

reference
guide

hp StorageWorks 1/16 tape SuperLoader

Second Edition (November 2002)

Part Number: 272363-002

This guide provides step-by-step instructions for installation, and is a reference for operation, troubleshooting, and future upgrades.



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1/16 Tape SuperLoader Reference Guide
Second (November 2002)
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about this guide

This reference guide provides information to help you:

- Install and configure the SuperLoader
- Properly use and maintain tape cartridges
- Operate the SuperLoader
- Troubleshoot the SuperLoader
- Upgrade or replace Customer Replaceable Units

About this Guide topics include:

- [Conventions](#), page x
- [Rack Stability](#), page xii
- [Getting Help](#), page xiii

Conventions

Conventions consist of the following:

- [Document Conventions](#)
- [Text Symbols](#)
- [Equipment Symbols](#)

Document Conventions

The document conventions included in [Table 1](#) apply in most cases.

Table 1: Document Conventions

Element	Convention
Cross-reference links	Figure 1
Key and field names, menu items, buttons, and dialog box titles	Bold
File names, application names, and text emphasis	<i>Italics</i>
User input, command and directory names, and system responses (output and messages)	Monospace font COMMAND NAMES are uppercase monospace font unless they are case sensitive
Variables	<monospace, italic font>
Website addresses	Underlined sans serif font text: http://www.hp.com

Text Symbols

The following symbols may be found in the text of this guide. They have the following meanings.



WARNING: Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or loss of life.



Caution: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or data.

Note: Text set off in this manner presents commentary, sidelights, or interesting points of information.

Equipment Symbols

The following equipment symbols may be found on hardware for which this guide pertains. They have the following meanings.



Any enclosed surface or area of the equipment marked with these symbols indicates the presence of electrical shock hazards. Enclosed area contains no operator serviceable parts.

WARNING: To reduce the risk of injury from electrical shock hazards, do not open this enclosure.



Any RJ-45 receptacle marked with these symbols indicates a network interface connection.

WARNING: To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.



Any surface or area of the equipment marked with these symbols indicates the presence of a hot surface or hot component. Contact with this surface could result in injury.

WARNING: To reduce the risk of injury from a hot component, allow the surface to cool before touching.



Power supplies or systems marked with these symbols indicate the presence of multiple sources of power.

WARNING: To reduce the risk of injury from electrical shock, remove all power cords to completely disconnect power from the power supplies and systems.



Any product or assembly marked with these symbols indicates that the component exceeds the recommended weight for one individual to handle safely.

WARNING: To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manually handling material.

Rack Stability

Rack stability protects personal and equipment.



WARNING: To reduce the risk of personal injury or damage to the equipment, be sure that:

- The leveling jacks are extended to the floor.
 - The full weight of the rack rests on the leveling jacks.
 - In single rack installations, the stabilizing feet are attached to the rack.
 - In multiple rack installations, the racks are coupled.
 - Only one rack component is extended at any time. A rack may become unstable if more than one rack component is extended for any reason.
-

Getting Help

If you still have a question after reading this guide, contact an HP authorized service provider or access our website: <http://www.hp.com>.

HP Technical Support

In North America, call technical support at 1-800-652-6672, available 24 hours a day, 7 days a week.

Note: For continuous quality improvement, calls may be recorded or monitored.

Outside North America, call technical support at the nearest location. Telephone numbers for worldwide technical support are listed on the HP website under support: <http://www.hp.com/support>.

Be sure to have the following information available before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Applicable error messages
- Operating system type and revision level
- Detailed, specific questions

HP Storage Website

The HP website has the latest information on this product, as well as the latest drivers. Access storage at: <http://www.hp.com>. From this website, select the appropriate product or solution.

HP Authorized Reseller

For the name of your nearest HP authorized reseller:

- In the United States, call 1-800-345-1518
- In Canada, call 1-800-263-5868
- Elsewhere, see the HP website for locations and telephone numbers: <http://www.hp.com>.

Overview



The HP StorageWorks 1/16 Tape SuperLoader provides a compact, high-capacity, low cost solution for simple, unattended data backup. The SuperLoader supports a DLT1 tape drive, and one or two magazines that can accommodate up to eight cartridges each.

Front View

The mailslot, LCD, function keys, status LEDs, On/Off button, and left and right magazines are visible on the front panel of the SuperLoader.

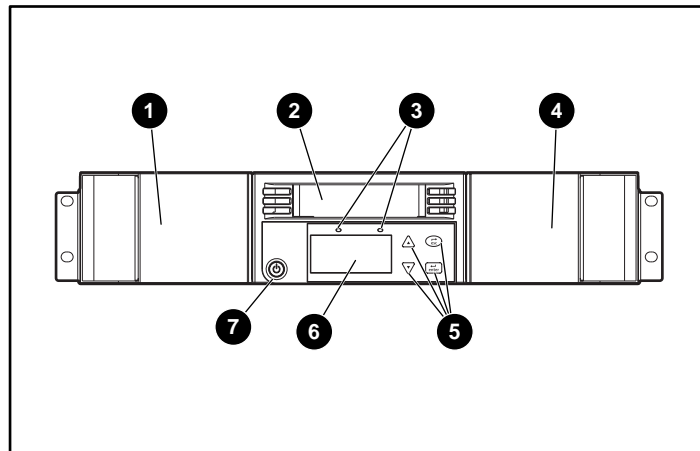


Figure 1: SuperLoader front view

- | | | | |
|---|----------------|---|---------------|
| ❶ | Left magazine | ❺ | Function keys |
| ❷ | Mail slot | ❻ | LCD |
| ❸ | Status LEDs | ❼ | On/Off button |
| ❹ | Right magazine | | |

Mailslot

The SuperLoader has a manual entry port, the mailslot, which allows you to load or unload a single cartridge. To maintain security, the mailslot can be password protected. Provided that the tape drive is empty, a cartridge can be inserted in the mailslot even if both magazines are completely filled.

LCD

The LCD allows you to use the scrolling menu to perform diagnostics and to enter commands.

Function Keys

The function keys allow you to move through the scrolling menu and to make selections.

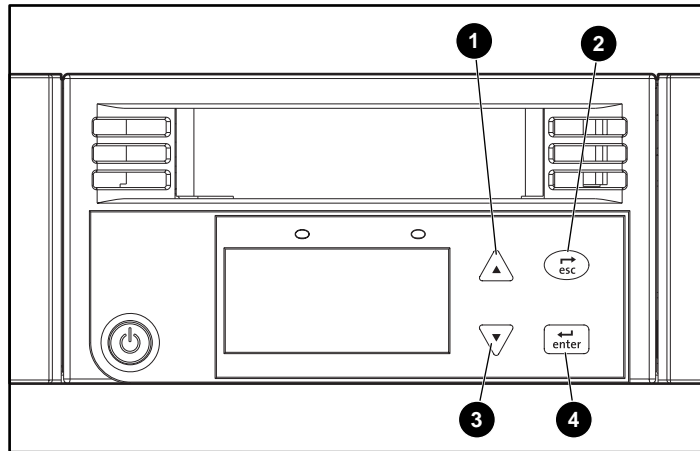






Figure 2: Function keys

- ❶  Scroll up. Press to move through a menu or number series.
- ❷  Escape. Press to return to the previous menu or to move backwards on a screen.
- ❸  Scroll down. Press to move through a menu or number series.
- ❹  Enter. Press to select an option.

Status LEDs

The status LEDs show SuperLoader and drive status information. The left, green LED shows ready status information, and the right, amber LED shows fault status information.

On/Off Button

The On/Off button is a soft key, which means that if the SuperLoader is moving any cartridges when you press the On/Off button, it finishes moving them before powering off. However, any other functions, such as writing to a tape or performing a diagnostic test are interrupted and terminated when you press the On/Off button.

Magazines

The magazines contain part of the robotics that move the cartridges inside the SuperLoader. The SuperLoader is equipped with one or two cartridge magazines. The magazines are removable, and each magazine accommodates up to eight cartridges. If your SuperLoader contains only one magazine, a magazine blank is installed in the other magazine bay. The magazines store your data tape cartridges and can also store your cleaning cartridge.

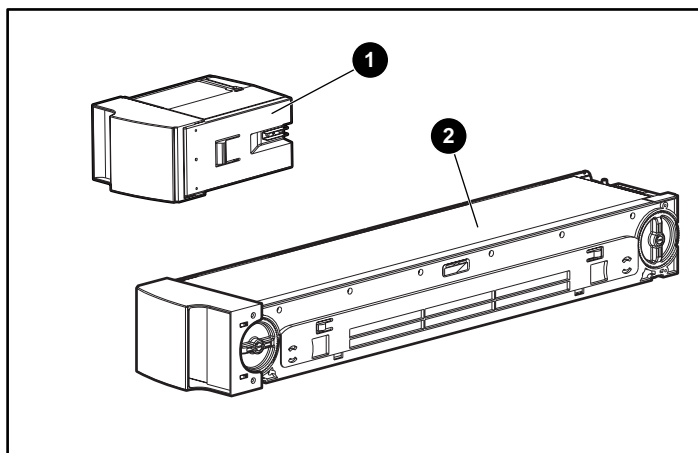


Figure 3: Magazine blank ❶ and magazine ❷

Rear View

The fans and connection ports are visible on the back of the SuperLoader.

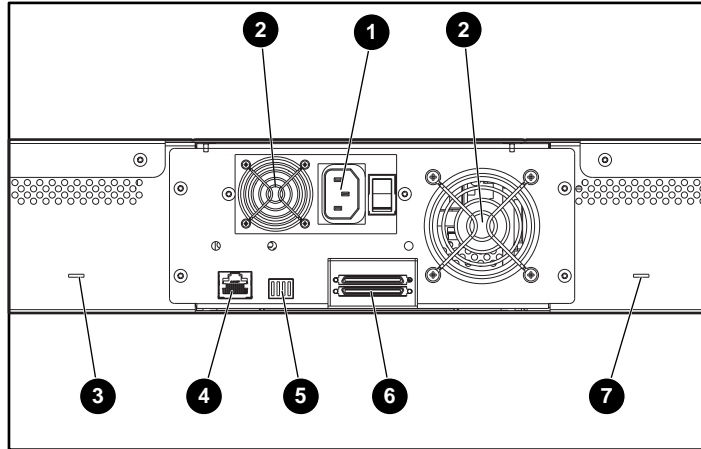


Figure 4: SuperLoader rear view

- | | | | |
|---|------------------------|---|------------------------|
| ❶ | AC power plug | ❺ | Manufacturing switch |
| ❷ | Fan | ❻ | SCSI connectors |
| ❸ | Manual tape eject slot | ❼ | Manual tape eject slot |
| ❹ | Ethernet connector | | |

Cooling Fans

The SuperLoader has a system cooling fan, plus a second fan to cool the power supply. These fans maintain the acceptable temperature range for the tape drive path and all internal electronics. See Appendix C, “Specifications,” for details about required specifications.

AC Power Plug

The SuperLoader requires a 110/220 volts AC power connection.

Ethernet Connection

The ethernet connection lets you connect the SuperLoader to a network, enabling remote administration. Via the network, the SuperLoader can access an SNMP server and a Simple Network Time Protocol (SNTP) time server. The ethernet connection supports File Transfer Protocol (ftp) and Hyper Text Transfer Protocol (http). You can download firmware updates using ftp and perform administrative tasks, including diagnostics, using http.

SCSI Connection

The SuperLoader supports both low-voltage differential (LVD) and single ended (SE) connections. A 68-pin VHDCI connector links the SuperLoader to the external host server. An LVD connection allows you to have more devices and longer cable length than single ended SCSI connections.

Manufacturing Switch

The switch on the back of the drive carrier assembly (DCA) has no user function at this time.

Internal View

Figure 5 shows the internal components of the SuperLoader. The picker sits behind the front panel and mailslot, and can accept and eject cartridges from the mailslot, magazines, and tape drive. The drive carrier assembly (DCA) contains the tape drive, internal power supply, and cooling fan; it can be removed and replaced as a single component.

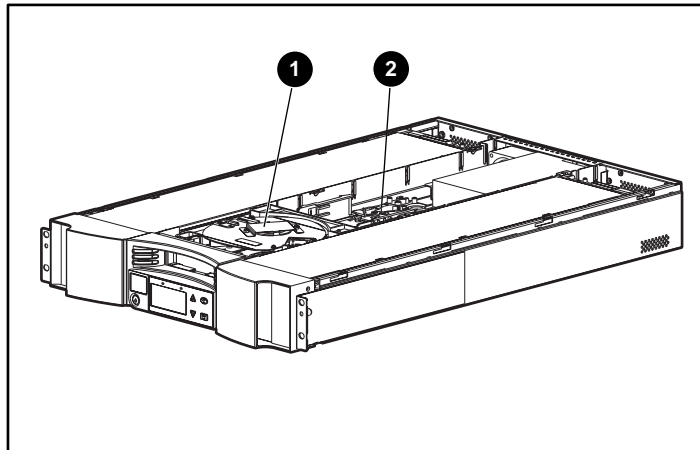


Figure 5: SuperLoader internal view

- ❶ Picker
- ❷ Drive carrier assembly

Picker

The picker moves the cartridges from one location to another. One motor rotates the picker platform to position the picker arm in front of the drive, mailslot, or desired magazine. Another motor positions the picker arm to retrieve or replace the cartridge. The rotation motor engages the arm on a notch of the cartridge, and the translation motor moves the cartridge from the picker to the drive (or magazine or mailslot) or from the drive (or magazine or mailslot) to the picker.

DCA

The drive carrier assembly (DCA) is configured with a DLT1 tape drive. The DCA facilitates the easy removal of the drive. To change tape drives, you can replace the DCA without having to remove the top cover of the SuperLoader.

Barcode Reader

The barcode reader is optional. It provides inventory feedback to the host application and/or LCD panel by reading the cartridge barcode labels. The SuperLoader stores the customized inventory data in its non-volatile memory.

For best performance, HP recommends using only HP barcode labels, part number C9240-67903.

Supported Software

The SuperLoader supports Microsoft Windows NT when using a backup application and Windows 2000 both in native mode and with a backup application.

The SuperLoader is also compatible with most popular backup software applications, including Computer Associates ArcServe and VERITAS BackupExec.

Note: Check with your operating system supplier and your backup software vendor to verify which version is required for this SuperLoader.

Installation and Configuration

2

Preparation

Make sure that the work area is free from conditions that could cause electrostatic discharge (ESD). See Appendix B, “Electrostatic Discharge,” for additional information. You will need a #2 Phillips screwdriver.

SCSI Bus Requirements

The SuperLoader contains a SCSI interface that supports both Single Ended (SE) and Low Voltage Differential (LVD) communication. The SuperLoader is not compatible with a High Voltage Differential (HVD) SCSI bus.

The following controllers are currently supported on the SuperLoader:

- 64-bit/66 MHz Dual Channel Wide Ultra3 SCSI adapter
- 64-bit/66 MHz Single Channel Wide Ultra 3 SCSI adapter
- 64-bit Dual Channel Wide Ultra2 SCSI adapter

Your SCSI host adapter card must also support the SCSI bus type you use to connect the SuperLoader. If you use a LVD SCSI bus, use a host adapter card that supports LVD.

The following cables are shipped with your SuperLoader:

- 68-pin VHDCI connector to 68-pin VHDCI connector
3 foot (.092 meter) cable
- 68-pin VHDCI connector to 68-pin VHDCI connector
6 foot (1.83 meter) cable
- 68-pin VHDCI connector to 68-pin HD connector 6 foot (1.83 meter) cable

Note: Optimal performance will be attained when the interface is used as an LVD SCSI bus.

SCSI Cable and Terminator Requirements

If the SuperLoader is the last device on the SCSI bus you must attach a terminator to the SCSI connector on the back panel of the SuperLoader. There must be a terminator on each end of the SCSI bus. Typically, the host adapter provides the front-end termination.

SCSI Cable Length

LVD SCSI configurations have a maximum allowable bus length of 39.4 feet (12 meters). To determine the cable length of the bus, measure the lengths of the SCSI cables connecting each device to that bus and add those lengths together for the total length. To that total length, add 16 inches (40.64 cm) for the internal SCSI cable length.

Accessories

The following accessories are shipped with each SuperLoader:

- Installation poster
- SCSI host cables
- RJ-45 Ethernet cable, 10 foot (3.048 meter)
- SCSI terminator
- Hardware brackets to rackmount the SuperLoader
- 1 magazine
- 1 magazine blank
- 1 data cartridge
- Power cord
- Rackmount template
- Documentation CD (documents in PDF format)

Installation Location



Caution: To prevent damage to the tapes and the tape drives, position the SuperLoader so that no cooling vents are located directly in front of the unit; this helps minimize the amount of foreign debris entering the tape path.

Choose a location that meets the following criteria:

- Room temperature: 10°C to 35°C (50°F to 95°F)
- Power source:
 - AC power voltage: 100 V to 127 V or 200 V to 240 V
 - Line frequency: 50 Hz to 60 Hz
- Air quality: Minimal sources of particulate contamination. Avoid areas near frequently used doors and walkways, stacks of supplies that collect dust, and smoke filled rooms. Avoid placing the SuperLoader near printing machines as airborne ink contaminates tape drives.

Note: Excessive dust and debris can damage tapes and tape drives.

- Humidity: 20% to 80% relative humidity (non-condensing)
- Front Clearance: about 2 inches (about 5 cm) from rack door; about 6 inches (about 15 cm) from wall or solid object; about 12 inches (about 30 cm) to insert a cartridge in the mailslot.

Required Tools and Hardware

You need a Phillips screwdriver to install your SuperLoader.

Make sure you have all the necessary parts you need before you begin installation. (These parts should have been included with your rack.) You need the following parts:

- 8 clip nuts (plus four additional clip nuts if using the optional installation rails)
- 2 U-channel brackets with spring clips
- 2 rear support brackets

- 8 rear support bracket screws
- 8 mounting screws (plus four additional mounting screws if using the optional installation rails)
- Rack template

Rackmounting

It takes two people to safely rackmount your SuperLoader.



WARNING: Before you begin, make sure that the rack is sufficiently stable. If provided, lower the rack leveler feet and make sure any required stabilizers are installed. If provided, extend the rack anti-tip device. Failure to extend the anti-tip device could result in personal injury or damage to the tape SuperLoader if the rack tips over.



Caution: Do not remove the top cover of the SuperLoader during the installation process. Removing the top cover could result in damage to the SuperLoader. It also causes the SuperLoader chassis to bow and prevents correct installation.



Caution: Make sure that the rack and all equipment mounted in the rack have a reliable ground connection. Verify that the total current of the rack components does not exceed the current rating of the power distribution unit or outlet receptacles.



Caution: The SuperLoader ships with one magazine and one magazine blank installed. The magazine blank is not locked into position. Do not use the magazine blank handle when installing the SuperLoader into the rack.

To rackmount the SuperLoader:

1. Use the template that shipped with the library to mark the location of the clip nuts and mounting hardware on the mounting rails of the rack.

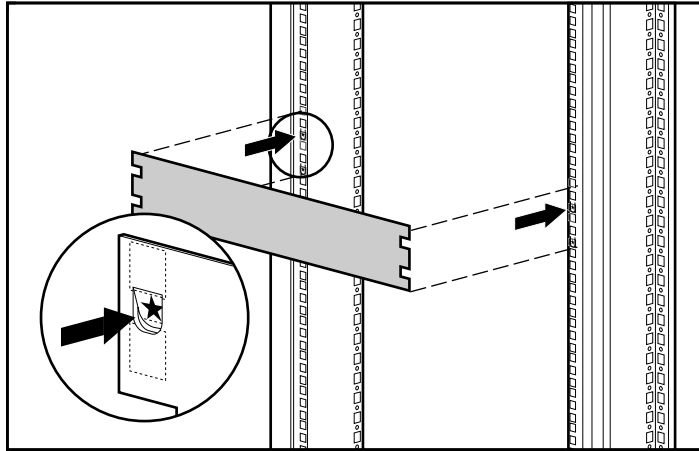


Figure 6: Measuring with the rack template

2. Install two clip nuts into each front rail of the rack in the hole locations marked using the template.
3. Install two clip nuts into each back rail of the rack in the hole locations marked using the template.
4. If there are no devices installed below the SuperLoader, use the optional installation rails to help support the SuperLoader during installation:
 - a. Install four clip nuts at the front of the rack, two on each rail. Install the first clip nuts two holes below the bottom SuperLoader clip nut. Install the second clip nuts two holes below the first clip nuts.
 - b. Insert one optional mounting rail into the rack with the support ledge facing in.

- c. Hook the curved tabs around the rear rail of the rack **1**.
- d. Align the rail so that the holes are over the previously installed clip nuts **2**.
- e. Secure with two screws **3**.
- f. Attach the other optional mounting bracket using steps b through e.

