



Hewlett Packard
Enterprise

HPE StoreEver MSL2024 Tape Library Getting Started Guide

Part Number: 20-STE-MSL2024-GSG-ED9

Published: June 2024

Edition: 9

HPE StoreEver MSL2024 Tape Library Getting Started Guide

Abstract

This guide provides information necessary to install the HPE StoreEver MSL2024 Tape Library. This guide is intended for system administrators and other users who need physical knowledge of the library.

Part Number: 20-STE-MSL2024-GSG-ED9

Published: June 2024

Edition: 9

© Copyright 2006–2024 Hewlett Packard Enterprise Development LP

Notices

The information contained herein is subject to change without notice. The only warranties for Hewlett Packard Enterprise products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. Hewlett Packard Enterprise shall not be liable for technical or editorial errors or omissions contained herein.

Confidential computer software. Valid license from Hewlett Packard Enterprise required for possession, use, or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Links to third-party websites take you outside the Hewlett Packard Enterprise website. Hewlett Packard Enterprise has no control over and is not responsible for information outside the Hewlett Packard Enterprise website.

Acknowledgments

Microsoft® and Windows® are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

All third-party marks are property of their respective owners.

Table of contents

- Acknowledgments
- Overview
 - Front panel
 - MSL2024 back panel
 - Tape drive back panels
 - Library user interfaces
 - The OCP
 - The RMI
- Planning the installation
 - Location requirements
 - FC connection information
 - SAS connection information
- Installing the library
 - Preparing the host
 - Unpacking the shipping container
 - Removing the shipping lock
 - Installing the library in a rack
 - Installing tape drives
 - Connecting the FC cable
 - Connecting the SAS cable
 - Powering on the library
 - Configuring the library network
 - Finding the IPv4 IP address obtained through DHCP
 - Configuring IPv4 networking from the OCP
 - Setting the date and time
 - Setting the administrator password
 - Configuring the FC interface
 - Labeling the tape cartridges
 - LTO-9 Media initialization
 - Loading the tape cartridges
 - Verifying the connection
 - Verifying the installation
 - Downloading product firmware
 - Configuring additional features
- Supported media
- Related information
 - Product documentation
 - Websites
- OCP menu

Acknowledgments

Microsoft® and Windows® are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

All third-party marks are property of their respective owners.

Overview

The tape library provides a compact, high-capacity, low-cost solution for simple, unattended data backup. This unique design houses up to 12 tape cartridges for each U of height, with easy access to tape cartridges through removable magazines and a mailslot. Each magazine can hold up to 12 tape cartridges. The library is customer expandable with exchangeable LTO Ultrium full-height and half height tape drives.

<https://www.hpe.com/storage/tape>

The library is compatible with most operating systems. However, it requires either direct support from the operating system or a compatible backup application to take advantage of its many features.

To verify compatibility, see the HPE StoreEver compatibility matrix, available on SPOCK at: <https://www.hpe.com/storage/spock>. Once logged in, go to Other Hardware and select StoreEver.

Subtopics

[Front panel](#)

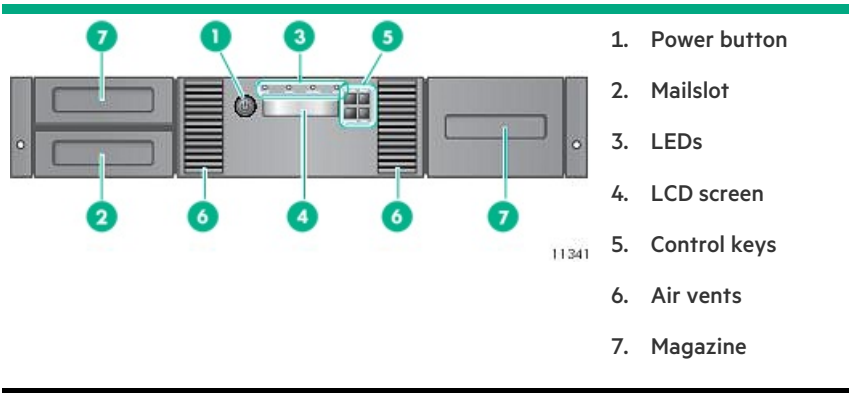
[MSL2024 back panel](#)

[Tape drive back panels](#)

[Library user interfaces](#)

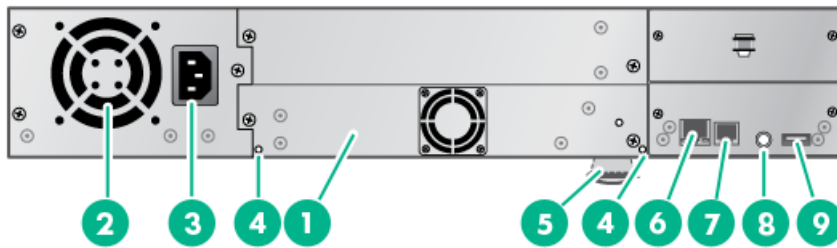
Front panel

The front panel provides access to the power button, operator control panel, left and right magazines, LEDs, and the mailslot.



