



**PRELIMINARY SPECIFICATIONS**

# VME SCSI Wide Modules

## P6S320VL



**Rugged and Reliable**

**Ideal for Storage Applications in:**

- Military and Aerospace
- Imaging Applications
- Industrial Automation
- Real-Time Data Acquisition
- Control and Instrumentation

**E-Disk® Altima™ VME SCSI Wide Module**

The future of storage is solid state, and BiMICRO Networks, Inc. brings you the most advanced solid state disk (SSD) solution with the E-Disk® Altima™ series. Powered by BiMICRO's proprietary "Enhanced Datamover and Storage Accelerator" (EDSA™) flash I/O controller and "Logical UNifier of Extensive Transfer Arrays" (LUNETATM) 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.

BiMICRO Networks E-Disk® Altima™ VME 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™ VME 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 640 GB. The conduction-cooled module comes in a single disk configuration that can occupy up to two slots for a maximum capacity of 1.1 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

**Highest Storage Capacities**

- Convection: 16 GB to 640 GB
- Conduction: 16 GB to 1.1 TB

**Industry Standard SCSI Interface**

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

**Unparalleled Operational Capabilities**

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

**Data Security Features**

- DataSentinel
  - PowerGuard®
  - securErase®
  - Write Protect\*
- \*Conduction Cooled Modules Only*

**Compliance**

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

**SPECIFICATIONS FOR**  **VME SCSI Wide Module**  
**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

**Environmental Specifications:**

Operating Temperature	Convection	0 to 70 °C (Commercial only)
	Conduction	0 to 70 °C -40 to 85 °C
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 VDC (± 10%)	
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 <sup>-27</sup>
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

**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
RoHS Compliance	EU RoHS 2002/95/EC, China RoHS SJ/T11363-2006
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

**Endurance:**

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

**Physical Specifications:**

Form Factor	6U	
Storage Capacity*	Convection	16 GB to 640 GB
	Conduction	16 GB to 1.1 TB
Dimension	Width	6.3 in (160 mm)
	Length	9.187 in (233.35 mm)
	Height	Double slot: 1.6 in
Weight	TBD	
Connector	Convection	32-Pin x 3 Rows (P1), 32-Pin x 3 Rows (P2) VMEbus IEEE 1014-1987
	Conduction	32-Pin x 5 Rows (P1), 32-Pin x 5 Rows (P2) VME64X

\* 1GB =1,024 Mbytes; 1 TB =1024 Gbytes

**Product Part Number:**

<b>Part Number Options</b>	OP6S320V + XXXXY + TGM + AFFC
XXXX: Capacity*	Convection: GB: 16, 32, 64, 128, 192, 384, 640, Conduction: GB: 16, 32, 64, 128, 192, 384, 640, 896 TB: 1.1
Y: Capacity Unit*	G: Gigabytes T: Terabytes
T: Temperature	C: Commercial (0 to 70 °C) I: Industrial (-40 to + 85 °C)**
G: PowerGuard®	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 (Default)
A: Casing	V: Convection Cooled D: Conduction Cooled
FF: No. of Disks	01: Single E-Disk™ Altima™ drive
C: Coating	N: No Conformal Coating (Default) A: Acrylic Conformal Coating S: Silicone Conformal Coating***
<b>Example</b>	<b>OP6S320V0320GCNLV01N</b>

\*1 GB =1,024 Mbytes; 1 TB =1024 Gbytes

\*\*Conduction Cooled Modules Only

\*\*\*Convection Cooled Modules Only

BitMICRO's product specifications and engineering development objectives are subject to change at anytime without prior notice. All information provided herein is provided for design comparison and reference purposes only.

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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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DTS-MK-036-07 June 2008

