Sun StorageTek™ SL48 Tape Library

Getting started

IMPORTANT:

Shipping Lock: **The shipping lock must be removed for the robotics to work properly.** A robot move error is displayed if the shipping lock is not removed. See Step 1, Removing and storing the shipping lock.

WARNING!

The Sun StorageTek™ SL48 Tape Library weighs 30.2 kg (66 lb) without media and 46 kg (101.4 lb) with media (48 cartridges). When moving the Library, to reduce the risk of personal injury or damage to the device:

- Observe local health and safety requirements and guidelines for manual material handling.
- Remove all tapes to reduce the overall weight of the device.
- Obtain adequate assistance to lift and stabilize the device 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's leveling jacks to the floor.
- Ensure that the full weight of the rack rests on the leveling jacks.
- Install stabilizing feet on the rack.
- Extend only one rack component at a time. Racks may become unstable if more than one component is extended.

Unpacking the Library

Remove the packaging, accessories, and Library from the box one layer at a time. Place the Library on a level work surface. Carefully remove the foam padding and then the bag from the Library. Save the packaging materials to move or ship the Library in the future.

Identifying product components
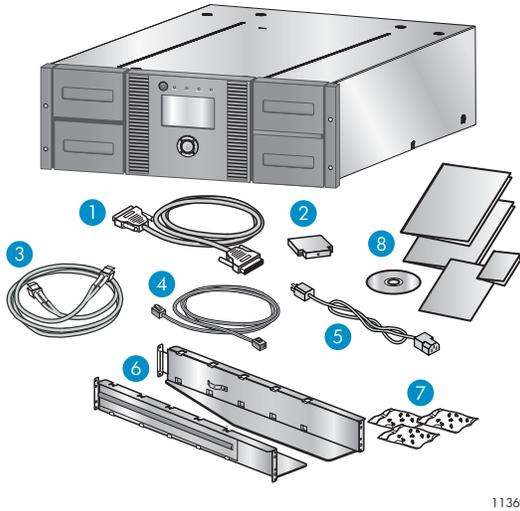
11369

Confirm that you received the following product components:

1. Parallel SCSI cable (parallel SCSI Libraries — ordered separately)
2. U320 parallel SCSI terminator (one per parallel SCSI drive)
3. Fibre Channel cable (Fibre Channel Libraries — ordered separately)
4. Ethernet cable (ordered separately)
5. Power cord (ordered separately)
6. Rack rails
7. Three packets of rack hardware
8. Documentation kit

Optional: Tabletop conversion cover

11370

CAUTION:

Operating the Library on a flat surface without the tabletop conversion cover may cause errors or damage to the Library.

The Library can either be installed into a rack with the enclosed rails or installed into the optional tabletop conversion cover and set on a flat surface.
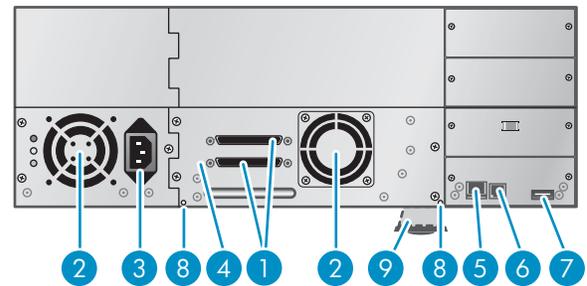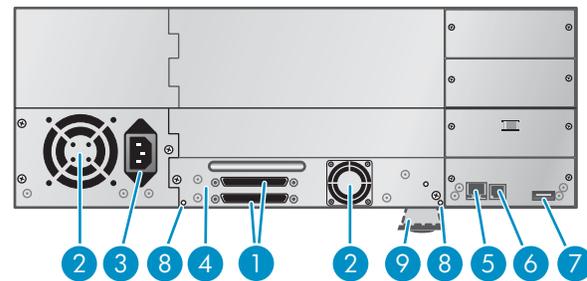
Front panel overview
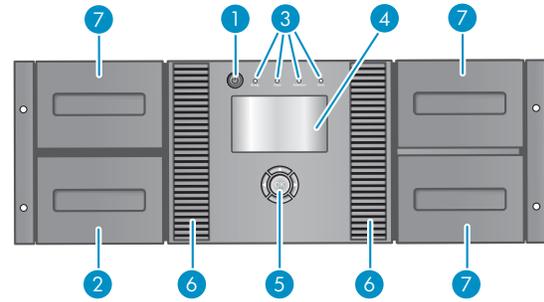
11346

