

# HP Installation Guide, HP Integrity Superdome/sx2000 and HP 9000 Superdome/sx2000 Servers

HP Part Number: 5992-1042  
Published: July 2011  
Edition: 9



© Copyright 2006, 2011 Hewlett-Packard Development Company, L.P.

The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein. Intel, Pentium, Intel Inside, and the Intel Inside logo are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Microsoft and Windows are U.S. registered trademarks of Microsoft Corporation.

UNIX is a registered trademark of The Open Group.

**Warranty**

To obtain a copy of the warranty for this product see the warranty information website:

<http://h20341.www2.hp.com/integrity/w1/en/resources/warranty-information.html>

---

# About This Document

This document contains the installation procedures of the system and operating system specifics for components in the system.

## Intended Audience

This document is intended for HP trained Customer Support Consultants.

## Document Organization

This document is organized as follows:

Chapter 1 This chapter describes how to unpack and inspect the system, set up the system, connect the MP to the customer LAN, and how to complete the installation.

## Typographic Conventions

The following typographic conventions are used in this document.

- 
- ⚠ WARNING!** Lists requirements that you must meet to avoid personal injury.
- 
- ⚠ CAUTION:** Provides information required to avoid losing data or to avoid losing system functionality.
- 
- ⓘ IMPORTANT:** Provides essential information to explain a concept or to complete a task.
- 

**NOTE:** Highlights useful information such as restrictions, recommendations, or important details about HP product features.

---

- Commands and options are represented using this font.
- **Text that you type exactly as shown** is represented using this font.
- *Text to be replaced with text that you supply* is represented using this font.  
Example: "Enter the `ls -l filename` command" means you must replace *filename* with your own text.
- **Keyboard keys and graphical interface items (such as buttons, tabs, and menu items)** are represented using this font.  
Examples: The **Control** key, the **OK** button, the **General** tab, the **Options** menu.
- **Menu → Submenu** represents a menu selection you can perform.  
Example: "Select the **Partition → Create Partition** action" means you must select the **Create Partition** menu item from the **Partition** menu.
- Example screen output is represented using this font.

## Related Information

Further information on HP server hardware management, Microsoft® Windows®, and diagnostic support tools are available through the following website links.

### Website for HP Technical Documentation

This is the main website for HP technical documentation. See <http://www.hp.com/go/bizsupport>.

## Server Hardware Information

The following website offers more information [http://www.hp.com/go/integrity\\_servers-docs](http://www.hp.com/go/integrity_servers-docs) . It provides HP nPartition server hardware management information, including information on site preparation, installation, and more.

## Diagnostics and Event Monitoring: Hardware Support Tools

The following link contains comprehensive information about HP hardware support tools, including online and offline diagnostics and event monitoring tools. This website has manuals, tutorials, FAQs, and other reference material. See [www.hp.com/go/bizsupport](http://www.hp.com/go/bizsupport).

## Website for HP Technical Support

HP's IT resource center is located at the following website: and provides comprehensive support information for IT professionals on a wide variety of topics, including software, hardware, and networking. .

<http://www13.itrc.hp.com/service/home/home.do?admit>

## Publishing History

The document printing date and edition number indicate the document's current edition and are included in the following table. The printing date will change when a new edition is produced. Document updates may be issued between editions to correct errors or document product changes. The latest version of this document is available on line at:

[www.hp.com/go/bizsupport](http://www.hp.com/go/bizsupport)

First Edition	.....	March 2006
Second Edition	.....	September 2006
Third Edition	.....	February 2007
Fourth Edition	.....	November 2007
Fifth Edition	.....	September 2009
Sixth Edition	.....	March 2010
Seventh Edition	.....	August 2010
Eighth Edition	.....	April 2011
Ninth Edition	.....	July 2011

## HP contact information

For the name of the nearest HP authorized reseller:

- In the United States, see the HP US service locator website <http://welcome.hp.com/country/us/en/wwcontact.html>.
- In other locations, see the Contact HP worldwide (in English) website: <http://welcome.hp.com/country/us/en/wwcontact.html>.

For HP technical support:

- In the United States, for contact options see the Contact HP United States website: [http://welcome.hp.com/country/us/en/contact\\_us.html](http://welcome.hp.com/country/us/en/contact_us.html).

To contact HP by phone:

- Call 1-800-HP-INVENT (1-800-474-6836). This service is available 24 hours a day, 7 days a week. For continuous quality improvement, calls may be recorded or monitored.
- If you have purchased a Care Pack (service upgrade), call 1-800-633-3600. For more information about Care Packs, see the HP website:  
<http://www.hp.com/hps>.
- In other locations, see the Contact HP worldwide (in English) website:  
<http://welcome.hp.com/country/us/en/wwcontact.html>.

## Documentation feedback

HP welcomes your feedback. To make comments and suggestions about product documentation, send a message to [\*\*docsfeedback@hp.com\*\*](mailto:docsfeedback@hp.com).

Include the document title and manufacturing part number. All submissions become the property of HP

---

# 1 Installing the System

This chapter describes installation of HP Integrity Superdome/sx2000 and HP 9000/sx2000 systems. Installers must have received adequate training, be knowledgeable about the product, and have a good overall background in electronics and customer hardware installation.

## Introduction

The instructions in this chapter are written for Customer Support Consultants (CSC) who are experienced at installing complex systems. This chapter provides details about each step in the sx2000 installation process. Some steps must be performed before others can be completed successfully. To avoid undoing and redoing an installation step, follow the installation sequences outlined in this chapter.

## Communications Interference

HP system compliance tests are conducted with HP supported peripheral devices and shielded cables, such as those received with the system. The system meets interference requirements of all countries in which it is sold. These requirements provide reasonable protection against interference with radio and television communications.

Installing and using the system in strict accordance with instructions provided by HP minimizes the chances that the system will cause radio or television interference. However, HP does not guarantee that the system will not interfere with radio and television reception.

Take the following precautions:

- Use only shielded cables.
- Install and route the cables according to the instructions provided.
- Ensure that all cable connector screws are firmly tightened.
- Use only HP supported peripheral devices.
- Ensure that all panels and cover plates are in place and secure before turning on the system.

## Electrostatic Discharge

HP systems and peripherals contain assemblies and components that are sensitive to electrostatic discharge (ESD).

---

**△ CAUTION:** Carefully observe the precautions and recommended procedures in this document to prevent component damage from static electricity.

---

Take the following precautions:

- Always wear a grounded wrist strap when working on or around system components.
- Treat all assemblies, components, and interface connections as static-sensitive.
- When unpacking cards, interfaces, and other accessories that are packaged separately from the system, keep the accessories in their non-conductive plastic bags until you are ready to install them.
- Before removing or replacing any components or installing any accessories in the system, select a work area in which potential static sources are minimized, preferably an antistatic work station.
- Avoid working in carpeted areas and keep body movement to a minimum while installing accessories.

## Public Telecommunications Network Connection

Instructions are issued to the installation site that modems cannot be connected to public telecommunications networks until full datacomm licenses are received for the country of installation. Some countries do not require datacomm licenses. The product regulations engineer must review beta site locations, and if datacomm licenses are not complete, ensure that the installation site is notified officially and in writing that the product cannot be connected to public telecommunications networks until the license is received.

## Unpacking and Inspecting the System

This section describes what to do before unpacking the server and how to unpack the system itself.

---

**⚠ WARNING!** Do not attempt to move the cabinet, packed or unpacked, up or down an incline of more than 15 degrees.

---

## Verifying Site Preparation

Verifying site preparation includes gathering LAN information and verifying electrical requirements.

### Gathering LAN Information

The Support Management Station (SMS) connects to the customer's LAN. Determine the appropriate IP address.

### Verifying Electrical Requirements

The site must be verified for proper grounding and electrical requirements prior to the system being shipped to the customer as part of the site preparation. Before unpacking and installing the system, verify with the customer that grounding specifications and power requirements are met.

## Checking the Inventory

The sales order packing slip lists all equipment shipped from HP. Use this packing slip to verify that all equipment has arrived at the customer site.

---

**NOTE:** To identify each item by part number, see the sales order packing slip.

---

One of the large overpack containers is labeled "Open Me First." This box contains the *Solution Information Manual* and DDCAs. The unpacking instructions are in the plastic bag taped to the cabinet.

