# Sun StorageTek™ SL24 Tape Autoloader Getting started



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www.sun.com

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**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™ SL24 Tape Autoloader weighs 15.6 kg (34.3 lb) without media and 20.4 kg (44.9 lb) with media (24 cartridges). When moving the Autoloader, 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!**

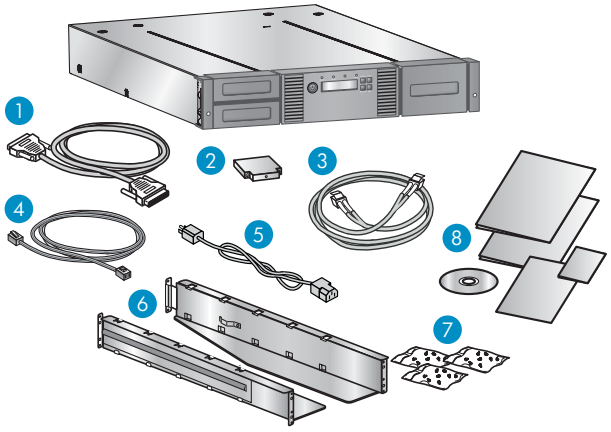
When placing the Autoloader into a rack, to reduce the risk of personal injury or damage to equipment:

- 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 Autoloader

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

## Identifying product components

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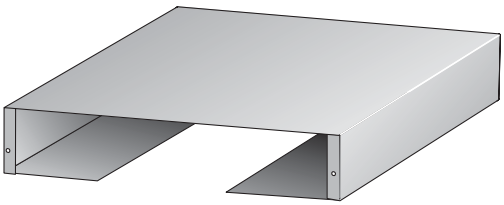
Confirm that you received the following product components:

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

## Optional: Tabletop conversion cover



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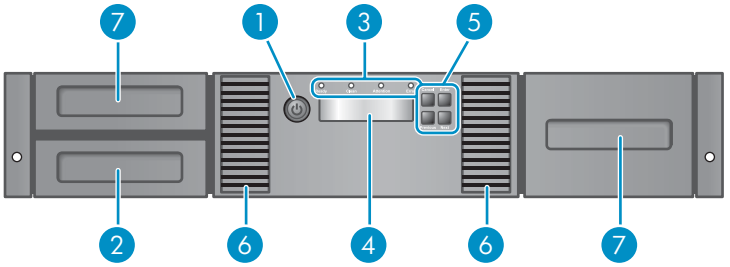
**CAUTION:**

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

The Autoloader 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.

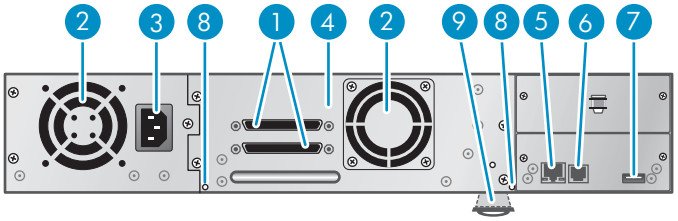
## Front panel overview




11341

1. Power button
2. Mailslot
3. LEDs
4. LCD screen
5. Control keys
6. Air vents
7. Magazines

## Back panel overview: parallel SCSI

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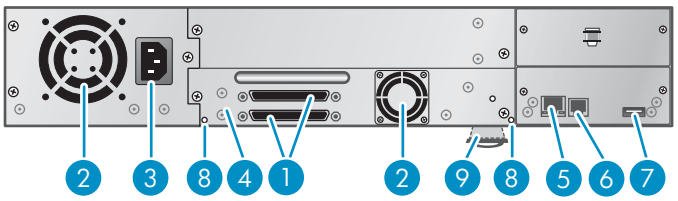
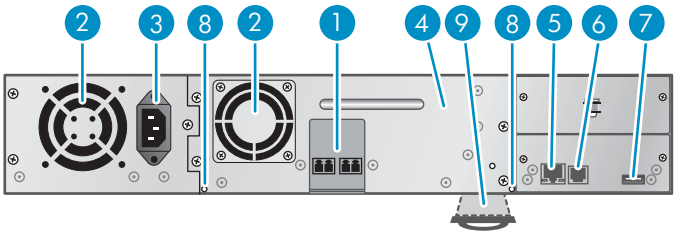