1. Power button
2. Magazine and mailslot
3. LEDs
4. LCD screen
5. Control keys
6. Air vents
7. Magazine

Back panel overview: parallel SCSI
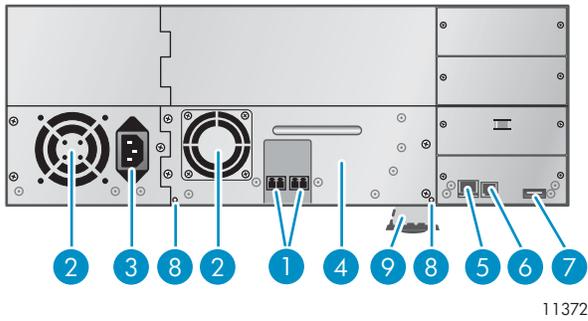

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1. 68–pin HD parallel SCSI connectors
2. Fan
3. Power connector
4. Tape drive
5. Ethernet port
6. Serial port (Factory use only)
7. USB port
8. Magazine release hole
9. Pull-out tab containing product information

Back panel overview: Fibre Channel

11372

1. Fibre Channel ports
2. Fan
3. Power connector
4. Tape drive
5. Ethernet port
6. Serial port (Factory use only)
7. USB port
8. Magazine release hole
9. Pull-out tab containing product information

1 Removing and storing the shipping lock
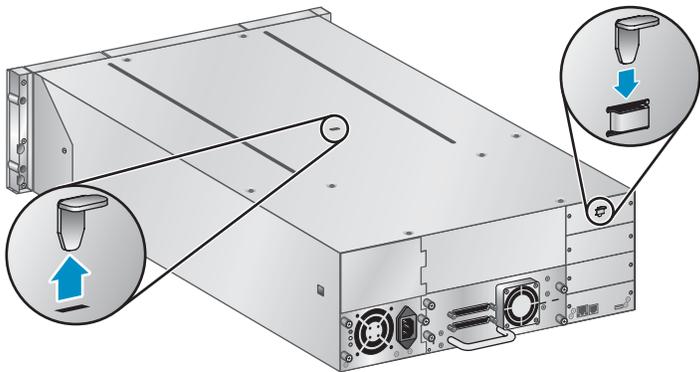
11402

IMPORTANT:

Shipping lock: **The shipping lock must be removed for the robotics to work properly.** A robot move error is displayed if the shipping lock is not removed.

The shipping lock prevents the robotic transport mechanism from moving during shipment and must be removed and stored before powering on the Library.

Locate the tape holding the lock at the top of the Library. Remove the tape, then remove the lock and store it as shown.

Optional: Adding a tape drive
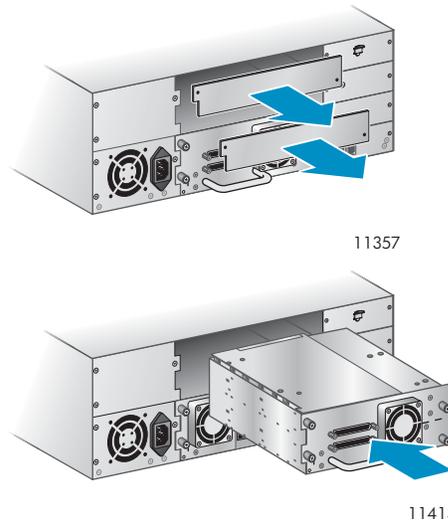
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With a tape drive upgrade kit, the Library can hold up to four half-height LTO tape drives or two full-height tape drives.

Add the new tape drive directly above the currently installed tape drive. Remove one drive bay cover for a half-height drive or two drive bay covers for a full-height drive. Slide the tape drive into the bay until it is firmly seated. Tighten the blue thumbscrews with your fingers to secure the tape drive.

Optional: Adding a power supply
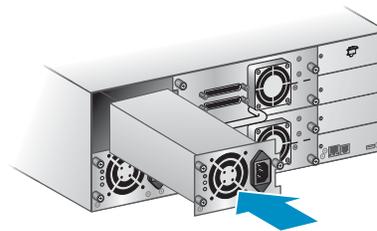
11395

With the redundant power supply upgrade kit, the Library will continue to operate without interruption if either power supply fails.

To install the redundant power supply, remove the cover plate for the redundant power supply. Slide the power supply into the bay until it is firmly seated. Tighten the three blue thumbscrews with your fingers to secure the power supply.

