



Quantum LTO-7 Release Notes

Product	LTO-7 HH Serial Attached SCSI
Firmware Version	Half Height Code: P381
Supported Web Browsers	Firefox Chrome Microsoft Edge Apple Safari
Date	April 2022

Contents

Introduction	2
Firmware Code Update	2
Firmware Version Identification	2
Compatibility	2
New Features and Enhancements	3
Firmware Change Summary	3
Contacting Quantum	5

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Introduction

These release notes apply to the Quantum LTO-7 Half Height distribution product.

Firmware Code Update

The P381 firmware code update provides:

- Increased overall reliability
- Improved tape handling
- Reduction of any possibility of errors
- Continued enhancements to diagnostic capabilities

Firmware Version Identification

These drives will have similar inquiry string as previous Quantum models and presented on the Standard Inquiry Page and Inquiry Device Identification Page 83h as:

- Vendor Identification = 8 bytes of ASCII data: "Quantum" followed by a space
- Product Identification = 16 bytes of ASCII data "ULTRIUM-HH8" followed by 5 spaces
- Product Revision Level = 4 bytes of ASCII data "YMDV"

Compatibility

LTO-7 HH compatibility requirements:

- The LTO-7 HH drive has a dual port SAS-2 6-Gbps interface
- Please use the Drive Compatibility Guide tool found on Quantum.com for software and hardware compatibility

New Features and Enhancements

This is a FW release for LTO-7 HH SAS drives. Changes described below are for Half High code P381 FW version.

This update is intended, among other things, to increase overall reliability, improve tape handling, further reduce any possibility of error, and provide continued enhancements to diagnostic capabilities.

Firmware Change Summary

Bug Fixes

Issue	Description
Prevent drive hang on Write Attribute command.	The Drive would hang if a write attribute command was sent when there was no space left in the CM. A code function was added to handle this condition.
FSC 6402 with no Tape Alert. Allow FORMAT of a cartridge with invalid EOD.	The Drive would not allow a format of a cartridge if the EOD was invalid. It would incorrectly fail and report EOD related SK/ASC/ASCQ 08/00/05 (Blank Check, End of Data detected).
Improve high speed tape motion handling.	Added high speed tape motion improvements to reduce media damage caused by pack slippage.
FSC 6601 with Tape Alerts 3, 4 and 5 on READ at BOP.	Corruption of the BOP (beginning of partition) cache stored by the drive caused it to incorrectly fail.
FSC 4101 with a TA 31 and TA 58 – Fixed the drive panic and correct the FSC seen in this case when a write protected uninitialized cart is inserted.	The FSC was changed to FSC 2C30 with a TA 9.
Changed Mode Page 1Ah to be savable.	Changed Mode Page 1AH (Power Condition) to be savable so that changes to this mode page would be persistent after a power cycle.
FSC 53A0/53A1/53A2 with TA 30/31. Change the SCD from '6' to '5'.	Changed the SCD for the FSC listed from a drive/media problem (SCD 6) to a drive problem (SCD 5)

Issue	Description
FSC 78B5 error with TA 3 and TA 4	This error indicates the drive has failed to stop correctly at the end of tape, so a safety mechanism has been invoked to protect the drive/tape. A change was made to improve the estimated calculation of LPOS (position on tape) to position more accurately and reduce EOT shutdown problems.
FSC 6010 with TA 32 - Correct FSC and Tape Alert for CRC error on READ	The drive incorrectly set TA 32 and FSC 6010 on a READ. These should be TA3 and FSC 601D.
FSC 6353 with TA 3.	Improved ERPs to better recover from repositioning perms.
FSC 1055 with TA 58 Drive Panic during a READ.	The Drive was not handling a Data set fragment which spanned a wrap turn. This will most likely happen on a tape written with many retries by a marginal drive, resulting in datasets (the unit of data the drive writes to the tape) are written with many rewrites to the point where one spans across a corner turn.
FSC 78A0 with TA 4 causing a LOCATE failure.	This is a case where the drive had an acceleration timeout problem. The drive incorrectly moved tape in the wrong direction due to an incorrect parameter being passed in code.
FSC 1055 with TA 58 - Possible work around for some drive panics caused by memory access instability	This is a blind change (not validated) for one flavor of memory access instability which causes the drive to Panic when in power saving mode.
FSC 6712 with TA 60 on WRITE append of a WORM cartridge	Incorrect buffer handling cause the drive to fail a WRITE append with a WORM cartridge.
12V Power was not accurately turn off after entering power saving mode.	When setting the Power Down time via Mode Page 1Ah, the drive took longer to power off the 12 V power.
Fix canister port 1 activity LED	Fixed a code issue where the activity for PORT 0 was incorrectly being reported for PORT 1.
Front Panel LED light change	Made some LED light behaviors on an OEM specific HH implementation for drive cleaning.

Functional Change Requests (FCR)

Issue	Description
FCR: Implement E_12VPC (disable 12V off) mode support	Allows for 12 Volt power to still be active during power-on mode.

Issue	Description
Media wear indicator & capacity param for LTO	Added two parameters to LP17h to provide information on media wear out and application design capacity reporting.

Contacting Quantum

More information about this product is available on the Service and Support website at www.quantum.com/support. The Service and Support Website contains a collection of information, including answers to frequently asked questions (FAQs). You can also access software, firmware, and drivers through this site.

For further assistance, or if training is desired, contact Quantum:

United States:	+1 800-284-5101 (toll free) +1-720-249-5700
EMEA:	+800-7826-8888 (toll free) +49-6131-3241-1164
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For additional contact information:	www.quantum.com/support
To open a Service Request:	www.quantum.com/osr