The following items are in other containers. Check them against the packing list:

- Power distribution control assembly (PDCA) and power cord
- Two blower housings per cabinet
- Four blowers per cabinet
- Four side skins with related attachment hardware
- Cabinet blower bezels and front door assemblies
- Support Management Station
- Cables
- Optional equipment
- Boot device with the operating system installed

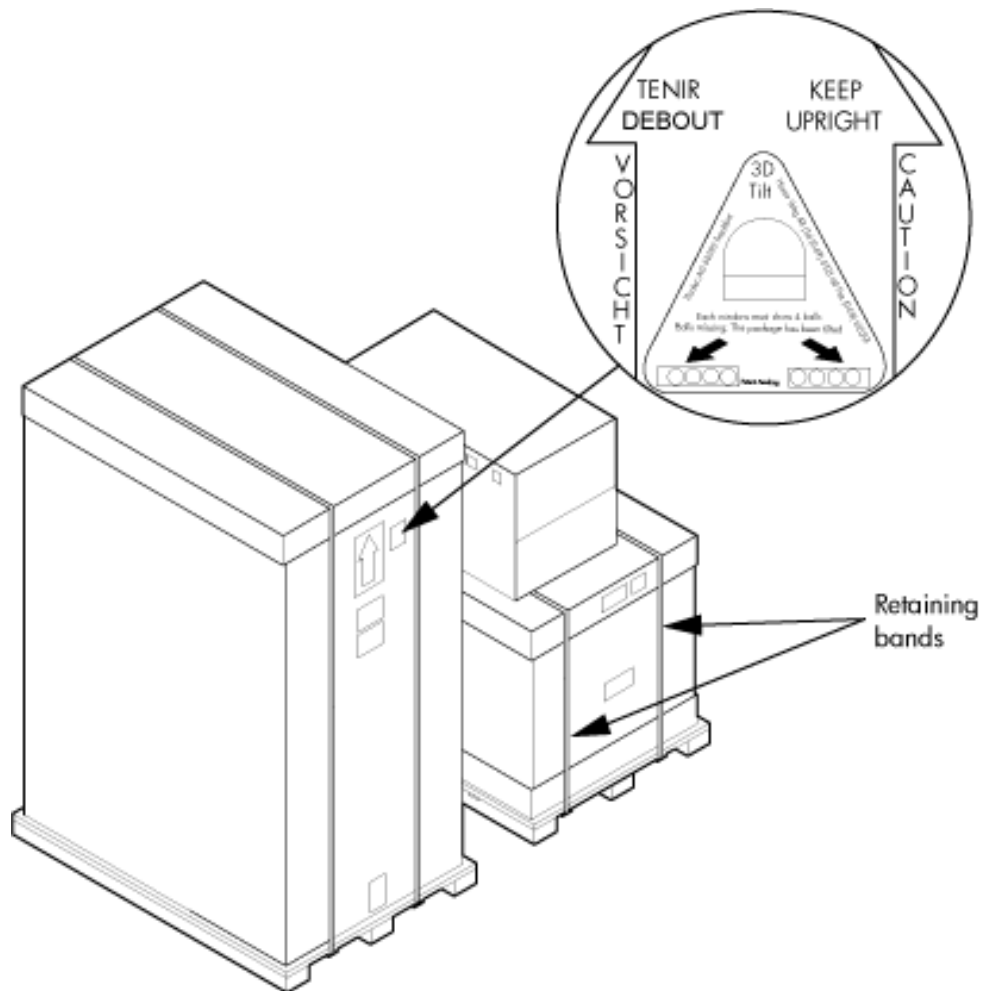
## Inspecting the Shipping Containers for Damage

HP shipping containers are designed to protect their contents under normal shipping conditions. After the equipment arrives at the customer site, carefully inspect each carton for signs of shipping damage.

**⚠ WARNING!** Do not attempt to move the cabinet, packed or unpacked, up or down an incline of more than 15 degrees.

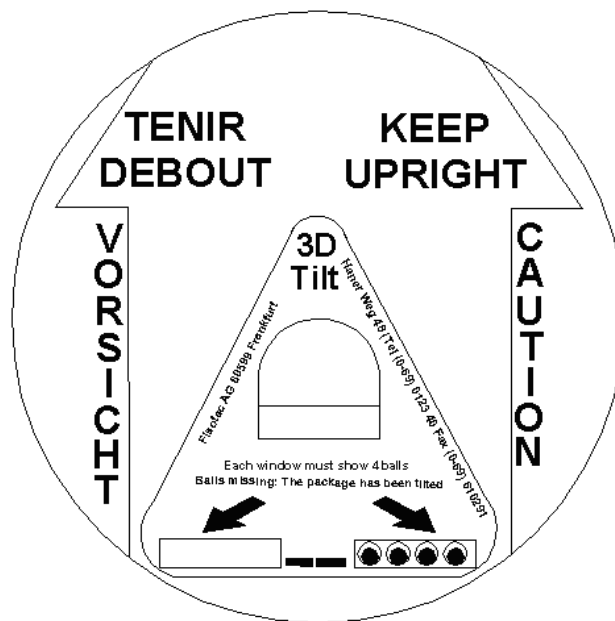
A tilt indicator is installed on the back and side of the cabinet shipping container (Figure 1 (page 8)). If the container is tilted to an angle that can cause equipment damage, the beads in the indicator shift positions (Figure 2 (page 9)). If a carton has received a physical shock and the tilt indicator is in an abnormal condition, visually inspect the unit for any signs of damage. If damage is found, document the damage with photographs and contact the transport carrier immediately.

**Figure 1 Normal Tilt Indicator**





**Figure 2 Abnormal Tilt Indicator**



---

**NOTE:** If the tilt indicator shows that an abnormal shipping condition has occurred, write “possible hidden damage” on the bill of lading and keep the packaging.

---

### Inspection Precautions

- When the shipment arrives, check each container against the carrier's bill of lading. Inspect the exterior of each container immediately for mishandling or damage during transit. If any of the containers are damaged, request the carrier's agent be present when the container is opened.
- When unpacking the containers, inspect each item for external damage. Look for broken controls and connectors, dented corners, scratches, bent panels, and loose components.

---

**NOTE:** HP recommends keeping the shipping container and the packaging material. If it becomes necessary to repackage the cabinet, the original packing material is necessary.

If discarding the shipping container or packaging material, dispose of them in an environmentally responsible manner (recycle, if possible).

---

### Claims Procedures

If the shipment is incomplete, if the equipment is damaged, or it fails to meet specifications, notify the nearest HP Sales and Service Office. If damage occurred in transit, notify the carrier as well.

HP will arrange for replacement or repair without waiting for settlement of claims against the carrier. In the event of damage in transit, retain the packing container and packaging materials for inspection.

### Unpacking and Inspecting Hardware Components

This section describes the procedures for opening the shipping container and unpacking and inspecting the cabinet.

## Tools Required

The following tools are required to unpack and install the system:

- Standard hand tools, such as a adjustable-end wrench
- ESD grounding strap
- Digital voltmeter capable of reading ac and dc voltages
- 1/2-inch socket wrench
- 9/16-inch wrench
- #2 Phillips screwdriver
- Flathead screwdriver
- Wire cutters or utility knife
- Safety goggles or glasses
- T-10, T-15, T-20, T-25, and T-30 Torx drivers
- 9-pin to 25-pin serial cable (HP part number 24542G)
- 9-pin to 9-pin null modem cable

## Unpacking the Cabinet

---

**⚠ WARNING!** Use three people to unpack the cabinet safely.

---

HP recommends removing the cardboard shipping container before moving the cabinet into the computer room.

---

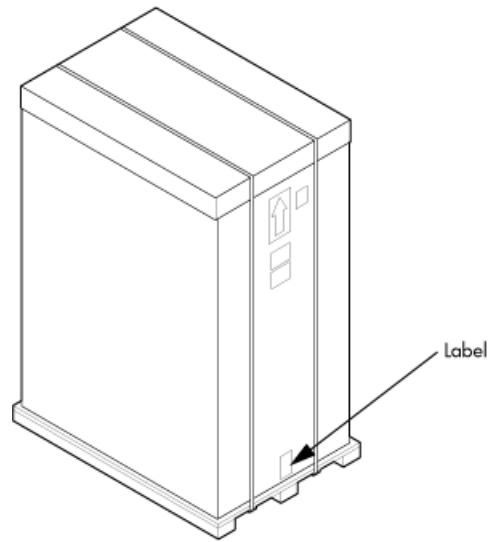
**NOTE:** If unpacking the cabinet in the computer room, be sure to position it so that it can be moved into its final position easily. Notice that the front of the cabinet ([Figure 3](#)) is the side with the label showing how to align the ramps.

---

To unpack the cabinet, follow these steps:

1. Position the packaged cabinet so that a clear area about three times the length of the package (**about 12 feet** or 3.66 m) is available in front of the unit, and at least 2 feet (0.61 m) are available on the sides.

**Figure 3 Front of Cabinet Container**



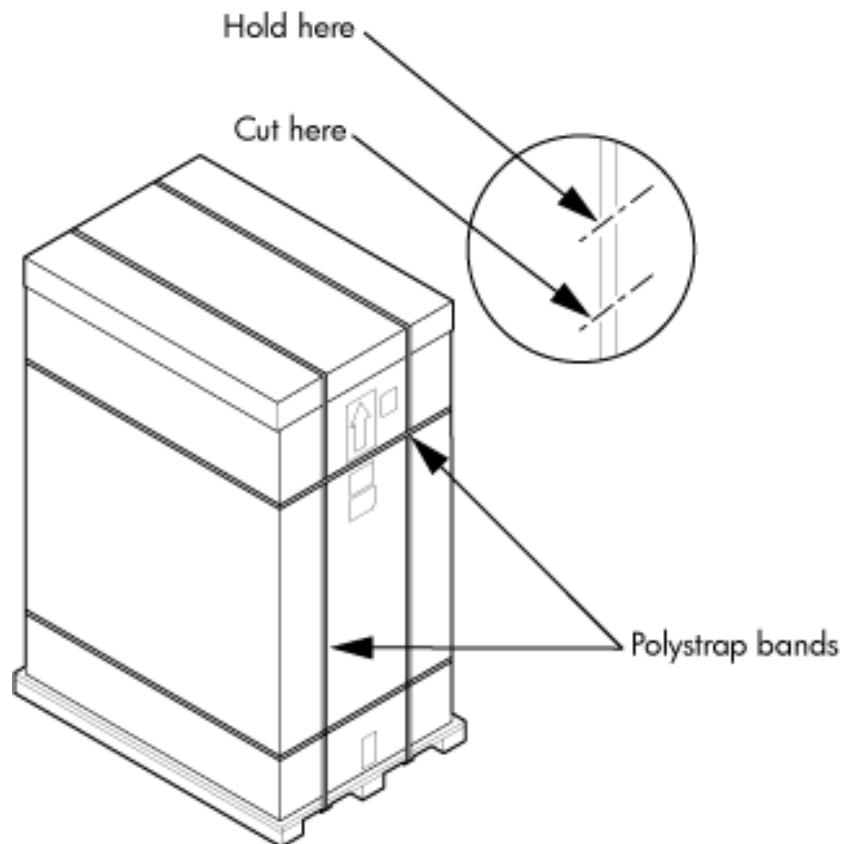
---

**⚠ WARNING!** Do not stand directly in front of the strapping while cutting it. Hold the band above the intended cut and wear protective glasses. These bands are under tension. When cut, they spring back and can cause serious eye injury.

