



## ExpressSAS 12Gb Host Adapter v1.13 – FreeBSD®

### 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 SAS/SATA host adapter driver **v1.13** that was released on **April 22, 2019**. This information pertains to the FreeBSD 11 and 12 operating systems.

### 2. Changes

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- **Version 1.13 (Released 04/18/2019)**
  - **Note:** It is recommended that firmware dated 04/12/2019 be used with this driver release.
  - **New Features, Enhancements and Changes**
    - Added support for FreeBSD 11 and 12.
    - Added support for SAS target mode API version 2. This updated target mode developer's kit is available through your ATTO representative.
    - Changed driver behavior so that, by default, ports operating only in target mode will not enable the SAS link until a target mode application has connected to the driver.
    - Improved logging of out-of-resource errors.
    - Improved the speed of Format Unit commands for SATA devices that support SCT Write Same.
- **Version 1.12 (Released 11/12/2018)**
  - **Note:** It is recommended that firmware dated 11/02/2018 be used with this driver release.
  - **New Features, Enhancements and Changes**
    - Added an adaptive wait NVRAM setting that extends the device wait time and count until SAS discovery is complete
    - Added the ability to present the virtual SES device when no devices are attached
- **Version 1.11 (Released 08/22/2018)**
  - **Note:** It is recommended that firmware dated 08/17/2018 be used with this driver release.
  - **New Features, Enhancements and Changes**
    - Added support for a new flash bundle format that supports smaller download chunks compatible with the maximum transfer size for the driver
    - Increased I/O resources to improve performance with certain I/O workloads
    - Improved target mode performance
    - Fixed an issue with Virtual SES devices not being presented
- **Version 1.10 (Released 12/12/2017)**
  - **Note:** It is recommended that firmware dated 12/01/2017 be used with this driver release.
  - **New Features, Enhancements and Changes**
    - Added SMR drive support
    - Added support for displaying SATA device temperature in *atdevinfo*
    - Added support for *atsasinfo* to replace *atsasphy*
    - Added *atdevinfo* and *atsasinfo* CLI tools
    - Fixed PHY state display in *atsasphy* when disabling a PHY with no active link

- Fixed infinite discovery when a bad SATA drive causes expander BCCs
  - Fixed load balancing of SAS drives in dual path topologies when SATA drives present
  - Fixed a discovery issue that could cause devices to be blocked from the system
  - The tracing driver now enables event logging by default
- **Version 1.05 (Released 06/07/2017)**
  - **Note:** It is recommended that firmware dated 05/30/2017 be used with this driver release.
  - **New Features, Enhancements and Changes**
    - Resolved an issue where the driver incorrectly responded to a Check condition for ATA Pass-Through commands
    - Implemented a fix for Write Buffer mode 7 translation for SATA drives
    - The driver will now detect and explicitly disable host managed SMR SATA drives
    - Added an NVRAM setting to enable SEMB SATA devices as disks
    - Resolved a memory corruption issue with T10-DIF and SAS enclosures
    - Added support for Write Buffer modes D, E, and F for SATA drives
    - Modified driver so that adapter SES device is not created until a device is attached
    - Fixed the potential for drives newly formatted for T10-PI to be marked as unavailable in *atpcpro*.
    - Fixed an issue where devices with a corrupt format may be blocked from the system when Power Center Pro is enabled
    - Modified driver 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 Write Same processing to some non-512 sector size SATA drives
    - Disabled the Extended Power Conditions feature set for SATA drives
    - 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 1.00 (Released 1/27/2016)**
  - **Note:** It is recommended that firmware dated 1/5/2016 be used with this driver release.
  - **New Features, Enhancements and Changes**
    - This is the initial release of the ExpressSAS 12G HBA driver for FreeBSD.

### 3. Known Issues/Advisements

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- None

### 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:

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