



ATTO Technology, Inc.

# ExpressPCI UL4S

## Single-channel Ultra320 SCSI Host Adapter Featuring PCI-X Support and Vpath™ Technology



### Product Features

#### **Blazing Fast Performance**

- Maximize data throughput using ATTO's exclusive Vpath™ technology to simultaneously read/write data using the UL4S internal and external connectors
- Leveraging the latest in SCSI storage connectivity, the UL4S delivers up to 320 MB/sec. data throughput, making it twice as fast as Ultra160 SCSI

#### **Smooth Data Streaming**

- Maintain accessibility to mission-critical data by transparently redirecting data requests through alternate channels.
- Alleviate data transfer bottlenecks and move data more efficiently while managing latency with ATTO's exclusive ADS™ technology.

#### **One Click Installation**

- Save time with factory preset configuration for plug and play operation.
- Simplify installation, management and monitoring with multi-platform Configuration Utility featuring an intuitive GUI

The UL4S single-channel Ultra320 host adapter is the perfect compliment to ATTO's ExpressPCI family of high-performance SCSI host adapters for data-intensive environments. Boasting a data-transfer rate of up to 320 MB/sec. and offering support for PCI-X busses, the UL4S is an ideal fit for Enterprise servers and high-end workstations running high-volume, mission-critical applications such as messaging and databases.

ATTO's exclusive Vpath™ technology offers users the flexibility of connecting high-speed Ultra320 devices externally and slower legacy devices internally, or vice versa, without sacrificing the performance of the high-speed device. In essence, with Vpath™, the UL4S functions similar to a dual channel card by allowing data to be read through port one and written through port two simultaneously, thus improving overall productivity.

Installation of the ExpressPCI UL4S host adapter is a breeze. Thanks to factory-preset configurations, the UL4S is ready out-of-the-box for plug and play operation. The included Configuration Utility featuring an easy-to-use GUI simplifies the effort associated with installation, management and monitoring of the host adapter.

The ExpressPCI UL4S is the first choice for users working in environments with demanding server and professional workstation environments. By offering support for Ultra320 SCSI and PCI-X, in addition to ATTO-designed performance-enhancing technologies including Vpath the ExpressPCI UL4S offers both the performance and feature set necessary for today's data-intensive applications.

### Technical Highlights

- Ultra320 SCSI
- Up to 320 MB/sec. data-transfer rates
- 64-bit/133 MHz PCI-X with backward compatibility
- Exclusive ADS™ technology
- Supports up to 30 SCSI bus IDs—15 each externally and internally
- Up to 12 meter cable lengths
- RoHS Compliant
- 3-year standard product warranty

**Technical Specification**  
ExpressPCI UL4S

## Host Adapter

For More Information:  
[www.ATTOTech.com](http://www.ATTOTech.com)  
 or to Purchase:  
[www.ATTOSTore.com](http://www.ATTOSTore.com)  
 (716) 691-1999

# ATTO ExpressPCI UL4S

ATTO Technology, Inc. Host Adapter

Hardware Specifications	
SCSI Interface	<ul style="list-style-type: none"> <li>• 320 MB/sec. per channel data-transfer rates</li> <li>• One (1) external and one (1) internal high-density 68-pin connector</li> <li>• Low Voltage Differential (LVD) signaling</li> <li>• Support for tagged command queuing</li> <li>• Backward compatible with Ultra160, Ultra2, Ultra/WIDE, Fast/WIDE &amp; Narrow SCSI devices</li> </ul>
Advanced SCSI	<ul style="list-style-type: none"> <li>• Supports dynamic bus rescan (OS X)</li> <li>• Double transition clocking</li> <li>• Domain validation</li> <li>• Cyclical Redundancy Checking (CRC)</li> <li>• Packetization</li> <li>• Quick Arbitration Select (QAS)</li> <li>• ASPI compliant (for PC users)</li> <li>• Bootable from attached disks</li> <li>• Support for disconnect/reconnect</li> <li>• Support for multiple block sizes</li> </ul>
Accelerated PCI Bus Management	<ul style="list-style-type: none"> <li>• PCI-X bus master rate of 1 GB/sec.</li> <li>• PCI-X 1.0a compliant</li> <li>• PCI 2.2 and PCI 99 compliant</li> <li>• 64-bit/133 MHz PCI-X (backward compatible with standard PCI)</li> </ul>
General Characteristics	<ul style="list-style-type: none"> <li>• Automatic termination</li> <li>• Upper-byte termination for Narrow devices</li> <li>• Flash ROM BIOS for easy field upgrades</li> <li>• Plug and play compatible</li> <li>• Includes ATTO ExpressPro-Tools™ &amp; ATTO Configuration Tool formatting &amp; utility software</li> </ul>
Software Specifications	
Driver Support	<ul style="list-style-type: none"> <li>• Windows® Server 2003, 2008, XP, Vista, 7</li> <li>• Mac® OS X (v10.4.x - 10.6.x)</li> <li>• Linux (Fedora, Red Hat and SuSE)</li> <li>• Novell® Netware v6.5</li> </ul>
Advanced Data Streaming (ADS™)	<ul style="list-style-type: none"> <li>• Improved PCI system bandwidth use</li> <li>• Optimized SCSI-3 algorithms</li> <li>• Tagged command queuing</li> <li>• Embedded RISC I/O processor</li> </ul>
RAID Options	<ul style="list-style-type: none"> <li>• RAID 0 support with ATTO Express Power Center or ExpressStripe RAID software utilities</li> </ul>
Agency Approvals	
Safety and Environmental	<ul style="list-style-type: none"> <li>• FCC Rules, Part 15 Sub-Part B, Class A</li> <li>• CE Mark: CISPR 22 / EN 55022, Class A</li> </ul>
Environmental & Physical Specifications	
Dimensions	<ul style="list-style-type: none"> <li>• Length 6.521"</li> <li>• Height 4.200"</li> </ul>
Operating Environment	<ul style="list-style-type: none"> <li>• Temperature: 0-45° C</li> <li>• Humidity: 10-90% non-condensing</li> <li>• Airflow: 100 LFM (min)</li> </ul>
Reliability	<ul style="list-style-type: none"> <li>• MTBF = 150,000 hours</li> <li>• MTTR &lt; 15 Minutes</li> </ul>
Power	<ul style="list-style-type: none"> <li>• 0.75 typical/2.0 max. Amps @ + 5.0 VDC</li> <li>• 0.05 Amps @ + 12.0 VDC</li> </ul>
PCI Signal Compatibility	<ul style="list-style-type: none"> <li>• 3.3 Volts/5 Volts universal</li> </ul>
RoHS Compliant	<ul style="list-style-type: none"> <li>• Yes</li> </ul>
Ordering Information	
Model Number	<ul style="list-style-type: none"> <li>• EPCI-UL4S-0R0 (RoHS)</li> </ul>

Technical Specification  
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Power Behind the Storage

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