---

2. Cut the plastic polystrap bands around the shipping container ([Figure 4 \(page 11\)](#)).

**Figure 4 Cutting the Polystrap Bands**



3. Lift the cardboard corrugated top cap off the shipping box.
4. Remove the corrugated sleeves surrounding the cabinet.

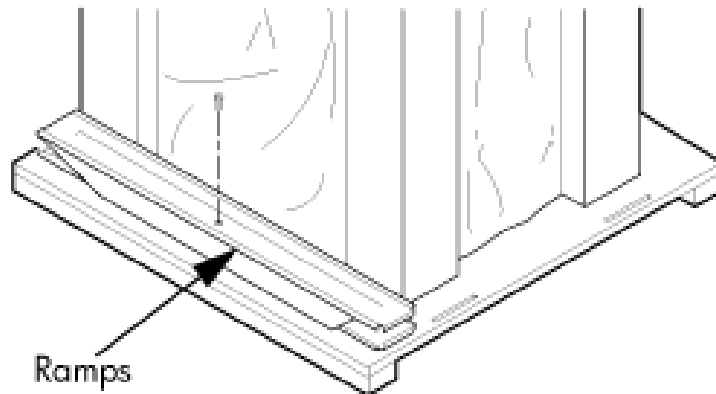
---

**Δ CAUTION:** Cut the plastic wrapping material off rather than pulling it off. Pulling the plastic covering off creates an ESD hazard to the hardware.

---

5. Remove the stretch wrap, the front and rear top foam inserts, and the four corner inserts from the cabinet.
6. Remove the ramps from the pallet and set them aside ([Figure 5 \(page 12\)](#)).

**Figure 5 Removing the Ramps from the Pallet**



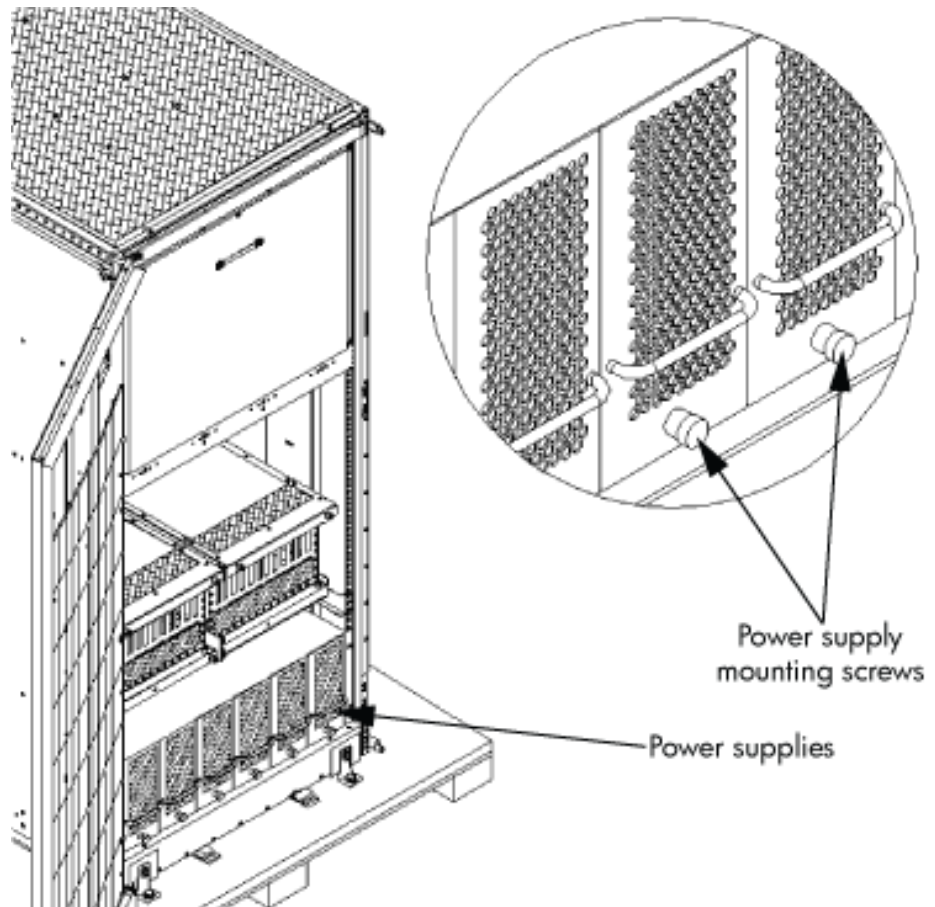
7. Remove the plastic antistatic bag by lifting it straight up off the cabinet. If the cabinet or any components are damaged, follow the claims procedure. Some damage can be repaired by replacing the damaged part. If you find extensive damage, you might need to repack and return the entire cabinet to HP.

#### Inspecting the Cabinet

To inspect the cabinet exterior for signs of shipping damage, follow these steps:

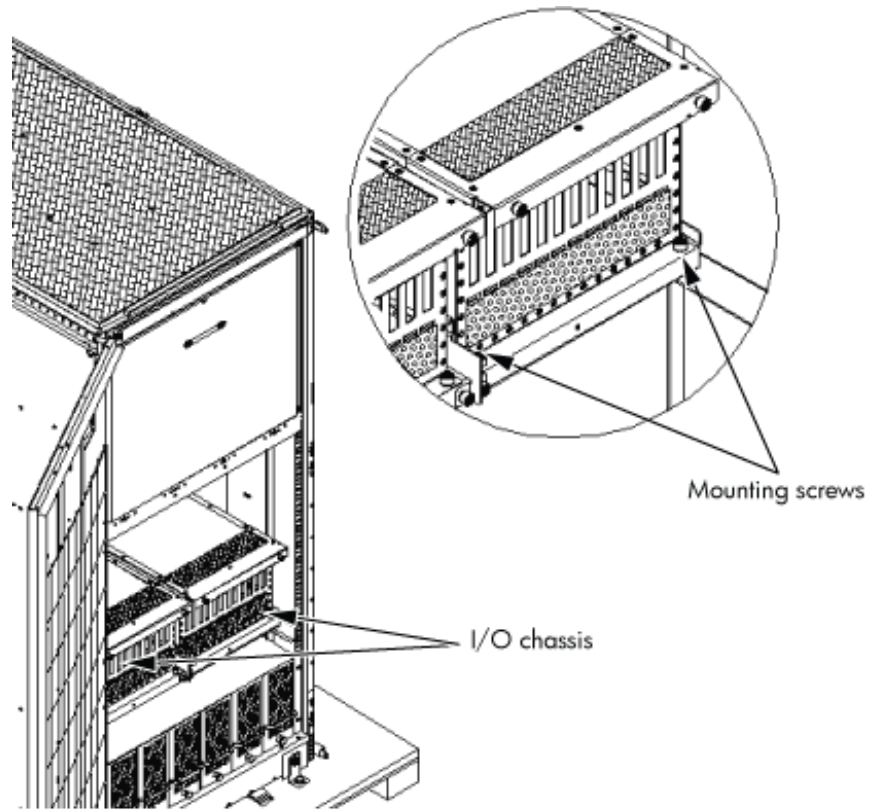
1. Look at the top and sides for dents, warping, or scratches.
2. Verify that the power supply mounting screws are in place and **locked** (Figure 6).

**Figure 6 Power Supply Mounting Screws Location**



3. Verify that the I/O chassis mounting screws are in place and secure (Figure 7).  
Inspect all components for signs of shifting during shipment or any signs of damage.

