



FastStream SC Firmware Release v4.50

1. General Release Information

These product release notes define the new features, changes, known issues and release details that apply to the FastStream SC 9000 firmware version 4.50, which was released on 11/7/2012.

2. Changes

- **Version 4.50 (Released 11/7/12)**
 - **New Products**
 - **Version 4.50 introduces support for a new model to the FastStream product family with a new high-speed Fibre Channel interface for high performance storage needs.**
 - **FastStream SC 9000 / 9000E** – This model features 16Gb Fibre Channel host connectivity. The 9000 supports up to 128 SAS and SATA disk drives and provides the same robust feature set that exist in the 5550 and 8550.
- **Version 4.30 (Released 3/8/12)**
 - **Note:** *Once upgrading to 4.30 you will only have the ability to back-flash to v4.30, flashing to prior versions is not possible. Please backup your event log as there have been changes that will clear the event log when flashing to v4.30.*
 - **New Firmware Features**
 - SNMP support
 - IPv6 compatibility with QuickNAV
 - Updated Fusion network stack
 - Drive Performance and Health Drive Info page have been updated to display a filtered version of the event log.
 - **New Default Settings**
 - **PassThroughMode** - PassThroughMode is now enabled to all by default.
 - **AutoMapOnBoot** - Auto Mapping Drives on boot CLI command added; disabled by default.
- **Version 4.20 (Released 8/11/11)**
 - **Note:** *Once upgrading to 4.20 you will only have the ability to back-flash to v4.20, flashing to prior versions is not possible. Please backup your event log as there have been changes that will clear the event log when flashing to v4.20.*
 - **New Firmware Features**
 - **New Email Alerts** have been added to provide improved feedback when critical, informational or warning conditions occur.
 - **SES Slot to disk mapping** is now supported via CLI
 - **Improved automatic mapping functionality for pass-through devices** so that all ports are equally used when mapping these devices

- **Disk Write Caching** is now an option when setting up RAID Groups. This allows users to set up maximum performance (with Caching enabled) or maximum protection (with cache disabled). This feature is useful when using CacheAssure™.
 - **Onboard Alarm Status** is now displayed on the ExpressNAV™ Monitor webpage.
 - **The ExpressNAV GUI** was updated with several tool tips and also had a reduction in overall text displayed on several of the interface webpages.
 - **ATTO DriveHealth** is now supported from the ExpressNAV GUI and provides SMART data for SATA drives and Medium Defects or Informational Exceptions for SAS drives.
 - The latest browsers from **Microsoft (Internet Explorer), Mozilla (FireFox) and Apple (Safari)** have been tested as interoperable with ExpressNAV.
- **Version 4.06 (Released 3/11/11)**
 - **Note:** *Once upgrading to 4.06 on the 8550 you will only have the ability to back-flash to v4.05, flashing to prior versions is not possible.*
 - **New Firmware Features**
 - **DriveHealth** functionality has been added via CLI. This feature provides access to drive data which may help estimate the drive health of SAS or SATA disk drives. This data is provided through SMART, Medium Defects or Informational Exceptions, results are subjective and may vary by manufacturer.
 - 3 CLI commands were added to support this functionality; DriveHealth, DriveHealthStatus and DriveHealthDisplay.
 - **Performance Improvements** have been rolled in to the FastStream from ATTO's Universal Virtual Device Architecture (UVDA) for the ExpressSAS RAID Adapter. In lab testing this has shown improvement on writes when using SAS and SATA drives.
- **Version 4.05 (Released 2/18/11)**
 - **Note:** *Once upgrading to 4.05 on affected dual boot platforms (5550, 8250, 8550), back-flashing to previous firmware releases is no longer possible.*
 - **New Firmware Features**
 - **Dual Flash ROM Images** for greater reliability when flashing new firmware on the FastStream. The FastStream will revert to the previous image in memory in the event of a failed firmware update.
 - **User Selectable Firmware Images** allows users to manually revert between the current and previous version of firmware in the event of system instability after upgrading to a new version of firmware.
 - **New Default Settings**
 - **Interleave** – Interleave size now defaults to 256KB when creating new RAID Groups
 - **FC Connection Mode** - Default Fibre Channel connection mode is now PTP Preferred
 - **Note** *that existing installs should be checked after upgrade to make sure their Fibre Channel HBA connectivity is not disrupted by the new settings.*
 - **CacheAssure monitoring** – For models which support the CacheAssure feature, an email alert is now generated when the CacheAssure hardware is missing or broken.
 - **FastStream SC 8500** – This model was updated with the latest bug fixes. Major new features found in the 5550, 8250 and 8550 are not available on the 8500.
- **Version 4.00 (Released 10/14/10)**
 - **New Products**
 - **The FastStream family has been upgraded with new models which add on to the robust feature set of the FastStream product line. These products include:**
 - **FastStream SC 5550 / 5550E** – An updated version of the FastStream 5500 with new features outlined below. The 5550 supports up to 64 SAS and SATA disk drives and provides 4Gb Fibre Channel host connectivity
 - **FastStream SC 8250 / 8250E** – An updated version of the FastStream 8200 with new features outlined below. The 8250 supports up to 128 SAS and SATA disk drives and provides 6Gb SAS host connectivity

