



Hewlett Packard
Enterprise

HPE StoreEver MSL4048 Tape Library

Getting Started Guide

Abstract

This guide provides information necessary to install the HPE StoreEver MSL4048 Tape Library. This guide is intended for system administrators and other users who need physical knowledge of the library.



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Additional warranty information

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Overview

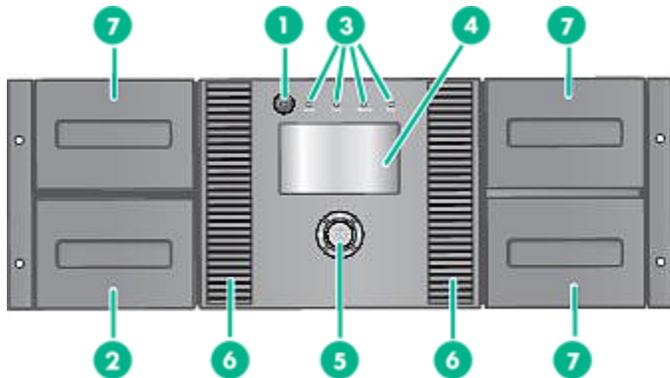
The library is compatible with most operating systems. However, it requires either direct support from the operating system or a compatible backup application to take advantage of its many features.

To verify compatibility, see the HPE Data Availability, Protection, and Retention Compatibility Matrix at:

<http://hpe.com/storage/DAPRcompatibility>

Front panel

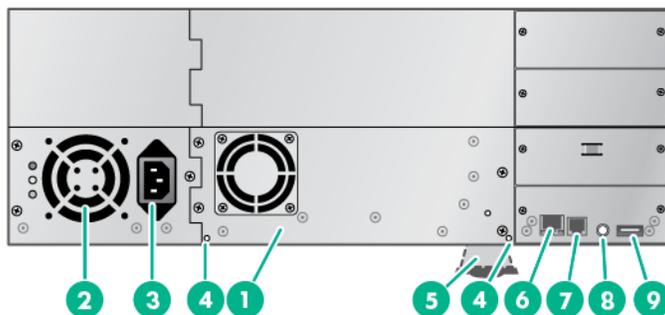
The front panel provides access to the power button, operator control panel, left and right magazines, LEDs, and the mailslot.



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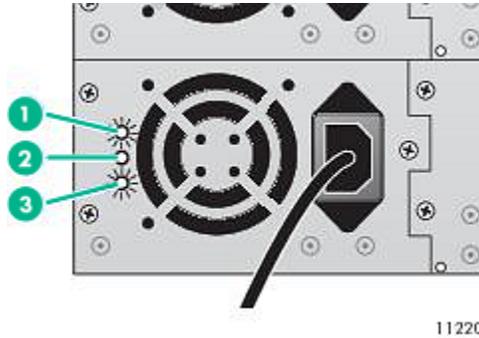
- | | | |
|---------------------------|--------------------------------|---------------------|
| 1. Power button | 2. Magazine, mailslot location | 3. Front panel LEDs |
| 4. Front panel LCD screen | 5. Control buttons | 6. Air vents |
| 7. Magazines | | |

MSL4048 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 |

Power supply LEDs

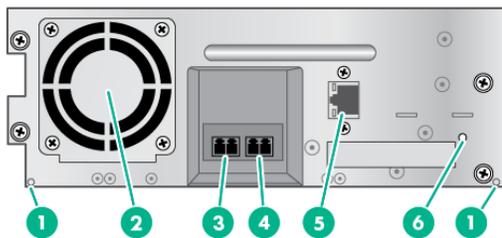


1. (Blue) AC power is connected.
2. (Yellow) Fan failure. The fan is running too slow or is defective.
3. (Green) The power supply is producing power within specifications for the library.

