



ATTO Technology, Inc.

# ExpressPCI UL5D Low-Profile



**Industry's first Low-Profile  
Dual-channel Ultra320 SCSI  
PCI Express Host Adapter**

## Product Features

### **Blazing Fast Performance**

- Maximize data throughput with dual channel connectivity aggregating performance across multiple SCSI ports
- Leveraging the latest in SCSI storage connectivity, the UL5D low profile delivers up to 640 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 a multi-platform Configuration Utility featuring an intuitive GUI.

The ATTO ExpressPCI UL5D Low-Profile SCSI host adapter is the industry's first true low-profile PCIe SCSI host adapter, and is the perfect complement to ATTO's existing high-performance SCSI host adapter line. The UL5D LP offers users the same high-performance and feature set that ExpressPCI SCSI host adapters are renowned for, but due to the low-profile form factor of the UL5D LP, it is also ideal for integration into enclosures where space is at a premium, such as 1U/2U server chassis. The UL5D LP offers external dual-stacked VHDCI SCSI connectors, allowing direct-attached applications to realize data-transfer rates of up to 640 MB/sec.

Additionally, the ExpressPCI UL5D LP offers support for the next generation of PCI bus technology with a 4-lane PCI Express (PCIe) interconnect. By leveraging the high-performance of both PCI Express and Ultra320 SCSI, the UL5D LP is an ideal fit for data-intensive environments, including video-editing applications requiring support for multiple streams of 10-bit high-definition video. The combination of high-performance and a low-profile form factor provides an ideal solution for space constrained enterprise servers, as well as high-end workstations running high-volume, mission critical applications such as messaging and databases.

ATTO host adapters offer ATTO's exclusive Advanced Data Streaming (ADS™) technology, and the ExpressPCI UL5D LP is no exception. ADS manages latency and allows for fast and efficient data movement, reducing CPU utilization.

With features including Ultra320 SCSI, PCI Express technology, the industry's first true low-profile form factor dual channel design, and ATTO-exclusive technologies such as ADS, the ExpressPCI UL5D LP is perfect for providing high-performance Ultra320 SCSI to space-constrained chassis and enclosures.

## Technical Highlights

- Ultra320 SCSI
- Up to 320 MB/sec. per channel data-transfer rates
- Dual-stacked VHDCI SCSI connectors
- x4 PCI Express
- True low-profile form factor
- Driver support for Windows®, Linux, Novell Netware® and Mac® OS X
- Exclusive ADS™ technology
- Supports up to 30 SCSI bus IDs
- Up to 12 meter cable lengths
- RoHS Compliant
- 3-year standard product warranty

**Technical Specification**  
ExpressPCI UL5D Low-Profile

## 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 UL5D Low-Profile

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>• Dual stacked external VHDCI 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>
General Characteristics	<ul style="list-style-type: none"> <li>• On-board termination</li> <li>• Flash ROM 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> <li>• Easy-to-install full height connection bracket; low-profile bracket included in Finished Goods packaging</li> </ul>
Software Specifications	
Driver Support	<ul style="list-style-type: none"> <li>• Windows® Server 2003, 2008, XP, Vista</li> <li>• Mac® OS X (v10.4.x &amp; 10.5.x)</li> <li>• Linux (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>
Host Bus Specifications	<ul style="list-style-type: none"> <li>• x4 PCI Express interconnect</li> <li>• Supports PCI Express Base Spec 1.0a</li> <li>• Supports PCI Express CEM Spec 1.0a</li> <li>• PCI Express to PCI/PCI-X Bridge spec 1.0</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: 6.6"</li> <li>• Height: 2.713"</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 = 675,000 hours</li> <li>• MTTR &lt; 15 Minutes</li> </ul>
Power	<ul style="list-style-type: none"> <li>• 0.7 Amps @ + 3.3 VDC</li> <li>• 0.6 Amps @ + 12.0 VDC</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-UL5D-L00 (RoHS)</li> </ul>

Technical Specification  
ExpressPCI UL5D Low-Profile



Power Behind the Storage

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