C to +70°C
Enhanced: -25°C to +75°C
Extended: -40°C to +85°C
Storage Temperature: -55°C to +95°C
Humidity: 5% to 95% relative, non-condensing
Operating Altitude: Up to 80,000 feet
Operating Shock: 1,500G, MIL-STD-810F
Operating Vibration: 16.3G RMS, MIL-STD-810F (random, 20 Hz to 2000 Hz)

POWER

Input Voltage: 5VDC ±5%
Power Consumption (1GB unit)
Bus Free/Idle: 340 mA (1.7 W)
Read/Write: 540 mA (2.7 W)

COMPLIANCE

CE, UL, EN 55022 Class B, CISPR 22 Class B, AS/NZS 3548 Class B, BSMI CNS 13438 Class B, CAN/CSA-V-3/2001.04 (VCCI), FCC Part 15 Class B, EN 61000-3-2, EN 61000-3-3, IEC 61000-4, MIL-STD-810F, Hot-insertion Class 3, Sun Solaris™ Ready

RELIABILITY

MTBF: 952,925 hours
Based on Telcordia SR-332, GB, 25°C
EDC/ECC: on-the-fly, based on 48-bit Reed Solomon algorithm
BER (Bit Error Rate) <10⁻²⁰
Built-In Power-Up Self-Test (BIT)
Manual and automatic self-diagnostics
TrueFFS bad-block management
Data integrity under power cycling

ENDURANCE

Unlimited read
>5,000,000 write/erase cycles
TrueFFS dynamic wear-leveling
>10 years data retention

ENHANCED SECURITY ERASE

Fast security erase in seconds
Sanitize complies with DoD NISPOM 5220.22-M, NSA 130-2, Air Force AFSSI 5020, Army 380-19, Navy NAVSO P-5239-26 and IREC (IRIG) 106
Software and hardware interrupt secure erase/sanitize
Auto-resume security erase/sanitize on power down
Partial/selective security erase
LED indication for secure erase/sanitize

USER INTERFACE & CONFIGURATION

Firmware Upgrade: Field upgrade capability
Electrical Interface: 16-bit or 8-bit interface, SE or LVD
Busy (Access) LED: Green
Format: Factory low-level format
Drivers: None required

DIP switch configuration for 68-pin:

SCSI ID 0-15; Termination power; Force single-ended
68-pin auxiliary connector: SCSI ID 0-15;
Termination; Write protect; Fault (LED); Busy/Activity (LED)

DIP switch configuration for 80-pin:

SCSI ID 0-15; Termination; Force single-ended

WARRANTY

5 years

CUSTOMIZATION

PCB conformal coating
Slimmer casing of 12.7 mm
Made in USA
Supports FMF requirements

ORDERING INFORMATION

FFD25US-CCCCC-T-P80-B
FFD35US-CCCCC-T-PXX
CCCCC: Unformatted capacity (MB)

2.5: 1024, 2048, 3072

3.5: 512 to 34826

T: Temperature range

Blank – Commercial: 0°C to +70°C

N – Enhanced: -25°C to +75°C

X – Extended: -40°C to +85°C

PXX: Connector type

P68 or P80: 68 or 80-pin connector

FFD Ultra-Wide SCSI 43-PT-0305-00

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