Hewlett Packard Enterprise

HPE KVM Server Console Switch G2

User Guide

Abstract

This document is for the person who installs, administers, and troubleshoots servers and storage systems. Hewlett Packard Enterprise assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with hazardous energy levels.

Part Number: 531671-001R
November 2015
Edition: 2

Contents

Installing the HPE KVM Server Console Switch G2

Overview

The HPE KVM Server Console Switch G2 ships with rack-mounting brackets for easy integration into the rack. Stabilize the rack in a permanent location before installing the equipment. Avoid uneven loading or overloading of the rack cabinets.

Installation checklist

Before installation, refer to the following lists to be sure that all of the listed components were received.

Console switch kit contents

- Console switch
- Power cords
- Rack mounting kit
- Serial cable
- Documentation kit

This kit might contain extra hardware for your convenience.

Required items not included

- Interface adapters

  One interface adapter is needed for each server or device.
  - USB
  - PS2
  - Serial
  - HPE BladeSystem
- UTP CAT 5 cable or higher

Required tools

The following tools are required for some procedures:

- Phillips screwdriver
- Cage nut insertion tool (included with your original rack hardware kit)

Rack-mounting the console switch

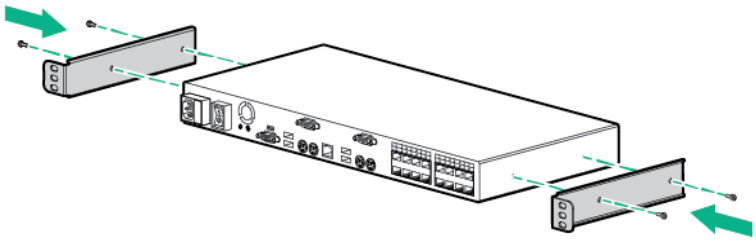
⚠ **WARNING:** For safe use, do not mount this product with the rear panel, which is the side of the console switch with I/O connectors and the AC power inlet, facing downward (facing the floor).

1. Before installing the console switch into the rack, connect the console switch to a power source, using the power cords provided, and power on the unit.

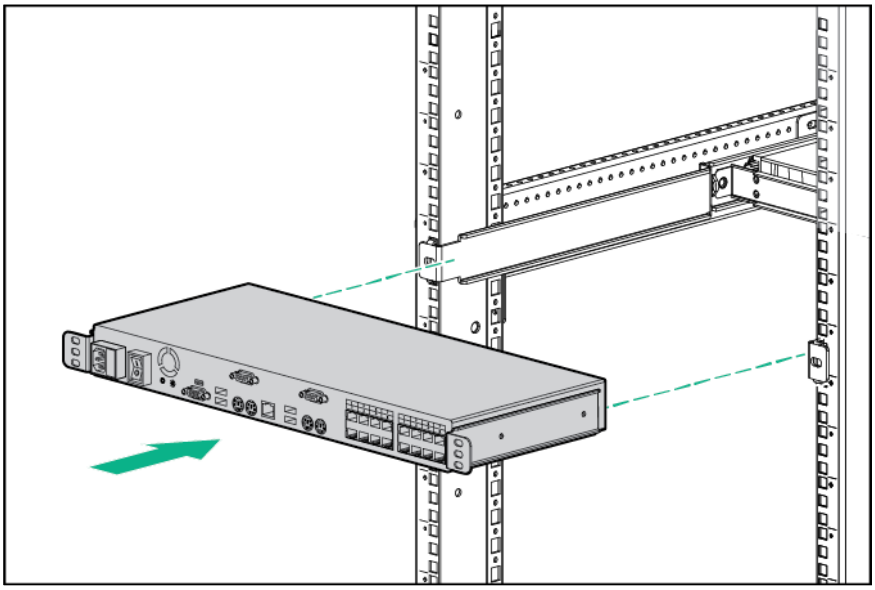
   An activity indicator light is displayed after a few seconds. If the activity indicator light does not display, be sure that the power is on, the power cord is connected, and the power source is valid.
2. Choose one of the following configurations:
   - Standard-mount
   - Cantilever-mount
   - Side-mount

Performing a standard-mount installation

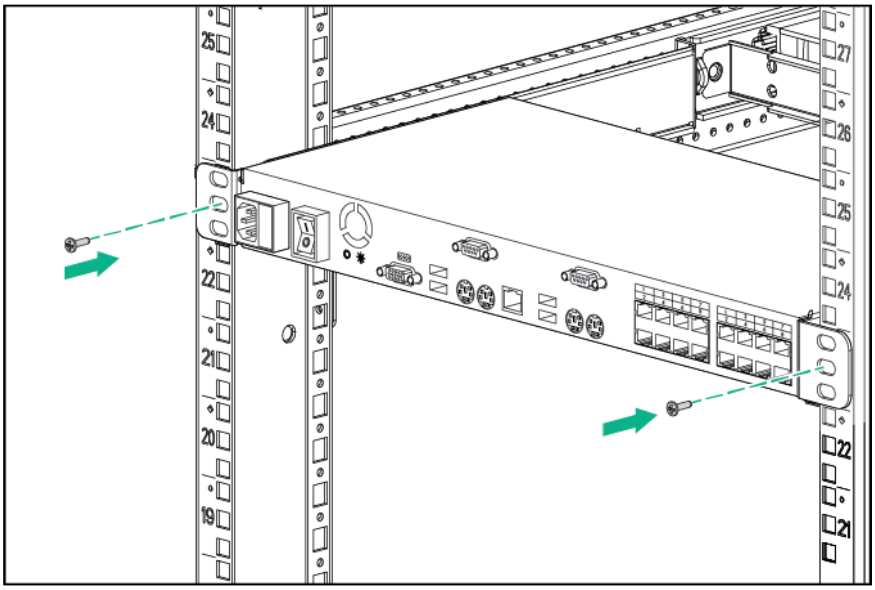
1. Remove the four screws, two on each side, from the console switch.
2. Attach the short 1U brackets to the console switch using the four screws you removed.



3. If not already installed, install a cage nut behind each rear rail.
4. Slide the console switch into the rear of the 1U product.

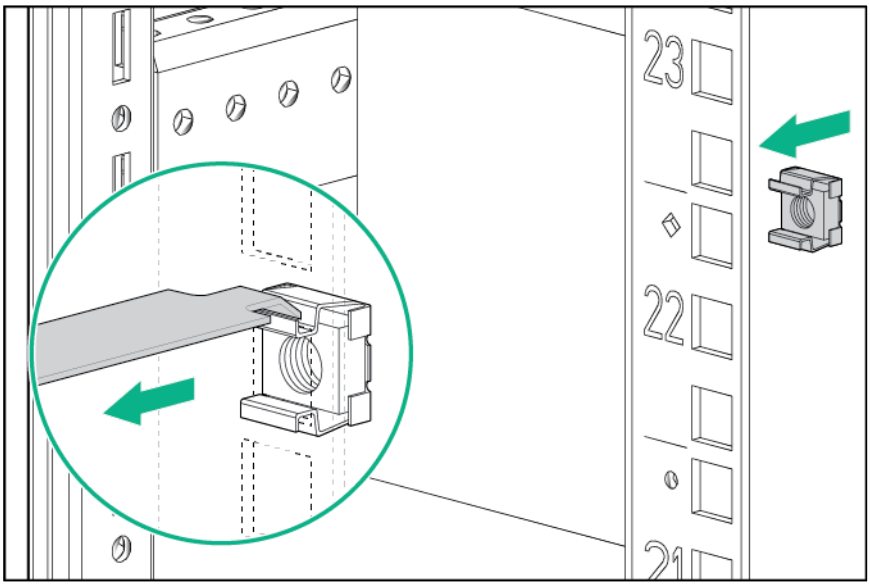


5. Secure the console switch to the rails using two M-6 screws, one on each side.

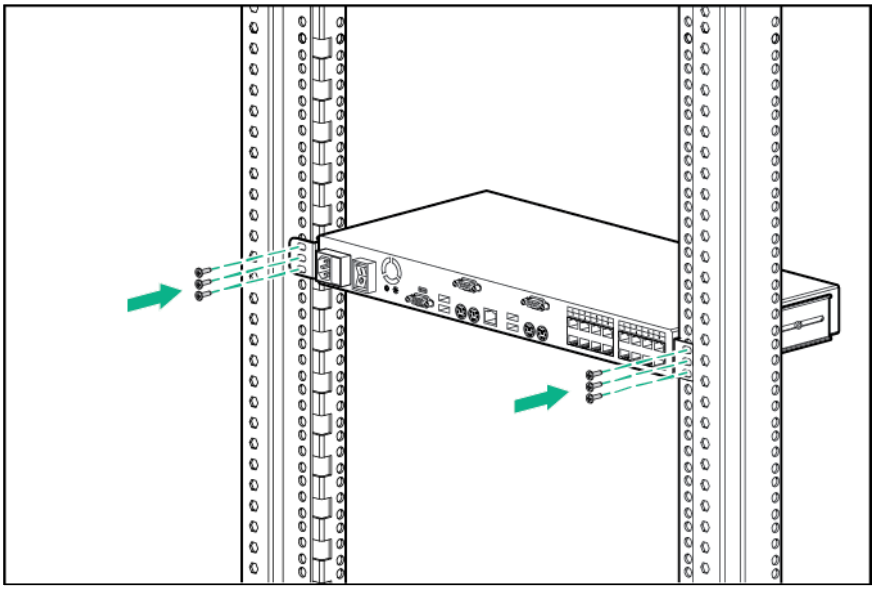


Performing a cantilever-mount installation

1. Remove the four screws, two on each side, from the console switch.
2. Attach the short 1U brackets to the console switch as indicated in step 2 ("Performing a standard-mount installation" on page 7) of performing standard-mount installation.
3. Install up to six cage nuts.