MSL2024 back panel





1. Tape drive assembly

2. Fan

3. Power connector

4. Magazine release hole

5. Pull-out tab containing the serial number and other product information

6. Ethernet port

7. Serial port (Factory use only)

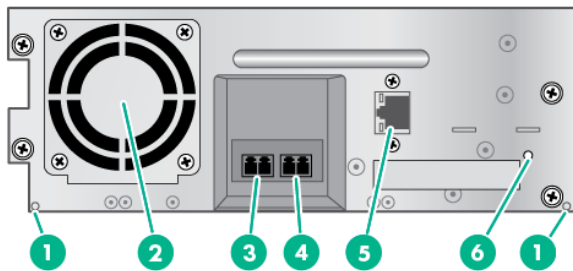
8. Controller health status indicator

9. USB port

Tape drive back panels

Fibre Channel

Table 1. LTO-4 and LTO-5 full-height FC tape drive back panels



1. Magazine release hole

2. Fan

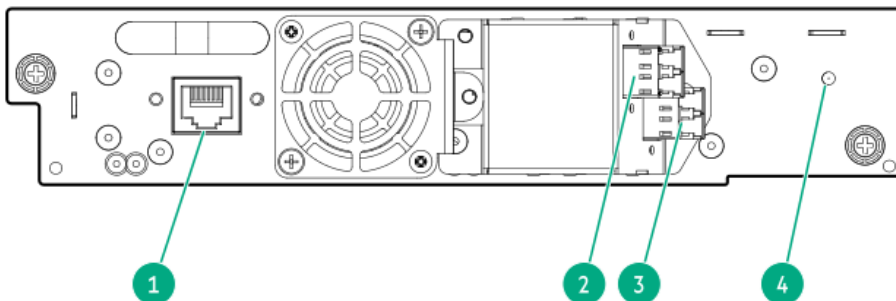
3. FC port A

4. FC port B (when present)

5. Tape drive Ethernet port (when present)

6. Tape drive power indicator

Table 2. LTO-5 half-height and LTO-6 FC tape drive back panels



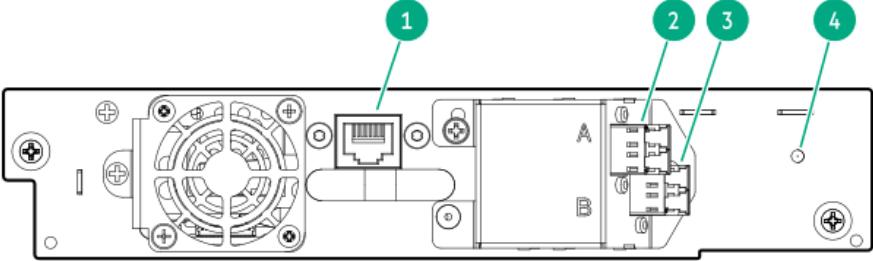
1. Tape drive Ethernet port

2. FC port A

3. FC port B (LTO-6)

4. Tape drive power LED, green

Table 3. LTO-7, LTO-8, and LTO-9 FC tape drive back panels

	<ol style="list-style-type: none">1. Tape drive Ethernet port2. FC port A3. FC port B4. Tape drive power LED, green
--	--

SAS

Table 4. LTO-4, LTO-5, and LTO-6 SAS tape drive back panels

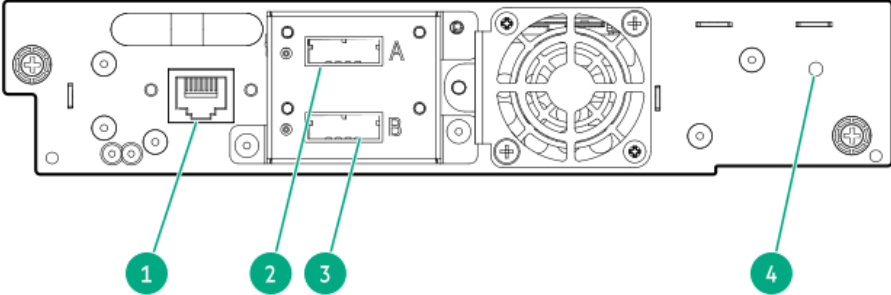
	<ol style="list-style-type: none">1. Tape drive Ethernet port2. SAS port A3. SAS port B (LTO-6)4. Tape drive power LED, green
---	--

Table 5. LTO-7 and LTO-8 SAS tape drive back panels

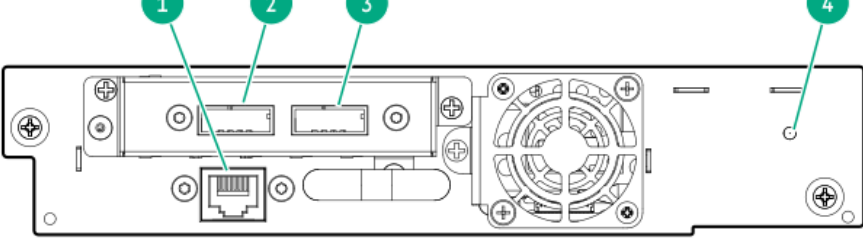
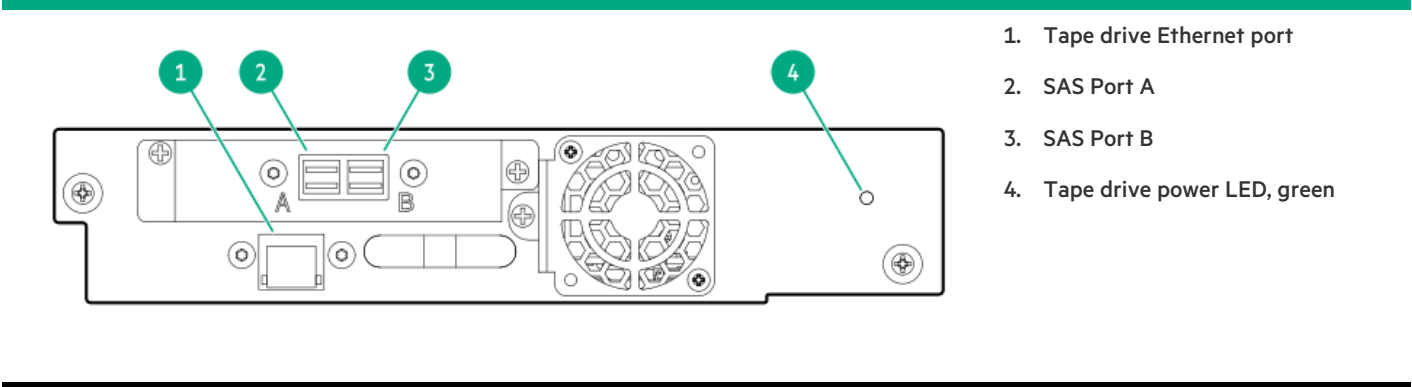
	<ol style="list-style-type: none">1. Tape drive Ethernet port2. SAS port A3. SAS port B4. Tape drive power LED, green
--	--

Table 6. LTO-9 SAS tape drive back panel



Library user interfaces

The library has two user interfaces:

- Operator control panel (OCP). From the OCP you can operate the library from the front panel.
- Remote management interface (RMI). From the RMI you can monitor and control the library from a web browser. You can access most library functions from the RMI.

Subtopics

[The OCP](#)

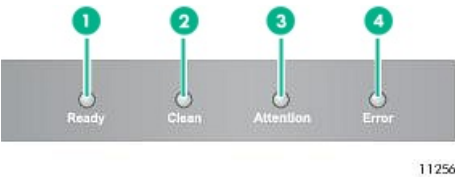
[The RMI](#)

The OCP


The OCP has a power button, four LEDs, four control keys, and a 2-line by 16-character LCD screen. With the OCP, you can monitor, configure, and operate most library functions from the front panel.

