

IBM Drive Firmware Release Notes

| Supported Product IBM Gen 9 HH D | Prives |
|----------------------------------|--------|
| S2S1 (HH) | |
| S2S0 (FH) | |

Overview

IBM has released a firmware update S2S0 (Full Height) and S2S1 (Half Height). This firmware affects all Gen 9 Full Height (FH) and Half Height (HH) Drives. This update is intended to increase overall reliability, improve tape handling, further reduce any possibility of error, and provide continued enhancements to diagnostic capabilities. Firmware fixes since FH R3G0 code and HH code R3G5 follow.

© 2025 Quantum Corporation. All rights reserved. Your right to copy this manual is limited by copyright law. Making copies or adaptations without prior written authorization of Quantum Corporation is prohibited by law and constitutes a punishable violation of the law. ActiveScale, DXi, DXi Accent, FlexSync, FlexTier, iLayer, Lattus, Myriad, Quantum, the Quantum logo, QXS, Scalar, StorNext, SuperLoader, Unified Surveillance Platform, USP, Vision, and Xcellis are either registered trademarks or trademarks of Quantum Corporation and its affiliates in the United States and/or other countries. All other trademarks are the property of their respective owners. Quantum specifications are subject to change.

August 2025 6-68825-14 RevA

Fixes That Affect All Drives

| Fix unload hang during cartridge initialization Fix Load failure after CM check failed Fix read ERP Add new MAM attribute (0C00h) to report EOL validity per partition Tape transport improvement Fix drive hang after 2E1B Improve MTR time Fix cartridge ejection after 2E01 Clean up excessive logging Improve perm logging Improve PH ERP Fix tapemap formatting Fix reporting FSC 7265 at wrap turns Improve ERP Fix timeout at EOD Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Issue |
|---|---|
| Fix read ERP Add new MAM attribute (0C00h) to report EOL validity per partition Tape transport improvement Fix drive hang after 2E1B Improve MTR time Fix cartridge ejection after 2E01 Clean up excessive logging Improve perm logging Improve HH ERP Fix tapemap formatting Fix reporting FSC 7265 at wrap turns Improve ERP Fix timeout at EOD Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix unload hang during cartridge initialization |
| Add new MAM attribute (0C00h) to report EOL validity per partition Tape transport improvement Fix drive hang after 2E1B Improve MTR time Fix cartridge ejection after 2E01 Clean up excessive logging Improve perm logging Improve HH ERP Fix tapemap formatting Fix reporting FSC 7265 at wrap turns Improve ERP Fix timeout at EOD Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix Load failure after CM check failed |
| Tape transport improvement Fix drive hang after 2E1B Improve MTR time Fix cartridge ejection after 2E01 Clean up excessive logging Improve perm logging Improve HH ERP Fix tapemap formatting Fix reporting FSC 7265 at wrap turns Improve ERP Fix timeout at EOD Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix read ERP |
| Fix drive hang after 2E1B Improve MTR time Fix cartridge ejection after 2E01 Clean up excessive logging Improve perm logging Improve HH ERP Fix tapemap formatting Fix reporting FSC 7265 at wrap turns Improve ERP Fix timeout at EOD Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Add new MAM attribute (0C00h) to report EOL validity per partition |
| Improve MTR time Fix cartridge ejection after 2E01 Clean up excessive logging Improve perm logging Improve HH ERP Fix tapemap formatting Fix reporting FSC 7265 at wrap turns Improve ERP Fix timeout at EOD Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Tape transport improvement |
| Fix cartridge ejection after 2E01 Clean up excessive logging Improve perm logging Improve HH ERP Fix tapemap formatting Fix reporting FSC 7265 at wrap turns Improve ERP Fix timeout at EOD Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix drive hang after 2E1B |
| Clean up excessive logging Improve perm logging Improve HH ERP Fix tapemap formatting Fix reporting FSC 7265 at wrap turns Improve ERP Fix timeout at EOD Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Improve MTR time |
| Improve perm logging Improve HH ERP Fix tapemap formatting Fix reporting FSC 7265 at wrap turns Improve ERP Fix timeout at EOD Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix cartridge ejection after 2E01 |
| Improve HH ERP Fix tapemap formatting Fix reporting FSC 7265 at wrap turns Improve ERP Fix timeout at EOD Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Clean up excessive logging |
| Fix tapemap formatting Fix reporting FSC 7265 at wrap turns Improve ERP Fix timeout at EOD Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Improve perm logging |
| Fix reporting FSC 7265 at wrap turns Improve ERP Fix timeout at EOD Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Improve HH ERP |
| Improve ERP Fix timeout at EOD Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix tapemap formatting |
| Fix timeout at EOD Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix reporting FSC 7265 at wrap turns |
| Fix tension at cartridge initialization Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Improve ERP |
| Fix tension compensation during acceleration/deceleration Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix timeout at EOD |
| Fix timeout during ERP Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix tension at cartridge initialization |
| Fix load hang Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix tension compensation during acceleration/deceleration |
| Prevent early wrap turns Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix timeout during ERP |
| Fix positioning error at wrap turns Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix load hang |
| Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Prevent early wrap turns |
| Fix write perm Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix positioning error at wrap turns |
| Fix end of tape detection Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Commands with unsupported CDB fields sent to invalid LUNs may return incorrect data |
| Fix ERP Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix write perm |
| Fix PES error after power down mode Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix end of tape detection |
| Fix watchdog timeout (panic) in RAO with large lists. Fix timeout when writing from FID | Fix ERP |
| Fix timeout when writing from FID | Fix PES error after power down mode |
| | Fix watchdog timeout (panic) in RAO with large lists. |
| Fixed certain FSC 5336 errors | Fix timeout when writing from FID |
| Tixou deliani i de doce circio | Fixed certain FSC 5336 errors |