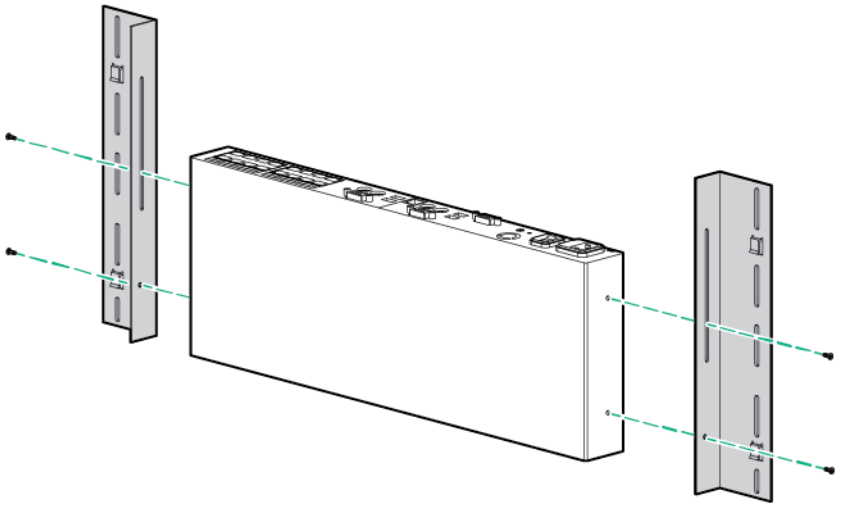


4. Secure the console switch to the rails using the appropriate number of M-6 screws.

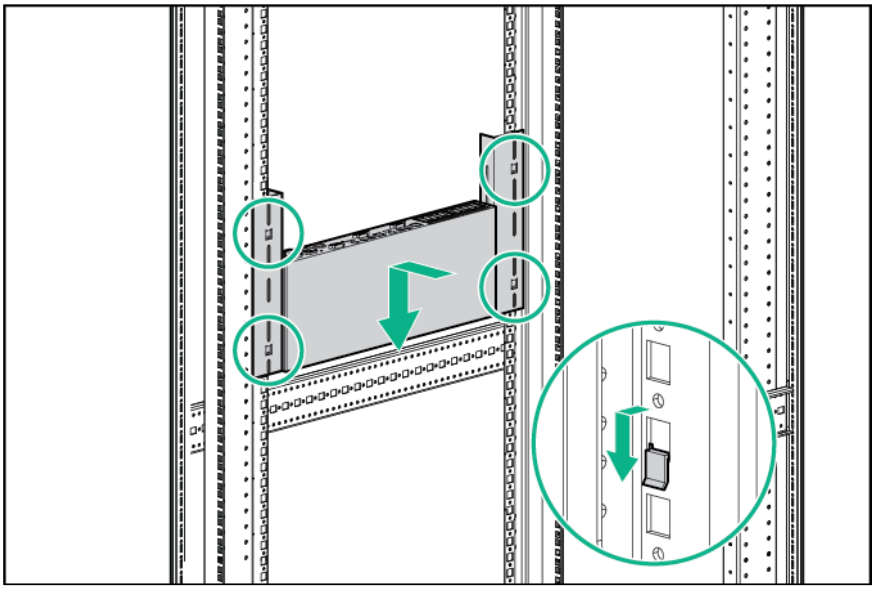


Performing a side-mount installation

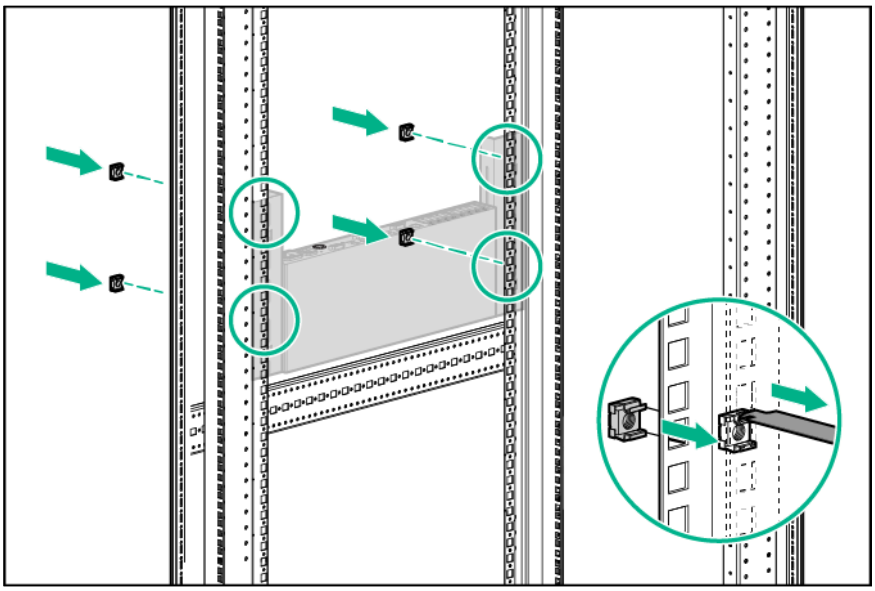
1. Remove the four screws, two on each side, from the console switch.
2. Attach the side-mounting brackets to the console switch using the four screws you removed.



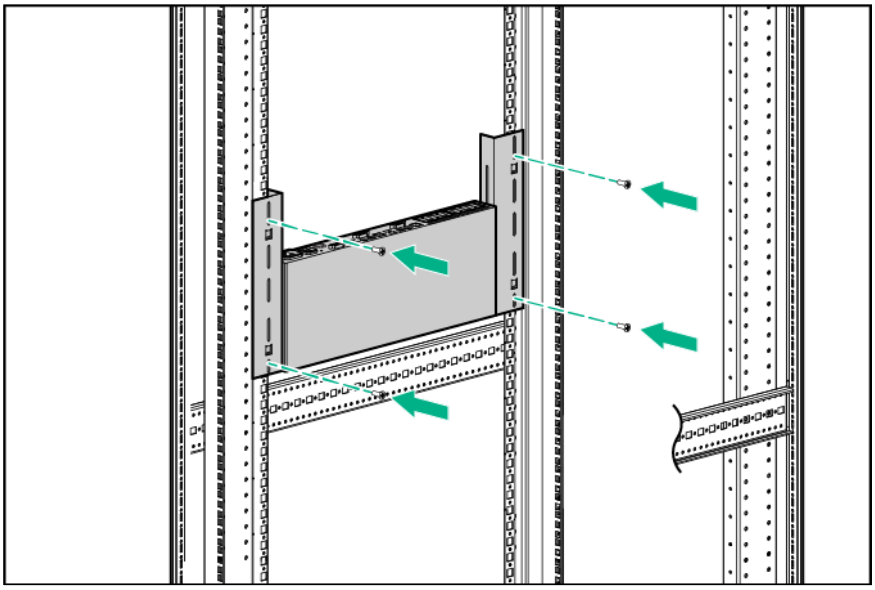
3. Slide the side-mounting bracket tabs into the U locations on each side of the rack.



4. Install four cage nuts into the side-mounting bracket U locations.

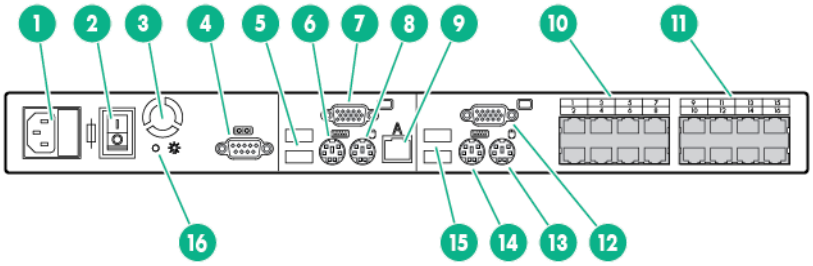


5. Secure the console switch to the rails, using four M-6 screws, two on each side.



NOTE: Some racks enable you to use four sheet metal screws in place of M-6 screws and cage nuts.

Console switch components



Item	Description
1	Power cord connector
2	Power switch
3	Fan
4	Serial management connector
5	Console port A USB ports (keyboard/mouse only)
6	Console port A keyboard connector
7	Console port A video connector
8	Console port A mouse connector
9	RJ-45 tiering port (designated by the letter A)
10	Server connection ports 1–8
11	Server connection ports 9–16*
12	Console port B video connector
13	Console port B mouse connector

Item	Description
14	Console port B keyboard connector
15	Console port B USB ports (keyboard/mouse only)
16	Activity indicator light

*Additional ports are only available on the 0x2x16 console switch.

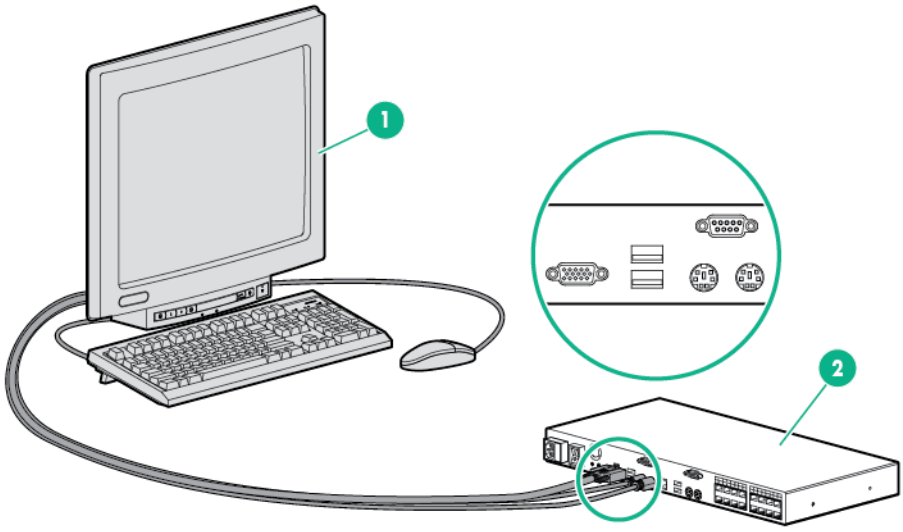
Connecting the local console switch

1. Connect the local keyboard, video, and mouse to the console switch.

   WARNING: To reduce the risk of electric shock or damage to the equipment:
   - Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
   - Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
   - Unplug the power cord from the power supply to disconnect power to the equipment.
   - Do not route the power cord where it can be walked on or pinched by items placed against it. Pay particular attention to the plug, electrical outlet, and the point where the cord extends from the storage system.