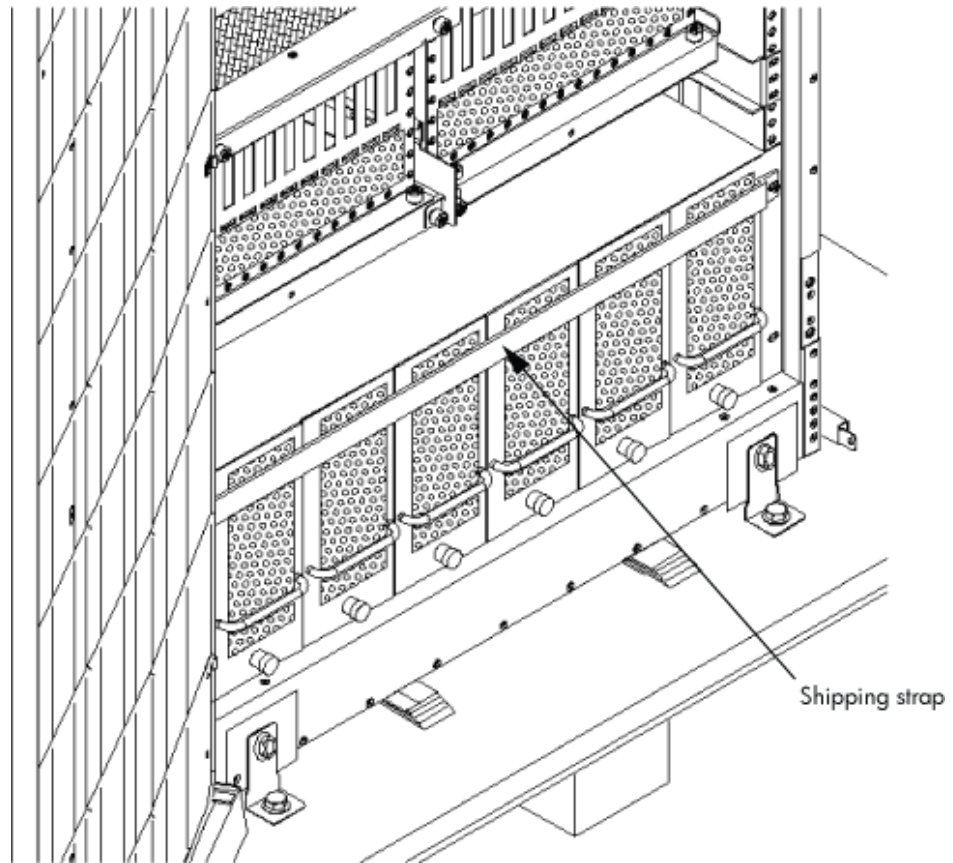
**Figure 7 I/O Chassis Mounting Screws**



## Moving the Cabinet Off the Pallet

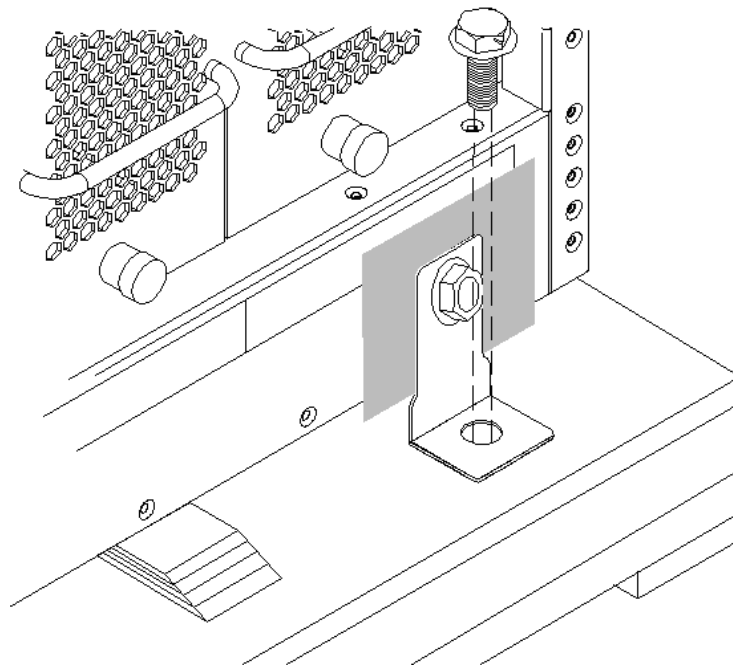
1. Remove the shipping strap that holds the BPSs in place during shipping ([Figure 8 \(page 15\)](#)). Failure to remove the shipping strap will obstruct air flow into the BPS and FEPS.

**Figure 8 Shipping Strap Location**



2. Remove the pallet mounting brackets and pads on the side of the pallet where the ramp slots are located ([Figure 9](#)).

**Figure 9 Removing the Mounting Brackets**



---

**⚠ WARNING!** Do not remove the bolts on the mounting brackets that attach to the pallet. These bolts prevent the cabinet from rolling off the back of the pallet.

---

3. On the other side of the pallet, remove only the bolt on each mounting bracket that is attached to the cabinet.
  4. Insert the ramps into the slots on the pallet.
- 

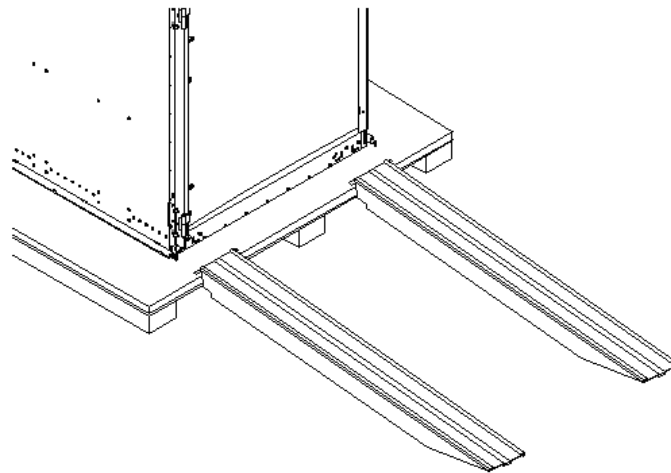
**⚠ CAUTION:** Make sure the ramps are **parallel and aligned** (Figure 10).

---

The casters on the cabinet must roll unobstructed onto the ramp.



**Figure 10 Positioning the Ramps**



---

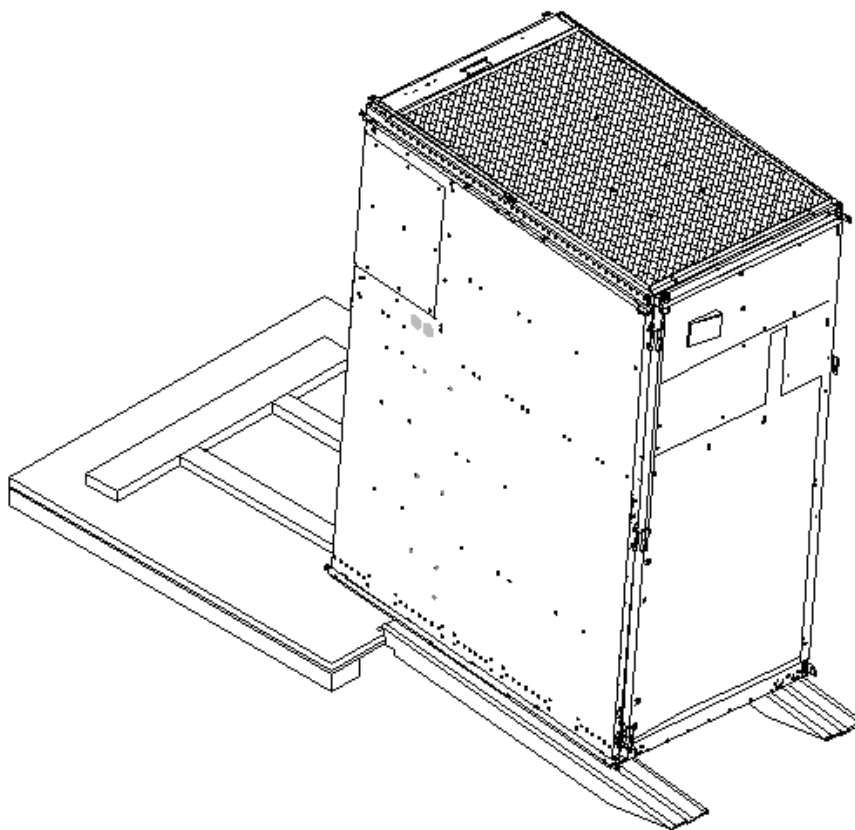
**⚠ WARNING!** Do not attempt to roll a cabinet without help. The cabinet can weigh as much as 1400 pounds (635 kg). Three people are required to roll the cabinet off the pallet. Position one person at the rear of the cabinet and one person on each side.

**WARNING!** Do not attempt to move the cabinet, either packed or unpacked, up or down an incline of more than 15 degrees.

---

5. Carefully roll the cabinet down the ramp (Figure 11).

**Figure 11 Rolling the Cabinet Down the Ramp**



6. Unpack any other cabinets that were shipped.

## Unpacking the PDCA

At least one PDCA ships with the system. In some cases, the customer might order two PDCA's, the second to be used as a backup power source. Unpack the PDCA and ensure it has the power cord option for installation.

Several power cord options are available for the PDCA's. Only options 6 and 7 are currently available in new system configurations (Table 1 (page 18)). Table 2 (page 18) details options 6 and 7.

**Table 1 Available Power Options**

Option	Source Type	Source Voltage (Nominal)	PDCA Required	Input Current Per Phase 200 to 240 V ac <sup>1</sup>	Power Receptacle Required
6	3-phase	Voltage range 200 to 240 V ac, phase-to-phase, 50 Hz / 60 Hz	4-wire	44 A maximum per phase	Connector and plug provided with a 2.5 m (8.2 feet) power cable. An electrician must hardwire receptacle to 60 A site power.
7	3-phase	Voltage range 200 to 240 V ac, phase-to-neutral, 50 Hz / 60 Hz	5-wire	24 A maximum per phase	Connector and plug provided with a 2.5 m (8.2 feet) power cable. An electrician must hardwire receptacle to 32 A site power.

