

hp StorageWorks
Interface Manager
and
Command View ESL



User
Guide

User Guide

hp StorageWorks Interface Manager and Command View ESL

Product Version: 1.4

Sixth Edition (December 2004)

Part Number: 344841-006

This user guide provides installation and usage instructions for Command View ESL and the Command Line Interface (CLI) used with the HP StorageWorks Interface Manager for ESL Tape Libraries. This guide also provides instruction on how to license and use the advanced features of the Interface Manager card.



i n v e n t

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Interface Manager and Command View ESL User Guide
Sixth Edition (December 2004)
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About This Guide

This user guide provides information to help you:

- Understand the different user interfaces used with the Interface Manager card
- Install and use the Command View ESL software
- Use the Interface Manager command line interface (CLI)

“About This Guide” topics include:

- [Overview](#)
- [Conventions](#)
- [Getting help](#)

Overview

This section covers the following topics:

- [Intended audience](#)
- [Related documentation](#)

Intended audience

This book is intended for use by system administrators and IT personnel responsible for operating and maintaining an ESL library.

Related documentation

In addition to this guide, HP provides the following additional documentation:

- *HP StorageWorks Interface Manager and Command View ESL Installation Guide*
- *HP StorageWorks Interface Manager and Command View ESL Installation Instructions*
- *HP StorageWorks ESL E-Series Tape Library Unpacking and Installation Guide*
- *HP StorageWorks ESL E-Series Tape Library User Guide*

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>
Web site 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 death.



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 personal 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 personal 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 personal 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.

Getting help

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

HP technical support

Telephone numbers for worldwide technical support are listed on the following HP web site: <http://www.hp.com/support/>. From this web site, select the country of origin.

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

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
- Software used and revision level
- Detailed, specific questions

HP Storage web site

The HP web site has the latest information on this product, as well as the latest drivers. Access storage at:

<http://www.hp.com/country/us/eng/prodserv/storage.html>.

From this web site, select the appropriate product or solution.

HP authorized reseller

For the name of your nearest HP authorized reseller:

- In the United States, call 1-800-282-6672
- In Canada, call 1-800-863-6594
- Elsewhere, see the HP web site for locations and telephone numbers:
<http://www.hp.com>.

Introduction



Three different user interfaces (UIs) can be used to control the Interface Manager card. These UIs are provided by the Interface Manager card or by Command View ESL. This chapter explains the different types of UIs, what each UI is used for, and when each UI should be used. The three UIs are as follows:

- **Serial**—uses a command line interface (CLI) and connects directly to the Interface Manager card through an RS232 serial interface rather than through the LAN. The serial UI takes precedence over the Command View ESL and Telnet UIs and prevents any other open sessions from communicating with the Interface Manager card.
- **Telnet**—uses the same CLI as the serial interface, but requires the IP address of the Interface Manager card to initiate the session. This IP address can be set through the Interface Manager card serial interface or cascade port or, on ESL E-Series libraries, through the library Operator Control Panel (OCP). The advantage of using Telnet over the serial interface is that users can Telnet from any client machine that is on the LAN; a separate serial connection is not needed. The Telnet UI has precedence over the Command View ESL GUI and will prevent any open Command View ESL sessions from communicating with the library.

Note: If you use Telnet to change the IP address of the Interface Manager card or library, you must log in to a new Telnet session with the new IP address.

- **Command View ESL**— is a browser-based graphical user interface (GUI). This is the preferred UI for controlling the Interface Manager card and should be used in most circumstances. From any client on the LAN, users can use a browser to access Command View ESL, which is hosted on a management station. For more information on using Command View ESL, see [Command View ESL](#).

Order of precedence of user interfaces

The order of precedence of the three UIs used with the Interface Manager card is as follows:

1. Serial
2. Telnet
3. Command View ESL

Only one session can be open at a time (serial, Telnet, or Command View ESL). However, it is possible to have multiple Command View ESL GUI clients open simultaneously because these clients all share a single session. If a user attempts to open a session when another session of higher priority is currently open, the system displays an error message and the lower priority session will not start. If a user attempts to open a session when another session of lower priority is currently open, the system warns the user that another session is currently open and asks if it is OK to terminate the lower priority session.



Caution: While it is possible for an administrator to terminate other sessions by opening a serial or Telnet session, this is not recommended. If, for example, someone is performing a firmware upgrade using a Command View ESL GUI client and that session is terminated prematurely, the firmware upgrade would fail and could cause the device being upgraded to require physical repair.

Network configuration overview

With the ESL9000 Series libraries, the external LAN communicates directly to the Interface Manager card using the card's network IP address. The Interface Manager card processes requests and relays information to the Fibre Channel (FC) interface controllers.

ESL E-Series libraries contain a private LAN internal to the library. The library cabinet controller provides a bridge between the external LAN and the library internal LAN and Interface Manager card.

Figure 1 and Figure 2 show how the different UIs communicate with the Interface Manager card in the ESL9000 Series and ESL E-Series libraries respectively.

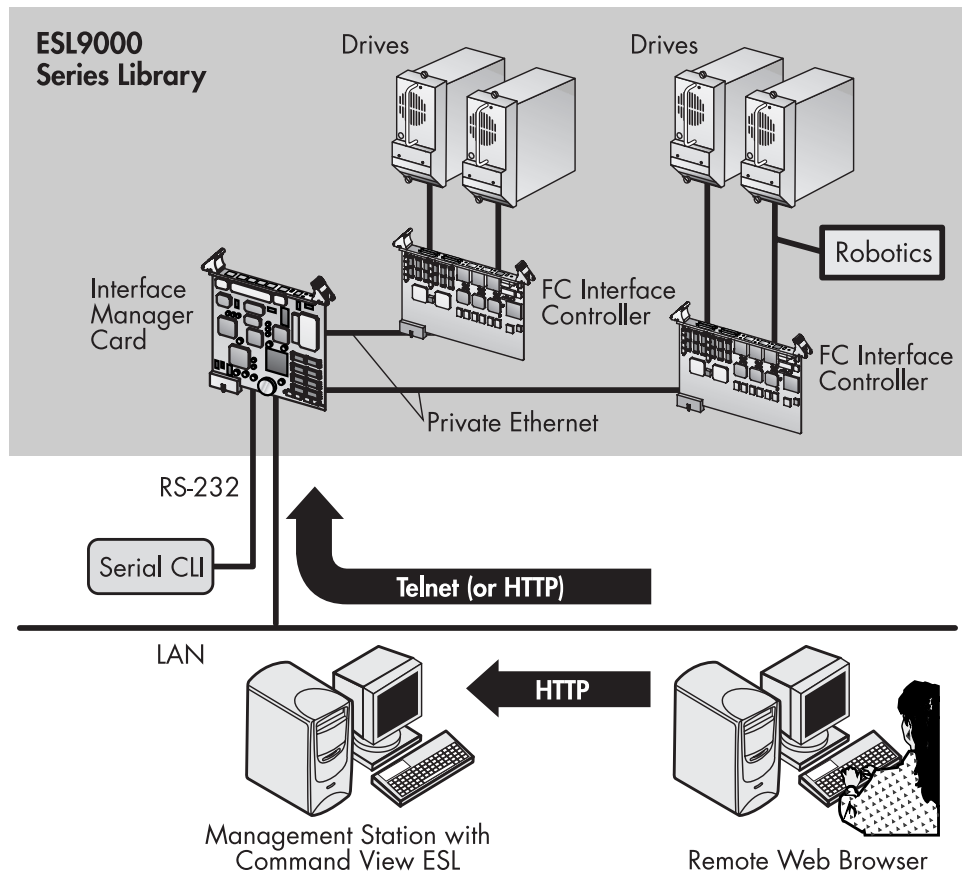


Figure 1: Network configuration for ESL9000 Series libraries

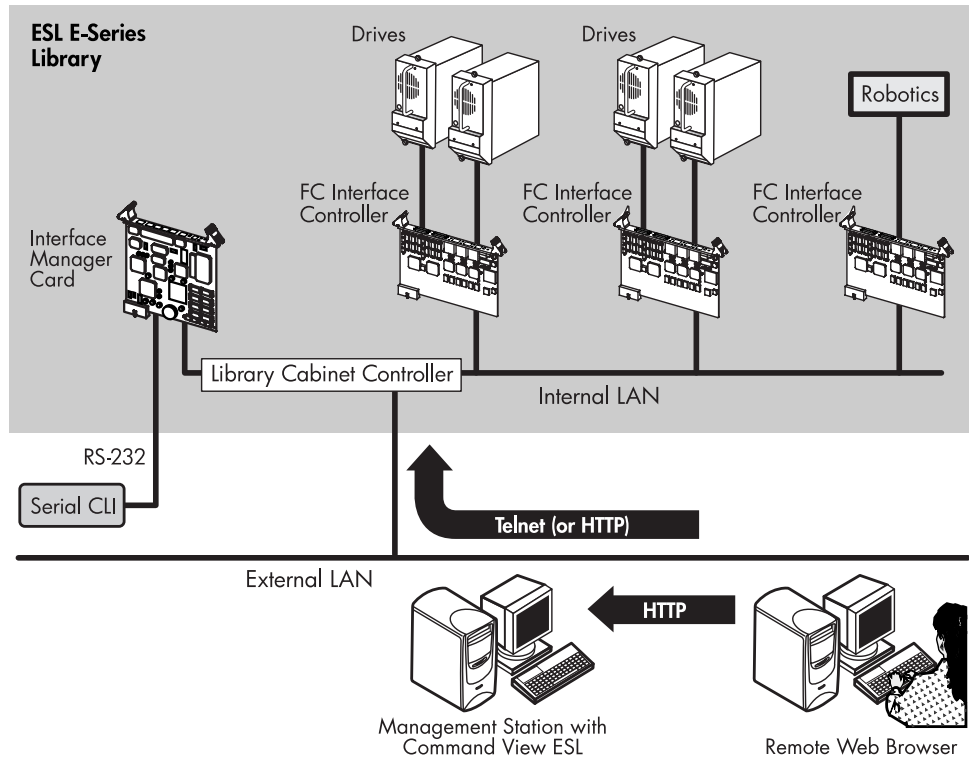


Figure 2: Network configuration for ESL E-Series libraries

Command View ESL

2

Overview

Command View ESL provides a browser-based GUI for remote management and monitoring of your Interface Manager card through a LAN. Command View ESL is the preferred user interface for controlling the Interface Manager card. In conjunction with the Interface Manager card, Command View ESL provides the following:

- Configuration and management of the Interface Manager card and FC interface controllers
- Management of the entire library system
- Hardware inventory and identity information
- Status information for connected hardware
- Error reporting and comprehensive error logs
- Firmware management
- License management

Command View ESL is installed on the management station and communicates with the Interface Manager card through the LAN. The management station processes information from the Interface Manager card and hosts the Command View ESL GUI. Users can access Command View ESL, either from the management station directly or through any client on the LAN, by using a browser-based GUI interface. Multiple Command View ESL GUI clients can be open simultaneously across the LAN, and multiple ESL Series libraries can be managed through the Command View ESL software.

Prerequisites

For servers, Command View ESL requires a management station (server) with a minimum of:

- Pentium IV 1.6-GHz, 512-MB RAM
- 10/100 Base-T network card (a static IP address is recommended)
- Microsoft® Windows® 2000 Professional or Server edition SP3, Windows XP Professional

For clients, Command View ESL requires the following:

- Microsoft Internet Explorer v6.0 SP1 or later, or Netscape Navigator v6.2 or later. Make sure that Java support is enabled in the browser.
- An Internet connection is recommended so that Command View ESL can receive firmware and software release information automatically from the HP Support web site.

Installing Command View ESL

To install Command View ESL:

1. Insert the Command View ESL software CD into the CD-ROM drive of the designated management station.
2. If autorun is disabled on the CD-ROM drive, locate and double-click *setup.exe* on the CD.
3. Follow the instructions on the screen to complete the installation.

Command View ESL is essentially a web server that hosts a GUI interface to web clients. Command View ESL runs on the management station as a service. By default, this service starts automatically whenever the management station is booted, and runs invisibly in the background. In most cases, the default installation settings are adequate.

If you need to stop Command View ESL from running on the management station, use the Services applet that is included with Windows. To access the Services applet, click **Start > Settings > Control Panel > Administrative Tools > Services** and locate the Command View ESL service in the list. Use the Services applet to start and stop services, and to set whether the service is started automatically when the computer is booted. Refer to the online help that comes with the Services applet for more information.

Starting Command View ESL

To start Command View ESL, open your browser, either on the management station or on a client machine on the LAN, and enter the following URL in the address field:

<http://<hostname>:4095/>

(where *<hostname>* is the IP address or network name of the management station. If you are starting Command View ESL on the management station itself, you can substitute `localhost` for the hostname).

Alternatively, you can start Command View ESL from the Windows Start button:

Start > Programs > hp Command View ESL > Command View ESL

If the Java Runtime Environment (JRE) plugin is not already installed on your computer and you are using a Windows OS, Command View ESL attempts to download and install it for you. If you are prompted to install the JRE plugin, click **OK** and follow the instructions on the screen. If you are using a non-Windows OS, you are instructed how to download and install the JRE plugin. If the JRE plugin is not available, then Command View ESL will not run on that machine.

After the JRE is successfully installed, the Command View ESL **Launcher** screen is displayed.

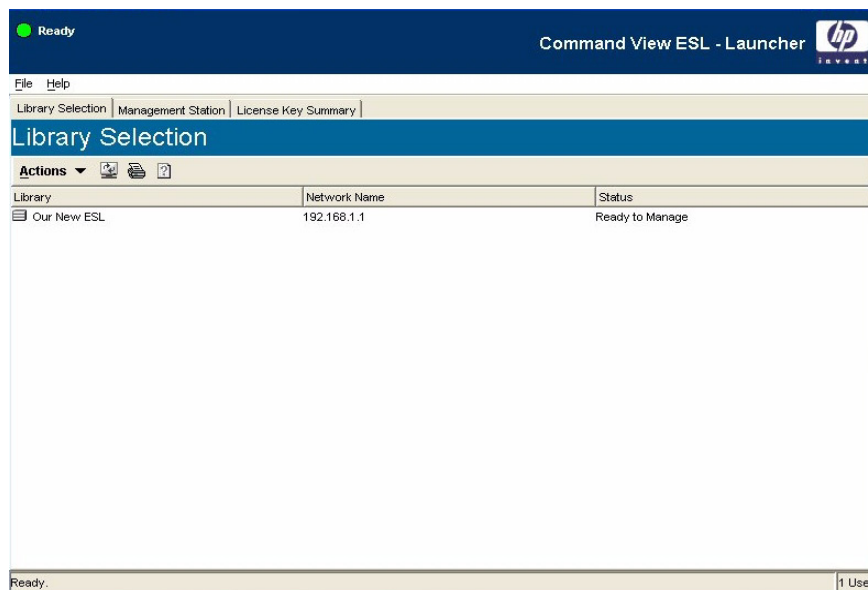


Figure 3: Command View ESL Launcher screen

Using the launcher screen

The **Launcher** screen is the “launching” point for all Command View ESL operations. A status indicator in the top left section of the screen, just above the menu bar, shows the status of the management station and whether or not communication has been established between the client browser and the management station. On other screens, this status indicator shows the status of the currently selected library.

The **Launcher** screen has the following three tabs:

- **Library Selection tab**—displays a list of libraries that can be managed by Command View ESL. You can add or delete libraries from this list, or select a library to manage.
- **Management Station tab**—lets you configure the network settings of the management station.
- **License Key Summary tab**—provides a convenient way to track and safely store any additional license keys you have purchased for use with the ESL family of tape libraries.

Navigating Command View ESL

Many screens are divided vertically into two panels. The left panel contains a list or a treeview showing a hierarchical structure. The right panel displays further information about items selected in the left panel.

The currently selected library is indicated in the drop-down box below the main menu bar. You can use this drop-down box to change the currently selected library at any time.

Some screens show data in a columnar format. Depending on the data being displayed, you may be able to drill down to more detailed information by:

- Double-clicking an item in the list
- Right-clicking an item in the list and then selecting an item on the context menu
- Selecting one or more items in the list and then selecting an item on the Actions menu

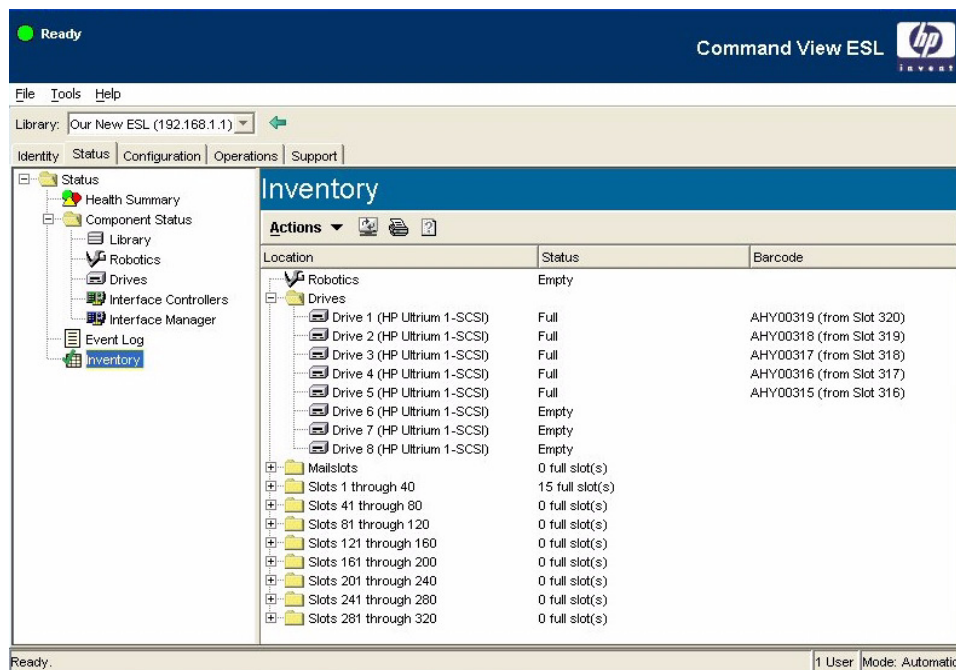


Figure 4: Example of a typical screen showing the two-panel format and columnar data






Most screens have an **Actions** button that, when clicked, displays a menu of actions (the Actions menu) that can be performed from that screen or on the selected item. Menu items in bold type show the default action for that screen or selected item. Double-click the item to perform the action or right-click an item to display a context menu that duplicates some or all of the menu items in the **Actions** menu.



Caution: Use the various tabs, menus, and buttons throughout the program to navigate. Do not use the browser navigator buttons. Doing so may cause loss of configuration data entered on a screen.

Command View ESL uses various toolbar buttons to perform different tasks. These buttons may or may not be available depending on the screen you are on. [Table 2](#) lists these buttons and a description of the action performed.

Table 2: Toolbar buttons

Button	Description
	Actions —Displays a menu of available actions for the current screen or selected item(s).
	Return —Returns to the Library Selection tab.
	Refresh —Refreshes the data on the current screen.
	Print —Opens the Print dialog box and lets you print the data on the current screen to the selected printer.
	Help —Opens a help topic associated with the current screen.

In addition to the tabs and buttons found throughout the program, Command View ESL also has a menu bar. These menu items basically duplicate the functionality of the buttons shown in [Table 2](#) and do not require further explanation.

Device numbering conventions

In some instances, Command View ESL numbers devices differently than they are numbered on the ESL tape library front panel. For example, if the library contains eight drives, the ESL9000 Series library front panel refers to those drives as drive 0 through 7. Command View ESL refers to the same drives as drive 1 through 8.

[Table 3](#) shows the device numbering conventions used by Command View ESL and by the ESL tape library front panel (when applicable).

Table 3: Device Numbering Conventions

Device	Command View ESL	ESL9000 Series Front Panel	ESL E-Series Front Panel
Drives	One-based	Zero-based	One-based
Drive clusters	n/a	n/a	Zero-based *
Slots	One-based	Zero-based	n/a
FC interface controllers	One-based	n/a	n/a
FC port numbers	Zero-based**	n/a	n/a
SCSI bus numbers	Zero-based**	n/a	n/a

Note: * Drive clusters in the ESL E-Series libraries are zero-based, although they are not referred to from the front panel of the library.

Note: The zero-based numbering of the FC ports and SCSI busses corresponds to the numbers that are printed on the actual hardware.

Initial configuration steps

After you have successfully installed the Interface Manager card and started Command View ESL:

1. Set the administrative password for Command View ESL. See [Administrative password](#).
2. Verify that proxy settings for the management station are correct. See [Network settings](#).
3. Add all libraries that will be monitored to Command View ESL. See [Adding or removing a library](#).
4. Add the license key for Command View ESL and any additional features that you have purchased. See [License Key Summary tab](#).
5. Configure the following for each library. See [Configuring a library](#).
 - Library name
 - System date
 - System time
 - Time zone
 - System contact name
 - System contact phone number
 - System contact pager number
 - System contact e-mail address
 - System location
 - System asset number
6. (Optional) Configure library partitions. Library partitions are configured using Secure Manager. Therefore, this step requires a Secure Manager license. Partitioning the library erases all host access configuration settings. See [Partitioning a library](#).
7. Configure host access (Secure Manager). By default, Secure Manager prevents all hosts from accessing the library. You must configure Secure Manager to allow host access to the library. See [Configuring host access](#).

Other common Command View ESL functions

The following list provides quick links to several of the most common functions performed by Command View ESL:

- [Adding or removing a library](#)
- [Configuring a library](#)
- [Configuring the Fibre Channel interface controllers](#)
- [Monitoring device status](#)
- [Viewing the event log](#)
- [Viewing inventory of the library](#)
- [Updating firmware](#)
- [Using the License Manager](#)
- [Moving media](#)

Adding or removing a library

You must add all libraries that will be monitored by Command View ESL. The library IP address can be set through the Interface Manager card serial interface or cascade port or, on ESL E-Series libraries, through the library Operator Control Panel (OCP).

Note: For more information about getting or setting the library IP address, ESL9000 Series users refer to “Getting or Setting the Interface Manager IP Address” in the *HP StorageWorks Interface Manager and Command View ESL Installation Guide*. ESL E-Series users should refer to the *HP StorageWorks ESL E-Series Tape Library Unpacking and Installation Guide*.

To add a library:

1. From the **Library Selection** tab of the **Launcher** screen, click **Actions > Add Library...** to display the **Add Library** dialog box.
2. Enter the IP address or hostname of the Interface Manager card in the library to be added, and then click **OK**.

To remove a library:

1. Select the library to be removed.

2. Click **Actions > Remove Library**.
3. On the **Confirm Library Removal** dialog, click **Yes** to confirm the deletion.

Configuring a library

1. From the **Library Selection** tab of the **Launcher** screen, double-click the library to configure.
2. Click the **Configuration** tab.
3. To configure the library properties:
 - a. Click the **Library Properties** item in the treeview to display properties for the selected library. The **Library Properties** screen displays the following groups of information:
 - Library Name
 - System Date/Time
 - Contact Information
 - b. Select **Edit Library Name...**, **Edit System Date/Time...**, or **Edit Contact Information...** as needed from the **Actions** menu. A dialog box is displayed allowing you to edit the desired properties.
 - c. Make the required changes, and then click **OK**. The library properties are stored in the memory of the Interface Manager card.
4. To configure the network (TCP/IP) settings of the library:
 - a. Click the **TCP/IP** item in the treeview to display the **TCP/IP** configuration screen. The following information pertaining to the selected Interface Manager card is displayed (only the network settings can be edited):
 - Network Settings
 - Hostname
 - Address Configuration
 - IP Address
 - Subnet Mask
 - Gateway
 - DNS Domain Name
 - DNS Addresses

- **MAC Settings**
 - MAC Address
 - Link Selection
- b. If necessary, obtain the required network settings from your network administrator.
- c. Click **Actions > Edit Network Settings...** to display the **Network Settings** dialog box.
- d. Make the changes as required, and then click **OK**.

Configuring the Fibre Channel interface controllers

To edit the FC port settings:

1. From the **Library Selection** tab of the **Launcher** screen, double-click the library hosting the FC interface controllers to be configured.
2. Click the **Configuration** tab.
3. Click the **Connection Properties** item under Interface Settings in the treeview to display the **Connection Properties** screen. The first column of this screen shows the FC interface controllers that are connected to the Interface Manager card. The FC ports are shown under their respective FC interface controller.
4. Select an FC port. In Automatic mode, it does not matter which FC port is selected because the changes you make apply to all FC ports. In Manual mode, each FC port can be configured independently.
5. Click **Actions > Edit Port Connection Settings...** to display the **Port Connection Settings** dialog box.
6. Set the Port Connection Type to one of the following:
 - **Fabric (SAN) Attach**—Use this connection type when connecting all FC ports to an FC switch.
 - **Direct Attach**—Use this connection type when connecting all FC ports to a Host Bus Adapter (HBA) on a backup server.
7. Set the Port Speed. Use the maximum speed that your SAN infrastructure supports.
8. Click **OK** to save the changes.

Monitoring device status

1. From the **Library Selection** tab of the **Launcher** screen, double-click the library that you want to monitor.
2. Click the **Status** tab.
3. To view a comprehensive health summary of the library and all its component devices, click the **Health Summary** item in the treeview.

The first column of the health summary displays each component of the library in a hierarchical treeview. Each component is shown with a green, yellow, or red status symbol that enables you to see if any components need attention. The second column describes the health of the component, and the third column provides additional information that may be useful if there is a problem with the component.