2. Plug the console switch power cord into a power source.
3. Power on the console switch. The activity indicator light ("Console switch components" on page 11) powers on.
4. Power on the monitor.

The following figure shows one possible configuration for your console switch system.



Item	Description
1	Local console

Item	Description
2	Console switch

Installing a PS/2 or USB interface adapter

Interface adapter overview

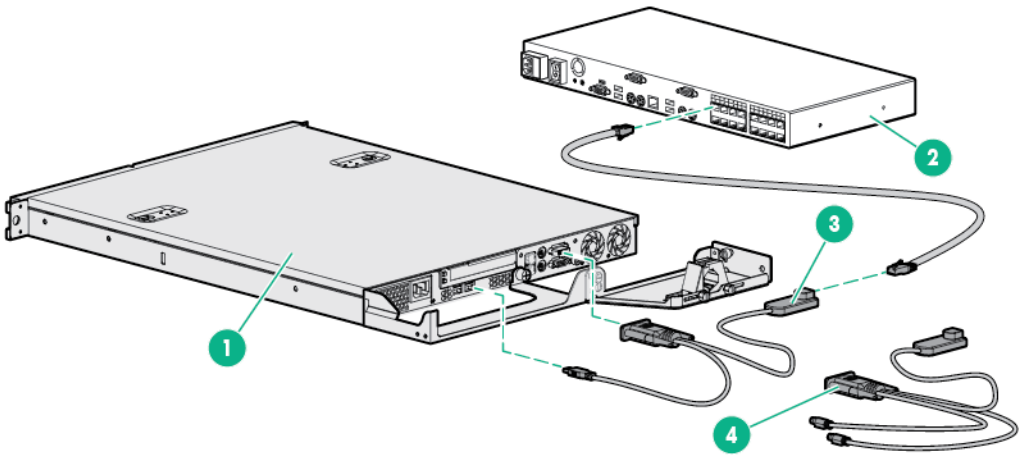
An interface adapter (sold separately) is required for the console switch system to function properly. An interface adapter connects UTP CAT5 or higher cables to PS/2 or USB connections and establishes a KVM session to a server.

NOTE: UTP CAT5 or higher cables are used throughout the examples in this guide.

Connecting the interface adapters

1. Connect a UTP CAT5 cable or higher to the server connection port ("Console switch components" on page 11) on the console switch.
2. Connect the other end of the cable to the RJ-45 connector on the interface adapter.
3. Connect the interface adapter to the appropriate connectors on the server.
4. Repeat the preceding steps to connect additional servers to this system, if needed.

The following figure shows one possible configuration for the console switch system with an interface adapter.



Item	Description
1	Server

Item	Description
2	Console switch
3	USB interface adapter
4	PS/2 interface adapter

To add server names, see Assigning names to servers (on page 36).

Cascading console switches

Compatible console switch models

This product supports only one level of cascading. Before you cascade console switches, review the following information.

To ensure optimum equipment performance while cascading console switches, follow the proper powering-on sequence—power on the console switches, monitor, and then servers.

△ **CAUTION:** Do not use interface adapters to cascade one console switch system with another console switch system. If interface adapters are used to cascade these products, undesirable operations might occur.

NOTE: To perform a firmware upgrade for a cascaded console switch and all attached interface adapters, you must locally connect the keyboard, monitor, and mouse to the cascaded console switch to access the local OSD.

HPE IP Console Switch

△ **CAUTION:** Do not use an interface adapter to cascade an IP Console Switch with an console switch. If an interface adapter is used to cascade these products, undesirable operations might occur.

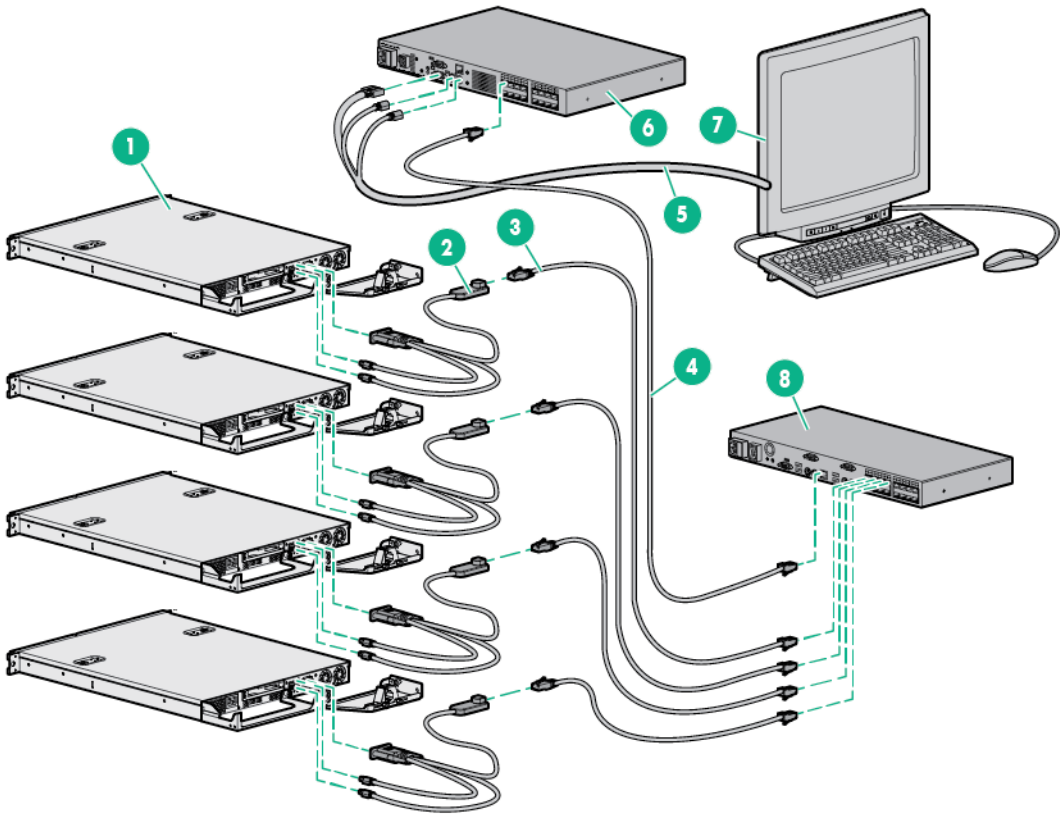
△ **CAUTION:** While cascading console switches, be sure that the HPE KVM Server Console Switch G2 is cascaded below the HPE IP Console Switch. Undesirable operations might occur if these specific cascading sequences are not followed.

The following IP Console Switches can be integrated into the console switch system. Compatible IP Console Switch models include:

- 2 x 1 x 16 [PN AF601A]
- 4 x 1 x 16 [PN AF602A]

All IP Console Switches must have the latest SoftPaq firmware upgrade when cascaded.

Example of an IP Console Switch cascade configuration



Item	Description
1	Server
2	PS/2 interface adapter or USB interface adapter*
3	UTP CAT5 cable or higher
4	UTP CAT5 cable or higher
5	KVM cable
6	Main HPE IP Console Switch
7	Local port
8	Cascaded HPE KVM Server Console Switch

*Not shown

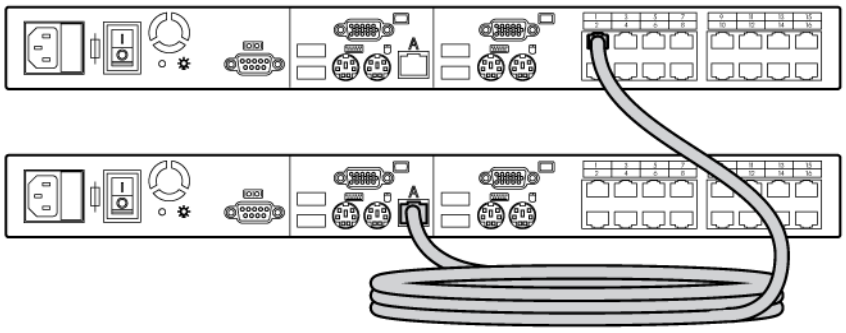
Cascading a KVM Server Console Switch G2 with another KVM Server Console Switch G2

Locate a UTP CAT5 cable or higher and connect one end to the server connection port on the cascaded console switch.

NOTE: To perform a firmware upgrade for a cascaded console switch and all attached interface adapters, you must locally connect the keyboard, monitor, and mouse to the cascaded console switch to access the local OSD.

The following figure shows a console switch cascaded to another console switch. The top console switch is the main console switch. The bottom console switch is the cascaded console switch.

△ **CAUTION:** Do not use interface adapters to cascade one console switch system with another console switch system. If interface adapters are used to cascade these products, undesirable operations might occur.



Local port operation

Overview

The console switch system has at least one local port (based on the specific model) on the rear panel ("Console switch components" on page 11) that enables the user to connect a keyboard, monitor, and mouse to the console switch for direct access.

Use the Main dialog box ("Accessing the Main dialog box" on page 19) to view, configure, and control servers in the console switch system.

Accessing the Main dialog box

To access the Main dialog box, choose one of the following default key sequences.

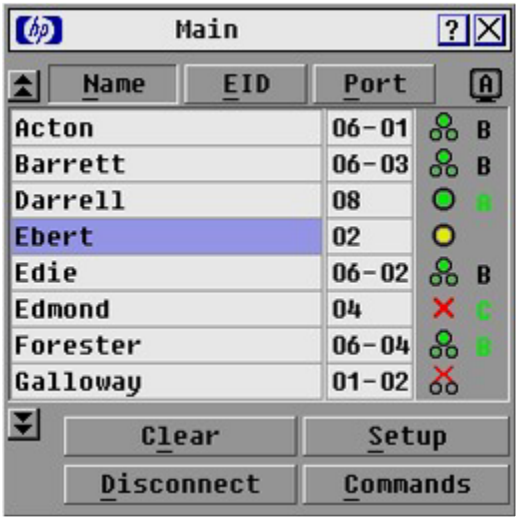
- **Print Scrn**
- **Ctrl + Ctrl**

To configure the following additional key sequences, see Accessing the Menu dialog box (on page 24).