Tape drive back panels

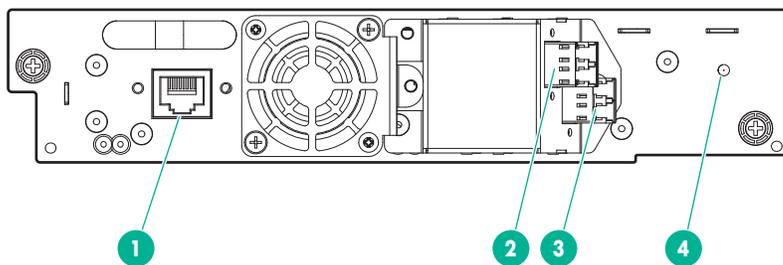
Fibre Channel

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



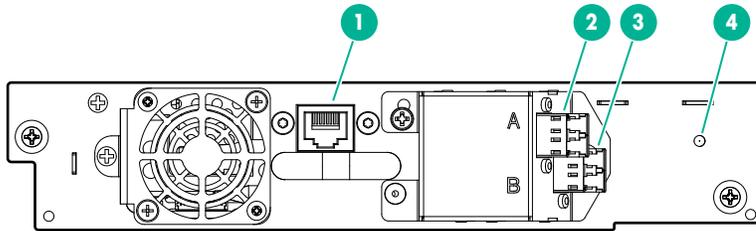
1. Magazine release hole
2. Fan
3. FC port A
4. FC port B (when present)
5. Tape drive Ethernet port (when present)
6. Tape drive power indicator

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

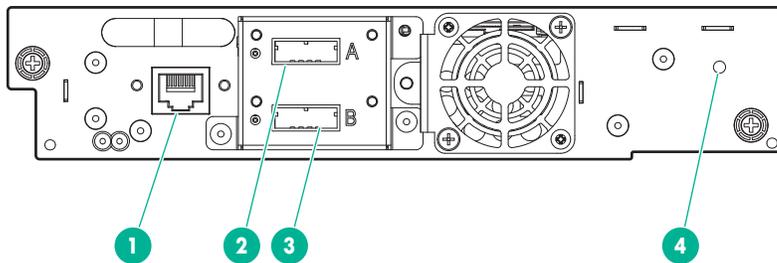
Table 3: LTO-7 and LTO-8 FC tape drive back panels



1. Tape drive Ethernet port
2. FC port A
3. FC port B
4. Tape drive power LED, green

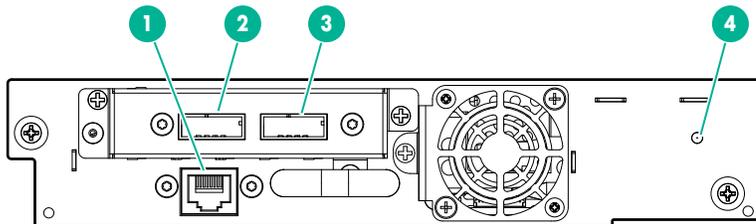
SAS

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



1. Tape drive Ethernet port
2. SAS port A
3. SAS port B (LTO-6)
4. Tape drive power LED, green

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



1. Tape drive Ethernet port
2. SAS port A
3. SAS port B
4. Tape drive power LED, green

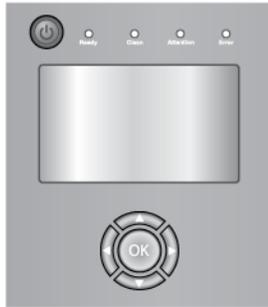
Library user interfaces

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.

The OCP

The OCP has a power button, four LEDs, five control keys, and an LCD screen. With the OCP, you can monitor, configure, and operate most library functions from the library front panel.



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Control keys

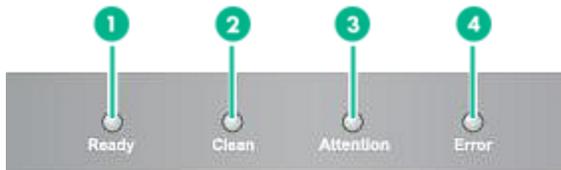
The OCP displays a menu that lets you access information and execute commands using the five control keys: **Up**, **Down**, **Left**, **Right**, and **OK**.



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LED indicators

The OCP has four LEDs that provide information.



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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.

The RMI

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

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. Choose a location for the library.
2. Plan the SAS or Fibre Channel configuration and obtain the necessary cables.