The screenshot shows the Command View ESL interface. At the top, there is a status bar with a green circle and the word 'Ready', and the HP logo. Below this is a menu bar with 'File', 'Tools', and 'Help'. The main window has a title bar 'Library: Our New ESL (192.168.1.1)'. Below the title bar are tabs for 'Identity', 'Status', 'Configuration', 'Operations', and 'Support'. The 'Status' tab is active, showing a treeview on the left with 'Health Summary' selected. The main area is titled 'Health Summary' and contains a table with the following data:

Component	Health	Description
Interface Manager	Ready	No errors detected
Robotics	Ready	No errors detected
Drives		
Drive 1 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 2 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 3 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 4 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 5 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 6 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 7 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 8 (HP Ultrium 1-SCSI)	Ready	No errors detected
Interface Controllers		
FC Interface Controller 1	Ready	No errors detected
FC Interface Controller 2	Ready	No errors detected
Interface Manager	Ready	No errors detected

At the bottom of the window, there is a status bar showing 'Ready.' and '1 User Mode: Automatic'.




Figure 5: Health Summary screen

Note: The **Health Summary** screen is automatically updated whenever the status of the library changes.

4. To view detailed status of an individual device, in the **Component Status** group of the treeview, click the icon for the component.

Relevant information for that component is displayed in the right panel. The information displayed varies depending on the component selected. In the right panel, double-click a component to display component properties.

Viewing the event log

1. From the **Library Selection** tab of the **Launcher** screen, double-click the desired library.
2. Click the **Status** tab.
3. Click the **Event Log** item in the treeview to display the event log. The following information is displayed for each event:
 - **Timestamp**—the time that the event was recorded
 - **Event Description**—a brief description of the event
 - **Source**—the device that triggered the event
 - **Severity**—displays one of the following icons indicating the type of the event:
 -  **Critical**—may prevent normal operations of the library and must be addressed immediately
 -  **Warning**—does not require immediate attention but should be addressed as soon as possible
 -  **Information**—presents information the user should be aware of but does not require immediate attention
4. Double-click an event to display the event in a dialog box. The dialog box displays the same information as shown above.

Viewing inventory of the library

1. From the **Library Selection** tab of the **Launcher** screen, double-click the desired library.
 2. Click the **Status** tab.
 3. Click the **Inventory** item in the treeview to display the **Inventory** screen.
- For more information about the **Inventory** screen, see [Inventory](#).

Updating firmware

1. From the **Library Selection** tab of the **Launcher** screen, double-click the desired library.
2. Click the **Support** tab.
3. Click the **Firmware Update** item in the left panel to display the **Firmware Update** screen. The first column of the **Firmware Update** screen displays the Interface Manager card and all FC interface controllers, robotics, and drives that are connected to the Interface Manager card. The second column displays the current firmware revision of the corresponding device, and the third column indicates whether this is the correct firmware revision or a mismatch for the corresponding device.

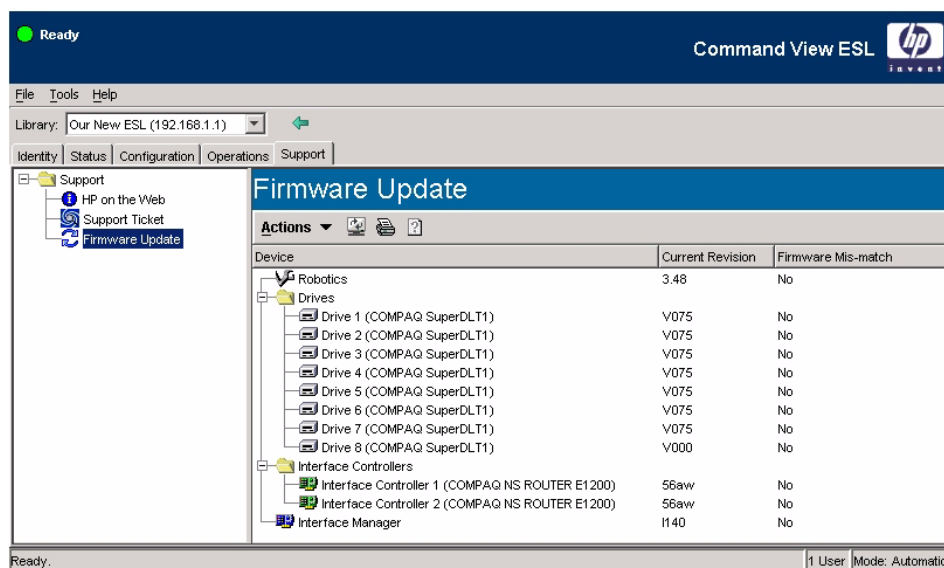


Figure 6: Firmware Update screen

Command View ESL provides a convenient Firmware Update wizard enabling you to easily manage the firmware revisions of all the components in your library.



Caution: Make sure that all applications that may try to access the library or drives have been shut down until the firmware update is completed. Do not interrupt the firmware update process. Stopping this program or powering down the device during the update could cause the device to be inoperable and require physical repair.

To update firmware:

1. Click **Actions > Launch Firmware Update Wizard...** to launch the Firmware Update wizard.

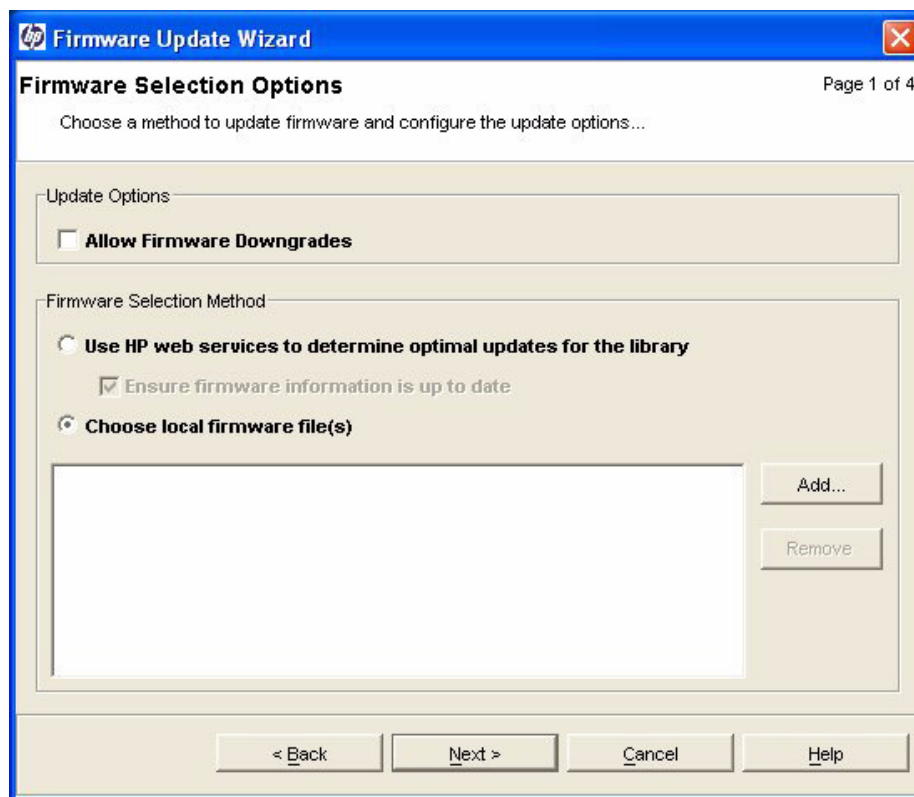


Figure 7: Firmware Update wizard

2. Decide whether to allow firmware downgrades. By default, firmware downgrades are not allowed, meaning that only newer firmware versions can be uploaded to your hardware.

If you need to allow firmware downgrades (if, for example, a newer firmware version is causing problems and you want to revert back to an older version that was known to work properly), select **Allow Firmware Downgrades**.

3. Choose one of the following options:
 - **Use HP web services to determine optimum updates for the library**—This option causes Command View ESL to check the HP Support web site for all compatible firmware files. If you select **Ensure firmware information is up to date** (recommended), then Command View ESL downloads the latest list of supported hardware with current firmware revisions and saves it locally on the management station. This list is updated every 24 hours on the HP Support web site, so checking this option ensures that Command View ESL is up-to-date on all the latest firmware revisions.
 - a. Click **Next** to display the **Device Selection** screen.
 - b. Proceed to [step 4](#).
 - **Choose local firmware file(s)**—This option lets you choose firmware files that are stored locally.
 - a. Click **Add...** to browse to the firmware file(s). To select multiple files in the same directory, hold down **Ctrl** while selecting the files. Click **Select** to return to the **Firmware Selection Method** screen.
 - b. Click **Next** to display the **Device Selection** screen.
4. Select the device(s) to be updated in the left column. The current revision for each device is displayed in the middle column.
5. For each selected device, select the appropriate firmware revision from the drop-down box in the right column.
6. Click **Next** to display the **Firmware Update Summary** screen.
7. Confirm the firmware update selections and select **I understand that this update will cause currently running backups to fail**.
8. Click **Next** to display the Firmware Update Progress screen. This screen displays the progress of the firmware update. When complete, a dialog box displays the status of the update. Click **OK** to close the dialog box.
9. Click **Finish** to exit the wizard.

Using the License Manager

To access the License Manager, click the **License Key Summary** tab on the **Launcher** screen. See [License Key Summary tab](#) for more information.

Library Selection tab

The **Library Selection** tab displays a list of libraries that can be managed by Command View ESL. From this tab, you can add and delete libraries or select a library to be managed. Selecting a library to manage lets you drill down to the individual components or other aspects of the library.

Adding and removing libraries

You must add all libraries that will be monitored by Command View ESL. When adding a library, you are actually adding a reference to the Interface Manager card within that library. To add a library:

1. From the **Library Selection** tab of the **Launcher** screen, click **Actions > Add Library...** to display the **Add Library** dialog box.
2. Enter the IP address or hostname of the Interface Manager card in the library to be added, and then click **OK**.

Note: For each library, the status column displays the name of the management station that is managing the library.

To remove a library:

1. Select the library to be removed.
2. Click **Actions > Remove Library**.
3. On the **Confirm Library Removal** dialog, click **Yes** to confirm the deletion.

Managing libraries

To manage a library:

1. Select the library to manage.
2. Click **Actions > Manage Library**. Alternatively, you can right-click the desired library and click **Manage Library** on the context menu.

When you select a library to manage, the currently selected library is displayed in a drop-down box immediately below the main menu bar. Change the currently selected library at any time by selecting a different library from this drop-down box.

Note: If you select a library to manage that is already managed by another management station on which Command View ESL is installed, a dialog box is displayed asking if you want to reclaim the library.

When a library has been selected for management, a new screen is displayed with the following five tabs:

- **Identity tab**—displays summary information about the currently selected library.
- **Status tab**—displays a treeview in the left panel showing a hierarchical view of the library and its components. The right panel displays status information about the selected item. From the **Status** tab, you can also view a health summary of the entire library, view an event log, or view the inventory of the library.
- **Configuration tab**—lets you configure library properties, interface settings, network settings, and licensed capacity (for those libraries that support it). You can also partition the physical library into multiple logical libraries (using Secure Manager), configure HP StorageWorks Direct Backup Engine for ESL, and configure HP StorageWorks Secure Manager for ESL (assuming the appropriate licenses have been purchased for those features).
- **Operations tab**—provides a convenient way to move media and to reboot the library or individual components of the library.
- **Support tab**—provides useful resources for finding support. From the **Support** tab, you can also update firmware and generate support tickets.

Identity tab

The **Identity** tab displays summary information and a photo of the currently selected library. This tab is useful when you need to quickly find information pertaining to a library, such as the number of drives or interface controllers it contains. Another use for the **Identity** tab is finding the library serial number, which is required when ordering any of the optional, licensable features of the ESL Series library (see [Advanced Features](#) for more information about additional licensable features).

Status tab

The **Status** tab uses the traditional two-panel interface to show status information about the selected library. The left panel displays a hierarchical treeview of the selected library, and the right panel displays information pertaining to the item selected in the left panel.

The currently selected library is indicated in the drop-down box just below the main menu bar. You can change the currently selected library at any time by selecting a different library from this drop-down box.

The **Status** tab displays four types of information that can be accessed from the treeview:

- [Health Summary](#)
- [Component Status](#)
- [Event log](#)
- [Inventory](#)

Health Summary

Click the **Health Summary** item in the tree view to display a comprehensive health summary of the selected library in the right panel. The first column of the health summary displays each component of the library in a hierarchical treeview. Each component is shown with a green, yellow, or red status symbol that enables you to see if any components need attention. The second column describes the health of the component, and the third column provides additional information that may be useful if there is a problem with the component.

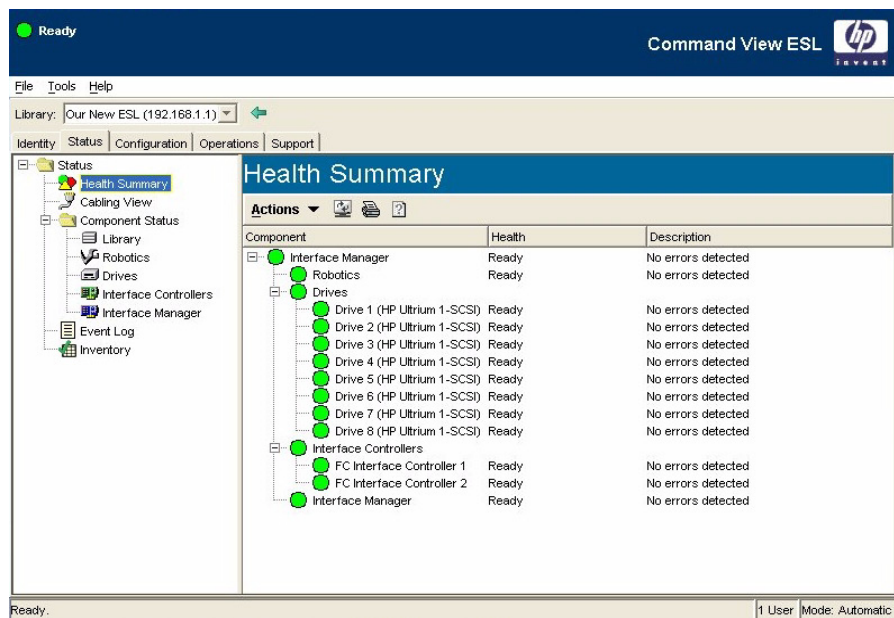


Figure 8: Health Summary screen

Cabling View

Devices are displayed hierarchically by physical connection in the **Cabling View** screen, which shows the same information as the **Health Summary** screen.

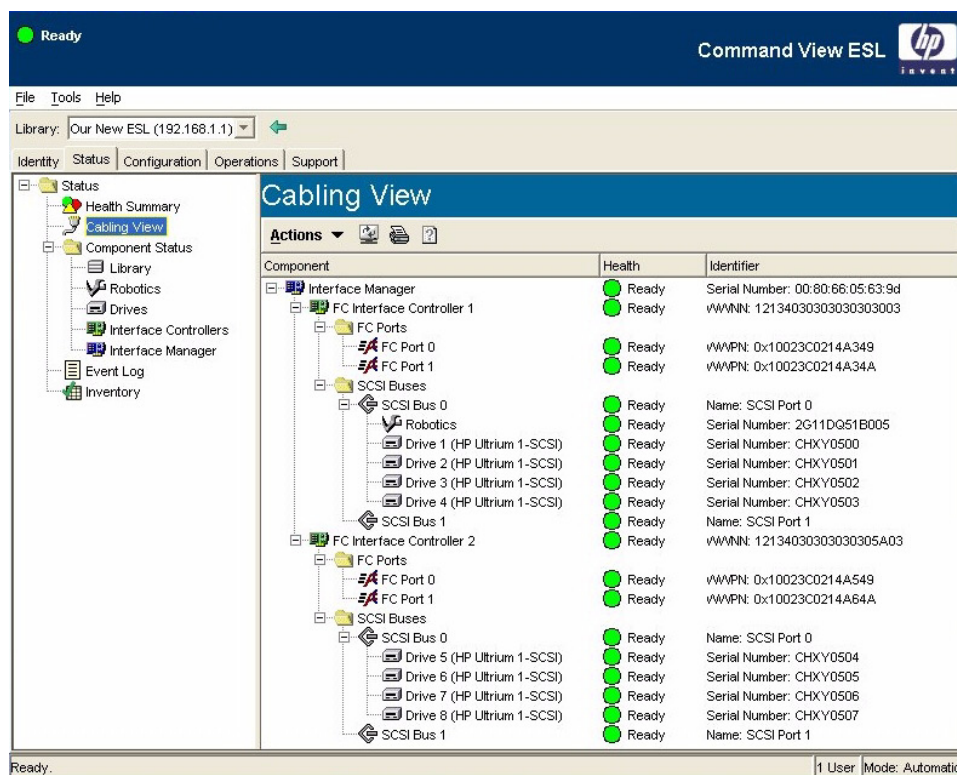


Figure 9: Cabling View screen

Component Status

The Component Status function displays the current status of the following library components individually:




- Library
- Robotics
- Drives
- Interface Controllers
- Interface Manager

Click the icon for the component you want to view status of in the treeview in the left panel. Relevant information for that component is displayed in the right panel. The information displayed varies depending on the component selected.

Note: You can double-click a component in the right panel to display properties of the component.

Event log

The following information is displayed for each event in the event log:

- Timestamp—the time that the event was recorded
- Event Description—a brief description of the event
- Source—the device that triggered the event
- Severity—displays one of the following icons indicating the type of the event:
 -  **Critical**—may prevent normal operations of the library and must be addressed immediately.
 -  **Warning**—does not require immediate attention but should be addressed as soon as possible.
 -  **Information**—presents information the user should be aware of but does not require immediate attention.

Double-click an event to display the event in a dialog box. The dialog box displays the same information as shown above.

Inventory

The **Inventory** screen shows how tape cartridges are distributed throughout the library.

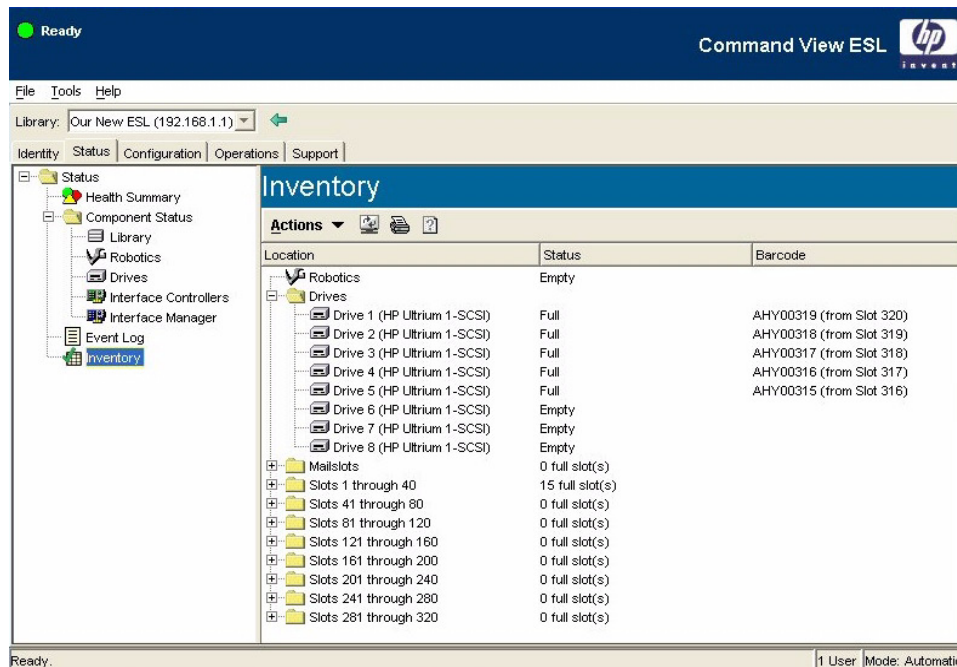


Figure 10: Inventory screen

The Location column displays all of the possible locations for tape cartridges in treeview format. For simplicity, all of the drives are grouped under the **Drives** folder, mailslots are grouped under the **Mailslots** folder, and slots are grouped in the **Slots** folders. Depending on your library, slots are grouped into the **Slots** folders either in groups of 40, or by the location of the slots in the library (for example, “back wall,” “upper-left panel,” and so forth). By default, the **Drives** folder is expanded, and all of the **Slots** folders are collapsed. Click the plus sign (+) to expand a group or the minus sign (-) to collapse a group.

The Status column indicates whether the corresponding location is full (contains a tape cartridge) or empty. If the corresponding location is a group folder, then the Status column displays how many locations in that group are full. In the example shown in [Figure 10](#), the folder containing slots 1 through 40 shows that 15 slots

are full. To see exactly which slots are full, click the plus sign (+) to expand the group. Each individual slot is then displayed underneath the folder, and the Status column displays `Full` or `Empty` for each slot.

For each full location, the Barcode column shows the unique barcode identifier for the tape cartridge in that location. To quickly locate a particular tape cartridge:

1. Click **Actions > Find Barcode...** to display the **Find Barcode** dialog box.
2. Enter the identifier for the tape cartridge you are searching for.
3. If you want the search to be case sensitive, select the **Match case** checkbox.
4. Click **OK** to perform the search.

If the cartridge you are looking for is found, it is highlighted in the display. If the cartridge is part of a collapsed group, the group is automatically expanded.

The Partition column indicates which partition (if any) the drive, slot, or mailslot is in, along with its position in the partition. For example, if you have created a partition called “Windows” and added drives five and six to the list of drives in that partition, the Partition column would display `Windows, Drive 1` for drive five and `Windows, Drive 2` for drive six. The Partition column displays `None` for non-partitioned items.

Configuration tab

The **Configuration** tab uses the traditional two-panel interface to show configuration settings for the selected library. The left panel displays a hierarchical treeview of the selected library, and the right panel displays information pertaining to the item selected in the left panel.



Caution: Some configuration changes may require a reboot of the Interface Manager card. If a reboot is required, a dialog box is displayed allowing you to confirm or cancel the action. To prevent data loss, make sure that all backup jobs are complete before making any configuration changes that may require a reboot.

The currently selected library is indicated in the drop-down box just below the main menu bar. You can change the currently selected library at any time by selecting a different library from this drop-down box.

The **Configuration** tab displays several types of information that can be accessed from the treeview:

- [Library Properties](#)
- [Interface Settings](#)
- [Host Access \(Secure Manager\)](#)
- [Partitioning](#)
- [Direct Backup](#)
- [Network settings](#)
- [Licensed Capacity Panel Upgrade for ESL E-Series](#)

Library Properties

Click the Library Properties item in the treeview to display properties for the selected library. The **Library Properties** screen displays the following groups of information:

- Library Name
- System Date/Time
- Contact Information

To edit the library properties:

1. Select **Edit Library Name...**, **Edit System Date/Time...**, or **Edit Contact Information...** as needed from the **Actions** menu. A dialog box is displayed allowing you to edit the desired properties.
2. Make the required changes and click **OK**. The library properties are stored in the memory of the Interface Manager card.

Interface Settings

The Interface Settings consist of two items:

- [Interface Manager mode](#)
- [Connection Properties](#)

Interface Manager mode

The Interface Manager mode setting controls the behavior of the Interface Manager card and dictates how the FC interface controllers are configured. HP strongly recommends that you leave the Interface Manager mode set to the default setting of Automatic.

In Automatic mode, the Interface Manager card ensures that the library is configured correctly and consistently across all FC interface controllers. In the event of a field-replaceable unit (FRU) replacement, advanced logic is enabled to maintain consistent firmware revisions and to present a consistent device map to backup servers.

In Manual mode, each FC interface controller is configured independently. The Interface Manager card does not provide consistency checking or FRU replacement logic.



Caution: HP strongly recommends that you leave the Interface Manager mode set to the default setting of Automatic. Using Manual mode increases the risk of making serious configuration errors and causing hardware conflicts that can severely disrupt the normal operation of the library.

To change the Interface Manager mode:

1. Click the Interface Manager Mode item in the treeview to display the **Interface Manager Mode** screen.
2. Click **Actions > Edit Interface Manager Mode...** to display the Interface Manager Mode dialog box.
3. Change the mode as required, and then click **OK**.

Connection Properties

Click the **Connection Properties** item in the treeview to display the **Connection Properties** screen. This screen displays connection properties for the FC interface controllers. The first column of this screen shows the FC interface controllers that are connected to the Interface Manager card. The FC ports are shown under their respective FC interface controller. The remaining columns display the following information pertaining to the FC ports:

- World Wide Name
- Connection Type
- Port Mode
- Hard ALPA
- Speed (Gbps)

Only the connection type and speed of the ports can be set manually. The remaining items are configured automatically by the Interface Manager card. If you make changes to one FC port, those changes are applied to all the FC ports on all the FC interface controllers in the library.

To edit the FC port settings:

1. Select any FC port. It does not matter which FC port is selected because the changes you make apply to all FC ports.
2. Click **Actions > Edit Port Connection Settings...** to display the **Port Connection Settings** dialog box.
3. Set the Port Connection Type to one of the following:
 - Fabric (SAN) Attach—Use this connection type when connecting all FC ports to an FC switch.
 - Direct Attach—Use this connection type when connecting all FC ports directly to a Host Bus Adapter (HBA) on a backup server.
4. Set the Port Speed. Use the maximum speed that your SAN infrastructure supports.
5. Click **OK** to save the changes.