- **Alt + Alt**
- **Shift + Shift**

> **NOTE:** You can press the **Alt**, **Shift**, or **Ctrl** key twice within one second to launch the OSD. You can use this key sequence where you see Print Scrn. For more information see, Accessing the Menu dialog box (on page 24).

The Main dialog box appears.



Button	Description
Clear	Enables you to clear all offline interface adapters.
Disconnect	Enables you to disconnect the local KVM session.
Setup	Enables you to access the Setup dialog box and configure the OSD.
Commands	Enables you to access the Commands dialog box.

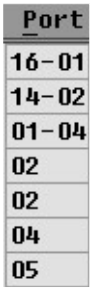
Viewing servers

You can view servers by name, port, or by the unique EID embedded in each interface adapter.

Viewing the Port column

When you launch the Main dialog box ("Accessing the Main dialog box" on page 19) for the first time, an OSD-generated port list appears.

The Port column indicates the port to which a server is connected. For example, in the following figure, the first number represents the port number of the first console switch and the second number represents the port number of the cascaded console switch port to which the server is connected.



Port number of the first console switch	Port number of the cascaded console switch	Server status icon displayed	Description
16	01		The server is connected to port 01 of the 2 x 8 console switch, and that console switch is cascaded from port 16 of the first console switch.
14	02	B	The server is connected to port 02 of the 2 x 16 console switch, and that console switch is cascaded from port 14 of the first console switch.
04			The server is connected to the first console switch and the interface adapter is not connected, or the server is powered off.
05			The server is connected to the first console switch and is active.

Viewing the Server Status column

The status of each server in the console switch system is indicated by the icons in the right column of the Main dialog box ("Accessing the Main dialog box" on page 19).

Item	Description
	The interface adapter is connected directly, cascaded through a console switch, or powered on.
	The interface adapter is not connected or the server is powered off.
	The interface adapter is being upgraded.
	This symbol identifies the port to which the console switch is connected.

Item	Description
	This symbol identifies the port to which you are connected and viewing.
	This symbol identifies another active port to which you are not connected.

Selecting servers

From the Main dialog box ("Accessing the Main dialog box" on page 19), you can select specific servers. When you select a new server, the console switch reconfigures the KVM to the setting for the selected server.

- Double-click the server **Name, EID,** or **Port**.
- If the display order of the server list is by Port (the Port button is clicked), enter the port number and press the **Enter** key.
- If the display order of the server list is by Name or EID number, enter the first few letters of the name of the server or the EID number to establish it as unique, and then press the **Enter** key.

NOTE: The EID is an electronic identification number, found on the interface adapter cable label, automatically assigned to the interface adapter.

Soft switching

Soft switching is the ability to switch servers using a hotkey sequence. You can soft switch to a server by pressing the **Print Scrn** key, entering the first few characters of the server's name or port number, and pressing the **Enter** key.

Soft switching to a server

If the display order of your server list is by port, press the **Print Scrn** key, select the **Port,** and press the **Enter** key.

If the display order of your server list is by name, press the **Print Scrn** key, select the **Name,** and press the **Enter** key.

Configuring switches for soft switching

1. From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Setup>Menu.** The Menu dialog box appears.
2. For Screen Delay Time, enter the number of seconds of delay desired before the Main dialog box displays after the **Print Scrn** key is pressed.
3. Click **OK** to save settings.

Soft switching to a previous server

Press the **Print Scrn** key, then press the **Backspace** key. This key combination toggles between the previous and current connection.

Disconnecting from a server

Press the **Print Scrn** key and press the **Alt**+**0** keys, or click **Disconnect.**

This leaves no server selected and the console switch is in a free state. The status flag on the OSD appears as Free.

Using basic OSD navigation keys

Keystroke	Description
Print Scrn	Opens the OSD Main dialog box. Press the **Print Scrn** key twice to send the **Print Scrn** keystroke to the currently selected device.
F1	Opens the Help screen for the current dialog box.
Esc	Closes the current dialog box without saving changes and returns to the previous dialog box. In the Main dialog box, it closes the OSD and returns to the selected server. In a message box, it closes the pop-up box and returns to the current dialog box.
Alt	Opens dialog boxes, selects options, and executes actions, when used in combination with the other keys.
Alt + X	Closes the current dialog box and returns to the previous dialog box.
Alt + 0	Selects the **OK** button and returns to the previous dialog box.
Enter	Completes the console switch operation in the Main dialog box and exits the OSD.
Single-click, Enter	Selects the text, in a text box, for editing and enables the left and right arrow keys to move the cursor. Press the **Enter** key again to quit Edit mode.
Print Scrn, Backspace	Toggles back to the previous selection if no other keystrokes have been entered.
Print Scrn, Alt + 0	Disengages the user immediately from a server–no server is selected. Status Flag displays Free. (This only applies to the **0** on the keyboard, not the keypad.)
Print Scrn, Pause	Activates the Screen Saver mode immediately and prevents access to that particular console if it is password protected.
Up or **Down** arrows	Moves the cursor from line to line.
Right or **Left** arrows	Moves the cursor between columns. When editing a text box, these keys move the cursor within the column.
Page Up or **Page Down**	Pages up and down through Name and Port lists.
Ctrl + **Ctrl**, **Shift** + **Shift** or **Alt** + **Alt**	Activates OSD.
Home or **End**	Moves the cursor to the top or bottom of a list.
Backspace	Erases characters in a text box.
Delete	Deletes current selection in the Scan dialog box or characters in a text box.
Shift, Delete	Deletes from current selection to all lines below it when editing a scan list.
Numbers	Adds numbers from the keyboard or keypad.
Caps Lock	Disables the user. (Use the **Shift** key to change case.)

Configuring the Setup dialog box

You can configure the console switch and manage routine tasks for your servers from the Setup dialog box ("Accessing the Setup dialog box" on page 23) within the OSD.

Accessing the Setup dialog box

From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Setup.** The Setup dialog box appears.

Managing routine tasks for servers

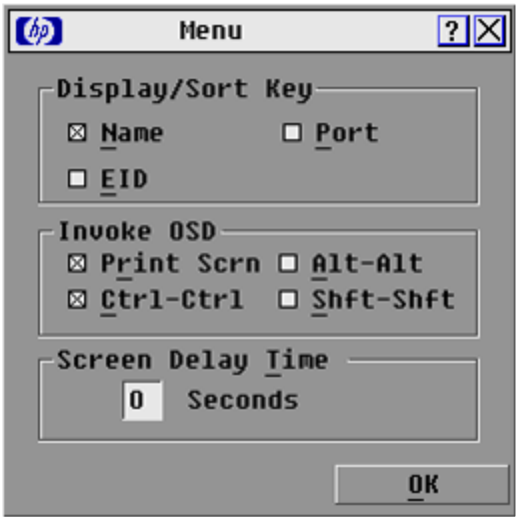
Button	Function
Menu	Changes the server listing between numerically by port or EID number and alphabetically by name. After you press **Print Scrn**, changes the delay time before the Main dialog box appears.
Flag	Changes the display, timing, color, and location of the status flag.
Broadcast	Controls multiple servers simultaneously through keyboard and mouse actions.
Scan	Sets up custom scan patters for up to 16 servers.
Security	Sets password to restrict server access. A valid password must be alphanumeric and contain a minimum of five characters and a maximum of 15 characters. Permitted characters are case sensitive and can consist of A–Z, 0–9, spaces and hyphens. Enables the Screen Saver mode.
Switch	Changes the Switch mode to preemptive or cooperative.
Keyboard	Changes the keyboard country code reported by the interface adapter if queried.
Language	Enables a user to change the language displayed in the OSD. Changes the language for help text, key mapping, and all screens.
Devices	Identifies device types attached to the console switch, including servers and other legacy console switches. You can also modify the type of legacy console switches.
Names	Enables you to name the interface adapter.

Changing the display behavior

From the Menu dialog box ("Accessing the Menu dialog box" on page 24), the display order of servers, console switch connection mode, and a time to delay display of the OSD after pressing the **Print Scrn** key can be changed. The display order setting alters how servers display in several screens, including the Main, Devices, and Broadcast dialog boxes.

Accessing the Menu dialog box

To access the Menu dialog from the Main dialog box ("Accessing the Main dialog box" on page 19), click **Setup>Menu.** The Menu dialog box appears.



Selecting the display order of servers

1. From the Menu dialog box ("Accessing the Menu dialog box" on page 24), select **Name** to display servers alphabetically by name.

   -or-

   Select **EID** to display servers numerically by interface adapter ID number.

   -or-

   Select **Port** to display servers numerically by port number.
2. Click **OK** to save settings.

   -or-

   Click **X** to exit, or press the **Esc** key to exit without saving settings.

Selecting and setting the OSD hot key command

1. Select the desired hot key sequence.

   Clearing all boxes leaves the **Print Screen** as the default option.
2. Choose one of the following options:
   - Click **OK** to save settings
   - Click **X** or press the **Esc** key to exit without saving settings.

Setting a screen delay time

Setting a time to delay the display of the OSD enables you to complete a soft switch ("Soft switching" on page 21) without displaying the OSD. It is strongly recommended to leave the number of seconds (0-9) the OSD is delayed to the default (0).

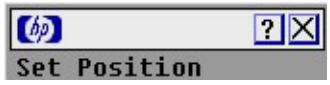
1. From the Main dialog box ("Accessing the Main dialog box" on page 19), enter the number of seconds (0–9) the OSD is delayed after pressing the **Print Scrn** key. Entering **0** instantly displays the OSD with no delay.
2. Click **OK** to save settings.

-or-

Click **X** to exit, or press the **Esc** key to exit without saving settings.