OCP LED indicators

The OCP has four LEDs that provide information.



1	Ready	Green, steady when power is on, blinking with tape drive or library robotics activity.
2	Clean	Amber when a tape drive cleaning operation is recommended.
3	Attention	Amber if the library has detected a condition that user attention is necessary, but that the library can still perform most operations.
4	Error	Amber if an unrecoverable tape drive or library error occurs. A corresponding error message displays on the LCD screen. User intervention is required; the library is not capable of performing some operations.

	Cancel	Cancels the current menu option, returns to the previous menu level, or returns to the Home screen.
	Enter	Initiates the current menu or selects the current option displayed on the LCD screen.
	Previous	Selects the previous item or value in the currently displayed menu.
	Next	Selects the next item or value in the currently displayed menu.

The RMI

With the RMI, you can monitor, configure, and operate most library functions from a web browser.

When possible, use the RMI as the primary library interface because it provides access to additional features, includes online help, and is easier to use. However, the RMI is not required to use the library, except to configure advanced features, such as SNMP, IPv6, encryption, LTFS, HPE TapeAssure, logical libraries, and path failover.

The only tasks you **cannot** do from the RMI are:

- Open the mailslots.
- Initiate the Wellness test.
- Use a USB flash drive to save configuration files and support tickets, and download firmware.

To enable the library RMI, follow the instructions in this document to:

- Connect the library to the local area network with an Ethernet cable.
- Configure the library addressing.
- If you intend to use the administrative functions of the RMI, set the administrator password using the OCP.






NOTE:
The library is shipped without an administrator password. The administrator password must be set from the OCP before you can use the RMI administrator functions. Once the administrator password is set, you can access the RMI by providing the administrator password on the login screen.

Logging in

Using the OCP, find the library IP address from the Info > Network screen. Open any HTML web browser and enter the library IP address. Select the account type. For the administrator account, you must also enter the administrator password. Click Sign In.

Once signed in, click Help in the upper right-hand corner for more information about the fields and information in the RMI.

Status icons

	The green check mark Status OK icon indicates that the library is fully operational and that no user interaction is required.
	The blue exclamation point Status Warning icon indicates that user attention is necessary, but that the library can still perform most operations.
	The red X Status Error icon indicates that user intervention is required and that the library is not capable of performing some operations.

Planning the installation

Procedure

1. Select the location
2. Plan the SAS or Fibre Channel configuration and obtain the necessary cables.

Subtopics

[Location requirements](#)

[FC connection information](#)

[SAS connection information](#)

Location requirements

Select an open rack location with access to the host server and a power outlet. If possible, install the library in the middle or higher part of the rack to avoid dust from the floor and to allow easy access to the mailslot and magazines.




IMPORTANT:

The library must be mounted on the enclosed rack rails. Placing the library on a surface, such as a table top or rack shelf, could result in library errors.



Table 1. Location criteria

Criteria	Definition
Rack requirements	HPE G2 Enterprise Series, Enterprise Series, G2 Advanced Series, Advanced Series, Standard Series and other HPE square-hole or round-hole racks
Rack space requirements	MSL2024: 2U
Room temperature	<p>10-35° C (50-95° F)) for the tape library. Some tape drives have a more limited ambient temperature range and/or have a more limited temperature range when operating at high altitudes. Verify the tape drive operating requirements before installing a tape drive.</p> <p>See Environmental Specifications in the HPE StoreEver MSL2024, MSL4048, MSL8048, and MSL8096 Tape Libraries User and Service Guide.</p>
Power source	<p>AC power voltage: 100-127 VAC; 200-240 VAC</p> <p>Line frequency: 50-60 Hz</p> <p>168 Watts (maximum)</p> <p>Place the library near an AC outlet. The AC power cord is the main AC disconnect device for the library and must be easily accessible at all times.</p>
Weight without media	MSL2024: 13.6 kg (29.9 lb) - 15.6 kg (34.3 lb)
Weight with media	MSL2024: 18.4 kg (40.5 lb) - 20.4 kg (44.9 lb)
Air quality	<p>Place the library in an area with minimal sources of particulate contamination. Avoid areas near frequently used doors and walkways, stacks of supplies that collect dust, printers, and smoke-filled rooms.</p> <p>Excessive dust and debris can damage tapes and tape drives.</p> <div>  CAUTION: <p>Chemical contaminant levels in customer environments for Hewlett Packard Enterprise hardware products must not exceed G1 (mild) levels of Group A chemicals at any time as described in the current version of ISA-71.04-1985 Environmental Conditions for Process Measurement and Control Systems: Airborne Contaminants.</p> </div>
Humidity	20-80 percent relative humidity noncondensing
Clearance	<p>Back: Minimum of 15.4 cm (6 inches)</p> <p>Front: Minimum of 30.8 cm (12 inches)</p> <p>Sides: Minimum of 5.08 cm (2 inches)</p>

TIP:

Temperature and humidity specifications are more tightly controlled for tape media, tape drives, and tape autoloaders than many other products installed in the data center. Ensure that the tape media and drives reside in an area within the temperature and humidity specifications.

See Environmental Specifications in the HPE StoreEver 1/8 G2 Tape Autoloader User and Service Guide .

FC connection information

Connect the FC tape drive directly to the server with an HBA or indirectly through a SAN with an FC switch.

Table 1. FC drive interface speeds

LTO generation	Supported speeds
LTO-3, LTO-4	1 Gb, 2 Gb, 4 Gb
LTO-5, LTO-6, LTO-7, LTO-8, LTO-9	2 Gb, 4 Gb, 8 Gb

Most supported tape drives have two FC ports. Only one port can be used at a time, but both ports can be connected for path failover or with software that supports multipath. If you are using only one port, you can use either port. Path failover is a licensed library feature.

Direct connection

The host must have a 2 Gb, 4 Gb, 8 Gb, or 16 Gb FC HBA. A 4 Gb HBA is recommended for LTO-4 tape drives. An 8 Gb or faster HBA is recommended for LTO-5 and later generation tape drives. To verify that an HBA is supported on your server and qualified for the tape drive, see the StoreEver Compatibility Matrix, available on SPOCK at: <https://www.hpe.com/storage/spock>. Once logged in, go to Other Hardware and select StoreEver.

A server that has FC-attached hard drives performs best with at least two FC ports. Using the same FC port for disk and tape drive access can cause performance degradation.