Optional: Installing the tabletop conversion cover

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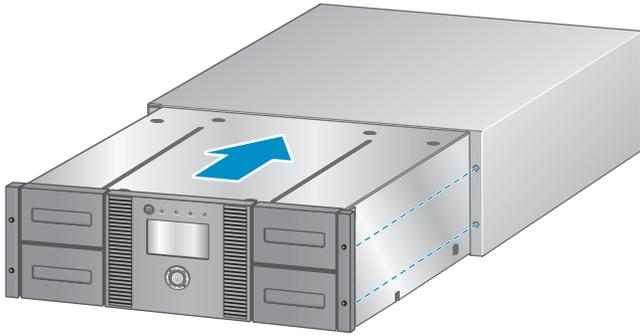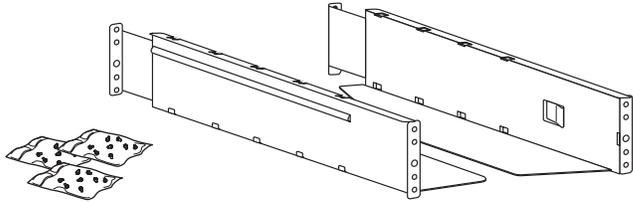Skip this step if you are mounting the Library in a rack.

Place the cover on the work surface behind the Library. Slide the Library into the cover until the front panel of the Library is aligned with the cover.

Tighten the four captive screws on the front bezel to secure the Library in the cover.

Continue with Step 6.

2 Determining your rack type

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You will need #2 and #3 Phillips screwdrivers, a small flat screwdriver, the two rack rails, the **Standard rack hardware** packet, and the additional hardware packet, if any, for your rack.

Racks having vertical mounting rails with 10–32 threaded holes in the rack column (Sun StorEdge Expansion Cabinet).

- You will need the packet of alignment pins marked **10–32 threaded-hole rack**.

Racks having vertical mounting rails with M6 threaded holes in the rack column (Sun Rack 900 and 1000).

- No additional hardware packet is needed.

Racks having vertical mountain rails with 9.5 mm square holes in the rack column (Sun StorageTek Rack).

- You will need the packet of alignment pins and clip nuts marked **9.5 mm square-hole rack**.

Customizing the rails for 10–32 threaded-hole racks
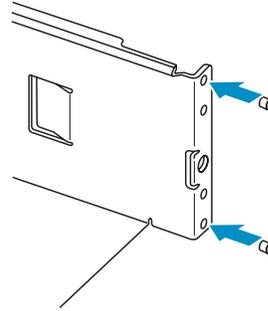
11421

Using a flat screwdriver, replace the two alignment pins on the front and back of each rail with the pins from the **10–32 threaded-hole rack** packet.

Customizing the rails for M6 threaded-hole racks

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Insert a clip nut from the **Standard rack hardware** packet onto the back of the large hole on the front of each rail.
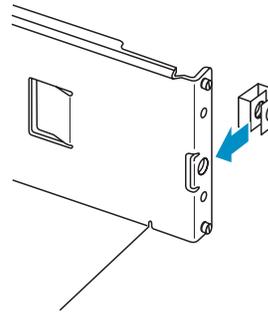
Customizing the rails for 9.5mm square-hole racks

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Using a flat screwdriver, replace the two alignment pins on the front and back of each rail with the pins from the **9.5 mm square-hole rack** packet.
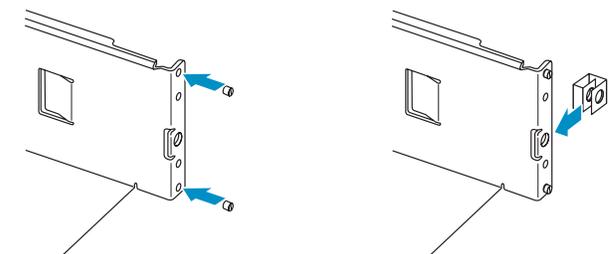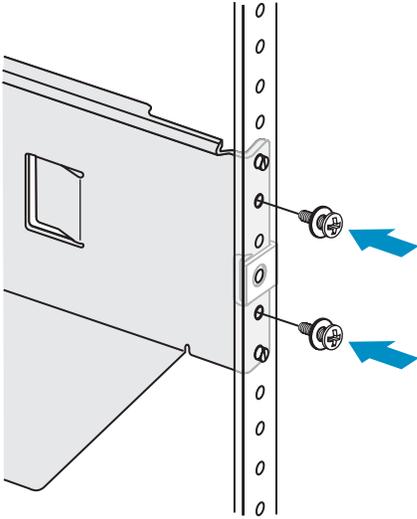
Insert a clip nut from the **Standard rack hardware** packet onto the back of the large hole on the front of each rail.

