Hewlett Packard Enterprise HPE Support Center

HPE StoreEver 1/8 G2 Tape Autoloaders - Operating

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Overview

This document provides information about the various procedures used to operate the HPE StoreEver 1/8 G2 Tape Autoloader.

The Tape Autoloader can be operated by the following methods:

- **Remote management interface** (**RMI**): This interface allows monitoring and controlling the Autoloader from a web page. The device's network settings must be configured and the administrator password set to use the RMI. Most Autoloader functions can be accessed from the RMI.
- **Operator control panel** (**OCP**): This interface allows operating the device from the front panel.
- **Host backup software**: The SCSI bus connects the device to the host server and the backup software. Any functions can be provided by the backup software.

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Remote management interface (RMI)

The remote management interface (RMI) allows monitoring and controlling the device from any terminal connected to the network or through the World Wide Web (WWW). The RMI hosts a dedicated, protected Internet site that displays a graphical representation of the device.

Before using the RMI, the device's networking must be configured and the administrator password must be set with the Operator control panel (OCP).

To start the RMI, open any HTML browser and enter the IP address of the device in the browser's address bar.

The following functions are available through the remote management interface:

- **Identity**
  - Viewing static device information
  - Viewing static drive information

- **Status**
  - Viewing dynamic device information
  - Viewing dynamic drive information
  - Viewing the tape cartridge inventory
- **Configuration**
  - Changing the system configuration
  - Changing the drive configuration
  - Changing the network configuration
  - Changing the administrative password
  - Setting date/time
  - Setting error log mode
  - Setting event notification parameters
  - Restoring factory defaults
- **Operations**
  - Moving media
  - Updating the current media inventory
  - Releasing and replacing the magazines
- **Support**
- **Performing general diagnostics**
- **HP Service -Service restricted**
- **Determining and updating firmware**
- **Rebooting the device**
- **Viewing logs**
- **Cleaning tape drive**
- **Downloading a support ticket**

Login

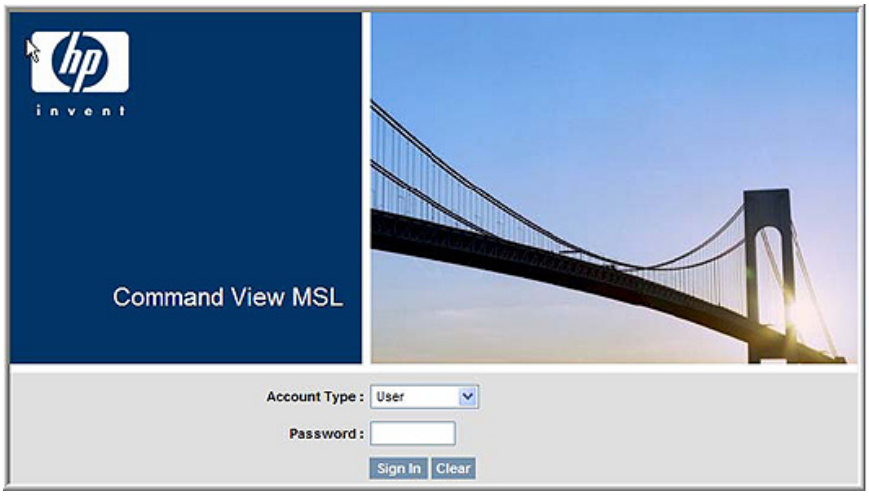
To login, select the access type. The access types are:

- User: No password required (leave the password box blank).
- Administrator
- Service: Access to this level is by Service personnel only.

For the administrator and Service types, a password must be entered. The same passwords are used for the OCP and RMI (see Figure 1).

User level provides access to the Identity and Status options, but not the Configuration, Operations, and Support options. Administrator level provides access to all options except for the HP Service screen.

Figure 1: RMI login page

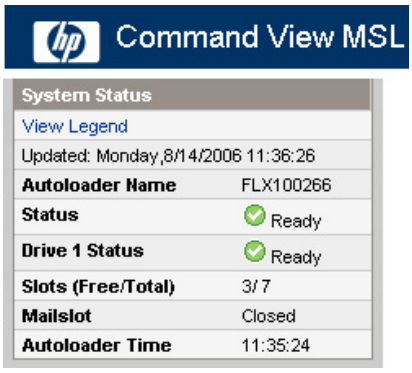


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Status pane

The System Status pane (see Figure 2) shows the current device and drive status.

Figure 2: System Status pane



Status	Description
Status Ok	The green **Status Ok** icon indicates that the device is fully operational and that no user intervention is required.
Status Warning	The blue exclamation point for **Status Warning** indicates that user intervention is necessary, but that the device is still capable of performing operations.
Status Error	The red **X Status Error** indicates that user intervention is required and that the device is not capable of performing operations.

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Getting help

For additional information about fields on the RMI screens, click on **Help** in the upper right corner (see *Help button*). The help pages are updated with most firmware updates and often contain technical details that are not contained in this document.

Figure 3: Help button



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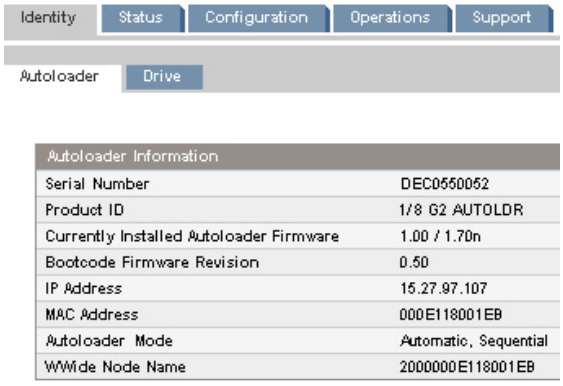
Identity

Viewing static device information

The **Identity: Autoloader** page provides static information about the device. The following can be viewed, but not modified:

- Serial Number
- Product ID
- Currently Installed Autoloader Firmware
- Bootcode Firmware Revision
- IP Address
- MAC Address
- Autoloader Mode
- WWide Node Name

Figure 4: Identity: Autoloader page

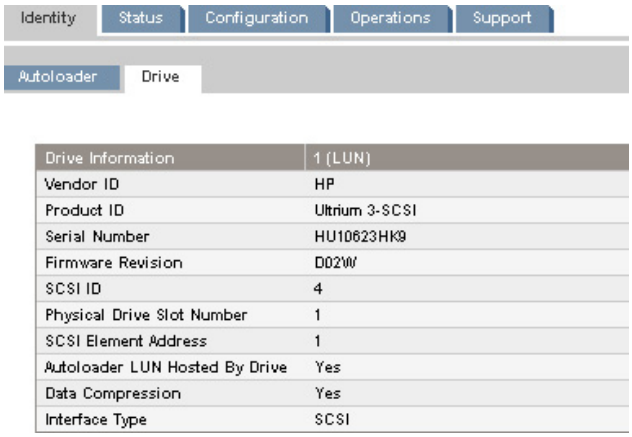


Viewing static drive information

The **Identity: Drive** page provides detailed information about the tape drive. The following can be viewed, but not modified:

- Vendor ID
- Product ID
- Serial Number
- Firmware Revision
- SCSI ID
- Physical Drive Slot Number
- SCSI Element Address
- Autoloader LUN Hosted by Drive
- Data Compression
- Interface Type