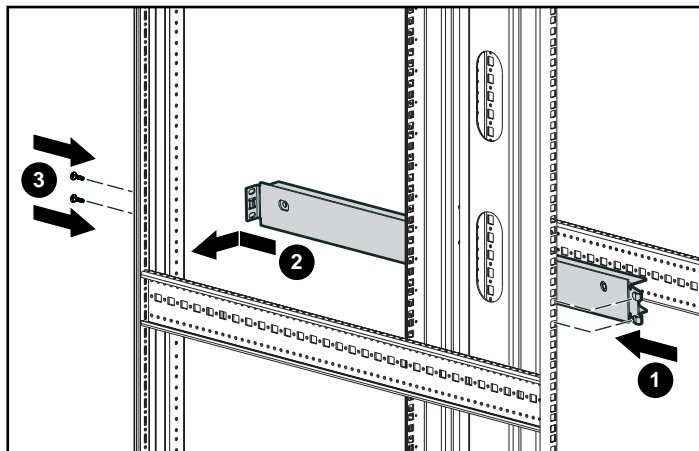


Figure 7: Installing the optional installation rails

5. Attach the two support brackets to the rear of SuperLoader, tightening screws until snug.



Caution: Be sure the support brackets are aligned straight with the sides of the SuperLoader for proper installation into the U-channel brackets.

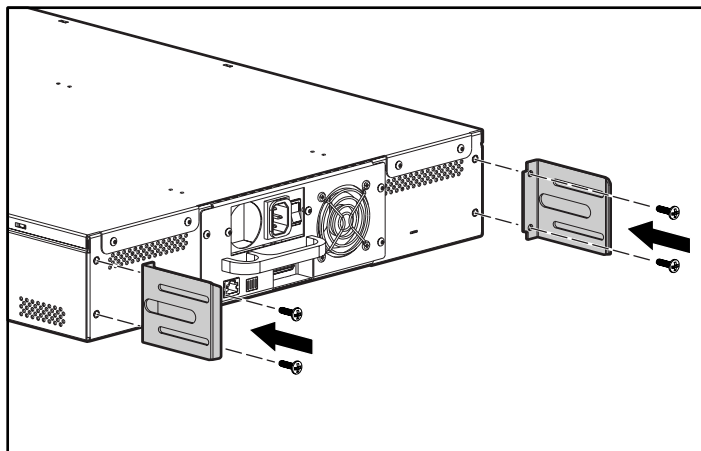


Figure 8: Attaching the SuperLoader support brackets

6. Attach one U-channel bracket to each rear rail of the rack, loosely installing the screws through the clipnuts. (Attach the side of the bracket with only two holes.) Do not tighten the screws yet.

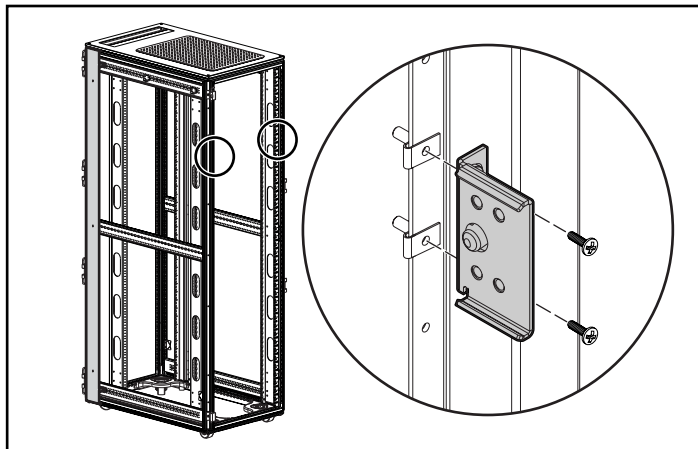


Figure 9: Attaching the U-channel brackets to the rack

7. Position the SuperLoader in the rack so that each support bracket rests on a U-channel bracket. Each support bracket slides along the lip of the U-channel bracket.

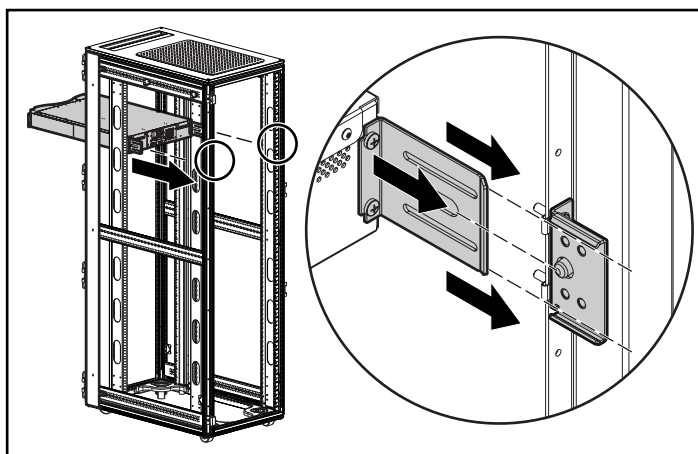


Figure 10: Positioning the SuperLoader in the rack

8. Slide the SuperLoader in place ❶ so that:
 - a. The mounting studs on the front ears of the SuperLoader slide into the holes between the clip nuts.
 - b. The front ears of the SuperLoader align with the front clips.
 - c. The rear support brackets engage the locking tab on the rear U-channel brackets.

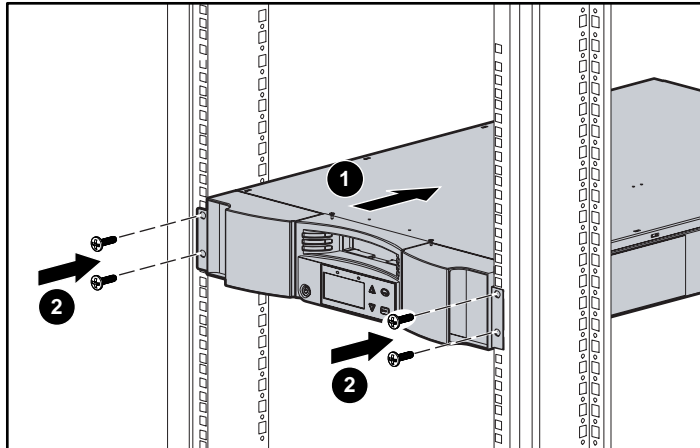


Figure 11: Attaching the SuperLoader to the front of the rack

9. Loosely install a screw in each front clip nut to attach the ears ❷.
10. Verify that the SuperLoader is level. Adjust as needed.
11. Tighten the four screws that attach the ears to the front clip nuts.
12. Tighten the four screws that connect the U-channel brackets to the rear clip nuts.
13. Install and tighten the four screws that connect the support brackets to the U-channel brackets.

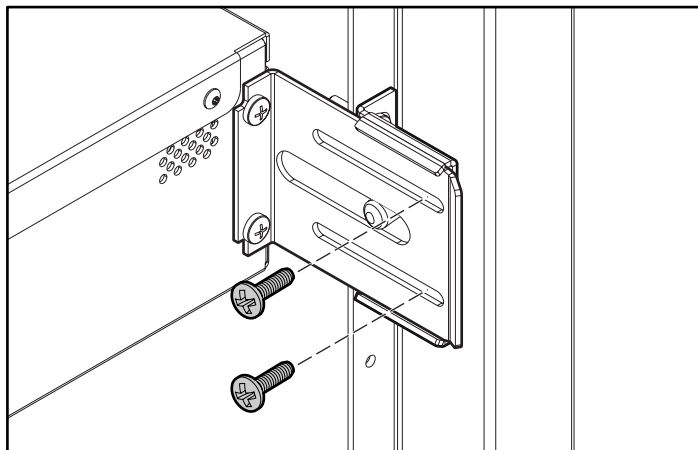


Figure 12: Rear U-channel bracket screws

14. If additional options are going to be installed, remove the optional installation brackets:
 - a. Remove the two screws securing each bracket to the front of the rack.
 - b. Pull the bracket forward and down, then push back to release the rear tabs.
 - c. Remove the rail from the rack.



Caution: To avoid personal injury or damage to the equipment, be sure that the optional installation brackets or other properly installed rack options are in place below the SuperLoader at all times.

Note: Be sure to save the optional installation brackets in a safe place for use if the SuperLoader needs to be removed.

Removing the SuperLoader From the Rack

When removing the SuperLoader from the rack:

- Always use at least two people.
- Install the optional installation brackets if there is no device installed below the SuperLoader.
- Before powering off the SuperLoader, remove the magazines.

SCSI Connection

The SCSI connection lets the host computer communicate with the SuperLoader.

Note: You must have already installed a SCSI host adapter card in the host computer.

Before you start, make sure that your cable is long enough to reach from the SuperLoader to the host computer.



Caution: When installing cables, be careful not to damage the SCSI pins on the connectors. Damaged pins will cause the connection to fail.

To make the SCSI connection:

1. If the host computer is connected to a network, check with the system administrator before turning off power.
2. Properly power off all peripheral devices connected to the host computer.
3. Power off the host computer.
4. Install the supplied 68-pin 6 foot (1.83 meter) SCSI cable to the double-stacked SCSI connector that is on the back of the DCA and tighten the screws. You can install the SCSI cable in either port.

Note: Two SCSI cables are supplied. Use the appropriate cable that matches your host connector.

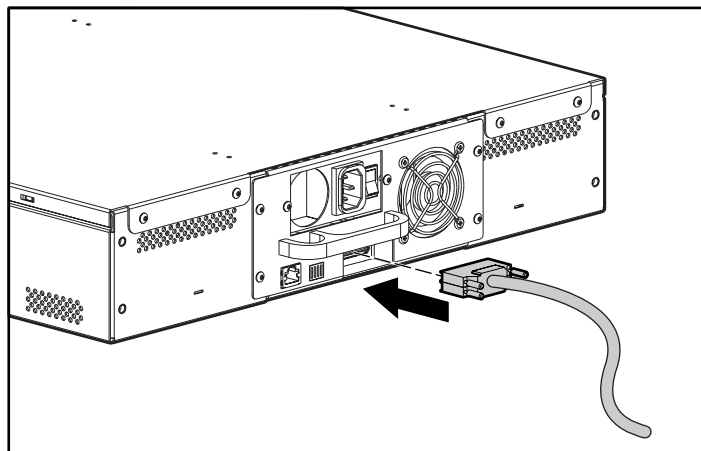


Figure 13: Attaching the cables

Note: The connector on the end of the cable is offset. Make sure that you install it with the correct orientation so that you can fit a terminator or another cable in the other port.

5. If the SuperLoader will be the last device on the SCSI bus, install the supplied SCSI terminator to the remaining port that is on the DCA and then tighten the screws.
6. Attach the other end of the SCSI cable to the SCSI host adapter card using the appropriate cable.
7. Power on any peripheral devices you powered off in Step 2.

Note: Do not power on the host computer at this time. You must first configure the SuperLoader.

After you have made the SCSI connection, connect the SuperLoader power cord and then power on the SuperLoader (see the “Power On” section in this chapter).

Note: If you are not daisy-chaining you must install a terminator on the first SuperLoader.

Daisy Chaining

The SuperLoader does not support daisy chaining with other options. You can daisy chain one additional SuperLoader using the 68-pin VHDCI connector to 68-pin VHDCI connector 3 foot (.092 meter) cable. You must then install a terminator on the second SuperLoader.

Ethernet Connection

Attach one end of the RJ-45 cable to the SuperLoader. Attach the other end to a 10/100 hub or switch.

Power On

A power cord was supplied with your SuperLoader. Carefully inspect it and make sure that it is the correct one for your country or region. If the supplied power cord is not correct, contact your customer service representative.

To connect the power cord:

1. Make sure that the power switch on the back of the SuperLoader is off (the 0 is pressed).
2. Connect the female end of the power cord to the power connector on the back of the SuperLoader.
3. Plug the male end of the power cord into the power source.

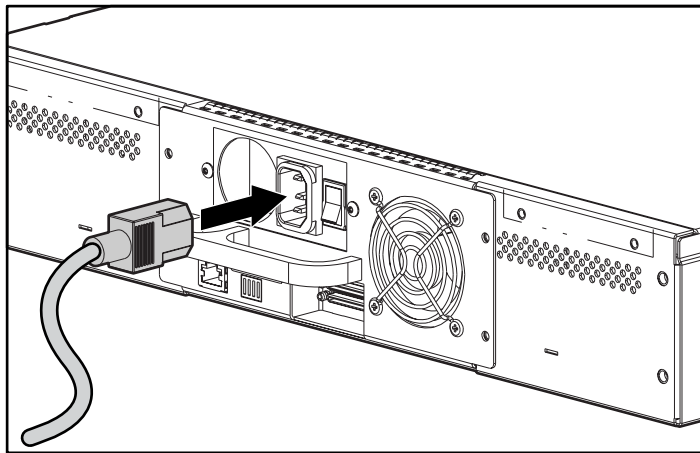


Figure 14: Connecting the power cord

Note: Do not power on the host before powering on the SuperLoader (first time only).

To power on the SuperLoader:

1. Push the power switch that is on the back of the SuperLoader to the on position (the 1 is pressed).

Wait while the SuperLoader performs its power-on sequence. During this time, the following activities occur:

- The cooling fans begin to operate.
- The LCD illuminates and displays power-on messages.
- The SuperLoader performs a power-on self-test (POST).
- The SuperLoader performs a calibration and magazine element status.

Verification

When you first power on the SuperLoader, it automatically runs a Power On Self Test (POST). During the POST, the right (amber) LED flashes rapidly. After the POST, the left (green) LED illuminates steadily, and after approximately three minutes the LCD displays the HP logo. Do one of the following:

- If the SuperLoader powers on successfully, continue configuring the SuperLoader. See “Configuration.”
- If the SuperLoader does not power on successfully, make sure that:
 - The power switch is on.
 - The power cord is inserted correctly.
 - The SCSI bus is terminated.
 - The SCSI cable is connected to the SuperLoader and host computer.
 - The host computer system is turned on.
 - There is not an error code displayed on the SuperLoader’s LCD. (If an error message is displayed, see Chapter 6, “Troubleshooting.”)

If you cannot resolve the problem yourself, contact your authorized service representative.

Configuration

To configure your SuperLoader, use the Configuration submenu on the front panel. When you first power on the SuperLoader, it defaults to no password protection. After you set the security option, however, all the configuration functionality is password-protected; you need an administrator-level password to configure the SuperLoader.

The Configuration submenu has the following options:

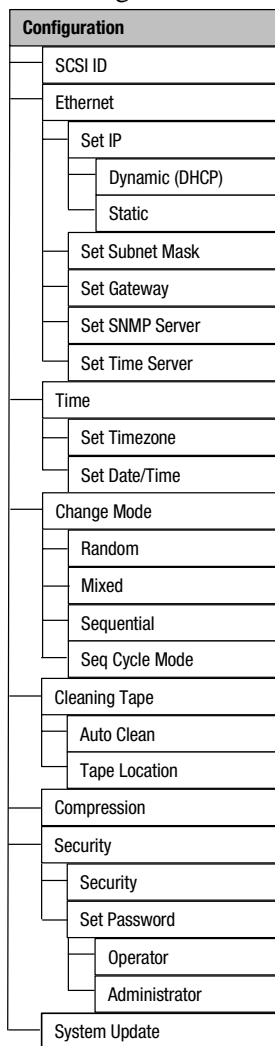


Figure 15: Configuration submenu

Note: The SuperLoader ships with English firmware installed. To install firmware in other languages, see “Update Firmware” in Chapter 4.

To configure the SuperLoader, you must set the following:

- SCSI ID
- Ethernet IP address (if you are not using DHCP)
- SNMP server IP address
- Time server IP address (or the timezone, date, and time, if configuring manually)
- Control mode
- Security option

SCSI ID

Each SCSI device attached to a server or workstation must have a unique SCSI ID. You need to set only one SCSI ID for the SuperLoader; you do not need to set up separate SCSI IDs for the tape drive and SuperLoader. Because the SuperLoader controls the tape drive, only the SuperLoader requires a SCSI ID.

Check the IDs on all other SCSI devices that are on the SCSI bus, including the SCSI host adapter, and select an unused SCSI ID for the SuperLoader. The default ID for the SuperLoader is 5, but you can select any unused number between and including 0 and 15. If the factory default SCSI ID (5) is not already being used by another device on the SCSI bus, you do not need to change the SuperLoader SCSI ID from 5 if you do not want to.

Note: Disregard the SCSI ID switch on the back of the DCA. The SuperLoader does not use the switch to set the SCSI ID.

To set the SCSI ID:

1. On the main menu, scroll to Configuration. (If the main menu is not already visible on the LCD, press **Enter**.)



Figure 16: Main menu

2. Press **Enter**.

3. On the Configuration submenu, scroll to SCSI ID.

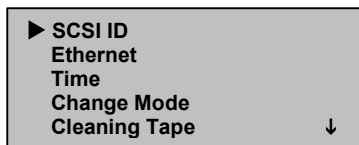


Figure 17: Select SCSI ID

4. Press **Enter**.
5. Scroll to the number you want to set as the SuperLoader SCSI ID.

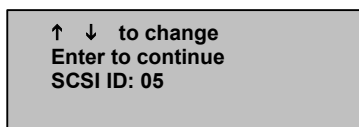


Figure 18: Set SCSI ID

6. Press **Enter**.
7. Reboot for the new SCSI ID to appear on the LCD.
 - a. Press and hold the power button on the front panel until Power Off appears on the LCD.
 - b. Press the power button again to power on the SuperLoader.

The new SCSI ID is now in effect.

Control Mode

You can set the SuperLoader to either Sequential, Random, Mixed, or Seq Cycle Mode. The default control mode is Random.

The Sequential mode supports certain backup applications that do not manage media. During backup, when one cartridge is read or written to the end of the tape, the SuperLoader automatically returns that cartridge to its slot and loads the cartridge from the next higher numbered slot to the tape drive to be read or written to. This continues until the backup software stops accessing the drive or until all the cartridges have been sequentially accessed.

In Random control mode you can specify which cartridge you want to use and where you want it to go. You will probably use this mode the most.

In Mixed mode, the SuperLoader supports both Sequential and Random mode functions. This mode can be useful in network environment.

Note: Do not use Mixed mode unless you are certain all applications support Mixed mode operation.

In Seq Cycle mode, the SuperLoader automatically starts over with magazine slot 1 when the last cartridge is used (slot 16 or highest filled slot). If this control mode is not set, the SuperLoader stops when the last cartridge available has been used. In Seq Cycle Mode, the SuperLoader continues to cycle until a user stops it.

To set the control mode:

1. On the main menu, scroll to Configuration.

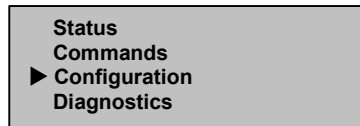


Figure 19: Main menu

2. Press **Enter**.
3. On the Configuration submenu, scroll to Change Mode.

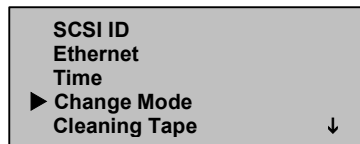


Figure 20: Select Change Mode

4. Press **Enter**.

The mode options appear. A checkmark appears after the enabled mode.

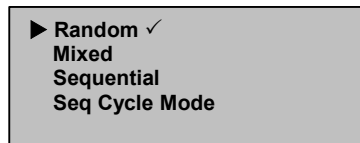


Figure 21: Mode Options

5. Do one of the following:
 - To change the control mode, scroll to the desired mode and press **Enter**. A checkmark appears. Press **Enter** again.
 - To leave the control mode unchanged, press **Escape**.
6. Reboot for the new mode to appear on the LCD.
 - a. Press and hold the power button on the front panel until Power Off appears on the LCD.
 - b. Press the power button again to power on the SuperLoader.

The new control mode is now in effect.

Note: When you enable the Sequential mode, LUN 1 no longer appears on the SCSI bus.

Sequential Mode Operation

If you enable the Sequential control mode you must use the Sequential Ops submenu under the Commands menu to operate the SuperLoader after it has been rebooted.

- Start allows you to load the first cartridge.
- Resume allows you to continue if the cycle was stopped.
- Stop stops the cycle.

To start Sequential Mode operation:

1. On the main menu, scroll to Commands.
2. Press **Enter**.
3. On the Commands submenu, scroll to Sequential Ops.
4. Press **Enter**.
5. On the Sequential Ops submenu, scroll to Start.
6. Press **Enter**. Moving first tape to drive is displayed.

To stop Sequential Mode operation:

1. On the main menu, scroll to Commands.
2. Press **Enter**.
3. On the Commands submenu, scroll to Sequential Ops.

4. Press **Enter**.
5. On the Sequential Ops submenu, scroll to Stop Cart.
6. Press **Enter**. Ejecting tape from drive is displayed.