3 Securing the rails to the rack

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Using two screws with washers from the **Standard rack hardware** packet, secure the front of one rail to the front of the rack. Extend the rail and secure the back of the rail to the rack using two screws with washers.

Secure the other rail in a similar fashion.

4 Installing additional clip nuts
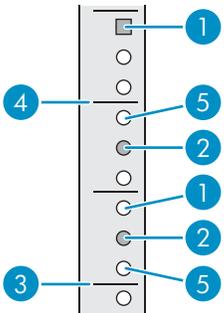
1. Clip nut location
2. Rail screw location
3. Base of Library
4. 1U marker
5. Alignment pin location

11425

10–32 threaded-hole racks (Sun StorEdge Expansion Cabinet): No additional clip nuts are needed; skip this step.

M6 threaded-hole racks (Sun Rack 900 and 1000): On the front of the rack, install one clip nut from the **Standard rack hardware** packet on each side in the location shown.

9.5 mm square-hole racks (Sun StorageTek Rack): On the front of the rack, install one clip nut from the **9.5 mm square-hole rack** packet on each side in the location shown.

5 Installing the Library
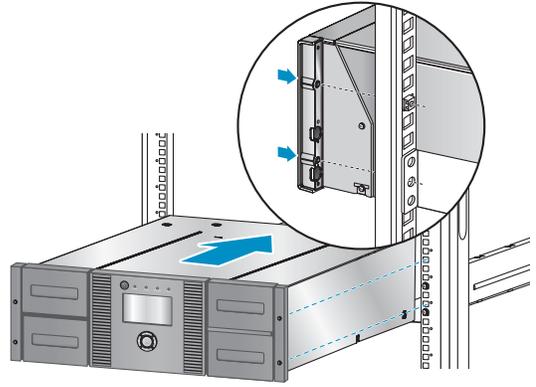
11347

Slide the Library onto the rails. Secure the front bezel to the rack using a #2 Phillips screwdriver placed through the small holes in the mounting bracket to tighten the captive screws on each side of the Library.

6a Planning the parallel SCSI configuration

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If the Library has only one parallel SCSI drive and is the only parallel SCSI device connected to the host computer, or you will put each drive on its own parallel SCSI bus, skip this step.

If you are unfamiliar with configuring parallel SCSI devices, read the parallel SCSI configuration information in the *User and service guide* on the documentation CD.

Follow these general guidelines when planning the parallel SCSI configuration:

- The LTO-3 tape drive is an Ultra320 parallel SCSI device. Only put one LTO-3 tape drive on an Ultra320 bus. Putting an LTO-3 tape drive on a lower pe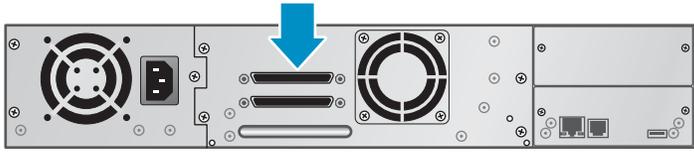rformance bus will degrade its performance. Do not connect an LTO-3 drive to an SE SCSI bus because it will seriously degrade performance.
- The LTO-2 is an Ultra160 parallel SCSI device. Up to two LTO-2 tape drives can share an Ultra320 bus or each tape drive can be on its own Ultra160 bus.
- Avoid putting the Library on the same SCSI bus as a disk drive or SE device.
- The default SCSI ID of full-height tape drives is 4. The default SCSI ID of half-height drives is 4 or 5, depending on the location of the drive in the Library.
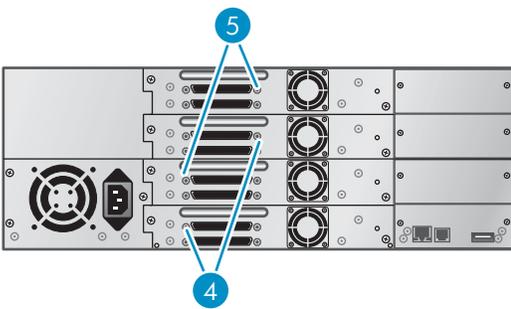
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6b Planning the Fibre Channel configuration

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The Fibre Channel tape drive has two Fibre Channel ports. Only one port may be used at a time, but both ports can be connected for path failover if your application supports path failover.

Direct connection

You will need a 2 Gb or 4 Gb Fibre Channel HBA.

SAN connection

All switches between the host and the Library must be of the appropriate type. A 2 Gb switch in the path may result in performance degradation when backing up highly compressible data to a 4 Gb tape drive.

Configure zoning on the Fibre switch so only the backup servers can access the Library.