Figure 5: Identity: Drive page



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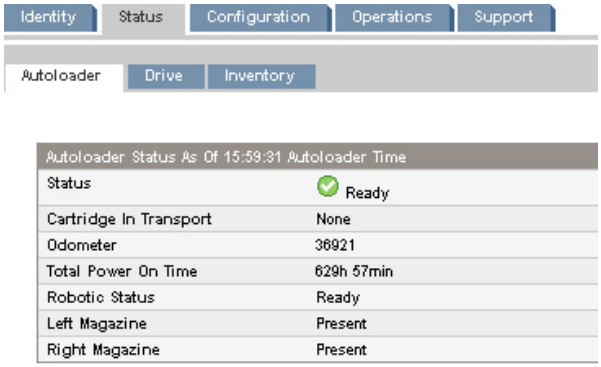
Status

Viewing dynamic device information

The **Status: Autoloader** page displays dynamic information about the device. The following can be viewed, but not modified:

- Status
- Cartridge in Transport
- Odometer
- Total Power On Time
- Robotic Status
- Left Magazine
- Right Magazine

Figure 6: Status: Autoloader page

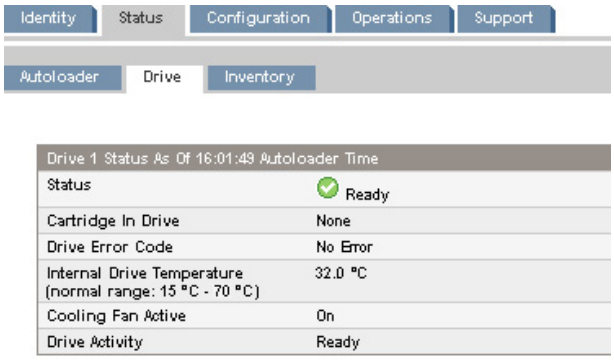


Viewing dynamic drive information

The **Status: Drive** page provides detailed information about the tape drive in the Autoloader. The following can be viewed, but not modified:

- Status
- Cartridge in Drive
- Drive Error Code
- Internal Drive Temperature. The normal temperature range varies depending on the type of tape drive. The Drive page will display the normal range for this tape drive.
- Cooling Fan Active
- Drive Activity

Figure 7: Status: Drive page



Viewing the tape cartridge inventory

The **Status: Inventory** page provides detailed information about the tape in the tape drive, with a summary of tapes in magazine slots.

To get detailed information about the tapes in a magazine, click on the **+** button to expand the display for the magazine.

Figure 8: Status: Inventory page

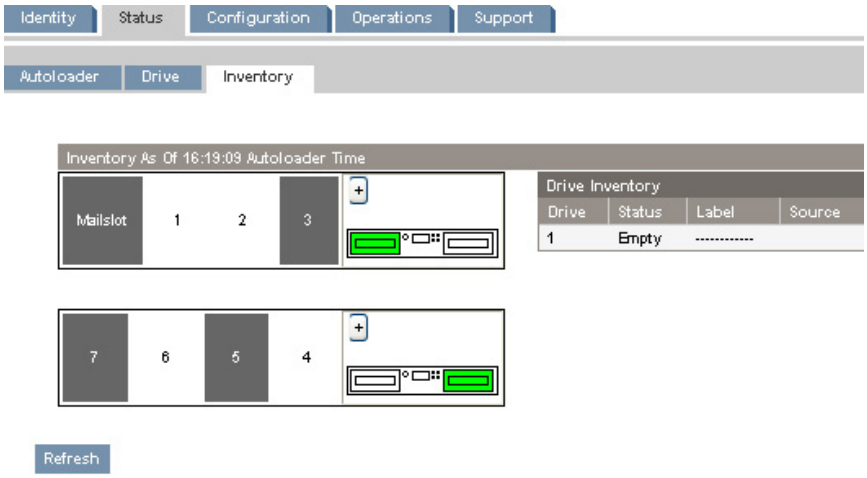
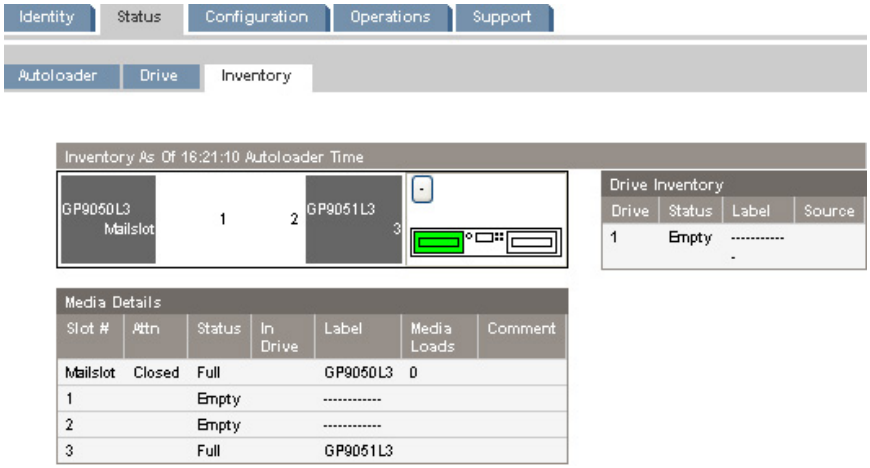


Figure 9: Inventory: Media details



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Configuration

Changing the system configuration

System configuration changes are only applied after the Apply Selections or the Submit button is selected. After making the selection, a warning page informs of the impact of the proposed change. In some cases a pop-up screen confirms the change. Many changes also require the device to reboot.

A list of changes that can be made are:

- Autoloader Name
- Autoloader LUN Hosted by Drive: Will always be 1 because the Autoloader only has one tape drive.
- Autoloader Mode: Random, Sequential, Automatic, Autoload, Loop

  The Autoloader supports three behavior modes: Random, Sequential, and Automatic. The Autoloader automatically detects the required mode from the series of SCSI commands it receives; however, the mode can also be changed. Choose the operating mode based on the capabilities of the software controlling the tape cartridges.

  Random mode: Random mode is used with a full featured or a robotics-aware backup application. This is the most common mode of operation. In Random mode, the device does not automatically load tapes into the drive; it waits for commands from the software. The backup software must support robotics, which may require an additional software module.

  Sequential mode: Sequential mode is used when the backup software is NOT robotics-aware or was designed for standalone drives only. In Sequential mode, the device automatically loads and unloads tapes from the drive. The operator determines a tape to load by loading the desired tape into the tape drive.

  When a tape is full or unloaded for any reason, the device automatically removes the tape from the drive, puts it in its original slot, then loads the tape from the next available higher numbered slot.

  To further determine how tapes should be loaded into the tape drive while in Sequential mode, the **Loop** and **Autoload** options can be set from the operator control panel.

  - When **Autoload** mode is on, the device automatically loads the cartridge from the lowest-numbered full slot into the tape drive. It then follows standard sequential operation.
  - When **Loop** mode is on, the original first cartridge in the sequence is reloaded after the device has cycled through all available cartridges. If Loop mode is off and the last cartridge has been unloaded, the device stops loading cartridges until another is manually loaded.

    CAUTION: Use caution when choosing Loop mode because it makes it possible to overwrite data on previously written cartridges.