Functional Change Requests

| Issue | Description |
|--|-------------|
| Add new MAM attribute (0C00h) to report EOL validity per partition | |

Support new modepage and diagnostic to screen writes

Fixes That Affect Only Certain Drives

FH Drives

Issue

Made improvements to mitigate LPOS acquire error

HH Drives

Issue

Fix LTO9HH tension

Improve tape tension control on LTO9 HH

SAS Drives

Issue

Fix panic when SAS task set is full

Fix SAS loopback test

Library Drives

Issue

Library set drive serial number in LP14h:0041h may have two invalid trailing bytes

Fix 7250 when host connection is terminated by tape library

Contacting Quantum Support

Below is information related to contacting Quantum Support as well as steps to improve your Quantum customer journey.

- Chatbot below
- · Open a Service Case below
- Use MyQuantum Service Delivery Platform on the next page
- Use Cloud Based Analytics (CBA) on the next page
- Escalate a Service Case on page 6
- Contact Quantum Sales on page 6

Chatbot

An AI driven Quantum Chatbot is available to ask product support questions, open a service case, or chat with a call center agent. Locate the Q box on the bottom right of a Quantum web page, such as https://www.quantum.com/en/service-support/.



Note: Some ad blockers might interfere.

Open a Service Case

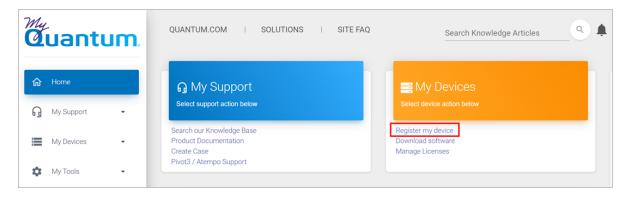
Use any of the following methods to open a service case:

- Al driven Quantum Chatbot. Locate the Q box on the bottom right of a Quantum web page.
- Visit the <u>MyQuantum</u> portal (for more information, see <u>Use MyQuantum Service Delivery</u> Platform on the next page).
 - Note: The MyQuantum portal is the most efficient and preferred method to open a service case.
- Visit the <u>Service & Support</u> page.
 - Note: You can also access other Support related services.
- Call Quantum Support (see <u>Service & Support</u>).

Use MyQuantum Service Delivery Platform

MyQuantum is a single portal for everything Quantum. You can view assets, open service cases, receive real-time updates, and search the Knowledge Base and documentation, all through a secure, online portal.

- 1. Create an account and log in to the MyQuantum Service Delivery Platform.
- 2. Register a product on MyQuantum.



3. Request site access to the Cloud-Based Analytics (CBA) monitoring portal and follow the instructions to set up product(s) to connect to CBA. You can use CBA to monitor Quantum products remotely, from a single dashboard, and Quantum Support can use it to help troubleshoot products more efficiently.

Use Cloud Based Analytics (CBA)

Quantum products are equipped with a Cloud Based Analytics (CBA) agent that can provide log files and snapshots to Quantum CBA servers that are running in the cloud.

CBA enables Quantum systems to collect data regarding system and environment performance. The collected data is bundled and uploaded to the remote CBA server for analysis. You can access Quantum system performance and health results on the CBA dashboard (at https://insight.quantum.com) or through the MyQuantum Service Delivery Platform.

The CBA dashboard displays the analytic results of the uploaded CBA data using flexible charting tools, along with an overall health score of each Quantum system configured for the CBA account.

Refer to product documentation for product-specific information related to CBA.

Refer to the Quantum CBA website for general information about CBA.

Escalate a Service Case

To escalate a service case, follow the process documented here: https://www.quantum.com/en/service-support/resources/escalation/

Contact Quantum Sales

https://www.quantum.com/en/company/contact-us/