To resume Sequential Mode operation:

1. On the main menu, scroll to Commands.
2. Press **Enter**.
3. On the Commands submenu, scroll to Sequential Ops.
4. Press **Enter**.
5. On the Sequential Ops submenu, scroll to Resume.
6. Press **Enter**.

Ethernet

Ethernet is the method the SuperLoader uses to access a network. With an Ethernet connection, you can remotely access the SuperLoader over the network to which it is connected. To use the Ethernet connection, you must define the following:

- A dynamic or static IP address for the SuperLoader
- A subnet mask
- An IP gateway
- A Simple Network Management Protocol (SNMP) server
- A Simple Network Time Protocol (SNTP) time server, or set the time and timezone manually

SuperLoader IP Address

An Internet Protocol (IP) address is the address of any device that is attached to a network. Each device must have a unique IP address. IP addresses are written as four sets of numbers separated by periods ranging from 0.0.0.0 to 255.255.255.255.

IP addresses are either permanent or dynamically assigned. A permanent address remains the same each time the device connects to a network. A dynamic address changes each time the device connects to the network, and is assigned by the network server using a class of software called Dynamic Host Configuration Protocol (DHCP).

When you first power on the SuperLoader, the default method for setting the IP address is the dynamic method (DHCP). If you want to use DHCP you can skip this step. To determine the IP address when using DHCP, view the Ethernet status information (see “View Ethernet Information”).

To set a dynamic IP address:

1. On the main menu, scroll to Configuration.

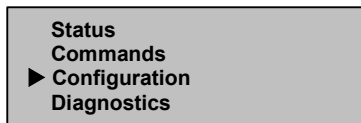


Figure 22: Main menu

2. Press **Enter**.
3. On the Configuration submenu, scroll to Ethernet.

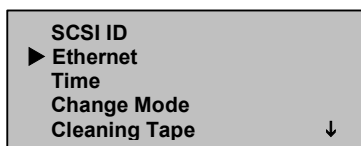


Figure 23: Select Ethernet

4. Press **Enter**.
5. On the Ethernet submenu, scroll to Set IP.

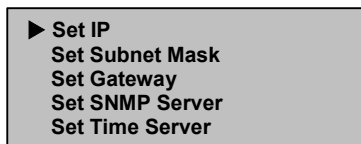


Figure 24: Set IP

6. Press **Enter**.

7. Scroll to Dynamic (DHCP).

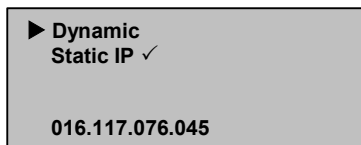


Figure 25: Set Dynamic IP

8. Press **Enter**.
9. Reboot to change the IP address.
 - a. Press and hold the power button on the front panel until Power Off appears on the LCD.
 - b. Press the power button again to power on the SuperLoader.

The IP address is changed.

To set a permanent IP address:

1. On the main menu, scroll to Configuration. (See Figure 22.)
2. Press **Enter**.
3. On the Configuration submenu, scroll to Ethernet. (See Figure 23.)
4. Press **Enter**.
5. On the Ethernet submenu, scroll to Set IP. (See Figure 24.)
6. Press **Enter**.
7. Scroll to Static IP. (See Figure 25.)
8. Press **Enter**.
9. At each position of the IP address, scroll to the correct number and press Enter to advance your cursor.

Note: Use the Escape key to backspace to a previous text box, if necessary.

When you have set the IP address, the SuperLoader displays Enter to save.

10. Press **Enter**.

The Configuration submenu reappears and the permanent IP is now in effect. You do not need to reboot the SuperLoader.

11. Press **Escape** or **Enter** to return to the Ethernet submenu.

Subnet Mask

Creating a subnet mask is a method to split IP networks into a series of subgroups, or subnets, to improve performance and security.

To set a subnet mask:

1. On the main menu, scroll to Configuration. (See Figure 22.)
2. Press **Enter**.
3. On the Configuration submenu, scroll to Ethernet. (See Figure 23.)
4. Press **Enter**.
5. On the Ethernet submenu, scroll to Set Subnet Mask. (See Figure 24.)
6. Press **Enter**.
7. At each position of the mask address, scroll to the correct number and press **Enter** to advance your cursor.

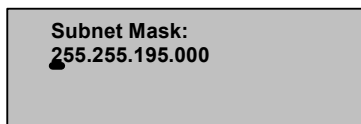


Figure 26: Setting the Subnet Mask

Note: Use the Escape key to backspace to a previous text box, if necessary.

When you have set the mask, the SuperLoader displays Enter to save.

8. Press **Enter**.
SUB addr changed to appears on the LCD. You do not need to reboot the SuperLoader.
9. Press **Escape** or **Enter** to return to the Ethernet submenu.

IP Gateway

An IP gateway is a device that converts data into the IP protocol.

To set an IP gateway:

1. On the main menu, scroll to Configuration. (See Figure 22.)
2. Press **Enter**.
3. On the Configuration submenu, scroll to Ethernet. (See Figure 23.)
4. Press **Enter**.
5. On the Ethernet submenu, scroll to Set Gateway. (See Figure 24.)
6. Press **Enter**.
7. At each position of the gateway address, scroll to the correct number and press **Enter** to advance your cursor.

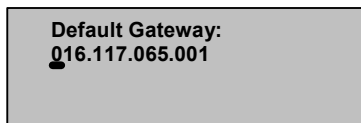


Figure 27: Setting the gateway address

Note: Use the Escape key to backspace to a previous text box, if necessary.

When you have set the gateway address, the SuperLoader displays Enter to save.

8. Press **Enter**.
GW changed appears on the display. You do not need to reboot the SuperLoader.
9. Press **Escape** or **Enter** to return to the menu.

SNMP Server

An SNMP server monitors a network by processing reporting activity in each network device (hub, router, bridge, and so on). The server uses this information to define what is obtainable from each device and what can be controlled (turned off, on, and so on).

To set an SNMP server:

1. On the main menu, scroll to Configuration. (See Figure 22.)
2. Press **Enter**.
3. On the Configuration submenu, scroll to Ethernet. (See Figure 23.)
4. Press **Enter**.
5. On the Ethernet submenu, scroll to Set SNMP Server. (See Figure 24.)
6. Press **Enter**.
7. At each position of the server address, scroll to the correct number and press **Enter** to advance your cursor.

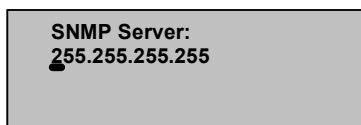


Figure 28: Setting the SNMP server address

Note: Use the Escape key to backspace to a previous text box, if necessary.

When you have set the server address, the SuperLoader displays Enter to save.

8. Press **Enter**.
SNMP Server changed to appears on the LCD. You do not need to reboot the SuperLoader.
9. Press **Escape** or **Enter** to return to the Ethernet submenu.

Time Server

You can connect the SuperLoader to a server that will supply the correct date and time using Simple Network Time Protocol (SNTP). The SuperLoader uses this information to time stamp information in its memory and to initiate autocleaning.

To set a time server:

1. On the main menu, scroll to Configuration. (See Figure 22.)
2. Press **Enter**.
3. On the Configuration submenu, scroll to Ethernet. (See Figure 23.)
4. Press **Enter**.

5. On the Ethernet submenu, scroll to Set Time Server. (See Figure 24.)
6. Press **Enter**.
7. At each position of the server address, scroll to the correct number and press **Enter** to advance your cursor.

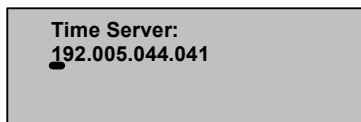


Figure 29: Setting the time server address

Note: Use the Escape key to backspace to a previous text box, if necessary.

When you have set the server address, the SuperLoader displays Enter to save.

8. Press **Enter**.
Time Server changed to appears on the panel display. You do not need to reboot the SuperLoader.
9. Press **Escape** or **Enter** to return to the Ethernet submenu.

Time

If you cannot access a time server because your server does not support SNTP or for security reasons, you can set the time manually. If you want to include time changes such as daylight savings time, you must make those changes manually as well.

To set the timezone:

1. On the main menu, scroll to Configuration.

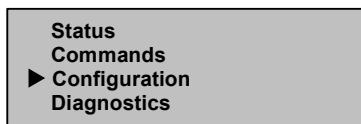


Figure 30: Main menu

2. Press **Enter**.

3. On the Configuration submenu, scroll to Time.

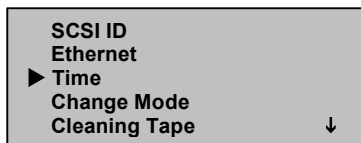


Figure 31: Select Time

4. Press **Enter**.
5. On the Time submenu, scroll to Set Timezone.

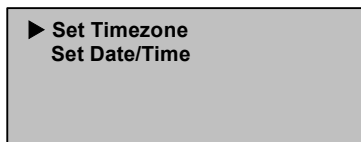


Figure 32: Select Set Timezone

6. Press **Enter**.
- The timezone screen appears.

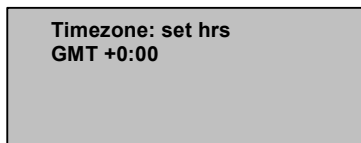


Figure 33: Timezone screen

7. Scroll to set the number of hours difference between your local time and Greenwich Mean Time (GMT).
 8. Press **Enter**.
- A new timezone screen appears.

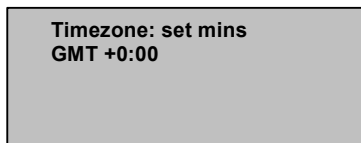


Figure 34: New timezone screen

9. Scroll to set the number of minutes' difference between your local time and Greenwich Mean Time (GMT).

10. Press **Enter**.

The new timezone is set.

To set the date and time:

1. On the main menu, scroll to Configuration. (See Figure 30.)
2. Press **Enter**.
3. On the Configuration submenu, scroll to Time. (See Figure 31.)
4. Press **Enter**.
5. On the Time submenu, scroll to Set Date/Time.

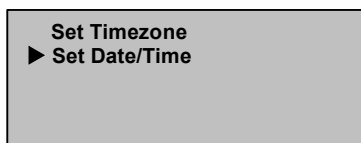


Figure 35: Selecting Set Date/Time

6. Press **Enter**.

The Date/Time screen appears, with the cursor under the first digit in the second row.

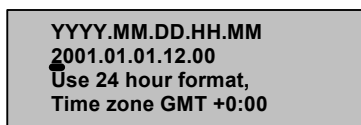


Figure 36: Date/Time screen

7. The first four digits represent the current year. For each digit, scroll to the correct number and press **Enter** to advance your cursor.

Note: Use the Escape key to backspace to a previous text box, if necessary.

8. The next two digits represent the current month. For each digit, scroll to the correct number and press **Enter** to advance your cursor.

9. The next two digits represent the current day. For each digit, scroll to the correct number and press **Enter** to advance your cursor.
10. The next two digits represent the current hour. For each digit, scroll to the correct number and press **Enter** to advance your cursor.
11. The last two digits represent the current minute. For each digit, scroll to the correct number and press **Enter** to advance your cursor.
`Enter to save` appears on the LCD.
12. Press **Enter**.

Security

Your SuperLoader includes a security option to password-protect the SuperLoader's functionality. The default security setting is Off, meaning that no password is required. However, you can enable the security option so that users must enter a password to access functionality.

Set Security

When you first power on the SuperLoader, the security option is set to Off. Use the following procedure to enable the security option. You must have an administrator-level password to set passwords.

To set the security option:

1. On the main menu, scroll to Configuration.

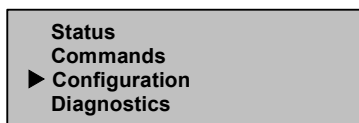


Figure 37: Main menu

2. Press **Enter**.
3. On the Configuration submenu, scroll to Security.



Figure 38: Select Security

4. Press **Enter**.
5. On the Security submenu, scroll to Security. If a checkmark appears after the word, the security option is on. If no checkmark appears, the security option is off.

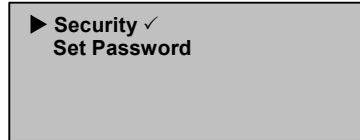


Figure 39: Security options

6. To change the setting, press **Enter**.
This toggles the security option. For example, if the security option was set to On, it is now set to Off, and no checkmark appears.

Set Passwords

Many operations on the SuperLoader are password-protected to ensure data integrity. You can set passwords at the administrator level and at the operator level. Operator-level users have access to the Commands and Status menus. Administrator-level users have access to all functionality.

Passwords must be exactly six numbers long. The default password is 000000.

To set a password:

1. On the main menu, scroll to Configuration. (See Figure 37.)
2. Press **Enter**.
3. On the Configuration submenu, scroll to Security. (See Figure 38.)
4. Press **Enter**.
5. On the Security submenu, scroll to Set Password.



Figure 40: Select Set Password

6. Press **Enter**.

7. To set a password at the operator level, scroll to Operator. To set a password at the administrator level, scroll to Administrator.



Figure 41: Select password level

8. Press **Enter**.
The Set Password screen appears.

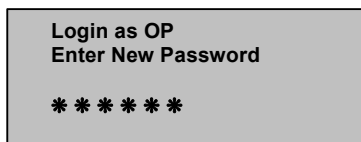


Figure 42: Set Password screen

9. Press **Enter** again.
A text box appears above the first asterisk.
10. In the text box, scroll to the first number of the password.
11. Press **Enter**.
The text box above the asterisk disappears and another text box appears above the next asterisk.
12. Repeat steps 10 and 11 to enter the remaining numbers of the password.

Note: Use the Escape key to backspace to a previous text box, if necessary.

When you have entered six numbers, the SuperLoader displays Submit Password below the asterisks.

13. Press **Enter** to submit the password.

Password Successfully Changed appears on the LCD.

14. Press **Enter**.

The Operator and Administrator options reappear. You can either enter another password, or press **Escape** or **Enter** to return to the main menu.

Lost Passwords

If you forget the administrator-level password, you cannot enter a new password. You must call your customer service representative.

Tape Cartridge Usage



This chapter describes the magnetic tapes and how to handle them properly.

Tape Cartridges Defined

The 1/16 Tape SuperLoader uses DLTtape IV tapes.

DLTtape IV cartridges contain a DLTtape, which provides a storage capacity of up to 40 GB (native) per cartridge. The tape cartridge shell is charcoal and has no pattern.

Note: The DLT1 tape drive automatically unloads any other cartridge types and any cartridges that have an unrecognized format.

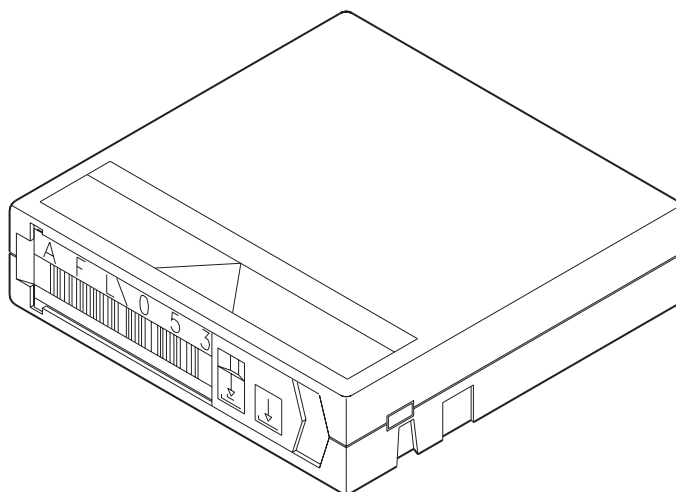


Figure 43: DLTtape IV cartridge

Tape Cartridge Maintenance

To greatly reduce the chance of problems with your tape cartridges or damage to your tape drive, use the following guidelines.

Inspecting Tape Cartridges

Inspect your tapes to identify any potential tape cartridge problems and prevent accidental loss of data or damage to your DLTtapes. Inspect your tapes:

- Whenever you change or load a new tape cartridge
- If a tape cartridge is dropped or subjected to physical shock
- If the tape drive becomes inoperable after loading a tape cartridge
- If you receive a shipment of tape cartridges that shows any sign of shipping damage

To inspect a tape:

1. Remove the tape cartridge from its protective plastic case.
2. Check the tape cartridge for obvious cracks or other physical damage. Look for broken or missing parts.
3. Gently shake the tape cartridge. Listen for any rattling or sounds of loose pieces inside the cartridge.
4. If you hear anything, do not use the cartridge.
5. Hold the tape cartridge so that the end that is inserted into the tape drive is facing you. On the left side of the tape cartridge you should see a small plastic tab. This is the left reel lock and can break if the cartridge is dropped. If you cannot see the tab, do not use the cartridge.
6. Look at the bottom of the tape cartridge. The bottom reel lock is located in the lower right corner and can break if the cartridge is dropped. If you cannot see the tab, do not use the cartridge.

Note: On the DLTtape cartridge, the reel lock is white and easy to see.

7. Check for proper operation of the tape cartridge write-protect switch. This sliding switch, located on the end of the tape cartridge, should snap back and forth. If the tape cartridge is set to provide write protection, an orange indicator is visible.

Protecting Tape Cartridges

To extend the life of your tape cartridges:

- Remove dust on the outside of tape cartridges with a damp cloth.
- Do not use adhesive labels or POST-IT notes on the top, side, or bottom of your tape cartridge. Use only the label provided with each cartridge and slide it in the label slot on the cartridge.
- Do not use graphite pencils, water-soluble felt pens, or other debris-producing writing instruments on labels.
- Replace — never erase — a label.
- Put unused cartridge labels in a separate location. A static electricity charge on a cartridge may cause a label to cling to the cartridge. If you accidentally insert a label into the drive along with a cartridge, the label may prevent the hub reel and drive gear from meshing.
- Do not touch or allow direct contact with tape or tape leader. Dust or natural skin oils may contaminate the tape and impact tape performance.
- Do not expose the tape cartridge to moisture or direct sunlight.
- Do not expose cartridges to extreme temperatures or humidity. Refer to the documentation that comes with your tape media for appropriate operating and storage temperatures.
- Do not expose tape cartridges to magnetic fields.
- Avoid unnecessary opening of the cartridge door; this can expose the tape to contamination or physical damage.
- Do not drop the tape cartridges or subject the cartridges to physical shock.
- Do not insert any cartridge that has been dropped into a tape drive without carefully inspecting for damage. A dropped cartridge can have dislodged, loosened, or damaged internal components which can also damage the tape drive.
- Do not take tape cartridges apart.
- Do not leave cartridges in the tape drive when the SuperLoader power is off.

Transporting Tape Cartridges

To safely transport tape cartridges:

- Always keep each tape cartridge in its protective plastic case when it is not in the tape drive.
- When carrying tape cartridges in their cases, always orient the cases so that the grooves in the cases interlock. This prevents the cases from slipping apart and falling.
- Do not carry cartridges loosely in a box or in any other container. Allowing cartridges to hit together exposes them to unnecessary physical shock.

Storing Tape Cartridges

To store tape cartridges properly:

- Never stack more than five tape cartridges.
- When placing tape cartridges in archival storage, make sure you stand each tape cartridge vertically.
- Store tape cartridges in their plastic containers and in the environmental conditions recommended in your tape media documentation.
- If storage and/or transportation of a tape cartridge has exposed it to conditions outside the recommended environment, “condition” the tape cartridge to its operating environment for a 24-hour period.
- Do not place cartridges on or near devices that may produce magnetic fields such as computer monitors, motors, or video equipment. Such exposure can alter or erase data on the tape.

Using the Write-Protect Switch

All tape cartridges have a write-protect switch to prevent accidental erasure of data. When you enable write-protection, existing data on the tape cannot be overwritten, nor can additional data be appended to the tape. When you disable write-protection, existing data on the tape can be overwritten, and additional data can be appended.

Note: Before loading a cartridge into your SuperLoader, make sure that you set the write-protect switch to the desired position.

