



## ExpressSAS Host Adapter 12Gb Flash Bundle v181102

### 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 12Gb Host Adapter flash bundle package, **v181102**, which was released on **November 12, 2018**. This information pertains to the flash bundles and EFI utility associated with the ExpressSAS 12Gb Host Adapter products.

### 2. Changes

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- **Version 181102/EFI v1.37 (Released 11/12/2018)**
  - **New Features, Enhancements and Changes**
    - [EFI] Added an adaptive device wait NVRAM setting that extends the device wait time and count until SAS discovery is complete
    - [EFI] Added a boot device wait NVRAM setting that alters the device wait feature to only wait for boot devices configured by Power Center Pro
    - Enabled Power Center Pro on externally connected drivers
  
- **Version 180817/EFI v1.36 (Released 08/22/2018)**
  - **New Features, Enhancements and Changes**
    - Incorporated controller firmware 3.09.55
    - Added support for a new flash bundle format that supports smaller download chunks compatible with the maximum transfer size for the driver
    - [EFI] does not require non-zero LUNs to be present below LUN 64 to discover non-zero LUNs at or above LUN 64
  
- **Version 171201/EFI v1.35 (Released 12/12/2017)**
  - **New Features, Enhancements and Changes**
    - Incorporated controller firmware 3.09.52
    - Added SMR drive support
    - Added ability to detect and explicitly disable host managed SMR SATA drives
    - Added an NVRAM setting to enable SEMB SATA devices as disks
    - Resolved an Power Center Pro RAID group management issue with SATA drives
    - Resolved an infinite discovery issue when bad SATA drives caused expander BCCs
  
- **Version 170530/EFI v1.30 (Released 6/7/2017)**
  - **New Features, Enhancements and Changes**
    - Incorporated controller firmware 3.08.71
    - Resolved an issue where MSI-X address space was not properly protected, resulting in the adapter not functioning as expected
  
- **Version 161221/EFI v1.30 (Released 1/3/2017)**
  - **New Features, Enhancements and Changes**
    - Incorporated controller firmware 3.08.69.
    - Modified firmware to allow communication to SATA drives when the minimum link rate of the expander topology does not match the drive rate.

- Changed the I/O timeout policy during expander discovery of a single device to have minimal impact on the overall discovery process.
  - Fixed a potential hang when a port goes down during discovery.
  - Fixed a potential task management and timeout error recovery conflict.
  - Fixed a potential crash when the user connects an invalid expander topology.
  - Fixed issues with inaccessible devices (due to invalid topologies) being presented to the OS.
- **Version 160105/EFI v1.25 (Released 01/08/2016)**
    - **New Features, Enhancements and Changes**
      - Incorporated controller firmware 3.08.55.
      - Fixed Write and Verify support for SATA devices to verify the data when the device supports FUA.
      - Improved discovery of SATA devices that require excessive recovery time from a hard reset.
      - Added workaround for Super Micro expanders that report invalid discovery data for SATA drives.
      - Added support for Extended Inquiry Data VPD page for SATA devices.
- **Version 150820/EFI v1.20 (Released 08/28/2015)**
    - **New Features, Enhancements and Changes**
      - Incorporated firmware 3.07.84.
      - An NVRAM parameter has been added to disable/enable Power Center Pro support.
      - Resolved issue where cable management errors prevented PHY enablement. We now attempt to bring up the PHY using default settings.
- **Version 150521/EFI v1.15 (Released 05/27/2015)**
    - **New Features, Enhancements and Changes**
      - Incorporate firmware 3.07.73.
      - Devices in expander topologies with a link rate not applicable to the NVRAM setting are no longer presented to the system.
      - Add support for spinning up SATA drives that have PUIS enabled.
      - No longer set ordered task attributes to work around a problem with unsupported SES devices.
      - Fixed a timing window that could cause a 6Gb SATA drive to not be discovered.
      - Fixed SGPIO operation on the H1208.
      - Fixed an issue where a SATA I/O timeout occurred if a protocol error prevented a retry of a command.
      - The EFI driver is now signed to support UEFI Secure Boot.
- **Version 141113/EFI v1.10 (Released 12/16/2014)**
    - **New Features, Enhancements and Changes**
      - Incorporated firmware 3.07.66.
      - Added support for the H1244, H1248 and H1288.
      - Fixed an issue with the driver's device scan where devices would be blocked from the system if they didn't have a valid LUN 0.
      - In the presence of multiple logical SAS ports, when the controller is reset, fixed an issue that could result in the SAS ports not containing the correct PHYs. This could result in improper SAS discovery or detection of read-only ports.
      - Fixed an issue that could cause a RAID group to disappear after a controller reset.
      - Fixed an issue that could cause the adapter to go degraded before initialization is complete.
      - Fixed a port reset issue that could cause newly attached devices to not be discovered.
      - Fixed an issue that could cause discovery to be blocked forever if discovery command timeout recovery required a controller reset.
      - All discovery operations in flight are correctly aborted if a controller reset occurs.
      - I/O connection errors due to incomplete expander routing are now retried.
      - Increased the discovery command timeout to account for slow SATA SSDs.

- Fixed an issue with aborting timed out discovery requests.
- **Version 140730/EFI v1.05 (Released 8/1/2014)**
  - **New Features, Enhancements and Changes**
    - Incorporated firmware 3.07.40.
    - Resolved an issue regarding correct interpretation of descriptor based sense data during the driver's device scan.
    - Increased the wait time for devices to become ready from 30 to 60 seconds.
- **Version 140423/EFI v1.00 (Released 5/2/2014)**
  - **New Features, Enhancements and Changes**
    - Initial release for the H1280, H1208, H12F0 and H120F

### 3. Known Issues/Advisements

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- A corrupted data frame transmitted by a device and recovered by Transport Layer Retries may be completed with an I/O error to the host application.

### 4. Affected Products

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Product Name
ExpressSAS H1280
ExpressSAS H1208
ExpressSAS H120F
ExpressSAS H12F0
ExpressSAS H1244
ExpressSAS H1248
ExpressSAS H1288

### 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
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