



ATTO Technology, Inc.

Product Release Notes

12Gb GT SAS/SATA Release v1.10.1 – Linux®

1. General Release Information

These product release notes define the new features, changes, known issues and release details that apply to the 12Gb GT SAS/SATA adapters, version 1.10.1, that was released on 04/23/2025. This information pertains to Rocky Linux 8/9, OpenSUSE LEAP 15, Red Hat Enterprise Linux 8/9, SUSE Linux Enterprise Server 15, and Ubuntu 22.04/24.04 LTS.

2. Changes

- **Version 1.10.1 (Released 04/23/2025)**
 - **Product Improvements**
 - Includes fix for vendor specific enclosure command fails that trigger link resets
 - Resolves issue that causes SMR drives to drop after encountering write errors
- **Version 1.10 (Released 02/25/2025)**
 - **New Features**
 - Added support for auto rebuilding RAID groups
 - Includes support for displaying virtual port information and device node addresses
 - **Incident Resolutions/Bug Fixes/Changes**
 - Includes fix for potential REPORT ZONES error for SATA devices on AMD systems
 - Added fix for potential flash issues when flashing latest firmware
 - Resolves issue that causes a RAID member to go missing on certain systems
 - Includes fix for issue with displaying unknown error for target mode I/O errors
- **Version 1.09 (Released 09/20/2024)**
 - **New Features**
 - Includes support for newest Debian 11 6.1 backports kernels
 - Added support for OpenSUSE/SLES 15.6
 - **Incident Resolutions/Bug Fixes/Changes**
 - Added driver signing instructions for secure boot; instructions added to README
 - Resolves a Linux transport code issue which was hard coding the PHY ID for end devices
 - Dynamic Kernel Module Support (DKMS) install method is optional
 - Includes fix for maximum PHY mask settings for adapters that have less PHYs than the maximum for the family
 - Added fix for issue caused by default number of SAS addresses on certain GT models
 - Resolves incorrect reporting of OUI ID for virtual SES devices
 - Added *atdevcfg* to driver installer
 - Includes fix for compatibility with SLES/OpenSUSE 15.5
- **Version 1.08 (Released 6/06/2024)**
 - **It is recommended that firmware version 240529 be utilized with this driver release.**
 - **New Features**
 - N/A
 - **Incident Resolutions/Bug Fixes/Changes**
 - Added work around for HPE iLO virtual display driver

- Fixed compatibility with RHEL/Rocky 9.4
 - Fixed crash during large amounts of task management
 - Don't retry I/O to sequential devices
 - Set sg_tablesize based off the max_xfer_size and page size
 - Fixed Ubuntu 22.04.6 compatibility
 - Removed retries of Unit Attention conditions
 - Fixed default max_xfer_size for Linux SAS products
- **Version 1.07 (Released 12/18/2023)**
 - **It is recommended that firmware version 230714 be utilized with this driver release.**
 - **New Features**
 - Added automated CLI tools installation
 - Streamlined manual driver installation instructions
 - Added installer option to display included CLI tools
 - System will now always attempt to uninstall all (old) drivers during install/uninstall
 - Streamlined the install/uninstall user experience
 - Added unattended install/uninstall support
 - Expander-attached initiators are now discovered when in target mode
 - Implemented api change to get_user_pages() in 6.5 kernel
 - At least 2 SAS addresses are always now set for the MPI based controllers
 - **Incident Resolutions/Bug Fixes/Changes**
 - Fixed issue with cables not being detected sometimes in target mode
 - Fixed compatibility with Linux kernel 6.4
 - Fixed DMA in IOCTLs when intel_iommu is on in the boot settings
 - Fixed kernel warning when executing CLI tools in Debian and other newer kernels
 - Fixed compatibility with Rocky/RHEL 8.9
 - Fixed compatibility with Red Hat / Rocky Linux 9.3
 - Fixed DKMS uninstallation
 - Fixed build issue in Linux kernel 6.5.7
 - Fixed target mode crash when disconnecting with I/O in flight
 - Fixed DKMS bypass for 6.x and newer kernels
 - Removed debug messages from default logging mask
 - Don't service a cable interrupt if the cable is faulted
- **Version 1.06 (Released 07/25/2023)**
 - **It is recommended that firmware version 230714 be utilized with this driver release.**
 - **New Features**
 - Updates for Linux kernel 6.2 and later
 - Updated the ATA passthrough commands for kernel 6.3
 - Added warning to user if installer is run from a path containing whitespace
 - Changed the default target execution throttle to 128
 - Changed the maximum SAS depth to 11
 - **Incident Resolutions/Bug Fixes/Changes**
 - Fixed the Linux uninstaller to remove module from initrd
 - Fixed an issue with opensource driver taking precedence over full ATTO driver
 - Fixed an issue counting VSA groups towards the device wait count
 - Fixed an issue honoring SSC disable setting
 - Fixed a potential crash that could occur if the target database is full
 - Fixed a crash that occurred when connecting a target mode solution when target mode is disabled
- **Version 1.05 (Released 01/30/2023)**
 - **It is recommended that firmware version 221213 be utilized with this driver release.**
 - **New Features**
 - Added support for backported changes in Red Hat/Rocky Linux 9.1
 - Updated the Linux kernel version for the H12xx GT open source driver
 - Increased the VSA RAID limits
 - RAID members can now be removed from a RAID group
 - Added support for the device maintenance mode NVRAM setting

