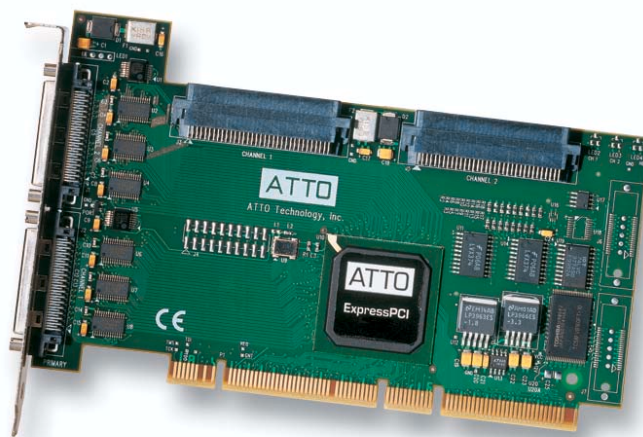


ATTO ExpressPCI UL4D



Dual-channel Ultra320 SCSI Host Adapter with PCI-X Support

The UL4D dual-channel Ultra320 adapter is the latest addition to the ATTO ExpressPCI family of high-performance SCSI host adapters for data-intensive environments. This latest generation adapter boasts data-transfer rates up to 320 MB/sec. per channel and offers support for advanced PCI-X busses. It is an ideal fit for Enterprise servers and high-end workstations running high-volume, mission-critical applications such as messaging and databases. Only ATTO ExpressPCI host adapters feature the exclusive Advanced Data Streaming (ADS™) Technology that allows fast and efficient data movement with reduced CPU utilization.

TECHNICAL HIGHLIGHTS

- Ultra320 SCSI
- Up to 320 MB/sec. per channel data-transfer rates
- Dual independent SCSI channels
- 64-bit/133 MHz PCI-X with backward compatibility
- Exclusive ADS™ Technology
- Supports up to 30 SCSI bus IDs
- Up to 12 meter cable lengths

ATTO SCSI HBAS

ATTO

ATTO Technology, Inc.
attotech.com

155 CrossPoint Parkway • Amherst, NY 14068 • 716.691.1999

Hardware Specifications

SCSI Interface:

- 320 MB/sec. per channel data-transfer rates
- Two (2) external VHDCI and two (2) internal high-density connectors per channel
- Low Voltage Differential (LVD) signaling
- Support for tagged command queuing
- Backward compatible with Ultra 160, Ultra2, Ultra/WIDE, Fast/WIDE and Narrow SCSI devices

Advanced SCSI:

- Double transition clocking
- Domain validation
- Cyclical Redundancy Checking (CRC)
- Packetization
- Quick Arbitration Select (QAS)
- ASPI compliant (for PC users)
- Bootable from attached disks
- Support for disconnect/reconnect
- Support for multiple block sizes

Accelerated PCI Bus Management:

- PCI-X bus master rate of 1 GB/sec.
- PCI-X 1.0a compliant
- PCI 2.2 and PCI 99 compliant
- 64-bit/133 MHz PCI-X (backward compatible with standard PCI)

General Characteristics:

- Automatic termination
- Upper-byte termination for Narrow devices
- Flash ROM for easy field upgrades
- Plug and play compatible
- Includes ATTO ExpressPro-Tools™ and ATTO Configuration Tool formatting and utility software



Windows® and the Windows logo are trademarks, or registered trademarks, of Microsoft Corporation in the United States and/or other companies

Software Specifications

Driver Support:

- Windows Server 2003
- Windows XP
- Windows® 2000
- Mac® OS X
- 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 4.450"

Operating Environment:

- Temperature: 0-45° 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 | | Ultra/WIDE |
|------------------------------|---------------|------|-------------|------|------------|
| FEATURES | UL4D | UL4S | UL3D | UL3S | PSC |
| Max. Transfer Rate (MB/sec.) | 640 | 320 | 320 | 160 | 40 |
| Low Voltage Differential | • | • | • | • | |
| Single-Ended SCSI | • | • | • | • | • |
| Number of SCSI Channels | 2 | 1 | 2 | 1 | 1 |
| Number of SCSI IDs Supported | 30 | 30 | 30 | 30 | 15 |
| Large File Transfers | • | • | • | • | • |
| Cable Distances | 12.5 | 12.5 | 12.5 | 12.5 | up to 3m |
| Uncompressed Video | • | • | • | • | |
| 32-bit PCI Compatible | • | • | • | • | • |
| 64-bit PCI Compatible | • | • | • | • | |
| 33 / 66 MHz PCI | • | • | • | • | • |
| 133 MHz PCI-X | • | • | | | |
| Windows® 2000/XP/Server 2003 | • | • | • | • | • |
| Linux | • | • | • | • | • |
| Mac® OS & Mac OS X Support | OS X | OS X | • | • | • |