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 6: 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	MSL4048: 4U
Room temperature	10-35° C (50-95° F)) for the tape library. Some tape drives have a more limited temperature range when operating at high altitudes. Verify the tape drive operating requirements before installing a tape drive in a high altitude environment
Power source	AC power voltage: 100-127 VAC; 200-240 VAC Line frequency: 50-60 Hz 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.
Weight without media	MSL4048: 18.6 kg (40.9 lb) -24.6 kg (54.1 lb)
Weight with media	MSL4048: 28.2 kg (62.0 lb) - 34.2 kg (75.2 lb)
Air quality	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. Excessive dust and debris can damage tapes and tape drives.

Table Continued

Criteria	Definition
Humidity	20-80 percent relative humidity noncondensing
Clearance	Back: Minimum of 15.4 cm (6 inches) Front: Minimum of 30.8 cm (12 inches) Sides: Minimum of 5.08 cm (2 inches)

FC connection information

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

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 DAPR compatibility matrix at: <http://www.hpe.com/storage/DAPRcompatibility>

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.

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 DAPR compatibility matrix: <http://www.hpe.com/storage/DAPRcompatibility>

⚠ 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.

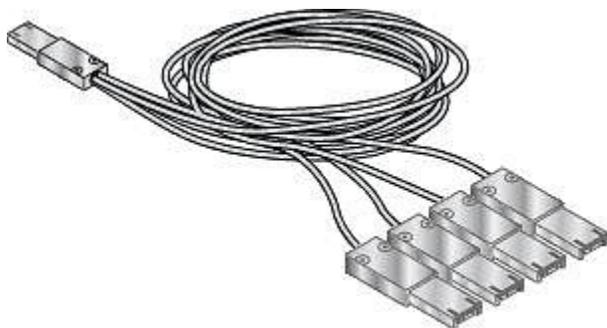
⚠ CAUTION:

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 data rates. Do not use equalized cables with LTO-5 or later generation tape drives unless these cables are verified for 6 Gb/s data rates.
 - For optimal performance, only use cables of the length specified as qualified for your products. Do not use a SAS cable longer than 6 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.



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Figure 1: Example SAS fanout cable

Connectors

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

The tape drive has a mini-SAS connector. The 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](#) on page 13.

 **WARNING:**

The library weighs up to 24.6 kg (54.1 lb) without media and up to 34.2 kg (75.2 lb) with media (48 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.
-

Preparing the host

 **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

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.

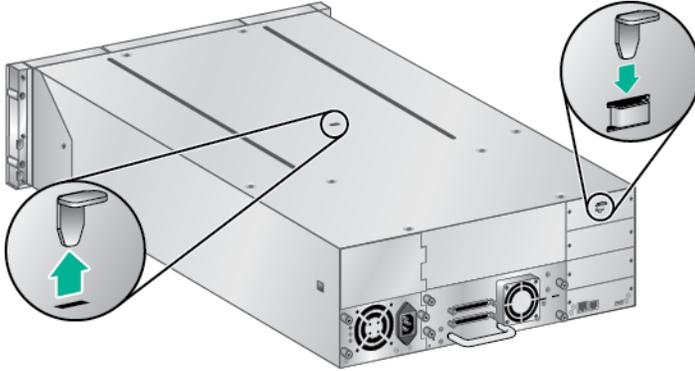
5. Carefully remove the foam padding and then the bag from the library.
6. Save the packaging materials for moving or shipping the library in the future.
7. Verify that you received the following components:
 - a. Library
 - b. Ethernet cable
 - c. Two rack rails with packets of rack hardware
8. Verify 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** on page 10.
 - b. For a library with SAS drives, you must provide a SAS cable with the correct connector for your HBA. See **SAS connection information** on page 10.

Removing the shipping lock

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.