7 Changing the SCSI ID

In a parallel SCSI Library, If you need to change the SCSI ID for one or both of the tape drives, do so before connecting the Library to the host computer.

1. Attach the power cord to the Library.
2. Power on the Library by pressing the power button on the front panel.
3. Check the LCD screen to make sure the Library is ready.
4. Use the control keys below the LCD screen to highlight **Configuration > Drives > Drive #**, where # is the number of the drive whose SCSI ID you need to change. Press the **OK** key.
5. Press **OK** to select the editable block. Use the **Up** and **Down** control keys to change the SCSI ID. Press **OK** to select the value.
6. Highlight **Save** and press **OK** to save the SCSI ID.
7. Change the SCSI ID of the other drive if necessary.

Power off the Library.

8 Preparing the host

If necessary, install software, a host bus adapter (HBA), and compatible drivers in the host computer.

Ensure that your HBA supports multiple LUNs. For parallel SCSI devices, verify that multiple LUN support is enabled for the HBA and operating system.

Sun recommends that the host server be powered down before attaching new devices.

# 9a Connecting the Library: parallel SCSI

To HBA
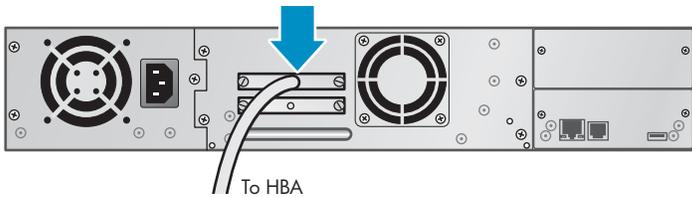
11415

NOTE:

A parallel SCSI LTO-3 drive should be the only device on the bus. A maximum of two LTO-2 drives can be on a single Ultra320 bus.

Attach one end of the parallel SCSI cable to one of the connectors on the drive. Attach the other end of the cable to the host bus adapter (HBA) or to the connector on the previous device on the SCSI bus.

If the tape drive is the last or only device on the SCSI bus, attach a terminator to the remaining SCSI connector on the drive. Otherwise, attach a SCSI cable to the next device on the SCSI bus. Make sure that the last device on the SCSI bus is properly terminated.

Connect the second drive, if applicable.

9b Connecting the Library: Fibre Channel

To HBA
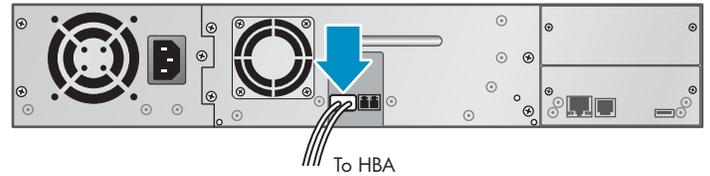
11419

Remove the FC port cap from Port A. Attach one end of the FC cable to Port A on the tape drive. Attach the other end of the FC cable to a switch or HBA.

10 Powering on the Library

Plug one end of the Ethernet cable into the Ethernet port on the back of the Library. Plug the other end of the cable into an Ethernet LAN port.

Plug the power cable into the Library and the power outlet.

Power on the Library using the power button located on the front panel. Check the LCD screen to make sure the Library is receiving power.

Power on the host server and all devices you powered off earlier.

11 Configuring the network

Configuring the network enables you to monitor, configure, and control most Library functions from the remote management interface (RMI). By default, the Library will obtain an IP address from a DHCP server. You can configure the Library to use a static IP address. Once the Library has an IP address, you can change the network configuration from the OCP or RMI.

To see the IP address obtained from a DHCP server, go to the **Info > Network** option. To configure a static IP address, go to the **Configuration > Network** option.

12 Setting the date and time

This option sets the date and time used by the Library to record events and should be set during the initial installation process.

To set the date and time:

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**.

   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 a.m. is 13:00.

13 Setting the administrator password

Setting an administrator password provides access to the administrator functions with the remote management interface (RMI) and restricts access to administrator functions from people who do not know the administrator password. The administrator password must be exactly eight digits consisting of the numbers 0 through 9.

To set the administrator password:

1. Use the control keys below the LCD screen to highlight **Configuration > Set Admin Password**. Press **OK**.

2. Press **OK** to select the editable block. The **Left** and **Right** control keys allow you to move between the digits in the password field. Use the **Up** and **Down** control keys to change the value of the highlighted digit. Press **OK** to set the value.

14 Configuring the Fibre Channel ports

Sun recommends leaving the Fibre Channel ports at the default settings of **Port Speed: Automatic** and **Port Type: Auto Detect**. With these settings, the drive will choose the appropriate configuration. See the *User and service guide* on the documentation CD for instructions on changing the Fibre Channel configuration.