- **FastStream SC 8550 / 8550E** – An updated version of the FastStream 8500 with new features outlined below. The 8550 supports up to 128 SAS and SATA disk drives and provides 8Gb Fibre Channel host connectivity
- **New Model Features**
 - **CacheAssure™** is a maintenance-free flash-based data protection module that safeguards against the loss of cached data even during catastrophic system failures. CacheAssure does not use a battery, provides lifetime backup of cached data, Immediate RAID protection is maintenance free and environmentally friendly. This feature is an optional add-on to the FastStream Storage Controller.
 - **Onboard Audible Alarm** – an audible alarm is now present to alert users of issues with the controller – this feature may be enabled or disabled from ExpressNAV or CLI
 - **Updated Flash ROM capacity** – increased ROM capacity to enable future feature which will provide dual flash ROMs for reliability while upgrading FastStream firmware
 - **Soft Power Reset (embeddable models only)** – allows customers to add a soft-click type reset to their enclosures which use the FastStream as their RAID controller
 - **New Internal SAS ports (embedded models only)** – updated ports to SFF-8087 customers will need to migrate over from the SFF-8484 connectors which were on the 5500, 8200 and 8500
- **Version 3.86 (Released 9/7/10)**
 - **New Firmware Features**
 - **Bug fixes to prevent issues to the SAN when an Apple Mac workstation with non-ATTO HBA's reboot while connected to the FastStream 8500 and 8550 only.**
- **Version 3.85 (Released 7/28/10)**
 - **New Firmware Features**
 - **Ability to disable/enable FUA Bit to improve performance with SAS drives and certain applications like Assimilate Scratch. This addresses current customer issues with the 7500 and 8500 only.**
- **Version 3.84 (Released 6/18/10)**
 - **New Firmware Features**
 - **DriveAssure™ Data Recovery Mode** allows access to data in offline RAID Groups via Basic and Extreme Recovery modes. Has the ability to force a rebuild to complete when errors are encountered on a member drive.
 - **Incident Resolutions, Enhancements and Feature improvements**
 - **Updated Fibre Channel and SAS firmware layer** to allow host and device connections to have the latest updates, fixes and features for FC and SAS
 - **FTP Timeout value setting** added to help users who use scripting to make sure a previous FTP session is closed before a new session is opened
 - **Duplicate retry messages removed from the log** to make it easier to troubleshoot any problems encountered in the field
 - **Updated SpeedRead and Rebuild priority** to be synergistic with ExpressSAS RAID – Rebuild 'Equal' priority is now 'Same' priority. SpeedRead Enabled is now 'Always', Disabled is now 'Never' and Auto is now 'Adaptive'
 - **Removed Fibre Channel Hard Addressing** from ExpressNAV FC Hard Addressing is still available via the RAID CLI (Fibre Channel models only)
 - **Improved operation with Apple/LSI Fibre Channel HBAs** fixed issue where, upon reboot, some workstations may lose access to RAID Groups (Fibre Channel models only)
 - **ExpressNAV Storage Manager Improvements**
 - **Updated RAID Group wording** on the Manage Menu > RAID Groups
 - **Added Fan Speed and Temperature** to SES Elements Monitor page
 - **Updated help text** and added tool tips for many ExpressNAV functions
 - **Improved Partition creation functionality** can now split by count or size and also added a reset button to start creating partitions from scratch





Step 5: Select Partition option for the new RAID Group

Single Partition
 Partition By Count
 Partition By Size

A single partition is sufficient for most applications, however, breaking RAID Groups into multiple partitions can help to optimize storage utilization by providing dedicated RAID protected partitions for individual user applications.