11361

1. Parallel SCSI connector
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

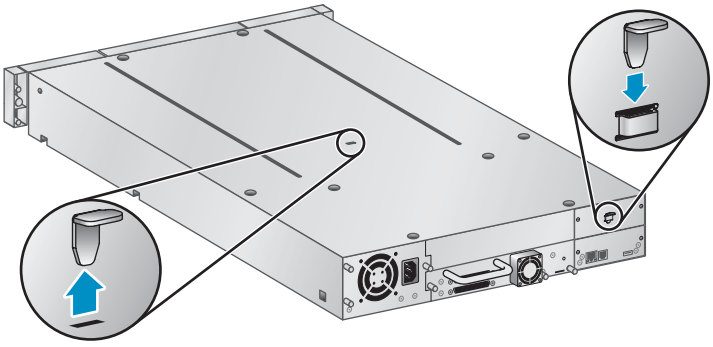
# Back panel overview: Fibre Channel




11362

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



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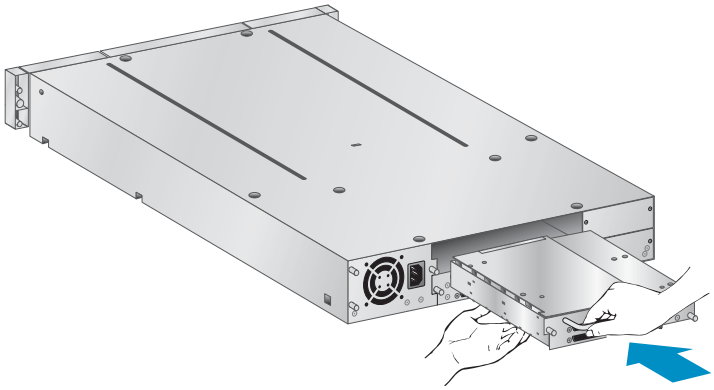
**IMPORTANT:**

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 Autoloader.

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

# Optional: Adding a tape drive



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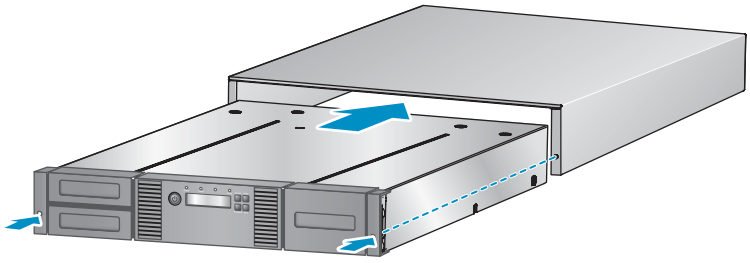
With a tape drive upgrade kit, the Autoloader can hold up to two half-height LTO tape drives.

Remove the drive bay cover with a Phillips screwdriver. Slide the tape drive into the bay until it is firmly seated. Tighten the blue thumbscrews with your fingers until the drive is secure.

# Optional: Installing the tabletop conversion cover



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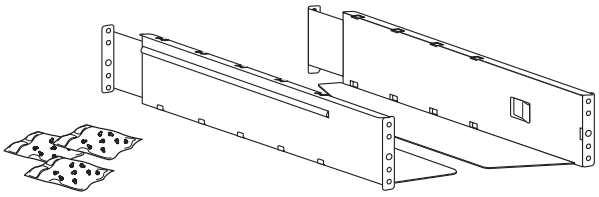
Skip this step if you are mounting the Autoloader in a rack.

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

Tighten the two captive screws on the front bezel to secure the Autoloader in the cover.

Continue with Step 5.

# 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 mountain 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**.

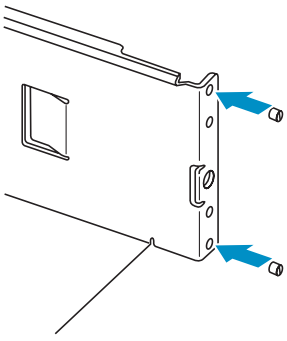
Racks having M6 threaded holes in the rack column (Sun Rack 900 and 1000).

- No additional hardware packet is needed.

Racks having 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 racks with 10–32 threaded holes



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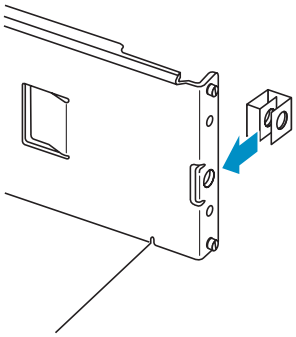
Using a flat screwdriver, replace the two alignment pins on the front and back of each rail with the pins from the **10–32 threaded-hole rack** packet.