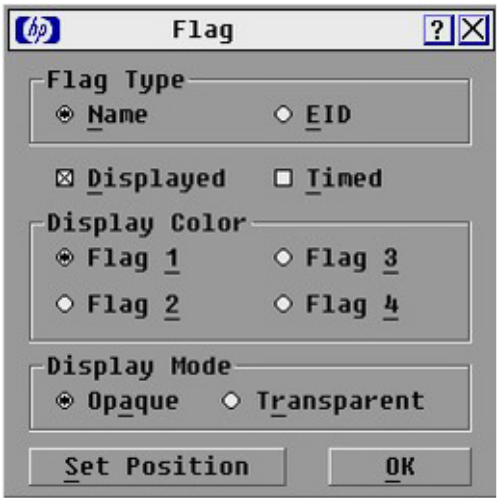
Controlling the status flag

The status flag appears on the desktop and shows the Name or EID number of the selected server or the status of a particular port. Use the Flag dialog box ("Accessing the Flag dialog box" on page 25) to change the flag display by server name or EID number or to change the flag color, opacity, display time, and location on the desktop.

Flag	Description
	Flag type by name
	Flag type by EID number
	Flag indicating that the user has been disconnected from all systems
	Flag indicating that the broadcast is activated
	Flag indicating that the user is in share mode
	Control used to set flag position

Accessing the Flag dialog box

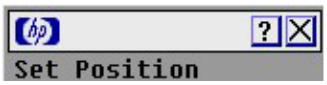
From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Setup>Flag.** The Flag dialog box appears.



Displaying the status flag

1. From the Flag dialog box ("Accessing the Flag dialog box" on page 25), select **Name** or **EID** to determine what information appears.
2. Sel0ect **Displayed** to show the flag constantly, or select **Timed** to display the flag for only five seconds after soft switching.
3. Select a flag color in Display Color.

4. In the Display Mode, select **Opaque** for a solid-color flag or **Transparent** to see the desktop through the flag.
5. Position the status flag on the desktop:
   a. Click **Set Position** to gain access to the Position Flag screen.
   b. Left-click and hold the title bar and drag to the desired location.
   c. Right-click to return to the Flag dialog box.



6. Choose one of the following options:
   - Click **OK** to save settings.
   - Click **X** to exit, or press the **Esc** key to exit without saving settings.

NOTE: Changes made to the position flag are not saved until you click **OK** in the Flag dialog box ("Accessing the Flag dialog box" on page 25).

Broadcasting to servers

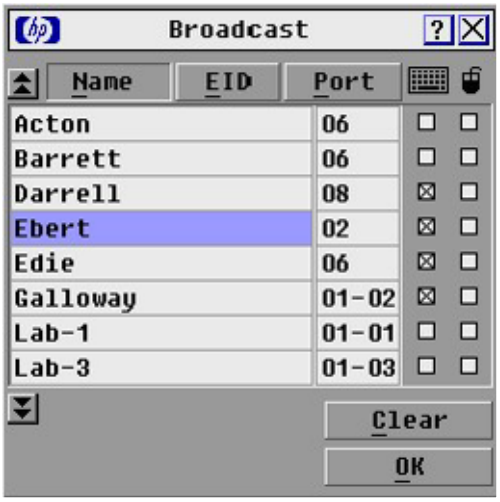
Analog users can simultaneously control more than one server in a system to be sure that all selected servers receive identical input. For each server receiving the broadcast, you can choose to broadcast keystrokes and mouse movements independently.

NOTE: During broadcast, any users connected to a broadcast server will be disconnected and unable to access any servers.

NOTE: You can broadcast to only one server per Expansion Module connection.

Accessing the Broadcast dialog box

From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Setup>Broadcast.** The Broadcast dialog box appears.



Activating the Broadcast dialog box

To activate broadcasting, from the Commands dialog box, select **Broadcast Enable.**

To deactivate broadcasting, from the Commands dialog box, clear **Broadcast Enable**.

Broadcasting keystrokes

The keyboard statistics must be identical for all servers receiving a broadcast to interpret keystrokes identically. Specifically, the Caps Lock and Num Lock modes must be the same on all keyboards. While the console switch attempts to send keystrokes to the selected servers simultaneously, some servers can inhibit and thereby delay the transmission.

Broadcasting selected servers

1. elect the keyboard and mouse using one of the following options:
   - From the Broadcast dialog box ("Accessing the Broadcast dialog box" on page 26), select the keyboard and mouse checkboxes for the servers that are to receive the broadcast commands.
   - Press the **Up** or **Down Arrow** keys to move the cursor to the target server. Then press the **Alt + K** keys to select the keyboard checkbox and/or the **Alt + M** keys to select the mouse checkbox. Repeat the step for additional servers.
2. Choose one of the following options:
   - Click **OK** to save the settings and return to the Setup dialog box.
   - Click **X** or press the **Esc** key to return to the Main dialog box.
3. From the Main dialog box, click the Commands dialog box, select **Broadcast Enable** to activate broadcasting.
4. From the user station, enter the information or perform the mouse movements you want to broadcast.

NOTE: Access by a second local user is disabled when broadcast mode is enabled. Only servers within the list are accessible.

Broadcasting mouse movements

For the mouse to work accurately, all systems must have identical mouse drivers, desktops (such as identically placed icons), and video resolutions. In addition, the mouse must be in exactly the same place on all screens. Because these conditions are extremely difficult to achieve, broadcasting mouse movements to multiple systems can have unpredictable results.

Setting up a scan pattern

In Scan mode ("Activating Scan mode" on page 29), the console switch automatically scans port to port (server to server).You can select up to 16 servers from a list of all servers attached to the console switch. You can display the list by either server name or EID number by clicking the appropriate button. Selecting the checkbox beside each server to be added to the scan list creates the scan list. The creation of a scan list does not start Scan mode. You must enable Scan mode through the Scan Enable checkbox on the Commands dialog box.

Accessing the Scan dialog box

From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Setup>Scan.** The Scan dialog box appears.

Adding servers to the scan list

1. From the Scan dialog box ("Activating Scan mode" on page 29), select the checkbox beside each server to be added to the scan list.

   -or-

   Double-click a server name or port.

   -or-

   Press the **Alt** key plus the number of the server you want to scan. You can select up to 16 servers.
2. In the Scan Time box, enter the number of seconds (from 3 to 99) before the scan moves to the next server in the sequence.
3. Click **OK** to save settings.

   -or-

   Click **Clear** to remove all servers from the scan list.

IMPORTANT: Selecting the checkbox beside each server to be added to the scan list creates the scan list. The creation of a scan list does not start the Scan mode. You must enable Scan mode through the Scan Enable checkbox on the Commands dialog box.

NOTE: Servers will be scanned in the order they are selected. If you remove a server from the Device Modify dialog box later, the change can affect a custom scan pattern.

Removing servers from the scan list

1. From the Scan dialog box ("Activating Scan mode" on page 29), click the server to be removed.

   -or-

   Double-click a server name or port.

   -or-

   Click **Clear** to remove all servers from the scan list.
2. Click **OK** to save settings.

Activating Scan mode

1. From the Commands dialog box, select **Scan Enable.**
2. Click **X** to close the Commands dialog box.

NOTE: The scanning begins as soon as you click **Scan.**

Deactivating Scan mode

If the OSD is open, select a server.

-or-

If the OSD is not open, move the mouse or press any key on the keyboard. Scanning stops at the currently selected server.

-or-

From the Commands dialog box, deselect **Scan Enable.** Any active connections on the local port are disconnected.

Setting local console switch security

The OSD enables you to set security on the local port consoles. You can establish a Screen Saver mode that engages after the console switch remains unused for a user-definable time delay. When engaged, the console switch remains locked until any key is pressed or the mouse is moved. Then you can enter the password to log in.

Use the Security dialog box ("Accessing the Security dialog box" on page 29) to lock your console switch with password protection, set or change the password, and enable the screen saver.

NOTE: If a password has been previously set, you must enter the password before you can access the Security dialog box.

Accessing the Security dialog box

From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Setup>Security.** The Security dialog box appears.

Changing the password

1. From the Security dialog box ("Accessing the Security dialog box" on page 29), click the **New** field or double-click the **New** field.
2. Enter the new password in the New field, and then press the **Enter** key.
3. In the Repeat field, re-enter the password and press the **Enter** key.
4. Click **OK** to change the password.

IMPORTANT: A valid password must be alphanumeric and be 5 to 15 characters in length. Permitted characters are case-sensitive and can consist of A–Z, 0–9, spaces, and hyphens.

Setting password protection

1. From the Security dialog box ("Accessing the Security dialog box" on page 29), set your password as described in the previous procedure ("Changing the password" on page 30).
2. Select **Enable Screen Saver.**
3. Enter the number of minutes for Time Delay (from 1 to 99) to delay activation of password protection and the screen saver feature.
4. (Optional) Click **Test** to activate the screen saver test, which lasts 10 seconds and returns you to the Security dialog box.
5. Click **OK** to save settings.

CAUTION: Monitor damage can result from the use of energy mode with monitors not compliant with Energy Star®.

Logging in to the console switch

1. Press any key on the keyboard, or move the mouse. The Authorize dialog box appears.
2. Enter the password, and then click **OK.**

Removing the password protection

1. From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Setup>Security.**
2. Choose one of the following options:
   - In the Security dialog box, click the **New** field and press the **Enter** key.
   - Double-click the **New** field, leave the New field blank, and press the **Enter** key.
3. Choose one of the following options:
   - Click the **Repeat** field and press the **Enter** key.
   - Double-click the **Repeat** field, leave the Repeat field blank, and press the **Enter** key.
4. Click **OK** if you want to eliminate the password.

Resetting a console switch password

1. Press any key on the keyboard, or move the mouse. The Authorize dialog box appears.
2. Enter `help` in the password field. A dialog box appears with a Hewlett Packard Enterprise technical support phone number, a 16-bit key, and the EID number of the console switch.

3. Call Hewlett Packard Enterprise technical support ("Accessing Hewlett Packard Enterprise Support" on page 47). Give the service person your 16-bit key and EID number of the console switch. A one-time unlock code, which is specific to your console switch, is given to you.
4. Enter the one-time unlock code in the field.
5. Click **OK.** Your previous console switch password is deleted.

Exiting screen saver mode

To exit the Screen Saver mode, press any key or move the mouse. The Main dialog box ("Accessing the Main dialog box" on page 19) is displayed.

Activating Screen Saver mode without password protection

1. If your console switch does not require a password to gain access to the Security dialog box ("Accessing the Security dialog box" on page 29), proceed to step 2.

