



## ExpressSAS Host Adapter 6 Gb v1.20 – Windows

### 1. General Release Information

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These product release notes define the new features, changes, known issues and release details that apply to the ExpressSAS Host adapter products v1.20 that was released on 07/31/2009. This information pertains to Windows.

### 2. Changes

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- **Version 1.20 (Released 07/31/2009)**
  - **Note:** It is recommended that firmware dated 07/27/09 be utilized with this driver release.
  - The following applies to release v1.20
  - **New Features, Enhancements and Changes**
    - Enhanced firmware which contributed in an up to 25% increase in throughput.
    - The supported expander chain depth was increased from 8 to 10.
    - Transport layer retries are explicitly enabled on all commands for SAS 2.0 compliant devices instead of being enabled in the device's mode pages.
    - All command retries are disabled for sequential (e.g. tape) devices.
    - SMP PHY Control command for clearing SATA affiliations improved. Uses the hard reset function instead of the clear affiliation function.
    - Expander enhancements which include discovery process reorganization for clearing SATA affiliations. All devices reported to the OS will have sequential target IDs starting with zero.
    - The heartbeat mechanism has been redesigned to improve I/O resources allocation.
    - Confirmation of I/O completion to the OS prior to reporting a device removal.
    - SCSI check status for data phase errors and other bus events that occur due to signal integrity problems are now retried
    - When a port is reset due to a task management command timeout, the aborted collateral is retried.
    - Enhanced event logging to include retried commands
    - Added support to the SMP API for discovering direct attached devices. A SAS address can be associated with all target IDs.
    - Changed the scatter/gather allocation to improve performance and conserve memory.
    - Added the WindowsFix520 registry setting to correct the length of 512 byte SCSI READ 10 commands for devices with sector sizes between 513 and 767 bytes.
    - Documented support for Windows 7.
    - Improved optimizations and memory allocation to expander discovery process to increase number of drives that can be discovered.
    - Stability fixes in discovery processing when commands timeout or need to be retried due to bus errors.
    - Fixes to SATA NCQ error and head-of-line blocking recovery mechanisms to ensure commands are properly aborted and retried.
    - Task management processing correction for when a discovery is in progress for the same port.

- When a device rejects an OPEN address, it is infinitely retried to account for devices that stop responding to commands for extended periods of time.
  - The OPEN REJECT RETRY interval is set to 5  $\mu$ s.
  
- **Version 1.10 (Released 03/24/2009)**
  - **Note:** It is recommended that firmware dated 03/20/09 be utilized with this driver release.
  - The following applies to release v1.10
  - **New Features, Enhancements and Changes**
    - Added the Device Name field to the SAS Identify Address Frame (an optional field added in SAS 2.0).
    - Resolved an issue during initial device discovery that could result in a driver crash if the device rejects a discovery command.
    - Resolved issues with discovery processing when a discovery command timed out
    - SATA devices behind expanders are no longer reset during discovery
    - Improved SATA NCQ processing so performance is maintained as the queue depth increases
    - Improved port down cleanup to ensure all I/O is completed before destroying devices when multiple ports are instantiated
    - Resolved an issue with SCSI-to-ATA translation of the WRITE AND VERIFY commands that would allow NCQ commands to be started between the write and verify phases
    - Now support SMP API
    - Added timeout processing for commands issued through the SMP API
    - SATA NCQ is disabled in NVRAM by default
  
- **Version 1.01 (Released 02/18/2009)**
  - **Note:** It is recommended that firmware dated 01/28/09 be utilized with this driver release.
  - The following applies to release v1.01
  - **New Features, Enhancements and Changes**
    - Resolved issues that may cause the driver to crash or hang if a device rejects a discovery command on initial load.
    - Resolved any unexpected target ID changes after a cable pull and reinsertion, when a SATA device is connected behind an expander.
  
- **Version 1.00 (Released 12/11/2008)**
  - **Note:** It is recommended that firmware dated 12/05/09 be utilized with this driver release.
  - The following applies to release v1.00
  - **New Features**
    - Initial release of ExpressSAS H608 and H680

### 3. Known Issues/Advisements

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- Please refer to the DOS release notes for any known firmware issues.
- SAT exceptions: (SCSI-to-ATA Translation for SATA support). The following SCSI commands are not translated: FORMAT UNIT, REASSIGN BLOCKS, SECURITY PROTOCOL IN, and SECURITY PROTOCOL OUT.

#### 4. Affected Products

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| Product Name                 | SKU           |
|------------------------------|---------------|
| ExpressSAS H680 Host Adapter | ESAS-H680-000 |
| ExpressSAS H608 Host Adapter | ESAS-H608-000 |
| ExpressSAS H6F0 Host Adapter | ESAS-H6F0-000 |
| ExpressSAS H60F Host Adapter | ESAS-H60F-000 |
| ExpressSAS H644 Host Adapter | ESAS-H644-000 |

#### 5. Contacting ATTO Support

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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 8:00 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](mailto:techsupport@attotech.com)