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

Installing the library in a rack

Prerequisites

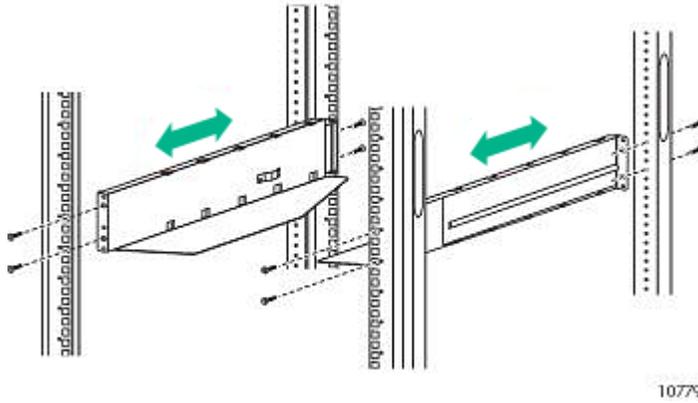
#2 and #3 Phillips screwdrivers

Procedure

1. Select the hardware packet for your rack.

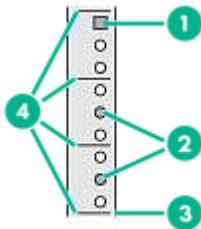
Packet label	Applicable racks
7.1 mm Round-Hole Rack	HPE supported racks with 7.1 mm round holes in the rack column
9.5 mm Square-Hole Rack	HPE supported racks with 9.5 mm square holes in the rack column

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.



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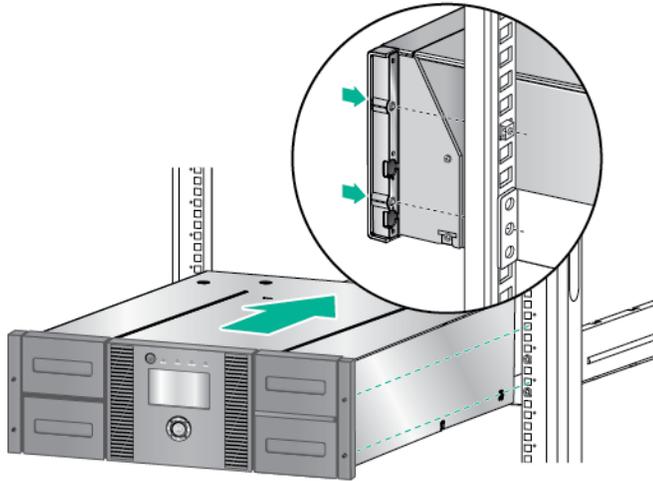
- b. Extend the rail to the depth of the rack and secure the rail to the back of the rack.
- c. Install the other rail.
- d. Insert the clip nuts on the front of the rack in the locations shown. The clip nuts will be used to secure the library to the rack.



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- | | |
|--------------------------|------------------------|
| 1. Clip nut location | 2. Rail screw location |
| 3. Bottom of the library | 4. U marker |

- 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.



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Installing tape drives

⚠ 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. Install each additional tape drive in the drive bay directly above the existing tape drives. If you leave a space and later add a tape drive in the space, the new tape drive will be assigned the next higher drive number, leaving the tape drives numbered out of order. If the settings are restored to the factory defaults or the library is power-cycled, the drives will be renumbered and you might need to update the configuration of your backup servers.

NOTE:

The library will not operate with a full-height tape drive installed in the second and third half-height drive bays. Install a full-height tape drive either in the bottom two drive bays or the top two drive bays.

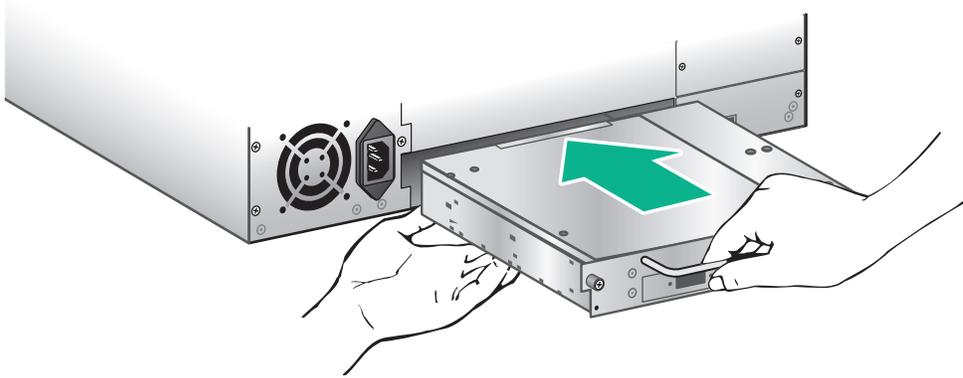
NOTE:

If you plan to partition the library into two logical libraries, the second tape drive must be installed in the third half-height drive 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.