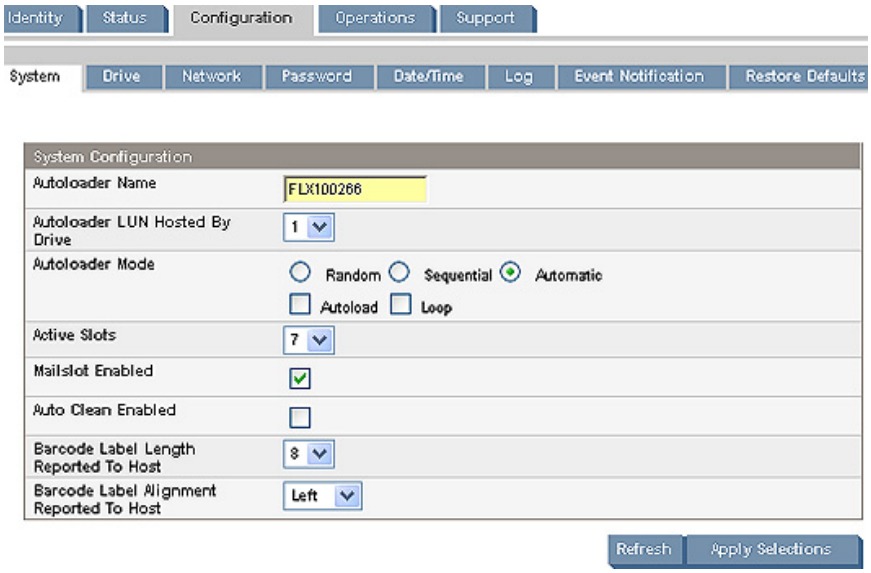
  Automatic mode: The default setting is Automatic mode, which allows the device to switch between Random and Sequential modes depending on the SCSI command received. The device stays in Sequential mode until it detects certain SCSI commands which put it in to Random mode.
- **Active Slots**: The number of slots that are available to the backup software. If the mailslot is enabled, the maximum number of Active Slots is reduced by one. A cleaning tape or a data tape can be kept in the device to reduce the number of Active Slots accordingly. The slots are inactivated from the highest slot number down.
- Mailslot Enabled
- Auto Clean Enabled: When Auto Clean is enabled, the device will clean the tape drive when necessary. Ensure that a cleaning tape is in the device before enabling auto clean.

  With auto clean, the tape drive tells the Autoloader when it needs to be cleaned. The Autoloader will load a cleaning tape into the tape drive. The Autoloader can use a cleaning cartridge from any slot, even if the slot is reserved. When multiple cleaning tapes are available, the Autoloader will first choose a new cleaning cartridge

to start its usage status. If all cleaning tapes have been used, the Autoloader will use the one with the highest usage count.

- Bar code Label Length Reported to Host
- Bar code Label Alignment Reported to Host

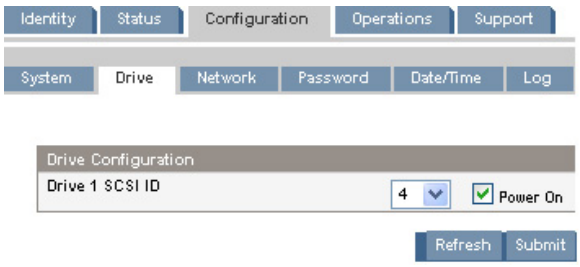
Figure 10: Configuration: System page



Changing the drive configuration

Use the **Configuration: Drive** page to change the tape drive's SCSI ID and power the tape drive off or on.

Figure 11: Configuration: Drive page



Changing the network configuration

Use the **Configuration: Network** page to see and modify the current network configuration. When a change is requested, a pop-up box will confirm the changes.

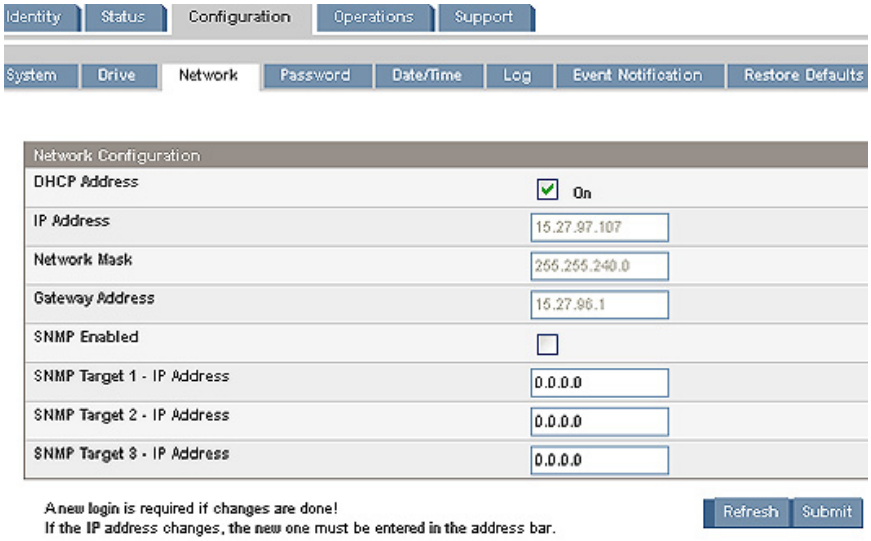
From this page, configuring and enabling SNMP (Simple Network Management Protocol), which allows applications such as HP Systems Insight Manager to manage the device. The device supports both SNMP configuration and SNMP tags. SNMP can only be configured with the RMI; it cannot be configured with the OCP.

The device uses the HP NetCitizen MIB, which is supported by HP Systems Insight Manager (SIM) and many other applications. When using HP SIM, the device can be detected automatically if SIM detection is configured. With HP SIM 5.0 SP5, the device will be configured as a generic host and can be identified manually. Future versions of HP SIM will automatically identify the device.

The following can be modified:

- DHCP Address: When On, the device will get an IP address from a DHCP server each time the device is booted.
- IP Address
- Network Mask
- Gateway Address
- SNMP Enabled
- SNMP Target IP Address.

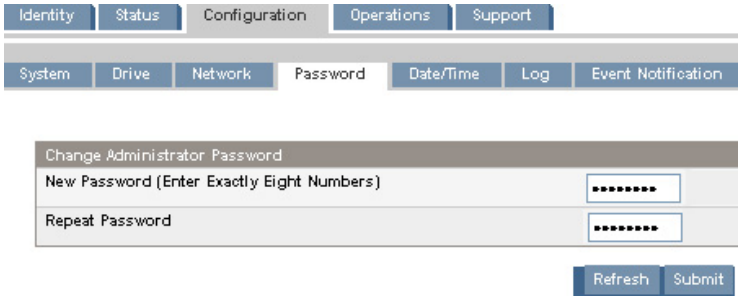
Figure 12: Configuration: Network page



Changing the administrator password

Use the **Configuration: Password** page to change the administrator password for the RMI and OCP. The password is exactly eight numbers, each between 0 and 9.

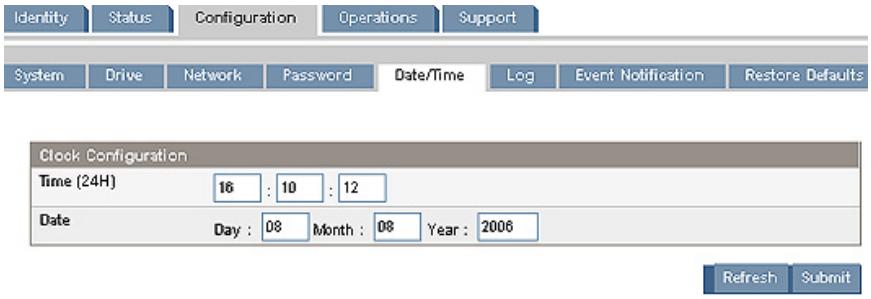
Figure 13: Configuration: Password page



Setting the date and time

Use the **Configuration: Date/Time** page to set the date and time. The time is based on a 24–hour clock, where 1:00 pm is 13:00.