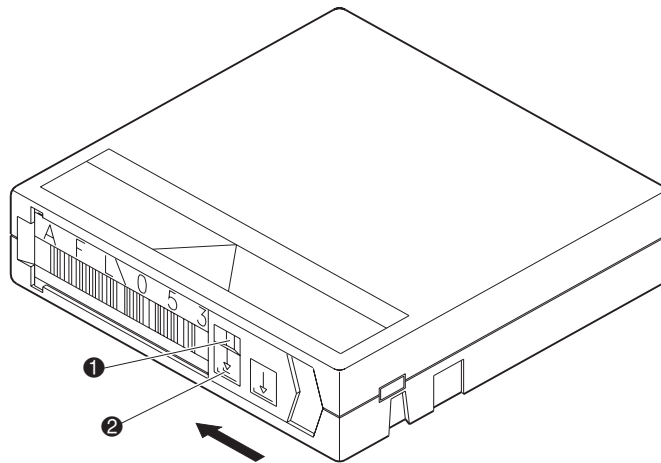


Figure 44: Write-protect switch

- ❶ Write-protected (An orange indicator appears above the switch)
- ❷ Write-enabled

Table 2: Write-Protect Switch Positions

Write-Protect Switch Position	Orange Indicator	Result
Write-Protected (with the hub facing down and the write-protect switch facing you as shown in Figure 44 , slide the switch to the left.)	Visible	<ul style="list-style-type: none">■ Data cannot be written to the tape.■ Existing data on the tape cannot be overwritten.■ Additional data cannot be appended to the media.
Write-Enabled (with the hub facing down and the write-protect switch facing you as shown in Figure 44 , slide the switch to the right.)	Not visible	Unless the cartridge is write-protected via software: <ul style="list-style-type: none">■ Data can be written to the tape.■ Existing data on the tape can be overwritten.■ Additional data on the tape can be overwritten.





SuperLoader Operation

4

You can operate the SuperLoader by any of the following methods:

- SuperLoader front panel — Operate manually to insert and eject tapes and to unload magazines.
- Ethernet Web Administration — The Ethernet connection lets you perform administrative functions remotely using Web Administration. You can also move tapes within the SuperLoader through the Ethernet connection.
- Host backup software — The SCSI bus connects the SuperLoader to the host server and the backup software. You can perform any functions contained in the backup software.

Front Panel Components

The front panel includes a blue backlit liquid crystal display (LCD), four function keys ( [scroll up],  [scroll down],  **Enter**, and  **Escape**), and two LEDs.

Function Keys

Use the function keys to navigate through the menu and select options. Use the up and down scroll buttons to position the cursor next to the item you want. Once the cursor is in place, press **Enter** to select the item. To return to a previous menu without making a selection, press **Escape**. The **Escape** button can also function as a backspace key.

LEDs

The LEDs display SuperLoader and drive status information. When the SuperLoader is powered on, the left, green LED gives ready status information, and the right, amber LED gives fault status information.

Table 3: Indicator Activity

Indicator	State	Operating Condition
Left (green)	On	SuperLoader and tape drive are idle.
	Slow Flash	Tape drive only is active.
	Fast Flash	SuperLoader only is active or SuperLoader and tape drive are active.
Right (amber)	Off	No errors or problems detected.
	On	Tape drive or SuperLoader error is detected.
	Continuous flash	Non-hardware error is detected (for example, cleaning is required).
	Brief flash	POST in progress

LCD

The LCD displays a scrolling menu that lets you to access information and execute commands.

Note: When the SuperLoader is idle for more than 60 seconds, the logo screen appears on the LCD, similar to the screensaver function on your PC. Press any function key to display the top-level menu.

The four menus displayed on the LCD are circular menus; you can scroll through the options using either the up or down scroll buttons. The first menu you access on the front panel contains the top-level menu items. Each item in turn contains submenus.

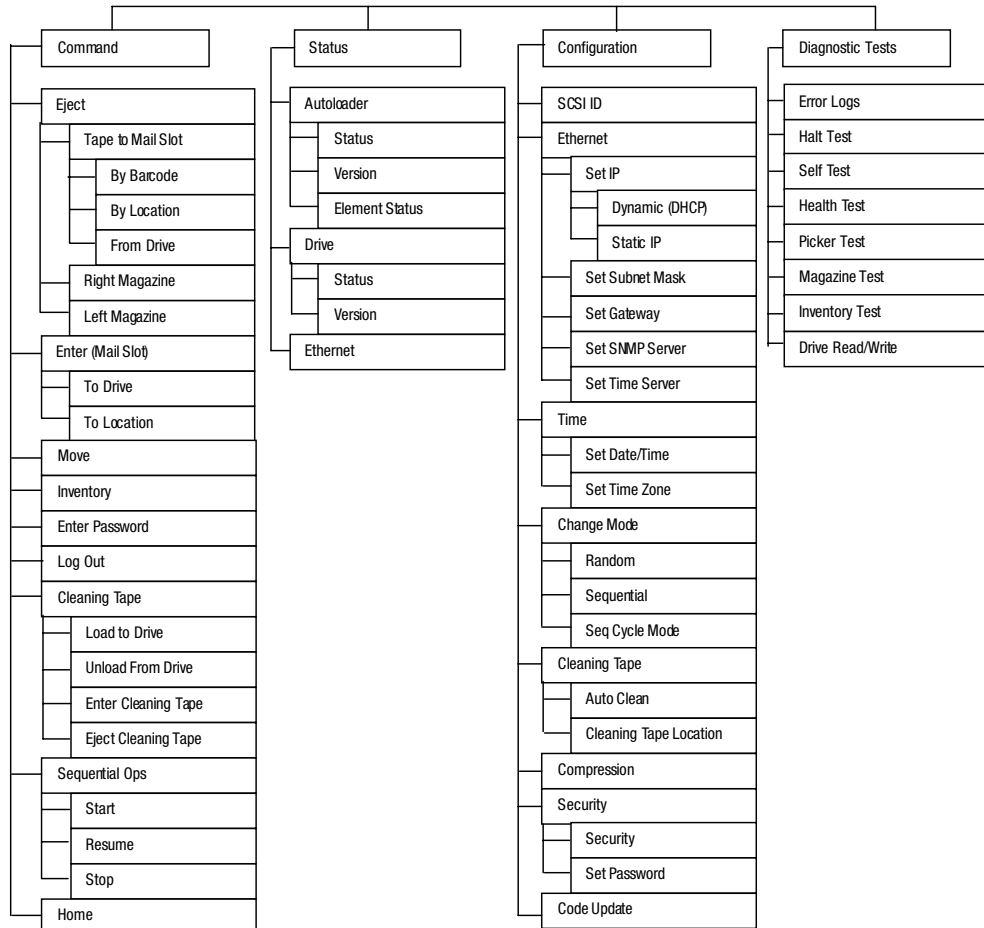


Figure 45: Menu Tree Structure

All the functionality accessed from the scrolling menu is password-protected. Two levels of security are built into the menu. The lower-level security is the operator level and the higher-level security is the administrator level. There is one password for each level.

The administrator password accesses all the available functionality. The operator password accesses all the functionality in the Command and Status submenus.

Front Panel Functionality

For most functions, you can use either the front panel or the Web Administration tool through the Ethernet connection.

Setting Passwords

Many functions on the SuperLoader may be password-protected to ensure data integrity. To access the menu items necessary to execute these functions, you must first enter your password. All passwords are six numeric digits.

To set a password, see the section “Set Passwords” in Chapter 2.

When a password has been entered, all password-protected functionality is available until the user logs out. If you do not use the front panel for a period of time, the logo reappears on the LCD. When the logo reappears, the SuperLoader has automatically logged you out. You will have to re-enter your password to access the menu functionality.

Default Front Panel Password

The default password for the front panel is 000000.

Logout

To logout:

1. On the main menu, scroll to Command.
2. Press **Enter**.
3. On the Command submenu, scroll to Log Out.
4. Press **Enter**.

Session Complete appears on the LCD.

Using Data Cartridges

Typically, when you first install your SuperLoader, you load your cartridges into the magazines and then load the magazines into the SuperLoader. However, you can insert and eject cartridges individually using the mailslot, or you can eject a magazine, manually load and unload cartridges, then load the magazine back into the SuperLoader. The SuperLoader automatically detects the presence of a cartridge in the mailslot and in a magazine slot.

Note: On the front panel menu, Enter or Eject means the tape enters and leaves the SuperLoader through the mailslot. Whenever you see Load or Unload, it means the tape is loaded into or unloaded from the tape drive.

If you try to perform an illegal operation, the SuperLoader refuses to perform the operation. For example, if you try to load a cartridge through the mailslot to the drive but the drive already contains a cartridge, the mailslot does not unlock. If you try to unload a cartridge from the drive while the SuperLoader is writing to the tape, your command is ignored.

Inserting a Single Cartridge

Use the mailslot to load a single cartridge into the SuperLoader. You must enter a valid password to unlock the mailslot before you can load a cartridge. When you insert a cartridge through the mailslot, you can load it into the tape drive or store it in a magazine.

To insert a cartridge to the tape drive:

1. On the main menu, scroll to Command.
2. Press **Enter**.
3. On the Command submenu, scroll to Enter.
4. Press **Enter**.
5. On the Enter submenu, scroll to To Drive.
6. Press **Enter**.

After Load cartridge appears on the LCD, a countdown appears. You have 20 seconds to load a cartridge through the mailslot before it relocks. The SuperLoader automatically loads the cartridge into the tape drive.

Note: Only insert the cartridge until you meet resistance.

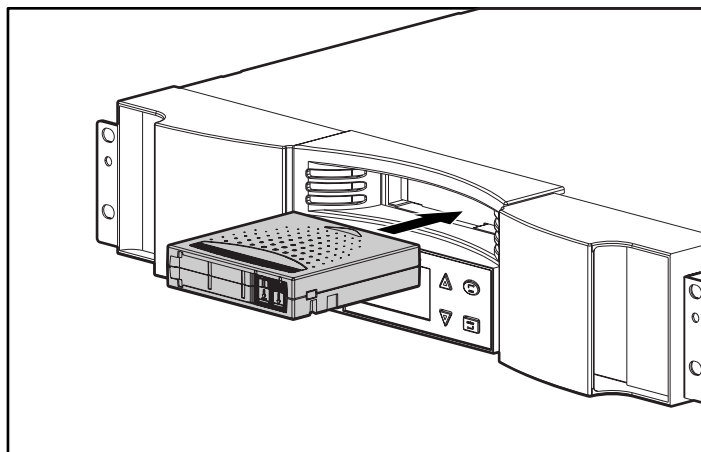


Figure 46: Loading a cartridge into the mailslot

To insert a cartridge to a magazine slot:

1. On the main menu, scroll to Command.
2. Press **Enter**.
3. On the Command submenu, scroll to Enter.
4. Press **Enter**.
5. On the Enter submenu, scroll to To Location.
6. Press **Enter**.

A map of all the magazine slots appears. Occupied slots are indicated by an asterisk.

7. Scroll to the slot where you want to store the cartridge.
8. Press **Enter**.

After Load cartridge appears on the LCD, a countdown appears. You have 20 seconds to load a cartridge through the mailslot before it relocks. The SuperLoader automatically loads the cartridge into the selected slot.

Moving a Single Cartridge

To move a single cartridge from one location to another inside the SuperLoader:

1. On the main menu, scroll to Command.
2. Press **Enter**.
3. On the Command submenu, scroll to Move.
4. Press **Enter**.

The Move screen appears.

5. Under From:, scroll to the current location of the cartridge you want to move. Occupied slots are indicated by an asterisk.

Note: If you select an empty location Task: Picker SRVO No src mag appears on the LCD. Choose a different location.

6. Press **Enter**.
7. Under To:, scroll to the location to which you want to move the cartridge. Occupied slots are indicated by an asterisk.

Note: If you select a location that is already occupied Task: Picker SRVO Dest Full appears on the LCD. Choose a different location.

8. Press **Enter**.

The LCD displays Ent or Esc? below your selections.

9. Press **Enter**.

An hourglass appears on the LCD as the SuperLoader moves the cartridge to its new location.

Ejecting a Single Cartridge

You can remove a single cartridge from the SuperLoader by specifying the desired cartridge by barcode or location, or by choosing the cartridge currently in the tape drive.

To eject a cartridge by barcode:

1. On the main menu, scroll to **Command**.
2. Press **Enter**.
3. On the **Command** submenu, scroll to **Eject**.
4. Press **Enter**.
5. On the **Eject** submenu, scroll to **Cartridge**.
6. Press **Enter**.
7. Scroll to **By Barcode**.

A barcode label appears.

8. Scroll to the label that corresponds to the cartridge you want to unload.
9. Press **Enter**.

An hourglass appears on the LCD as the cartridge you want is ejected from the mailslot. Wait until the hourglass disappears from the LCD before pulling out the cartridge.

To eject a cartridge by location:

1. On the main menu, scroll to **Command**.
2. Press **Enter**.
3. On the **Command** submenu, scroll to **Eject**.
4. Press **Enter**.
5. On the **Eject** submenu, scroll to **Cartridge**.
6. Press **Enter**.
7. Scroll to **By Location**.

A map of all the magazine slots appears. Occupied slots are indicated by an asterisk.

8. Scroll to the slot containing the cartridge you want to eject.
9. Press **Enter**.

An hourglass appears on the LCD as the cartridge you want is ejected from the mailslot. Wait until the hourglass disappears from the LCD before pulling out the cartridge.

To eject a cartridge from the tape drive:

1. On the main menu, scroll to **Command**.
2. Press **Enter**.
3. On the **Command** submenu, scroll to **Eject**.
4. Press **Enter**.
5. On the **Eject** submenu, scroll to **Cartridge**.
6. Press **Enter**.
7. Scroll to **From Drive**.
8. Press **Enter**.

An hourglass appears on the LCD as the cartridge you want is ejected from the mailslot. Wait until the hourglass disappears from the LCD before pulling out the cartridge.

Note: After ejecting a single cartridge, immediately remove it from the mail slot when prompted.

Using Magazine Blanks and Magazines

Your SuperLoader comes installed with one magazine and one magazine blank. Be sure to install a magazine blank whenever a magazine is removed.

Removing a Magazine Blank

To remove a magazine blank, pull the handle and slide it out.

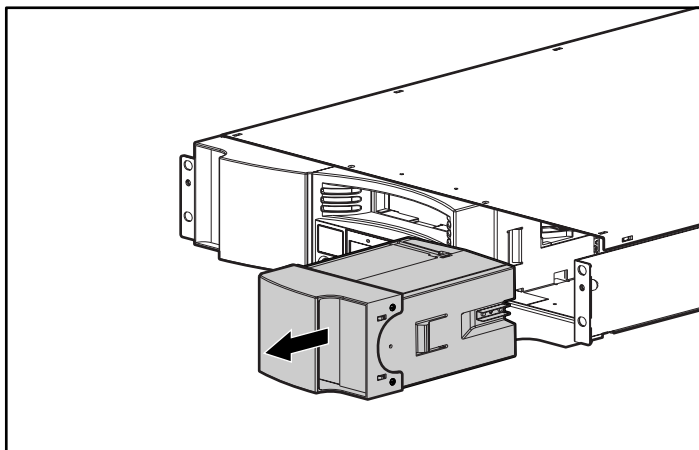


Figure 47: Removing a magazine blank

Unloading a Magazine

When you want to remove several cartridges at once, unload the magazine(s) first.

To unload a magazine:

1. On the main menu, scroll to **Command**.
2. Press **Enter**.
3. On the **Command** submenu, scroll to **Eject**.
4. Press **Enter**.
5. On the **Eject** submenu, scroll to **Right Magazine** or **Left Magazine**.
6. Press **Enter**.

You will hear a distinctive popping sound as the appropriate magazine is ejected from the SuperLoader. Left magazine has been ejected or Right magazine has been ejected appears on the LCD.



Caution: To prevent damage to the SuperLoader or the magazine, use both hands when removing the magazine from the SuperLoader, supporting the entire length of the magazine.

7. Grasp the magazine by the handle with one hand and slide it out, supporting it underneath with the other hand.
-

Note: Once you eject a magazine, you must fully remove it or fully re-install it before powering off the SuperLoader.

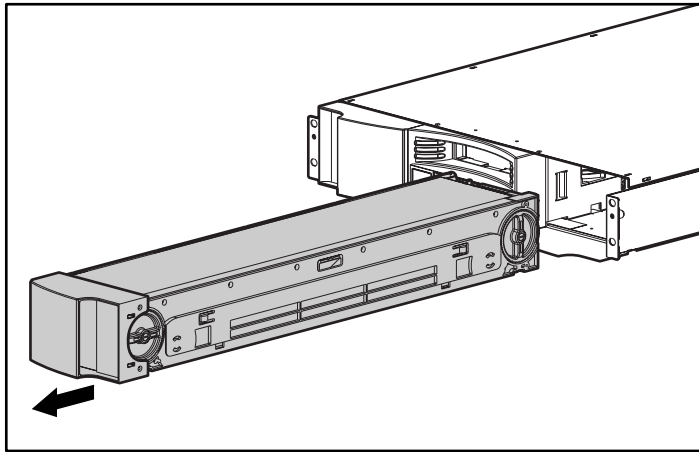


Figure 48: Removing a magazine

Installing a Magazine

To install a magazine:

1. Grasp the magazine by the handle with one hand and support it underneath with the other hand.
2. Slide the magazine into the magazine bay. Make sure you position the magazine correctly; it should slide smoothly.



Caution: Be sure that you install only a left-oriented magazine in the left bay and a right-oriented magazine in the right bay.

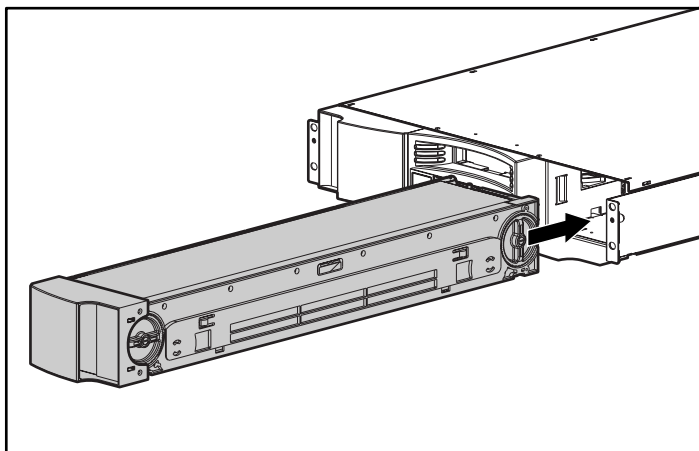


Figure 49: Installing a magazine

3. The magazine is correctly installed when you feel it click into place and the front is flush with the front panel. Left Mag Inserted or Right Mag Inserted appears on the LCD.

Loading and Unloading Cartridges

The magazine must be fully removed to load and unload cartridges.

There are two handles located on both ends of the magazine. Move the slots within the magazine by using these two handles. Use the two openings along the top of the magazine and the four openings along the bottom of the magazine to load and unload cartridges from the eight slots within each magazine.

To load a cartridge into the magazine:

1. Center a slot within one of the six openings on the side of the magazine.
2. Properly orient the cartridge.

Note: There is a keying feature in each slot that only lets you fully insert the cartridge one way.

3. Fully insert the cartridge into the slot. When pushing the cartridge into the slot you will feel slight resistance until the cartridge is properly seated into the slot.

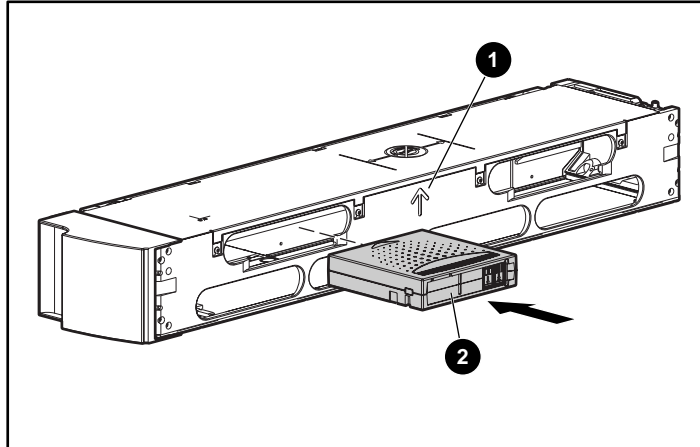


Figure 50: Inserting a cartridge

To remove a cartridge, use the handles to center the desired slot in the openings on the side of the magazine. Use your thumb and index finger to pull out the cartridge. You will feel slight resistance when removing the cartridge.

Manually Removing a Magazine

To remove a magazine manually:

1. Place the SuperLoader on a flat, stable surface.
2. Locate the small rectangular opening on the back of the SuperLoader behind the magazine that you want to remove.