Host Access (Secure Manager)

Click the **Host Access** item in the treeview to display the **Host Access** configuration screen. HP StorageWorks Secure Manager for ESL enables advanced security functions to protect your library from disruptive SAN traffic. Basic Secure Manager functions are enabled in every copy of Command View ESL, but full-featured functionality must be licensed separately. For more information, see [Secure Manager for ESL](#).

Partitioning

Click the **Partitioning** item in the treeview to display the **Partitioning** screen. From this screen, you can partition the physical library into multiple logical libraries. For more information, see [Partitioning a library](#).

Direct Backup

Click the **Direct Backup** item in the treeview to display the **Direct Backup** configuration screen. HP StorageWorks Direct Backup Engine for ESL enables fast, serverless backup functionality through the FC interface controllers and Interface Manager card. Direct Backup must be licensed separately. For more information, see [Direct Backup Engine for ESL](#).

Network settings

The network settings consist of two items:

- [TCP/IP](#)
- [SNMP Alerts](#)

TCP/IP

Click the **TCP/IP** item in the treeview to display the **TCP/IP** configuration screen. The following information pertaining to the selected library's Interface Manager card is displayed:

- Network Settings
 - Hostname
 - Address Configuration
 - IP Address
 - Subnet Mask
 - Gateway
 - DNS Domain Name
 - DNS Addresses
- MAC Settings
 - MAC Address
 - Link Selection

Only the network settings can be edited. To edit the network settings:

1. If necessary, obtain the required network settings from your network administrator.
2. Click **Actions > Edit Network Settings...** to display the **Network Settings** dialog box.
3. Make the changes as required, and then click **OK**.

SNMP Alerts

Click the **SNMP Alerts** item in the treeview to display the **SNMP Alerts** screen.

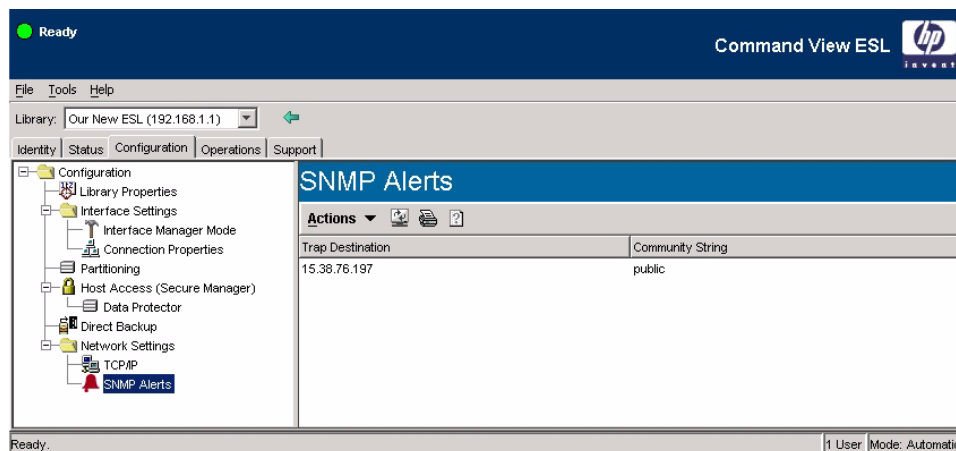


Figure 11: SNMP Alerts screen

Simple Network Management Protocol (SNMP) is a well-defined standard of reporting device information through a network. The Interface Manager card has a built-in SNMP agent that supports queries to MIB-II in addition to SNMP traps/alerts.

Command View ESL lets you change the following common SNMP settings:

- **Trap Destinations**—IP addresses of hosts or applications that need to receive SNMP alerts/traps from the Interface Manager card. A trap receiver is an SNMP-enabled machine on the LAN that decodes and logs SNMP traps. Up to eight trap destinations can be specified.
- **Community String**—the plain-text community string or password required by SNMP clients to read or write SNMP MIB values.

To add a new SNMP trap entry:

1. If necessary, obtain the required network settings from your network administrator.
2. Click **Actions > Add Trap Entry...** to display the **SNMP Trap Entry** dialog box.

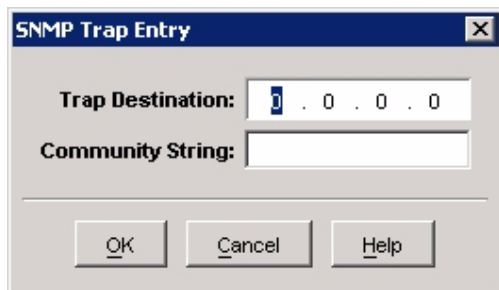


Figure 12: SNMP Trap Entry dialog box

3. Enter the Trap Destination and Community String, and then click **OK**.

To edit an existing trap entry:

1. Select the trap entry to be modified.
2. Click **Actions > Edit Trap Entry...** to display the **SNMP Trap Entry** dialog box.
3. Modify the Trap Destination and Community String as necessary, and then click **OK**.

To remove an existing trap entry:

1. Select the trap entry to be removed.
2. Click **Actions > Remove Trap Entry**.
3. Click **Yes** in the confirmation dialog box to confirm the deletion.

Licensed Capacity Panel Upgrade for ESL E-Series

Certain HP StorageWorks tape libraries allow you to license additional capacity as needed. For more information, see [Using the Licensed Capacity Panel Upgrade for ESL E-Series feature](#).

Operations tab

The **Operations** tab provides functionality for moving media within a library, and for rebooting individual devices or the library itself.

Moving media

Click the **Media Management** item in the left panel to display the **Media Management** screen. The **Media Management** screen displays three or four columns, depending on whether the library is partitioned or not.

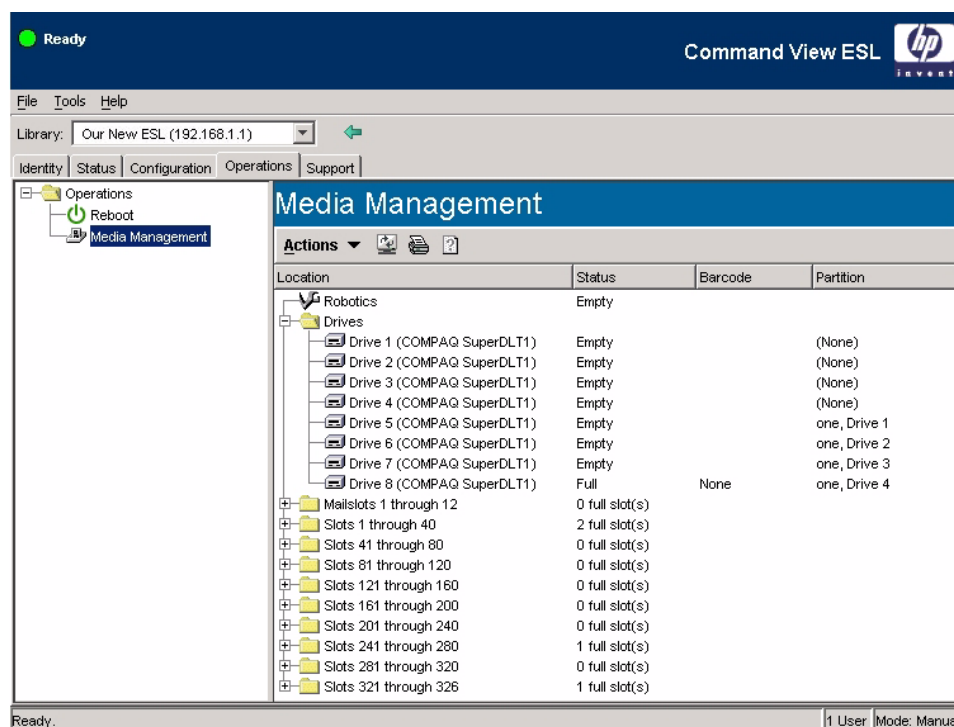


Figure 13: Media Management screen

- **Location column**—displays the drives, slots, and mailslots available in the library.
- **Status column**—indicates whether the corresponding drive, slot, or mailslot contains media (full or empty).
- **Barcode column**—displays the barcode identifier of the media if media is present in the corresponding drive, slot, or mailslot.

- **Partition column**—displayed only if the library has been partitioned. The column indicates which partition the corresponding drive, slot, or mailslot has been assigned to, and its position in the partition. For example, in [Figure 13](#), drive five is shown as being the first drive in partition one.

Moving media requires that you first select the source location (which must be “full”), and then select a destination location (which must be “empty”).



Caution: Whenever possible, it is preferable to move media using your backup application. The move media functionality of Command View ESL is provided as an alternate means of moving media if you encounter a problem with your backup application or with the library. After using Command View ESL to move media, you must re-inventory the library from within your backup application so that the library and backup application remain synchronized.

To move media:

1. Do either of the following to launch the **Move Media** wizard:
 - Select **Move Media** from the **Actions** menu.
 - Right-click the source location and select **Move Media** from the context menu.
2. On the first screen of the **Move Media** wizard, select the source location, and then click **Next**. If you right-clicked the source location in step 1, then the source location is already selected.
3. On the second screen, select the destination location, and then click **Next**.
4. On the third screen, verify that the source and destination locations are correct and read the warning. If you are satisfied with your choices, click the checkbox to indicate that you understand the warning, and then click **Next** to proceed with the move. If you are not satisfied with your choices, click **Back** to make changes, or click **Cancel** to exit the wizard without performing the move.
5. The final screen of the wizard displays progress information. When the move is complete, a dialog box is displayed. Click **OK** to close the dialog box and the **Move Media** wizard.

Rebooting devices

Click the **Reboot** item in the left panel to display the **Reboot** screen. The first column of the **Reboot** screen displays items representing the library, the Interface Manager card, and all FC interface controllers that are connected to the Interface

Manager card. The second column provides a specific identifier for each device, and the third column indicates whether or not a reboot is required for the corresponding device.



Caution: Rebooting a device terminates any operations that device may be performing. To avoid loss of data, make sure that all backup jobs or other operations have completed before attempting to reboot any device.

Note: Rebooting the library can take up to 20 minutes.

To reboot a single device:

1. Select the device to be rebooted.
2. Click **Actions > Reboot Selected Device**.
3. Confirm that you want to reboot the device in the confirmation warning dialog.

Note: Alternatively, right-click the item and select **Reboot Selected Device** from the context menu.

To reboot all devices in the list other than the library:

1. Click **Actions > Reboot Interface Manager and All Controllers**.
2. Confirm that you want to reboot all the devices in the confirmation warning dialog.

To reboot all devices that require a reboot (that is, all devices that say “yes” in the **Reboot Required** column):

1. Click **Actions > Reboot All Required Components**.
2. Confirm that you want to reboot all the devices in the confirmation warning dialog.

Support tab

The **Support** tab supports the following functions:

- [HP on the Web](#)

- [Support Ticket](#)
- [Firmware Update](#)

HP on the Web

Click the **HP on the Web** item in the left panel to display the **HP on the Web** screen. This screen displays HP support information.

Support Ticket

Command View ESL uses an integrated version of HP StorageWorks Library and Tape Tools to generate a support ticket. In the event of a hardware problem, a support ticket can provide vital information to help in diagnosing and resolving the problem. For more information, see [Using support tickets](#).

Firmware Update

Click the **Firmware Update** item in the left panel to display the **Firmware Update** screen. The first column of the **Firmware Update** screen displays the Interface Manager card and all FC interface controllers that are connected to the Interface Manager card. The second column displays the current firmware revision of the corresponding device, and the third column indicates whether this is the correct firmware revision or a mismatch for the corresponding device.

Device	Current Revision	Firmware Mis-match
Robotics	3.48	No
Drives		
Drive 1 (COMPAQ SuperDLT1)	V075	No
Drive 2 (COMPAQ SuperDLT1)	V075	No
Drive 3 (COMPAQ SuperDLT1)	V075	No
Drive 4 (COMPAQ SuperDLT1)	V075	No
Drive 5 (COMPAQ SuperDLT1)	V075	No
Drive 6 (COMPAQ SuperDLT1)	V075	No
Drive 7 (COMPAQ SuperDLT1)	V075	No
Drive 8 (COMPAQ SuperDLT1)	V000	No
Interface Controllers		
Interface Controller 1 (COMPAQ NS ROUTER E1200)	56aw	No
Interface Controller 2 (COMPAQ NS ROUTER E1200)	56aw	No
Interface Manager	I140	No

Figure 14: Firmware Update screen

Command View ESL provides a convenient Firmware Update wizard enabling you to easily manage the firmware revisions of all the components in your library.



Caution: Make sure that all applications that may try to access the library or drives have been shut down until the firmware update is completed. Do not interrupt the firmware update process. Stopping this program or powering down the device during the update could cause the device to be inoperable and require physical repair.

To update firmware:

1. Click **Actions > Launch Firmware Update Wizard...** to launch the Firmware Update wizard.

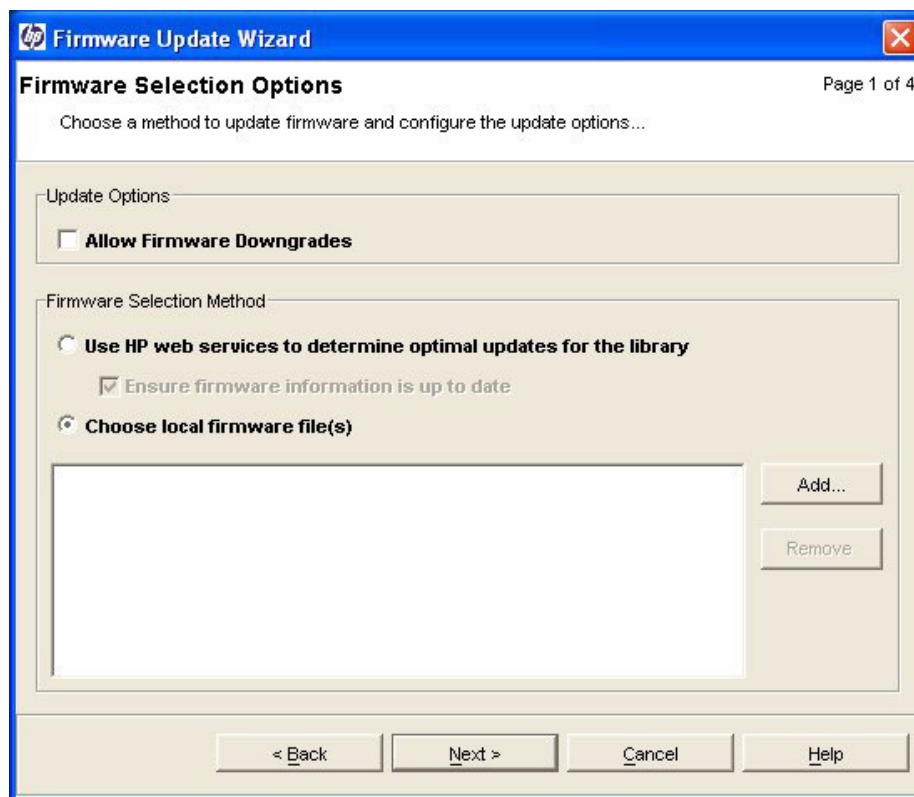


Figure 15: Firmware Update wizard

2. Decide whether or not to allow firmware downgrades. By default, firmware downgrades are not allowed meaning that only newer firmware versions can be uploaded to your hardware.

If you need to allow firmware downgrades (if, for example, a newer firmware version is causing problems and you want to revert back to an older version that was known to work properly), select **Allow Firmware Downgrades**.

3. Choose one of the following options:
 - **Use HP web services to determine optimum updates for the library**—This option causes Command View ESL to check the HP Support web site for all compatible firmware files. If you select **Ensure firmware information is up to date** (recommended), then Command View ESL will download the latest list of supported hardware with current firmware revisions and saves it locally on the management station. This list is updated every 24 hours on the HP Support web site, so checking this option ensures that Command View ESL is up-to-date on all the latest firmware revisions.
 - a. Click **Next** to display the **Device Selection** screen.
 - b. Proceed to [step 4](#).
 - **Choose local firmware file(s)**—This option lets you choose firmware files that are stored locally.
 - a. Click **Add...** to browse to the firmware file(s). To select multiple files in the same directory, hold down **Ctrl** while selecting the files. Click **Select** to return to the **Firmware Selection Method** screen.
 - b. Click **Next** to display the **Device Selection** screen.
4. Select the device(s) to be updated in the left column. The current revision for each device is displayed in the middle column.
5. For each selected device, select the appropriate firmware revision from the drop-down box in the right column.
6. Click **Next** to display the **Firmware Update Summary** screen.
7. Confirm the firmware update selections and select **I understand that this update will cause currently running backups to fail**.
8. Click **Next** to display the Firmware Update Progress screen. This screen displays the progress of the firmware update. When complete, a dialog box displays the status of the update. Click **OK** to close the dialog box.
9. Click **Finish** to exit the wizard.

Management Station tab

The **Management Station** tab displays the network settings of the management station and Command View ESL, and whether or not an administrative password has been set.

Network settings

To edit the network settings of the management station:

1. Click **Actions > Edit Network Settings...** to display the **Network Settings** dialog box.
2. Set the required proxy settings. If you choose to use proxy settings, enter the web proxy hostname and web proxy port. If necessary, consult your network administrator for this information.

Note: Command View ESL uses proxy settings to retrieve software and firmware information through the Web. Command View ESL attempts to detect the management station proxy settings at startup, but it does not use these proxy settings until instructed to do so.

3. Set the web server port. The default setting is 4095, which should not need to be changed. If you do change this value, the new value does not take effect until the next time a GUI is started; the current GUI is unaffected. This value can be viewed in the content pane of the **Management Station** tab.
4. Set the active IP address for the management station. The active IP address is the one used by the management station to communicate with clients and libraries.
5. Click **OK** to save your changes.

Note: Changing the active IP address terminates the current GUI session. To restart the GUI session, enter the new active IP address in the address field of the browser.

E-mail settings

The e-mail settings allow you to specify the SMTP server and the maximum e-mail size. To edit the e-mail settings:

1. Click **Actions > Edit E-mail Settings...** to display the **E-mail Settings** dialog box.
2. Enter the SMTP address in the SMTP Server text box.
3. Specify the maximum e-mail size. E-mails larger than the maximum size are broken up into smaller e-mails.
4. Click **OK** to close the dialog box.

Administrative password

The administrative password prevents unauthorized users from accessing critical Interface Manager and library configurations. The administrative password is disabled by default.

To set the administrative password:

1. Click **Actions > Edit Administrative Password...** to display the **Administrative Password** dialog box.
2. Select the **Require Login Authentication** checkbox if it is not already selected.
3. If a password was previously set, enter the current password.
4. Enter the new password and then confirm the new password in the respective textboxes.

To disable the administrative password:

1. Click **Actions > Edit Administrative Password...** to display the **Administrative Password** dialog box.
2. Deselect the **Require Login Authentication** checkbox.
3. If a password was previously set, enter the current password.
4. Leave the new password field blank, and then confirm the blank password in the respective textboxes.

License Key Summary tab

The **License Key Summary** screen shows a summary of all the license keys pertaining to the ESL tape libraries that are installed on the system. You can add and delete license key information from this screen. The Interface Manager card and Command View ESL software use this information to enable any licensable features that have been purchased.

License	License Type	Quantity (LTU)	Identifier	Expiration Date	License Key
ESL at 15.38.75.185 Licenses					
Command View ESL Software	Permanent	1	2G11DQ51B005		AAACE C99A H9P9 CHVY UFA4...
Direct Backup	Permanent	4	2G11DQ51B005		AAAKE B99A H9PA CHW3 UFA4...
Direct Backup	Permanent	8	2G11DQ51B005		QAASE A99A H9PA KHVY UFA4...
Secure Manager	Permanent	1	2G11DQ51B005		9AKC B99A H9PQ KHVY UFA4...
Un-managed Licenses					
Command View ESL Software	Instant On	1	any	Sat Aug 16 17:08:55 MD...	YDRG A9EA H9PQ GHV2 UFA4...
Command View ESL Software	Permanent	1	2G33KZ85H002		9A2G C99A H9PY KHLV UFA4...
Direct Backup	Permanent	6	2G33KZ85H002		QAACE A99A H9PQ 8HUV UFA4...
Secure Manager	Permanent	1	2G33KZ85H002		QAASA B99A H9PQ GHVZ UFA4...
Direct Backup	Permanent	2	2G33KZ85H002		AA2A D99A H9PQ CHX3 UFA4...

Figure 16: License Key Summary screen

The **License Key Summary** screen tracks license keys for the following features:

- Command View ESL
- HP StorageWorks Direct Backup Engine for ESL tape libraries
- HP StorageWorks Secure Manager for ESL tape libraries
- Licensed Capacity Panel Upgrade for ESL E-Series

Note: Command View ESL has an “instant-on” 60-day license. You are entitled to use it for up to 60 days after initial installation, during which time you are required to purchase a license. After the 60 days is expired, the program is still functional, but you will see a reminder screen each time you start the program until you enter a license key.

For more information regarding the additional features and licensing requirements, see [Advanced Features](#).

The first column of the **License Key Summary** screen lists all of the installed license keys and groups them into one of the following two groups:

- **Interface Manager Licenses** displays licenses pertaining to libraries that are managed by this management station. One folder (group) exists for each managed library.
- **Unmanaged Licenses** displays licenses pertaining to libraries that are not managed by this management station.

The remaining columns display the following information for each installed license key:

- **License Type** can be one of the following:
 - A *permanent* license has no expiration date.
 - An *instant-on* license allows you to use the feature free of charge up to the expiration date. You must obtain a permanent license to continue using the feature after the expiration date without experiencing a reminder screen.
- **Quantity (LTU)** displays the quantity purchased of the specified license.
- **Identifier** displays the unique device identifier (library serial number) for that license key.
- **Expiration Date** displays the expiration date, if any, of the license key.
- **License Key** displays the actual license key. License keys are generally too long to fit in this column. To see the entire license key, double-click on the license key to display the **License Key Properties** dialog box.

Adding or removing a license key

To add a new license key:

1. Obtain the license key from HP. See [Obtaining and installing license keys](#) for instructions.
2. From the **Library Selection** tab of the **Launcher** screen, click the **License Key Summary** tab.
3. Click **Actions > Add New License Key...** to display the **Add License Key** dialog box.
4. Enter the license key in the provided text box, and then click **OK**. The new license key is added to the **License Key Summary** screen.

To remove a license key:

1. Select the license key you want to remove.
2. Click **Actions > Removed Licensed Feature**. The license key is removed from the **License Key Summary** screen.



Caution: Removing a license key for an advanced feature may require a reboot of the Interface Manager card. If a reboot is required, a dialog box is displayed allowing you to confirm or cancel the action. To prevent data loss, make sure that all backup jobs are complete before making any changes that may require a reboot.

Command Line Interface

3

In addition to the Command View ESL GUI, the Interface Manager card can be managed via a command line interface (CLI). The CLI provides commands to perform all necessary management functions.

This chapter explains how to initiate a CLI session, the structure of the CLI, and basic navigational techniques. For a comprehensive listing of CLI commands, see [CLI Command Reference](#).

Accessing the CLI

You can access the CLI either through a direct RS-232 connection, or by using Telnet over the LAN.

- **Serial**—uses a command line interface (CLI) and connects directly to the Interface Manager card through an RS232 serial interface rather than through the LAN. The serial UI takes precedence over the Command View ESL and Telnet UIs and will prevent any other open sessions from communicating with the Interface Manager card.

Note: If you use Telnet to change the IP address of the Interface Manager card, you must log in to a new Telnet session with the new IP address.

- **Telnet**—uses the same CLI as the serial interface, but requires the IP address of the Interface Manager card to initiate the session. This IP address can be set through the Interface Manager card serial interface or cascade port or, on ESL E-Series libraries, through the library OCP. The advantage of using Telnet over the serial interface is that users can Telnet from any client machine that is on the LAN; a separate serial connection is not needed. The Telnet UI has precedence over the Command View ESL GUI and will prevent any open Command View ESL sessions from communicating with the library.



Caution: Although an administrator can terminate other sessions by opening a serial or Telnet session, this is not recommended. If, for example, someone is performing a firmware upgrade using a Command View ESL session and that session is terminated prematurely, the firmware upgrade would fail and render the device being upgraded unusable.

Starting a serial session

To start a serial session:

1. Connect the management station or other PC or laptop to the Interface Manager card using the serial cable shipped with the Interface Manager card. Refer to Chapter 2, “Installation,” of the *HP StorageWorks Interface Manager and Command View ESL Installation Guide* for instructions on how to connect the cable.

2. Start a terminal emulation program on the PC that you connected to the Interface Manager card in step 1. A variety of programs may be used, but HyperTerminal, included with Microsoft Windows operating systems, is the most common. To start HyperTerminal, click **Start > Programs > Accesories > Communications > HyperTerminal**.
3. Set the communications settings as follows:
 - Port Speed: **9600**
 - Data Bits: **8**
 - Parity: **none**
 - Stop bits: **1**
 - Flow control: **none**
4. At the login prompt, use the following default information:
 - Username: cliadmin
 - Password: clipwd

Note: After initially logging in, you should change your password using the `set mgmt password` command. This command starts an interactive procedure for changing the password.

Starting a Telnet session

You can start a Telnet session with the Interface Manager card in one of two ways:

- **Through the LAN**—Use any PC on the LAN, including the management station, to Telnet into the Interface Manager card using the network IP address.
- **Through the Cascade port**—Connect a PC to the Interface Manager card via the cascade port and Telnet into the Interface Manager card using the cascade IP address.