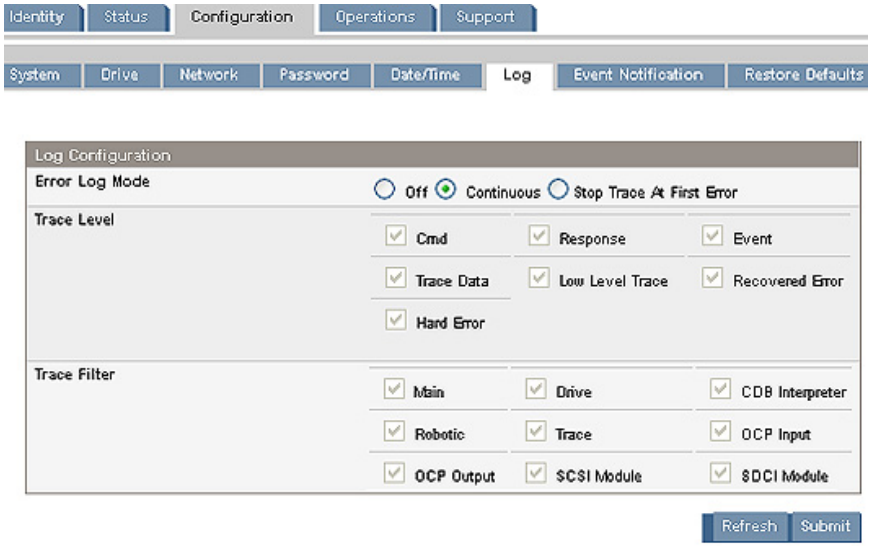
Figure 14: Configuration: Date/Time page



Setting error log mode

Use the **Configuration: Log** page to set the error log mode to **Off**, **Continuous**or to **Stop Trace at First Error**.

Figure 15: Configuration: Log page



NOTE: The trace level and trace filter selection options can only be changed by Service personnel.

Setting event notification parameters

Use the Configuration: Event notification page to configure the following event notification boxes:

- Notify Errors
- Notify Warnings
- To Email Address
- Email Domain
- SMTP Server Address

Figure 16: Configuration: Event notification page

Restoring factory defaults

Use the **Configuration: Restore defaults** page to restore the configuration to the factory defaults.

Figure 17: Configuration: Restore defaults page

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Operations

CAUTION: Some options of the RMI take the device offline. This inactive mode can interfere with host-based application software, causing data loss. Ensure that the device is idle before attempting to perform any remote operations that take it offline.

Moving media

Use the **Operations: Move Media** page to move tape cartridges within the device. Select the source anddestination and then click the **Move** button in the center of the screen to start the move.

The mailslot can be opened and the magazines can be released from this page.

Figure 18: Operations: Move Media page

Updating the current media inventory

Use the **Operations: Inventory** page to have the device re-scan the tapes to update the media inventory.

Figure 19: Operations: Inventory page

Releasing and replacing the magazines

Use the **Operations: Magazine** page to release the right or left magazine. When you click **Release**, the device will unlock the magazine and display **Left Magazine Unlocked** or **Right Magazine Unlocked** on the OCP screen. The magazine does not move until it is pulled out of the device. If the magazine is not removed within a few seconds, the device will lock it. When the magazine is replaced, the device will inventory the magazine's tape cartridges.

Figure 20: Operations: Magazines page

NOTE: To manually release a magazine, see the **Releasing the magazines manually** section in Tape Cartridges and Magazines . However, this manual process should only be used if the magazine cannot be released using the operator control panel or the remote management interface.

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Support

CAUTION: Some options of the RMI take the device offline. This inactive mode can interfere with host-based application software, causing data loss. Ensure that the device is idle before attempting to perform any remote operations that take it offline.

Performing general diagnostics

Use the **Support: General Diagnostic** page to run general tests to verify the usability and reliability of the device. Select the test and enter the number of test cycles before starting the test. To cancel the test early, click on the Stop button.

Figure 21: Support: General Diagnostic page

HP Service - Service restricted

The **Support: HP Service** page can only be accessed by service personnel to execute detailed tests on the different components of the device or special read/write diagnostics on the drives.

Figure 22: Support: HP Service page

Determining and updating firmware

Use the **Support: Firmware** page to see the current version of the device and drive firmware, and upload new firmware. After the firmware is updated, the device or tape drive with updated firmware is reset.

CAUTION: Do not interrupt the device while a firmware update is in progress. Updating the tape drive firmware can take several minutes because the firmware is transferred through a serial connection.

Figure 23: Support: Firmware page

Rebooting the device

Use the **Support: Reboot** page to reboot the device. The RMI web page will refresh itself after a short time delay. This time should be sufficient to reload the page. However, during a reboot, the connection to the device may be lost. If the connection is lost, reload the page manually.

Figure 24: Support: Reboot page

Viewing logs

From the **Support: Autoloader Logs** page, the Autoloader logs can be viewed. The available logs are: Error Trace, Informational Trace, Warning Trace, Configuration Change Trace, and Standard Trace.

Figure 25: Support: Autoloader Logs page

Cleaning tape drive

Use the **Support: Clean** drive page to clean the tape drive.

Figure 26: Support: Clean drive page

Downloading a support ticket

Use the **Support: Support ticket** page to download a support ticket. The support ticket can help an HP service or support engineer diagnose a device problem. The contents of the support ticket with HP Library & Tape Tools can be viewed.

Figure 27: Support: Support ticket page

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Operator control panel (OCP)

The operator control panel on the front of the device includes a 2-line by 16-character green backlit liquid crystal display (LCD), four function keys, and four LEDs. This panel provides everything required to monitor the autoloaders's status and control its functions.

The following functions are available through the OCP:

- Unlocking the mailslot
- Status/Information
  - Inventory
  - Device information
  - Drive information
  - Component status
  - Network information
- Configuration
  - Changing the administrator password
  - Setting the number of reserved slots
  - Configuring the mailslot
  - Bar code report format
  - Changing the SCSI address
  - Setting behaviors
  - Setting the date and time
  - Configuring network settings
  - Configuring automatic cleaning
- Operations
  - Unlocking, removing, and replacing magazines
  - Cleaning the tape drive
  - Moving tapes in the device
  - Updating tape cartridge inventory
  - Rebooting
  - Enabling password locks
- Support
  - Powering a drive on or off
  - Running the slot to slot test
  - Running the Wellness test
  - Running the demonstration
  - Updating firmware
  - Viewing logs
  - Downloading a support ticket
  - Forcing the drive to eject a tape

LED indicators

The operator panel includes four LEDs that provide a summary of the device status (see Figure 28).

Figure 28: LEDs

1 - (Green-Ready) Illuminated when power is on and blinking during tape drive or robotics activity
2 - (Amber-Clean) Illuminated when a cleaning cartridge should be used
3 - (Amber-Attention) Illuminated if the device has detected a condition that requires attention
4 - (Amber-Error) Illuminated if an unrecoverable error occurs. A corresponding error message displays on the LCD screen.

top

Autoloaders home screen

The first line of the Home screen displays the device's product name (see Figure 29). The second line displays a brief status message.

Figure 29: Home screen

The Drive status definitions are listed in the table below.

Drive status

Status	Definition
IDLE	Drive has a tape inserted, but there is no activity
RDY	Drive has no tape
RD	Drive is reading
WR	Drive is writing
CLN	Drive is cleaning
WARN	Drive is in a warning condition such as cleaning required
ERR	Drive is in an error condition
RWD	Drive is rewinding
SEEK	Drive is seeking

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Operator control panel buttons

The four operator control panel buttons (see Figure 30), allows traversing the OCP menu structure and enter information.

Figure 30: Operator control panel buttons

OCP Panel Buttons

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

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Understanding the menu structure

The OCP options are organized under five menus: Unlock Mailslot, Status/Information, Configuration, Operations, and Support. From the Home screen, press `Enter` to bring up the first menu item. From a menu, use the `Prev` and `Next` keys to cycle through the menus, press `Enter` to see the first option in the menu, or press `Cancel` to return to the Home screen.