SAN connection

All switches between the host and the tape drive must be of the appropriate type. A 2 Gb switch in the path might cause performance degradation when backing up highly compressible data.

Configure zoning on the FC switch so that only the backup servers can access the tape drive. For more information, see the switch documentation.

Cable requirements

An FC cable is required for each FC port you plan to use. The tape drive has an LC-style connector. The maximum cable length is based on the tape drive and external cable type.

Drive type	Cable type	2 Gb	4 Gb	8 Gb
All	OM2	0.5 - 300 m	0.5 - 150 m	Not supported
LTO-5 HH*	OM3, OM4	0.5 - 300 m	0.5 - 150 m	0.5 - 50 m
All except LTO-5 HH	OM3, OM4	0.5 - 500 m	0.5 - 380 m	0.5 - 150 m

* The LTO-5 Ultrium 3000 half-height drive is shown as LTO-5 HH.

SAS connection information

The server must have a SAS host bus adapter with an external connector.

Table 1. SAS drive interface speeds

LTO generation	Supported speeds
LTO-4	1.5 Gb, 3 Gb
LTO-5, LTO-6, LTO-7, LTO-8	1.5 Gb, 3 Gb, 6 Gb
LTO-9	3 Gb, 6 Gb, 12 Gb

The library uses two SCSI logical unit numbers (LUNs) and requires an HBA with multiple LUN support. Most Hewlett Packard Enterprise SAS RAID controllers support tape devices; many other SAS RAID controllers do not support tape devices. To verify the specifications of your HBA or find a list of compatible HBAs, see the StoreEver Compatibility Matrix, available on SPOCK at: <https://www.hpe.com/storage/spock>. Once logged in, go to Other Hardware and select StoreEver.

**CAUTION:**

Do not connect the library to a SAS RAID controller unless the DAPR compatibility matrix shows that the controller is qualified with the library. The server might not be able to boot when the library is connected to an unsupported SAS RAID controller.

**CAUTION:**

Reliable data transfer requires high-quality cables and connections.

- Always verify that the SAS cable is rated for the data transfer speed of the HBA and tape drive.
- Do not use adapters or converters between the HBA and the tape drive. SAS signal rates require clean connections and a minimum number of connections between the HBA and the tape drive.
- SAS cables described as "equalized" might not support 6 Gb/s or 12 Gb/s data rates. Do not use equalized cables with LTO-5 or later generation tape drives unless these cables are verified for 6 Gb/s or 12 Gb/s data rates.
- For optimal performance, only use cables of the length specified as qualified for your products. If not using the HPE supplied cable and the SAS link is operating at 6 Gb/s the maximum SAS cable length is 6 meters. If operating at 12 Gb/s then the maximum cable length is 4 meters.

Cable requirements

Most SAS HBA ports have four SAS channels. A tape drive uses one channel, so each HBA port can support up to four tape drives. You can use a cable with one connector on each end, but only one channel will be used. The SAS fanout cable recommended for use with the library can connect up to four SAS tape drives to a single SAS HBA port.

Connectors

The host end of the cable must have the same type of connector as the HBA external SAS port.

The LTO-9 tape drive has an HD mini-SAS connector. Earlier generation tape drives have a mini-SAS connector. The mini-SAS connector is keyed in location 4, which is the standard location for end devices. If you use a cable other than the one recommended for use with the product, verify that it is keyed in location 4.

**CAUTION:**

Mini SAS connectors are keyed. Do not force a SAS cable mini-SAS connector into the tape drive mini-SAS port because it might be keyed differently.

Installing the library

**IMPORTANT:**

The shipping lock must be removed for the robotics to operate properly. A robot move error is displayed if the shipping lock is not removed. See [Removing the shipping lock](#).

**WARNING:**

The library weighs up to 15.6 kg (34.3 lb) without media and up to 20.4 kg (44.9 lb) with media (24 cartridges).

When moving the library, to reduce the risk of personal injury or damage to the library:

- Observe local health and safety requirements and guidelines for manual material handling.
- Remove all tape cartridges to reduce the overall weight of the library and to prevent cartridges from falling into the robotic path and damaging the library. Keep the cartridges organized so they can be returned to the same locations.
- Obtain adequate assistance to lift and stabilize the library during installation or removal.

**WARNING:**

When placing the library into a rack, to reduce the risk of personal injury or damage to equipment:

- Extend the rack leveling jacks to the floor.
- Ensure that the full weight of the rack rests on the leveling jacks.
- Install the rack stabilizer kit on the rack.
- Extend only one rack component at a time. Racks can become unstable if more than one component is extended.

Subtopics

[Preparing the host](#)

[Unpacking the shipping container](#)

[Removing the shipping lock](#)

[Installing the library in a rack](#)

[Installing tape drives](#)

[Connecting the FC cable](#)

[Connecting the SAS cable](#)

[Powering on the library](#)

[Configuring the library network](#)

[Setting the date and time](#)

[Setting the administrator password](#)

[Configuring the FC interface](#)

[Labeling the tape cartridges](#)

[LTO-9 Media initialization](#)

[Loading the tape cartridges](#)

[Verifying the connection](#)

[Verifying the installation](#)

[Configuring additional features](#)

Preparing the host

About this task

**IMPORTANT:**

Use proper procedures to prevent electrostatic discharge (ESD). Use wrist-grounding straps and anti-static mats when handling internal components.

Procedure

- If you are not the system administrator of the host computer, check with the system administrator before powering off the computer.
- For a library with FC drives, install an FC HBA or verify that you have sufficient ports available on a compatible FC switch.

- For a library with SAS drives, if necessary, install a SAS HBA with an external SAS connector that supports multiple LUNs. Refer to the host computer and HBA documentation for installation information.
- Install application software and compatible drivers on the host computer. See the application software manuals for installation and configuration information.
- Install the Library & Tape Tools (L&TT) diagnostic utility to see what devices are connected to the host, verify the installation, upgrade firmware, and aid in troubleshooting.

Download L&TT without charge from: <http://www.hpe.com/support/TapeTools>

Unpacking the shipping container

About this task



CAUTION:

If the temperature in the room where the library will be installed varies 15°C (30°F) from the room where it was stored, allow library to acclimate to the surrounding environment for at least 12 hours before unpacking the shipping container.

Procedure

1. Clear a level work surface near where you will place the library.
2. Inspect the container for shipping damage. If you notice any damage, report it to the shipping company immediately.
3. Remove the packaging, accessories, and library from the box one layer at a time.
4. Place the library on a level work surface.