<sup>1</sup> A dedicated branch circuit is required for each PDCA installed.

**Table 2 Power Cord Option 6 and 7 Details**

PDCA Part Number	Attached Power Cord	Attached Plug	Receptacle Required
A5201-69023 (Option 6)	OLFLEX 190 (PN 600804) is a 2.5 meter multiconductor, 600 V, 90°C, UL and CSA approved, oil resistant flexible cable. (8 AWG 60 A capacity)	Mennekes ME 460P9 (60 A capacity)	Mennekes ME 460R9 (60 A capacity)
A5201-69024 (Option 7)	H07RN-F (OLFLEX PN 1600130) is a 2.5 meter heavy-duty neoprene jacketed harmonized European flexible cable. (4 mm <sup>2</sup> 32 A capacity)	Mennekes ME 532P6-14 (32 A capacity)	Mennekes ME 532R6-1500 (32 A capacity)

## Returning Equipment

If the equipment is damaged, use the original packing material to repackage the cabinet for shipment. If the packing material is not available, contact the local HP Sales and Support Office regarding shipment.

Before shipping, place a tag on the container or equipment to identify the owner and the service to be performed. Include the equipment model number and the full serial number, if applicable. The model number and the full serial number are printed on the system information labels located at the bottom front of the cabinet.

**⚠ WARNING!** Do not attempt to push the loaded cabinet up the ramp onto the pallet. Three people are required to push the cabinet up the ramp and position it on the pallet. Inspect the condition of the loading and unloading ramp before use.

### Repackaging

To repackage the cabinet, follow these steps:

1. Assemble the HP packing materials that came with the cabinet.
2. Carefully roll the cabinet up the ramp.
3. Attach the pallet mounting brackets to the pallet and the cabinet.

4. Reattach the ramps to the pallet.
5. Replace the plastic antistatic bag and foam inserts.
6. Replace the cardboard surrounding the cabinet.
7. Replace the cardboard caps.
8. Secure the assembly to the pallet with straps.

The cabinet is now ready for shipment.

## Setting Up the System

After a site is prepared, the system is unpacked, and all components are inspected, the system can be prepared for booting.

## Moving the System and Related Equipment to the Installation Site

Carefully move the cabinets and related equipment to the installation site but not into the final location. If the system is to be placed at the end of a row, you must add side bezels before positioning the cabinet in its final location. Check the path from where the system was unpacked to its final destination to make sure the way is clear and free of obstructions.

---

**⚠ WARNING!** If the cabinet must be moved up ramps, be sure to maneuver it using three people.

---

## Unpacking and Installing the Blower Housings and Blowers

Each cabinet contains two blower housings and four blowers. Although similar in size, the blower housings for each cabinet are not the same; one has a connector to which the other attaches. To unpack and install the housings and blowers, follow these steps:

1. Unpack the housings from the cardboard box and set them aside.

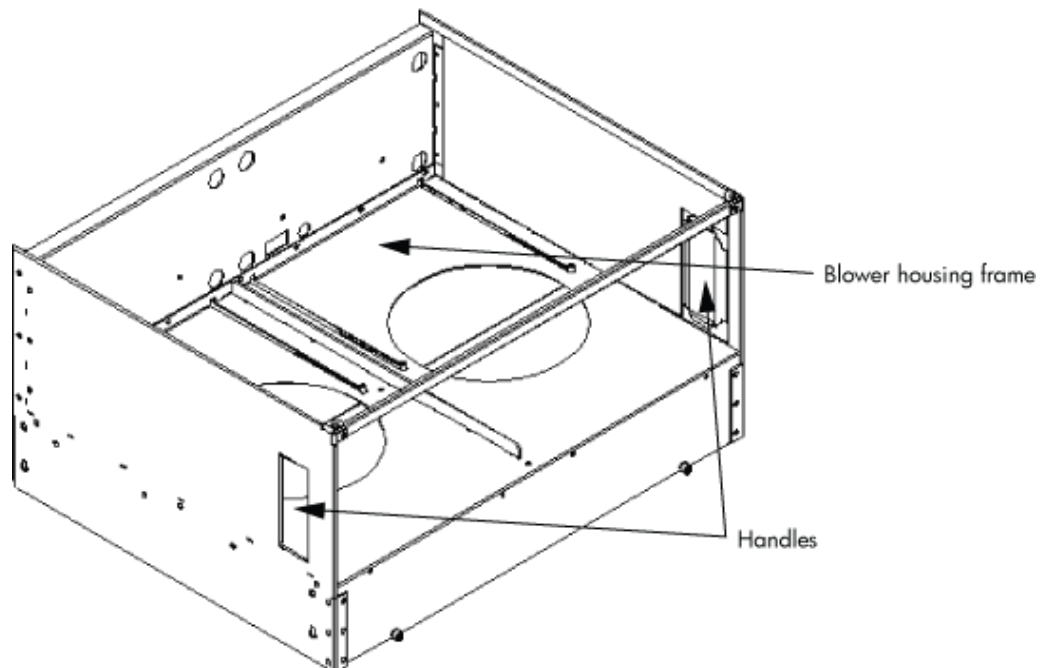
The rear housing is labeled **Blower 3 Blower 2**. The front housing is labeled **Blower 0 Blower 1**.

---

**⚠ CAUTION:** Do not lift the housing by the frame (Figure 12).

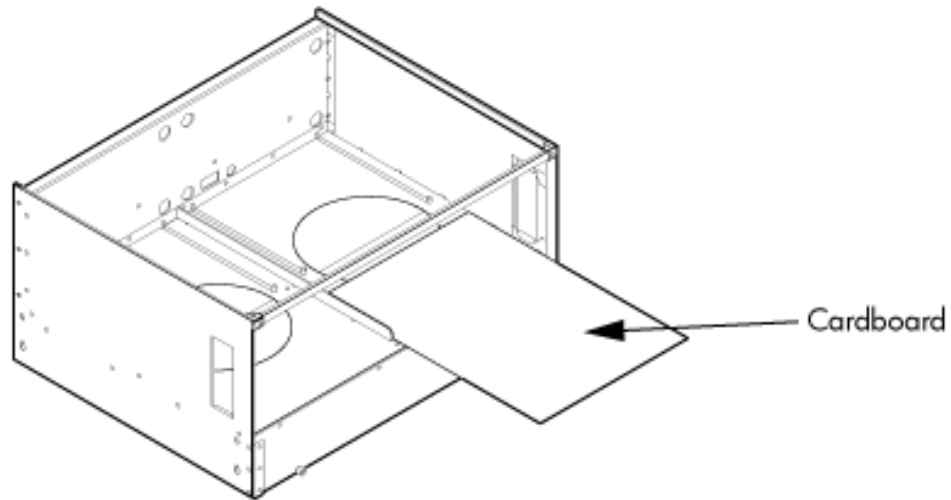
---

**Figure 12 Blower Housing Frame**



2. Remove the cardboard from the blower housing ([Figure 13](#)).  
This cardboard protects the housing baffle during shipping. If it is not removed, the fans can not work properly.