From an option, use the `Prev` and `Next` keys to cycle through the options in the menu, press `Enter` to select the option, or press `Cancel` to return to the menu list.

The menu structure is shown in Figure 31.

Figure 31: Autoloaders menu tree

Authentication Levels

Authentication	Level
	Requires Admin Password
	Requires Service Password

The administrator password accesses all of the available functionality, except for the HP Service Area. A user without the administrator password has access to the **Unlock Mailslot** and **Status/Information** menus.

Entering the administrator password

Options that require a password will prompt for a password before allowing access to the restricted screens. Once entered, the administrator password does not need to be entered again unless there is no user activity for five minutes or the password lock is enabled.

The number **1** should be flashing. To enter the password, do the following:

1. From the operator control panel, locate the Prev or Next buttons. Press Prev or Next to scroll to the first number of the password.
2. Press Enter. The number selected is replaced with an asterisk (*), and the cursor proceeds to the next text box.
3. Repeat steps 1 and 2 until all eight numbers have been entered. After the last number has been entered, the screen continues to the restricted area.

NOTE: If the administrator password is forgotten, a new password cannot be entered. Contact a customer service representative.

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Unlocking the mailslot

The mailslot in the left magazine is used only with host system software that supports this feature. The mailslot feature allows inserting or removing a single tape without removing the entire magazine. The benefit of using a mailslot is that the Autoloaders will not inventory the rest of the slots in the magazine so the device can return to service sooner. The mailslot is in the left magazine.

To access the mailslot:

1. From the Home screen, press Prev or Next until the screen displays **Unlock Mailslot**. Press Enter to select.
2. The mailslot ejects automatically. Pull the magazine out until the entire mailslot can be accessed (see Figure 32).
3. The screen displays **Close Mailslot**.
4. Remove the tape cartridge from the mailslot and insert a different tape cartridge.
5. Push the magazine back into the Autoloaders.

Figure 32: Removing a tape from the mailslot

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Status/Information

The Status/Information menu provides access to the following status options:

- Inventory
- Device information
- Drive information
- Component status
- Network information

To access the Status/Information menu:

1. From the Home screen, press Prev or Next until the screen displays **Status/Information**. Press **Enter** to select.
2. Press Prev or Next until the screen displays the selected function. Press Enter to select.

Inventory

This option provides information on which slots have cartridges and which are empty. The second line on the screen displays one of:

- Full (tapes without bar code labels)
- Bar code identification from the tape
- Empty

The device has the following inventory locations:

- Mailslot
- Left magazine
- Right magazine
- Drive

Each location provides different information:

- Drive or Mailslot: The screen display may read **Mailslot AESO32L3**, where AESO32L3 is an example of the bar code number on the tape, or it may read **Full** or **Empty**.
- Left or right magazine: The screen display may read Left Magazine or Right Magazine. The second line on the display indicates which slots have a tape or are empty. Slots in the left magazine are numbered 1-4 or 1-3, and slots in the right magazine are numbered 5-8 or 4-7. Each slot is represented by a character, as shown in the table below.

Display indication definitions

Character displayed	Definition
X	Slot has a tape
-	Slot is empty
m	Mailslot is enabled but does not have a tape
M	Mailslot has a tape
C	Slot has a cleaning tape
!	Media needs attention, often as a result of a damaged or incompatible cartridge

NOTE: If the mailslot is enabled, the storage slot count is reduced.

To view more details about the contents of each slot, press `Enter` when the screen displays either `Left Magazine` or `Right Magazine`.

To view the tape inventory:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Status/Information**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Inventory**. Press `Enter` to select.
3. By using `Prev` or `Next`, the following inventory locations can be selected:
   - Left magazine - includes the mailslot
   - Right magazine
   - Drive
4. Select **Left** or **Right Magazine**. The OCP will display the contents of the lowest numbered slot in the magazine. The display will show the tape bar code number, **Full** or **Empty**.
5. Use `Prev` or `Next` to scroll through the remaining slots in the magazine. Press `Cancel` to choose another inventory location.
6. Press `Prev` or `Next` until the screen displays **Drive**. Press `Enter` to select. The OCP will show the tape bar code number, **Full** or **Empty**.

Autoloaders information

To obtain information about the Autoloaders:

1. From the Home screen press `Prev` or `Next` until the screen displays **Status/Information**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Autoloaders Information**. Press `Enter` to select.
3. By using `Prev` or `Next`, the following information screens can be selected:
   - Autoloaders Time
   - Firmware rev.
   - Product ID
   - Serial number
   - SCSI ID and LUN
   - Slots and Mailslots
   - Odometer

Drive information

To obtain drive information:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Status/Information**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Drive 1 Information**. Press `Enter` to select.
3. By using `Prev` or `Next`, the following information screens can be selected:
   - Serial number
   - Drive type
   - Firmware revision
   - SCSI ID

Component status

To obtain component status:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Status/Information**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Component Status**. Press `Enter` to select.
3. By using `Prev` or `Next`, the following information screens can be selected:
   - Drive activity
   - Autoloaders status
   - Drive status
   - Fan status

   The second line of the screen will display one of the following:
   - Good
   - Warning
   - Critical
   - Failed

Network information

To access network settings for the device:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Status/Information**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Network Information**. Press `Enter` to select.
3. By using `Prev` or `Next`, the following information can be accessed:
   - Static IP or DHCP Enabled
   - IP Address
   - Sub Net
   - Gateway
   - MAC Address

top

top

Configuration

The Configuration menu provides access to the following configuration functions:

- Changing the administrator password
- Setting the number of reserved slots
- Configuring the mailslot
- Bar code report format
- Changing the SCSI address
- Setting behaviors
- Setting the date and time
- Configuring network settings
- Configuring automatic cleaning

To access the Configuration menu:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Configuration**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays the selected function. Press `Enter` to select.

Changing the administrator password

Use **Change Admin Password** to set or change the administrator password. Once the administrator password is set, you must know the administrator password or the service password to change the administrator password. Passwords consist of exactly eight numbers each between the values of 0 and 9.

Screens that require a password prompt for the password before allowing access to the restricted areas. Once entered, the administrator password does not have to be entered a second time unless there is no user activity for five minutes. Enter the administrator password if prompted.

To change the administrator password:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Configuration**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Change Admin Password**. Press `Enter` to select.

3. The first number is flashing. Press `Prev` or `Next` to change the value of the flashing number. When the flashing number shows the desired value, press `Enter` to select.
4. The screen displays the second number flashing. Repeat **Step 3** until all eight characters have been entered. Press `Enter` to select. After the last number has been entered, the password has been set to the new password.

NOTE: If the administrator password is forgotten, a new password cannot be entered. Contact a customer service representative.

Setting the number of reserved slots

Reserved slots can be accessed by the remote management interface (RMI) and the operator control panel (OCP), but are invisible to the host and backup software. For example, a cleaning cartridge must be kept in a reserved slot if the backup software does not manage the cleaning process. Access to this feature requires the administrator password.

To set the reserved slot count:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Configuration**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Set Reserved Slot Count**. Press `Enter` to select.
3. Enter the administrator password if prompted.
4. Press `Prev` or `Next` to scroll through the display until the desired number of slots is displayed, then press `Enter`.

Configuring the mailslot

The mailslot is a single slot at the front of the left magazine that can be accessed without removing the whole magazine. Loading a tape through the mailslot is faster than opening the magazine because the device does not need to inventory the rest of the magazine slots when using the mailslot. Also, the device can continue to function when the mailslot is open. Access to this feature requires the administrator password.

