PRELIMINARY SPECIFICATIONS

e-disk® ALTIMA™

SCSI Wide 3.5" Series

E3S320DL

When Size and Performance Matter

Enhanced Productivity and System Performance

Ideal for Storage Applications in:

- Enterprise Systems
- Server Computing
- Database and OLTP Applications
- Business Intelligence/Decision Support
- Video-On-Demand
- Military and Aerospace
- Imaging Applications
- Industrial Automation
- Real-Time Data Acquisition
- Control and Instrumentation

E-Disk ® Altima™ SCSI Wide 3.5-inch Series

The future of storage is solid state, and BiTMICRO Networks, Inc. brings you the most advanced solid state disk (SSD) solution with the E-Disk® Altima™ series. Powered by BiTMICRO's proprietary "Enhanced Datamover and Storage Accelerator" (EDSA™) flash I/O controller and "Logical UNifier of Extensive Transfer Arrays" (LUNETA™) memory flash interface ASICs, E-Disk® Altima™ SSDs utilize high-density flash memory chips to create massive storage capacities in standard disk drive form factors. What's more, flash memory-based E-Disk® Altima™ SSDs boost system performance by eliminating seek time and latency for faster I/O and sustained transfer rates. With no moving parts, E-Disk® Altima™ SSDs set the bar for storage reliability, durability and endurance in all types of operating environments.

BiTMICRO Networks E-Disk® Altima™ SCSI products offer optimum solution to address ever growing storage capacity requirements and performance demands of today's computing applications. It is designed without device driver requisites, making it easy to install and operate. Armed with patented FlashBus™ technology, E-Disk® Altima™ SCSI offers random I/O rates of up to 30,000/sec, 320 MB/sec burst rate, sustained transfer rates of up to 230 MB/sec, and capacities of up to 1.6 TB.

Increased High Speed Performance

- 320 MB/sec Burst Rate
- Up to 230 MB/sec Sustained Rate
- Up to 30,000 IOPS
- 30 to 100 µsec Access Time

Unparalleled Operational Capabilities

- Pure Solid State/Non-Volatile
- 1,500 Gs Operating Shock
- -40 to +85ºC
- 2 Million Hours MTBF
- 120,000 ft Altitude

Highest Storage Capacities

- 3.5-inch: 16 GB to 1.6 TB*

**Up to 640 GB at 1-inch height*

Data Security Features

- DataSentinel
- PowerGuard®
- securErase®
- Write Protect

Industry Standard SCSI Interface

- No Device Driver Required
- Up to Ultra320 SCSI Wide
- Completely Bootable

Compliance

- EMI: CE, FCC, AS/NZS
- Safety: TUV, UL
- EU RoHS 2002/95/EC
- China RoHS SJ/T 11363-2006

SPECIFICATIONS FOR e-disk® ALTIMA™ SCSI WIDE 3.5" SERIES

Flash Disk and Solid State Disk Storage Solutions

Performance Specifications:

Access Time	30 to 100 µsec
Burst Rate	320 MB/sec
Sustained Rate	Up to 230 MB/sec*
I/O Operations per Second	Up to 30,000 IOPS
Fully Associative Cache	Up to 256 MB

** Based on optimum multi-memory board/stack configurations*

Environmental Specifications:

Operating Temperature	**Commercial**	0 to 70 ºC
	Industrial	-40 to +85 ºC
Max Temperature Change Rate		5 Cº/min
Humidity		5 to 95% (Non-Condensing)
Shock (Operating)		1,500 G
Vibration (Operating)		16.4 G rms
Altitude		-1,200 to 120,000 ft
Airflow		None Required

Power Requirements:

Input Voltage		5/12 VDC (±5%), Auto Detect
Power Consumption	**Write**	TBD
	Read	TBD
	Idle	TBD

Reliability:

MTBF	>1.9 Million Hours at Bellcore Issue 6, Method I, Case 3
Bit Error Rate	$<10^{-27}$
Data Reliability	Built-in EDC/ECC Based on BCH Algorithm Corrects up to 9 Random Bit Errors per 528-Byte Block; Detects up to 10 Bit Errors
Data Integrity	10 years
Diagnostics	Built-In Power-Up Self Test Self-Monitoring Diagnostics Database

Endurance:

	16 GB	**32 GB**
Write Endurance	657 years @ 100 GB/day Erase/Write Cycles	1,315 years @ 100 GB/day Erase/Write Cycles
Read Endurance	Unlimited	

Compatibility/Compliance:

SCSI Compatibility	ANSI SCSI-2 Standard X3.131-1994 ANSI SCSI-3 Standard X3T10/1071D ANSI SCSI-3 Standard X3T10/142D ANSI SCSI-3 Standard X3T10/1302D ANSI SCSI-3 Standard X3T10/1365D
EMI Compliance	CE, FCC, AS/NZS Regulations
Safety Compliance	TUV and UL
Security Erase Compliance	NISPOM DoD 5220.22-M, NSA 130-2, Air Force AFSSI 5020, Army 380-19, IRIG-106
RoHS Compliance	EU RoHS 2002/95/EC, China RoHS SJ/T 11363-2006

Physical Specifications:

Form Factor		3.5"
Storage Capacity*		16 GB to 1.6 TB
Dimension	**Width**	4.0 in (101.6 mm)
	Length	5.75 in (146.1 mm)
	Height	0.536 in (13.61 mm) to 1.787 in (45.38 mm)
Weight**		10.688 oz (303.00 gm) to 30.794 oz (873.00 gm)
Mounting Considerations		HDD Industry Standard, All Orientations
Connector		68-Pin SE/LVD (SCSI 16-Bit)

**1 GB = 1,024 MBytes; 1 TB = 1,024 GBytes; Up to 640 GB at 1- inch height*
***Weights are approximate*

Product Part Number:

Part Number Options	E3S320D + XXXXY + TGM + AC
XXXX: Capacity *Last digit denotes single decimal number* (e.g. 0160G = 16.0 GB, 0016T = 1.6 TB)	<=1" Height GB: 16, 32, 64, 128, 192, 384, 640
	>1" Height GB: 896 TB: 1.1, 1.3, 1.6
Y: Capacity Unit*	G: Gigabytes
	T: Terabytes
T: Temperature	C: Commercial (0 to 70 ºC)
	I: Industrial (-40 to +85 ºC)
G: PowerGuard®	N: No PowerGuard® Option
	1: Save Mode on Power Down
	2: Erase Mode on Power Down
	3: Standby Erase Mode on Power Down
M: Media Type	L: Large Block SLC NAND Flash
A: Casing	R: Rugged Casing
C: Coating	N: No Conformal Coating (Default)
	A: Acrylic Conformal Coating
	S: Silicone Conformal Coating
Example	**E3S320D0160GC1LRN**

**1 GB = 1,024 MBytes; 1 TB = 1,024 GBytes*

One gigabyte, or GB, equals 1,073,741,824 bytes when referring to solid state disk capacity. Actual usable storage capacity may vary based on various factors, including operating system, file size, file format, features, application software, and disk space reserved for flash management files.

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