CAUTION:

Do not place the library on either end or its sides as doing so might damage it.

5. Carefully remove the foam padding and then the bag from the library.
6. Save the packaging materials for moving or shipping the library in the future.
7. Verify that you received the following components:
 - a. Library
 - b. Ethernet cable
 - c. Two rack rails with packets of rack hardware
8. Verify that you have the necessary cables.
 - a. For a library with FC drives, you must provide an FC cable for each FC port you plan to use. See [FC connection information](#).
 - b. For a library with SAS drives, you must provide a SAS cable with the correct connector for your HBA. See [SAS connection information](#).

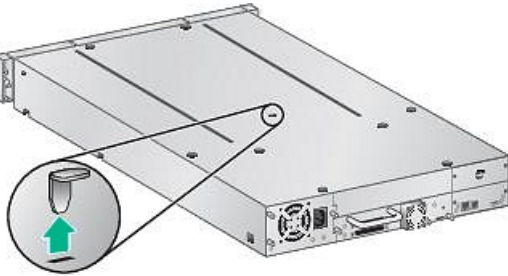
Removing the shipping lock

About this task

The shipping lock prevents the robotic transport mechanism from moving during shipment. Remove the shipping lock before powering on the library. The shipping lock is held in place with a piece of tape and is located in the top center of the library. After removing the shipping lock, store it on the back panel of the library for future use.

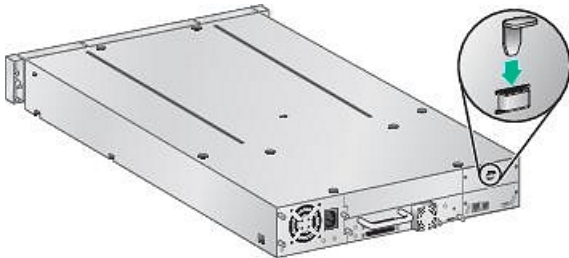
Procedure

1. Locate the tape and shipping lock at the top of the library.



11385

2. Remove the tape, and then remove the lock.
3. Store the lock on the back panel.



11424

Installing the library in a rack

Prerequisites

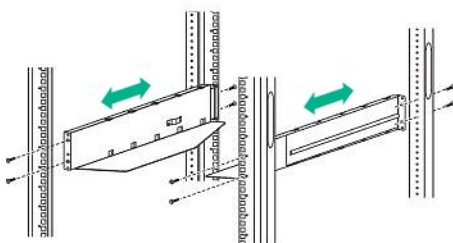
#2 and #3 Phillips screwdrivers

Procedure

1. Select the hardware packet for your rack.

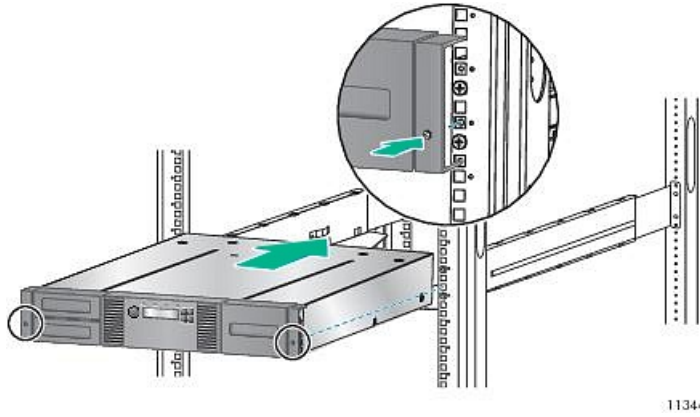
Packet label	Applicable racks
7.1 mm Round-Hole Rack	HPE supported racks with 7.1 mm round holes in the rack column
9.5 mm Square-Hole Rack	HPE supported racks with 9.5 mm square holes in the rack column

2. Install the rails.
 - a. Using the screws from the packet for your rack and a #3 Phillips screwdriver, secure the front of one rail to the front of the rack. The support platform of each rail is tapered, narrowing towards the rear.



10779

- b. Extend the rail to the depth of the rack and secure the rail to the back of the rack.
 - c. Install the other rail.
3. Install the library in the rack.
 - a. Slide the library onto the rails.
 - b. From the front of the library, secure the front bezel to the rack using a #2 Phillips screw driver placed through the small holes in the mounting bracket. Tighten the captive screws on each side of the library until they are seated.



Installing tape drives

About this task



CAUTION:

All drive bays without tape drives installed must have drive bay covers installed.

Procedure

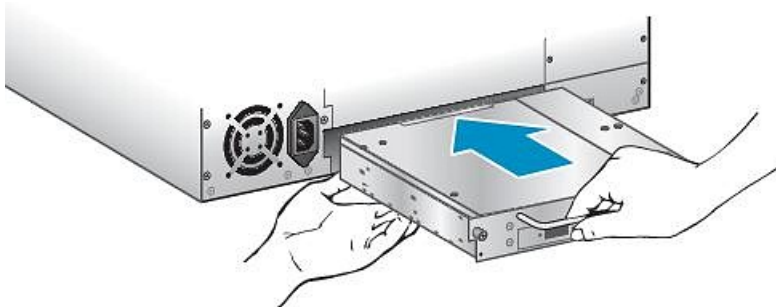
1. Locate an appropriate vacant drive bay on the back of the library.

Install the first tape drive in the bottom drive bay. If the first tape drive is a half-height tape drive, you can install an additional half-height tape drive in the top bay.

2. Remove the face plate covering the drive bay by removing the screws holding it in place.

Remove one drive bay cover to install a half-height tape drive; remove two drive bay covers to install a full-height tape drive.

3. Holding the tape drive by the handle and supporting it from the bottom, position the drive on the alignment rails and then slide the tape drive into the drive bay until it is flush with the back of the library.



4. To secure the tape drive to the chassis, use a torque driver to tighten the blue captive thumbscrews on the drive sled to 6 inch pounds or 0.68 N m. If a torque driver is not available, use a #2 Phillips screwdriver to tighten the thumbscrews until a low initial threshold torque achieves a snug tight condition.

If the thumbscrews cannot be tightened, verify that the tape drive is aligned properly.