To enable or disable the mailslot:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Configuration**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Configure Mailslot**. Press `Enter` to select.
3. Enter the administrator password if prompted.
4. The screen displays either **Mailslot Enabled** or **Mailslot Disabled**.
5. Press `Prev` or `Next` until the screen displays **Disable Mailslot?** or **Enable Mailslot?**. Press `Enter` when the correct action is displayed.

Bar code report format

You can configure how the tape bar code is displayed in the OCP and RMI, and how it is reported to the host software. The number of characters to display can be configured and also whether the numbers should be justified to the left or right. The default configuration is **8 Left**. Access to this feature requires the administrator password.

To configure the bar code report format:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Configuration**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Barcode Format Reporting**. Press `Enter` to select.
3. Press `Prev` or `Next` until the screen displays either **Display Format** or **Host Format**. The second line displays the number of characters and the current format. To change the current format, press `Enter` to select either **Display** or **Host**. An example of the screen display is **# of characters 8**.
4. Press `Prev` or `Next` until the desired number of characters is listed. Press `Enter` to select.
5. The screen displays either **Alignment Left** or **Alignment Right**. Use `Previous` or `Next` to toggle between the two choices. Press `Enter` to select the correct alignment.

Changing the SCSI address

CAUTION: If the SCSI ID is changed, you must also cycle power on the host server and reconfigure the backup software before the device can be used.

This option changes the SCSI address of the tape drive. The tape drive uses logical unit number (LUN) 0. The SCSI address for the Autoloader will always be the same as the tape drive but will use LUN1. Access to this feature requires the administrator password.

To change the drive SCSI address:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Configuration**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Change Drive**. Press `Enter` to select.
3. Enter the administrator password if prompted.

4. The screen displays the current SCSI ID. Press `Prev` or `Next` to change the SCSI ID number. Press `Enter` to select. An example of the screen display is **Drive SCSI ID=6**.

Setting behaviors

The Autoloader supports three behavior modes: Automatic, Random, and Sequential. The Autoloader automatically detects the required mode from the series of SCSI commands it receives; however, you can also change the mode from the Configuration menu. Choose the operating mode based on the capabilities of the software controlling the tape cartridges. Access to this feature requires the administrator password.

Automatic mode

The default setting is Automatic mode, which allows the device to switch between Random and Sequential modes depending on the SCSI command received. The device stays in Sequential mode until it detects certain SCSI commands which put it in to Random mode. You can also configure the device for Sequential or Random mode. If you do this, it remains in Sequential or Random mode until you change it back to Automatic, which can be done through the Configuration menu.

Random mode

Random mode is used with a full featured or a robotics-aware backup application. This is the most common mode of operation. In Random mode, the device does not automatically load tapes into the drive; it waits for commands from the software. The backup software must support robotics, which may require an additional software module.

Sequential mode

Sequential mode is used when the backup software is NOT robotics-aware or was designed for standalone drives only. In Sequential mode, the device automatically loads and unloads tapes from the drive. The operator determines a tape to load by loading the desired tape into the tape drive using the operator control panel.

When a tape is full or unloaded for any reason, the device automatically removes the tape from the drive, puts it in its original slot, then loads the tape from the next available higher numbered slot.

To further determine how you want tapes loaded into the tape drive while in Sequential mode, you can set Loop and Autoload options from the operator control panel.

- When Autoload mode is on, the device automatically loads the cartridge from the lowest-numbered full slot into the tape drive. It then follows standard sequential operation.
- When Loop mode is on, the original first cartridge in the sequence is reloaded after the device has cycled through all available cartridges. If Loop mode is off and the last cartridge has been unloaded, the device stops loading cartridges until you load another manually.

CAUTION: Use caution when choosing Loop mode because it makes it possible to overwrite data on previously written cartridges.

To set a behavior mode:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Configuration**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Autoloader Behavior**. Press `Enter` to select.
3. Enter the administrator password if prompted.
4. Press `Prev` or `Next` until the screen displays **Autoloader Mode**. The second line on the display reads **Automatic**, **Sequential**,or **Random**. Press `Enter`.
5. Press `Prev` or `Next` to scroll through the screens for **Automatic**, **Sequential**, or **Random**. Press `Enter` to select the operating mode.
6. Press `Prev` or `Next` until the screen displays either **Autoload Mode Disabled** or **Autoload Mode Enabled**. To change the operating mode, press `Enter`.
7. The screen displays either **Disable Autoload Mode** or **Enable Autoload Mode**. Press `Previous` or `Next` to toggle between enabled and disabled screens. Press `Enter` to select the operating mode.
8. Press Prev or Next until the screen displays either **Loop Mode Disabled** or **Loop Mode Enabled**. To change loop mode, press `Enter`. The screen displays either **Enable Loop Mode** or **Disable Loop Mode**. Press `Enter` to select the loop mode.

Setting the date and time

NOTE: When setting the hours, the time is based on a 24-hour clock. There is no a.m. or p.m. designation.

Use **Set Date and Time** to set the date and time used to record events. Access to this feature requires the administrator password.

To set the date:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Configuration**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Autoloader Date/Time**. Press `Enter` to select.
3. Enter the administrator password if prompted.

4. Press `Prev` or `Next` until the screen displays (example) **Set Yr/Month/Day 2006 / 07 /21**. The second line shows the current date.
5. Press `Enter` to change the date. The screen displays **Set Yr/Month/Day 2006 / 07 / 21** with a flashing number. Press `Enter`. This moves the cursor to the next number.
6. Repeat **Step 5** until all numbers in the date are correct. Press `Enter`.

To set the time:

1. From the Home screen, press `Previous` or `Next` until the screen displays **Configuration**. Press **Enter** to select.
2. Press `Previous` or `Next` until the screen displays **Set Autoloader Date/Time**. Press `Enter` to select.
3. Enter the administrator password if prompted.
4. Press `Prev` or `Next` until the screen displays (example) **Set Hours / Mins 16: 52**. Press `Enter` to change the time.
5. The screen displays (example) **Set Hours / Mins 16: 52** with the first number flashing. Press `Previous` or `Next` until the flashing number reads correctly. Press `Enter` to move to the next number. Repeat this step until all numbers in the time are correct. Press `Enter`.

Configuring network settings

The device can automatically obtain an IP address from a DHCP server when the device is powered on. The device also supports user-specified fixed addresses through the front panel.

The device also supports SNMP. You can enable SNMP and configure the target addresses with the RMI.

To configure network settings:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Configuration**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Configure Network Settings**. Press `Enter` to select.
3. Press `Prev` or `Next` until the screen displays **DHCP Disabled** or **DHCP Enabled**. To change the DHCP condition, press `Enter`.
4. If DHCP is disabled, press `Prev` or `Next` until the screen displays **IP address**. The second line displays the current IP address.
5. To change the IP address, press `Enter`. The screen displays **Set IP Address** with the first number flashing. Press `Previous` or `Next` to change the flashing number to the correct value.
6. Press `Enter` to select the next number, until all numbers have been set. The screen displays **New IP Address**.
7. Press `Prev` or `Next` until the screen displays **Subnet Address**. To change the **Subnet Address**, press `Enter`. The screen displays **Set Subnet Address**, with the first number flashing.
8. Press `Prev` or `Next` to change the flashing number to the correct value. Press `Enter` to select the next number.
9. Repeat **Step 8** until all numbers have been set. The screen displays **New Subnet Address**.
10. Press `Prev` or `Next` until the screen displays **Gateway Address**. To change the **Gateway Address**, press `Enter`. The screen displays **Set Gateway Address**, with the first number flashing.
11. Press `Prev` or `Next` to change the flashing number to the correct value. Press `Enter` to select the next number.
12. Repeat **Step 11** until all numbers have been set. The screen displays **New Gateway Address**. Press `Enter`.