Telnet through the LAN

From any PC on the LAN, including the management station, do the following:

1. Open a command prompt and enter the following command:

```
telnet <name>
```

where <name> is either the IP address or hostname of the Interface Manager card.

2. At the login prompt, use the following default information:

- Username: cliadmin
- Password: clipwd

Note: After initially logging in, you should change your password using the `set mgmt password` command. This command starts an interactive procedure for changing the password.

Telnet through the cascade port

The cascade port of the Interface Manager card has a dedicated IP address that is hardcoded into the Interface Manager card and is completely separate from the network IP address. The cascade port provides a “backdoor” method for accessing the Interface Manager card and making configuration changes, such as getting or setting the network IP address.

To Telnet through the cascade port:

1. Connect a standard RJ-45 Ethernet cable from the network port of the PC or laptop to the cascade port of the Interface Manager card.

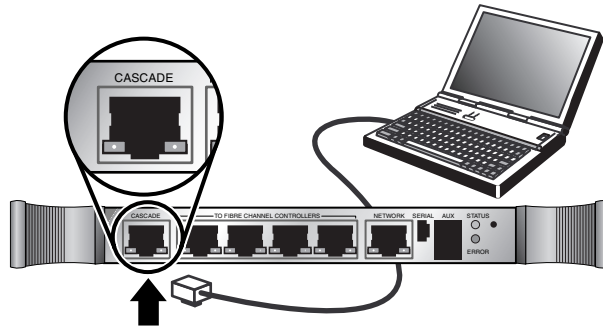


Figure 17: Connecting to the cascade port

2. Open a command prompt and enter the following command:

```
telnet 192.168.2.1
```

Note: The above IP address is hardcoded into the Interface Manager card and is completely separate from the network IP address.

3. At the login prompt, use the following default information:

- Username: cliadmin
- Password: clipwd

Note: After initially logging in, you should change your password using the `set mgmt password` command. This command starts an interactive procedure for changing the password.

Command syntax structure

Note: Many command line examples are given throughout this chapter. To help differentiate between the command prompt and the actual commands that are entered, the prompt portion of the command line is shown in red text. For example, if the documentation says to enter the following command:

```
<user>/set/mgmt > clock
```

then you would type only the word `clock`. Do not type the text shown in red.

The command prompt has the following format:

```
<user>/<command_level> >
```

`<user>` indicates the CLI user name and `<command_level>` indicates the current command level. For example, when you first log in to the CLI with your CLI username and password, you see the following root-level prompt:

```
<user>/ >
```

The root command level offers all of the basic and operational commands. To change command levels, enter any command that is available from the current command level. For example, from the root command level, if you enter the `set` command to change to the `set` command level, the following prompt is displayed:

```
<user>/set >
```

All of the `set` commands are directly available at this level.

Using command sequences

You can change to any command level by specifying a sequence of command levels. A command sequence contains each command level name separated by a space. For example, to get to the `mode` command level of the `set` command level, you could either enter `set mode` from the root command level or `mode` from the `set` command level:

```
<user>/ > set mgmt
```

```
<user>/set/mgmt >
```

- Or -

```
<user>/ > set
```

```
<user>/set > mgmt
```

```
<user>/set/mgmt >
```

To execute a command that is available at a particular command level, either change to that command level and enter the command, or enter a command sequence followed by the command name. For example, if you were at the root command level and wanted to use the `clock` command available at the `show mgmt` command level, you could do either of the following (in this example, output of the `clock` command has been omitted):

```
<user>/ > show mgmt clock
```

```
<user>/ >
```

- Or -

```
<user>/ > show mgmt
```

```
<user>/show/mgmt > clock
```

```
<user>/show/mgmt >
```

Note: Executing a command does not change the current command level.

Abbreviating commands

All commands may be abbreviated provided that the abbreviation is unique. For example, from the root command level, `se mo` is equivalent to `set mode`. However, `se m` is ambiguous because `m` at the root command level could mean either `mgmt` or `mode`.

Device numbering conventions

In some instances, Command View ESL numbers devices differently than they are numbered on the ESL tape library front panel. For example, if the library contains eight drives, the ESL9000 Series library front panel refers to those drives as drive 0 through 7. Command View ESL refers to the same drives as drive 1 through 8.

[Table 4](#) shows the device numbering conventions used by Command View ESL and by the ESL tape library front panel (when applicable).

Table 4: Device Numbering Conventions

Device	Command View ESL	ESL9000 Series Front Panel	ESL E-Series Front Panel
Drives	One-based	Zero-based	One-based
Drive clusters	n/a	n/a	Zero-based *
Slots	One-based	Zero-based	n/a
FC interface controllers	One-based	n/a	n/a
FC port numbers	Zero-based**	n/a	n/a
SCSI bus numbers	Zero-based**	n/a	n/a

Note: * Drive clusters in the ESL E-Series libraries are zero-based, although they are not referred to from the front panel of the library.

Note: The zero-based numbering of the FC ports and SCSI busses corresponds to the numbers that are printed on the actual hardware.

Navigating the CLI

The CLI is case-sensitive. All commands and keywords must be entered in lower case. User-defined strings such as names or descriptions may be in any case, including mixed case. Case information for user-defined strings is preserved in the configuration.

The CLI provides the following basic commands as listed in [Table 5](#).

Table 5: Basic Commands

Command	Description
show	Display configuration, status, and log information
set	Set or change configurable values
add	Add an item to a list
delete	Delete an item from a list
save	Save the current configuration or logs
restore	Restore saved or factory default configurations
setup	Run the Configuration wizard
download	Download firmware
reboot	Reboot devices

[Table 6](#) shows additional operating commands provided by the CLI.

Table 6: Operational commands

Command	Description
home	Move to the root command level
up	Move up one command level
help	Display help text for a particular command
exit	Terminate the current management session

The CLI also provides a command history that stores the last ten entered commands. Use the **up** and **down** arrow keys to scroll through the list of previous commands. For a complete listing of CLI commands, see [CLI Command Reference](#).

Interface Manager mode

The Interface Manager mode setting controls the behavior of the Interface Manager card and dictates how the FC interface controllers are configured.

In Automatic mode, the Interface Manager card ensures that the library is configured correctly and consistently across all FC interface controllers. In the event of an FRU replacement, advanced logic is enabled to maintain consistent firmware revisions and to present a consistent device map to backup servers.

In Manual mode, each FC interface controller is configured independently. The Interface Manager card does not provide consistency checking or FRU replacement logic. Manual mode is intended for experienced personnel only.



Caution: HP strongly recommends that you leave the Interface Manager mode set to the default setting of Automatic. Using Manual mode increases the risk of making serious configuration errors and causing hardware conflicts that can severely disrupt the normal operation of the library.

To change the Interface Manager mode, enter the following command:

```
<user>/ > set mode {auto|manual}
```

When switching between modes, the current command level is changed to the root command level for that mode. When changing from Manual mode to Automatic mode, many of the manual configuration changes made in Manual mode will be lost.

Common CLI functions

The following list provides quick links to several of the most common functions performed in the CLI.

- [Using the Setup wizard](#)
- [Configuring a library](#)
- [Configuring the FC interface controllers](#)
- [Monitoring device status](#)
- [Generating Interface Manager and FC interface controller logs](#)
- [Updating firmware](#)

- [Generating support tickets from the CLI](#)
- [Using Secure Manager functions](#)

Using the Setup wizard

The Setup wizard takes you through a series of prompts that allow you to perform all of the configuration steps necessary to get the system running.

For more information, see [setup](#).

Configuring a library

Use the following commands to configure library properties:

- `set system assetnumber`
- `set system contact email`
- `set system contact name`
- `set system contact phone`
- `set system contact pager`
- `set system location`
- `show system info`
- `show system status`

Use the following commands to configure TCP/IP settings:

- `set network ipaddress`
- `set network dhcp`

Configuring the FC interface controllers

Use the following commands to configure the port settings:

- `set interface hostport alpa`
- `set interface hostport connection`
- `set interface hostport mode`
- `set interface hostport speed`

Monitoring device status

The CLI provides several commands to monitor device status. The status shown is a snapshot of device status at the moment the command was executed. After the status is displayed by the CLI, it does not refresh. To refresh the status information, execute the command again.

Use the following commands to show the status of the corresponding device:

Note: In the `show mgmt status` command, “mgmt” refers to the Interface Manager card.

- `show drive status`
- `show interface status`
- `show library status`
- `show mgmt status`
- `show robotics status`

Generating Interface Manager and FC interface controller logs

The following two commands generate a log file for the Interface Manager card or the FC interface controller respectively. The log file is saved in the memory of the Interface Manager card and is accessible through anonymous ftp.

- `save mgmt log`
- `save interface log`

Note: When a log file is generated, it is given a set filename depending on the type of log (see [Table 7](#)). Each time a log file is generated, it overwrites the previous log file having the same filename.

The logs are available via anonymous ftp. To access the log file via ftp:

1. On any PC connected to the LAN, open a command shell.
2. Navigate to the directory that you want to transfer the log file to.
3. Enter the following command:

```
ftp <ipaddress>
```

where <ipaddress> is the IP address of the Interface Manager card.

4. Log in with the following credentials:

- User name: ftp

- Password: Use your e-mail address

After logging in, a command shell opens displaying the anonymous ftp directory.

5. If necessary, use the `ls` command to list the contents of the ftp directory.
6. Enter the following command to turn on binary transfer mode:

```
bin
```

7. Enter the following command to copy the log file to the directory that you navigated to in Step 2:

```
get <filename>
```

The filename is determined by the type of log file you are retrieving, as shown in [Table 7](#).

Table 7: Log file types and filenames

Type of Log	Filename
FC interface controller event log	<i>IF_EVENTLOG.XML</i>
FC interface controller stats log	<i>IF_STATS.TXT</i>
FC interface controller trace log	<i>IF_TRACE.TXT</i>
Interface Manager card event log	<i>EventLog.xml</i>
Interface Manager card trace log	<i>TraceLog.xml</i>
Interface Manager card history log	<i>ArchiveLog.xml</i>

8. Use the `quit` command to logoff the ftp session.

Updating firmware

You can use the CLI to update the firmware of the Interface Manager card and other library hardware. This procedure involves three steps:

1. Acquire the latest firmware from <http://www.hp.com> and save it to a temporary location.
2. Use ftp to transfer the firmware file to a temporary storage area in the Interface Manager card memory.
 - a. Open a command shell on any PC connected to the LAN.
 - b. Navigate to the directory where the firmware you downloaded in [step 1](#) is located.
 - c. Enter the following command:

```
ftp <ipaddress>
```

where *<ipaddress>* is the IP address of the Interface Manager card.
 - d. Log in with the following credentials:
 - User name: ftp
 - Password: Use your e-mail address
 - e. After logging in a command shell opens, displaying the anonymous ftp directory.
 - f. If necessary, use the `ls` command to list the contents of the ftp directory.
 - g. Enter the following command to turn on binary transfer mode:

```
bin
```
 - h. Enter the following command to copy the firmware file to the temporary location in the Interface Manager card's memory:

```
put <filename>
```

where *<filename>* is the filename of the firmware file.
 - i. Use the `quit` command to logoff the ftp session.

3. Execute one of the following commands to download the firmware file from the Interface Manager card memory to the appropriate device:
 - `download drive`
 - `download interface`
 - `download library`
 - `download mgmt`

Note: In the `download mgmt` command, “mgmt” refers to the Interface Manager card.

Note: Firmware files have a special header that prevents them from being downloaded to the wrong type of device. If the Interface Manager card detects an incorrect firmware type when you execute any of the download commands, it will notify you of the problem and delete the firmware file from the temporary storage location in the card memory.

Generating support tickets from the CLI

The Interface Manager card can generate a support ticket for various library components.

You can generate a support ticket for drives, FC interface controllers, the library itself, and the Interface Manager card. The command used specifies the type of support ticket to be generated.

To generate a support ticket from the CLI:

1. Execute one of the following commands, depending on the type of support ticket to be created:
 - `save drive lttsupportticket`
 - `save interface lttsupportticket`
 - `save library lttsupportticket`
 - `save mgmt lttsupportticket`

Note: In the `save mgmt lttsupportticket` command, “mgmt” refers to the Interface Manager card.

The Interface Manager card generates the file *ticket.ltt* and stores it in a temporary location in the Interface Manager card memory.

2. Use ftp to retrieve the *ticket.ltt* file and copy it to a location on your PC or network.

Note: Each time a support ticket is generated, it uses the same filename (*ticket.ltt*) and overwrites the previous support ticket.

- a. On any PC connected to the LAN, open a command shell.
- b. Navigate to the directory that you want to store the support ticket in. This is typically (but not necessarily) the *logs* directory found under the installation directory of L&TT.
- c. Enter the following command:

```
ftp <ipaddress>
```

where *<ipaddress>* is the IP address of the Interface Manager card.
- d. Log in with the following credentials:
 - User name: `ftp`
 - Password: Use your e-mail address
- e. After logging in, a command shell opens displaying the anonymous ftp directory.
- f. If necessary, use the `ls` command to list the contents of the ftp directory.

- g. Enter the following command to turn on binary transfer mode:

```
bin
```
 - h. Enter the following command to copy the firmware file to the temporary location in the Interface Manager card memory:

```
get sticket.ltt
```

The file is copied to the directory you navigated to in [step b](#).
 - i. Enter `quit` to logoff the ftp session.
 3. Use L&TT to view the support ticket. You can acquire L&TT at:
<http://www.hp.com/support/tapetools>
Refer to the documentation included with L&TT for instructions on how to view a support ticket.

Using Secure Manager functions

Secure Manager for ESL gives the ESL library administrator control over which drives in the library may be accessed by the various backup hosts on the SAN. There are two levels of Secure Manager for ESL implemented with the Interface Manager card:

- **Basic Secure Manager** does not require a license key and is activated automatically. With basic Secure Manager, you can configure whether or not a particular host Host Bus Adapter (HBA) can access the library. However, basic Secure Manager does not allow you to control whether a particular host HBA can see individual components within the library. Basic Secure Manager provides an “all or nothing” level of control. Basic Secure Manager is accessible through the CLI.
- **Advanced Secure Manager** requires Command View ESL to use and is not available through the CLI. See [Secure Manager for ESL](#) for more information.

Accessing basic Secure Manager through the CLI

You can use the CLI to map a Host Bus Adapter (HBA) of a backup host to the library. When you map a host, you give it full access to the entire library. When you unmap a host, you deny it access to the entire library.

To map a host:

1. Use the following command to show a list of all hosts that are known by the system:

```
show host info
```

This command lists all known hosts and assigns each one a host number. You will need the host number to map the host.

The Interface Manager card keeps track of all hosts that attempt to access the library. Some hosts in the SAN may not be recognized by the Interface Manager card. If a host that you need to map is not recognized by the system, use the following command to add the host:

```
create host <nodewwn> <hostname>
```

The arguments for the `create host` command are as follows:

- **nodewwn**—Specify the node world wide name. World wide names are specified as 16 hex digits. For example, "1234567890ABCDEF" is a well-formed world wide name. This operand is required.
- **hostname**—Specify the name of the host. The host name may contain letters, numbers, and '_' characters. The maximum length for a host name is 19 characters. This operand is required.

After creating a new host, use the `show host info` command to determine the host number of the new host.

2. Use the following commands to map or unmap a host, respectively:

- `map host <host number>`
- `unmap host <host number>`

where `<host number>` is the number of the host you want to map or unmap, determined in [step 1](#).

Advanced Features

4

The Interface Manager card supports optional features that can be licensed separately:

- **HP StorageWorks Direct Backup Engine for ESL Tape Libraries**—This feature provides a direct or “serverless” backup solution that streams data directly from an HP disk array to a tape drive in the ESL library without sending data through an application server. The Interface Manager card is required to activate this feature.
- **HP StorageWorks Secure Manager for ESL Tape Libraries**— This feature has two main functions:
 - **Host Access** gives the ESL library administrator control over which libraries or drives within a library may be accessed by the various backup hosts on the SAN.
 - **Library Partitioning** enables the ESL library administrator to divide the physical library into multiple, logical libraries.
- **HP StorageWorks Licensed Capacity Panel Upgrade for ESL E-Series**—With certain tape libraries, additional capacity can be licensed as needed. The Licensed Capacity Panel Upgrade for ESL E-Series feature enables you to enter a license key to unlock this additional capacity.

Other functionality described in this chapter includes:

- **Obtaining and Installing License Keys**
- **Using support tickets**

Direct Backup Engine for ESL

The Direct Backup Engine for ESL provides a direct or “serverless” backup solution that streams data directly from an HP-supported disk array to a tape drive in the ESL tape library without sending the data through the application server. This greatly improves performance and eliminates the need for backup servers to keep up with increasingly powerful tape drives.

With the traditional backup method, the backup host server requests the data from the disk array and then resends the data back out to the appropriate tape drive in the library. With Direct Backup Engine for ESL, the backup application on the backup host server sends a command directly to a FC interface controller in the ESL tape library. The FC interface controller then requests data directly from the disk array and sends that data directly to the appropriate tape drive. This process is repeated until the backup job is complete.

Requirements

The following requirements must be met to use Direct Backup Engine for ESL:

- HP StorageWorks ESL9000 Series or ESL E-Series library, operating in a SAN environment, with the following hardware installed:
 - Interface Manager card
 - Up to four (with ESL9000 Series) or six (with ESL E-Series) e2400, e2400-FC 2G, or e2400-160 FC interface controllers
- Backup application software that supports serverless backup
- HP disk array
- One or more valid Direct Backup Engine for ESL license keys must be installed for each library using Command View ESL. Each tape drive that will use Direct Backup Engine for ESL must be covered by the LTU (license to use) quantity for each license key. For example, if you have two license keys and one license key has an LTU quantity of four and the other has an LTU quantity of two, then a total of six drives can use Direct Backup Engine for ESL. See [Obtaining and installing license keys](#) for more information.

Using Direct Backup Engine for ESL

Before using Direct Backup Engine for ESL, you must obtain and install the license key. See [Obtaining and installing license keys](#) for more information.

Configuring the SAN to work with serverless backup is beyond the scope of this documentation. Many of the SAN requirements depend on the backup application used. For instructions on how to set up and use serverless backup, refer to your backup application documentation.

Enabling Direct Backup for ESL on tape drives

Before you can use Direct Backup, you must first indicate which drives will use the feature. The number of drives that can use Direct Backup is determined by the LTU quantity of the license key or keys enabling Direct Backup.

To enable Direct Backup on tape drives:



Caution: Changing the Direct Backup drive configuration may require a reboot of the Interface Manager card. Make sure that no backup operations are in progress before proceeding.

1. Start a Command View ESL session. See [Starting Command View ESL](#) for instructions.
2. From the **Library Selection** tab of the **Launcher** screen, double-click the desired library.
3. Click the **Configuration** tab.
4. Click the **Direct Backup** item in the treeview to display the **Direct Backup** screen.

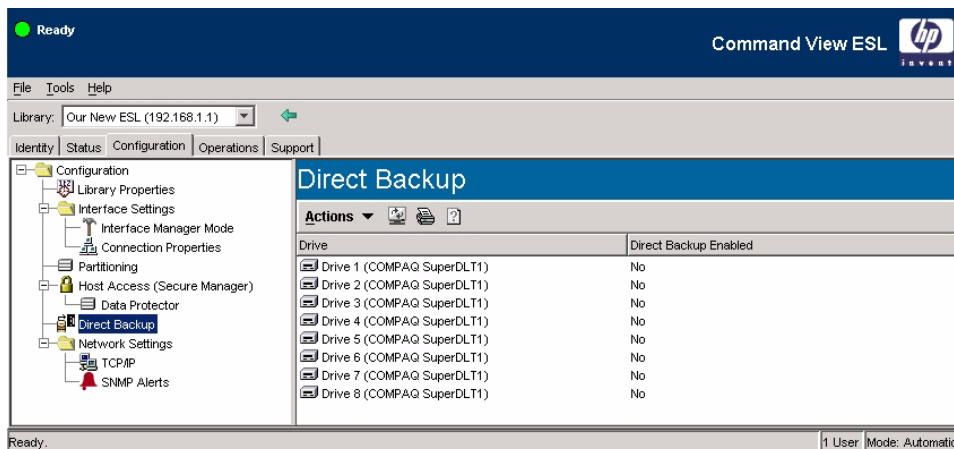


Figure 18: Direct Backup screen

The **Direct Backup** screen displays a list of drives and whether Direct Backup is enabled for each drive.

5. Click **Actions > Edit Direct Backup...** to display the **Direct Backup** dialog box.

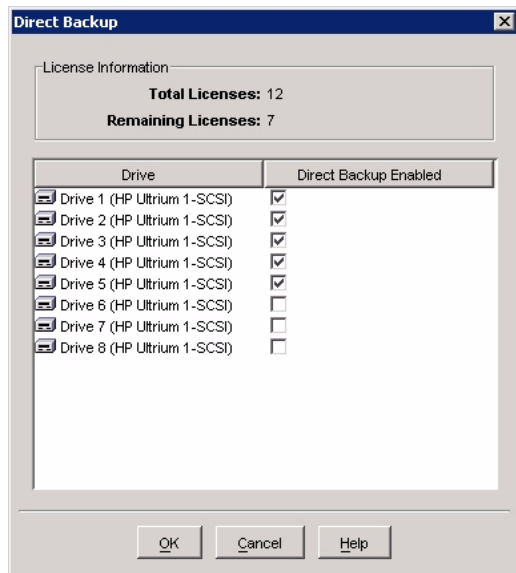


Figure 19: Direct Backup dialog box

6. Select the checkbox for each drive to enable Direct Backup on that drive. The total licenses and remaining licenses are displayed at the top of the dialog box. The number of remaining licenses is updated each time you select or deselect a checkbox. If you exceed the total number of licenses, you will not be able to save the configuration.
7. Click **OK** to save the configuration.

Secure Manager for ESL

Secure Manager for ESL gives the ESL library administrator control over which devices in the library (drives and robotic controller) may be accessed by the various backup hosts on the SAN. Access can be configured for each FC port on an HBA. Each port of a dual-port HBA must be configured separately.

There are two levels of Secure Manager for ESL implemented with the Interface Manager card:

- **Basic Secure Manager**—does not require a license key and is activated automatically. With basic Secure Manager, you can configure whether or not a particular FC port of a host Host Bus Adapter (HBA) can access the library. However, basic Secure Manager does not allow you to control whether this FC port can see individual components within the library. Basic Secure Manager provides an “all or nothing” level of control.
- **Advanced Secure Manager**—requires a license key before it can be used. Advanced Secure Manager provides the same functionality as basic Secure Manager, but adds more granular control over access.

With advanced Secure Manager, you can configure which drives in the library each FC port of the host HBA is allowed to access. This level of control effectively partitions the library resources into user-defined zones that can be allocated to certain host HBA FC ports on the SAN, thus reducing the possibility of access conflicts and errors.

In addition to managing host access, Secure Manager also enables the library administrator to partition the physical library into multiple logical libraries.

Requirements

The following requirements must be met to use Secure Manager for ESL:

- HP StorageWorks ESL9000 Series or ESL E-Series library, operating in a SAN environment, with the following hardware installed:
 - Interface Manager card
 - Up to four (with ESL9000 Series) or six (with ESL E-Series) e2400, e2400-FC 2G, or e2400-160 FC interface controllers
- A valid license key is required to use Advanced Secure Manager for ESL. See [Obtaining and installing license keys](#) for more information.

Configuring host access

You must use Command View ESL to configure Advanced Secure Manager for ESL. To configure Secure Manager ESL:

1. Start a Command View ESL session. See [Starting Command View ESL](#) for instructions.
2. From the **Library Selection** tab of the **Launcher** screen, double-click the desired library.
3. Click the **Configuration** tab.
4. Click the **Host Access (Secure Manager)** item in the treeview to display the **Secure Manager** screen. If the library is partitioned, the partitions are shown as children of the Host Access (Secure Manager) item in the treeview. Click the appropriate partition.

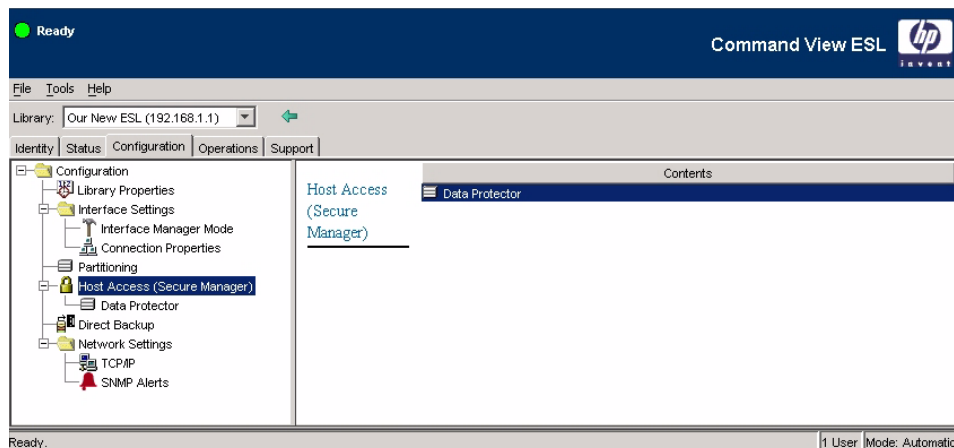


Figure 20: Secure Manager screen (non-partitioned library)

The left column of the **Secure Manager** screen displays a list of host HBAs that have recently logged into the FC interface controllers. The remaining columns correspond to the devices within the library or partition (robotics and drives). A green check in a column indicates that the corresponding host HBA has access to that device. At this point, you have several options:

- [Adding or removing a host HBA from the list](#)
- [Editing the host HBA alias](#)
- [Viewing host HBA properties](#)
- [Configuring access for a host HBA](#)
- [Viewing the device map](#)

Adding or removing a host HBA from the list

If the host HBA you want to configure is not shown in the list, you must add it manually. To add a host HBA to the list:

1. Click **Actions > Edit Host/HBA Access...** to open the **Edit Host/HBA Access** dialog.
2. Do one of the following:

If the host HBA you are adding has already been detected by Command View ESL:

- a. Click **Actions > Add Known Host/HBA...** to open the **Add Known Host/HBA** dialog.
- b. Select the host HBA(s) to add, and then click **OK** to return to the **Edit Host/HBA Access** dialog.