Connecting the FC cable

About this task

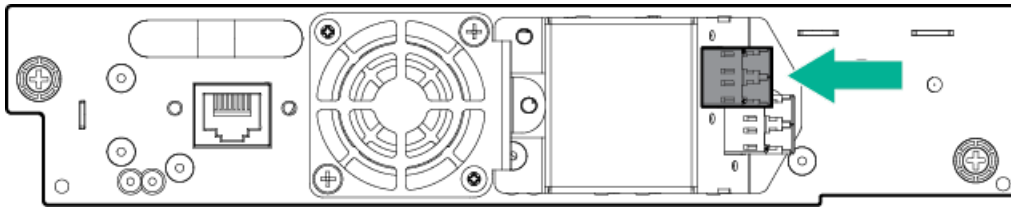


NOTE:

Using both ports on a dual-port drive requires path failover or multipath capability in the host application.

Procedure

1. Remove the FC port caps if necessary. Attach one end of the FC cable to Port A on the tape drive.



2. Attach the other end of the FC cable to a switch or HBA.

Connecting the SAS cable

About this task



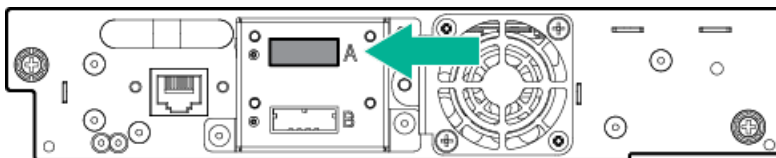
NOTE:

SAS signal rates require clean connections between the HBA and tape drive. Do not use adapters or converters between the HBA and the tape drive. For reliable operation, use a maximum SAS cable length of 6 meters.

Procedure

1. Determine which end of the cable to plug into the HBA.
 - a. For a cable with a single connector on each end, the end with the same type of connector as the HBA is the HBA end.
 - b. For a SAS fanout cable, the end of the cable with a single connector is the HBA end.
2. Attach the HBA end of the SAS cable to the HBA port.
3. Attach the drive end of the cable to Port A on the tape drive.

If you are using a SAS fanout cable, attach one SAS connector to the port on each tape drive.



NOTE:

LTO-6 drive is shown in the example, other drive connectors might look different.

The unused ends of the SAS fanout cable are single channel and not suitable for use with disk arrays. Use the other ends to connect

additional tape drives, or coil and secure them to the rack to minimize stress on the connectors.



TIP:

Mini-SAS connectors are keyed. Do not force a mini-SAS connector into the tape drive SAS port because the connector and port might be keyed differently.



NOTE:

Each tape drive uses one channel. The cable recommended for use with the library maps each of the four channels from the HBA to one channel on the drive end.

You can plug any of the four drive connectors into any tape drive.

Powering on the library

About this task



WARNING:

To reduce the risk of electric shock or damage to the equipment:

- Use an approved power cord. If you have questions about the type of power cord to use, contact your authorized service provider.
- Use a power cord rated for your product and for the voltage and current marked on the electrical ratings label of the product. The voltage and current rating of the cord must be greater than the voltage and current rating marked on the product.

Procedure

1. If you plan to use the RMI, use an Ethernet cable to connect the library to a working LAN connection. The library Ethernet connector is on the back of the library.
2. Attach the power cable to the power connector on the back panel of the library.
3. Plug the power cables into the nearest properly grounded power outlets.
4. Power on the library by pressing the power button on the front panel.
5. To verify that the library has power, check the LCD screen.

If the library does not have power, check the power connections and your power source.

During the Power On Self-Test (POST), all four LEDs are illuminated briefly, followed by a flashing **Ready** LED. When the initialization sequence is complete, the Home screen is displayed.

If the inventory takes over five minutes, the splash screen is displayed. To see the Home screen, press any button.

6. Plug in the host server and all attached devices.
7. Power on any other devices you powered off earlier.
8. Power on the server.



NOTE: To power off the autoloader, hold down the power button on the front panel for 3 seconds.

Configuring the library network

Configuring the network enables you to monitor, configure, and control most library functions from the RMI. By default, the library will request an IP address from a DHCP server. Optionally, you can configure the library to use a static IP address. Once logged into the RMI, you can administer further network changes through the RMI.



NOTE:

Most IPv4 network configurations are also available through the OCP.

The library supports IPv4 and IPv6 Internet Protocols. By default, the library is configured to use IPv4, the most common current version. You can enable IPv6 or both Internet Protocols from the OCP or RMI, and then continue configuring IPv6 settings from the RMI.



NOTE:

The library is shipped without an administrator password. You must set the administrator password with the OCP before you can use the RMI administrator functions. Once the administrator password is set, you can access the RMI by providing the administrator password on the login screen.

If you enabled IPv6, you must continue configuring IPv6 from the RMI after setting the administrator password. You can find the IPv6 IP address obtained by the library from the OCP Information/Status > Network Information menu item. For additional information on configuring IPv6, see the user and service guide.

Subtopics

[Finding the IPv4 IP address obtained through DHCP](#)

[Configuring IPv4 networking from the OCP](#)

Finding the IPv4 IP address obtained through DHCP

Procedure

1. From the Home screen, press **Next** until the display shows **Status/Information**. Press **Enter**.
2. Press **Next** until the display shows **Network Information**. Press **Enter**.
3. The display shows **IPv4 Network Enabled**. Press **Enter**.
4. Press **Next** until the display shows the IP address.
5. Press **Cancel** until the display shows the home screen.

Configuring IPv4 networking from the OCP

About this task

If IPv4 networking is enabled, you can continue configuring the IPv4 network settings from the OCP.

Procedure

1. From the Home screen, press **Next** until the display shows **Configuration**. Press **Enter**.
2. Press **Next** until the display shows **Configure Network Settings**. Press **Enter**.
3. Enter the administrator password, if requested.
4. Press **Next** until the display shows **IPv4 Networking**. Press **Enter**.
5. Press **Next** until the display shows **DHCP (IPv4) Enabled**. To change the setting, press **Enter**. Press **Next** until the screen displays the desired setting. Press **Enter** to accept the new setting.
6. If DHCPv4 is disabled, press **Next** to display the **IP address**. To change the IP address, press **Enter**. Set the new IP address with the

Next, Prev, and Enter keys.

7. Press Next to display the subnet mask. To change the subnet mask, press Enter. Set the new subnet mask with the Next, Prev, and Enter keys.
8. Press Next to display the gateway address. To change the gateway address, press Enter. Set the new subnet address with the Next, Prev, and Enter keys.

Setting the date and time

About this task

The library uses the date and time to record events. When possible, set the date and time during the initial installation process. You can also set the date and time or configure an NTP (Network Time Protocol) server from the RMI Configuration > Date/Time screen.