Configuring automatic cleaning

When auto clean is enabled, the tape drive tells the Autoloader when it needs to be cleaned. The Autoloader will load a cleaning tape into the tape drive. The Autoloader can use a cleaning cartridge from any slot, even if it is reserved. When multiple cleaning tapes are available, the Autoloader first chooses a new cleaning cartridge to start its usage status. If all cleaning tapes have been used, the Autoloader uses the one with the highest usage count. You can enable automatic cleaning even if no cleaning cartridges are in the device. In this case, the device will display “Not enough CLN tapes!”

To configure automatic cleaning:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Configuration**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Configure Auto Cleaning.** Press `Enter` to select.
3. Press `Prev` or `Next` until the screen displays **Auto Cleaning Disabled** or **Auto Cleaning Enabled**. To change the auto cleaning configuration, press Enter.
4. Press `Prev` or `Next` until the screen displays the configuration you want. Press `Enter`.

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Operations

The Operations menu provides access to the following options:

- Unlocking, removing, and replacing magazines
- Cleaning the tape drive

- Moving tapes in the device
- Updating tape cartridge inventory
- Rebooting
- Enabling password locks

To access the Operations menu:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Operations**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays the selected function. Press `Enter` to select.

Unlocking, removing and replacing magazines

These OCP options let you gain access to the left and right magazine. Access to the magazines requires the use of the administrator password.

To remove a magazine:

1. From the Home screen, press `Prev` or `Next` on the OCP until the screen displays **Operations**.
2. Press `Enter` to select.
3. Press `Prev` or `Next` until the screen displays either **Unlock Left Magazine** or **Unlock Right Magazine**.
4. Press `Enter` to select the desired magazine to unlock.
5. Enter the administrator password if requested.
6. The display reads **Left Magazine Unlocked** or **Right Magazine Unlocked**.
7. Pull the released magazine out of the device.
8. The screen now displays **Insert Left Magazine** or **Insert Right Magazine**. The device cannot perform any other operation until the magazine is replaced. After exchanging tapes in a magazine, slide the magazine completely into the device. The magazine locks into place once it is correctly installed and the device inventories the magazine.

Cleaning the tape drive

When the Clean drive LED is on, the tape drive needs to be cleaned. Cleaning times can range from a few seconds to a few minutes during which time the Ready LED blinks. Use only the designated cleaning cartridge for the tape drive model. Use only Ultrium Universal cleaning cartridges.

NOTE: If the cleaning cartridge is not a valid cleaning cartridge, the LCD screen displays Invalid Tape and the cartridge is returned to its original location.

NOTE: If the **Clean** drive LED or the Media **Attention** LED (on load or unload) occurs when inserting the same cartridge after you have cleaned the drive, there maybe a problem with that cartridge.

If you use the operator control panel to clean the tape drive, load the cleaning cartridge into the mailslot or any other empty slot before beginning the cleaning steps. If you would like to keep a cleaning cartridge in the device, the backup software must manage tape drive cleaning or be configured to bypass the slot containing the cleaning cartridge.

Make sure a cleaning cartridge is in the mailslot or one of the magazines before beginning the cleaning steps. You must first select the drive to be cleaned and select the slot from which you want to load the cleaning tape.

To clean the tape drive:

1. From the Home Screen, press `Prev` or `Next` until the screen displays **Operations**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Clean Drive**. Press `Enter` to select.
3. Use `Prev` or `Next` until the screen displays **Drive**. The second line can display either **Clean Required** or **Good**.
4. Press `Enter`. The screen displays either **Cleaning Tape Slot 4** or **Cleaning Tape Slot XX**, where XX represents flashing blocks. If a slot number is displayed, the tape in that slot has a bar code label identifying the tape as a cleaning tape. If a slot number is displayed, continue to Step 6. If no slot number is displayed, it indicates that the device is not able to detect that a cleaning tape with a bar code is in the device. In this case, the operator must select the slot where a cleaning tape resides.
5. Use `Prev` or `Next` to display the location of a cleaning tape.
6. When the correct location for the cleaning tape is displayed, press `Enter` to select. While the device cleans the drive, **Cleaning Drive in progress** it displays.
7. After the cleaning cycle is complete, the screen displays either **Cleaning Drive Complete**, or **Cleaning Drive Failed**. If the cleaning cycle failed, press `Enter` to display the error code and message explaining the failure.

The device returns the cleaning cartridge to the original slot. If you loaded the cartridge from the front panel, you should now unload it either by using the mailslot, or by removing the magazine. When the tape drive cleaning cycle is complete, the **Clean** drive LED turns off (if previously on).

Moving tapes in the Autoloader

Use this option to move a cartridge from a tape drive, a tapes lot in any magazine or the mail slot to any other location not already holding a tape. You can also load and unload tape cartridges to and from the installed tape drives. You must first select where you want to move the tape from and then indicate where you want to move the tape to. Access to Move Media requires the administrator password.

To move a tape:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Operations**. Press Enter to select.
2. Press `Prev` or `Next` until the screen displays **Move Tape**. Press `Enter` to select.
3. Enter the administrator password if prompted. Use `Prev` or `Next` to select from the possible sources:
   - Mailslot
   - Right Magazine
   - Left Magazine
   - Drive
4. When the correct source is displayed, press `Enter` to select.
5. If the source selected is a magazine, use `Prev` or `Next` to select the slot. Only slots with tapes are listed. The second line displays the bar code for the tape or reads **Full**.
6. Once the correct slot is displayed, press `Enter` to select.

   You have now selected the tape you would like to move. The screen now requests the destination for this tape.
7. Use Prev or Next to select from the possible destinations as follows:
   - Mailslot
   - Right Magazine
   - Left Magazine
   - Drive
8. When the correct destination is displayed, press `Enter` to select.
9. If the destination selected is a magazine, use Prev or Next to display the slot. Only empty slots are listed.

Once the correct slot is displayed, press `Enter` to select. The device now moves the tape from the selected source, to the selected destination. While the device moves the tape, the screen displays Moving Tape. Once the tape has been moved, the screen displays either **Move Complete**, or Move Failed. If the move failed, press Enter to display the error code and message explaining the failure.

Updating tape cartridge inventory

This option updates the device's tape cartridge inventory. The device checks each slot and drive to determine which tape, if any, is present.

1. From the Home screen, press `Prev` or `Next` until the screen displays **Operations**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Perform Inventory**. Press `Enter` to select.
3. While the inventory is in progress, the screen displays **Scanning**.

The Autoloader now checks the drive and each slot for the presence of a tape to update the inventory information.

NOTE: This command is only needed if the inventory in the device is different than the inventory displayed on the front panel, which would not happen under normal conditions.

Rebooting the Autoloader

This option reboots the device and forces a new cartridge inventory, clearing any current error condition.

CAUTION: This option interrupts the current backup or restore operation and causes the operation to fail. Use this option if the device is in an error state.

To reboot:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Operations**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Reboot Autoloader**. Press `Enter` to select.

Enabling password locks

This option locks the restricted areas. This is typically used if you do not want to wait for the timeout to reset the locks. Power cycling or rebooting the device also resets the locks.

To enable the password locks:

1. From the Home screen, press `Prev` or `Next` until the screen displays **Operations**. Press `Enter` to select.
2. Press `Prev` or `Next` until the screen displays **Enable Autoldr Password Locks**. Press `Enter` to select.