   -or-

   If your console switch is password protected, refer to the Deactivating the Screen Saver (on page 32) section, then go to step 2.
2. Select **Enable Screen Saver.**
3. Enter the number of minutes for Inactivity Time (1 to 99) to delay activation of the screen saver.
4. (Optional) Click **Test** to activate the screen saver test, which lasts 10 seconds, then returns you to the Security dialog box.
5. Click **OK** to save settings.

△ **CAUTION:** Monitor damage can result from the use of energy mode with monitors not compliant with Energy Star®.

NOTE: No server is selected after the activation of the screen saver mode disconnects the user from a server. The status flag displays Free.

Deactivating the screen saver

1. From the Security dialog box ("Accessing the Security dialog box" on page 29), deselect **Enable Screen Saver.**
2. Click **OK** to save settings.

To immediately activate the screen saver, press the **Print Scrn** key, and then press the **Pause** key. This command only works when the user is connected to a server.

Configuring the Switch and Share modes

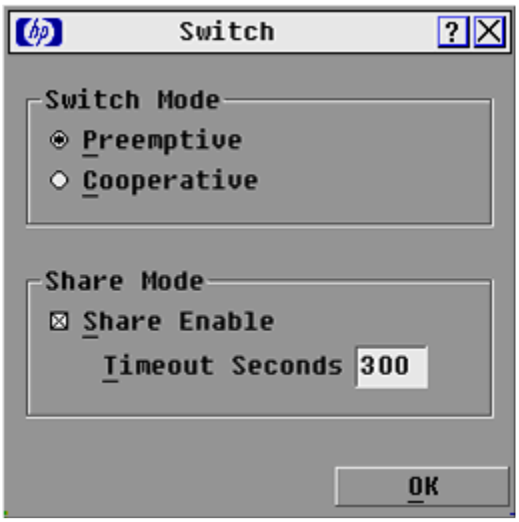
The Switch window can be used to set one of the following switch modes:

- **Preemptive** (default setting)—Enables any user to select any server at any time; a request from another user disconnects the current user without warning.
- **Cooperative**—Maintains the current user connection; the current user will not be disconnected if another user requests connection.

You can also enable or disable Share mode and specify a time-out period from the Switch window. Share mode enables two users to access a primary server.

Accessing the Switch dialog box

1. From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Setup>Switch**. The Switch window appears.



Setting the Switch and Share modes

1. Access the Switch window ("Accessing the Switch dialog box" on page 32).
2. Select either **Preemptive** or **Cooperative** as the Switch mode. For more information, see Configuring the Switch and Share modes (on page 32).
3. (Optional) Select **Share Enable**.
4. Specify the share time-out period.
5. Choose one of the following options:
   - Click **OK** to save the settings and return to the Setup window.
   - Click **X** or press the **Esc** key to exit without saving the settings.

Changing the keyboard language

You can select the language for all USB Interface Adapters connected to the console switch.

Accessing the Keyboard dialog box

From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Setup>Keyboard.** The Keyboard dialog box appears.

Selecting the keyboard language

1. From the Keyboard dialog box ("Accessing the Keyboard dialog box" on page 33), select the keyboard country code. A Keyboard Warning appears.

2. Click **OK.**

Setting the OSD interface language

You can use the Language window to configure the OSD interface languages.

1. Access the Setup ("Accessing the Setup dialog box" on page 23) window.

2. Click **Language**. The Language window appears.

3. Select the desired language.
4. Choose one of the following options:
   - Click **OK** to change the OSD interface language and return to the Setup window.
   - Click **X** or press the **Esc** key to exit without changing the keyboard language.

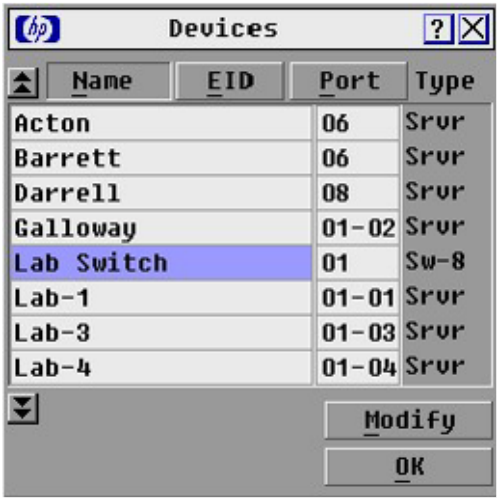
Assigning device types

While the console switch automatically discovers cascaded Compaq Server Console Switches attached to your unit, you must specify the number of ports on the cascade Compaq Server Console Switch through the Devices dialog box ("Accessing the Devices dialog box" on page 34).

Accessing the Devices dialog box

From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Setup>Devices.** The Devices dialog box appears.

NOTE: The Modify button is only available if a configurable Compaq Server Console Switch is selected.

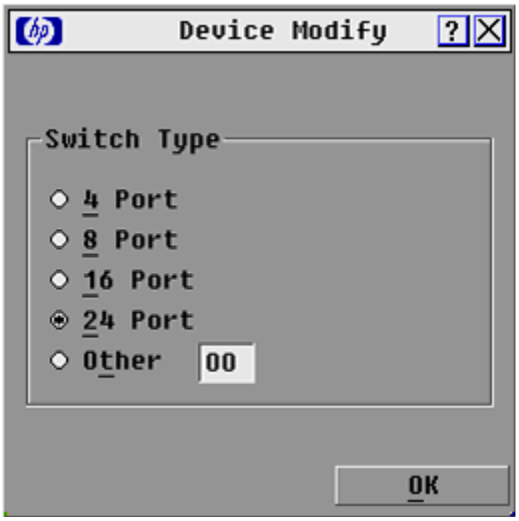


When the console switch discovers a cascaded console switch, the port numbering changes automatically to accommodate each server. For example, if the console switch is connected to port 02, the switch port is listed as 02, and each server under it is numbered sequentially 02-01, 02-02, and so on.

However, when a console switch discovers a cascaded Compaq Server Console Switch, you must select the number of ports on the Compaq Server Console Switch through the Device Modify dialog box.

Modifying device types

1. From the Devices dialog box ("Accessing the Devices dialog box" on page 34), select the Port number.
2. Click **Modify.** The Device Modify dialog box appears.



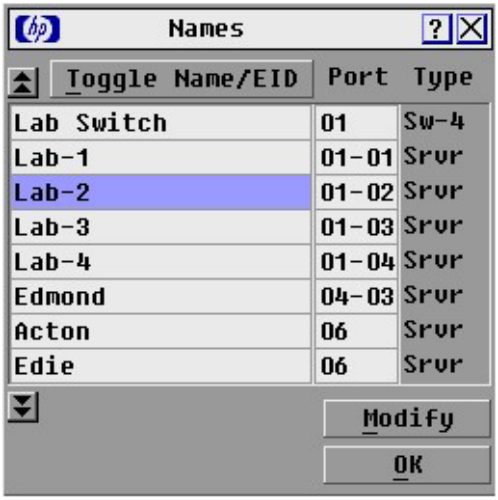
3. Select the number of ports supported by the cascaded Compaq Server Console Switch. If the number of ports on the tiered switch is not listed, click **Other** and enter a port number between 4 and 24.
4. Click **OK.**
5. Repeat the previous steps for each port the user wants to assign a device type.
6. Choose one of the following options:
   - Click **OK** in the Devices dialog box to save settings.
   - Click **X** to exit, or press the **Esc** key to exit without saving settings.

NOTE: Changes made in the Device Modify dialog box are not saved until you click **OK** in the Devices dialog box.

Accessing the Names dialog box

From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Setup>Names.** The Names dialog box appears.

NOTE: If the server list has changed since it was last displayed, the mouse cursor turns into an hourglass as the list automatically updates. No mouse or keyboard input is accepted until the list update is complete.

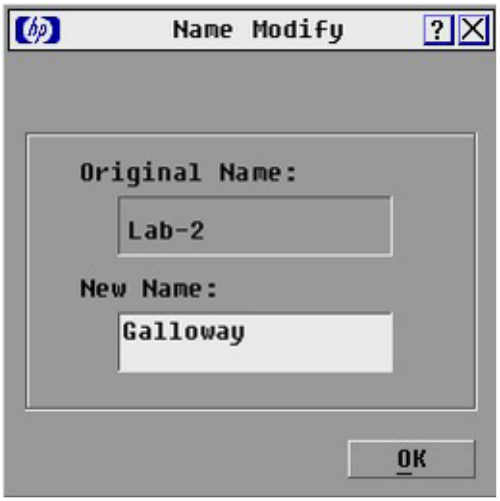


Assigning server names

Use the Names dialog box ("Accessing the Names dialog box" on page 35) to identify individual servers or serial devices by name rather than by port number. The Names list is always sorted by port order, and the names are stored in the Interface Adapter. If you move the Interface Adapter or server to another switch port, the console switch recognizes the names and configurations.

Assigning names to servers

1. From the Names dialog box ("Accessing the Names dialog box" on page 35), select the name or port number and click **Modify.** The Name Modify dialog box appears.



2. In the New Name field, enter a name. Names can be 1 to 15 characters in length. Permitted characters are case-sensitive and can consist of A–Z, 0–9, spaces, and hyphens.
3. Click **OK** to transfer the new name to the Names dialog box.
4. Repeat steps the previous steps for each server in the system.
5. Choose one of the following options:
   - Click **OK** to save settings.
   - Click **X** to exit, or press the **Esc** key to exit without saving settings.

NOTE: Changes made in the Name Modify dialog box are not saved until you click **OK** in the Names dialog box.