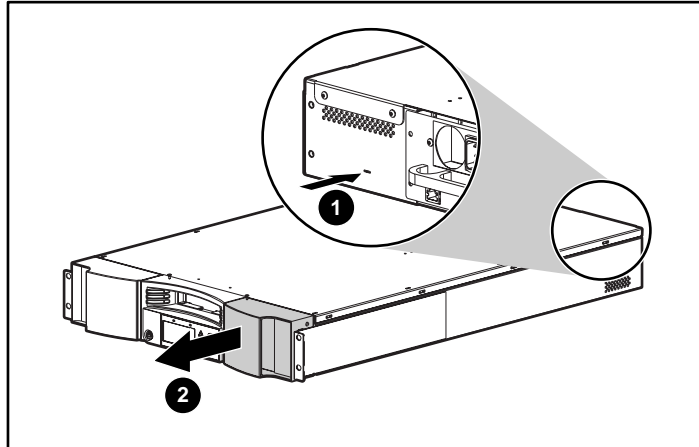


Figure 51: Manually removing a magazine

- Carefully insert the end of a small, sturdy tool, such as a jeweler's screwdriver, about one inch into the opening. On a right magazine, keep the tool as far to the left as you can. On a left magazine, keep the tool as far to the right as you can.
- On a right magazine, slide the tool to the right. On a left magazine, slide the tool to the left. You will feel resistance as the tool presses against the latch. Press hard enough to release the latch.

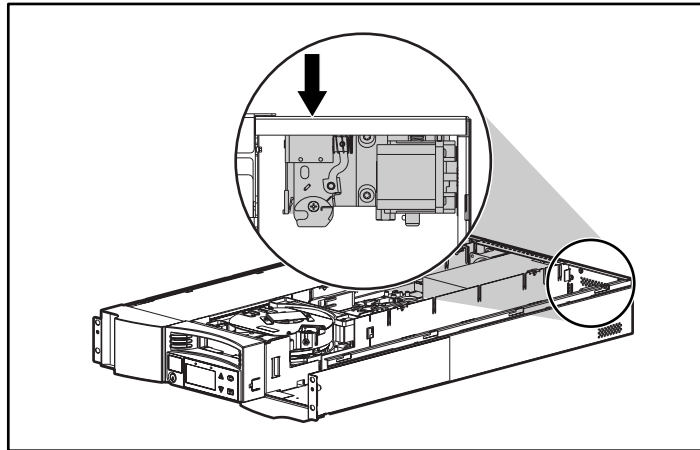


Figure 52: Inside release latch

When you release the latch, the magazine pops forward so that the front of the magazine is no longer flush with the front panel.

- With one hand, grasp the magazine by the handle and slide it forward to remove. Place your other hand under the magazine to support it and prevent it from falling.

Changing the Orientation

Any magazine can be configured to fit in the right or left magazine bay.

To change the orientation of a magazine:

1. Remove the two screws that attach the handle to the front of the magazine.

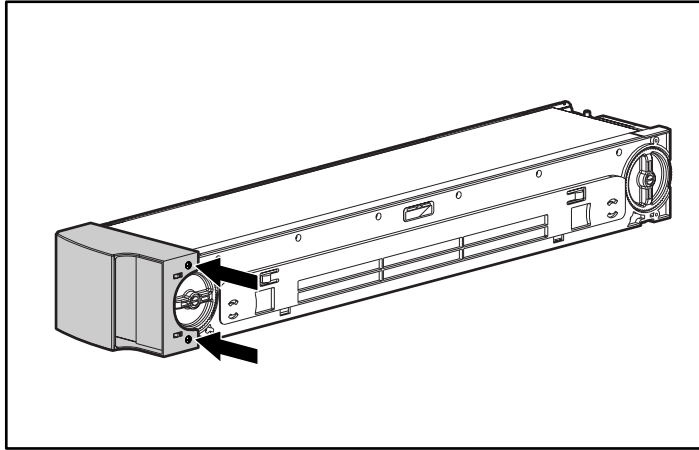


Figure 53: Removing the screws

2. Unsnap the handle carefully, ensuring you do not break the hinge.
3. Rotate the handle 180 degrees so that what was the top of the handle is now the bottom.
4. Rotate the magazine 180 degrees so that what was the front of the magazine is now the rear.

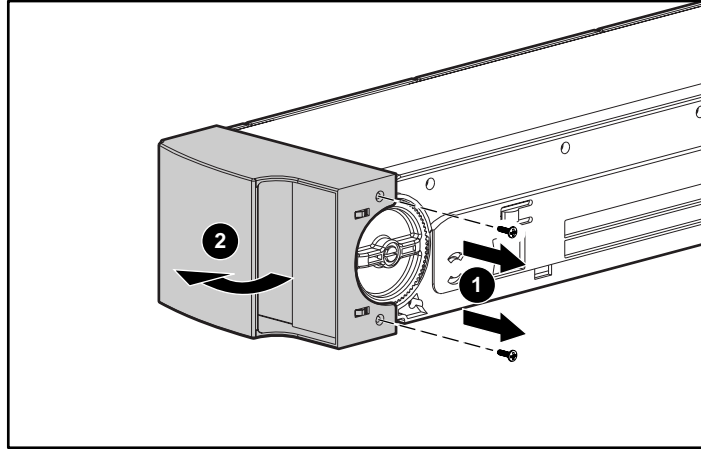


Figure 54: Removing the handle

5. Snap the handle back on the end of the magazine.
6. Install the two screws to attach the handle securely to the magazine.

Viewing Status Information

From the scrolling menu, you can view the following information:

- SuperLoader status
- Firmware version
- Element status
- Tape drive status
- Tape drive version
- Ethernet information
- System performance

SuperLoader Status

The SuperLoader status provides information about:

- Whether a magazine is installed or not
- SCSI connection activity

- Ethernet connection activity
- Whether a barcode reader is installed or not

To view the SuperLoader status:

1. On the main menu, scroll to Status.

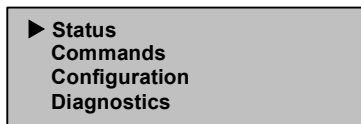


Figure 55: Main menu

2. Press **Enter**.
3. On the Status submenu, scroll to SuperLoader Info.

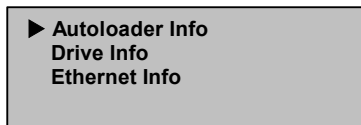


Figure 56: Select SuperLoader Info

4. Press **Enter**.
5. On the SuperLoader Info submenu, scroll to Status.

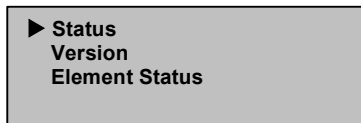


Figure 57: Select Status

6. Press **Enter**.
- A list of messages similar to the following screen appears.

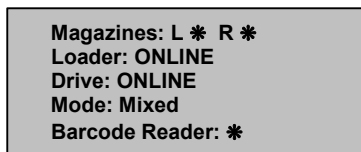


Figure 58: SuperLoader status message

Table 4: SuperLoader Status Messages

Magazine	
L=*	The left magazine is present.
R=*	The right magazine is present.
L= (no *)	The left magazine is not present.
R= (no *)	The right magazine is not present.
Loader	
ONLINE	The SuperLoader SCSI connection is active.
OFFLINE	The SuperLoader SCSI connection is not active.
Drive	
ONLINE	The drive SCSI connection is active.
OFFLINE	The drive SCSI connection is not active.
Mode	
Random	Default. The SuperLoader is operating in Random mode.
Mixed	The SuperLoader is operating in Mixed mode.
Sequential	The SuperLoader is operating in Sequential mode.
Seq Cycle Mode	The SuperLoader is operating in Seq Cycle Mode.
NOTE: ISVs support different modes of operation. Be sure your SuperLoader is set to the correct mode of operation. The SuperLoader defaults to Random mode. See "Control Mode" in Chapter 2 for additional information.	
Barcode Reader	
*	A barcode reader is present.
No *	A barcode reader is not present.

View Firmware Version

To view the firmware version:

1. On the main menu, scroll to Status. (See Figure 55.)
2. Press **Enter**.
3. On the Status submenu, scroll to SuperLoader Info. (See Figure 56.)
4. Press **Enter**.
5. On the SuperLoader Info submenu, scroll to Version. (See Figure 57.)

6. Press **Enter**.

A list of messages similar to the following screen appears.

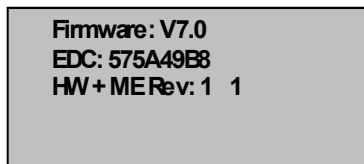


Figure 59: SuperLoader version messages

Table 5: SuperLoader Version Messages

Firmware	The number indicates the firmware version.
EDC	The number indicates the Error Detection Code that was generated when the firmware was installed. The SuperLoader uses this number to verify that the firmware and the memory holding the firmware are good.
HW Rev	The number indicates the hardware version.
ME Rev	The number indicates the mechanical version.

View Element Status

The element status reports the status of the magazine slots. The status indicates whether a slot contains a cartridge, and which slot is allocated as the cleaning cartridge's slot.

To view an element's status:

1. On the main menu, scroll to Status. (See Figure 55.)
2. Press **Enter**.
3. On the Status submenu, scroll to SuperLoader Info. (See Figure 56.)
4. Press **Enter**.

5. On the SuperLoader Info submenu, scroll to Element Status. (See Figure 57.)

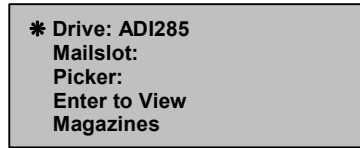


Figure 60: Element status

Press **Enter** to view magazines. A map of all the magazine slots appears. Occupied slots are indicated by an asterisk.

Slot 1	Slot 2*	Slot 3*	Slot 4*
Slot 5	Slot 6	Slot 7*	Slot 8*
Slot 9	Slot 10*	Slot 11*	Slot 12*
Slot 13*	Slot 14*	Slot 15*	Slot 16*

Figure 61: Magazine map

6. Scroll to the slot containing the cartridge for which you want to see the status.
7. Press **Enter**.

The Element Status screen appears, displaying the barcode label for that cartridge (if an inventory has previously been run). A move command also appears on the screen.

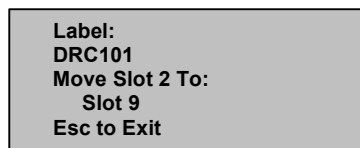


Figure 62: Element status screen

- a. If you want to move the cartridge scroll until the location you want to move to appears under TO:, then press **Enter**.
- b. If you do not want to move the cartridge, press **Escape**.

View Tape Drive Status

To view the tape drive status:

1. On the main menu, scroll to Status. (See Figure 55.)
2. Press **Enter**.
3. On the Status submenu, scroll to Drive Info. (See Figure 56.)
4. Press **Enter**.
5. On the Drive Info submenu, scroll to Status. (See Figure 57.)
6. Press **Enter**.

A list of messages similar to the following screen appears.

SCSI ID	5
Loader LUN	1
Compression Enabled	
Drive Cart Present	

Figure 63: Drive status screen

Table 6: Tape Drive Status Messages

SCSI ID	The number indicates the SuperLoader SCSI ID number.
Loader LUN	The number indicates the Logical Unit Number of the SuperLoader.
Compression	Indicates whether the tape drive compression is enabled or disabled.
Drive Cart	Indicates whether a drive cart is present.

View Tape Drive Version

To view the tape drive version:

1. On the main menu, scroll to Status. (See Figure 55.)
2. Press **Enter**.
3. On the Status submenu, scroll to Drive Info. (See Figure 56.)
4. Press **Enter**.
5. On the Drive Info submenu, scroll to Version. (See Figure 57.)

6. Press **Enter**.

A list of messages similar to the following screen appears.

```

Product Type:  DLT 1
Policy Version:
35.52
Servo Version:
65.6
  
```

Figure 64: Tape drive version screen

Table 7: Tape Drive Version Messages

Product Type	The number indicates the type of product installed (DLT1).
Policy Version	The number indicates the version of the policy processor for the tape drive, typically the tape drive firmware version.
Servo Version	The number indicates the servo processor firmware version.

View Ethernet Information

To view Ethernet information:

1. On the main menu, scroll to Status. (See Figure 55.)
2. Press **Enter**.
3. On the Status submenu, scroll to Ethernet Info. (See Figure 56.)
4. Press **Enter**.

A list of messages similar to the following screen appears.

```

MAC address:
00-e0-9e-03-0e-39
IP Address
16.116.76.46
Network: Disconnected
  
```

Figure 65: View Ethernet information

Table 8: Ethernet Information Messages

Mac Address	Indicates the serial number of your Ethernet card.
IP Address	The number indicates the static IP address or the currently assigned dynamic IP address.
Network	Indicates whether or not the SuperLoader is connected to the network.

Run Inventory

The SuperLoader provides a method to keep track of the cartridges currently loaded in the magazines. If your SuperLoader is equipped with a barcode reader, it can scan the cartridge barcode labels and store the data in its non-volatile memory.

The SuperLoader automatically runs an inventory whenever you power it on or insert a magazine.

To take inventory:

1. On the main menu, scroll to **Command**.
2. Press **Enter**.
3. On the **Command** submenu, scroll to **Inventory**.
4. Press **Enter**.

The SuperLoader scans the barcodes on all the cartridges present.

Set Data Compression

You can set the SuperLoader to write data to the tape in its native (uncompressed) format or to compress it. Compressing the data means that the SuperLoader can typically write twice as much data to the same amount of tape. Actual compression may vary, depending on the type of data being backed up. Compression also increases the performance of the data transfers from or to the SCSI bus.

Typically you will want to leave this option enabled.

To set compression option:

1. On the main menu, scroll to Configuration.

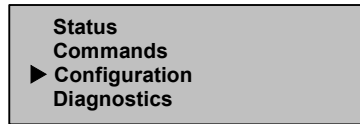


Figure 66: Main menu

2. Press **Enter**.
3. On the Configuration submenu, scroll to Compression.

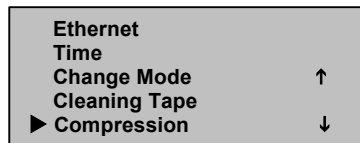


Figure 67: Set Compression

4. Press **Enter**.

If a check appears next to Compression, the compression option is enabled. If no checkmark appears, the compression option is disabled.

- a. To leave the compression option unchanged, press **Escape**.
- b. To change the compression option, press **Enter**.

Update Firmware

SuperLoader firmware can be updated using HP Library and Tape Tools (LTT). Complete instructions and download of LTT are available at:

<http://www.hp.com/support/tapetools>

You can also update the SuperLoader firmware via the Ethernet port using the Web Administrator. Firmware images for the Web Administrator can be found at:

<ftp.hp.com/pub/products1/storageworks/firmware>

Configuration

To change any Ethernet configurations, see “Ethernet” in Chapter 2.

Web Administration

Many of the same operations performed from the front panel can also be performed remotely using Web Administration.

After establishing a connection to the SuperLoader, open any HTML browser and enter the IP address of the SuperLoader. (See “SuperLoader IP Address” or contact your web administrator.) Be sure that proxy server settings in your browser are disabled.

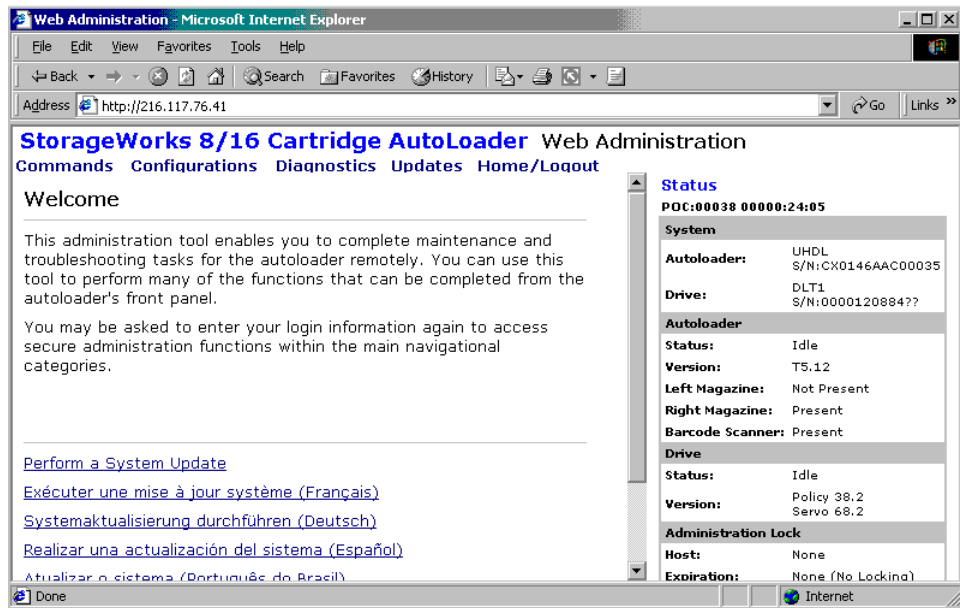


Figure 68: Web Administration Home Page

Default Password

The default user ID is guest. The default password is guest. See “Set Security Option” in this chapter for information on changing the user ID and password.

Status information appears on the right side of the home page and every page of Web Administration. The menu headings also appear at the top of every page. To access the functionality under the menu heading, click the menu heading. Web Administration prompts you for your username and ID, then displays the opening page for that menu.

The Configuration page includes a submenu on the left side of the page. When Web Administration displays the first Configuration page, it is open to the Systems Operations submenu. You can click Networking to access Ethernet settings options, and Security to access security settings options.

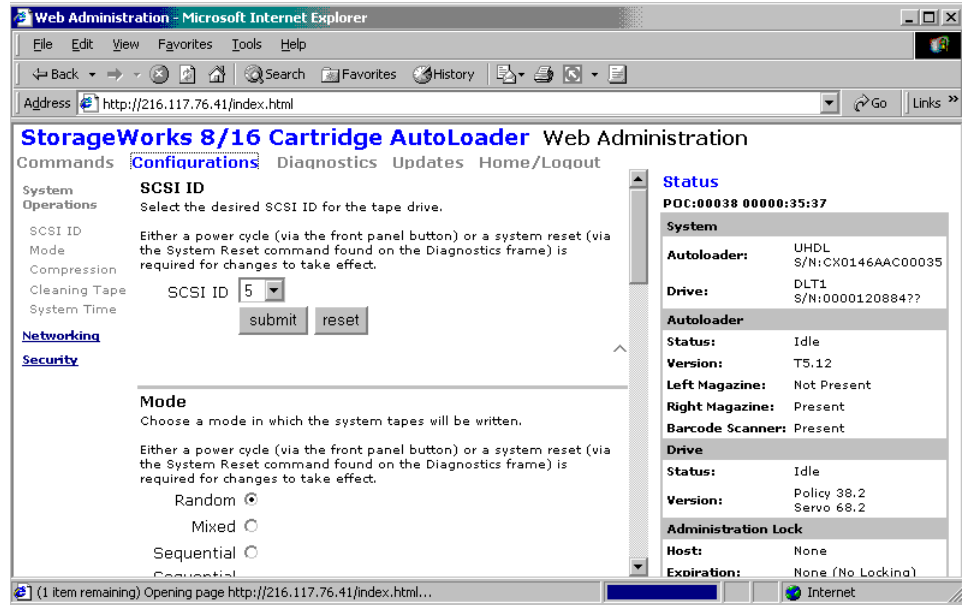


Figure 69: Configuration Page

Usually, after you have set the options, you click a Submit button to implement the new settings. Next to all Submit buttons is a Reset button. The Reset button does not reset the SuperLoader to its default settings, it just clears the settings in the option so that you can change them.

View Status Information

To view status information from Web Administration, you only have to open it. You do not need to execute any command to see it because the status information appears on the right side of every page. This information is updated automatically every 10 seconds, so the status you see is real-time information.

Move Tapes

To move a tape:

1. On any Web Administration page, click Commands.
2. From the drop-down menu under Move tape from:, select the current location of the tape you want to move.

Note: You can also click the slot on the graphic to select it.

3. From the drop-down menu under To:, select the location to which you want to move the tape.
4. Click **submit**.

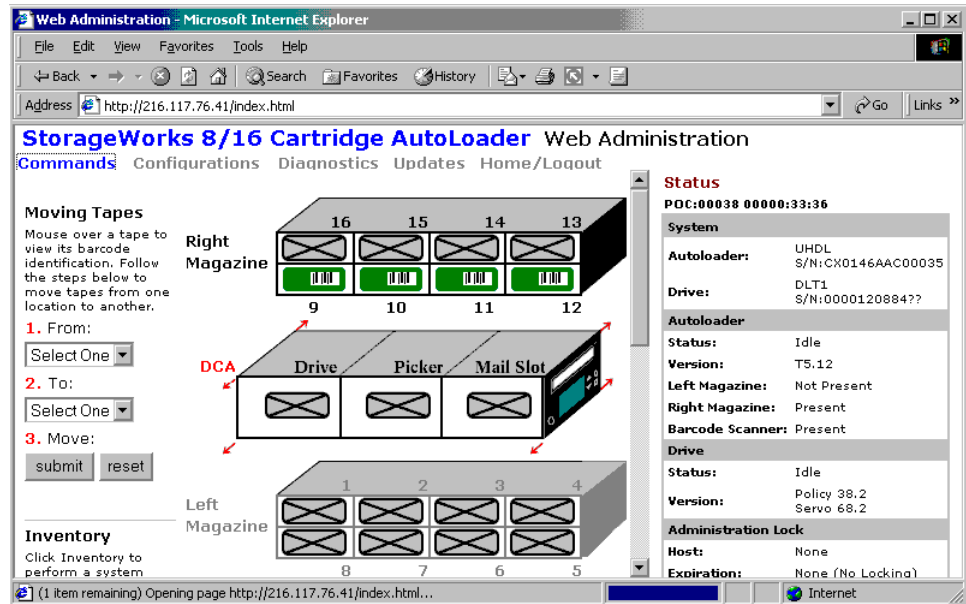


Figure 70: Moving tapes using Web Administration

Run Inventory

The SuperLoader automatically runs an inventory when you power it back on or insert a magazine. If you need to run an inventory in addition to this, you can use Web Administration to do it remotely.