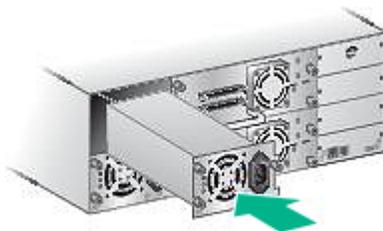
4. To secure the tape drive to the chassis, tighten the blue captive screws with your fingers. If the thumbscrews cannot be tightened, verify that the tape drive is aligned properly.

Installing a redundant power supply

If you have a redundant power supply for the tape library, you can install it now or wait until the installation process is complete.

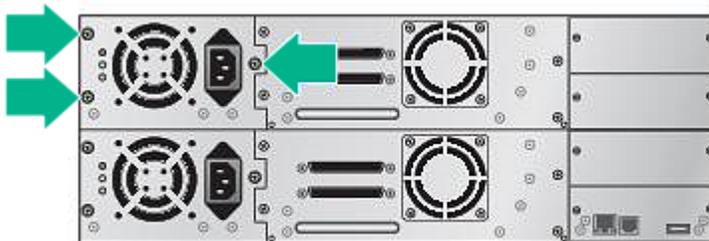
Procedure

1. Verify that the power to the library is off and the power cord is not attached.
2. On the back of the library, locate the second power supply bay, which is directly above the existing power supply.
3. Using a #2 Phillips screwdriver, remove the screws that attach the bay cover to the chassis.
4. Position the new power supply on the alignment rails and push it into the library until it is flush with the back panel.



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5. Tighten the blue thumbscrews by hand to secure the power supply to the chassis.



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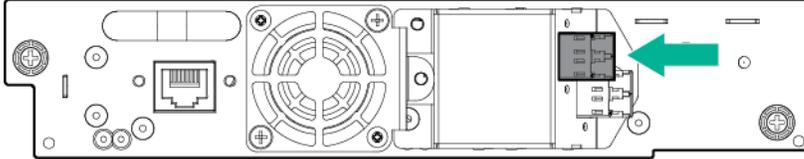
Connecting the FC cable

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

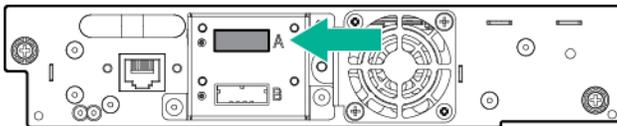
NOTE:

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 mini-SAS connector to the port on each tape drive.



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

**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, connect an Ethernet cable to a working LAN connection and to the Ethernet connector on the back of the library.
2. Attach a power cable to the power connector on each power supply on the back of the library.
3. Plug the power cable into the nearest properly grounded power outlet.
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.

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.

The IPv4 address obtained from a DHCP server is displayed in the OCP home screen and the **Info > Network** option.

If your organization requires a static IPv4 address or uses IPv6, you can configure those features from within the **Info > Network** option.

Setting the date and time

The library uses the date and time to record events and should be set during the initial installation process. You can also set the date and time or configure an NTP (Network Time Protocol) server from the RMI **Configure > System** screen.

Access to this feature requires the administrator password, if set.

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 library time does not automatically adjust for daylight saving time; you must adjust the time manually through the OCP or RMI.
-

Procedure

1. On the front panel, highlight **Configuration > Set Date and Time**. Press **OK**.
2. Press **OK** to select the first block that can be edited.

Use the **Left** and **Right** control keys to move between digits in the Date and Time fields. Use the **Up** and **Down** control keys to change the value of the highlighted digit. When the screen shows the desired value, press **OK**.

3. Set the remaining blocks and then press **OK**.

Setting the administrator password

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.

Procedure

1. From the library OCP, navigate to the **Admin > Set Admin > Password** screen.
2. Enter each digit of the password and then press **OK**.