- **Incident Resolutions/Bug Fixes/Changes**
 - Fixed an issue that potentially occurred when accessing invalid IOCTL data
 - Fixed a crash that occurred when target mode is disabled and a target mode solution is connected
 - Fixed a potential driver hang when hot plugging devices
 - Restored the cmd_retry_count module parameter
 - Enabled driver logging by default
 - Install atcfg instead of atlocate
 - Fixed a failure that occurred during SCST/LIO target mode connections if target mode was disabled
 - Fixed a display issue for the OS device name in atdevinfo (for non-zero SAS ports)
 - Fixed the SAS transport for 5.18 Linux kernel
- **Version 1.03 (Released 02/08/2022)**
 - **Note:** It is recommended that the latest firmware be used with this driver release.
 - **New Features, Enhancements and Changes**
 - Added support for Rocky Linux 8
 - Added support for Debian 11
 - Added support for 5.9+ Linux kernels
 - Target mode processing is now allowed while chip reset discovery is in progress
 - Added a new external communication interface to resolve GPL issues
 - Fixed issue that occurred when mounting LTFS volumes
 - Fixed rare issue with I/O timeouts that occurred in target mode
 - Fixed compilation issue on OpenSUSE 15.1
 - Shortened controller initialization and discovery when PHY settings are adjusted for cable length
- **Version 1.02 (Released 06/23/2021)**
 - **Note:** It is recommended that the latest firmware be used with this driver release.
 - **New Features, Enhancements and Changes**
 - Add support for storing and displaying the adapter serial number
 - Update website URL in Linux proc output
 - Report adapter state as "Discovery in progress" while the port is enabling
 - Update waiting for devices when coming out of power management
 - Update initiator /proc output
 - Remove support for "command" ioctls in the /proc interface
- **Version 1.01 (Released 01/05/2021)**
 - **Note:** It is recommended that the latest firmware be used with this driver release.
 - **New Features, Enhancements and Changes**
 - This is the initial release of the ExpressSAS 12Gb GT HBA driver for Linux.
- **Version 1.00 (Released 10/19/2020)**
 - **Note:** It is recommended that the latest firmware be used with this driver release.
 - **New Features, Enhancements and Changes**
 - This is the initial release of the ExpressSAS 12Gb GT HBA driver for Linux.

3. Known Issues/Advisements

- None

4. Affected Products

Product Name	SKU
ExpressSAS GT H1280	ESAH-1280-GT0
ExpressSAS GT H1208	ESAH-1208-GT0
ExpressSAS GT H120F	ESAH-120F-GT0
ExpressSAS GT H12F0	ESAH-12F0-GT0
ExpressSAS GT H1244	ESAH-1244-GT0

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.

ATTO Technical Support can be contacted via phone or email:

- Phone: 716.691.1999 ext. 242
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