To run an inventory:

1. On any Web Administration page, click Commands.
2. On the Commands page, click Inventory.

Set to Home

If the SuperLoader is not able to successfully execute a move or inventory command, try executing a HOME command and then retry the move or inventory command again.

The HOME command resets the SuperLoader as a means to help the SuperLoader recover from an unknown internal condition. You should very rarely need to use this command.

To set to Home:

1. On any Web Administration page, click Commands.
2. On the Commands page, click Home.

Run Diagnostic Tests

If the status information indicates an error, view the event log.

To view the event log:

1. On any Web Administration page, click Diagnostics.

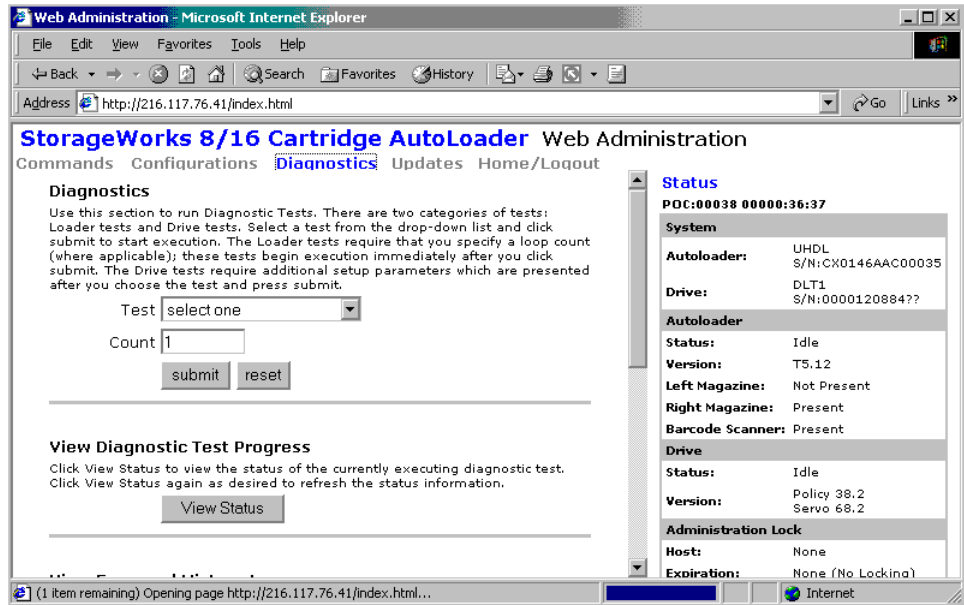


Figure 71: Diagnostic page

2. Click View Log.

When an error message appears in the status information, you may need to run a diagnostic test.

To run a diagnostic test:

1. On any Web Administration page, click Diagnostics.
2. From the Test drop-down menu, select the diagnostic test that you want to run.
3. Click **submit**.
4. While the test is running, you can view the status of the test by clicking **View Status**. To refresh the status information, click the Back button on your browser, and then click the **View Status** button again.

Set the System Time

If your SuperLoader is not connected to a time server, you can set the time manually with Web Administration.

Enter the time zone first, then the date and time. If you want to include time changes, such as daylight savings time, you must set those manually when they occur.

To set the time zone:

1. On any Web Administration page, click Configurations.
2. From the first drop-down list next to Time Zone, select the number of hours' difference between your local time and Greenwich Mean Time (GMT).
3. From the second drop-down list next to Time Zone, select the number of minutes' difference between your local time and Greenwich Mean Time (GMT).
4. Click **submit**.

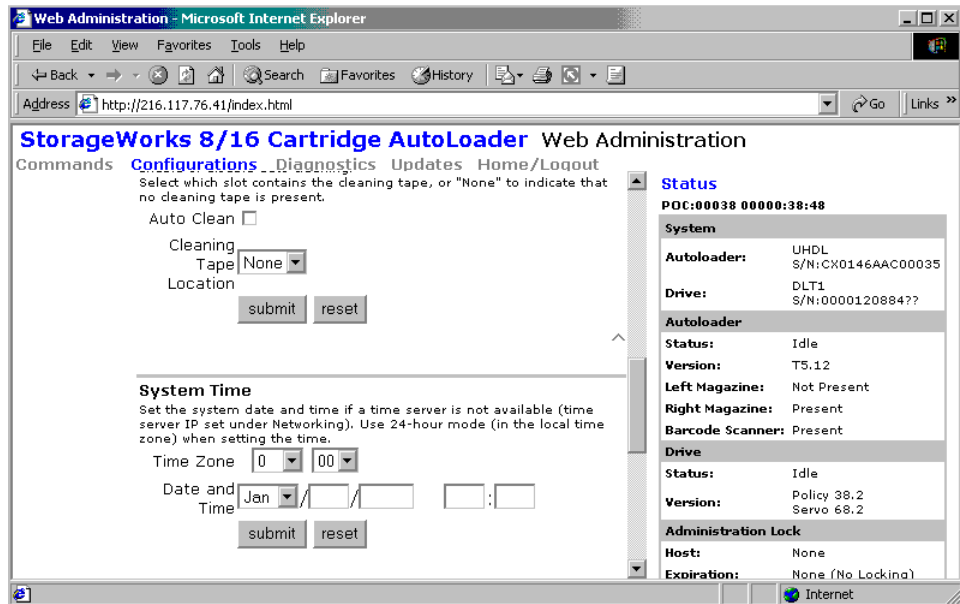


Figure 72: Setting system time

To set the date and time:

1. On any Web Administration page, click Configurations.
2. From the month drop-down list, select the current month.
3. From the day drop-down list, select the current day.
4. From the year drop-down list, select the current year.
5. In the hour text box, type the current hour, in 24-hour format.
6. In the minute text box, type the current minute.
7. Click **submit**.

Change the SCSI ID

If you need to change the SuperLoader's SCSI ID, you can do so from the Web Administration tool.

To change the SCSI ID:

1. On any Web Administration page, click Configurations.
2. From the drop-down list under SCSI ID, click the number to which you want to set the ID.

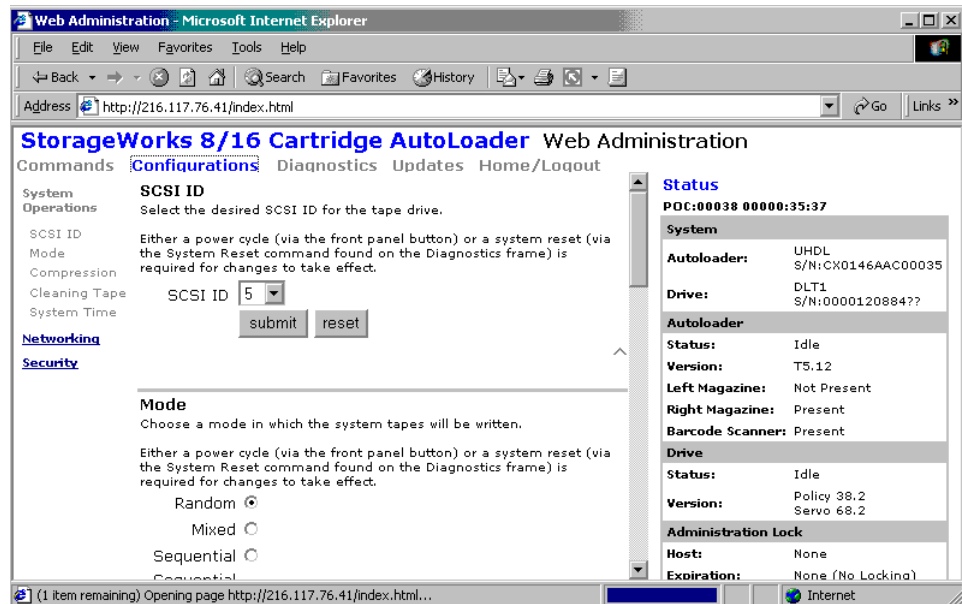


Figure 73: Setting the SCSI ID

3. Click **submit**.

You must reboot the SuperLoader before the new SCSI ID takes effect.

Set the Control Mode

To set the control mode:

1. On any Web Administration page, click Configurations.
Under Mode, the current mode is selected.

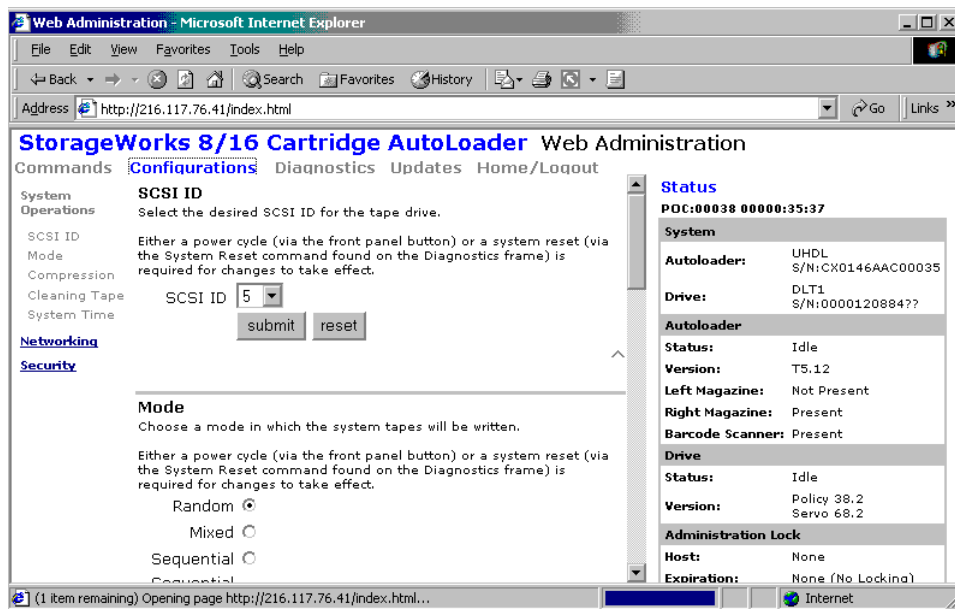


Figure 74: Setting the Control Mode

2. To change the mode, click a different option.
3. Click **submit**.

You must reboot the SuperLoader before the new mode takes effect.

Set the Compression

To set the compression:

1. On any Web Administration page, click Configurations.
2. If a checkmark appears in the box next to Compression, compression is enabled. To disable compression, click the box to remove the checkmark.
3. If no checkmark appears in the box next to Compression, compression is disabled. To enable compression, click the box to enter a checkmark.
4. Click **submit**.

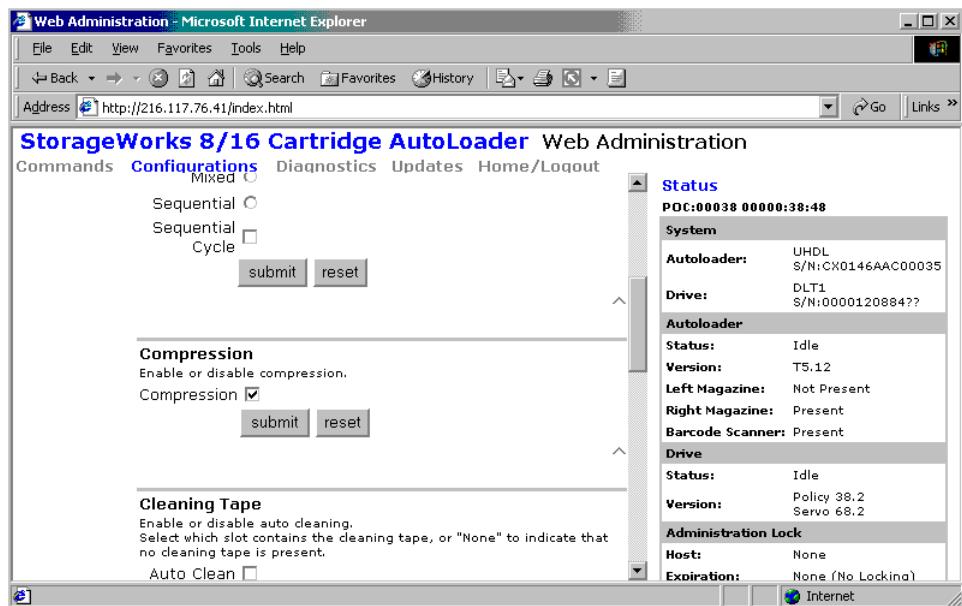


Figure 75: Setting the compression

Set the Cleaning Mode

To enable the Auto Clean function, you must have a slot designated for the cleaning tape cartridge. If you or another user have already designated a slot, that slot's number appears next to Cleaning Cartridge Location. If a slot has not been designated, the box is empty.

To set the cleaning tape slot:

1. On any Web Administration page, click Configurations.
2. From the drop-down list next to Cleaning Cartridge Location, select the number of the slot in which you want to store the cleaning cartridge.
3. Click **submit**.

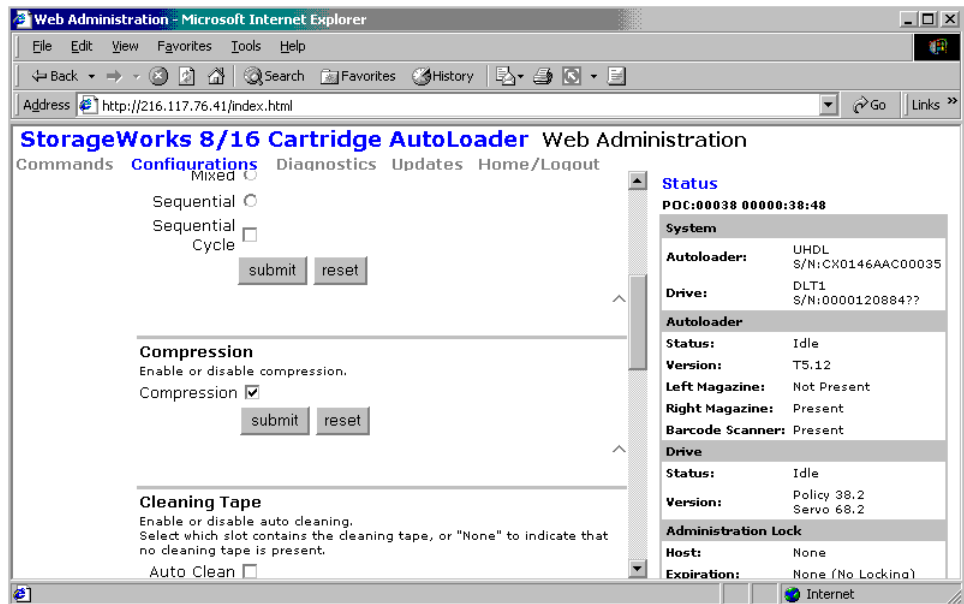


Figure 76: Cleaning Tape

If you want to set the Auto Clean option, use the following procedure. To clean the tape drive manually, use the Move function to load and unload the cleaning tape from the tape drive.

To set Auto Clean:

1. On any Web Administration page, click Configurations.
2. If a checkmark appears in the box next to Enable Auto Clean, the option is enabled. To disable Auto Clean, click the box to remove the checkmark. If no checkmark appears in the box next to Enable Auto Clean, the option is disabled. To enable Auto Clean, click the box to enter a checkmark.
3. Click **submit**.

Set Ethernet Configurations

When you originally installed the SuperLoader, you set the Ethernet connections through the front panel. However, you can change them through the Web Administration tool.

To change the Ethernet configurations:

1. On any Web Administration page, click Configurations.
2. On the secondary menu, click Networking.

The current settings appear on the screen.

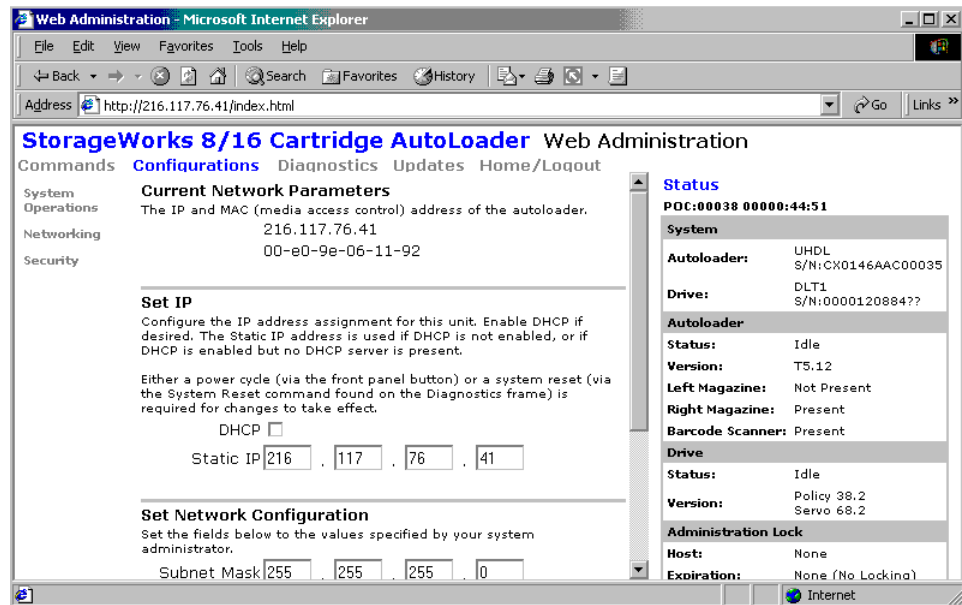


Figure 77: Networking options

3. If a checkmark appears in the box next to DHCP, the dynamic IP address option is enabled. To set a permanent IP address:
 - a. Click the box to remove the checkmark.
 - b. In the IP address fields, type in the new address, using your Tab key to move from box to box.
4. If no checkmark appears in the box next to DHCP, the permanent IP address option is enabled. To change a permanent IP address, in the IP address fields, type in the new address, using your Tab key to move from box to box.
5. To set the IP address from a permanent address to a dynamic address, click the box next to DHCP, and delete the IP address from the IP address fields.
6. To change the IP address of the subnet mask, gateway, SNMP server, or the time server:
 - a. Click the box to left of the address you want to change to enter a checkmark.
 - b. Type in the new address, using your Tab key to move from box to box.
7. Click **submit**.

Set Security Option

When you enable the security option, users must enter a password to access the SuperLoader's functionality. A password allows either administrator-level access or operator-level access. (For more information on levels of password-protection, see "Security").

To set the security option:

1. On any Web Administration page, click Configurations.
2. On the secondary menu, click Security.

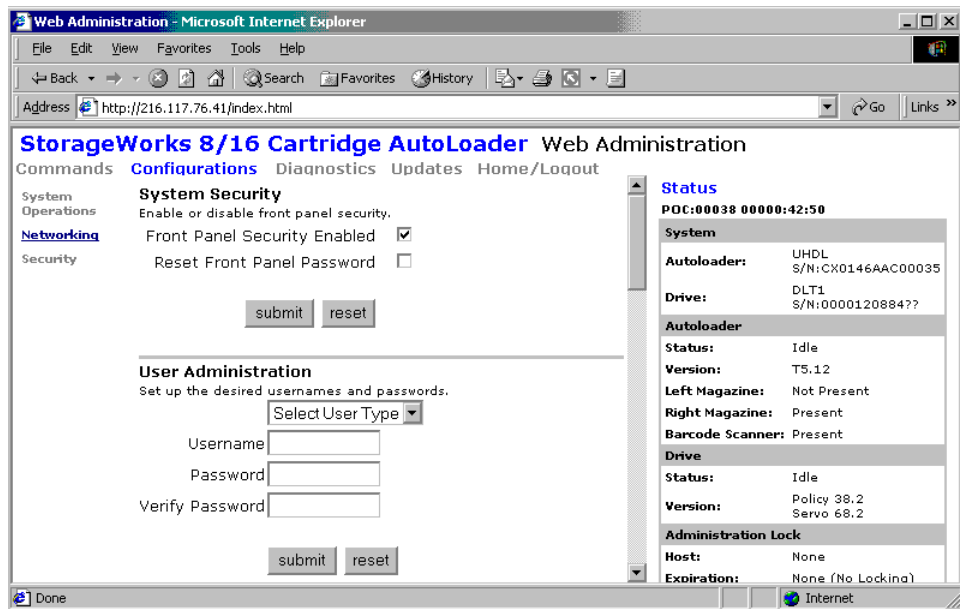


Figure 78: Security option

3. If a checkmark appears in the box next to Security, the security option is enabled. To disable the security option, click the box to remove the checkmark. If no checkmark appears in the box next to Security, the security option is disabled. To enable the security option, click the box to enter a checkmark.
4. Click **submit**.