The administrator password must be exactly eight digits consisting of the numbers 0 through 9.

Configuring the FC interface

Procedure

1. Navigate to the RMI **Configuration > Drives** screen.
2. Configure the settings for your drive and connection method.

Drives connected to a SAN

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

Drives connected directly to the host

- For LTO-7 and LTO-8 drives, use 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.
3. Click **Submit**.

Labeling the tape cartridges

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.

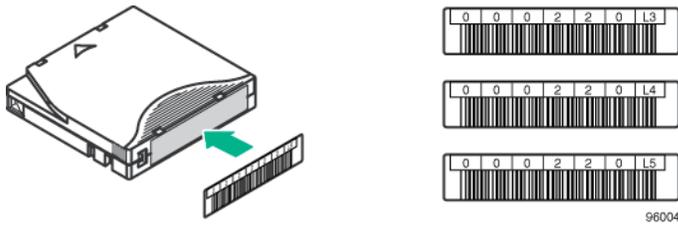
Prerequisites

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

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

Loading the tape cartridges

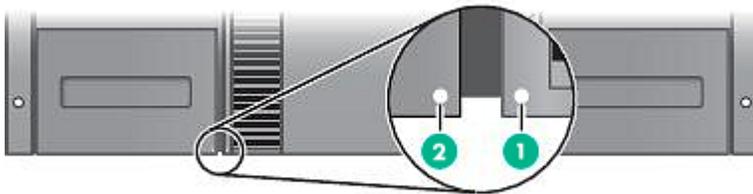
The library will power on without cartridges, but needs cartridges before performing data read and write operations, or any tests or operations that transfer cartridges.

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 each magazine, pull both left magazines straight out of the front of the library.
3. Insert the tape cartridges into the slots.

The lower left magazine, which is designated by a white dot in the lower right corner, has a three-slot mailslot in the front of the magazine. To use the mailslot, leave the three slots in the front of the magazine empty.



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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 DAPR compatibility matrix at: <http://hpe.com/storage/DAPRcompatibility>

2. Verify the connection between the library and the host:
 - a. Install the HPE Library & Tape Tools Utility onto the host computer. This utility verifies that the unit is connected and communicating with the host server. It also verifies that the device is functioning and provides diagnostic information.

To verify your connections, click the HPE L&TT Install Check icon in the HPE Library and Tape Tools program group in Windows. L&TT is available without cost at: <http://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 MSL4048 OCP **Info > Identity Library** menu.
2. Determine the current available firmware version from the storage support website: <http://www.hpe.com/support/storage>
3. If the library does not have the current firmware installed, update to the latest firmware from the RMI **Support > Firmware** screen 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.

Downloading product firmware

Procedure

1. Navigate to the HPE Support website: <http://www.hpe.com/support/storage>

! **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: <http://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

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 or more tape drives into 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: <http://www.hpe.com/storage/storagemedia>

Table 7: Cleaning cartridge for all supported tape drives

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

Table 8: 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

Table 9: LTO-5 data cartridges

Cartridge type	Part number
HPE LTO5 Ultrium 3 TB RW Data Cartridge, blue	C7975A
HPE LTO5 Ultrium 3 TB WORM Data Cartridge, two-tone (blue and gray)	C7975W

Table 10: 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

Table 11: 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

Table 12: 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

Related information

Product documentation

Product documentation is available in the Storage section of the Hewlett Packard Enterprise Information Library.

Procedure

1. Navigate to <http://www.hpe.com/info/enterprise/docs>.
2. In the Products and Solutions pane, select **StoreEver Tape**.
3. Select the types of documents and your language.
4. In the **StoreEver Tape** pane, select your library.

The library user and service guide provides related information:

HPE StoreEver MSL2024, MSL4048, MSL8048, and MSL8096 Tape Libraries User and Service Guide

Websites

- <http://hpe.com/storage/DAPRcompatibility>: compatibility information
- <http://www.hpe.com/storage/tape>: tape products
- <http://www.hpe.com/support/TapeTools>: L&TT
- <http://www.hpe.com/support/cvtl>: Command View for Tape Libraries

OCP menu