If the host HBA you are adding is new:

- a. Click **Actions > Add New Host/HBA...** to open the **Add New Host/HBA** dialog.
 - b. Enter the name (alias), World Wide Node Name, and World Wide Port Name of the host HBA in the respective text boxes, and then click **OK** to return to the **Edit Host/HBA Access** dialog.
3. Configure host HBA access. Do one of the following:
 - If you are using Basic Secure Manager, no further configuration is necessary. Click **OK** to close the **Edit Host/HBA Access** dialog and return to the **Secure Manager** screen. The host HBA you just added is displayed in the list and has full access to all devices in the library.

- If you are using Advanced Secure Manager, find the host HBA you just added in the list. In the same row, select the checkbox for each device you want the host HBA to have access to. Click **OK** to close the **Edit Host/HBA Access** dialog and return to the **Secure Manager** screen. The host HBA you just added is displayed in the list and has access to the devices you specified.

Editing the host HBA alias

To specify a “friendly” name (alias) for a particular host HBA:

1. Click **Actions > Edit Host/HBA Access...** to open the **Edit Host/HBA Access** dialog.
2. In the **Edit Host/HBA Access** dialog, select the host HBA to edit and click **Actions > Edit Host/HBA Name...** to display the **Edit Host/HBA Name** dialog box.
3. Enter the desired alias and click **OK** to return to the **Edit Host/HBA Access** dialog.
4. Click **OK** to return to the **Secure Manager** screen.

Viewing host HBA properties

To view the properties of the host HBA:

1. Select the host HBA in the list.
2. Click **Actions > Properties...** (or double-click the host HBA name in the list) to display the **Host/HBA Properties** dialog.

Configuring access for a host HBA

To configure access for all of the host HBAs in the list:

1. Verify that the list contains all of the host HBAs for which you want to configure access. If any host HBAs are missing, see [Adding or removing a host HBA from the list](#) for instructions.
2. Click **Actions > Edit Host/HBA Access...** to open the **Edit Host/HBA Access** dialog.
3. For each host HBA, select the checkbox for each device you want the host HBA to have access to. Click **OK** when finished.

Note: If you are using Basic Secure Manager, you cannot specify access to individual devices. For each host HBA, you must either select all the devices in that row, or deselect all the devices in that row. Remember that Basic Secure Manager provides “all or nothing” access to the entire library, not specific devices within the library.

Note: You can copy the access configuration from one host HBA to another. Select the “source” host HBA with the configuration you want to copy and press **Ctrl+C** (or click the **Copy** button at the top of the dialog box) to copy the configuration. Then click the “destination” host HBA and press **Ctrl+V** (or click the **Paste** button at the top of the dialog box) to copy the configuration.

Viewing the device map

The device map shows how a particular host HBA “sees” the configuration within a library. The device map displays all of the devices in the library in the first column. The second and third columns display the FC port and LUN information respectively for the corresponding device, as it appears to that host HBA. The device map is displayed in the host HBA Properties dialog. To view a device map:

1. Select the host HBA in the list.
2. Click **Actions > Properties...** (or double-click the host HBA name in the list) to display the **Host/HBA Properties** dialog.

Partitioning a library

Using the advanced version of Secure Manager, you have the option of partitioning the physical library into multiple logical libraries.

When partitioning a library, consider the following:

- If you choose not to partition your library, that is not equivalent to having a library with one large partition. Although you could create one large partition, doing so does not have any benefit. You should either create two or more partitions, or not partition the library at all.
- If you choose to partition your library, you must assign each of the library resources to a partition. Any devices that are not assigned to a partition will not be seen by backup software.
- A partition must contain at least one drive and one slot. Mailslots are optional.

- Creating and deleting partitions affects host access configuration. Deleting a partition removes mapping information for that partition.
- Partitions cannot be edited after they have been created. To make changes to a partition, you must delete and recreate it.

Adding a partition

To partition a library:

1. Start a Command View ESL session. Refer to [Starting Command View ESL](#) for instructions on how to do this.
2. From the **Library Selection** tab of the **Launcher** screen, double-click the library that you want to partition.
3. Click the **Configuration** tab.
4. Click the **Partitioning** item in the treeview to display the **Partitioning** screen. The **Partitioning** screen displays each partition in the library and shows which mailslots, drives, and slots are assigned to that partition.

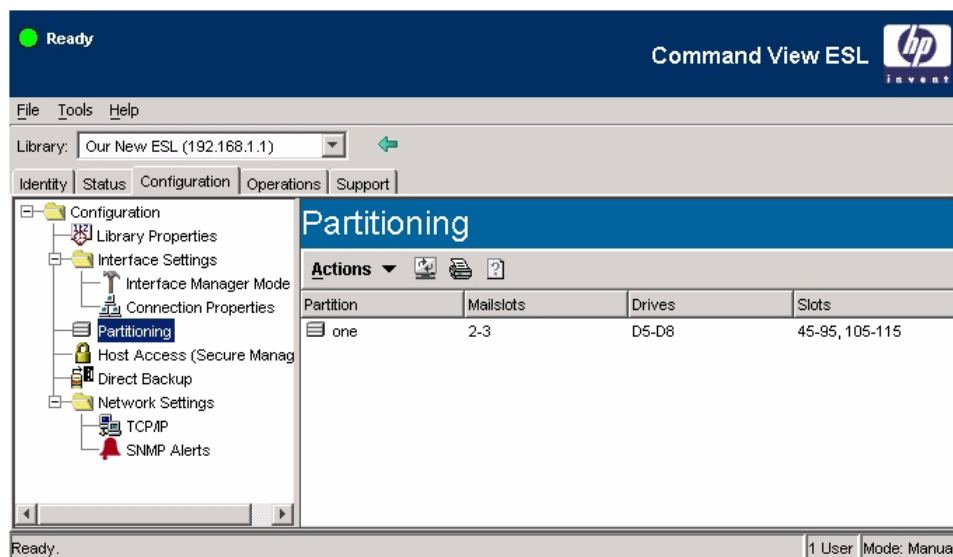


Figure 21: Partitioning screen

5. Click **Actions > Add Partition** to launch the **Add Partition** wizard.
6. Follow the instructions in the wizard to create the new partition. The various screens of the wizard allow you to:

- name the partition.
- assign drives.
- assign mailslots.
- assign slots to the partition.
- confirm your selections and create the partition.

Some devices may not be available to add to the partition depending on your library configuration, or if those devices are already assigned to another partition.

Removing a partition

To remove a partition, click **Actions > Remove Selected Partition**.



Caution: Devices are unavailable until they are reassigned to another partition, or until all partitions are deleted.

When you remove a partition, any devices that were in that partition must be reassigned to the remaining partitions on the library. Devices are unavailable until they are reassigned to another partition. If you remove all partitions, then the library reverts to a non-partitioned state and all devices are available. Any time you add or remove partitions, you must reconfigure host access. For more information, see [Configuring host access](#).

Viewing partition properties

To view the properties of a partition, click **Actions > Properties**, or double-click the partition.

Using the Licensed Capacity Panel Upgrade for ESL E-Series feature

Certain HP StorageWorks tape libraries allow you to license additional capacity as needed. The following HP StorageWorks tape libraries support the Licensed Capacity feature:

- ESL322e
- ESL286e

In the libraries listed above, slots are grouped into panels. When you purchase one of these libraries, panels one, two, and three are enabled by default. You can purchase up to three additional licenses to upgrade the capacity of the library. The first license enables panel four, the second license enables panel five, and the third license enables panels six and seven.

Figure 22 shows the layout of the slot panels in an ESL E-Series tape library and how those panels are numbered/named.

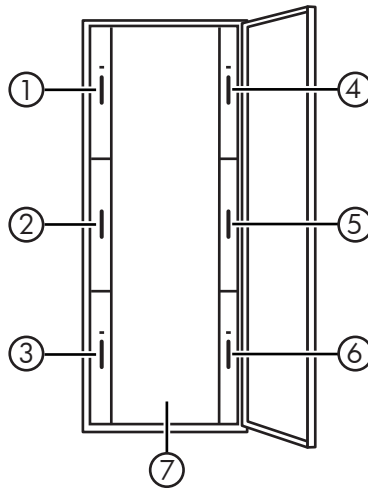


Figure 22: ESL E-Series slot panels

①	Upper left panel	②	Middle left panel
③	Lower left panel	④	Upper right panel
⑤	Middle right panel	⑥	Lower right panel
⑦	Back wall		

Licensing the additional capacity is a two step process:

1. Obtain and install the license key as described in [Obtaining and installing license keys](#).
2. Activate the newly licensed capacity as follows:
 - a. Click the **Configuration** tab.
 - b. Click the **Licensed Capacity** item in the treeview to display the **Licensed Capacity** screen. This screen has three columns. The **Capacity** column shows the groups of slots that can be accessed. The **State** column shows the current state of the license for that group of slots, and the **Description** column displays additional information about that group of slots.
 - c. Click Actions > **Enable Pending Capacity**. The **State** column is updated and the newly-licensed capacity is now available.

Note: The Licensed Capacity item in the treeview is only visible with libraries that support the Licensed Capacity feature.

Obtaining and installing license keys

To obtain and install your license key(s):

1. **Purchase the license(s)**. You may have already purchased the additional licensable features when you ordered the ESL library. If not, visit www.hp.com or contact your HP authorized reseller for purchasing information.

After purchasing the license(s), you will receive one or more Software Entitlement Certificates that show the HP order number, the product number and name, and the quantity ordered.
2. **Obtain the license key(s)**. Fill out the required information and follow the instructions on the Software Entitlement Certificate(s) to obtain your license keys. HP generates the license key based on the HP order number and the serial number of the library that the key will be installed in. HP will provide you with the license keys via whichever method you specified on the Software Entitlement Certificate (online, e-mail, or fax).
3. **Use Command View ESL to install the license key(s) for your library**. This step is described in detail in the [Installing the license keys](#) section.

Installing the license keys

Before installing your license keys, keep in mind the following:

- You must use Command View ESL to install each license key for the library having the serial number used to obtain the key. The license cannot be installed for a different library.
- License keys cannot be transferred.

Each license key must be installed separately using the License Manager of Command View ESL. To install a license key:

1. Start a Command View ESL session. Refer to [Starting Command View ESL](#) for instructions on how to do this.
2. From the **Library Selection** tab of the **Launcher** screen, click the **License Key Summary** tab.
3. Click **Actions > Add New License Key...** to display the **Add License Key** dialog box.
4. Enter the license key in the provided text box and click **OK**. The new license key is added to the **License Key Summary** screen.

For more information about using the License Manager, see [License Key Summary tab](#).

Using support tickets

Command View ESL uses an integrated version of HP StorageWorks Library and Tape Tools to generate a support ticket. In the event of a hardware problem, a support ticket can provide vital information to help in diagnosing and resolving the problem.

When a support ticket is generated, the program collects configuration information and executes a Device Analysis test on the selected device or devices. This information can then be viewed, saved, or e-mailed. A support ticket is saved as a log file having the **.ltx* extension.

Generating a support ticket

1. Start a Command View ESL session. See [Starting Command View ESL](#) for instructions.
2. From the **Library Selection** tab of the **Launcher** screen, double-click the appropriate library.
3. Click the **Support** tab.
4. Click the **Support Ticket** item in the treeview.
5. Click **Actions > Launch Support Ticket Wizard**.
6. On the **Support Ticket Wizard Options** screen, select **Generate a new Support Ticket**.
7. Complete the remainder of the Support Ticket wizard, specifying a name for the new support ticket and the devices to be included in the support ticket. When the support ticket is complete, it is added to the **Support Ticket** screen.

Viewing a support ticket

Support tickets are displayed in the support ticket viewer. Information is displayed in a standard treeview format. Click the “+” and “-” signs to expand and collapse sections of the support ticket. Use the standard navigation keys (**Home**, **End**, **Page Up**, **Page Down**, and the arrow keys), the Windows scroll bars, and the mouse to navigate through the document.

Note: The detail level of the support ticket is set to “Everything.” This level cannot be changed.

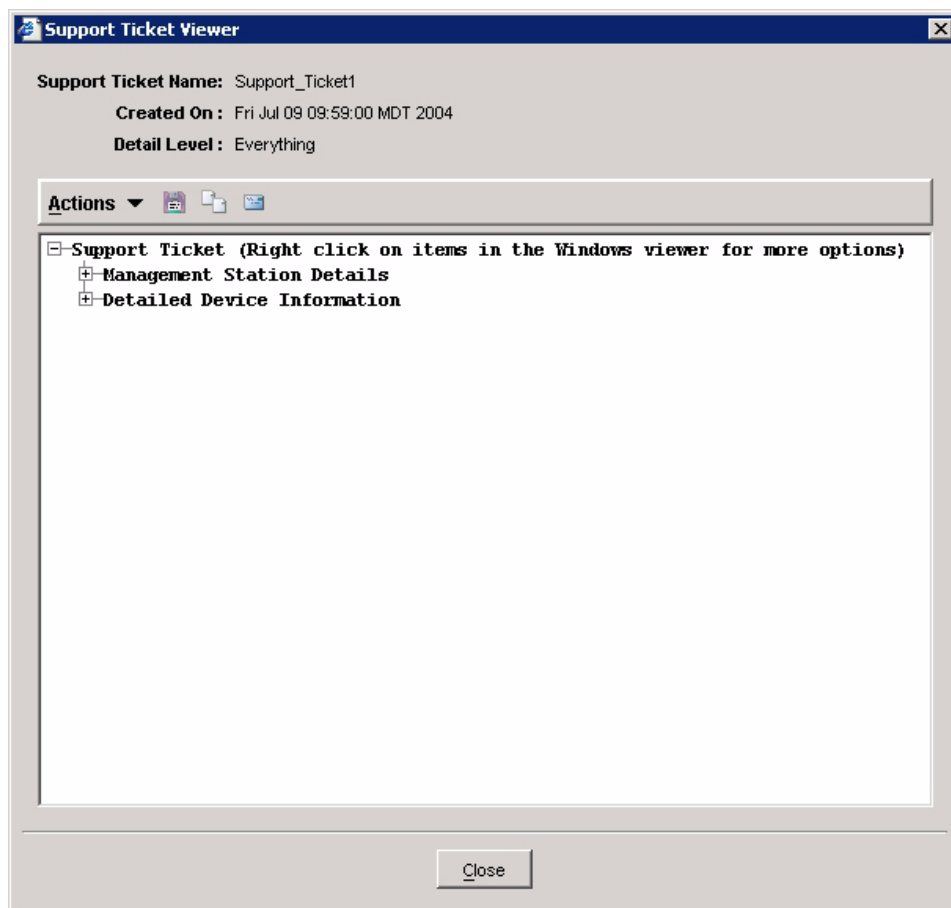



Figure 23: Support ticket viewer

The **Actions** menu in the support ticket viewer has three items. These menu items are duplicated as toolbar buttons directly to the right of the **Actions** menu. The functionality of these menu items is as follows:

- **Save Support Ticket As**—brings up a standard **Save As** dialog box so that you can change the name of the support ticket, or save it to a different location.
- **Copy to Clipboard**—copies the current line to the Windows clipboard.
- **E-mail to HP**—opens the **Email Support Ticket** dialog that allows you to send the support ticket by e-mail.

Right-click any node (line) in the support ticket viewer to display a context menu that exposes additional functionality. Depending on the node that was clicked, the following items may or may not be available (unavailable items are greyed out):

- **Event Data**—Select this item to open the **Event Data** window, which displays specific information about the event.
- **Event Explanation**—Select this item to open the **Event** window, which displays additional information about the event. You can view the the data in either ASCII or hexadecimal format. This feature is available for items preceded with the blue information icon ().
- **Copy to Clipboard**—Select this item to copy the current line to the Windows clipboard.

Sending a support ticket by email

To send a support ticket by e-mail, select the support ticket and click **Actions > Email Selected Support Ticket** to open the **Email Support Ticket** wizard.

Note: Before Command View ESL can e-mail a support ticket, you must have an SMTP server.

The **E-mail Support Ticket** wizard has three screens:

1. **Screen 1**—indicate whether this is a new support request or an existing case.
 - If this is an ongoing support case, select the **Send to support provider in reference to an open case** option and enter the case reference number in the appropriate field.
 - If this is a new support request, select the **Send to support provider to request support by e-mail** option (this option is the default). Enter the product number and product serial number in the appropriate fields.
2. **Screen 2**—enter the destination e-mail address. Use the radio buttons to select the support provider, or enter the e-mail address manually. You must also specify the “from” e-mail address.
3. **Screen 3**—enter your company name, contact name, contact phone, and a description of the problem.

Note: Large support tickets are automatically broken down into multiple, smaller sub-ticket components and sent in multiple emails. The master file has an `.//` extension, and the sub components have a `.dat` extension. To be viewed properly, the recipient of these emails must save all of the sub-ticket components to the same directory. When sending a large support ticket by e-mail, be sure to send all of the components or else the support ticket will be unreadable.

When you have completed the wizard, click **Finish**.

Other support ticket functionality

The **Actions** menu on the **Support Ticket** screen contains the following items:

- **Properties**—displays additional information about the selected support ticket. This is the default action; double-clicking a support ticket automatically displays the properties.
- **Save Support Ticket As**—brings up a standard **Save As** dialog box so that you can change the name of the support ticket, or save it to a different location.
- **View Selected Support Ticket**—opens the support ticket in the support ticket viewer. See [Viewing a support ticket](#) for more information.
- **Remove Selected Support Ticket**—removes (deletes) the support ticket.
- **Email Selected Support Ticket**—opens the **Email Support Ticket** dialog that allows you to send the support ticket by e-mail. See [Sending a support ticket by email](#) for more information.

Troubleshooting



This chapter lists several common problems and how to resolve them. For additional support, go to:

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

Table 8: ESL9000 Series issues

Symptom	Possible Cause	Solution
Command View ESL server does not detect the Interface Manager card	Bad network connection	Verify that the Interface Manager card and the management station are correctly connected to the LAN.
	Interface Manager card not powered up or in ready state	Power up the library. Observe status and link LEDs. For a description of LED diagnostic codes, refer to the "Troubleshooting" chapter of the <i>HP StorageWorks Interface Manager and Command View ESL Installation Guide</i> .
	Incorrect IP address	Verify that the correct IP address of the Interface Manager card is entered in Command View ESL. <ol style="list-style-type: none">1. Refer to "Getting or Setting the Interface Manager IP Address" in Chapter 3 of the <i>HP StorageWorks Interface Manager and Command View ESL Installation Guide</i> to obtain the correct IP address.2. Refer to Adding or removing a library to configure Command View ESL with the correct IP address.
	Interface Manager card has outdated firmware	Verify that the Interface Manager card has I130 or later firmware.

Symptom	Possible Cause	Solution
Interface Manager card does not detect one or more FC interface controllers	Bad network connection	Verify that the Interface Manager card is properly connected to the FC interface controllers and that the cables are good. See the <i>HP StorageWorks Interface Manager and Command View ESL Installation Guide</i> for more information.
	Incorrect firmware revision	Make sure that the FC interface controllers have the latest firmware revision. Check http://www.hp.com/support for the latest firmware for your devices.
	Defective Interface Manager card or FC interface controller	Observe status and link LEDs. Replace defective card or controller. For a description of LED diagnostic codes, refer to the "Troubleshooting" chapter of the <i>HP StorageWorks Interface Manager and Command View ESL Installation Guide</i> .
	DHCP not enabled on the interface controller	DHCP must be enabled on the interface controller before the Interface Manager card can communicate with it. Refer to the interface controller documentation for instructions on enabling DHCP mode. Note: HP recommends resetting all interface controllers to their default settings.

Symptom	Possible Cause	Solution
Interface Manager card does not detect drives or library	SCSI cables not connected properly	Check SCSI cabling.
	FC cables (e2400-FC 2G only) not connected properly or damaged	Check FC cables and replace if necessary. Use link LEDs to troubleshoot connections and cable integrity.
	SCSI settings or termination not set properly	<ul style="list-style-type: none"> ■ Check the SCSI settings for the device. ■ Check that the SCSI bus is properly terminated.
	Timing issues	Reset the corresponding FC interface controller.
	Drive not powered up or in ready state	Troubleshoot drive.
Command View ESL does not run in the browser	Incompatible browser version or Java support not enabled	<ul style="list-style-type: none"> ■ Make sure you are using a minimum of Microsoft Internet Explorer v6.0 SP1 or later, or Netscape Navigator v6.2 or later. ■ Make sure that Java support is enabled in the browser.
	Java Runtime Environment (JRE) not installed	Download and install the Java 2 Platform, Standard Edition plugin v1.4.2 or later from http://www.java.com .
	Bad network connection or network down	<ul style="list-style-type: none"> ■ Check all physical network connections. If the connections are good, contact your network administrator. ■ Ping the management station. If pinging fails and the IP address is correct, contact your network administrator.
	Wrong IP address	Check the IP address of the management station. On the management station, open a command shell and enter <code>ipconfig</code> . You must use this IP address (or the network name of the management station) in the URL to access Command View ESL.
	Management station not running, or Command View ESL service not running on management station	<ul style="list-style-type: none"> ■ Check to see if the management station is operational. ■ Use the Services applet to verify that the Command View ESL service is running on the management station. Click Start > Settings > Control Panel > Administrative Tools > Services.

Table 9: ESL E-Series issues

Symptom	Possible Cause	Solution
Command View ESL server does not detect the Interface Manager card	After powering up the library, it can take up to ten minutes for Command View ESL to detect the Interface Manager card	This is a normal delay. Wait for ten minutes and try again.
	Bad network connection	Verify that the library and the management station are correctly cabled.
	Interface Manager card not powered up or in ready state	Power up the library. Observe status and link LEDs. For a description of LED diagnostic codes, refer to the "Troubleshooting" chapter of the <i>HP StorageWorks Interface Manager and Command View ESL Installation Guide</i> .
	Incorrect IP address	Verify that the correct IP address of the library is entered in Command View ESL. <ul style="list-style-type: none"> ■ Refer to the <i>HP StorageWorks ESL E-Series Tape Library User Guide</i> for instructions on determining the library IP address. ■ See Adding or removing a library to configure Command View ESL with the correct IP address.
	Defective Cabinet Controller	Call HP Service.
	Interface Manager card has outdated firmware	Verify that the Interface Manager card has I130 or later firmware.

Symptom	Possible Cause	Solution
Interface Manager card does not detect one or more FC interface controllers	Bad network connection	Verify that the Interface Manager card is properly connected to the library's internal LAN and that the cables are good. Refer to the <i>HP StorageWorks ESL E-Series Tape Library User Guide</i> for more information.
	Incorrect firmware revision	Make sure that the FC interface controllers have the latest firmware revision. Check http://www.hp.com/support for the latest firmware for your devices.
	Defective Interface Manager card or FC interface controller	Observe status and link LEDs. Replace defective card or controller. For a description of LED diagnostic codes, refer to the "Troubleshooting" chapter of the <i>HP StorageWorks Interface Manager and Command View ESL Installation Guide</i> .
	DHCP not enabled on the interface controller	DHCP must be enabled on the interface controller before the Interface Manager card can communicate with it. Refer to the interface controller documentation for instructions on enabling DHCP mode. Note: HP recommends resetting all interface controllers to their default settings.
Interface Manager card does not detect drives or library	SCSI cables not connected properly	Check SCSI cabling.
	FC cables (e2400-FC 2G only) not connected properly or damaged	Check FC cables and replace if necessary. Use link LEDs to troubleshoot connections and cable integrity.
	SCSI settings or termination not set properly	<ul style="list-style-type: none"> ■ Check the SCSI settings for the device. ■ Check that the SCSI bus is properly terminated.
	Timing issues	Reset the corresponding FC interface controller.
	Drive not powered up or in ready state	Troubleshoot drive.

Symptom	Possible Cause	Solution
Command View ESL does not run in the browser	Incompatible browser version or Java support not enabled	<ul style="list-style-type: none"> ■ Make sure you are using a minimum of Microsoft Internet Explorer v6.0 SP1 or later, or Netscape Navigator v6.2 or later. ■ Make sure that Java support is enabled in the browser.
	Java Runtime Environment (JRE) not installed	Download and install the Java 2 Platform, Standard Edition plugin v1.4.2 or later from http://www.java.com .
	Bad network connection or network down	<ul style="list-style-type: none"> ■ Check all physical network connections. If the connections are good, contact your network administrator. ■ Ping the management station. If pinging fails and the IP address is correct, contact your network administrator.
	Wrong IP address	Check the IP address of the management station. On the management station, open a command shell and enter <code>ipconfig</code> . You must use this IP address (or the network name of the management station) in the URL to access Command View ESL.
	Management station not running, or Command View ESL service not running on management station	<ul style="list-style-type: none"> ■ Check to see if the management station is operational. ■ Use the Services applet to verify that the Command View ESL service is running on the management station. Click Start > Settings > Control Panel > Administrative Tools > Services.