## Customizing the rails for racks with M6 threaded holes



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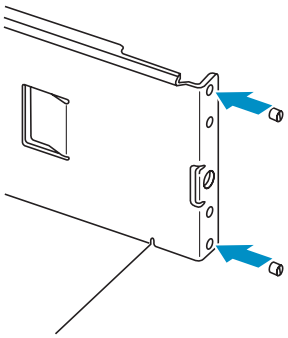
Insert a clip nut from the **Standard rack hardware** packet onto the back of the large hole on the front of each rail.

## Customizing the rails for racks with 9.5mm square holes



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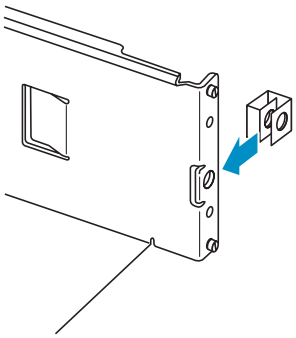
Using a flat screwdriver, replace the two alignment pins on the front and back of each rail with the pins from the **9.5 mm threaded-hole rack** packet.



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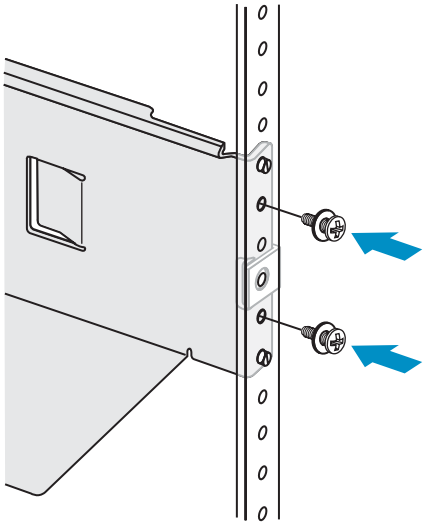
Insert a clip nut from the **Standard rack hardware** packet onto the back of the large hole on the front of each rail.

# 3 Securing the rails to the rack



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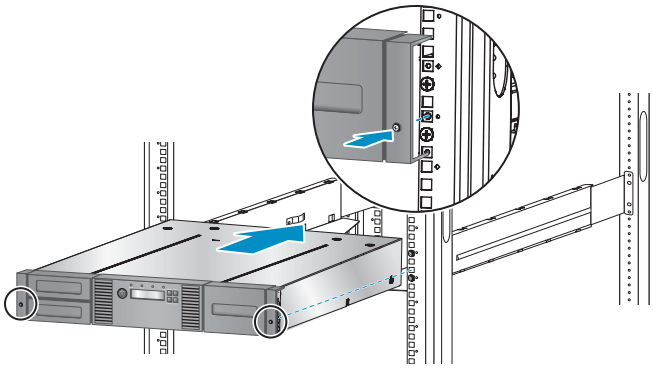
Using two screws with washers from the **Standard rack hardware** packet, secure the front of one rail to the front of the rack. Extend the rail and secure the back of the rail to the rack using two screws with washers.

Secure the other rail in a similar fashion.

# 4 Installing the Autoloader



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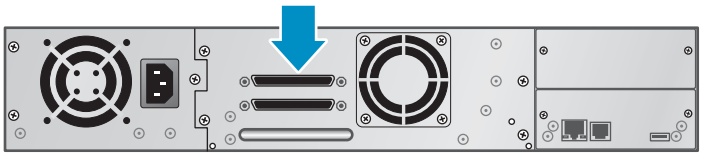
Slide the Autoloader onto the rails. Secure the front bezel to the rack using a #2 Phillips screwdriver placed through the small holes in the mounting bracket to tighten the captive screws on each side of the Autoloader.

# 5a Planning the parallel SCSI configuration



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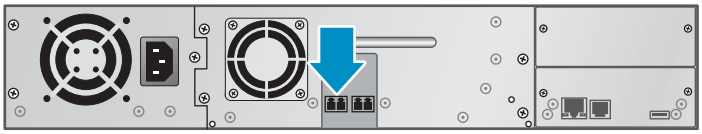
If the Autoloader has only one parallel SCSI drive and is the only parallel SCSI device connected to the host computer, or you will put each drive on its own parallel SCSI bus, skip this step.