15 Labeling tape cartridges
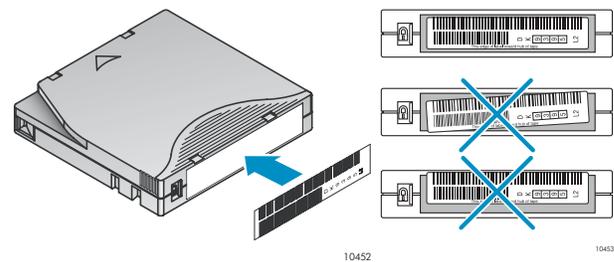
Attaching a bar code label to each tape cartridge enables the Library and application software to identify the cartridge quickly, thereby speeding up inventory time. Make it a practice to use bar code labels on your tape cartridges.

   IMPORTANT:

   The misuse and misunderstanding of bar code technology can result in backup and restore failures. To ensure that your bar codes meet quality standards, always purchase them from an approved supplier and never print bar code labels yourself.

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

16 Loading tape cartridges

Use the front panel **Operations > Unlock Left Magazines** option to release the left magazines. Pull both magazines straight out of the front of the Library.
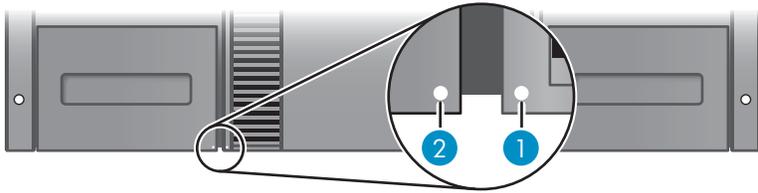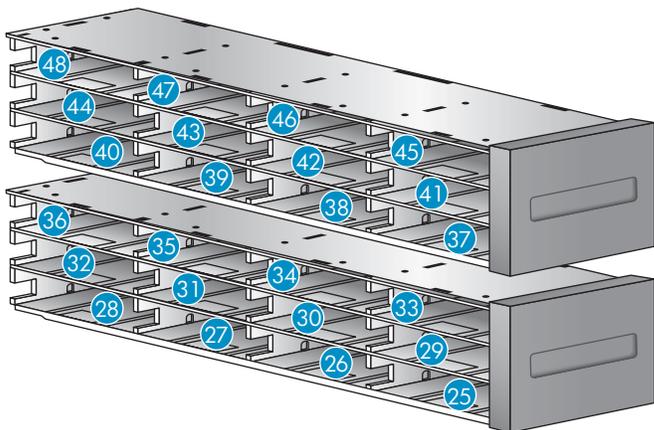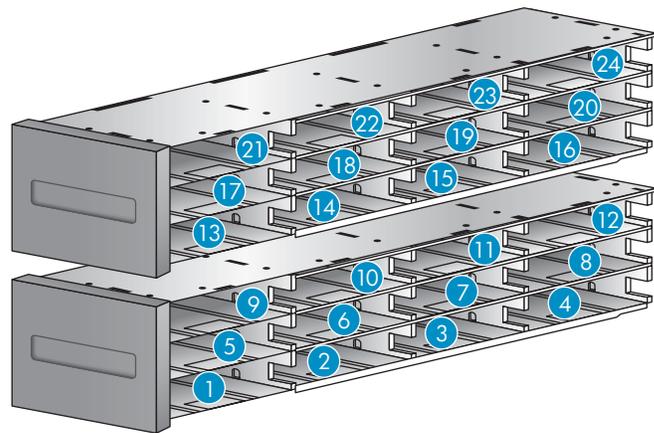

10848

The lower left magazine, which is designated by a white dot on the lower right corner, has a three-slot mailslot in the front of the magazine. Leave these slots empty if you plan to enable the mailslot.

Insert the tape cartridges into the magazines.

Replace the magazines in the Library.

Repeat for the right magazines.

11407
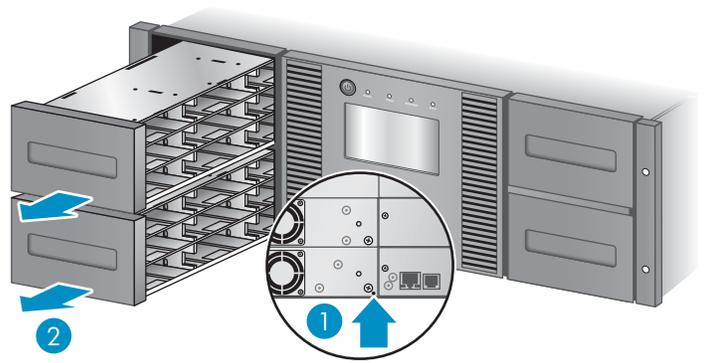
11401

To remove the magazines on both sides of the Library or to remove the magazines when the Library is powered down, 1) insert a straightened paperclip or small pin into the magazine release hole on the back panel, while 2) another person removes the magazines from that side.

