



ATTO Technology, Inc.



16Gb Fibre Channel to SAS/SATA RAID Storage Controllers

FastStream™ SC 9000

ATTO's FastStream™ Storage Controllers are engineered for real-time applications which require managed latency for high-performance collaborative workflows

Long-Standing RAID Experience

ATTO's line of FastStream Storage Controllers feature time-proven ATTO RAID technology and other proprietary technologies developed over the past 18 years to provide the highest performing RAID-based shared storage solution in its class.

Performance Engineered for Real-time Applications

The FastStream features latency and disk management technologies which ensure optimal performance and minimal latency. ATTO's Advanced Data Streaming (ADS™) Technology manages latency by providing controlled acceleration for smooth data streaming. DriveAssure™ technology uses proprietary algorithms and user controls to prevent premature drive failures and slow downs. Combined, these technologies give users smooth, uninterrupted access to data with the highest available performance.

Easy-to-use Management Tools

ExpressNAV™ Storage Manager is the easy-to-use remote management user interface for configuration, monitoring and management of storage connected to the FastStream Storage Controller. FastStream allows streamlined storage management with the tools needed to confidently and efficiently manage storage infrastructures. Sophisticated management features include performance tuning and monitoring, diagnostic and troubleshooting capabilities and phone home email notification.

Flexible Connectivity Solutions

FastStream products have a variety of connectivity options that provide flexibility for use as a small workgroup SAN or as a secondary nearline storage system. Users can simultaneously access disk based RAID Groups and SAS/SATA based tape devices (libraries, drives) to enhance all workflow tasks. FastStream Host connections support ATTO's Multipath Director™ to provide greater performance and reliability in Windows®, Mac® OS X and Linux. ATTO provides regular firmware updates and maintenance programs to keep up with advances in technology so FastStream Storage Controllers can give users the edge for a wide variety of IT and digital media applications.

Technical Features

- 16Gb interface provides performance up to 1600 MB/s on a single channel
- RAID 0, 1, 4, 5, 6, 10, JBOD and DVRAID™ for high-bandwidth video environments
- Exclusive Advanced Data Streaming (ADS™) Technology manages latency to provide performance for up to 30 streams of HD Video with 16 drives
- CacheAssure™ maintenance-free, flash-based data protection that safeguards against the loss of cached data (option)
- Full application performance available during drive rebuilds keeping editors working instead of waiting
- Support for host-based failover and load balancing for OS X®, Windows® and Linux® (Fibre Channel models)
- Works with 3Gb & 6Gb SAS/SATA drives
- Supports up to 128 SAS/SATA devices
- Full support for direct connect to F-port fabric switches (Fibre Channel models)
- SCSI Enclosure Services (SES)
- Tape pass-through allows you to connect tape devices alongside your disk-based RAID Groups
- Advanced management, remote administration and system diagnostics via the ExpressNAV™ Storage Manager
- Real-time drive verification and Performance Metrics
- 2-year standard product warranty
- RoHS Compliant



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Technical Specifications

Applications

FastStream™ Storage Controllers add high-performance RAID data protection to direct attached SAS and SATA JBOD storage. FastStream is an ideal shared storage solution for IT and digital media workgroup environments such as digital content creation, prepress, high-definition video/audio streaming, rich content databases and web servers.

Advanced Data Streaming (ADS™)

Latency management technology for real-time systems maximizes stream counts by controlling acceleration of data transfers in high-bandwidth work environments.

DriveAssure™ Technology

Drive assessment and latency management technology which minimizes the likelihood of RAID Groups becoming prematurely degraded or taken offline due to slow drives ensuring uninterrupted access to media.

- Initialization media scrubbing
- Media scan with parity verification
- Guaranteed latency response time
- Rebuilds continue-on-error
- On-the-fly media error handling
- Data recovery mode

CacheAssure™ Technology

Maintenance-free battery-less flash-based cache protection which safeguards against the loss of cached data during a power or system failure (optional feature)

Connectivity

Host connectors:

- (2) 16Gb SFP+ Fibre Channel (9000)
- 16Gb, auto negotiates to 16Gb/8Gb/4Gb
- Optical SFP's included

SAS device connectors (all models):

- (2) x4 mini-SAS connectors (SFF-8088)
- Works with 3Gb and 6Gb SAS/SATA drives
- Pass-through for SAS tape devices

RAID Features and Functionality

- RAID Levels 0, 1, 4, 5, 6, 10, 40, 50, 60, JBOD and DVRAID™ and N-way mirroring
- 1GB ECC Protected Cache Memory
- One button setups allow storage to be tuned for variety of applications
- Automatic and tunable RAID rebuild priority
- RAID level migration
- Onboard audible alarm
- Hot swap with auto rebuild
- Global and dedicated hot spares
- Configurable sector and stripe sizes
- Partitioning of RAID volumes
- Online performance metrics
- Native command queuing
- Online capacity expansion
- Port mapping for LUN isolation
- SMART / Informational Exception support

Management Interfaces

- 10/100/1000 RJ-45 Ethernet port
- Support for IPv4 and IPv6
- RS-232 serial management port
- External LEDs for Power, Ready, Alert and Link status, SAS and Fibre Channel activity, drive activity and SAS and Fibre Channel speed

Product Dimensions

1U desktop/rackmount units:

- Height 1.69" x Length 9.90" x Width 17.31"
- Rackmount units have mounting hardware that will extend the width to fit a 19" rack

Management Tools

- User friendly ExpressNAV™ Storage Manager provides remote configuration, management and diagnostic capabilities
- Drive initialization and verification identifies drives with soft errors or performance issues
- Built-in drive performance monitoring measures storage performance while host based applications are in use
- Local diagnostics supported via Command Line Interface (CLI), Telnet, FTP and SNMP
- SCSI Enclosure Services (SES) monitor critical components to provide system feedback
- Battery backed event log
- Switchable Dual Firmware ROM Images
- Field upgradeable firmware
- Configuration cloning
- Phone home email notification
- Temperature monitoring

Operating Temperature

Hardware Environment:

- Temperature: 5-40° C
- Humidity: 10 - 90% non-condensing

Power and Airflow

- Input 100-240 VAC, 1A, 47-63 Hz
- 11 CFM (Ambient air not to exceed 40° C)

Agency Approvals and Compliance

- FCC Part 15, Subpart B, Class B
- MET product safety certification
- CE EN55022 / EN55024
- RoHS Compliant 2002/95/EC



FastStream SC 9000 (Available 3Q 2012)

Max Sustained Data Rate	1300MB/s
Max 10-Bit HD Streams	6 uncompressed
Max DVCPPro HD Streams	30
Form Factor	1U Desktop/Rackmount
Input Connectors	(2) 16Gb Fibre Channel
Output Connectors	(2) mini-SAS (x4) SFF 8088 External
Disk Device Support	128
Non-CacheAssure SKU	FSSC-9000-D00
CacheAssure SKU	FSSC-9000-DC0



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