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 performance 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 Autoloader on the same SCSI bus as a disk drive or SE device.
- The default SCSI ID of the bottom drive is 4. The default SCSI ID of the top half-height drive is 5.

# 5b 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 Autoloader 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 Autoloader.

# 6 Changing the SCSI ID

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

1. Attach the power cord to the Autoloader.
2. Power on the Autoloader by pressing the power button on the front panel.
3. Check the LCD screen to make sure the Autoloader is ready.
4. On the front panel, press **Enter**.
5. Press **Next** until the display shows `Configuration`. Press **Enter**.
6. Press **Next** until the display shows `Change Drive 1` or `Change Drive 2`. Press **Enter** to select the drive that needs a new SCSI ID.
7. Press **Next** until the display shows the new SCSI ID. Press Enter.
8. Change the SCSI ID of the other drive if necessary.

Power off the Autoloader.

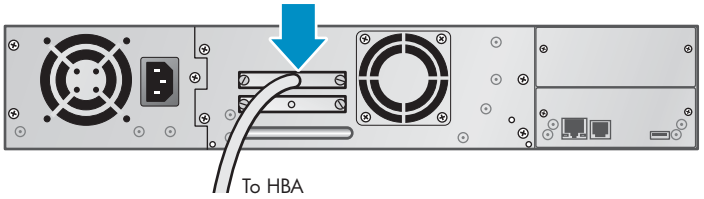
# 7 Preparing the host

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.

# 8a Connecting the Autoloader: parallel SCSI

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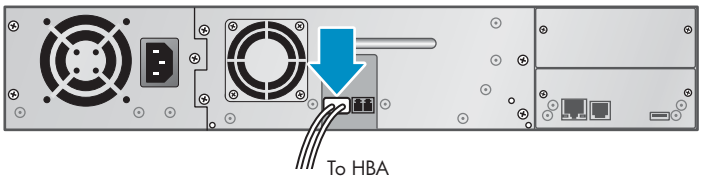
**NOTE:**
A parallel SCSI LTO-3 drive should be the only device on the bus. A maximum of two LTO-2 drives can be on a single Ultra320 bus.

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.

# 8b Connecting the Autoloader: Fibre Channel

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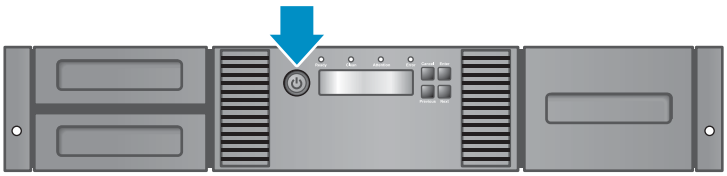
Remove the FC port cap from Port A. Attach one end of the FC cable to Port A on the tape drive. Attach the other end of the FC cable to a switch or HBA.

# 9 Powering on the Autoloader



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

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

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

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

# 10 Configuring the network

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

To find the IP address obtained via DHCP:

1. On the front panel, press **Enter**.
2. If necessary, press **Next** until the display shows `Status/Information`. Press **Enter**.
3. Press **Next** until the display shows `Network Information`. Press **Enter**.
4. The display shows either `DHCP Enabled` or `DHCP Disabled`. Press **Next**.
5. The display shows the IP address. Press **Next** to see additional network configurations.
6. Press **Cancel** until the display shows the home screen.

To set the IP address:

1. On the front panel, press **Enter**.
2. If necessary, press **Next** until the display shows `Configuration`. Press **Enter**.
3. Press **Next** until the display shows `Configure Network Settings`. Press **Enter**.
4. The display shows `DHCP Enabled` or `DHCP Disabled`. To change the setting, press **Enter**. Press **Enter** again to accept the new setting.
5. Press **Next** to display the IP address. To change the IP address, press **Enter**. Set the new IP address with the **Next** and **Enter** keys.
6. Press **Next** to display the subnet address. To chance the subnet address, press **Enter**. Set the new subnet address with the **Next** and **Enter** keys.
7. Press **Next** to display the gateway address. To change the gateway address, press **Enter**. Set the new subnet address with the **Next** and **Enter** keys.
8. Press **Cancel** until the display shows the home screen.