Mailslot
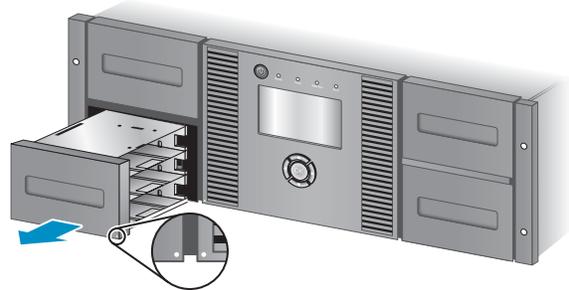
11380

The mailslot in the left magazine allows you to insert and remove tapes without removing the magazine. You can open the mailslot from the front panel or with host software that supports this function.
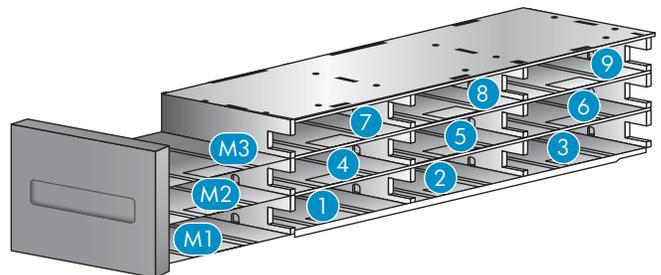
11292

When the mailslot is enabled, the mailslot uses the front three slots of the lower left magazine and the storage slots are renumbered.

Using the remote management interface (RMI)

With the RMI, you can monitor the Library's status, configure it, and control most of its functions from a web browser or terminal. SNMP can only be configured with the RMI.

Login

Using the OCP, find the Library's IP address from the **Info > Network** screen. Open any HTML web browser and enter the Library's 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.

> **NOTE:**
>
> You must set the administrator password with the OCP before you can use the RMI's administrator functions.

Status icons

The green **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 intervention is necessary, but that the device can still perform most operations.

The red X **Status Error** icon indicates that user intervention is required and that the device is not capable of performing some operations.

Using the operator control panel (OCP)

The OCP has a power button, four LEDs, five control keys, and an LCD screen. The OCP provides everything you need to monitor the Library's status and to control its functions.