**Figure 13 Removing Protective Cardboard from the Housing**



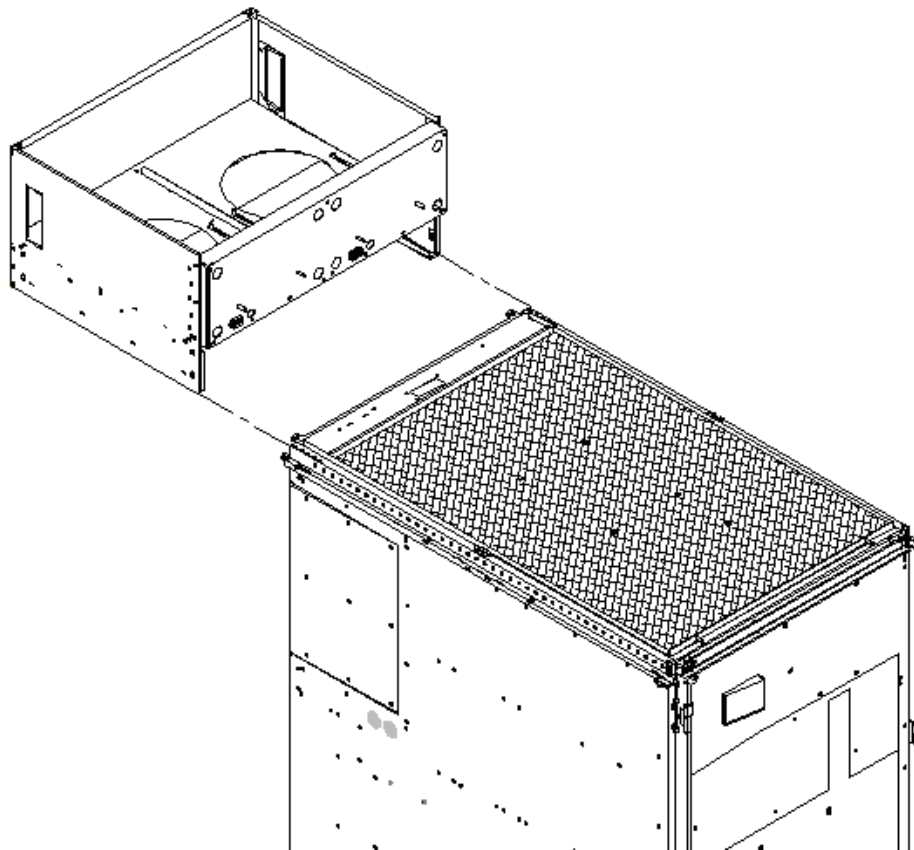
---

**NOTE:** Double-check that the protective cardboard has been removed.

---

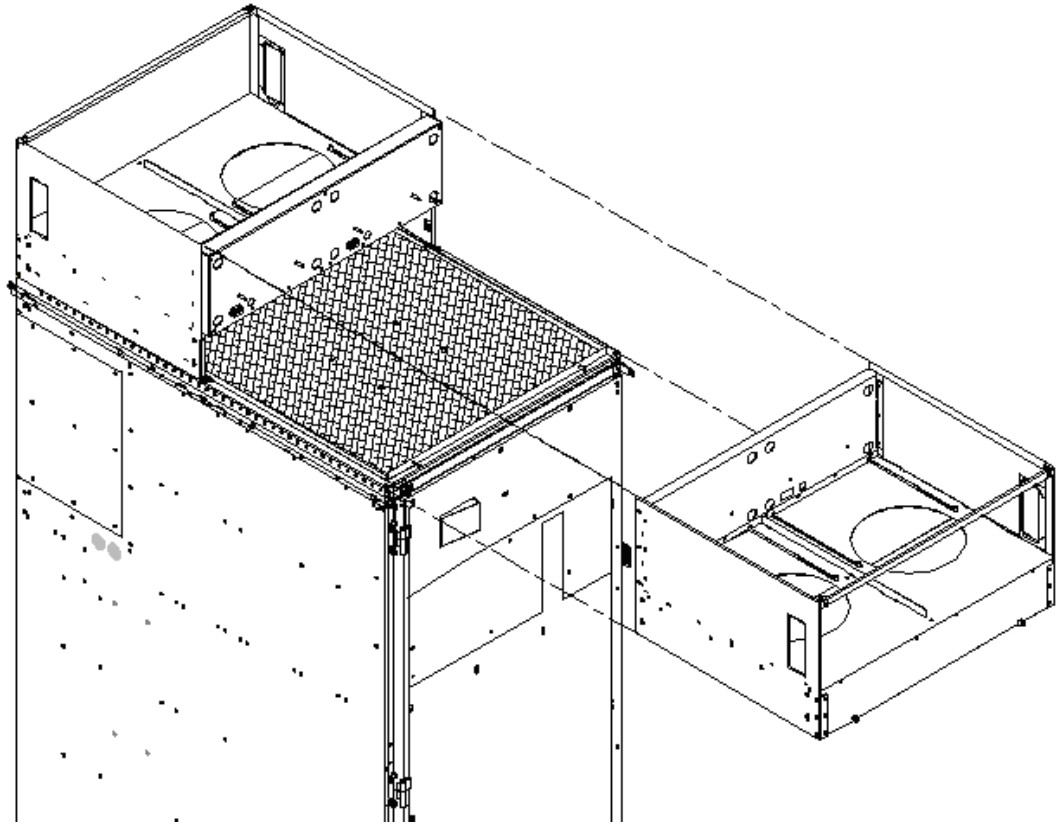
3. Using the handles on the housing labeled **Blower 3 Blower 2**, align the edge of the housing over the edge at the top rear of the cabinet, and slide it into place until the connectors at the back of each housing are fully mated ([Figure 14](#)). Then tighten the thumbscrews at the front of the housing.

**Figure 14 Installing the Rear Blower Housing**



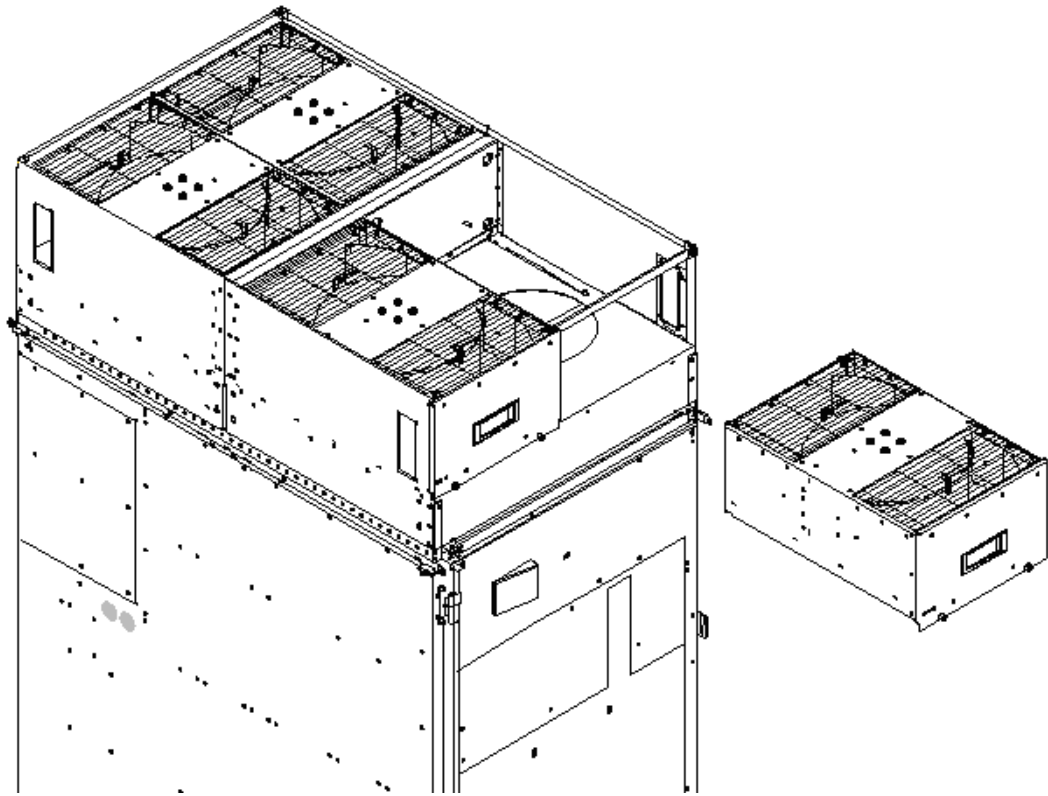
- Using the handles on the housing labeled **Blower 0** **Blower 1**, align the edge of the housing over the edge at the top front of the cabinet, and slide it into place until the connectors at the back of each housing are fully mated (Figure 15). Then tighten the thumbscrews at the front of the housing.

**Figure 15** Installing the Front Blower Housing



- Unpack each of the four blowers.
- Insert each of the four blowers into place in the blower housings with the thumbscrews at the bottom (Figure 16).

**Figure 16 Installing the Blowers**



7. Tighten the thumbscrews at the front of each blower.
8. If required, install housings on any other cabinets that were shipped with the system.

## Attaching the Side Skins and Blower Side Bezels

Two cosmetic side panels affix to the left and right sides of the system. In addition, each system has bezels that cover the sides of the blowers.

- 
- ⓘ **IMPORTANT:** Be sure to attach the side skins at this point in the installation sequence, especially if the cabinet is to be positioned at the end of a row of cabinets or between cabinets.
- 

## Attaching the Side Skins

Each system has four side skins: two front-side skins and two rear-side skins.

---

**NOTE:** Attach side skins to the left side of cabinet 0 and the right side of cabinet 1 (if applicable).

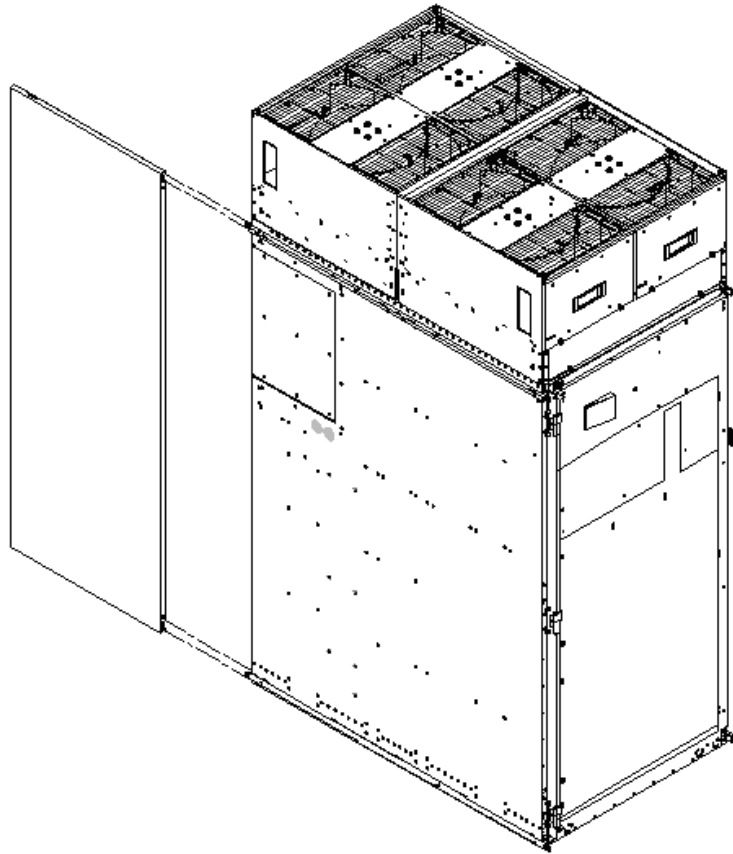
---

To attach the side skins, follow these steps:

1. If not already done, remove the side skins from their boxes and protective coverings.
2. From the end of the brackets at the back of the cabinet, position the side skin *with the lap joint (Rear)* over the top bracket and under the bottom bracket, and gently slide it into position (Figure 17).