# 11 Setting the date and time

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

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

To set the date and time:

1. On the front panel, press **Enter**.
2. Press **Next** until the display shows `Autoloader Date/Time`. Press **Enter**.
3. Enter the administrator password, if requested.
4. A number in the year will flash. Click **Next** until the correct number is displayed. Click **Enter** to accept the number. Repeat for each number in the date and time.
5. Press **Cancel** until the display shows the home 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 a.m. is 13:00.

# 12 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.

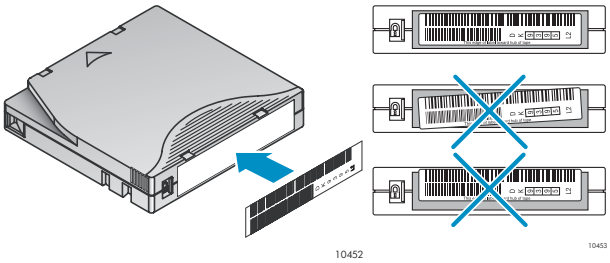
To set the administrator password:

1. On the front panel, 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** 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.

# 13 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.

# 14 Labeling tape cartridges



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Attaching a bar code label to each tape cartridge enables the Autoloader 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:**

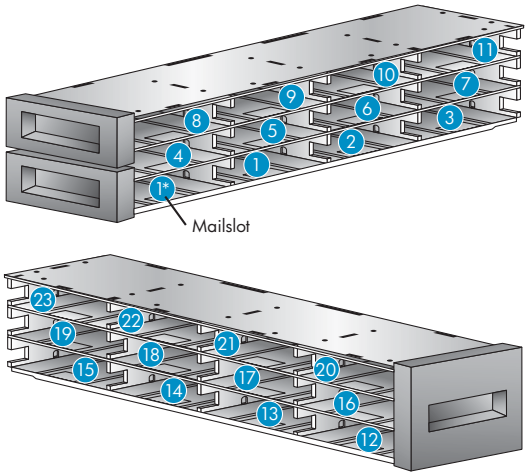
The misuse and misunderstanding of bar code technology can result in backup and restore failures. To ensure that your bar codes meet quality standards, always purchase them from an approved supplier and never print bar code labels yourself.

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.

# 15 Loading cartridges

Use the front panel **Operations > Unlock Left Magazine** option to release the left magazine. Pull the magazine straight out of the front of the Autoloader.

Insert the tape cartridges into the slots. If you want to use the mailslot feature, leave the bottom slot in the front of the magazine empty.

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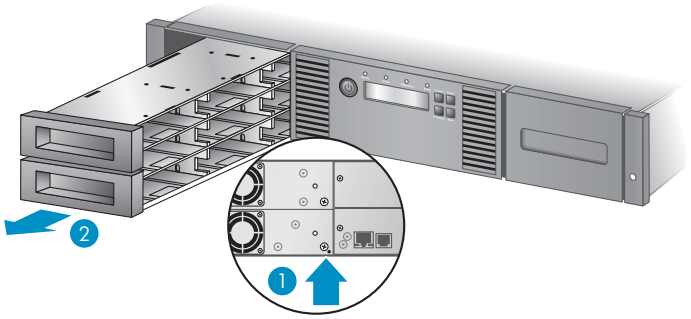
**NOTE:**

When the mailslot is disabled, the mailslot becomes slot 1 and all other slots are renumbered.

Replace the magazine in the Autoloader.

Repeat for the right magazine. The right magazine does not have a mailslot.

**TIP:**

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To remove the magazines from both sides or to remove the magazines when the Autoloader is not powered on: 1) insert a straightened paper clip or small metal pin into the magazine release hole, while 2) another person pulls out the magazine from that side.

# Using the remote management interface (RMI)

With the RMI, you can monitor the Autoloader'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 Autoloader's IP address from the **Info > Network** screen. Open any HTML web browser and enter the Autoloader'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 Autoloader 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, four control keys, and a 2-line by 16-character LCD screen. The OCP provides everything you need to monitor the Autoloader'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 four control keys.


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**Cancel** — Cancels the current menu option, returns to the previous menu level, or returns to the Home screen.

**Enter** — Executes 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.

## LED indicators

The OCP has four LEDs that provide a variety of information.