Set Passwords

When you enter your password on the SuperLoader front panel, there is no associated username. However, when you click any menu heading on the Web Administration's home page, Web Administration prompts you for a username and password.

In Web Administration, you can set up to four usernames and IDs, which can include both alpha and numeric characters. Usernames and IDs must be between four and seven characters long.

To set a password:

1. On any Web Administration page, click Configurations.
2. On the secondary menu, click Security.
3. From the drop-down list next to User Type, select Administrator or Operator.
4. In the Username field, enter a username.
5. In the Password field, enter the password.
6. In the Verify Password field, re-enter the password.
7. Click **submit**.

You can reset the operator password for the front panel from Web Administration. However, you cannot reset the front panel administrator password this way.

To reset the front panel operator password:

1. On any Web Administration page, click Configurations.
2. On the secondary menu, click Security.
3. Click the box next to Reset Front Panel Password. A checkmark appears.
4. Click **submit**.

Update the Firmware

To update the firmware:

1. On any Web Administration page, click Updates.

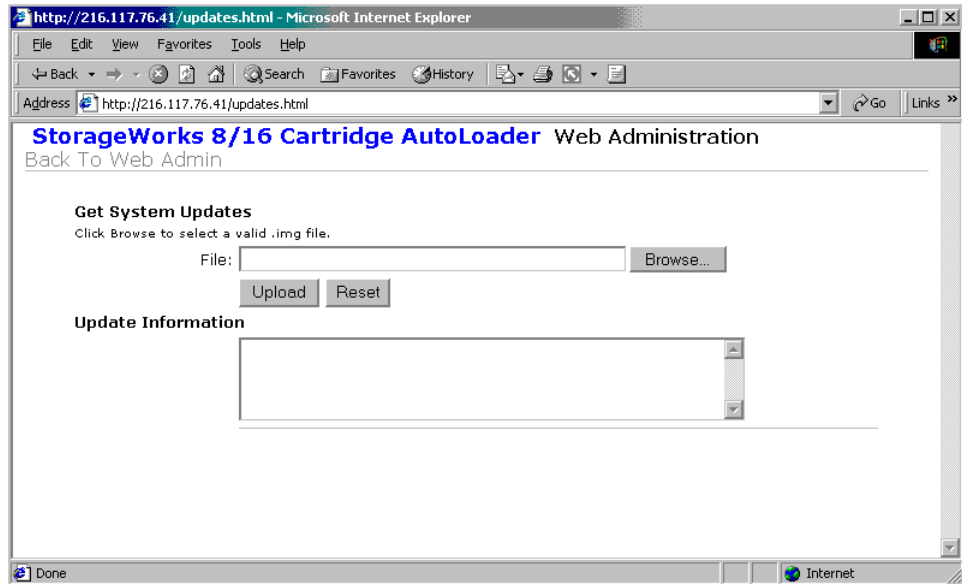


Figure 79: Get system updates

2. Click Browse.
3. Navigate to the location of the firmware update.
4. Click **submit**.

The SuperLoader automatically uploads the new code and updates the firmware.

Note: A message displays on the LCD to indicate that the update is complete. Do not power cycle the SuperLoader until this message displays.

Tape Drive Cleaning

5

Your tape drive read/write head should be cleaned periodically. When cleaning is needed, the drive automatically requests the backup software to perform a cleaning operation. However, you can also initiate cleaning from the front panel as needed.

Use a cleaning tape to clean your tape drive. The DLTtape cleaning tape looks just like a DLTtape IV cartridge, except that its shell is beige.

Configuring the Cleaning Tape Location

Before inserting the cleaning tape you must configure the cleaning tape location.

1. On the main menu, scroll to Configuration.
2. Press **Enter**.
3. Scroll to Cleaning Tape.
4. Press **Enter**.
5. Log in as Administrator.
6. Scroll to Cleaning Tape Location.
7. Press **Enter**.
8. Select an available slot (no * next to the slot number).

Inserting the Cleaning Tape

There are two methods for inserting the cleaning tape:

- Load the cleaning tape directly into an ejected magazine and then reload the magazine.
- Insert the cleaning tape through the mailslot.

To insert the cleaning tape through the mailslot:

1. On the main menu, scroll to Command.
2. Press **Enter**.
3. On the Command submenu, scroll to Cleaning Tape.
4. Press **Enter**.
5. Log in as Operator.
6. On the Cleaning Tape submenu, scroll to Enter Cleaning Tape.
7. Press **Enter**.

A countdown appears on the LCD. You have 20 seconds to insert the cleaning tape through the mailslot before it relocks. Push the cartridge in. When prompted, press **Enter**. The system accepts the tape. If you try to load a cleaning tape through the mail slot without having configured a cleaning slot, the SuperLoader rejects the tape.

8. Once you insert the cleaning tape through the mailslot, do one of the following:
 - Proceed directly to manual cleaning.
 - Store the cleaning tape in a magazine slot to be used later.

Storing the Cleaning Tape

When you store the cleaning tape, you can use it in the following ways:

- Use it for manual cleaning.
- If the Auto Clean function is enabled, the SuperLoader can move the cleaning tape from the magazine slot to the tape drive and, after the cleaning cycle, return it to its slot.

- If backup software cleaning function is enabled, the software can move the cleaning tape from the magazine slot to the tape drive and, after the cleaning cycle, return it to its slot (for more information, see your backup software's documentation).

To store the cleaning tape:

1. After you have inserted the tape through the mailslot, on the main menu, scroll to Configuration.
2. Press **Enter**.
The Configuration submenu appears.
3. On the submenu, scroll to Cleaning Tape Location.
4. Press **Enter**.
5. Log in as Administrator.
A map of all the magazine slots appears.

Note: When a map of the magazine slots appears on the display, an asterisk (*) indicates a slot occupied by a data cartridge, and an exclamation point (!) indicates a slot occupied by a cleaning cartridge.

Slot 1	Slot 2*	Slot 3*	Slot 4*
Slot 5	Slot 6	Slot 7*	Slot 8*
Slot 9	Slot 10*	Slot 11*	Slot 12*
Slot 13*	Slot 14*	Slot 15*	Slot 16*

Figure 80: Magazine slot map

6. Scroll to the slot where you want to store the cleaning tape.

Note: If you store the cleaning tape, you must specify in which slot the tape is to be stored.

7. Press **Enter**.
The SuperLoader moves the tape to its new location.

Ejecting the Cleaning Tape

You need to eject the cleaning tape from the SuperLoader under the following conditions:

- If you do not want to store the cleaning tape in a magazine slot after manually cleaning the tape drive
- If the cleaning tape has expired

A cleaning tape cartridge can be used for 20 cleanings.

To eject a cleaning tape:

1. On the main menu, scroll to **Command**.
2. Press **Enter**.
3. On the **Command** submenu, scroll to **Cleaning Tape**.
4. Press **Enter**.
5. Log in as **Operator**.
6. On the **Cleaning Tape** submenu, scroll to **Eject Cleaning Tape**.
7. Press **Enter**.

The SuperLoader ejects the cleaning tape from the mailslot.

Tape Drive Cleaning Methods

You can clean your tape drive in three ways:

- Manual Cleaning
- Auto Clean
- Software

Manual Cleaning

If neither Auto Clean nor the backup software's cleaning option are enabled and the drive requires cleaning, the SuperLoader displays a cleaning message on the LCD.



Caution: Because the cleaning cartridge is abrasive, you should not use it unless the cleaning message appears.

To clean the tape drive manually:

1. On the main menu, scroll to Command.
2. Press **Enter**.
3. On the Command submenu, scroll to Cleaning Tape.
4. Press **Enter**.
5. Log in as Operator.
6. On the Cleaning Tape submenu, scroll to Load to Drive.
7. Press **Enter**.

The SuperLoader moves the cleaning tape from its slot to the tape drive and then cleans the drive with it. When the cleaning is finished, you must return the cleaning tape to its magazine slot.

8. On the main menu, scroll to Command.
9. Press **Enter**.
10. On the Command submenu, scroll to Cleaning Tape.
11. Press **Enter**.
12. Log in as Operator.
13. On the Cleaning Tape submenu, scroll to Unload from Drive.
14. Press **Enter**.

The SuperLoader removes the cleaning tape from the tape drive.

15. When you have finished manually cleaning the tape drive, do one of the following:
 - Store it to its magazine slot (see “Storing the Cleaning Tape”).
 - Eject the cleaning tape from the SuperLoader (see “Ejecting the Cleaning Tape”).

Auto Clean

The Auto Clean function permits the SuperLoader to perform the cleaning process automatically without interrupting normal operation. The Auto Clean feature is turned off by default.

With Auto Clean enabled, the SuperLoader monitors the cleaning requirements of the tape drive. When the drive indicates a Cleaning Required status, the SuperLoader automatically removes the cleaning cartridge from its slot and inserts it into the tape drive. After completing the cleaning cycle, the SuperLoader returns the cleaning cartridge to its slot.

When Auto Clean is enabled, the SuperLoader automatically cleans the tape drive when a Cleaning Required status occurs. During the cleaning cycle, the LCD displays messages indicating the progress of the process:

- Loading Cleaning Cartridge. The SuperLoader is loading the cleaning cartridge from its magazine slot into the tape drive.
- Cleaning Drive. The cleaning cartridge is running in the tape drive.
- Unloading Cleaning Cartridge. The SuperLoader is returning the cleaning tape to its magazine slot.

Note: If you enable Auto Clean, make sure the cleaning option in your backup software is turned off.

Before you enable the AutoClean option, you must designate which slot contains the cleaning cartridge and load the cleaning cartridge into that slot. If you have not done this, the SuperLoader will not allow you to enable Auto Clean.

To set Auto Clean:

1. On the main menu, scroll to Configuration.
2. Press **Enter**.
3. On the Configuration submenu, scroll to Cleaning Tape.
4. Press **Enter**.
5. Log in as Administration.
6. On the Cleaning Tape submenu, scroll to Auto Clean On/Off.

If Auto Clean is enabled, the menu item appears as Auto Clean On. If Auto Clean is disabled, it appears as Auto Clean Off.

7. To change the setting, press the up or down scroll key once.
8. Press **Enter**.

Software

Set the cleaning option in your software application (if available) so that the software monitors drive cleaning. If your application software supports automatic cleaning, store a cleaning cartridge in the slot specified by the application.

Note: If automatic cleaning is enabled in your application software, make sure the Auto Clean option is disabled on the SuperLoader either via the LCD front panel or Web Administration.

Troubleshooting



Before Contacting Technical Support

Before you contact technical support, use the information in this chapter to try and resolve the problem.

Problems with the SuperLoader can occur in the following forms:

- Operational Problems
- Error Messages

Operational Problems

Performance problems prevent you from operating the SuperLoader. These problems can range from compatibility issues with the operating system to failure of the front panel. [Table 9](#) describes the probable cause and suggested action for each performance problem you may encounter.

Table 9: Suggested Actions for Performance Problems

Problem	Probable Cause	Suggested Action
Front Panel does not display information.	The connection to the LCD has failed.	Use the Web Administration tool to troubleshoot the error.
SuperLoader is operating slowly.	The SuperLoader is incorrectly configured for the operating system.	Go to the HP support website for compatibility requirements: http://www.hp.com
SuperLoader does not power up.	The power cord or source is malfunctioning or the SuperLoader is incorrectly configured.	Check all outlets and power cords for proper connection. Go to the HP support website for compatibility requirements: http://www.hp.com .

Error Messages

Errors can occur while operating the SuperLoader. They prevent the SuperLoader from completing a specific action. When an error occurs, two things can happen:

- No error message appears, but the SuperLoader fails to complete the action. If no message appears, you will need to call a service representative to troubleshoot the problem.
- An error message appears on the front panel or Web Administration. If an error message appears, follow the procedures listed in [Table 10](#) to try and resolve the problem.

Table 10: Error Messages

Error Message	Description	Suggested Repair
00 - 25	General software flags	<ul style="list-style-type: none"> ■ Power cycle the SuperLoader and run the Health test. ■ Check HP website for firmware updates. ■ Contact HP customer support.
26	Message Send ID error	<ul style="list-style-type: none"> ■ Check SCSI Bus cables and terminators. ■ Check host adapter. ■ Power cycle SuperLoader. Repeat checks after power cycle. ■ Contact HP customer support.
27	Message bad	<ul style="list-style-type: none"> ■ Check SCSI bus cables and terminators. ■ Check host adapter. ■ Power cycle SuperLoader. Repeat checks after power cycle. ■ Contact HP customer support.

Table 10: Error Messages

Error Message	Description	Suggested Repair
28	Message parameter bad	<ul style="list-style-type: none"> ■ Check host device driver. ■ Check host application. ■ Check SCSI bus cables and terminators. ■ Check host adapter. ■ Power cycle SuperLoader. Repeat checks after power cycle. ■ Contact HP customer support.
29	Invalid element	<ul style="list-style-type: none"> ■ Check host device driver. ■ Check host application. ■ Power cycle SuperLoader. Repeat checks after power cycle. ■ Contact HP customer support.
2A	Invalid element status	<ul style="list-style-type: none"> ■ Check host device driver. ■ Check host application. ■ Power cycle SuperLoader. Repeat checks after power cycle. ■ Contact HP customer support.
2B-2F	Firmware tables and stacks invalid	<ul style="list-style-type: none"> ■ Power cycle the SuperLoader and run the Health test. ■ Check HP website for firmware updates. ■ Contact HP customer support.
30	Post Failure	Contact HP customer support.
31 - 38	System Monitoring type events	<ul style="list-style-type: none"> ■ Power cycle the SuperLoader and run the Health test. ■ Check HP website for firmware updates. ■ Contact HP customer support.
39	Offline	No action required
3A	Door locked	No action required

Table 10: Error Messages

Error Message	Description	Suggested Repair
3B	Open front	<ul style="list-style-type: none"> ■ Install magazine or magazine blank ■ Replace magazine or magazine blank (try a second one if possible). ■ Contact HP customer support.
3C	Over temp	<ul style="list-style-type: none"> ■ Verify that room temperature is within specifications. ■ Clear debris from any openings of the SuperLoader, both in the front and the back. ■ Verify that both fans are working. If fans are bad, contact HP customer support.
3D	Drive error	Contact authorized service representative.
3E	Load error	<ul style="list-style-type: none"> ■ Verify cartridge does not have labels or other matter placed anywhere on the cartridge except where labels are expected to be placed. ■ Try to load a different piece of media. If multiple pieces of media fail, contact HP customer support.
3F	Unload error	<ul style="list-style-type: none"> ■ Verify cartridge does not have labels or other matter placed anywhere on the cartridge except where labels are expected to be placed. ■ Try to load a different piece of media. If multiple pieces of media fail, contact HP customer support.
60 - 69	Internal communication events	No action required.
A0 - A4	Picker servo errors	<ul style="list-style-type: none"> ■ Run Picker test. ■ Run Health test. ■ If problem continues, power cycle the SuperLoader. Repeat tests after power cycle. ■ Contact HP customer support.

Table 10: Error Messages

Error Message	Description	Suggested Repair
A5	Source element empty	<ul style="list-style-type: none"> ■ Verify that the expected source really does have a cartridge. ■ Run the Health test. ■ If the source is a magazine, replace the cartridge in that slot with a different cartridge and try again. If error continues, replace the magazine. ■ If source is the tape drive, verify the tape drive has a cartridge and it was ejected. ■ Power cycle the SuperLoader. ■ If error continues, contact HP customer support.
A6	Source magazine missing	<ul style="list-style-type: none"> ■ Verify the magazine is installed correctly into the SuperLoader. ■ Remove and insert the magazine again. ■ Run the Health test. ■ Try a second magazine if possible. ■ Power cycle the SuperLoader. ■ Replace the magazine. ■ Contact HP customer support.
A7	Destination magazine missing	<ul style="list-style-type: none"> ■ Verify the magazine is installed correctly into the SuperLoader. ■ Remove and insert the magazine again. ■ Run the Health test. ■ Try a second magazine if possible. ■ Power cycle the SuperLoader. ■ Replace the magazine. ■ Contact HP customer support.

Table 10: Error Messages

Error Message	Description	Suggested Repair
A8	Destination element full	<ul style="list-style-type: none"> ■ Verify the expected destination really does not have a cartridge. ■ Set the SuperLoader to Home using Web Administration, Command page ■ Run the Health test. ■ If destination is a magazine, install and remove a cartridge from the selected slot and try again. If error continues, replace the magazine. ■ If destination is the tape drive verify the tape drive does not have a cartridge. ■ Power cycle the SuperLoader. ■ If error continues, contact HP customer support.
A9	Picker full	<ul style="list-style-type: none"> ■ Look in the front of the SuperLoader and confirm the picker is full. ■ Set the SuperLoader to Home using Web Administration, Command page ■ Run the Health test. ■ Power cycle the SuperLoader. ■ Contact HP customer support if the problem continues and prevents normal operations.
AA	Picker cartridge sensor error	<ul style="list-style-type: none"> ■ Perform calibration and confirm calibration successful. ■ Perform the Health test. ■ If problem prevents the test from running, contact HP customer support.
AB	Drive path sensor error	<ul style="list-style-type: none"> ■ Run the Health test. ■ Power cycle the SuperLoader. ■ Contact HP customer support.

Table 10: Error Messages

Error Message	Description	Suggested Repair
AC	Mail slot door sensor error	<ul style="list-style-type: none"> ■ Insert a cartridge into the SuperLoader via the mail slot. ■ Power cycle the SuperLoader. ■ Contact HP customer support.
AD	Mail slot solenoid error	<ul style="list-style-type: none"> ■ Insert a cartridge into the SuperLoader via the mail slot. ■ Power cycle the SuperLoader. ■ Contact HP customer support.
AE	Unknown servo error	<ul style="list-style-type: none"> ■ Run the Health test. ■ Contact HP customer support.
AF	Error log information event	No action required.
BO - BF	Error events related to the picker not rotating or translating correctly.	<ul style="list-style-type: none"> ■ Run the Picker test. ■ Run the Health test. ■ Power cycle the SuperLoader. ■ Contact HP customer support.
C0	Unknown motor error	<ul style="list-style-type: none"> ■ Run calibration test. ■ Run the Health test. ■ Power cycle the SuperLoader. ■ Contact HP customer support.
D0	Magazine solenoid bad	<ul style="list-style-type: none"> ■ Remove and insert each magazine. ■ Power cycle the SuperLoader. ■ Contact HP customer support.
D1	Magazine present sensor bad	<ul style="list-style-type: none"> ■ Remove and insert each magazine. ■ Power cycle the SuperLoader. ■ Contact HP customer support.

Table 10: Error Messages

Error Message	Description	Suggested Repair
D2 - D4	Position sensor bad	<ul style="list-style-type: none"> ■ Remove and insert each magazine. ■ Try a different magazine, if possible. ■ Power cycle the SuperLoader. ■ Contact HP customer support.
D5 - DE	Cartridge flags located on the magazine may be bad or the sensor to detect the flags may have a problem	<ul style="list-style-type: none"> ■ Remove and insert each magazine. ■ Try a different magazine, if possible. ■ Power cycle the SuperLoader. ■ Contact HP customer support.
DF	Jammed cartridge	<ul style="list-style-type: none"> ■ Look through the mail slot door and verify a cartridge is jammed. If a cartridge is jammed, power cycle the SuperLoader. ■ If a cartridge is still jammed, power down and unplug the SuperLoader. Remove the opposite magazine that is jammed. Carefully try to push the cartridge forward into the magazine slot. There may be a need to slightly rotate the picker to get the cartridge to move forward. Power back up, install the removed magazine and run the Health test. ■ If the cartridge cannot be unjammed, remove the SCSI, Ethernet, and power cables from the SuperLoader and remove the SuperLoader from the cabinet. With the SuperLoader resting flat on a table, remove the top cover and slide or remove the jammed cartridge. Reassemble the SuperLoader and prior to reinstalling the SuperLoader in the cabinet, run the Health test from the front panel. ■ If the same cartridge jams, remove it from the system as a bad cartridge. Verify there are no foreign labels or stickers on the cartridge. ■ If the SuperLoader always jams going to or from the same magazine, replace the magazine. ■ If jam is random, contact HP customer support.

