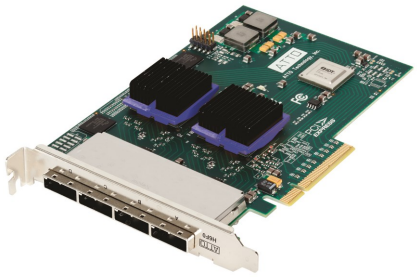
ATTO TECHNOLOGY
TECHNICAL SPECIFICATIONS

ATTO ExpressSAS® 6Gb SAS HBAs

6Gb/s SAS to PCIe 2.0 Host Bus Adapters



Technical Features

- Port configurations include 16 external, 16 internal, 8 external, 8 internal, and 4 external/4 internal
- 1200 MB/s per port/phy throughput in full-duplex mode
- Features a high-performance x8 PCIe 2.0 host interface
- SAS 2.0 and SATA 6Gb/s, 3Gb/s and 1.5Gb/s support
- Supports up to 1024 SAS/SATA devices
- Driver support for Windows®, Linux®, macOS® , VMware® and more
- Exclusive Advanced Data Streaming (ADS™) Technology
- Low power consumption
- Target mode support
- Three -year standard product warranty

Industry Proven Technology

Leveraging 30 years of technology development, the ExpressSAS® 6Gb/s host bus adapter (HBA) product line was the first 6Gb/s-based family of HBAs available in the market. ExpressSAS 6Gb/s HBAs work seamlessly with a wide array of third party products, including hard disk drives and solid state disks, tape drives and many other SAS and SATA infrastructure products.

Flexible Connectivity Solutions

ExpressSAS 6Gb/s SAS/SATA HBAs are available in a variety of port configurations, providing the most flexible connectivity to SAS/SATA storage. With 8 external, 8 internal, 4 external/4 internal, or a two-host-adapters-in-one configuration with 16 external or 16 internal ports, users benefit from efficient scalability and more options from which to choose the best SAS/SATA HBA for their application.

Performance Engineered

ExpressSAS 6Gb/s HBAs combine 6Gb/s SAS speeds and x8 PCI Express 2.0 with powerful hardware and software elements to manage latency in real-time environments. Exclusive Advanced Data Streaming (ADS™) Technology maximizes CPU processes to deliver smooth and reliable data transfers and the highest consistent performance. ATTO pays close attention to detail in board design and signal integrity to minimize transmission errors and data corruption. These differentiating capabilities make ATTO the premier choice for high-performance direct-attached SAS/SATA storage connectivity.

Advanced Management Tools

Easy-to-use ATTO ConfigTool™ features an intuitive GUI that simplifies the installation, management and monitoring of the host bus adapter. With advanced troubleshooting and performance tuning capabilities, ExpressSAS HBAs provide users with sophisticated diagnostics and the flexibility to control settings for specific applications.

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Applications

ExpressSAS ® 6Gb/s SAS/SATA HBAs offer the fastest available connection to direct-attached SAS or SATA storage. The impressive speed of the ExpressSAS family of next-generation 6Gb/s HBAs delivers a future-proof solution for data-intensive IT and digital media applications such as tape backup, data warehousing, high-definition video, post-production, and digital film production.

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

- SAS 2.0 and SATA 6Gb/s, 3Gb/s and 1.5Gb/s support
- Auto Negotiation between 6Gb/s, 3Gb/s and 1.5Gbs devices
- Supports SSP, SMP, STP protocols
- SGPIO support
- PC BIOS bootability
- Support for advanced format storage media: 512e, 4Kn
- Initiator and target mode (OEM) support
- Flash ROM for easy field updates

User Benefits

- Highest available MB/s and IOPS performance
- Superior system performance with latest SAS/SATA technology
- Low power consumption
- Support for virtualized server environments
- Management Tools
- Command Line Interface for advanced functionality
- ATTO ConfigTool™ (w/GUI) BIOS-based management and configuration utility

Bus Specifications

- x8 PCI Express 2.0 host interface
- Supports PCI Express Base Spec 2.0
- Supports PCI Express CEM Spec 2.0

External Connectivity

- Low profile (H680, H608, H644)
- x4 MiniSAS Connectors
- Internal LEDs for on-line and speed status for each port

Operating System Support

- Windows®
- Windows Server®
- Linux®
- macOS®

Agency Approvals

- FCC Part 15, Subpart B, Class B
- ICES - 003
- EN55022: 2006 + A1: 2007, Class B
- EN55024: 1998 + A1: 2001 + A2: 2003

Airflow

- 100 lf/m (min) recommended

Operating Temperature

Hardware Environment

- Temperature: 0-40°C (34°-104°F)
- Humidity: 10 - 90% non-condensing

Storage Environment

- Temperature: -40°-70°C (-40°-157°F)
- Humidity: 5 - 95% non-condensing

Dimensions

H680

- Length 6.600", Height 2.713"

H608, H644

- Length 5.600", Height 2.713"

Power

- **H680**: 7.8W (typical)
- **H608, H644**: 8.3W (typical)

Warranty

- Three Years

ATTO ExpressSAS	H680	H608	H644
Ports	8 External	8 Internal	4 External/4 Internal
Bus Characteristics	X8 PCIe 2.0	X8 PCIe 2.0	X8 PCIe 2.0
Form Factor	Low Profile	Low Profile	Low Profile
Connections	2 Mini SAS (x4) SFF 8088 External	1 Mini SAS (x4) SFF 8087 Internal	1 Mini SAS (x4) SFF 8087 Internal 1 Mini SAS (x4) SFF 8088 External
Device Support	1024	1024	1024
Part Number	ESAS-H680-000	ESAS-H608-000	ESAS-H644-000