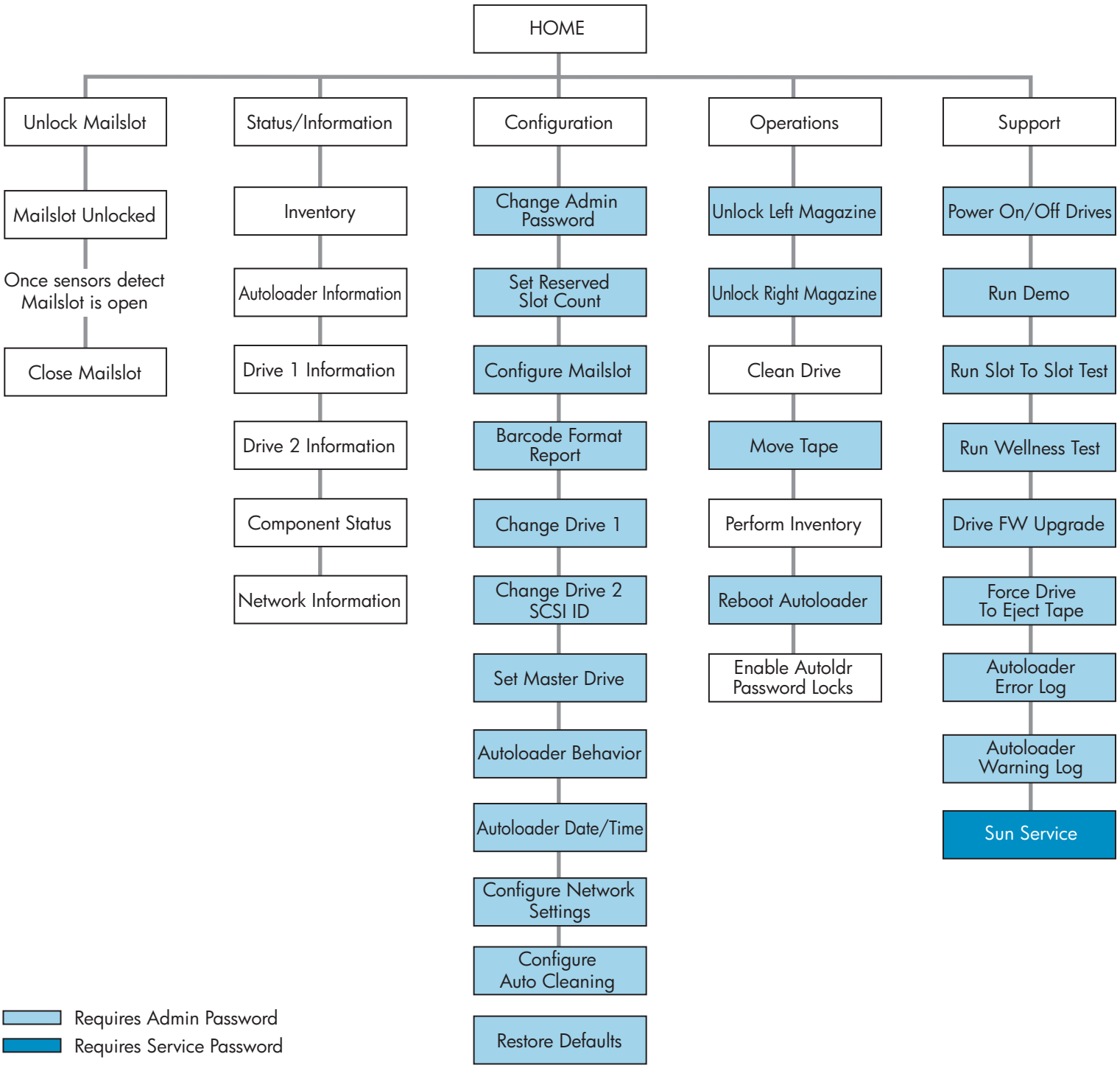
**Ready** — Green when power is on, blinking with tape drive or Autoloader robotics activity.

**Clean** — Amber when a cleaning cartridge should be used.

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

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

# Operator control panel menu

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# Helpful websites

For other product information, see the following websites:

http://sun.com

http://sunsolve.sun.com

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

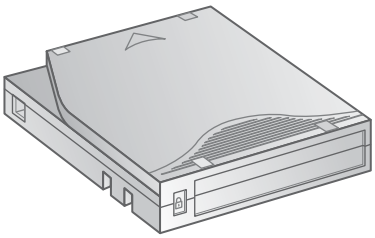
http://www.sun.com/storagetek/tape_storage

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

# Related documentation

The *Sun StorageTek ™ SL24 Autoloader and SL48 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.

# Ordering media



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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/.

# 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.