CLI Command Reference



This chapter provides an alphabetical reference of CLI commands used with the Interface Manager card.

User commands

The following commands are available to all users. Click a command name in the table to jump to the description of that command.

<code>add directbackup</code>	<code>set system contact email</code>	<code>show interface targetport mode</code>
<code>create host</code>	<code>set system contact name</code>	<code>show interface targetport speed</code>
<code>delete directbackup</code>	<code>set system contact pager</code>	<code>show library access</code>
<code>download interface</code>	<code>set system contact phone</code>	<code>show library info</code>
<code>download drive</code>	<code>set system location</code>	<code>show library interface</code>
<code>download mgmt</code>	<code>set system name</code>	<code>show library name</code>
<code>download library</code>	<code>setup</code>	<code>show library productid</code>
<code>map host</code>	<code>show directbackup</code>	<code>show library revision</code>
<code>move media</code>	<code>show drive access</code>	<code>show library serialnumber</code>
<code>reboot all</code>	<code>show drive info</code>	<code>show library status</code>
<code>reboot interface</code>	<code>show drive interface</code>	<code>show library topology</code>
<code>reboot library</code>	<code>show drive name</code>	<code>show license</code>
<code>reboot mgmt</code>	<code>show drive productid</code>	<code>show media</code>
<code>restore interface defaults</code>	<code>show drive revision</code>	<code>show mgmt clock</code>
<code>restore system config</code>	<code>show drive serialnumber</code>	<code>show mgmt info</code>
<code>save interface log</code>	<code>show drive status</code>	<code>show mgmt revision</code>
<code>save drive lttsupportticket</code>	<code>show drive type</code>	<code>show mgmt status</code>
<code>save interface lttsupportticket</code>	<code>show firmware available</code>	<code>show mgmt timezone</code>
<code>save library lttsupportticket</code>	<code>show firmware revisions</code>	<code>show mode</code>
<code>save mgmt lttsupportticket</code>	<code>show host access</code>	<code>show network dhcp</code>
<code>save mgmt log</code>	<code>show host info</code>	<code>show network ipaddress</code>
<code>save system config</code>	<code>show host name</code>	<code>show partition</code>
<code>set host name</code>	<code>show interface access</code>	<code>show robotics status</code>
<code>set interface hostport alpa</code>	<code>show interface hostport alpa</code>	<code>show system assetnumber</code>
<code>set interface hostport connection</code>	<code>show interface hostport connection</code>	<code>show system contact email</code>
<code>set interface hostport mode</code>	<code>show interface hostport mode</code>	<code>show system contact name</code>
<code>set interface hostport speed</code>	<code>show interface hostport speed</code>	<code>show system contact pager</code>
<code>set mgmt clock</code>	<code>show interface info</code>	<code>show system contact phone</code>
<code>set mgmt password</code>	<code>show interface name</code>	<code>show system info</code>
<code>set mgmt timezone</code>	<code>show interface revision</code>	<code>show system location</code>
<code>set mode</code>	<code>show interface status</code>	<code>show system name</code>
<code>set network dhcp</code>	<code>show interface targetport alpa</code>	<code>show system status</code>
<code>set network ipaddress</code>	<code>show interface targetport connection</code>	<code>unmap host</code>
<code>set system assetnumber</code>		

add directbackup

Description Activates the direct backup licensed feature on one or more tape drives. To use this command, the license key for the direct backup licensed feature must have been entered, and there must be unused units of this feature. To move a unit of the direct backup advanced feature from one tape drive to another, that unit must first be freed using the `delete directbackup` command. If more tape drives are specified than there are direct backup licensed features available, the command fails, and no changes are made.



Caution: Using this command could force a reboot of some interfaces. Make sure that no backup jobs are in progress before running this command.

Syntax `add directbackup <drive_num>`

Availability All users and modes

Operands `<drive_num>` Specify the tape drive on which the direct backup feature will be activated.
The direct backup licensed feature may be activated on all tape drives by specifying "all" for this operand. This operand is required.

Examples To activate the direct backup feature on all tape drives:

```

/>add directbackup all
Caution: Adding direct backup could force a reboot of some interfaces
and will terminate all backup operations involving the rebooting
interfaces.

Do you really want to add a direct backup?

Committing configuration...done
Currently, 8 of 8 units of the direct backup feature are being used

```

To activate the direct backup feature on tape drive 1:

```

/>add directbackup 1

Caution: Adding direct backup could force a reboot of some interfaces
and will terminate all backup operations involving the rebooting
interfaces.

Do you really want to add a direct backup?

Committing configuration...done
Currently, 1 of 8 units of the direct backup feature are being used

```

See Also [show directbackup](#)
[delete directbackup](#)

create host

Description	Creates a reference to a HBA. This should only be used for hosts not currently connected to any interfaces. If the specified host has already been created using the specified node world wide name and port world wide name, no changes are made. If there already exists a host with the specified host name, no changes are made.
Syntax	<code>create host <nodewwn> <nodewwpn> <hostname></code>
Availability	All users and modes
Operands	<p><code><nodewwn></code> Specify the node world wide name. World wide names are specified as 16 hex digits. For example, "1234567890ABCDEF" is a well-formed world wide name. This operand is required.</p> <p><code><nodewwpn></code> Specify the node world wide port name. World wide port names are specified as 16 hex digits. For example, "1234567890ABCDEF" is a well-formed world wide name. This operand is required.</p> <p><code><hostname></code> Specify the name of the host. The host name may contain letters, numbers, and '_' characters. The maximum length for a host name is 19 characters. This operand is required.</p>
Examples	To create the host with node world wide name 10000E002020C69 , world wide port name FFFFFFFFFFFFFFFF , and named myhost1 :
	<pre>/>create host 10000E002020C69 FFFFFFFFFFFFFFFFFF myhost1 Committing configuration...done</pre>
See Also	unmap host set host name show host name

delete directbackup

Description Deletes the direct backup licensed feature from one or more tape drives. To use this command, the license key for the direct backup licensed feature must have been entered.

If the specified tape drives do not have direct backup activated, no changes are made for those drives, but changes are made for other specified drives.



Caution: Using this command could force a reboot of some interfaces. Make sure that no backup jobs are in progress before running this command.

Syntax `delete directbackup <drive_num>`

Availability All users and modes

Operands `<drive_num>` Specify the tape drive on which the direct backup feature will be deleted.
The direct backup licensed feature may be deleted on all tape drives by specifying "all" for this operand.
This operand is required.

Examples To delete the direct backup feature from all tape drives:

```
/>delete directbackup all
```

Caution: Deleting direct backup could force a reboot of some interfaces and will terminate all backup operations involving the rebooting interfaces.

```
Do you really want to delete a direct backup? y
```

```
Committing configuration...done
Currently, 0 of 8 units of the direct backup feature are being used
```

To delete the direct backup feature from tape drive 2:

```
/>delete directbackup 2
```

Caution: Deleting direct backup could force a reboot of some interfaces and will terminate all backup operations involving the rebooting interfaces.

```
Do you really want to delete a direct backup? y
```

```
Committing configuration...done
Currently, 1 of 8 units of the direct backup feature are being used
```

See Also [show directbackup](#)
[add directbackup](#)

download interface

Description Downloads the images of a firmware file to one or more FC interface controllers. Firmware files can be retrieved from the Internet using HP StorageWorks Library and Tape Tools. Before using this command, a firmware file must have been transferred to the Interface Manager card firmware repository via FTP. See [Updating firmware](#) for more information.



Caution: Downloading firmware forces a reboot of the interface. Make sure that no backup jobs are in progress before running this command.

Syntax `download interface <interface_num> [force]`

Availability All users and modes

Operands `<interface_num>` Specify the interface number.
All of the interfaces may be rebooted by specifying "all" for this operand.
This operand is required.

`force` Specify `force` to skip the prompt asking if you are sure you want to download the firmware.
This operand is optional.

Examples To download the firmware repository file to interface 1:

```
>/download interface 1

Downloading interface firmware will cause a reboot of the
interface, and will cause any currently running backups to
fail. Do you wish to continue (press y/n)? y

Downloading fimrware to Interface Card 1...
Checking download status until status is download complete.
State: IN-PROGRESS           Download Percentage: 10
State: IN-PROGRESS           Download Percentage: 20
State: IN-PROGRESS           Download Percentage: 25
State: IN-PROGRESS           Download Percentage: 30
State: IN-PROGRESS           Download Percentage: 40
State: IN-PROGRESS           Download Percentage: 50
State: REBOOTING             Download Percentage: 60
State: REBOOTING             Download Percentage: 70
State: REBOOTING             Download Percentage: 80
State: REBOOTING             Download Percentage: 90
Success!
```

See Also [download drive](#)
[download mgmt](#)

download drive

Description	Downloads the images of a firmware file to one or more interfaces. Firmware files can be retrieved from the Internet using HP StorageWorks Library and Tape Tools. Before using this command, a firmware file must have been transferred to the Interface Manager card's firmware repository via FTP. See Updating firmware for more information.
Syntax	<code>download drive <drive_num> [force]</code>
Availability	All users and modes
Operands	<i><drive_num></i> Specify the drive number. All of the drives may be downloaded by specifying "all" for this operand. This operand is required.
	<code>force</code> Specify <code>force</code> to skip the prompt asking if you are sure you want to download the firmware. This operand is optional.

Examples To download the firmware repository file to all drives:

```
>/>download drive all

Downloading drive firmware will cause a reboot of the
drive, and will cause any currently running backups to
fail. Do you wish to continue (press y/n)? y

Downloading firmware to drive 1...
Checking download status until status is download complete
State: IN-PROGRESS           Download Percentage: 10
State: IN-PROGRESS           Download Percentage: 20
State: IN-PROGRESS           Download Percentage: 25
State: IN-PROGRESS           Download Percentage: 30
State: IN-PROGRESS           Download Percentage: 40
State: IN-PROGRESS           Download Percentage: 50
State: REBOOTING             Download Percentage: 60
State: REBOOTING             Download Percentage: 70
State: REBOOTING             Download Percentage: 80
State: REBOOTING             Download Percentage: 90
Success!
```

See Also [download interface](#)
[download mgmt](#)

download mgmt

Description Downloads the image of a firmware file to the Interface Manager card. Firmware files can be retrieved from the Internet using HP StorageWorks Library and Tape Tools. Before using this command, a firmware file must have been transferred to the Interface Manager card firmware repository via FTP. See [Updating firmware](#) for more information.



Caution: Downloading firmware forces a reboot of the Interface Manager card. Make sure that no backup jobs are in progress before running this command.

Syntax `download mgmt [force]`

Availability All users and modes

Operands `force` Specify `force` to skip the prompt asking if you are sure you want to download the firmware. This operand is optional.

Examples To download firmware to the Interface Manager card:

```
>/>download mgmt

Downloading Interface Manager firmware will cause a reboot of the
Interface Manager, will end the current CLI session, and you will
have to log on again.
Do you wish to continue (press y/n)? y

Downloading firmware to the Interface Manager...done
Bye!
```

See Also [download drive](#)
[download interface](#)

download library

Description Downloads the image of a firmware file to the library.
Firmware files can be retrieved from the Internet using HP StorageWorks Library and Tape Tools. Before using this command, a firmware file must have been transferred to the Interface Manager card firmware repository via FTP. See [Updating firmware](#) for more information.



Caution: Downloading firmware forces a reboot of the library and all of its devices. Make sure that no backup jobs are in progress before running this command.

Syntax `download library [force]`

Availability All users and modes

Operands `force` Specify `force` to skip the prompt asking if you are sure you want to download the firmware.
This operand is optional.

Examples To download firmware to the library:

```

/>download library

Downloading library firmware will cause a reboot of the
drive, and will cause any currently running backups to
fail. Do you wish to continue (press y/n)? y

Downloading firmware to the library...
Checking download status until status is download complete
State: IN-PROGRESS           Download Percentage: 10
State: IN-PROGRESS           Download Percentage: 20
State: IN-PROGRESS           Download Percentage: 25
State: IN-PROGRESS           Download Percentage: 30
State: IN-PROGRESS           Download Percentage: 40
State: IN-PROGRESS           Download Percentage: 50
State: REBOOTING             Download Percentage: 60
State: REBOOTING             Download Percentage: 70
State: REBOOTING             Download Percentage: 80
State: REBOOTING             Download Percentage: 90
Success!

```

See Also [download drive](#)
[download mgmt](#)

map host

Description Provides a host with access to all of the current drives.



Caution: Using this command could force a reboot of some interfaces. Make sure that no backup jobs are in progress before running this command.

Syntax `map host <host_num>`

Availability All users and modes

Operands `<host_num>` Specify the host number
This operand is required.

Examples To give host 1 access to all drives:

```
/>map host 1
Caution: Mapping hosts could force a reboot of some interfaces
and will terminate all backup operations involving the rebooting
interfaces.
Do you really want to map the host? y
Committing configuration...done
```

See Also [unmap host](#)
[set host name](#)
[show host name](#)

move media

Description Moves media between drives, slots, and mail slots.

Syntax `move media <destination><source>`

Availability All users and modes

Operands `<destination>`, `<source>` The media locations are specified using a media location type code and the logical address of the location. For instance:

- Dn — Drive at logical address "n"
- Mn — Mailslot at logical address "n"
- Sn — Storage slot at logical address "n"

Examples To move media from storage slot 10 to drive 1:

```
/>move media S10 D1
```

To move media from drive 1 to mail slot 1:

```
/>move media D1 M1
```

To move media from mail slot 1 to storage slot 10:

```
/>move media M1 S10
```

See Also [show media](#)

reboot all

Description Reboots the Interface Manager card and all interfaces.



Caution: To avoid loss of data, make sure that all backup jobs have completed before executing this command.

Syntax `reboot all [force]`

Availability All users and manual mode only

Operands `force` Specify
 3to skip the prompt asking if you are sure you want to reboot the Interface Manager card and all interfaces.
 This operand is optional.

Examples To reboot the Interface Manager card and all interfaces:

```

/>reboot all
Caution: Rebooting the Interface Manager and all interfaces could
take up to XX seconds, will terminate all backup operations, and
will require you to log on again to use the CLI.
Do you really want to reboot everything (y/n)? y
Rebooting interfaces.....done
Rebooting the Interface Manager
  
```

To reboot the Interface Manager card and all interfaces, skipping the reboot prompt:

```

/>reboot all force
Rebooting interfaces.....done
Rebooting the Interface Manager
  
```

See Also [reboot interface](#)
[reboot library](#)
[reboot mgmt](#)

reboot interface

Description Reboots one or more interfaces. After entering this command, you are prompted to input whether you are sure you want to reboot the interfaces.



Caution: Make sure that an interface is not involved in any backup operations before rebooting it.

Syntax `reboot interface <interface_num> [force]`

Availability All users and manual mode only

Operands `<interface_num>` Specify the interface number. All of the interfaces may be rebooted by specifying "all" for this operand. This operand is required.

`force` Specify `force` to skip the prompt asking if you are sure you want to reboot the interface(s). This operand is optional.

Examples To reboot interface 1:

```

/>reboot interface 1
Caution: Rebooting interfaces could take up to XX seconds and will
terminate all backup operations involving the rebooting
interfaces.
Do you really want to reboot the interface(s) (y/n)? y
Rebooting interfaces.....done
```

To reboot all interfaces, skipping the reboot prompt:

```

/>reboot interface all force
Rebooting interfaces.....done
```

See Also [reboot all](#)
[reboot library](#)
[reboot mgmt](#)

reboot library

Description Reboots the library. After executing this command, the CLI session is lost and must be reestablished.



Caution: To avoid loss of data, make sure that all backup jobs have completed before executing this command.

Syntax `reboot library [force]`

Availability All users and manual mode only

Operands `force` Specify `force` to skip the prompt asking if you are sure you want to reboot the Interface Manager card. This operand is optional.

Examples To reboot the library:

```
/>reboot library
```

To reboot the library, skipping the reboot prompt:

```
/>reboot library force
Rebooting the Interface Manager
```

See Also [reboot all](#)
[reboot interface](#)
[reboot mgmt](#)

reboot mgmt

Description Reboots the Interface Manager card. After entering this command, you are prompted to input whether you are sure you want to reboot the Interface Manager card.



Caution: To avoid loss of data, make sure that all backup jobs have completed before executing this command.

Syntax `reboot mgmt [force]`

Availability All users and manual mode only

Operands `force` Specify `force` to skip the prompt asking if you are sure you want to reboot the Interface Manager card. This operand is optional.

Examples To reboot the Interface Manager card:

```
/>reboot mgmt
Caution: Rebooting the Interface Manager could take up to XX
seconds, and you will have to log on again to use the CLI.
Do you really want to reboot the Interface Manager (y/n)? y
Rebooting the Interface Manager
```

To reboot the Interface Manager card, skipping the reboot prompt:

```
/>reboot mgmt force
Rebooting the Interface Manager
```

See Also [reboot all](#)
[reboot interface](#)
[reboot library](#)

restore interface defaults

Description Restores interfaces to their factory defaults.



Caution: Using this command forces a reboot of the interface. Make sure that no backup jobs are in progress before running this command.

Syntax	<code>restore interface defaults <interface_num></code>
Availability	All users and manual mode only
Operands	<code><interface_num></code> Specify the interface number that will be restored to factory defaults. All of the interfaces may be restored to factory defaults by specifying "all" for this operand. This operand is required.
Examples	To restore the factory defaults on interface 1: <pre data-bbox="344 701 1283 800">/>restore interface defaults 1 Committing configuration...done The interface(s) must be rebooted before the new configuration will take effect.</pre> To restore the factory defaults on all interfaces: <pre data-bbox="344 843 1283 942">/>restore interface defaults all Committing configuration... done The interfaces(s) must be rebooted before the new configuration will take effect.</pre>
See Also	setup

restore system config

Description Restores the system configuration so that it matches the last saved configuration. The system configuration includes the Interface Manager card, interfaces, and licensed feature configuration.

Before using this command, the system configuration must have been saved using the `save system config` command.

After entering this command, you are prompted to input whether you are sure you want to restore the system configuration.



Caution: This command may cause a reboot of one or more interfaces, causing backup operations to terminate, so make sure that there are no backup operations in process when this command is executed.

Syntax `restore system config [force]`

Availability All users and automatic mode only

Operands `force` Specify `force` to skip the prompt asking if you are sure you want to restore the system configuration to the last saved configuration.
This operand is optional.

Examples To restore the system configuration:

```

/>restore system config
Caution: Restoring the system configuration could take up to XX
seconds and may cause interfaces to reboot, terminating backup
operations involving the rebooting interfaces.
Do you really want to restore the system configuration (y/n)? y
Committing configuration...done
Rebooting interfaces.....done
```

To restore the system configuration, skipping the prompt:

```

/>restore system config force
Committing configuration...done
Rebooting interfaces.....done
```

See Also `save system config`

save interface log

Description Saves the boot status page, event log, stats log, and trace log to a single file in the Interface Manager card log repository. This file can be retrieved via FTP.

Syntax `save interface log <interface_num>`

Availability All users and modes

Operands `<interface_num>` Specify the number of the interface.
This operand is required.

Examples To save the log for interface 1:

```
/>save interface log 1
Retrieving and saving log....done
You can access the file /im/xfer/HP_INTERFACE_LOG via FTP.
```

See Also [save mgmt log](#)
[save interface lttsupportticket](#)

save drive lttsupportticket

Description Generates an L&T support ticket for a drive. The Interface Manager card places the support ticket in an anonymous FTP directory, and may be transferred from the Interface Manager card firmware repository via FTP. The user should log in as anonymous, and they will automatically get a shell in the anonymous FTP directory.

Syntax `save drive lttsupportticket <drive_num>`

Availability All users and modes

Operands `<drive_num>` Specify a drive number. Information for the selected drive is displayed in the support ticket.
This operand is required.

Examples To generate a support ticket for the 3rd drive in the ESL library:

```
/>save drive lttsupportticket 3
Generating support ticket...done
You can get your support ticket by using anonymous FTP.
```

See Also [save interface lttsupportticket](#)
[save library lttsupportticket](#)
[save mgmt lttsupportticket](#)

save interface lttsupportticket

Description Generates an L&TT support ticket for a FC interface controller. The Interface Manager card places the support ticket in an anonymous FTP directory, and may be transferred from the Interface Manager card firmware repository via FTP. The user should log in as anonymous, and they will automatically get a shell in the anonymous FTP directory.

Syntax `save interface lttsupportticket <interface_num>`

Availability All users and modes

Operands `<interface_num>` Specify an interface number. Information for the selected FC interface controller is displayed in the support ticket. This operand is required.

Examples To generate a support ticket for the interface 3:

```
/>save interface lttsupportticket 3
Generating support ticket...done
You can get your support ticket by using anonymous FTP.
```

See Also `save drive lttsupportticket`
`save library lttsupportticket`
`save mgmt lttsupportticket`

save library lttsupportticket

Description Generates an L&T support ticket for a library. The Interface Manager card places the support ticket in an anonymous FTP directory, and may be transferred from the Interface Manager card firmware repository via FTP. The user should log in as anonymous, and they will automatically get a shell in the anonymous FTP directory.

Syntax `save library lttsupportticket`

Availability All users and modes

Operands None

Examples To generate a support ticket for the ESL library:

```
/>save library lttsupportticket
Generating support ticket...done
You can get your support ticket by using anonymous FTP.
```

See Also [save drive lttsupportticket](#)
[save interface lttsupportticket](#)
[save mgmt lttsupportticket](#)

save mgmt lttsupportticket

Description Generates an L&T support ticket for the Interface Manager card. The Interface Manager card places the support ticket in an anonymous FTP directory, and may be transferred from the Interface Manager card firmware repository via FTP. The user should log in as anonymous, and they will automatically get a shell in the anonymous FTP directory.

Syntax `save mgmt lttsupportticket`

Availability All users and modes

Operands None

Examples To generate a support ticket for the Interface Manager card:

```
/>save mgmt lttsupportticket
Generating support ticket...done
You can get your support ticket by using anonymous FTP.
```

See Also [save drive lttsupportticket](#)
[save interface lttsupportticket](#)
[save library lttsupportticket](#)

save mgmt log

Description Saves a management log to a file in the Interface Manager card log repository. This file can be retrieved via FTP.

Syntax `save mgmt log <filename>`

Availability All users and modes

Operands `<filename>` Specify the name of the log file. This name represents the name of the file that will be placed in the Interface Manager card log repository. Valid names include event, trace, history, or all.
This operand is required.

Examples To save the event log for the Interface Manager card:

```
>/save mgmt log event
Retrieving and saving log....done
You can access the file /im/xfer/EventLog.xml via FTP.
```

See Also [save interface log](#)
[save mgmt lttsupportticket](#)

save system config

Description Saves the system configuration so that it can be restored at a later time using the [restore system config](#) command. The system configuration includes the Interface Manager card, interfaces, and licensed features configuration. This command will overwrite any previously saved system configuration. After entering this command, you are prompted to input whether you are sure you want save the system configuration.

Syntax `save system config [force]`

Availability All users and modes

Operands `force` Specify `force` to skip the prompt asking if you are sure you want to save the current system configuration. This operand is optional.

Examples To save the system configuration:

```
/>save system config
Caution: Saving the system configuration will overwrite the last
saved system configuration.
Do you really want to save the system configuration (y/n)? y
Saving the system configuration...done
```

To save the system configuration, skipping the prompt:

```
/>save system config force
Saving the system configuration...done
```

See Also [restore system config](#)

set host name

Description Gives a host HBA a name. A name is applied to a host using the number of that host as it appears when using the show host name "all" command. If another host already has the specified name, no changes are made because every host name must be unique. If the specified host already has a name, the new name is applied, and all resource mapping pools to which the host had been added are updated to reflect the new name.

Syntax set host name <index> <hostname>

Availability All users and modes

Operands <index> Specify the number of the host to be named.
<hostname> Specify the name of the host. The host name may contain letters, numbers, and '_' characters. The maximum length for a host name is 19 characters.
This operand is required.

Examples To set the name of host 1 to "myhost1":

```
/>set host name 1 my_host1  
Committing configuration...done
```

See Also [show host name](#)

set interface hostport alpa

Description Sets the ALPA for an interface port when the addressing mode of that port is set to hard addressing. If the interface port mode is not set to hard addressing, the ALPA is saved and used when the addressing mode is changed to hard addressing.

Syntax `set interface hostport alpa <interface_num> <port_num> <address>`

Availability All users and manual mode only

Operands

<code><interface_num></code>	Specify the number of the interface. The ALPA may be changed for all interfaces by specifying "all" for this operand. This operand is required.
<code><port_num></code>	Specify the number of the port. The ALPA may be changed for all ports by specifying "all" for this operand. This operand is required.
<code><address></code>	Specify the ALPA for the interface port. The ALPA may be either in hex notation or base 10. The hex notation must include the leading "0x", and letter digits may be in upper or lower case. For example, to set the ALPA to 31, this operand could be either 0x1F or 0x1f in hex notation or 31 in base 10. This operand is required.