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Support

The Support menu provides access to the following support options:

- Powering a drive on or off
- Running the slot to slot test
- Running the Wellness test
- Running the demonstration
- Updating firmware
- Viewing logs
- Downloading a support ticket
- Forcing the drive to eject a tape

To access the Support menu:

1. From the Home screen, press `Previous` or `Next` until the screen displays **Support**. Press `Enter` to select.
2. Press `Previous` or `Next` until the screen displays the selected function. Press `Enter` to select.

Powering a drive on or off

Use this option to power a drive on or off without interrupting power to the rest of the device. Access to this feature requires the administrator password.

To power on or off the drive:

1. From the Home screen, press `Previous` or `Next` until the screen displays **Support**. Press `Enter` to select.
2. Press `Previous` or `Next` until the screen displays **Power On/Off Drive**. Press `Enter` to select.
3. Enter the administrator password, if prompted.
4. The screen displays **Drive**. The second line in the display reads either **Power On** or **Power Off**.
5. To change the power status, press `Enter`. The screen displays either **Press Enter to Power off Drive**, or **Press Enter to Power on Drive**. Press `Enter` to select.

Running the demonstration

Use this option to run a device demonstration program. The demonstration continues until the Cancel button is pressed on the operator control panel. Access to this feature requires the administrator password.

To run the demonstration:

1. From the Home screen, press `Previous` or `Next` until the screen displays **Support**. Press `Enter` to select.
2. Press `Previous` or `Next` until the screen displays **Run Demo**. Press `Enter` to select.
3. Enter the administrator password if prompted.
4. While the test is running, the first line of the screen displays **Demo Test**. The second line displays the number of cycles completed and the number of errors.

NOTE: To stop the demonstration, press **Cancel** on the operator control panel.

Running the slot to slot test

Use this option to test the robot's ability to move media in and out of each of the magazine slots.

To run the slot to slot test:

1. To run the slot to slot test:
2. Press `Previous` or `Next` until the screen displays **Run Slot To Slot Test**. Press `Enter` to select.
3. Enter the administrator password, if prompted.
4. Press `Previous` or `Next` until the screen displays **Select Number of Cycles**. Use `Previous` or `Next` to select 270, 540, 1080, or ENDLESS. Press `Enter`.
5. While the test is running, the screen displays progress as shown: Run Slot To Slot. The second line on the display shows the number of cycles completed.
6. When the test is complete, the screen displays the number of cycles completed and the number of errors. If the test failed, press `Enter` to display the error and message describing the cause.

NOTE: To stop the slot to slot test, press the **Cancel** button.

Running the wellness test

Use this option to check the health of the device for the specified number of loops. If a failure occurs during the test, check the error code and failure message for more information. Access to this feature requires the administrator password.

During the test, the device will open the mailslot and ask you to insert a tape cartridge. You can use any compatible Ultrium data tape cartridge for this test.

To run the wellness test:

1. From the Home screen, press `Previous` or `Next` until the screen displays **Support**. Press `Enter` to select.
2. Press `Previous` or `Next` until the screen displays **Run Wellness test**. Press `Enter` to select.
3. Enter the administrator password, if prompted.
4. Press `Previous` or `Next` until the screen displays **Select Cycles**. Use `Previous` or `Next` to select a number. Press `Enter`.
5. While the test is running, the screen displays progress as shown: **Wellness test**. The second line on the display shows the number of loops completed.
6. When the test is complete, the screen displays either **Test Passed** or an error code.

NOTE: To stop the wellness test, press the **Cancel** button.

Upgrading firmware

The Autoloader has two types of firmware - one for the tape drive and the other for the Autoloader itself. You can upgrade both types of firmware from a USB flash drive. You can also upgrade the tape drive firmware from a firmware upgrade tape. Access to this feature requires the administrator password.

To upgrade firmware from a USB flash drive:

1. Download current firmware using HP Library & Tape Tools or from the HPE website. Copy the firmware onto the USB flash drive.
2. Insert the USB flash drive into the USB port on the back of the device.
3. From the Home screen, press `Previous` or `Next` until the screen displays **Support**. Press `Enter` to select.
4. Press `Previous` or `Next` until the screen displays **Upgrade Firmware**. Press `Enter` to select.
5. Enter the administrator password if prompted.
6. Press `Previous` or `Next` until the screen displays **Upgrade using USB drive**. Press `Enter` to select.
7. Press `Previous` or `Next` until the screen displays **Upgrade Drive or Upgrade Autoloader**. Press `Enter` to select the type of firmware you want to upgrade.
8. If the upgrade failed, press `Enter` to display the error code and message describing the cause of the failure.
9. Remove the USB flash drive from the USB port.

To update drive firmware from a firmware upgrade tape:

1. Load a firmware upgrade tape into the mailslot or any open slot. If all slots are full, remove a data tape to make room for the firmware upgrade tape.
2. From the Home screen, press `Previous` or `Next` until the screen displays **Support**. Press `Enter` to select.
3. Press `Previous` or `Next` until the screen displays **Upgrade Firmware**. Press `Enter` to select.
4. Enter the administrator password if prompted.
5. Press `Previous` or `Next` until the screen displays **Drive FW Upgrade by Tape**. Press `Enter` to select.
6. Press `Previous` or `Next` until the screen displays one of the following: **Drive 1**. The second line may read: **Firmware: G39W** or **All Drives**. Press `Enter` to select the appropriate drive to upgrade.
7. Press `Previous` or `Next` until the display shows the correct slot location of the firmware upgrade tape installed in the device (example) **FW Tape Location Slot: Mailslot**. Press `Enter` to select the correct firmware tape location. The screen displays **Updating Drive FW**.
8. When the update is complete, the screen displays either **Success Export FW tape**,or **Drive FW Upgrade Failed**. If the upgrade failed, press `Enter` to display the error code and message describing the cause of the failure.
9. Remove the firmware upgrade tape from the device using either the mailslot or by removing the magazine where the tape has been placed.

Viewing logs

The Autoloader keeps a log of recent error and warning messages.

To access the error or warning log:

1. From the Home screen, press `Previous` or `Next` until the screen displays **Support**. Press `Enter` to select.
2. Press `Previous` or `Next` until the screen displays **Autoloader Error Log** to see error messages or **Autoloader Warning Log** to see warnings. Press `Enter` to select.
3. Enter the administrator password, if prompted.
4. Press `Enter` to see the message description. Press `Cancel` to return to the message code.
5. Press `Next` to see the next message.

Downloading a support ticket

A support ticket contains information that can help a system administrator or HP support engineer diagnose device problems. Use this option to download a support ticket to a USB flash drive. You can view the support ticket with the Library & Tape Tools.

To download a support ticket:

1. Insert a USB flash drive into the USB port on the back panel.
2. From the Home screen, press `Previous` or `Next` until the screen displays **Support**. Press `Enter` to select.
3. Press `Previous` or `Next` until the screen displays **Download Support Ticket**. Press `Enter` to select.

Forcing the drive to eject a tape

Use this option to make the tape drive eject the tape and place it into an open slot. Before issuing this command, HP recommends that you attempt to eject the tape with the move command.

To force the tape to eject:

1. From the Home screen, press `Previous` or `Next` until the screen displays **Support**. Press `Enter` to select.
2. Press `Previous` or `Next` until the screen displays **Force Drive to Eject Tape**. Press `Enter` to select.
3. Press `Previous` or `Next` until the screen displays **Drive**. The second line on the display shows the bar code number of the tape or state **Full**. Press `Enter` to select the desired drive to eject the tape.
4. If the tape is successfully ejected from the drive, the screen displays the slot location where the tape was moved to.

NOTE: If the drive has difficulty ejecting the tape, suspect bad or damaged media.

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