

E-Disk® VME SCSI Narrow Series



Ideal for storage applications in:

- Computer Telephony
- Carrier Grade Equipment
- Real-Time Machine Control
- Industrial Automation
- Real-Time Data Acquisition
- Control and Instrumentation
- Military Systems and Avionics
- Energy, Utilities and Transportation Infrastructures
- Medical, Laboratory and Scientific Research

Inject Speed Into Your Network

Today's data explosion has created the need for a faster and higher performance storage solution for high-speed networking, broadband communications, mobile computing, military, aerospace, and industrial applications. BitMICRO® Networks has responded with a storage solution designed specifically for these emerging high performance applications - Solid State, Flash-based storage - E-Disk®. Incorporate this new storage product as a stand-alone solution or as an embedded plug and play component in the system. E-Disk® provides increased performance by eliminating seek time and latency for faster I/O rates, and provides the advantages of exceptional performance, superior reliability, and unprecedented durability.

Reliable & Secure Solid-State, Flash-Based Storage

BitMICRO® Networks utilizes proven solid-state, flash-based E-Disk® technology, a non-volatile storage solution in industry standard single slot VME 6U form factor. Our SCSI-based Flash storage modules are designed to replace conventional rotating media such as hard disks and tape drives that are not only prone to short production life, but often fail in mobile computing and industrial environments where temperature fluctuations, shock, vibration, dust, moisture, or magnetic fields are present.

Given today's critical national security and defense requirements, the powerful and user-customizable securErase® data security feature guarantees that device sanitization of sensitive data is performed beyond retrieval.

E-Disk® VME SCSI Narrow Series

BitMICRO® Networks E-Disk® VME products deliver a solid solution for data storage and protection while providing the powerful performance and speed today's data-intensive applications demand. They feature patented FlashBus™ storage technology to speed performance, eliminate system bottlenecks, and offer durable storage for easy installation and start-up. E-Disk® all-electronic VME solid state hard disk drive and flash drive solutions require no device drivers for installation and operation, do not need hard disk drive battery back-up nor UPS for data storage non-volatility. The convection cooled VME card is available in 6U single slot form factor. It boasts of I/O rates up to 5,000/sec, burst rates of up to 20 MB/sec, sustained rates of up to 18 MB/sec, and capacities of up to 16.4 GB.

Product Highlights

Increased High Speed Networking

- Operating System Independent
- 1,500 to 5,000 IOPS*
- Up to 0.1 msec access time

Facilitate Quick Data Transfers

- 10 to 20 MB/sec Burst Rate
- 9 to 18 MB/sec Sustained Rate*

Highest Storage Capacities

- 6U: 512 MB to 16.4 GB

Unparalleled Operating Performance

- Pure Solid State/Non-Volatile
- 1,000 Gs Operating Shock*
- 0 to +70 °C*
- 500,000 Hours MTBF*
- 120,000 feet Altitude*

Industry Standard SCSI Interface

- No Device Driver Required
- SCSI to Ultra SCSI Narrow
- Completely bootable

Data Security Features

- DataSentinel
- securErase®

**Preliminary/Projected*

SPECIFICATIONS FOR E-DISK® VME SCSI NARROW SERIES

Flash Disk and Solid State Disk Storage Solutions

Physical Specifications:

Form Factor	6U	
Number of Drives	1 or 2	
Storage Capacity	512 MB to 16.38 GB	
Dimensions	Width	160 mm (6.3 in)
	Length	233.35 mm (9.187 in)
	Height	Single slot: 20.32 mm (0.8 in)
Weight*	573.70– 751.06 gm (20.23 – 26.48 oz)	
Connector	32-pin x 3 rows (P1), 32-pin x 3 rows (P2) VMEbus IEEE 1014-1987	

*Includes E-Disk® Drive (s)

Power Requirements:

Current	2.85 Amps (max.)
Voltage	5 Vdc ±5%

Performance Specifications:

Access Time	Up to 0.1 msec
Burst Rate	10, 20 MB/sec
Sustained Rate*	9, 18 MB/sec
I/O Operations per Second*	1500, 5000 IOPS
Read Bit Error Rate	< 10 ⁻²⁰
Fully Associative Cache	Standard: up to 48 MB per drive

*Preliminary / Projected

Environmental Specifications:

Operating Temperature	0 to 70 °C
Humidity*	8% to 80% relative, non-condensing
Shock (Operating)*	1000 Gs
Vibration (Operating)*	16.5 grms
Conformal Coating	Optional
Altitude*	-1,200 to 120,000 feet

*Preliminary / Projected

Reliability:

MTBF	> 500,000 hrs (MIL-STD-217 GB)*	
Undetected Data Errors	< 10 ⁻³⁰	
Data Reliability	Built-in EDC/Interleaved Reed-Solomon ECC Corrects up to Six Random Byte Error per 528-Byte Block; Detects Burst Errors up to 9 Bytes Long	
Data Integrity	10 years	
Write Endurance (Typical)	1 GB E-Disk®	4.6 GB E-Disk®
	27 years @ 100GB/day erase/write cycles	123 years @ 100GB/day erase/write cycles
Read Endurance	Unlimited	
Security Erase Compliance*	NISPOM DoD 5220.22-M, NSA 130-2, Air Force AFSSI 5020, Army 380-19, IRIG-106	
Diagnostics	Built-in Power Power-up Self Test Self-Monitoring Diagnostics Database	

*Preliminary / Projected

User Interface:

Front Panel Indicators	Power (green) Busy (green)
Front Panel Connector	50-pin 2 mm 2.5-inch SCSI 8-bit
Termination	Single-Ended
Drivers	None Required
Firmware	Field Upgradeable
SCSI Compatibility	ANSI SCSI-2 Standard X3.131-1994
EMI Compliance	CE, FCC, VCCI and AS/NZS Regulations
Safety Compliance	TÜV and UL

SPECIFICATIONS FOR E-DISK® VME SCSI NARROW SERIES
Flash Disk and Solid State Disk Storage Solutions



Performance Matrix:

MODEL NAME	FORM FACTOR	SCSI NARROW 8-bit INTERFACE	SUSTAINED RATES	BURST RATES	ACCESS TIMES	STORAGE CAPACITY
E-Disk® VME 6S10V	6U	Fast SCSI Single Ended	9 MB/sec	10 MB/sec	< 0.2 ms	512 MB – 16384 MB
E-Disk® VME 6S20V	6U	Ultra SCSI Single Ended	18 MB/sec	20 MB/sec	< 0.1 ms	512 MB – 16384 MB



Product Part Number:

Part Number	Model Number + Capacity + Options
	PFIRRRRC + XXXXXX + TGV (CFWC)
Example	D6S020V 016384 CNN (V2MS) *Note: (V2MS) Sub-Part Number
Model Number	PFIRRRRC
P: Product Type	D: E-Disk®
F: Form Factor	6: 6U
I: Interface	S: SCSI
R: Burst (Sustained) Rate	010: 10 MB/sec (9 MB/sec) 020: 20 MB/sec (18 MB/sec)
C: Connector Type	V: 32-pin x 3 rows (P1), 32-pin x 3 rows (P2) VMEbus IEEE 1014-1987
Capacity	XXXXXX
X: Capacity (MB)	512, 1024, 2048, 2560, 4096, 5120, 8192, 10240, 16384 Custom: Could be made available
Options	TGM
T: Temperature (Operating)	C: Commercial (0 to +70 °C)
G: PowerGuard®	N: No PowerGuard® Option (default)
V: Input Power Voltage	N: 5V
Sub-Part Number*	(CFWC)
C: Casing	V: Convection Cooled
F: No. of Disks	1: One E-Disk® 2: Two E-Disks®
W: Type of Wiring	M: Motorola Wiring F: Force Wiring
C: PCB Coating	A: Acrylic Conformal Coating S: Silicone Conformal Coating

* Consult E-Disk® Part Numbering Guide



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6,970,890; 6,981,070. Other Patents Pending.

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