Managing console switch tasks using the OSD

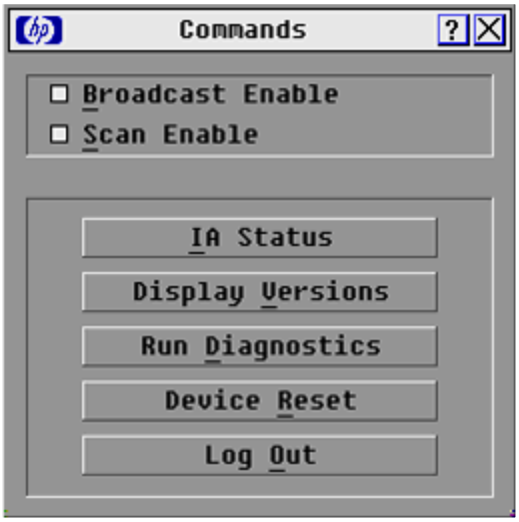
You can manage the console switch system from the Commands dialog box with the OSD, including:

- Engaging Scan mode ("Activating Scan mode" on page 29) and Broadcast mode
- Managing user connections
- Running diagnostics
- Updating your firmware

Feature	Purpose
Broadcast Enable	Begins broadcasting to your servers. Configures a server list for broadcasting under the **Setup** dialog box.
Scan Enable	Begins scanning your servers. Sets up a list for scanning in the **Setup** dialog box.
IA Status	Upgrades multiple interface adapters simultaneously.
Display Versions	Displays version information for the console switch, and firmware information for individual interface adapters. Enables you to upgrade individual interface adapter firmware.
Run Diagnostics	Validates the integrity of your system, including memory, firmware CRC, communication interfaces, switch controllers, local and remote video, and interface adapters.
Device Reset	Resets local console PS2 devices
Log Out	Logs you out of the OSD. If password protection is enabled, you must enter the screen saver password to continue logging out of the OSD.

Accessing the Commands dialog box

From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Commands.** The Commands dialog box appears.



NOTE: The Log Out button is only active if a password is set. For more information on setting a password, see Setting password protection (on page 30).

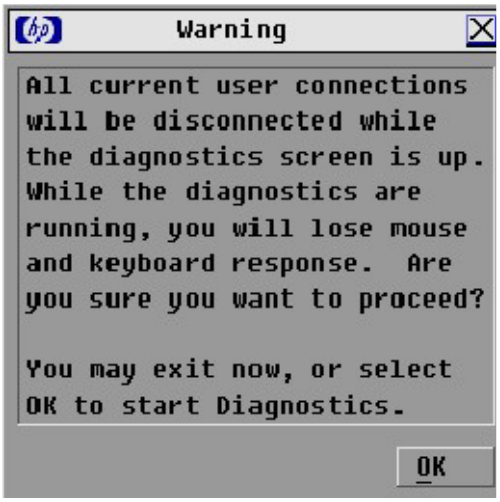
Running system diagnostics

Clicking **Run Diagnostics** ("**Activating Run Diagnostics**" on page 38) runs a command to check the main board functions subsystems (memory, intra-board communications, console switch control, and the video channels) for each system controller.

Test	Description
Memory Test	Reports the condition of the main board RAM. This indicator displays the results of the memory tests performed at system reboot.
Firmware CRCs	Validates the current firmware images stored in the system FLASH by comparing a CRC value on each image and comparing those results to the expected values.
Comm Interfaces	Verifies the intra-board communication subsystems are accessible and functional by querying the communications controller and performing basic register level tests.
Switch Controller	Verifies the switch matrix controller is accessible and functional by querying the switch matrix controller and performing basic register level tests.
Local Video	Verifies that all the video channel subsystems are accessible, functional, and performing basic register level tests.
Online IAs	Indicates the total number of currently connected and powered interface adapters.
Offline IAs	Indicates the number of interface adapters that have been connected successfully in the past and are powered down.
Suspect IAs	Indicates the number of interface adapters that have been detected but are either unavailable for connection or have dropped packets during the ping tests.

Activating Run Diagnostics

1. From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Commands>Run Diagnostics.** A warning message appears indicating that all users will be disconnected.



2. Choose one of the following options:
   - Click **OK** to begin. All users are disconnected, and the Diagnostics dialog box appears.

- Click **X** or press the **Esc** key to exit the dialog box without running a diagnostic test.

3. As each test is finished, a pass or fail symbol appears.

   A green circle indicates a passed test and a red X indicates a failed test. The test is complete when the last test symbol displays.
4. (Optional) If you have any offline interface adapters, you can click **Clear** to remove them from the list.
5. (Optional) If you have any suspect interface adapters, you can click **Display.** The Suspect interface adapter dialog box is appears. If there are no suspect interface adapters, the Display button does not appear.

Device Reset

If your local PS/2 keyboard and mouse lock up, you can re-establish operation of these peripherals by issuing a device reset. The device reset function resets the local PS/2 keyboard and mouse for the local console.

1. From the Main dialog box, click **Commands.** The Commands dialog box appears.
2. Click **Device Reset.** A warning appears.

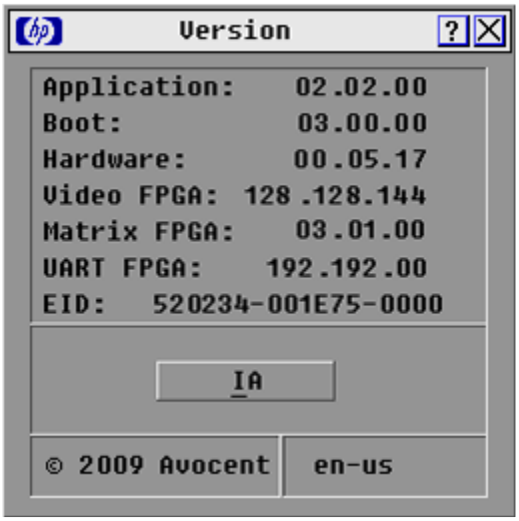
Displaying version information

The Versions dialog box ("Accessing the Version dialog box" on page 39) enables you to view the console switch versions, as well as keyboard and mouse information for the currently selected server.

Accessing the Version dialog box

NOTE: Provide the application version number when communicating with Hewlett Packard Enterprise customer service centers.

1. From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Commands>Versions.** The Version dialog box appears. The top half of the box lists the firmware application and subsystem versions in the console switch.



Upgrading the firmware

Upgrading the console switch firmware

1. Connect the serial cable to the serial port on the PC (must be running Microsoft® Windows®) and to the serial port ("Console switch components" on page 11) on the rear panel of the console switch.
2. Go to the folder where the firmware files are saved and run the ApplianceUpDate.exe file.

   NOTE: The .bin files must be in the same folder as the ApplianceUpDate.exe file.

3. Enter the COM port number being used to load the firmware.
4. Click **Load.** The update process begins.

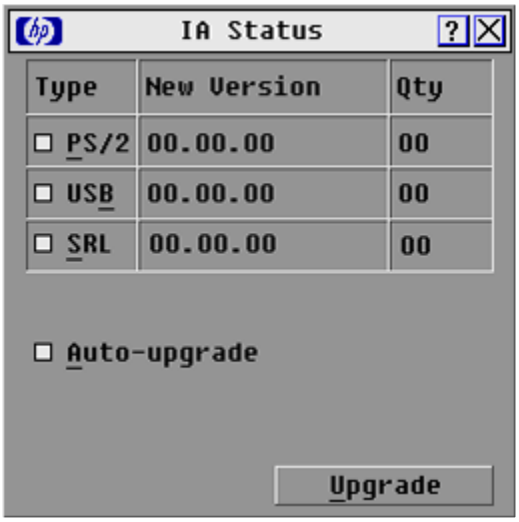
   The update process has three updates—Loading Application Firmware, Loading Graphics Chip, and Loading System Data. You see a progress bar for each of those three updates. The firmware update is not done until all updates have been loaded. When the firmware is updated, the following message, indicating "Update Complete" appears.
5. Click **Done.**

Upgrading the interface adapter firmware

The Interface Adapter firmware can be loaded individually ("Loading interface adapter firmware individually" on page 42), or upgraded simultaneously ("Upgrading interface adapter firmware simultaneously" on page 41). The servers attached to the interface adapters must be powered on while upgrading the firmware.

Upgrading interface adapter firmware simultaneously

1. From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Commands>IA Status.** The IA Status dialog box appears.



2. Select **PS/2**, **USB,** or **Serial,** and then click **Upgrade.** The IA Upgrade dialog box appears.

> **NOTE:** You can configure automatic upgrades of all interface adapters connected to the console switch by checking the Auto Upgrade box in the IA Status window.

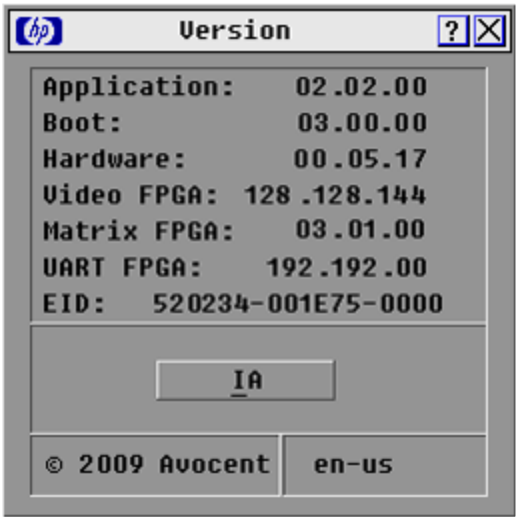
3. Click **OK** to save settings.
4. Press the **Esc** key to return to the Main dialog box ("Accessing the Main dialog box" on page 19). The OSD indicators appear yellow while the upgrade is in progress. The indicators change to red and then to green when the upgrade is complete.

> **NOTE:** Wait until the OSD indicators are displayed as green before continuing.

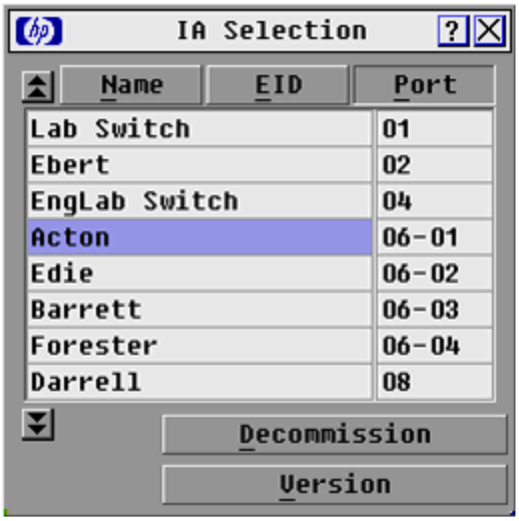
Loading interface adapter firmware individually

> **NOTE:** This method of loading the interface adapter firmware will always overwrite the current version of firmware in the interface adapter. Hewlett Packard Enterprise recommends upgrading your interface adapters simultaneously ("Upgrading interface adapter firmware simultaneously" on page 41), which only upgrades interface adapters needing a new version of firmware.