Examples To set the ALPA on port 1 of interface 1 to 15:

```
/>>set interface hostport alpa 1 1 15
Committing configuration...done
```

See Also [show interface hostport alpa](#)
[ALPA matrix](#)

set interface hostport connection

Description Sets the connection type for one or more interfaces. The connections are either fabric or direct connect.



Caution: Using this command forces a reboot of all interfaces. Make sure that no backup jobs are in progress before running this command.

Syntax `set interface hostport connection fabric|direct`

Availability All users and automatic mode only

Operands `fabric | direct` Specify the connection type as fabric or direct.
This operand is required.

Examples To set the connection type of all interfaces to "fabric":

```
/>set interface hostport connection fabric
Committing configuration...done
The interface(s) must be rebooted for this command to take effect.
```

See Also [show interface hostport connection](#)

set interface hostport mode

Description Sets the port mode for one or more interfaces. If the interface port mode is set to hard addressing, the interface is given a default ALPA of 0xef (31 decimal). Use the [set interface hostport alpa](#) command to change the ALPA for that interface.

Syntax `set interface hostport mode <interface_num> <port_num> hard|soft|nport`

Availability All users and manual mode

Operands

<code><interface_num></code>	Specify the number of the interface. The mode may be changed for all interfaces by specifying "all" for this operand. This operand is required.
<code><port_num></code>	Specify the number of the port. The mode may be changed for all ports by specifying "all" for this operand. This operand is required.
<code>hard soft nport</code>	Specify the port mode for the interface(s). This operand may be either hard for hard addressing, soft for soft addressing, or nport for fabric addressing. This operand is required.

Examples To set the port mode of ports on all interfaces to soft addressing:

```
/>set interface hostport mode all all soft
Committing configuration...done
The interface(s) must be rebooted for this command to take effect.
```

See Also [show interface hostport mode](#)
[show interface hostport alpa](#)
[set interface hostport alpa](#)

set interface hostport speed

Description Sets the port speed for one or more interfaces. The available port speeds are 1 Gbps or 2 Gbps. In automatic mode, changing the interface hostport speed applies to all ports on all interfaces.



Caution: Using this command in automatic mode forces a reboot of all interfaces. Make sure that no backup jobs are in progress before running this command.

Syntax `set interface hostport speed [<interface_num>] [<port_num>] 1|2`

Availability All users and modes

Operands

<code><interface_num></code>	Specify the number of the interface. The speed may be changed for all interfaces by specifying "all" for this operand. This operand is required only in manual mode.
<code><port_num></code>	Specify the number of the port. The speed may be changed for all ports by specifying "all" for this operand. This operand is required only in manual mode.
<code>1 2</code>	Specify 1 or 2 Gbps port speed. This operand is required.

Examples To set the port speed of all ports on all interfaces to 2 Gbps (this example assumes that you are using manual mode):

```
/>set interface hostport speed all all 2
Committing configuration...done
The interface(s) must be rebooted for this command to take effect.
```

See Also [show interface hostport speed](#)

set mgmt clock

Description Sets the date and time on the Interface Manager card.

Syntax `set mgmt clock <time>`

Availability All users and modes

Operands `<time>` Specify the date and time as a string in the format:
mmddhhmmyy
where:
mm is the month, valid values are 01-12
dd is the date, valid values are 01-31
hh is the hour, valid values are 00-23
mm is minutes, valid values are 00-59
yy is the year, valid values are 00-37
This operand is required.

Examples To change the current date and time on the Interface Manager card to February 27, 2001 12:30:00:

```
/>set mgmt clock 0227123001  
Committing configuration...done.
```

See Also [show mgmt clock](#)

set mgmt password

Description Sets the password for the current user. This command checks for a strong password and warns if the password is not a strong password (although it does not require a strong password). After using this command, the new password must be used to log in to the CLI.

Syntax `set mgmt password`

Availability All users and modes

Operands None

Examples To change the password to "clipwd:"

```
/> set mgmt password  
Changing password for user cliadmin  
New UNIX password: clipwd  
BAD PASSWORD: it is based on a dictionary word  
Retype new UNIX password: clipwd
```

set mgmt timezone

Description Sets the Interface Manager card time zone.

Syntax set mgmt timezone
<zone>

Availability All users and modes

Operands <zone> Specify the time zone number that corresponds with the list that is displayed.

This operand is required.

Examples To change the Interface Manager card time zone to that for Denver, Colorado:

```

/>set mgmt timezone
Number  Timezone                               Number  Timezone
-----  -----                               -
63      America/Belize                          94      America/Goose_Bay
64      America/Boa_Vista                       95      America/Grand_Turk
65      America/Bogota                          96      America/Grenada
66      America/Boise                           97      America/Guadeloupe
67      America/Buenos_Aires                    98      America/Guatemala
68      America/Cambridge_Bay                   99      America/Guayaquil
69      America/Cancun                          100     America/Guyana
70      America/Caracas                         101     America/Halifax
71      America/Catamarca                       102     America/Havana
72      America/Cayenne                         103     America/Hermosillo
73      America/Cayman                          104
America/Indiana/Indianapolis
74      America/Chicago                         105     America/Indiana/Knox
75      America/Chihuahua                      106     America/Indiana/Marengo
76      America/Cordoba                         107     America/Indiana/Vevay
77      America/Costa_Rica                     108     America/Indianapolis
78      America/Cuiaba                          109     America/Inuvik
79      America/Curacao                         110     America/Iqaluit
80      America/Danmarkshavn                   111     America/Jamaica
81      America/Dawson                         112     America/Jujuy
82      America/Dawson_Creek                   113     America/Juneau
83      America/Denver                         114     America/Kentucky/Louisville
84      America/Detroit                        115     America/Kentucky/Monticello
85      America/Dominica                       116     America/Knox_IN
86      America/Edmonton                       117     America/La_Paz
87      America/Eirunepe                       118     America/Lima
88      America/El_Salvador                    119     America/Los_Angeles
89      America/Ensenada                       120     America/Louisville
90      America/Fort_Wayne                     121     America/Maceio
91      America/Fortaleza                       122     America/Managua
92      America/Glace_Bay                      123     America/Manaus
93      America/Godthab                         124     America/Martinique
Enter the timezone number to select a timezone, 'm' to print more
possible
timezones or 'q' to quit without selecting a timezone [default = 'm']: 83
Committing configuration...done

```

See Also [show mgmt timezone](#)

set mode

Description	Sets the Interface Manager mode for the current user to automatic or manual. Switching from manual to automatic mode may cause configuration changes made while in manual mode to be lost, and requires the user to go through the basic setup steps provided by the setup command.	
Syntax	<code>set mode auto manual</code>	
Availability	All users and modes	
Operands	<code>auto manual</code>	Specify automatic or manual mode as required. This operand is required.
	<code>force</code>	Use this operand to skip basic setup when switching to automatic mode. This operand is optional.
Examples	To set the mode to auto: <pre data-bbox="334 683 1286 762">/>set mode auto Changing mode...done Now entering basic setup!</pre>	
See Also	show mode setup	

set network dhcp

Description Enables or disable DHCP mode to set the Interface Manager card IP address. If DHCP is disabled, the Interface Manager card IP address, gateway address, and subnet mask must be set using [set network ipaddress](#) before the Interface Manager CLI can be accessed via Telnet.

Syntax `set network dhcp`

Availability All users and modes

Operands None

Examples To enable using DHCP to set the IP address of the Interface Manager card:

```
/>set network dhcp  
Committing configuration...done
```

See Also [show network dhcp](#)
[set network ipaddress](#)
[show network ipaddress](#)

set network ipaddress

Description	Sets the IP address, subnet mask, and gateway address for the Interface Manager card. This command automatically disables DHCP mode.	
Syntax	set network ipaddress <ip> <subnet> <gateway>	
Availability	All users and modes	
Operands	<ip>	Specify the IP address that the Interface Manager card should use. This operand is required.
	<subnet>	Specify the subnet mask that the Interface Manager card should use. This operand is required.
	<gateway>	Specify the gateway address that the Interface Manager card should use. This operand is required.
Examples	To immediately change the IP address to 207.46.249.190, change the subnet mask to 255.255.248.0, and change the current gateway address to 207.46.249.0:	
	<pre>/>set network ipaddress 207.46.249.190 255.255.248.0 207.46.249.0 Committing configuration...done Closing telnet session.</pre>	
See Also	show network dhcp set network dhcp show network ipaddress	

set system assetnumber

Description Sets the system asset number.

Syntax `set system assetnumber <ID>`

Availability All users and modes

Operands `<ID>` Specify the system asset number. The system asset number must only be composed of letters and numbers. Its maximum length is 63 characters.
This operand is required.

Examples To set the system asset number to **123456ABCD**:

```
/>set system assetnumber 123456ABCD  
Committing configuration...done
```

See Also [show system assetnumber](#)

set system contact email

- Description** Sets the system contact e-mail address.
- Syntax** `set system contact email <address>`
- Availability** All users and modes
- Operands** `<address>` Specify the system contact e-mail address. The e-mail address must conform to the e-mail address format specified in RFC 821.
This operand is required.
- Examples** To set the system contact e-mail address to myname@myorg.com:
- ```
/>set system contact email myname@myorg.com
Committing configuration...done
```
- See Also** [show system contact email](#)  
[show system contact name](#)

## set system contact name

**Description** Sets the system contact name.

**Syntax** `set system contact name <new_name>`

**Availability** All users and modes

**Operands** `<new_name>` Specify the system contact name. The system contact name must only be composed of letters, numbers, and the '\_' character. Its maximum length is 19 characters. This operand is required.

**Examples** To set the system contact name to myfirstname\_mylastname:

```
/>set system contact name myfirstname_mylastname
Committing configuration...done
```

**See Also** [show system contact name](#)  
[show system contact email](#)



## set system contact pager

Description Sets the system contact pager number.

Syntax `set system contact pager <number>`

Availability All users and modes

Operands `<number>` Specify the system contact pager number. The system contact pager number can include alphanumeric characters, dashes, periods, or the '\_' character. This operand is required.

Examples To set the system contact pager number to "444-444-4444":

```
/>set system contact pager 444-444-4444
Committing configuration...done
```

See Also [show system contact phone](#)  
[show system contact email](#)

## set system contact phone

**Description** Sets the system contact phone number.

**Syntax** `set system contact phone <number>`

**Availability** All users and modes

**Operands** `<number>` Specify the system contact phone number. The system contact phone number can include alphanumeric characters, dashes, periods, or the '\_' character. This operand is required.

**Examples** To set the system contact phone number to "444-444-4444":

```
/>set system contact phone 444-444-4444
Committing configuration...done
```

**See Also** [show system contact phone](#)  
[show system contact pager](#)

## set system location

Description Sets the system location.

Syntax `set system location <location>`

Availability All users and modes

Operands *<location>* Specify the system location. The system location must only be composed of letters, and numbers. Its maximum length is 63 characters.  
This operand is required.

Examples To set the system location to "my\_system\_location":

```
/>set system location my_system_location
Committing configuration...done
```

See Also [show system location](#)

## set system name

Description Sets the system name.

Syntax `set system name <system_name>`

Availability All users and modes

Operands `<system_name>` Specify the name of the tape library. The tape library name can contain letters, numbers, and '\_' characters. The maximum length for a tape library name is 19 characters

This operand is required.

Examples To set the system name to "my\_system":

```
/>set system name my_system
Committing configuration...done
```

See Also [show system name](#)

## setup

- Description** Runs the Basic Setup wizard. The Basic Setup wizard takes you through a set of prompts that allow you to perform all of the configuration steps necessary to get your system running.
- Syntax** setup
- Availability** All users and automatic mode
- Operands** None
- Examples** Here is an example showing the use of the basic setup wizard:

```

/>setup
Starting the basic configuration wizard.
Current/default values are indicated in square brackets, and can
be accepted by pressing the enter key.
Enter q to quit without saving, and s to save entered information
and quit.
System name [my_system]:
System asset number []: 123456ABCD
System location []: my_system_location
System contact name []: firstname_lastname
System contact phone number [222-222-2222]: 444-444-4444
System contact email address []: myname@myorg.com
Current time ("mmddhhmmyy") [0927133302]: 1204083602
Current time zone ([-]hhmm) [0000]: -0700
Tape library name []: mylibrary

Current hosts:
Host # Node WWN Port WWN Current Name On-line?

1 11111111111111CC 11111111111111DD host1 yes
2 22222222222222CC 22222222222222DD host2 yes
3 33333333333333CC 33333333333333DD host3 yes

Would you like to add an additional off-line host (y/[n])? y
Host node WWN: 44444444444444CC
Name for this host [host4]: myhost4
Host added.

Current hosts:
Host # Node WWN Port WWN Current Name On-line?

1 11111111111111CC 11111111111111DD host1 yes
2 22222222222222CC 22222222222222DD host2 yes
3 33333333333333CC 33333333333333DD host3 yes
4 44444444444444CC 44444444444444DD myhost4 no

Would you like to add an additional off-line host (y/[n])? n

Would you like to change the host names (y/[n])? y
New name for host "host1" [host1]: myhost1
New name for host "host2" [host2]: myhost2
New name for host "host3" [host3]: myhost3
New name for host "myhost4" [myhost4]:

```

(continued)

```
Current host access to tape drives:
Host # Host Name On-line? Access?

1 myhost1 yes no
2 myhost2 yes yes
3 myhost3 yes yes
4 myhost4 no no

Would you like to change host access to the tape drives (y/[n])? y
Give on-line host "myhost1" access to tape drives (y/[n])? y
Give on-line host "myhost2" access to tape drives ([y]/n)? n
Give on-line host "myhost3" access to tape drives ([y]/n)? n
Give off-line host "myhost4" access to tape drives (y/[n])? y

Basic configuration is complete.
```

See Also [show system info](#)

## show directbackup

**Description** Shows the total number of direct backup licenses purchased, the number of used direct backup licenses, and the number of available direct backup licenses for the tape library. This command also shows which drives currently have direct backup activated.

**Syntax** `show directbackup`

**Availability** All users and modes

**Operands** None

**Examples** To show direct backup licensed feature information:

```
>/show directbackup
Currently, 4 of 8 units of the direct backup feature are being used.

Drive Name Direct Backup Activated?

mydrive1 yes
mydrive2 yes
mydrive3 yes
mydrive4 yes
mydrive5 no
mydrive6 no
mydrive7 no
mydrive8 no
```

**See Also** [add directbackup](#)

## show drive access

**Description** Shows which hosts have access to one or more tape drives. For each tape drive, a list of hosts is displayed. For each host, the target LUN that gives the host access to the drive is shown.

**Syntax** `show drive access <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify the tape drive for which to display access information. The access information may be displayed for all tape drives by specifying "all" for this operand. This operand is required.

**Examples** To show tape drive access information for drive 1:

```

/>show drive access 1
Access information for drive 1:
Host Host Name WW Node Name LUN Port
1 myhost1 FFFFFFFFFFFFFFFFFFFF 1 1

```

**See Also** [show drive info](#)  
[show drive interface](#)  
[show drive name](#)  
[show drive productid](#)  
[show drive revision](#)  
[show drive serialnumber](#)  
[show drive status](#)  
[show drive type](#)  
[map host](#)  
[unmap host](#)



## show drive info

**Description** Shows all information pertaining to one or more tape drives. This information includes the tape drive status.

**Syntax** show drive info <drive\_num>

**Availability** All users and modes

**Operands** <drive\_num> Specify a tape drive that will have its' information displayed. The information may be displayed for all tape drives by specifying "all" for this operand. This operand is required.

**Examples** To show all information for the tape drives named all:

```

/>show drive info all
Tape Drive status:
Drive Number Name Status

Drive 1 drive 1 Green
Drive 2 drive 2 Green

Access information for drive 1:
Host Host Name WW Node Name LUN Port

none none none N/A N/A

Access information for drive 2:
Host Host Name WW Node Name LUN Port

none none none N/A N/A

Tape drive interface information:
Drive Number Interface Card Name Interface WW Node Name

Drive 1 100000e00202733b 100000e00202733b
Drive 2 100000e00202733b 100000e00202733b

Tape drive product ID:
Drive Number Serial Number Name Product ID

Drive 1 HU72M09609 drive 1 Ultrium 1-SCSI
Drive 2 HU72M09608 drive 2 Ultrium 1-SCSI

Tape Drive firmware revision:
Drive Number Name Revision

Drive 1 drive 1 E33W
Drive 2 drive 2 E33W

```

**See Also** `show drive access`  
`show drive interface`  
`show drive name`  
`show drive productid`  
`show drive revision`  
`show drive serialnumber`  
`show drive status`  
`show drive type`

## show drive interface

**Description** Shows interface information pertaining to one or more tape drives.

**Syntax** `show drive interface <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify the tape drive for which to display interface information. The interface information may be displayed for all tape drives by specifying "all" for this operand. This operand is required.

**Examples** To show interface information for drive 1:

```
/>show drive interface 1
Tape drive interface information:
Drive Number Interface Name FC LUN Bus

Drive 1 myintfc1 1 0
```

**See Also** [show drive access](#)  
[show drive info](#)  
[show drive name](#)  
[show drive productid](#)  
[show drive revision](#)  
[show drive serialnumber](#)  
[show drive status](#)  
[show drive type](#)  
[show interface info](#)

## show drive name

**Description** Shows the name, serial number, and drive type of one or more tape drives based on tape drive bay numbers. If a tape drive is missing from a bay or the tape drive in that bay is offline, the tape drive serial number and type is blank.

**Syntax** `show drive name <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify a tape drive number whose tape drive name, serial number, and type will be displayed. The tape drive names, serial numbers, and types can be displayed for all tape drive by specifying "all" for this operand.

This operand is required.

**Examples** To show tape drive names, serial numbers, and types for all tape drives:

```

/>show drive name all
Tape drive name information:
Drive Number Serial Number Type Name

Drive 1 IE71L07088 Ultrium 1-SCSI drive 1
Drive 2 IE71L06811 Ultrium 1-SCSI drive 2

```

**See Also** [show drive access](#)  
[show drive info](#)  
[show drive interface](#)  
[show drive productid](#)  
[show drive revision](#)  
[show drive serialnumber](#)  
[show drive status](#)  
[show drive type](#)

## show drive productid

**Description** Shows the product ID of one or more tape drives.

**Syntax** `show drive productid <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify a tape drive for which to display the product ID. The tape drive product ID may be displayed for all tape drives by specifying "all" for this operand. This operand is required.

**Examples** To show the product ID for all tape drives:

```
/>show drive productid all
Tape drive product ID:
Drive Number Product ID

Drive 1 Ultrium 1-SCSI
```

**See Also** [show drive access](#)  
[show drive info](#)  
[show drive interface](#)  
[show drive name](#)  
[show drive revision](#)  
[show drive serialnumber](#)  
[show drive status](#)  
[show drive type](#)

## show drive revision

**Description** Shows the firmware revision of one or more tape drives.

**Syntax** `show drive revision <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify a tape drive for which to display the firmware revision. The tape drive firmware revision may be displayed for all tape drives by specifying "all" for this operand.

This operand is required.

**Examples** To show the firmware revision for all tape drives:

```
/>show drive revision all
Tape drive firmware revision:
Drive Number Firmware Revision

Drive 1 AEFF
Drive 2 AEFF
```

**See Also** [show drive access](#)  
[show drive info](#)  
[show drive interface](#)  
[show drive name](#)  
[show drive productid](#)  
[show drive serialnumber](#)  
[show drive status](#)  
[show drive type](#)

## show drive serialnumber

**Description** Shows the serial number of one or more tape drives.

**Syntax** `show drive serialnumber <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify a tape drive for which to display the serial number. The tape drive serial number may be displayed for all tape drives by specifying "all" for this operand. This operand is required.

**Examples** To show the serial number for all tape drives:

```
/>show drive serialnumber all
Tape drive serial number:
Drive Number Serial Number

Drive 1 2222222222222
Drive 2 3333333333333
```

**See Also** [show drive access](#)  
[show drive info](#)  
[show drive interface](#)  
[show drive name](#)  
[show drive productid](#)  
[show drive revision](#)  
[show drive status](#)  
[show drive type](#)

## show drive status

**Description** Shows the status of one or more tape drives.

**Syntax** `show drive status <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify a tape drive for which to display the status. The tape drive status may be displayed for all tape drives by specifying "all" for this operand.  
This operand is required.

**Examples** To show the status for all tape drives:

```

/>show drive status all
Tape Drive status:

Drive Number serialNumber Status Is Firmware Has
----- ----- ----- -
Drive 1 HU72M09167 Green No No No
Drive 2 HU72M09172 Yellow Yes Yes Yes*

*Use the command 'show drive status' with a specific drive number to see
specific errors for this device.

```

**See Also** [show drive access](#)  
[show drive info](#)  
[show drive interface](#)  
[show drive name](#)  
[show drive productid](#)  
[show drive revision](#)  
[show drive serialnumber](#)  
[show drive type](#)



## show drive type

**Description** Shows the tape drive type for one or more tape drives.

**Syntax** `show drive type <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify a tape drive for which to display the type. The type may be displayed for all tape drives by specifying "all" for this operand.  
This operand is required.

**Examples** To show the tape drive type for all tape drives:

```
/>show drive type all
Tape drive type:
Drive Number type

Drive 1 Ultrium 1-SCSI
Drive 2 Ultrium 1-SCSI
```

**See Also** [show drive access](#)  
[show drive info](#)  
[show drive interface](#)  
[show drive name](#)  
[show drive productid](#)  
[show drive revision](#)  
[show drive serialnumber](#)  
[show drive status](#)

## show firmware available

**Description** Shows the firmware files and revisions available to be downloaded to devices.

**Syntax** `show firmware available`

**Availability** All users and modes

**Operands** None

**Examples** To show the available firmware files and revisions:

```
/>show firmware available
Firmware Revision VendorId ProductID

i100 HP INTRFC-MGR01
1.05 HP NS E2400-160
E36R HP Ultrium 1-SCSI
```

**See Also** [show firmware revisions](#)

## show firmware revisions

**Description** Shows the current firmware revisions installed in the Interface Manager card and FC interface controllers.

**Syntax** show firmware revisions

**Availability** All users and modes

**Operands** None

**Examples** To show the current firmware revisions:

```
[service]/>show firmware revisions
Current Firmware Revisions
Overall firmware revision: 2.00.0

Interface manager firmware revision: 1.01

Tape library firmware revision: 3.456

Tape drive firmware revision:
Drive Number Firmware Revision

Drive 1 AEFF
Drive 2 AEFF
Drive 3 AEFF
Drive 4 AEFF
Drive 5 AEFF
Drive 6 AEFF
Drive 7 AEFF
Drive 8 AEFF

Interface firmware revision:
Interface Number Firmware Revision

1 2.02
2 2.02
3 2.02
4 2.02
```

**See Also** [show firmware available](#)

## show host access

**Description** Shows which tape drives all hosts have access to. For each tape drive, the LUN to which the host or hosts have access is displayed.

**Syntax** `show host access`

**Availability** All users and modes

**Operands** None

**Examples** To show host access information for the hosts:

```
/>show host access
Access information for host 1 (WWNN: 1111111111111111) :
 Device Port LUN Partition

 Library 0 0 Partition 1
 Drive 1 0 0 Partition 1, Drive 1
 Drive 2 0 1 Partition 1, Drive 2
 Drive 3 1 0 Partition 1, Drive 3
 Drive 4 1 1 Partition 1, Drive 4
```

**See Also** [show host info](#)  
[show interface access](#)

## show host info

**Description** Shows the name, node WWN, port WWN, and mapped status of all hosts.

**Syntax** `show host info`

**Availability** All users and modes

**Operands** None

**Examples** To show information for all hosts:

```
>/show host info
Host name information:
Host # Node WWN Port WWN Current Name Mapped

1 11111111111111CC 11111111111111DD myhost1 yes
2 22222222222222CC 22222222222222DD myhost2 no
```

**See Also** [show host name](#)

[show interface info](#)

## show host name

**Description** Shows the name, node WWN, port WWN, and mapped status of all hosts.

**Syntax** `show host name`

**Availability** All users and modes

**Operands** None

**Examples** To show host names, world wide names, and mapped statuses for all hosts:

```
>/show host name
Host name information:
Host # Node WWN Port WWN Current Name Mapped

1 11111111111111CC 11111111111111DD myhost1 yes
2 22222222222222CC 22222222222222DD myhost2 no
```

**See Also** [set host name](#)

## show interface access

**Description** Shows access information at the interface level. This command lists all tape drives connected to the specified interface. For each tape drive listed, the command shows which hosts have access to it, and the target LUN giving the host access to the drive.

**Syntax** `show interface access <interface_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify the interface for which to display access information. The access information may be displayed for all interfaces by specifying "all" for this operand. This operand is required.

**Examples** To show interface access information for interface 1:

```
/>show interface access 1
Interface access information:
Interface 1 tape drives:
 Access information for drive 1:
 Host Host Name WW Node Name LUN Port

 1 myhost1 FFFFFFFFFFFFFFFFFF 1 1
```

**See Also** [show drive access](#)

## show interface hostport alpa

**Description** Shows the ALPA of one or more interfaces. This command also indicates whether the interfaces currently have their port mode set to hard addressing or are using the ALPAs.

**Syntax** `show interface hostport alpa <interface_num> <port_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface number. The ALPA may be displayed for all interfaces by specifying "all" for this operand.

This operand is required.

`<port_num>` Specify a port number. The ALPA may be displayed for all ports by specifying "all" for this operand.

This operand is required.