Control keys

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

LED indicators

The OCP has four LEDs that provide a variety of information.
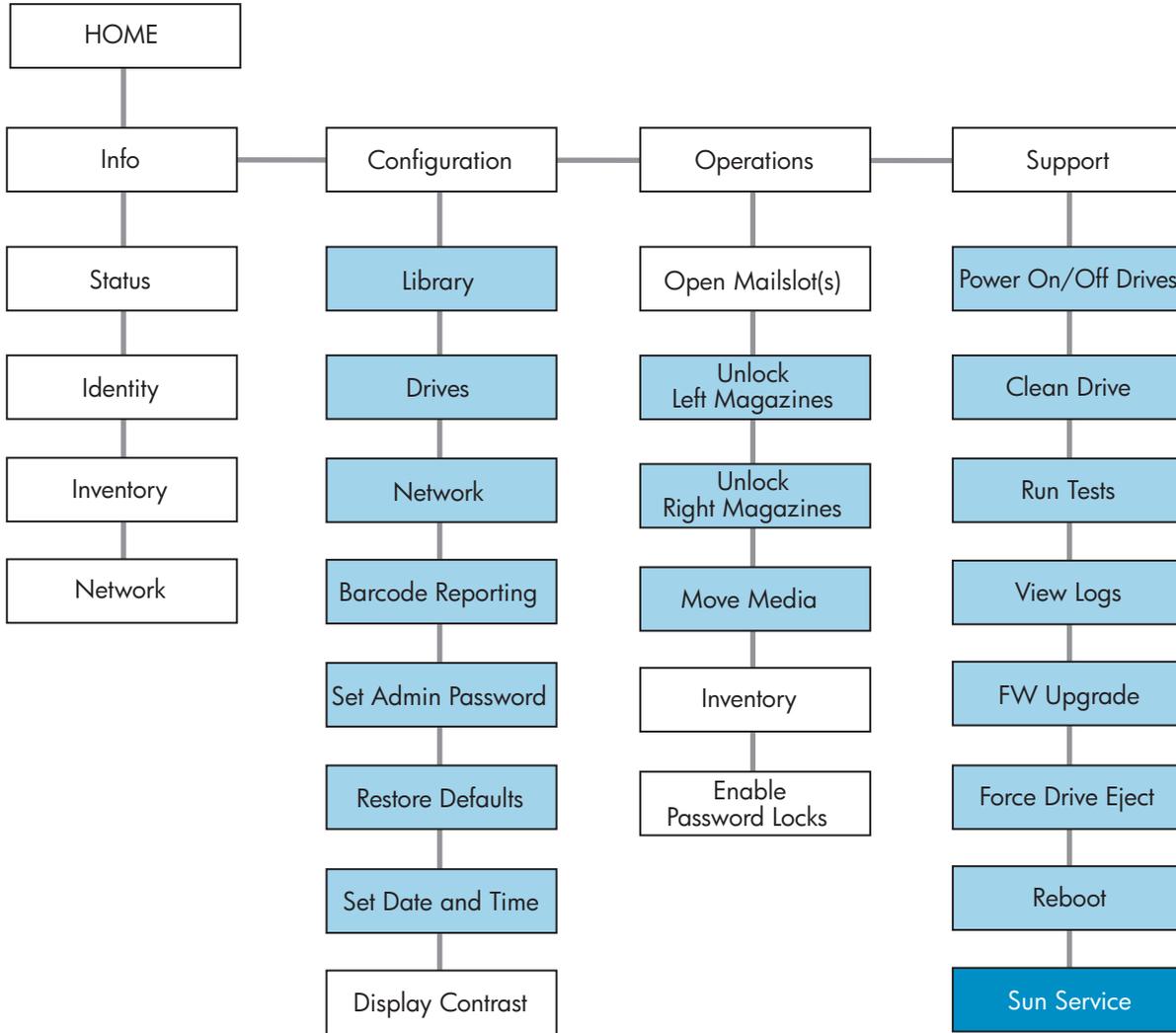
Ready — Green when power is on, blinking with tape drive or Library robotics activity.

Clean — Amber when a cleaning cartridge should be used.

Attention — Amber if the Library has detected a condition that requires attention.

Error — Amber if an unrecoverable tape drive or Library error occurs. A corresponding error message displays on the LCD screen.

Operator control panel menu

```
HOME
 │
 ├──────────────┬──────────────┬──────────────┐
 │              │              │              │
Info      Configuration    Operations      Support
 │              │              │              │
Status        Library    Open Mailslot(s)  Power On/Off Drives
 │              │              │              │
Identity      Drives        Unlock        Clean Drive
 │              │        Left Magazines       │
Inventory    Network        Unlock        Run Tests
 │              │        Right Magazines       │
Network   Barcode Reporting  Move Media     View Logs
                │              │              │
          Set Admin Password Inventory     FW Upgrade
                │              │              │
          Restore Defaults   Enable      Force Drive Eject
                │        Password Locks       │
          Set Date and Time               Reboot
                │                             │
          Display Contrast              Sun Service
```

☐ Requires administrator password
☐ Requires Sun Service password

11409

Ordering media
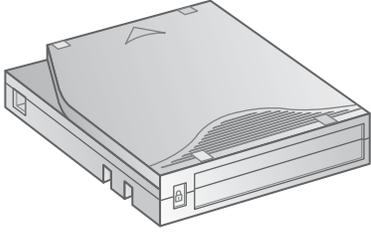
11383

Use Sun storage media to prolong the life of the Library and tape drives. To learn more about, or to purchase Sun media, visit http://www.sun.com/storagetek/tape_storage/tape_media/lto/.

Helpful websites

For other product information, see the following websites:

http://sun.com

http://sunsolve.sun.com

http://www.docs.sun.com/app/docs

http://www.sun.com/storagetek/tape_storage

http://www.sun.com/bigadmin/home/index.html

Related documentation

The *Sun StorageTek ™ SL24 Tape Autoloader and SL48 Tape Library User and Service Guide* on the documentation CD includes additional information about installing, configuring, upgrading, and operating the Autoloader. English, Japanese, French, German, Spanish, Simplified Chinese, Korean, and Italian versions of the guide can be found on the Sun documentation website at: http://www.docs.sun.com/app/docs.

Technical support

Call your local Sun Solution Center for warranty or contractual support. Contact numbers are at: http://www.sun.com/service/contacting/. Or, get self help at http://sunsolve.sun.com.