1. From the Main dialog box ("Accessing the Main dialog box" on page 19), click **Commands>Display Versions.** The Version dialog box appears.



2. Click **IA.** The IA Selection dialog box appears.



3. Select the individual interface adapter, and click **Version.** The IA Version dialog box appears.

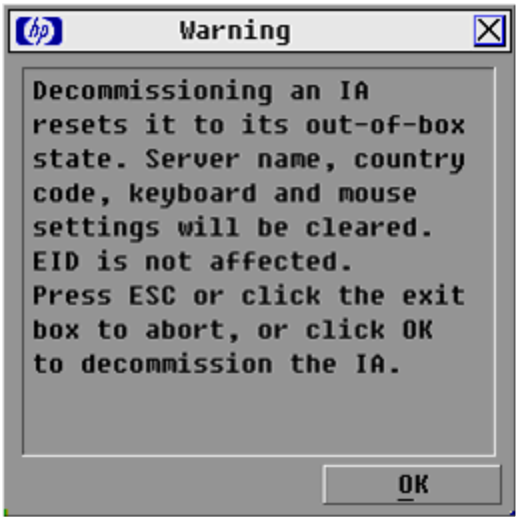
4. Click **Load Firmware.**

Decommissioning an interface adapter

IMPORTANT: Decommissioning an interface adapter restores the factory defaults, removing any assigned server names and resetting any other configurations, while leaving the EID unchanged. After decommissioning an interface adapter, reboot the server connected to the interface adapter before using it again.

1. Access the **Commands** window. For more information, see Accessing the Main dialog box (on page 19).
2. Click **Display Version**. The Version window appears.
3. Click **IA**. The IA Selection window appears.
4. Select a server that is connected to the rack console switch with an interface adapter.
5. Click **Decommission**.
6. Click **OK**.

7. To close the Target Selection window, click **X** or press the **Esc** key.



Troubleshooting

Connection length requirements

The console switch offers optimum video performance when the distance between the server and console switch is 15 m (50 ft) or less (1280 x 1024 at 75 Hz). The system is capable of operation at distances up to 30 m (100 ft) at reduced video resolutions (800 x 640 at 60 Hz, worst case).

Distance	1280 x 1024	1024 x 768	800 x 640
15.24 m (50 ft)	X	X	X
22.86 m (75 ft)	—	—	X
30.48 m (100 ft)	—	—	X

Troubleshooting table

Problem	Solution
The local user cannot view the OSD copyright notice. The OSD copyright notice is distorted.	• Be sure that the power source is valid. • Be sure that the cables are connected properly. • Be sure that the monitor is valid.
The local user cannot view the OSD flag.	Preview the preferences in the OSD to determine if the local port display has been disabled or set to time out. If the preferences are set to not display the OSD flag or to have the flag time out, then the OSD flag does not appear.
The local user cannot activate or view the OSD, and the OSD flag disappears.	Be sure that the local port keyboard is connected properly and that the keyboard is valid.
The OSD is distorted or not readable on the local port video display.	Be sure that the monitor supports the refresh rate to which target server is set.
The activity indicator light ("Console switch components" on page 11) does not display when the console switch is powered on.	• Be sure that the console switch is powered on and that the power source is valid. • Be sure that the cables are connected properly
The system does not recognize the IP Console Switch.	All IP Console Switches must be upgraded with firmware version 3.0.0 or later.
The console switch system is inaccessible because the password is lost.	Call the Hewlett Packard Enterprise Customer Support Center ("Accessing Hewlett Packard Enterprise Support" on page 47).
Video displays are all green or red.	• Check the UTP CAT5 cable for breaks or bad crimps. • Check the VGA connection for bent pins.
The screen saver does not turn on.	Be sure to click **OK** to confirm the screen saver selection. Click **X** or press the **Esc** key to cancel the command.

Problem	Solution
When connecting a serial interface adapter to a server running Linux Red Hat or SLES, the numeric keypad keys on a PC keyboard do not map to VT100 emulation under the Linux shell. Using the numeric keypad with the vi text editor causes function characters to appear instead of numbers.	• Use the "printenv" command to show the TERM assigned under Linux. It can be matched appropriately with other termcap entries by editing the profile or setting the TERM = "ansi". For PC keyboards, ANSI is the most compatible emulation. • Edit you /etc/inittab as: `s0:2345:respawn:sbin/agetty -h ttyS0 115200, 9600 ansi` Where ttyS0 is the serial device name where the serial interface adapter is connected. Then as a shell prompt, enter init q, or reboot the system.
The video resolution is distorted.	For more information, see the Connection Length Table ("Connection length requirements" on page 45).

Support and other resources

Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website (http://www.hpe.com/assistance).
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website (http://www.hpe.com/support/hpesc).

Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates, go to either of the following:
  - Hewlett Packard Enterprise Support Center **Get connected with updates** page (http://www.hpe.com/support/e-updates)
  - Software Depot website (http://www.hpe.com/support/softwaredepot)
- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page (http://www.hpe.com/support/AccessToSupportMaterials).

IMPORTANT: Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HP Passport set up with relevant entitlements.

Websites

- Hewlett Packard Enterprise Information Library (http://www.hpe.com/info/enterprise/docs)
- Hewlett Packard Enterprise Support Center (http://www.hpe.com/support/hpesc)
- Contact Hewlett Packard Enterprise Worldwide (http://www.hpe.com/assistance)

- Subscription Service/Support Alerts (http://www.hpe.com/support/e-updates)
- Software Depot (http://www.hpe.com/support/softwaredepot)
- Customer Self Repair (http://www.hpe.com/support/selfrepair)
- Insight Remote Support (http://www.hpe.com/info/insightremotesupport/docs)
- Serviceguard Solutions for HP-UX (http://www.hpe.com/info/hpux-serviceguard-docs)
- Single Point of Connectivity Knowledge (SPOCK) Storage compatibility matrix (http://www.hpe.com/storage/spock)
- Storage white papers and analyst reports (http://www.hpe.com/storage/whitepapers)

Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

For more information and device support details, go to the Insight Remote Support website (http://www.hpe.com/info/insightremotesupport/docs).

Warranty and regulatory information

Warranty information

HPE ProLiant and x86 Servers and Options (http://www.hpe.com/support/ProLiantServers-Warranties)

HPE Enterprise Servers (http://www.hpe.com/support/EnterpriseServers-Warranties)

HPE Storage Products (http://www.hpe.com/support/Storage-Warranties)

HPE Networking Products (http://www.hpe.com/support/Networking-Warranties)

Regulatory information

Safety and regulatory compliance

For important safety, environmental, and regulatory information, see *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products*, available at the Hewlett Packard Enterprise website (http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts).

Belarus Kazakhstan Russia marking

Manufacturer and Local Representative Information

Manufacturer information:

Hewlett Packard Enterprise Company, 3000 Hanover Street, Palo Alto, CA 94304 U.S.

Local representative information Russian:

- **Russia:**

  ООО «Хьюлетт Паккард Энтерпрайз», Российская Федерация, 125171, г. Москва, Ленинградское шоссе, 16А, стр.3, Телефон/факс: +7 495 797 35 00

- **Belarus:**

  ИООО «Хьюлетт-Паккард Бел», Республика Беларусь, 220030, г. Минск, ул. Интернациональная, 36-1, Телефон/факс: +375 17 392 28 20

- **Kazakhstan:**

  ТОО «Хьюлетт-Паккард (К)», Республика Казахстан, 050040, г. Алматы, Бостандыкский район, проспект Аль-Фараби, 77/7, Телефон/факс: + 7 727 355 35 52

Local representative information Kazakh:

- **Russia:**

  ЖШС "Хьюлетт Паккард Энтерпрайз", Ресей Федерациясы, 125171,
  Мәскеу, Ленинград тас жолы, 16А блок 3, Телефон/факс: +7 495 797 35 00

- **Belarus:**

  «HEWLETT-PACKARD Bel» ЖШС, Беларусь Республикасы, 220030, Минск қ.,
  Интернациональная көшесі, 36/1, Телефон/факс: +375 17 392 28 20

- **Kazakhstan:**

  ЖШС «Хьюлетт-Паккард (К)», Қазақстан Республикасы, 050040, Алматы к.,
  Бостандық ауданы, Әл-Фараби даңғ ылы, 77/7, Телефон/факс: +7 727 355 35 52

Manufacturing date:

The manufacturing date is defined by the serial number.

CCSYWWZZZZ (serial number format for this product)

Valid date formats include:

- YWW, where Y indicates the year counting from within each new decade, with 2000 as the starting point; for example, 238: 2 for 2002 and 38 for the week of September 9. In addition, 2010 is indicated by 0, 2011 by 1, 2012 by 2, 2013 by 3, and so forth.
- YYWW, where YY indicates the year, using a base year of 2000; for example, 0238: 02 for 2002 and 38 for the week of September 9.

Turkey RoHS material content declaration

Türkiye Cumhuriyeti: EEE Yönetmeliğine Uygundur

Ukraine RoHS material content declaration

Обладнання відповідає вимогам Технічного регламенту щодо обмеження використання деяких небезпечних речовин в електричному та електронному обладнанні, затвердженого постановою Кабінету Міністрів України від 3 грудня 2008 № 1057

Acronyms and abbreviations

CRC

cyclic redundant checks

EID

electronic identification number

IA

interface adapter

KVM

keyboard, video, and mouse

OSD

on-screen display

SLES

SUSE Linux Enterprise Server

USB

universal serial bus

UTP

unshielded twisted pair

VDC

voltage direct-current

Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback (mailto:docsfeedback@hpe.com). When submitting your feedback, include the document title, part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.

Index

J

K

L

M

N

O

P

R

S

T

U

V

W