**Examples** To show the ALPAs for all interfaces:

```

/>show interface hostport alpa all all
Interface ALPAs (* indicates ALPA is not set):
Interface Card WW Port Name ALPA Port Mode

1
 hostport1 FFFFFFFFFFFFFFFF 0x71 hard
 hostport2 AAAAAAAAAAAAAAAA 0x96 hard

```

**See Also** [set interface hostport alpa](#)  
[ALPA matrix](#)



## show interface hostport connection

**Description** Shows the connection type for one or more interfaces.

**Syntax** `show interface hostport alpa <interface_num> <port_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface number. The connection type may be displayed for all interfaces by specifying "all" for this operand.

This operand is required.

`<port_num>` Specify a port number. The connection type may be displayed for all ports by specifying "all" for this operand.

This operand is required.

**Examples** To show the connection type for all interfaces:

```

/>show interface hostport connection all all
Interface connection type:
Interface Card WW Port Name Connection Type

1
 hostport1 FFFFFFFFFFFFFFFF fabric
 hostport2 AAAAAAAAAAAAAAAA fabric

```

**See Also** [set interface hostport connection](#)

## show interface hostport mode

**Description** Shows the port modes of one or more interfaces.

**Syntax** `show interface hostport mode <interface_num> <port_num>`

**Availability** All users and modes

**Operands** `<interface_num>`

Specify an interface number. The mode may be displayed for all interfaces by specifying "all" for this operand.

This operand is required.

`<port_num>`

Specify a port number. The mode may be displayed for all ports by specifying "all" for this operand.

This operand is required.

**Examples** To show the port modes for all interfaces:

```

/>show interface hostport mode all all
Interface port mode:
Interface Card WW Port Num Connection type

1
 hostport1 FFFFFFFFFFFFFFFF N-Port
 hostport2 AAAAAAAAAAAAAAAA N-Port

```

**See Also** [set interface hostport mode](#)

## show interface hostport speed

**Description** Shows the port speeds of one or more interfaces.

**Syntax** `show interface hostport speed <interface_num> <port_num>`

**Availability** All users and manual mode

**Operands** `<interface_num>` Specify the number of the interface. The value may be changed for all interfaces by specifying "all" for this operand.

This operand is required.

`<port_num>` Specify the number of the port. The value may be changed for all ports by specifying "all" for this operand.

This operand is required.

**Examples** To show the port speeds for interface 1:

```
[service]/>show interface hostport speed 1 all
Interface port speed:
Interface Card WW Port Num Speed

1
 hostport1 FFFFFFFFFFFFFFFF 2 Gbpsec
 hostport2 AAAAAAAAAAAAAAAA 2 Gbpsec
```

**See Also** [set interface hostport speed](#)

## show interface info

**Description** Shows all information pertaining to one or more interfaces.

**Syntax** `show interface info <interface_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface number. The information may be displayed for all interfaces by specifying "all" for this operand.

This operand is required.

**Examples** To show all information for all interfaces:

```

/>show interface info all
Interface information:
Interface status:
Interface Name Status

myintfc1 Good
myintfc2 Downloading

Interface access information:
Interface myintfc1 tape drives:
Tape Drive

mydrive1
mydrive2

Tape drive access information:
mydrive1
Host Name Drive LUN Pool

myhost1 1 mypool1
myhost2 1 mypool1
myhost3 2 mypool3

mydrive2
Host Name Drive LUN Pool

myhost1 2 mypool1
myhost2 2 mypool1
myhost3 4 mypool3

Interface myintfc2 tape drives:
Tape Drive

mydrive3
mydrive4

Tape drive access information:
mydrive3
Host Name Drive LUN Pool

myhost1 3 mypool1
myhost2 3 mypool1
myhost3 1 mypool3

```

```

mydrive4
Host Name Drive LUN Pool

myhost1 4 mypool1
myhost2 4 mypool1
myhost3 3 mypool3

Interface ALPAs (* indicates ALPA is not set):
Interface Name ALPA Port Mode

myintfc1 * nport
myintfc2 0x23 hard

Interface time and date: (Only displayed for service user or manual mode)
Interface Name Date Time

myintfc1 12/14/2002 13:02
myintfc2 12/14/2002 13:01

Interface connection type:
Interface Name Connection Type

myintfc1 fabric
myintfc2 fabric

Interface event mask: (Only displayed for service user)
Interface Name Event Mask

myintfc1 0xFF
myintfc2 0x01

Interface Fibre Channel discovery mode: (Only displayed for service user
or manual mode)
Interface Name Fibre Channel Discovery Mode

myintfc1 reboot
myintfc2 reboot

Interface name information:
Interface # Node WWN Port WWN Current Name

1 1111111111111111CC 111111111111DD myhost1
2 2222222222222222CC 222222222222DD myhost2

Interface initiator ID(s):
Interface Name Initiator ID(s)

myintfc1 6, 7
myintfc2 7

Interface port mode:
Interface Name Port Mode

myintfc1 nport
myintfc2 hard

```

```

Interface port speed: (Only displayed for service user or manual mode)
Interface Name Port Speed

myintfc1 1 Gbpsec
myintfc2 1 Gbpsec

Interface firmware revision:
Interface Name Firmware revision

myintfc1 2.00
myintfc2 2.00

Interface SCSI device discovery: (Only displayed for service user)
Interface Name SCSI Device Discovery

myintfc1 enabled
myintfc2 enabled

Interface SCSI device discovery delay: (Only displayed for service user)
Interface Name SCSI Device Discovery Delay

myintfc1 300 seconds
myintfc2 300 seconds

Interface statistics gathering: (Only displayed for service user)
Interface Name Statistics Gathering

myintfc1 enabled
myintfc2 enabled

Interface target reset mode: (Only displayed for service user or manual mode)
Interface Name Target Reset Mode

myintfc1 standard
myintfc2 standard

Interface trace level: (Only displayed for service user)
Interface Name Trace Levels

myintfc1 2, 4
myintfc2 2, 4

Interface write buffering: (Only displayed for service user or manual mode)
Interface Name Write Buffering

myintfc1 enabled
myintfc2 enabled

```

See Also [show drive info](#)

## show interface name

**Description** Shows the name and node WWN of one or more interfaces.

**Syntax** `show interface name <interface_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify the interface number for which to display interface names and world wide names. The information can be displayed for all interfaces by specifying "all" for this operand.

This operand is required.

**Examples** To show interface names and world wide names all interfaces:

```
/>show interface name all
Interface name information:
Interface Card Node WWN Current Name

1 1111111111111111CC myhost1
2 2222222222222222CC myhost2
```

**See Also** [show drive name](#)

## show interface revision

**Description** Shows the firmware revision of one or more interfaces.

**Syntax** `show interface revision <interface_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface whose firmware revisions will be displayed. The firmware revisions may be displayed for all interfaces by specifying "all" for this operand. This operand is required.

**Examples** To show the firmware revisions for all interfaces:

```
/>show interface revision all
Interface firmware revision:
Interface Card WW Node Name Firmware Revision

1 100000e0020286d1 5.01
2 100000e00202733b 5.01
```

**See Also** [show firmware revisions](#)



## show interface status

**Description** Shows the status of one or more interfaces.

**Syntax** `show interface status <interface_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface for which to display the status. The interface status may be displayed for all interfaces by specifying "all" for this operand. This operand is required.

**Examples** To show the status for all interfaces:

```

/>show interface status all
Interface status:
Interface Card Firmware Reboot Has
Errors WW Node Name Status State Mismatch Required

Interface Card 1 bb5ea468bb5ea354 Green Online No No
No
Interface Card 2 bb4ff343236bc023 Yellow Offline Yes Yes
Yes*

*Use the command 'show interface status' with a specific interface number
to see specific errors for this device.

```

**See Also** [show interface info](#)

## show interface targetport alpa

**Description** Shows the ALPA of one or more interfaces. This will also indicate whether the interfaces currently have their port mode set to hard addressing are are using the ALPAs.

**Syntax** `show interface targetport alpa <interface_num> <port_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface number. The ALPA may be displayed for all interfaces by specifying "all" for this operand.

This operand is required.

`<port_num>` Specify a port number. The ALPA may be displayed for all ports by specifying "all" for this operand.

This operand is required.

**Examples** To show the ALPAs for all interfaces:

```

/>show interface targetport alpa all all
Interface ALPAs (* indicates ALPA is not set):
Interface Card WW Port Name ALPA Port Mode

1
 hostport1 FFFFFFFFFFFFFFFF 0x71 hard
 hostport2 AAAAAAAAAAAAAAAA 0x96 hard

```

**See Also** [set interface hostport alpa](#)  
[ALPA matrix](#)

## show interface targetport connection

**Description** Shows the connection type for one or more interfaces.

**Syntax** `show interface targetport alpa <interface_num> <port_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface number. The connection type may be displayed for all interfaces by specifying "all" for this operand.

This operand is required.

`<port_num>` Specify a port number. The connection type may be displayed for all ports by specifying "all" for this operand.

This operand is required.

**Examples** To show the connection type for all interfaces:

```

/>show interface targetport connection all all
Interface connection type:
Interface Card WW Port Name Connection Type

1
 hostport1 FFFFFFFFFFFFFFFF fabric
 hostport2 AAAAAAAAAAAAAAAA fabric

```

**See Also** [set interface hostport connection](#)

## show interface targetport mode

**Description** Shows the port modes of one or more interfaces.

**Syntax** `show interface targetport mode <interface_num> <port_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface number. The mode may be displayed for all interfaces by specifying "all" for this operand.  
This operand is required.

`<port_num>` Specify a port number. The mode may be displayed for all ports by specifying "all" for this operand.  
This operand is required.

**Examples** To show the port modes for all interfaces:

```

/>show interface targetport mode all all
Interface port mode:
Interface Card WW Port Num Connection type

1
 hostport1 FFFFFFFFFFFFFFFF N-Port
 hostport2 AAAAAAAAAAAAAAAA N-Port

```

**See Also** [set interface hostport mode](#)

## show interface targetport speed

**Description** Shows the port speeds of one or more interfaces.

**Syntax** `show interface targetport speed <interface_num> <port_num>`

**Availability** All users and manual mode

**Operands** `<interface_num>` Specify the number of the interface. The value may be changed for all interfaces by specifying "all" for this operand.

This operand is required.

`<port_num>` Specify the number of the port. The value may be changed for all ports by specifying "all" for this operand.

This operand is required.

**Examples** To show the port speeds for interface 1:

```
[service]/>show interface targetport speed 1 all
Interface port speed:
Interface Card WW Port Num Speed

1
 hostport1 FFFFFFFFFFFFFFFF 2 Gbpsec
 hostport2 AAAAAAAAAAAAAAAA 2 Gbpsec
```

**See Also** [set interface hostport speed](#)

## show library access

**Description** Shows which hosts have access to the tape library. For each host, the target LUN that gives the host access to the library is shown.

**Syntax** `show library access`

**Availability** All users and modes

**Operands** None

**Examples** To show tape library access information:

```
/>show library access
Access information for the tape library:
Host Host Name WW Node Name LUN Port

1 myhost1 FFFFFFFFFFFFFFFFFFFFFFFF 1 1
```

**See Also** [map host](#)

[unmap host](#)

## show library info

**Description** Shows all information pertaining to the tape library.

**Syntax** show library info

**Availability** All users and modes

**Operands** None

**Examples** To show all information for the tape library:

```

/>show library info
All tape library information
Tape library name: picker
Tape library firmware status: Green
Tape library product ID: ESL9322
Tape library serial number: 2G33KZ85H002
Tape library firmware revision: 3.40

Tape library topology
Tape library:
Library Name Serial Number Interface Name

picker 2G33KZ85H002 100000e0020286d1

Tape drives:
Drive Num Serial Number Type Online? Interface
Name

Drive 1
100000e0020286d1 HU72M09609 Ultrium 1-SCSI yes
Drive 2
100000e0020286d1 HU72M09608 Ultrium 1-SCSI yes
Drive 3
100000e00202733b HU73A01003 Ultrium 1-SCSI yes
Drive 4
100000e00202733b HU72L12069 Ultrium 1-SCSI yes
Drive 5
100000e0020286d1 HU72L12066 Ultrium 1-SCSI yes
Drive 6
100000e0020286d1 HU72L12103 Ultrium 1-SCSI yes
Drive 7
100000e00202733b HU73A05925 Ultrium 1-SCSI yes
Drive 8
100000e00202733b HU72M07819 Ultrium 1-SCSI yes

Interfaces:
Interface Card Interface Name WW Node Name

1 100000e0020286d1 100000e0020286d1
2 100000e00202733b 100000e00202733b

```

See Also [show drive info](#)  
[show host info](#)

## show library interface

**Description** Shows interface information pertaining to the library.

**Syntax** `show library interface`

**Availability** All users and modes

**Operands** None

**Examples** To show interface information for the tape library:

```
/>show library interface
Tape library interface information:
Interface Card WW Port Name

1 100000e0020286d1
```

**See Also** [show interface info](#)

[show library info](#)



## show library name

**Description** Shows the name of the tape library.

**Syntax** `show library name`

**Availability** All users and modes

**Operands** None

**Examples** To show the name of the tape library:

```
>show library name
Tape library name: mylibrary
```

**See Also** [show library info](#)

## show library productid

**Description** Shows the product ID of the tape library.

**Syntax** `show library productid`

**Availability** All users and modes

**Operands** None

**Examples** To show the product ID of the tape library:

```
>show library productid
Tape library product ID: ESL 9326
```

**See Also** [show library info](#)

## show library revision

**Description** Shows the firmware revision of the tape library.

**Syntax** `show library revision`

**Availability** All users and modes

**Operands** None

**Examples** To show the firmware revision of the tape library:

```
>show library revision
Tape library firmware revision: 3.456
```

**See Also** [show library info](#)  
[show firmware revisions](#)

## show library serialnumber

**Description** Shows the serial number of the tape library.

**Syntax** `show library serialnumber`

**Availability** All users and modes

**Operands** None

**Examples** To show the serial number of the tape library:

```
>show library serialnumber
Tape library serial number: 123456ABCDEF
```

**See Also** [show library info](#)

## show library status

**Description** Shows the status of the tape library.

**Syntax** `show library status`

**Availability** All users and modes

**Operands** None

**Examples** To show the status of the tape library:

```
>/show library status
```

```
Component Status Description

Tape library Red
Robotics Green No errors detected

Drives:
 Drive1 Green No errors detected
 Drive2 Green No errors detected
 Drive3 Green No errors detected
 Drive4 Green No errors detected
 Drive5 Green No errors detected
 Drive6 Green No errors detected

Interfaces:
 Interface1 Red Firmware Mismatch Detected
 Interface2 Red Firmware Mismatch Detected

Interface Manager Red Firmware Mismatch Detected
```

**See Also** [show library info](#)

## show library topology

**Description** Shows the topology of the tape library.

**Syntax** `show library topology`

**Availability** All users and modes

**Operands** None

**Examples** To show the topology of the tape library:

```

/>show library topology
Tape library topology
Tape library:
Library Name Serial Number Interface Name

picker 2G33KZ85H002 100000e0020286d1

Tape drives:
Drive Num Serial Number Type Online? Interface
Name

Drive 1 HU72M09609 Ultrium 1-SCSI yes
100000e0020286d1
Drive 2 HU72M09608 Ultrium 1-SCSI yes
100000e0020286d1
Drive 3 HU73A01003 Ultrium 1-SCSI yes
100000e00202733b
Drive 4 HU72L12069 Ultrium 1-SCSI yes
100000e00202733b
Drive 5 HU72L12066 Ultrium 1-SCSI yes
100000e0020286d1
Drive 6 HU72L12103 Ultrium 1-SCSI yes
100000e0020286d1
Drive 7 HU73A05925 Ultrium 1-SCSI yes
100000e00202733b
Drive 8 HU72M07819 Ultrium 1-SCSI yes
100000e00202733b

Interfaces:
Interface Card Interface Name WW Node Name

1 100000e0020286d1 100000e0020286d1
2 100000e00202733b 100000e00202733b

```

**See Also** [show library info](#)

## show license

**Description** Shows the license key and quantity of currently licensed features.

**Syntax** `show license`

**Availability** All users and modes

**Operands** None

**Examples** To show the licensed features supported and currently licensed and their license keys:

```
>/show license
Supported Licensed Feature Licensed? Qty License Key

Direct Backup Yes 8 cQebzbrdScRfc0iK
Advanced Access Controls No
```

**See Also** [show mgmt info](#)

## show media

**Description** Shows media information for storage slots, drives, mail slots, or all.

**Syntax** `show media [all|slots|mail|drive]`

**Availability** All users and modes

**Operands**

|                            |                                                                        |
|----------------------------|------------------------------------------------------------------------|
| <code>all</code>           | Shows media information for all storage slots, drives, and mail slots  |
| <code>slots [range]</code> | Shows media information for all storage slots or those within a range. |
| <code>mail [range]</code>  | Shows media information for all mail slots or those within a range.    |
| <code>drive [range]</code> | Shows media information for all drives or those within a range.        |

**Examples** To show media info for all storage slots:

```
/>show media slots
```

To show media info for slots 1 - 100:

```
/>show media slots 1
100
```

To show media info for all storage slots, drives, and mail slots:

```
/>show media slots all
```

**See Also** [move media](#)



## show mgmt clock

**Description** Shows the current date and time for the Interface Manager card.

**Syntax** `show mgmt clock`

**Availability** All users and modes

**Operands** None

**Examples** To show the current date and time for the Interface Manager card:

```
>show mgmt clock
Interface managager date and time: 12/14/2002 13:02
```

**See Also** [set mgmt clock](#)  
[set mgmt timezone](#)

## show mgmt info

**Description** Shows Interface Manager card information.

**Syntax** `show mgmt info`

**Availability** All users and modes

**Operands** None

**Examples** To show all Interface Manager card information:

```
/>show mgmt info
Interface manager status: Good
Interface manager firmware revision: 1.01
Interface manager date and time: 12/14/2002 13:02
Interface manager timezone: -07:00
```

**See Also** [show drive info](#)  
[show host info](#)  
[show interface info](#)  
[show library info](#)

## show mgmt revision

**Description** Shows the current Interface Manager card firmware revision.

**Syntax** `show mgmt revision`

**Availability** All users and modes

**Operands** None

**Examples** To show the current Interface Manager card firmware revision:

```
>/show mgmt revision
Interface manager firmware revision: 1.01
```

**See Also** [show mgmt info](#)

## show mgmt status

**Description** Shows the current Interface Manager card status.

**Syntax** `show mgmt status`

**Availability** All users and modes

**Operands** None

**Examples** To show the current Interface Manager card status:

```
>/show mgmt status
Interface manager status: Good
```

**See Also** [show mgmt info](#)

## show mgmt timezone

**Description** Shows the Interface Manager card time zone.

**Syntax** `show mgmt timezone`

**Availability** All users and modes

**Operands** None

**Examples** To show the Interface Manager card time zone:

```
>/show mgmt timezone
Interface manager time zone: America/Denver (MST)
```

**See Also** [set mgmt timezone](#)

[set mgmt clock](#)

[show mgmt clock](#)

## show mode

**Description** Shows the current command mode.

**Syntax** `show mode`

**Availability** All users and modes

**Operands** None

**Examples** To show the current command mode:

```
/>show mode
Current command mode: manual
```

**See Also** [set mode](#)

## show network dhcp

**Description** Shows whether DHCP mode is enabled or disabled. When enabled, DHCP is used to set the Interface Manager card IP address.

**Syntax** `show network dhcp`

**Availability** All users and modes

**Operands** None

**Examples** To show whether DHCP mode is enabled or disabled:

```
>show network dhcp
DHCP: disabled
```

**See Also** [set network dhcp](#)  
[set network ipaddress](#)  
[show network ipaddress](#)

## show network ipaddress

**Description** Displays the current IP address, subnet mask, and gateway address for the Interface Manager card.

---

**Note:** The subnet mask and gateway address is only displayed if DHCP is disabled.

---

**Syntax** `show network ipaddress`

**Availability** All users and modes

**Operands** None

**Examples** To show the current IP address, subnet mask, and gateway address:

```
/>show network ipaddress
DHCP: disabled
IP address: 207.46.249.190
Subnet mask: 255.255.248.0
Gateway address: 207.46.72.1
```

**See Also** [set network dhcp](#)  
[show network dhcp](#)  
[set network ipaddress](#)



## show partition

**Description** Shows which devices are assigned to a partition.

**Syntax** `show partition [<number>|all]`

**Availability** All users and modes

**Operands** `<number>` Specify the partition number.  
`all` Shows information for all partitions.

**Examples** To show information for partition 1 only:

```
>show partition 1
```

To show information for all partitions:

```
>show partition all
```

**See Also** [show host access](#)

## show robotics status

**Description** Shows the status of the library robotics.

**Syntax** `show robotics status`

**Availability** All users and modes

**Operands** None

**Examples** To show the status of the library robotics:

```
>show robotics status
Tape Library robotics status : Red
Tape Library robotics available : Yes
Tape Library robotics Errors:
 Error #1 Firmware mismatch detected
```

**See Also** [show library info](#)

## show system assetnumber

**Description** Shows the system asset number.

**Syntax** `show system assetnumber`

**Availability** All users and modes

**Operands** None

**Examples** To show the system asset number:

```
>show system assetnumber
System asset number: 123456ABCD
```

**See Also** [set system assetnumber](#)  
[show system info](#)

## show system contact email

**Description** Shows the system contact email address.

**Syntax** `show system contact email`

**Availability** All users and modes

**Operands** None

**Examples** To show the system contact email address:

```
>show system contact email
System contact email address: myname@myorg.com
```

**See Also** [set system contact email](#)  
[show system info](#)

## show system contact name

**Description** Shows the system contact name.

**Syntax** `show system contact name`

**Availability** All users and modes

**Operands** None

**Examples** To show the system contact name:

```
/>show system contact name
System contact name: myfirstname_mylastname
```

**See Also** [set system contact name](#)  
[show system info](#)

## show system contact pager

**Description** Shows the system contact pager.

**Syntax** `show system contact pager`

**Availability** All users and modes

**Operands** None

**Examples** To show the system contact pager:

```
>show system contact pager
System contact pager: 444-444-4444
```

**See Also** [set system contact phone](#)  
[show system info](#)

## show system contact phone

**Description** Shows the system contact phone number.

**Syntax** `show system contact phone`

**Availability** All users and modes

**Operands** None

**Examples** To show the system contact phone number:

```
>show system contact phone
System contact phone number: 444-444-4444
```

**See Also** [set system contact phone](#)  
[show system info](#)

## show system info

**Description** Shows all system information.

**Syntax** `show system info`

**Availability** All users and modes

**Operands** None

**Examples** To show all system information:

```
/>show system info
System information
System status: Good
System contact name: myfirstname_mylastname
System contact phone number: 444-444-4444
System contact pager number: 222-222-2222
System contact email address: myname@myorg.com
System location: mylocation
System asset number: 123456ABCD
System name: mysystemname
```

**See Also** [show system status](#)



## show system location

Description Shows the system location.

Syntax `show system location`

Availability All users and modes

Operands None

Examples To show the system location:

```
>show system location
System location: mylocation
```

See Also [set system location](#)  
[show system info](#)

## show system name

Description Shows the system name.

Syntax `show system name`

Availability All users and modes

Operands None

Examples To show the system name:

```
>show system name
System name: mysystemname
```

See Also [set system name](#)  
[show system info](#)

## show system status

Description Shows the system status.

Syntax `show system status`

Availability All users and modes

Operands None

Examples To show the system status:

```
>show system status
System status: Good
```

See Also [show system info](#)

## unmap host

**Description** Blocks access to all of the current drives for the specified host.



**Caution:** Using this command could force a reboot of some interfaces. Make sure that no backup jobs are in progress before running this command.

---

**Syntax** `unmap host <host_num>`

**Availability** All users and modes

**Operands** `<host_num>` Specify the host number.  
This operand is required.

**Examples** To block host 1 access to all drives:

```
/>unmap host 1
Caution: Unmapping hosts could force a reboot of some interfaces
and will terminate all backup operations involving the rebooting
interfaces.
Do you really want to unmap the host? y
Committing configuration...done
```

**See Also** [map host](#)  
[set host name](#)  
[show host name](#)



# Supplemental Information



## ALPA matrix

|         |         |         |         |         |         |          |          |
|---------|---------|---------|---------|---------|---------|----------|----------|
| 0:0x01  | 16:0x29 | 32:0x45 | 48:0x5A | 64:0x75 | 80:0x9E | 96:0xB5  | 112:0xD2 |
| 1:0x02  | 17:0x2A | 33:0x46 | 49:0x5C | 65:0x76 | 81:0x9F | 97:0xB6  | 113:0xD3 |
| 2:0x04  | 18:0x2B | 34:0x47 | 50:0x63 | 66:0x79 | 82:0xA3 | 98:0xB9  | 114:0xD4 |
| 3:0x08  | 19:0x2C | 35:0x49 | 51:0x65 | 67:0x7A | 83:0xA5 | 99:0xBA  | 115:0xD5 |
| 4:0x0F  | 20:0x2D | 36:0x4A | 52:0x66 | 68:0x7C | 84:0xA6 | 100:0xBC | 116:0xD6 |
| 5:0x10  | 21:0x2E | 37:0x4B | 53:0x67 | 69:0x80 | 85:0xA7 | 101:0xC3 | 117:0xD9 |
| 6:0x17  | 22:0x31 | 38:0x4C | 54:0x69 | 70:0x81 | 86:0xA9 | 102:0xC5 | 118:0xDA |
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