NOTE:

- When setting the hours, the time is based on a 24-hour clock. There is no a.m. or p.m. designation. For example, 1:00 p.m. is 13:00.
- The autoloader time does not automatically adjust for daylight saving time; you must adjust the time manually through the OCP or RMI.
- Daylight saving settings are also available through the RMI interface when using SNTP.

Procedure

1. From the Home screen, press Next or Prev until the display shows `Library Date/Time`. Press Enter.
2. Enter the administrator password, if requested.
3. A number in the year will flash. Click Next or Prev until the correct number is displayed. To accept the number, click Enter. Repeat for each number in the date and time.
4. Press Cancel until the display shows the home screen.

Setting the administrator password

About this task

Setting an administrator password provides access to the administrator functions with the RMI and OCP, and restricts access to administrator functions to only those who know the administrator password. The library comes with a null administrator password, which until set allows unrestricted access to all administrative functions through the OCP but not the RMI. Once the administrator password has been set from the OCP, it can be changed from either the OCP or the RMI. The administrator password must be exactly eight digits consisting of the numbers 0 through 9.

Procedure

1. On the OCP, press Enter.
2. Press Next until the display shows `Configuration`. Press Enter.
3. Press Enter to change the administrator password.
4. The first number will flash. Press Next or Prev until the first number for the new password is displayed. Press Enter to accept the number. The next number flashes. Repeat for each number in the password.
5. Press Cancel twice to move to the top of the menu.

Configuring the FC interface

About this task

Skip this step if you are replacing a tape drive.

Procedure

1. Log in to the RMI and enter the administrator password if requested.
2. Navigate to the RMI Configuration > Drives screen.
3. Configure the settings for your drive and connection method.

Drives connected to a SAN

Leave the FC port at the default settings of **Speed: Automatic** and **Port Type: Automatic**. With these settings, the tape drive will use the appropriate configuration.

Drives connected directly to the host

- When using LTO-7, LTO-8, and LTO-9 drives with a 32Gb or 16Gb HBA in direct attach mode, **Port Type** should typically be set to Fabric Mode. Early (Gen5) 16Gb and 8Gb/4Gb host adapters may require the topology to be set to Loop Mode.
 - For LTO-6 and earlier drives, leave the FC port at the default settings of **Port Speed: Automatic** and **Port Type: Auto Detect**. With these settings, the tape drive will use the appropriate configuration.
4. Click Submit.

Labeling the tape cartridges

Prerequisites

High-quality preprinted barcode labels with the correct Media ID.

About this task

The library will operate without barcode labels on the cartridges. Using barcode labels in production environments improves inventory time in the library and eases cartridge handling processes outside the library.

Attaching a bar code label to each tape cartridge enables the library and application software to identify the cartridge quickly, which speeds up inventory time. Make using bar code labels on your tapes a practice.



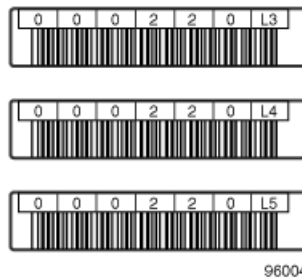
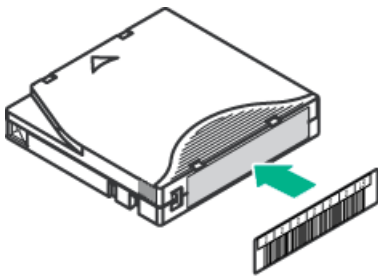
IMPORTANT:

Misusing and misunderstanding bar code technology can result in backup and restore failures. To ensure that your bar code labels meet Hewlett Packard Enterprise quality standards, always purchase them from an approved supplier and never print bar code labels yourself.

Procedure

Apply a high-quality preprinted bar code label to each tape cartridge.

LTO tape cartridges have a recessed area on the face of the cartridge next to the write-protect switch. Use this area for attaching the adhesive-backed bar code label.



IMPORTANT:

Only apply the bar code label as shown, with the alphanumeric portion facing the hub side of the tape cartridge. Never apply multiple labels onto a cartridge because extra labels can cause the cartridge to jam in a tape drive

LTO-9 Media initialization

Media initialization is used in LTO-9 technology to optimize data placement on each LTO-9 cartridge. Each new LTO-9 cartridge requires this one-time initialization prior to starting read/write operations. This is only required for the first use of a new LTO-9 cartridge, subsequent loads do not require additional initialization. The initialization process varies in time depending on the environmental conditions of tape and drive. Most initializations will complete within an hour; however, in some cases it can take up to two hours.

To help you complete this one-time initialization of new LTO-9 media in tape libraries, Hewlett Packard Enterprise has added a feature to all MSL tape libraries and the 1/8 G2 Autoloader. This new feature, the LTO-9 New Media Initialization Wizard, guides you through an automated process to load a selection of uninitialized media into LTO-9 tape drives to quickly complete the initialization process.

For additional information, see the user guide at <https://www.hpe.com/support>.

Loading the tape cartridges

About this task

The library will power on without cartridges, but needs cartridges before performing data read and write operations, or any tests or operations that transfer cartridges.

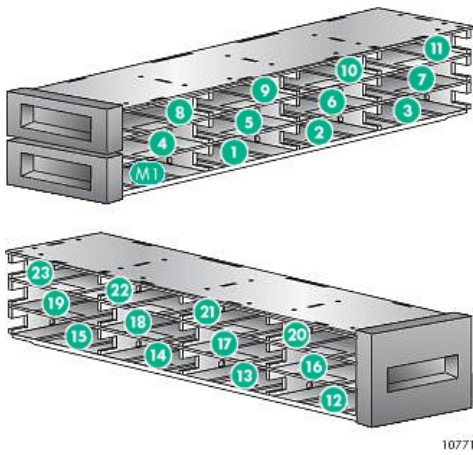
You can use the mailslot to import and export tape cartridges. Or, to load or unload multiple tape cartridges at a time, remove the magazines and then load the cartridges into them.

Procedure

1. Use the OCP Operations > Unlock Left Magazine option to release the left magazine. If requested, provide the administrator password to access the magazines.
2. While supporting the bottom of the magazine, pull the magazine straight out of the front of the library.
3. Insert the tape cartridges into the slots.

By default, the slots are numbered 1 to 24, starting with the bottom front left slot.

To use the mailslot feature, leave the bottom slot in the front of the left magazine empty. The rest of the slot numbers are adjusted as shown.