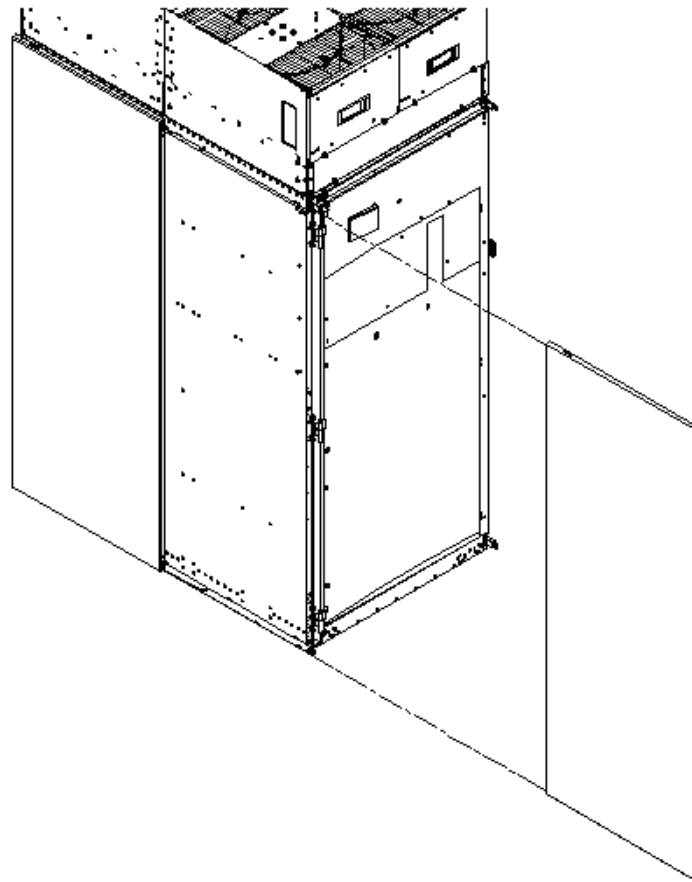
Two skins are installed on each side of the cabinet: one has a lap joint (Rear) and one does not (Front). The side skins with the lap joint are marked *Rear* and the side skins without the lap joint are marked *Front*.

**Figure 17 Attaching the Rear Side Skin**



3. Attach the skin *without the lap joint* (Front) over the top bracket and under the bottom bracket and gently slide the skin into position.

**Figure 18 Attaching the Front Side Skins**



4. Push the side skins together, making sure the skins overlap at the lap joint.

#### Attaching the Blower Side Bezels

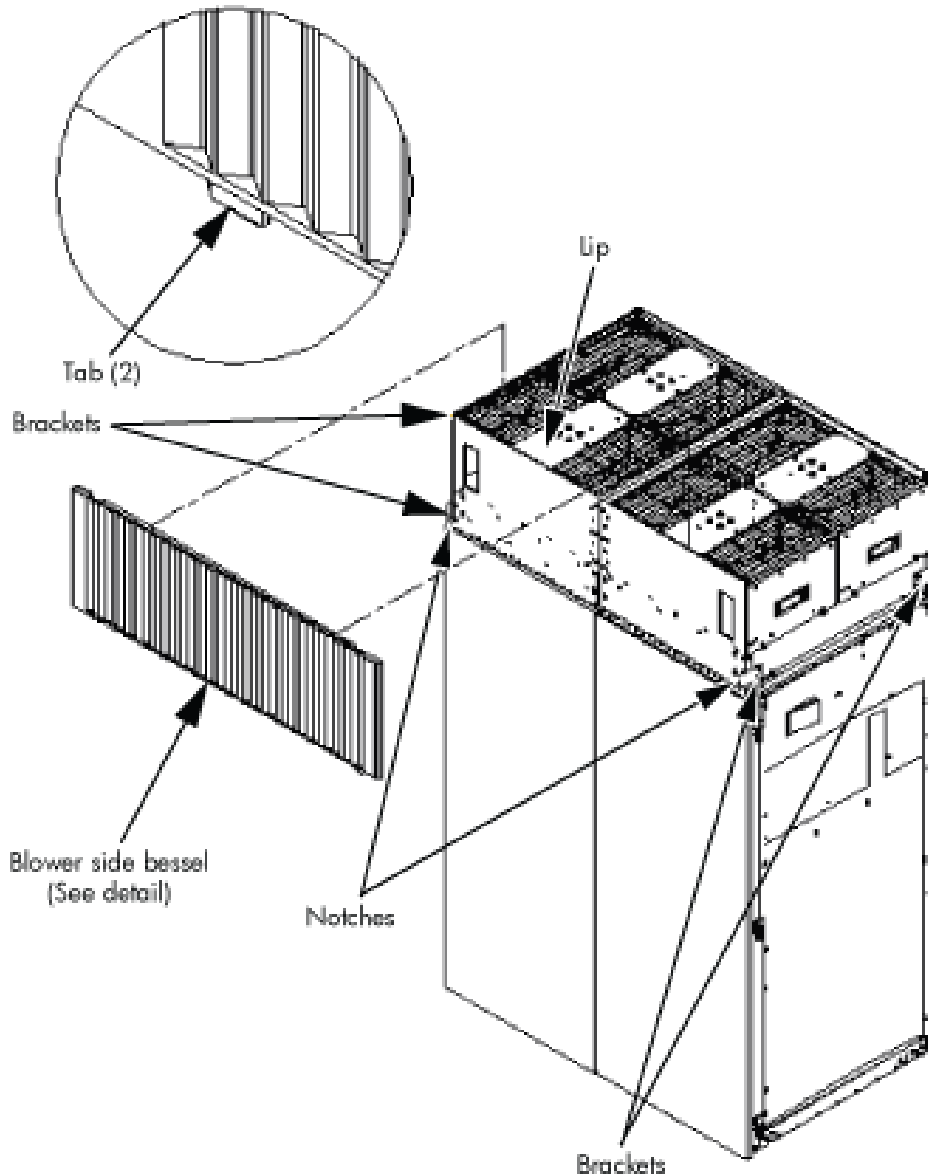
The bezels are held on at the top by the bezel lip, which fits over the top of the blower housing frame, and are secured at the bottom by tabs that fit into slots on the cabinet side panels ([Figure 19](#)).

Use the same procedure to attach the right and left blower side bezels.



1. Place the side bezel slightly above the blower housing frame.

**Figure 19 Attaching the Side Bezels**



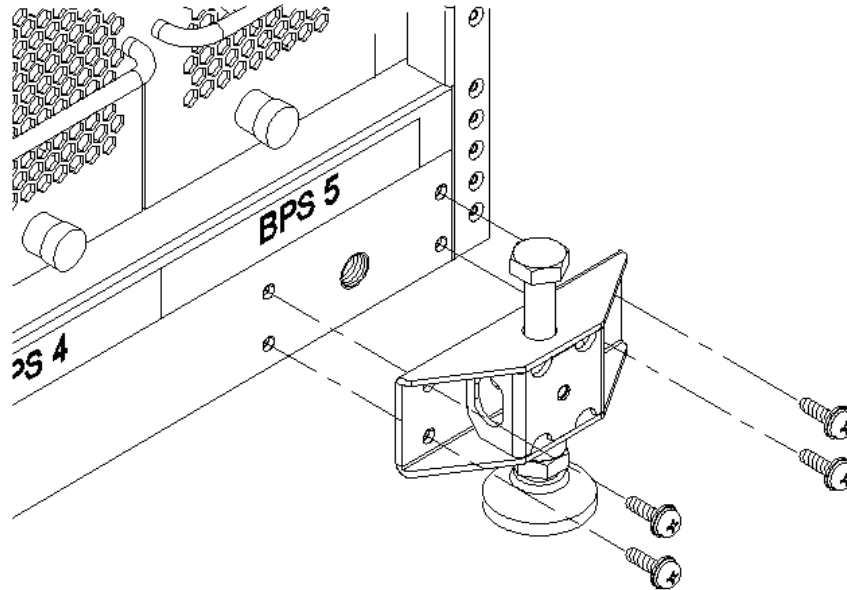
2. Align the lower bezel tabs to the slots in the side panels.
  3. Lower the bezel so the bezel top lip fits securely on the blower housing frame and the two lower tabs are fully inserted into the side panel slots.
- 
- ① **IMPORTANT:** Use four screws to attach the side skins to the top and bottom brackets, except for the top bracket on the right side (facing the front of the cabinet). Do not attach the rear screw on that bracket. Insert all screws but do not tighten until all side skins are aligned.
- 
4. Using a T-10 driver, attach the screws to secure the side skins to the brackets.
  5. Repeat step 1 through step 4 for the skins on the other side of the cabinet.
  6. To secure the side bezels to the side skins, attach the blower bracket locks (HP part number A5201-00268) to the front and back blowers using a T-20 driver.
- There are two blower bracket locks on the front blowers and two on the rear.