If you still have a question after reading this guide, see “Getting Help,” in the preface.

Diagnostic Tests

Table 11 lists the diagnostic tests.

Table 11: Diagnostic Tests

Test	Description
Halt	Cancels any currently running test.
Self	<ul style="list-style-type: none"> ■ Checks the ability of the picker to properly rotate and translate. ■ Verifies that installed magazines function correctly.
Health	<ul style="list-style-type: none"> ■ Verifies picker movement. ■ Verifies magazine movement. ■ Updates inventory. ■ Verifies ability to move cartridge to and from each magazine element. ■ Verifies drive communication and ability to move a cartridge to and from the drive. ■ Verifies that a cartridge can be moved to and from the mail slot.
Picker	<ul style="list-style-type: none"> ■ Performs a full picker translation calibration. ■ Performs a full picker rotation calibration.
Magazine	<ul style="list-style-type: none"> ■ Performs left and right magazine calibration. ■ Verifies successful slot movement.
Inventory	Takes a snapshot of the current labels recorded for each cartridge present, then performs an inventory and compares the new results to the snapshot.
Drive Read/Write	Performs a write of two full tracks of data followed by a read and if the drive is capable performs a compare on the data. Verifies the write/read statistics to determine if there is a write or read problem with the drive.

Regulatory Compliance Notices



Federal Communications Commission Notice

Part 15 of the Federal Communications Commission (FCC) Rules and Regulations has established Radio Frequency (RF) emission limits to provide an interference-free radio frequency spectrum. Many electronic devices, including computers, generate RF energy incidental to their intended function and are, therefore, covered by these rules. These rules place computers and related peripheral devices into two classes, A and B, depending upon their intended installation. Class A devices are those that may reasonably be expected to be installed in a business or commercial environment. Class B devices are those that may reasonably be expected to be installed in a residential environment (i.e., personal computers). The FCC requires devices in both classes to bear a label indicating the interference potential of the device as well as additional operating instructions for the user.

The rating label on the device shows which class (A or B) the equipment falls into. Class B devices have an FCC logo or FCC ID on the label. Class A devices do not have an FCC logo or FCC ID on the label. Once the class of the device is determined, refer to the following corresponding statement.

Class A Equipment

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at personal expense.

Class B Equipment

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Hewlett-Packard Company may void the user's authority to operate the equipment.

Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods in order to maintain compliance with FCC Rules and Regulations.

Declaration of Conformity for products marked with the FCC logo - United States only

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions regarding your product, contact:

Hewlett-Packard Company
P. O. Box 692000, Mail Stop 530113
Houston, Texas 77269-2000

Or, call

1-800- 652-6672

For questions regarding this FCC declaration, contact:

Hewlett-Packard Company
P. O. Box 692000, Mail Stop 510101
Houston, Texas 77269-2000

Or, call

(281) 514-3333

To identify this product, refer to the Part, Series, or Model number found on the product.

Canadian Notice (Avis Canadien)

Class A Equipment

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Class B Equipment

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Union Notice



Products bearing the CE marking comply with the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community and if this product has telecommunication functionality, the R&TTE Directive (1999/5/EC).

Compliance with these directives implies conformity to the following European Norms (in parentheses are the equivalent international standards and regulations):

- EN 55022 (CISPR 22) - Electromagnetic Interference
- EN55024 (IEC61000-4-2, 3, 4, 5, 6, 8, 11) - Electromagnetic Immunity
- EN61000-3-2 (IEC61000-3-2) - Power Line Harmonics
- EN61000-3-3 (IEC61000-3-3) - Power Line Flicker
- EN 60950 (IEC 60950) - Product Safety

Taiwan Notice

警告使用者：

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

Japanese Notice

ご使用になっている装置にVCCIマークが付いていましたら、次の説明文をお読み下さい。

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

VCCIマークが付いていない場合には、次の点にご注意下さい。

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Electrostatic Discharge



B

To prevent damage to the system, be aware of the precautions you need to follow when setting up the system or handling parts. A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the device.

To prevent electrostatic damage, observe the following precautions:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly.

Grounding Methods

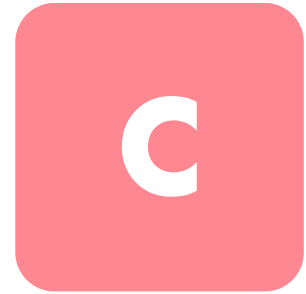
There are several methods for grounding. Use one or more of the following methods when handling or installing electrostatic-sensitive parts:

- Use a wrist strap connected by a ground cord to a grounded workstation or computer chassis. Wrist straps are flexible straps with a minimum of 1 megohm \pm 10 percent resistance in the ground cords. To provide proper grounding, wear the strap snug against the skin.
- Use heel straps, toe straps, or boot straps at standing workstations. Wear the straps on both feet when standing on conductive floors or dissipating floor mats.
- Use conductive field service tools.
- Use a portable field service kit with a folding static-dissipating work mat.

If you do not have any of the suggested equipment for proper grounding, have an authorized reseller install the part.

Note: For more information on static electricity, or for assistance with product installation, contact your authorized reseller.

Specifications



Physical Specifications

Table 12: Physical Specifications

Height	3.5 inches (8.89 cm)
Width	17.6 inches (44.70 cm)
Length	27.67 inches (70.28 cm)
Weight (without media)	50 lb (22.68 kg)

Performance Specifications

Table 13: Performance Specifications

Initialize element status	90 seconds (typical)
Mean cartridge cycle time	20 seconds
Mean cartridge load time	10 seconds
Avg load time (after placing cartridge in drive)	59 seconds (typical)
Max transfer rate	3 MB/sec (native)
Storage Capacity (DLT1)	1280 GB (compressed) Note: Assumes typical 2:1 compression of data. Actual compression may vary, depending on type of data being backed up.

Power Specifications

Table 14: Power Specifications

Line Voltage	60 Hz system: 90 to 265 VAC; 50 Hz system: 90 to 135 VAC
Line frequency	47 Hz to 63 Hz
AC input current	60 Hz system: 6.0A (RMS) for 115VAC; 50 Hz system: 3.0 A (RMS) for 230VAC
Power consumption	60 Hz system: 75W; 50 Hz system: 80W
Line discontinuities: Voltage surges	+/- 500 volts at nominal line voltage Pulse width: 100 ns Rise Time: 5 ns Repetition Rate: 1 Hz Common and differential mode, positive and negative polarity
Line Discontinuities Voltage spikes	+/- 1.5 kV at nominal line voltage Pulse Width: 1 microsecond Rise Time: 25 ns Repetition rate: 1 Hz Common and differential mode, positive and negative polarity

Environmental Specifications

Table 15: Environmental Specifications

Temperature Range (Dry Bulb)	
Operating	+10°C to +35°C (+50°F to +95°F)
Non-operating	- 40°C to + 65° (-40°F to +149°F)
Temperature Variation	
Operating	10°C (50°F) per hour
Non-Operating	20°C (68°F) per hour
Humidity	
Operating	20% to 80% non-condensing
Non-Operating	10% to 90% non-condensing
Gradient	10% per hour
Wet Bulb	
Operating	26°C (78.8°F) max
Non-Operating	29°C (84.2°F) max
Altitude	
Operating	-500 to 10,000 feet (-152 to 3,048 meters)
Non-Operating	-500 to 30,000 feet (-152 to 9,144 meters)

Acoustic and Noise Limits

Table 16: Acoustic and Noise Limits

Specification	Operating	Storage or Non-operating	Transportation
Acoustics	Idle: not to exceed 55 dbA Full operation: not to exceed 60 dBA	N/A	N/A

Upgrading/Replacing CRUs



This appendix describes how to upgrade and replace Customer Replaceable Units (CRUs).

These following components are defined as CRUs and are replaceable in the field by the customer or by a field technician:

- Drive carrier assembly (DCA)
- Barcode reader

Replacing a DCA

If you replace or upgrade your SuperLoader's DCA, you do not need to reconfigure the settings for the DCA or for the SCSI bus.

You will need a Phillips screwdriver to replace a DCA.

Removing a DCA

Before you replace the SuperLoader DCA, you must turn off power to the SuperLoader and disconnect the power and SCSI cables from the back of the DCA. You must also make sure the tape drive does not contain a cartridge.

To unload a tape from the tape drive, see “Move a Single Cartridge” or “Eject a Single Cartridge” in Chapter 4.

If the SuperLoader needs to remain powered on when you are replacing the drive, you need to check that the backup software supports this feature.



Caution: The DCA contains electronic sensitive components. Be sure to wear your wrist ground strap whenever handling the DCA.

To remove the DCA:

1. Power off the SuperLoader.
2. Disconnect all cords and cables from the back of the DCA.
3. Remove the four screws anchoring the DCA to the chassis.

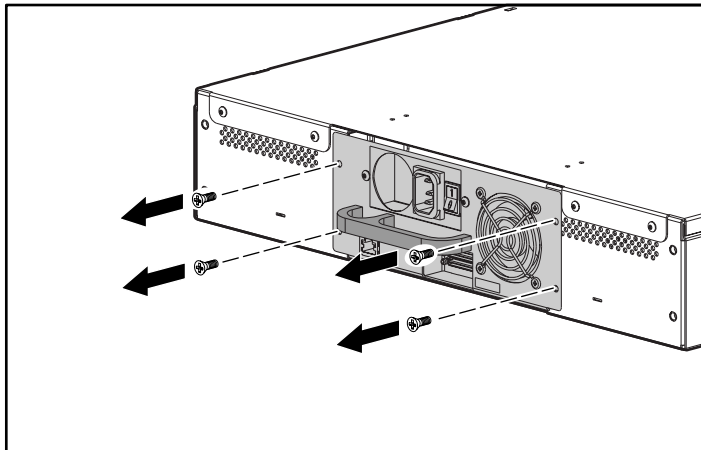


Figure 81: Removing the screws on the rear of the chassis

4. With one hand, grasp the DCA handle and slide it backward to remove. Place your other hand under the DCA to support it and prevent it from falling.

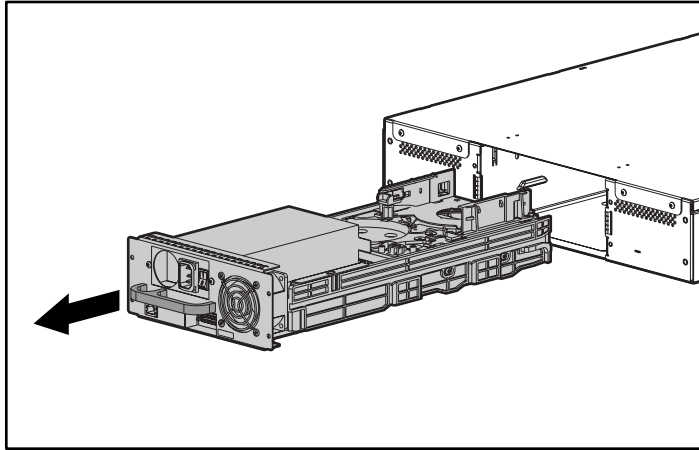


Figure 82: Removing the DCA



Caution: Avoid touching the exposed board on the bottom of the DCA.

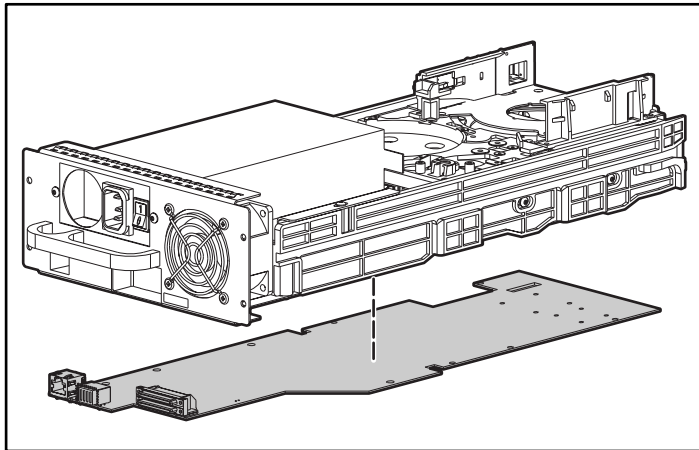


Figure 83: Board on the bottom of the DCA

Installing a DCA

To install a DCA:

1. Put on ground wrist strap and connect to appropriate ground.
2. Grasp the DCA by the handle with one hand and support it underneath with the other hand.



Caution: Avoid touching the exposed PCBA on the bottom of the DCA.

3. Slide the DCA into the DCA bay ❶. Make sure you position DCA correctly; it should slide smoothly.

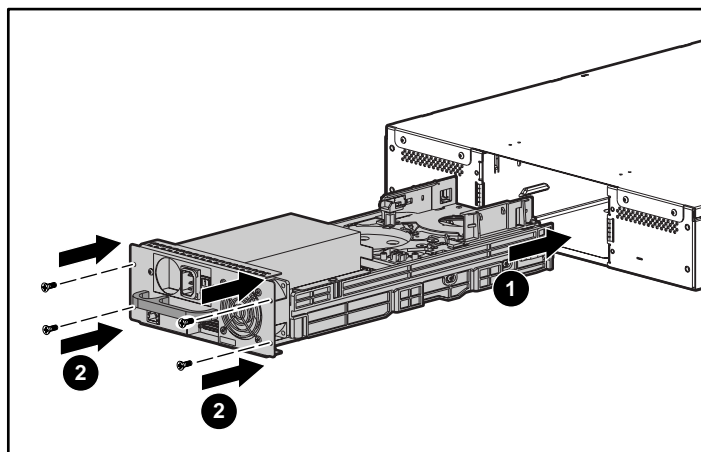


Figure 84: Installing the DCA

4. Install the four screws that secure the DCA to the chassis ❷. Tighten firmly.
5. Make sure the power switch on the back of the DCA is off (the 0 is pressed), then connect the power cord and SCSI cable.
6. On the power switch on the back of the DCA, press the 1 to power on the SuperLoader.

Installing a Barcode Reader

To install a barcode reader, you will need a #1 Phillips screwdriver.



WARNING: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

To install a barcode reader:

1. Remove the magazine or magazine blank in the right magazine bay.
2. Power off the SuperLoader.
3. Remove the top cover of the SuperLoader. There are four screws in the back and two screws in the front.
4. In the barcode reader bay on top of the picker, a plastic blank protects the electronics. Loosen the screw attached to the blank.

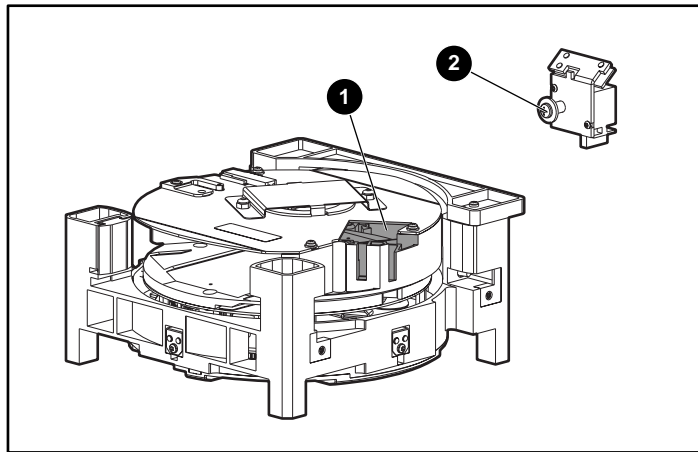


Figure 85: Barcode reader bay location and screw

5. Pull straight up on blank to remove, then discard it.

6. In the barcode reader bay, there is a small flex cable. Pull the flex cable up gently to straighten it.

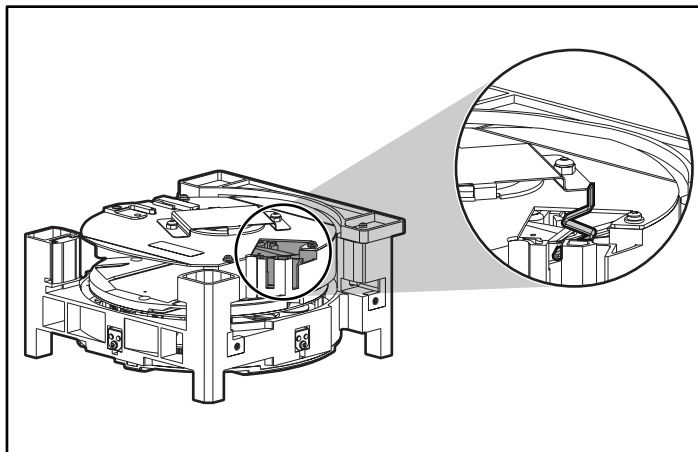


Figure 86: barcode reader bay and flex cable

7. Remove the barcode reader from its packaging.



Caution: Do not touch the mirror on the barcode reader. Touching the mirror can cause the reader to malfunction.

8. On the barcode reader, carefully extend the strain relief mechanism on the ZIF connector.

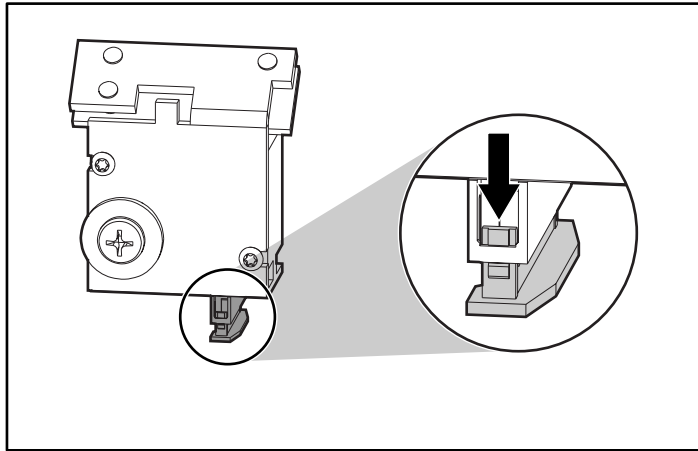


Figure 87: barcode reader ZIF connector and strain relief mechanism

9. Seat the end of the flex cable into the ZIF connector as far as it will go. The top of the cable must face the top of the barcode reader.

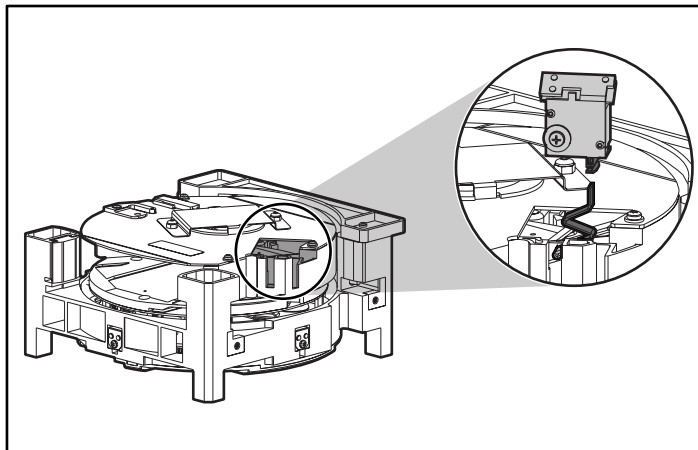


Figure 88: Flex cable and barcode reader, showing the correct orientation

10. Tighten strain relief mechanism on ZIF connector.

11. Slide the barcode reader all the way into its bay. Make sure the washer on the attached screw is on the outside of the bay.

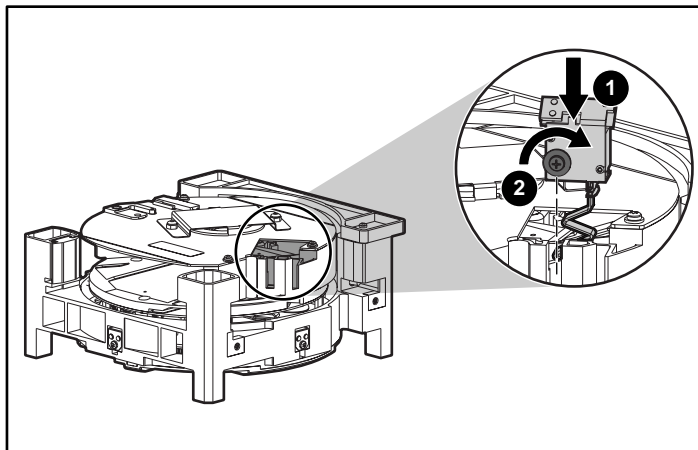


Figure 89: Barcode reader being inserted correctly into bay

12. Tighten screw until secure, being careful not to overtighten.
 13. Replace top cover on SuperLoader.
 14. Power on the SuperLoader.
- The SuperLoader automatically detects the presence of the barcode reader.

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