



16Gb Fibre Channel to SAS/SATA Embeddable RAID Controllers

FastStream™ SC 9000E

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 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.

Industry Leading Support

With ongoing dedicated support ATTO provides peace of mind that OEM solutions will make it to market on time. FastStream products are optimized for OEM specific applications with custom GUI and branding capabilities which enable configurable, quick to market solutions. During the product lifecycle, vendor response can be critical to the success of a solution. ATTO has dedicated program management with an escalation process and a guaranteed response time. ATTO also provides regular firmware updates and maintenance programs to keep up with advances in technology.

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 (optional)
- Full application performance available during drive rebuilds keeping editors working instead of waiting
- Compatible with ATTO Multipath Director™ for Mac OS X®, Windows® and Linux® (Fibre Channel models)
- Works with 3Gb and 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
- Debug tools available to help OEM customers release a highly tested and reliable solution
- RoHS Compliant

Technical Specifications

Embedded 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

Connectivity

Host Connectors:

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

SAS Device Connectors:

- (2) x4 mini-SAS connectors (SFF-8087)
- Works with 3Gb and 6Gb SAS/SATA drives
- Pass-through for SAS tape devices

Power and Airflow

- Requires ATX Power Supply which supports 5 & 12 VDC +/- 10%, 6A via ATX 24 pin connector
- 11 CFM (Ambient air flow not to exceed 40° C)
- Soft power reset connector

RAID Features and Functionality

- One button setups allow storage to be tuned for variety of applications
- RAID Levels 0, 1, 4, 5, 6, 10, 40, 50, 60, JBOD and DVRAID™ and N-way mirroring
- 1GB ECC Protected Cache Memory
- CacheAssure™ Battery-Free Flash based Cache Data Protection (optional feature)
- Enclosure aware RAID Group creation
- Automatic and tunable RAID rebuild priority
- RAID level migration
- Hot swap with auto rebuild
- Global and dedicated hot spares
- Configurable sector and stripe sizes
- Partitioning of RAID volumes
- Online performance metrics
- Onboard audible alarm
- 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 link connectivity

Product Dimensions

Embeddable RAID Controllers:

- Standard microATX form-factor
- Length 9.60" x Width 7"

Management Tools

- ExpressNAV™ Storage Manager offers remote configuration, management and diagnostics
- Drive initialization and verification identifies drives with soft errors or performance issues
- Built-in drive performance monitoring measures storage performance
- Local diagnostics supported via Command Line Interface (CLI), SNMP, Telnet and FTP
- SCSI Enclosure Services (SES) monitor critical components to provide system feedback
- Integrated QuickNAV™ enables discovery and management of multiple storage components
- 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

Storage Environment:

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

Agency Approvals and Compliance

- RoHS Compliant 2002/95/EC
- FCC Part 15, Subpart B, Class A
- CE EN55022/EN55024, Class A



FastStream SC 9000E (Available Q3 2012)

Max Transfer Rate	1300MB/s
Max 10-Bit HD Streams	6 uncompressed
Max DVCPro HD Streams	30
Input Connectors	(2) 16Gb Fibre Channel
Output Connectors	(2) mini-SAS (x4) SFF-8087 Internal
Part Number	FSSC-9000-E00

Options

CacheAssure™	SPAK-FSSC-E00
90° PCIe Riser	BRAC-PCIE-E00



ATTO

ATTO Technology, Inc.