4. Replace the magazines in the library.
5. Repeat for the right magazines. The right magazines do not have a mailslot.

Verifying the connection

Procedure

1. Install the application software and/or drivers that are compatible with the library and tape drive.

Backup software packages might require additional software or licensing to communicate with the robotics.

For software compatibility information, see the compatibility matrix available on SPOCK at: <https://www.hpe.com/storage/spock>. Once logged in, go to Other Hardware and select StoreEver.

2. Verify the connection between the library and the host:

- a. Install the HPE Library & Tape Tools Diagnostic / Installation Check Utility onto the host server.

This utility verifies that the library is connected and communicating with the host server. It also verifies that the library is functional and provides diagnostic information.

To verify your connections, run Library & Tape Tools Installation Check from the programs menu. L&TT is available without cost at: <https://www.hpe.com/support/TapeTools>.

- b. Confirm that the host server operating system recognizes the library.

In Windows, look for tape drives and media changers in the Device Manager.

Verifying the installation

Procedure

1. Determine the firmware revision currently installed on the library.

- From the RMI **Identity > Library** screen.
- From the MSL2024 OCP:
 - a. From the Home screen, press **Next** until the display shows **Status/Information**. Press **Enter**.
 - b. Press **Next** until the display shows **Library Information**. Press **Enter**.
 - c. Press **Next** until the display shows the **Firmware Rev.**

The current installed firmware version is displayed.

- d. Press Cancel until the display shows the home screen.
2. Determine the current available firmware version from the storage support website: <https://www.hpe.com/support/storage>.
3. If the library or tape drives do not have the current firmware installed, update to the latest firmware from the RMI Support > Firmware screen, the OCP Support > Library FW Upgrade menu item, or L&TT.
4. Save the library database

After configuring the library, you can save the configuration database to a USB flash drive from the OCP or to a file from the RMI Configuration > Save/Restore screen. Having a backup of the library configuration is helpful when recovering from a configuration error, setting up multiple devices with similar configurations, or if the library needs service.

Subtopics

Downloading product firmware

Downloading product firmware

Procedure

1. Navigate to the HPE Support Center website: <https://www.hpe.com/downloads/StoreEverMSL>.



IMPORTANT:

Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Passport set up with relevant entitlements.

To view and update your entitlements, and to link your contracts and warranties with your profile, navigate to: <https://www.hpe.com/support/AccessToSupportMaterials>.

2. Browse or search for the necessary firmware.
3. Download the firmware.

To upgrade firmware from the OCP, copy the firmware image onto a FAT-32 formatted USB flash drive.

Configuring additional features

About this task

The library has many features to customize it for your organization. For more information and instructions, see the user and service guide.

Procedure

- Naming the library
- Partitioning a library with two tape drives into two logical libraries
- Configuring IPv6 networking
- Enabling and configuring SNMP network management
- Setting up network time synchronization with NTP
- Configuring the CommandView TL management station for TapeAssure
- Setting up email event notification.

- Configuring failover (LTO-5 and LTO-6 FC only)
- Configuring use of encryption.

The MSL Encryption Kit provides secure, redundant storage of encryption keys for LTO-4 and later generation tape drives. If you are using the Encryption Kit with this library, follow the instructions in the kit to install and configure the Encryption Kit. The Encryption Kit is ordered separately. For information about the kit, see: <http://www.hpe.com/storage/tape>.

Supported media

Use Hewlett Packard Enterprise storage media to prolong the life of the library and tape drives. To learn more about, or to purchase media, see: <https://www.hpe.com/us/en/storage/storage-media.html>

Cleaning cartridge for all supported tape drives

Cartridge type	Part number
HPE Ultrium universal cleaning cartridge (50 cleans), orange	C7978A

LTO-4 data cartridges

Cartridge type	Part number
HPE LTO-4 Ultrium 1.6TB RW Data Cartridge, green	C7974A
HPE LTO-4 Ultrium 1.6TB WORM Data Cartridge, two-tone (green and gray)	C7974W

LTO-5 data cartridges

Cartridge type	Part number
HPE LTO-5 Ultrium 3 TB RW Data Cartridge, blue	C7975A
HPE LTO-5 Ultrium 3 TB WORM Data Cartridge, two-tone (blue and gray)	C7975W

LTO-6 data cartridges

Cartridge type	Part number
HPE LTO-6 Ultrium 6.25 TB MP RW Data Tape, purple	C7976A
HPE LTO-6 Ultrium 6.25 TB BaFe RW Data Tape, purple	C7976B
HPE LTO-6 Ultrium 6.25 TB MP WORM Data Tape, two-tone (purple and gray)	C7976W
HPE LTO-6 Ultrium 6.25 TB BaFe WORM Data Tape, two-tone (purple and gray)	C7976BW

LTO-7 data cartridges

Cartridge type	Part number
HPE LTO-7 Ultrium 15 TB RW Data Tape, blue	C7977A
HPE LTO-7 Ultrium 15 TB WORM Data Tape, two-tone (blue and gray)	C7977W

LTO-7 Type M media for LTO-8 drives

Cartridge type	Part number
HPE LTO-7 Ultrium Type M 22.5 TB RW Custom Labeled Data Cartridges (20 pack)	Q2078ML
HPE LTO-7 Ultrium Type M 22.5 TB RW Non-Custom Labeled Data Cartridges (20 pack)	Q2078MN

LTO-8 data cartridges

Cartridge type	Part number
HPE LTO-8 Ultrium 30 TB RW Data Tape, green	Q2078A
HPE LTO-8 Ultrium 30 TB WORM Data Tape, two-tone (green and gray)	Q2078W

LTO-9 data cartridges

Cartridge type	Part number
HPE LTO-9 Ultrium 45TB RW Data Tape, blue	Q2079A
HPE LTO-9 Ultrium 45 TB WORM Data Tape, two-tone (blue and gray)	Q2079W

Related information

Subtopics

[Product documentation](#)

[Websites](#)

Product documentation

About this task

Product documentation is available in the HPE Support Center at <https://www.hpe.com/support/hpesc>.

The library user and service guide provides related information:

HPE StoreEver 1/8 G2 Tape Autoloader User and Service Guide

Websites

- <https://www.hpe.com/storage/spock>: StoreEver compatibility matrix (Once logged in, go to Other Hardware and select StoreEver.)
- <https://www.hpe.com/storage/tape>: tape products
- <https://www.hpe.com/support/TapeTools>: Library & Tape Tools
- <https://www.hpe.com/support/cvtl>: Command View for Tape Libraries