Partitions

Partition Count (1 - 128) : 37.26 GB per partition

RAID Group Capacity	Partition Identifier	Partition Size
	0	37.26 GB
	1	37.26 GB
	2	37.26 GB
	3	37.26 GB

- **Modify Partitioning improved** – now easier to split and merge partitions after a RAID Group has been created
- **Updated Initial Setup** menu to better identify creating RAID Groups and system processes
- **Combined Quick Digital and General Digital Video** one-button setups to create a more efficient Digital Video option
- **Added new information fields** when you hover over drives in when setting up a RAID Group or in the Drive Detail page. New fields include Disk Speed, Disk State, Device Type, LUN and RAID Group usage

3. Known Issues/Advisements

- Version 4.50 only supports the FastStream SC 9000, version 4.30 is the latest version for the 5550 and 9000 model FastStream Storage Controllers.
- ATTO 16Gb Fibre Channel Celerity MultiPath Director™ drivers are not available on the product CD at release, you may download them from the ATTO website (www.attotech.com) after November 8, 2012.
- Phy link status will be out of date for 10 seconds after cable pull, insertion, or event. This will delay any SNMP traps by 10 seconds as well. This is a limitation because of Intel's firmware.
- Phy link status will not be updated on one cable event, when two cables are connected to the same storage. This will prevent an SNMP trap from being sent. This is a limitation based on Intel's firmware.
- Dell MD1200 array will not be recognized on SES at boot occasionally, or will timeout. This has been deemed a 3rd party issue.
- If a FastStream loses power while writing to disks, when power is restored, a RAID group may come back as offline since a disk member may have been placed in a bad state. Although extremely rare, workaround is to power cycle drive array.
- In OS X configurations, mounted RAID groups may not disappear from desktop when deleted.
- When connected to an IPv6 network, incorrect IPv6 addresses may be displayed on the GUI's finddevices.html page. Use the CLI or RAID CLI to get the correct IPv6 address.
- When using storage enclosures with LSI 12 port daisy-chained expanders, support is currently limited to two levels of expanders. This issue does not occur with other expander manufacturers.
- When using Internet Explorer 7 or 8 in Windows 2008 Server, javascript is disabled by default. The ExpressNAV Storage Manager requires this functionality to be enabled in the browser or else the buttons will not respond. Please enable within the security settings of IE7 and IE8.
- Seagate Barracuda AS Gen 11 disk drives are intended for desktop use. These drives are NOT recommended for use with the ATTO FastStream at this time. Affected models include ST3160813AS, ST3320613AS, ST3500320AS, ST3500620AS, ST3640323AS, ST3750330AS, ST3750630AS, ST31000333AS, ST31000340AS and ST31500341AS. Please visit ATTO or Seagate's website for more information and potential drive firmware updates.

- When connecting wide-ported SAS devices (RAID Arrays) to the FastStream, performance will be limited to the bandwidth single PHY per SAS connection (300 MB/sec). This issue does not occur when using JBOD storage with the FastStream
- When replacing the SAS cable on the FastStream, drives may not show up in the ExpressNAV Storage Manager. Please power cycle the storage and FastStream to see attached drives.
- When using online capacity expansion, individual drives on the Health and Status Monitor page will show up as CONVRT 0% instead of online; drives and RAID groups will be online and accessible. A reboot of the FastStream will clear this status.
- BlockDevIdentify command does not work correctly for Fujitsu drives.
- Strange characters may be displayed on the finddevices.html ExpressNAV page – ID strings are not properly terminated.

4. Affected Products

Product Name	SKU	Firmware Filename
FastStream SC 9000	FSSC-9000-D00 / -DC0	S900450.ima
FastStream SC 9000E	FSSC-8550-E00 / -EC0	S900450.ima

5. Contacting ATTO Support

ATTO Technology, Inc. is renowned for its technical support services. ATTO's goal is to provide you the quickest response possible for your technical support needs, and is available Monday-Friday, 8:00 AM to 6:00 PM EST (except holidays and plant closings).

ATTO Technical Support can be contacted via phone or email:

- Phone: 716.691.1999 ext. 242
- E-Mail: techsupport@attotech.com