ATTO ExpressPCI UL3S

**Single-channel Ultra3 SCSI Host Adapter
Featuring Vpath™ Technology**

The ATTO ExpressPCI UL3S with Vpath™ Technology offers users a flexible, high-speed SCSI interconnect with data-transfer rates of up to 160 MB/sec. With one external connector and one internal connector, Vpath Technology allows ExpressPCI UL3S users to attach Ultra3 drives externally and slower Ultra2 or Ultra SCSI devices internally, or vice versa, without sacrificing the performance of the high-speed devices. This allows users to take full advantage of Ultra3 and legacy speeds simultaneously.

Vpath Technology…giving users variable paths to achieve ultimate performance.

TECHNICAL HIGHLIGHTS

- **160 MB/sec. data-transfer rates**
- **64/32-bit PCI interface**
- **33 MHz compatible**
- **Cyclical redundancy checks**
- **Double transition clocking**
- **Exclusive ADS™ Technology**
- **Supports up to 30 SCSI device IDs – 15 each externally and internally**
- **Up to 12 meter cable lengths**
- **Connect legacy and Ultra3 devices**
- **Vpath™ Technology**

ATTO

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Hardware Specifications

SCSI Interface:
- 160 MB/sec. data-transfer rates
- One (1) external VHDCI and one (1) internal high-density 68-pin connector
- Compatible with SCSI-3, SCSI-2 and SCSI-1 devices
- Low Voltage Differential (LVD) Single-Ended signaling
- Bus mastering capability
- Support for tagged command queuing
- Backward compatible with Ultra2, Ultra/WIDE, Fast/WIDE and Narrow SCSI devices

Advanced SCSI:
- Supports dynamic bus rescan (OS X)
- Large command FIFO
- Asynchronous I/O support
- ASPI compliant (for PC users)
- Bootable from attached disks
- Support for disconnect/reconnect
- Support for multiple block sizes
- Legacy device support for Macintosh® users

General Characteristics:
- Automatic termination
- Upper-byte termination for Narrow devices
- Flash ROM BIOS for easy field upgrades
- PCI 2.2 and PCI 99 compliant
- Plug and play compatible
- Includes ATTO ExpressPro-Tools™ and ATTO Configuration Tool formatting and utility software

Software Specifications

Driver Support:
- Windows Server 2003
- Windows XP
- Windows® 2000
- Mac® OS X
- Mac OS 9
- Linux

Advanced Data Streaming (ADS™):
- Improved PCI system bandwidth use
- Optimized SCSI-3 algorithms
- Tagged command queuing
- Embedded RISC I/O processor

RAID kits available

Environmental and Physical Characteristics

Dimensions:
- Length   6.521"
- Height   4.200"

Operating Environment:
- Temperature: 0-50º C
- Humidity: 10-90% non-condensing
- Airflow: 100 LFM (min)

Reliability:
- MTBF = 150,000 hours
- MTTR < 15 Minutes

Power:
- 0.75 typical/2.0 max. Amps @ + 5.0 VDC
- 0.05 Amps @ + 12.0 VDC

PCI Signal Compatibility:
- 3.3 Volts/5 Volts universal

SCSI Host Adapter Selection Chart

SCSI Host Bus Adapters	Ultra320 SCSI		Ultra3 SCSI	
FEATURES	UL4D	UL4S	UL3D	UL3S
Max. Transfer Rate (MB/sec.)	640	320	320	160
Low Voltage Differential	•	•	•	•
Single-Ended SCSI	•	•	•	•
Number of SCSI Channels	2	1	2	1
Number of SCSI IDs Supported	30	30	30	30
Large File Transfers	•	•	•	•
Cable Distances	12.5	12.5	12.5	12.5
Uncompressed Video	•	•	•	•
32-bit PCI Compatible	•	•	•	•
64-bit PCI Compatible	•	•	•	•
33 MHz PCI	•	•	•	•
66 MHz PCI	•	•		
133 MHz PCI-X	•	•		
Windows® 2000/XP/Server 2003	•	•	•	•
Linux	•	•	•	•
Mac® OS & Mac OS X Support	OS X	OS X	•	•

ATTO SCSI HBAs