



Ultra320 SCSI Host Bus Adapters

ExpressPCI UL5D LP
ExpressPCI UL5D
ExpressPCI UL4D

The ATTO ExpressPCI SCSI host bus adapter family complements high-performance Direct Attached Storage (DAS) configurations in multiple environments by providing a flexible and reliable storage solution for servers and workstations.

Industry Proven

ATTO ExpressPCI Ultra320 SCSI host bus adapters offer high-performance connectivity to tape and external storage. The UL5D LP, UL5D and UL4D SCSI HBAs help users meet the demands of a wide variety of high-bandwidth applications in Mac®, Windows® or Linux environments.

Performance Engineered

ExpressPCI SCSI host bus adapters feature a PCI Express or PCI-X interconnect and boast speeds of up to 640MB/s. With exclusive Advanced Data Streaming (ADS™) technology, the UL5D LP, UL5D and UL4D effectively manage latency for fast and efficient data transfers. ADS Technology ensures best-in-industry data transfers by controlling the acceleration of data to maintain the highest consistent performance. The combination of Ultra320 SCSI and PCI Express makes ExpressPCI HBAs ideal for workstations running bandwidth-intensive applications such as video editing, messaging and databases.

Easy to Use

ExpressPCI SCSI host bus adapters come with ATTO's factory-preset configurations for out-of-the-box plug and play operation. The ATTO Configuration Tool, featuring an easy-to-use GUI, simplifies the installation, management and monitoring of the HBA. The Configuration Tool enables the best possible performance by allowing users to modify the adapter's default settings.

Technical Features

- Dual Channel (2 internal, 2 external) Ultra320 SCSI
- Up to 320MB/s per channel throughput in full-duplex mode
- x4 PCI Express or 64-bit, 133MHz PCI-X connections
- Driver support for Mac®, Windows®, Linux, and more
- Exclusive Advanced Data Streaming (ADS™) Technology
- ATTO Configuration Tool for customized performance settings
- Low voltage differential
- Supports up to 30 SCSI bus IDs
- Up to 12 meter cable lengths
- 3-year standard product warranty
- Low power consumption

Technical Specifications

Applications

ATTO ExpressPCI SCSI host bus adapters are specifically engineered for reliable storage connectivity and high-performance for data-intensive environments such as HD video editing, transactional database applications and large server farms. ExpressPCI SCSI HBAs are a field tested and time proven connectivity solution for direct attached storage environments.

Advanced Data Streaming (ADS™)

Latency-management technology that controls the acceleration of data transfers to move large amounts of data faster and more efficiently.

Key Features

- Low voltage differential (LVD) signaling
- Tagged command queuing support
- Backwards compatible with Ultra160, Ultra2 and Ultra/WIDE
- Dynamic bus rescan
- Double transition clocking
- Domain validation and packetization
- Quick Arbitration Select (QAS)
- Bootable from attached disks
- On-board termination
- Flash ROM for easy field upgrades
- Cyclical Redundancy Checking (CRC)
- Optimized SCSI-3 algorithms

Bus Specifications

UL5D LP, UL5D

- x4 PCI Express
- Supports PCI Express Base and CEM Spec 1.0a
- PCI Express to PCI/PCI-X Bridge spec 1.0

UL4D

- 64-bit/133MHz PCI-X
- PCI-X 1.0a compliant
- PCI 2.2 and PCI 99 compliant

Management Tools

- ATTO Config Tool (w/GUI) BIOS-based management and configuration utility

Operating System Support

- Windows® Server 2003, 2008
- Windows XP, Vista, 7
- Mac OS® X (10.4.x - 10.6.x)
- SUSE Linux
- Red Hat Linux
- Novell Netware® v6.5

Agency Approvals and Compliance

- FCC Part 15, Subpart B, Class A
- CE Mark: CISPR 22/EN 55022, Class A
- RoHS

Dimensions

UL5D LP

- Length 6.6", Height 2.713"

UL5D

- Length 7.5", Height 4.376"

UL4D

- Length 6.521", Height 4.450"

Operating Temperature

Hardware Environment

- Temperature: 0-40° C
- Humidity: 10 - 90% non-condensing

Operating Voltage

UL5D LP

- 0.7 Amps @ +3.3 VDC
- 0.6 Amps @ +12 VDC

UL5D

- 1.61 typical/2.03 max Amps @ +3.3 VDC
- 0.6 5 typical/1.46 Amps @ +12 VDC

UL4D

- 0.75 typical/2.0 max Amps @ +5.0 VDC
- 0.0 5 Amps @ +12 VDC

Reliability (MTBF)

UL5D LP

- 675,000 hours

UL5D

- 675,000 hours

UL4D

- 150,000 hours

Airflow

- 100 lf/m (min) recommended

Warranty

- 3 Year



ATTO ExpressPCI UL5D LP

Power	0.7 Amps @ + 3.3 VDC 0.6 Amps @ + 12.0 VDC
Dimensions	Length = 6.6" Height = 2.713"
Reliability	MTBF = 675,000 Hours MTTR < 15 Minutes
Part Number	EPCI-UL5D-L00



ATTO ExpressPCI UL5D

Power	1.61 Amps @ + 3.3 VDC 0.65 Amps @ + 12.0 VDC
Dimensions	Length = 7.5" Height = 4.376"
Reliability	MTBF = 675,000 Hours MTTR < 15 Minutes
Part Number	EPCI-UL5D-0R0



ATTO ExpressPCI UL4D

Power	0.75 Amps @ +5.0 VDC 0.05 Amps @ +12.0 VDC
Dimensions	Length = 6.521" Height = 4.450"
Reliability	MTBF = 150,000 Hours MTTR < 15 Minutes
Part Number	EPCI-UL4D-0R0