## Attaching the Leveling Feet and Leveling the Cabinet

After positioning the cabinet in its final location, to attach and adjust the leveling feet, follow these steps:

1. Remove the leveling feet from their packages.
2. Attach the leveling feet to the cabinet using four T-25 screws.

**Figure 20 Attaching the Leveling Feet**



3. Screw down each leveling foot clockwise until it is in firm contact with the floor. Adjust each foot until the cabinet is level.

## Installing the Front Door Bezels and the Front and Rear Blower Bezels

Each cabinet has two doors, one at the front and one at the back. The back door is shipped on the chassis and requires no assembly. The front door, which is also shipped on the chassis, requires the assembly of two plastic bezels to its front surface and a cable from the door to the upper front bezel. In addition, you must install bezels that fit over the blowers at the front and back of the cabinet.

### Installing the Front Door Bezels

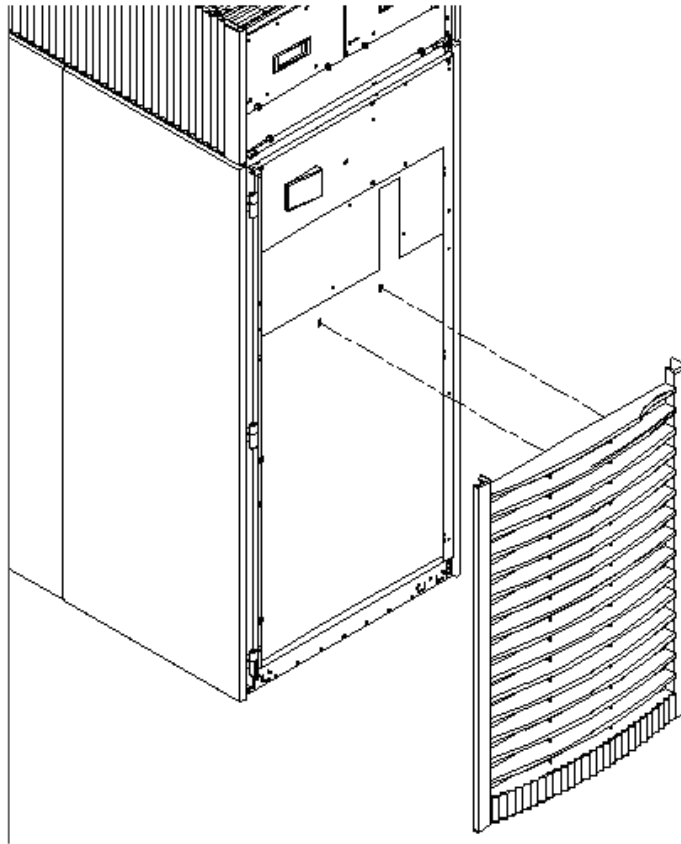
The front door assembly includes two cosmetic covers, a control panel, and a key lock. To install the front door, you must connect the control panel ribbon cable from the chassis to the control panel and mount the two plastic bezels onto the metal chassis door.

- ⓘ **IMPORTANT:** The procedure in this section requires two people and must be performed with the front metal chassis door open.

To install the front door assembly, follow these steps:

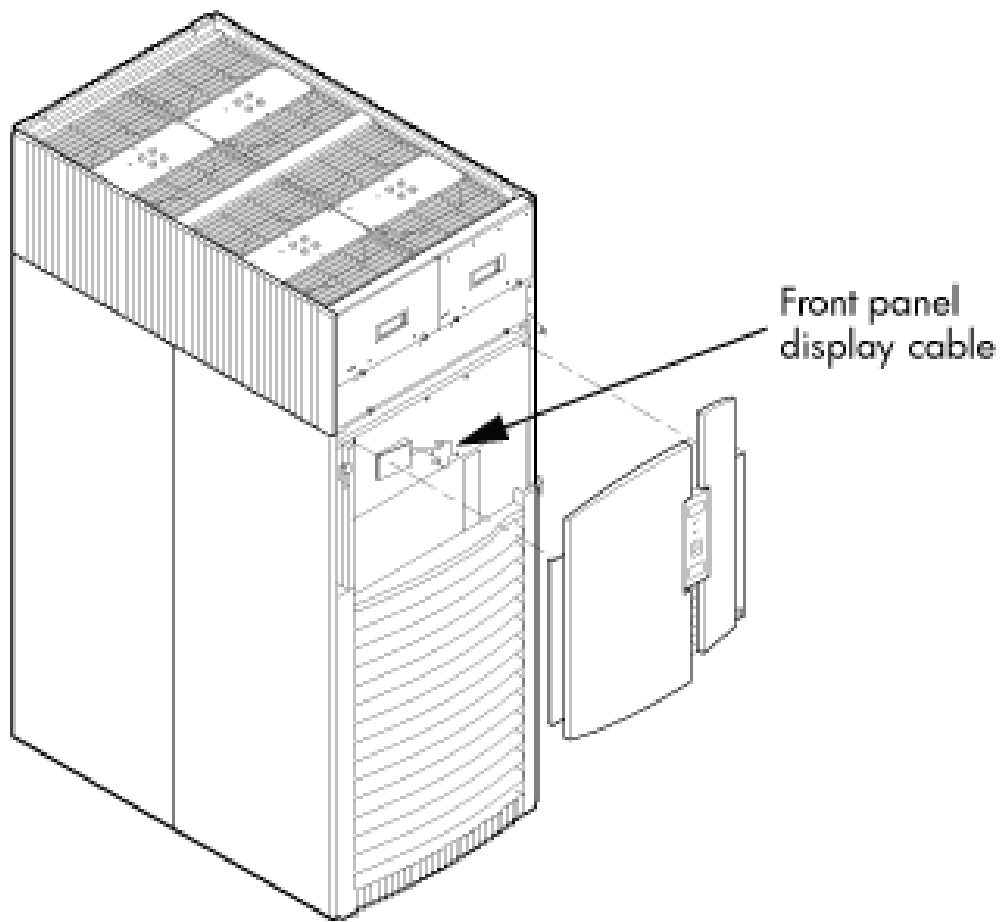
1. Open the front door, unsnap the screen, and remove all the filters held in place with Velcro.
2. Remove the cabinet keys that are taped inside the top front door bezel.
3. Insert the shoulder studs on the lower door bezel into the holes on the front door metal chassis (Figure 21).

**Figure 21** Installing the Lower Front Door Assembly



4. Using a T-10 driver, secure the lower door bezel to the front door chassis with 10 of the screws provided. Insert all screws loosely, then tighten them after the bezel is aligned.
5. While another person holds the upper door bezel near the door chassis, attach the ribbon cable to the back of the control panel on the bezel and tighten the two flathead screws ([Figure 22](#)).

**Figure 22 Installing the Upper Front Door Assembly**



6. Feed the grounding strap through the door and attach it to the cabinet.
7. Insert the shoulder studs on the upper door bezel into the holes on the front door metal chassis.
8. Using a T-10 driver, secure the upper door bezel to the metal door with eight of the screws provided. Be sure to press down on the hinge side of the bezel while tightening the screws to prevent misalignment of the bezel.
9. Reattach all filters removed in step 1.

### Installing the Rear Blower Bezel

The rear blower bezel is a cosmetic cover for the blowers and is located above the rear door.

To install the rear blower bezel, follow these steps:

1. Open the rear cabinet door.

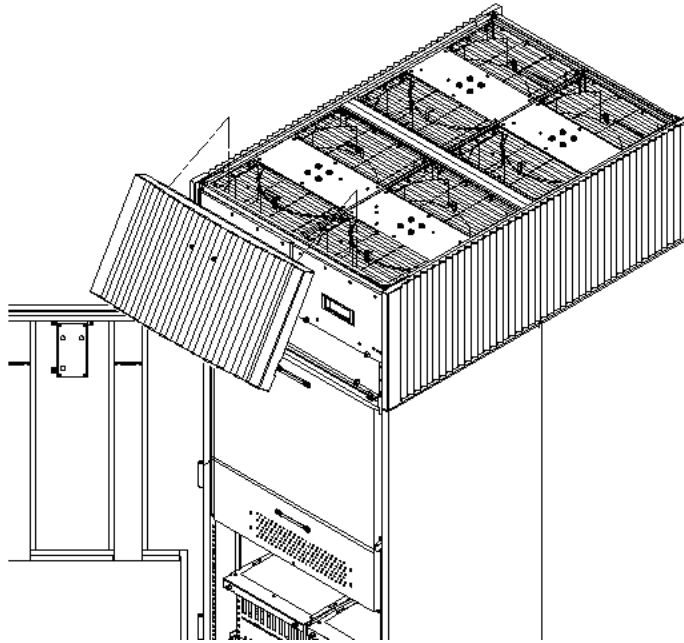
---

**NOTE:** The latch is located on the right side of the door.

---

2. Slide the bezel over the blower housing frame, hooking the lip of the bezel onto the cross support of the blower housing while holding the bottom of the bezel. Rotate the bezel downward from the top until the bottom snaps in place ([Figure 23 \(page 29\)](#)).

**Figure 23 Installing the Rear Blower Bezel**



3. Align the bezel over the nuts that are attached to the bracket at the rear of the cabinet.
4. Using a T-20 driver, tighten the two captive screws on the lower flange of the bezel.

---

**NOTE:** Tighten the screws securely to prevent them from interfering with the door.

---

5. Close the cabinet rear door.

### Installing the Front Blower Bezel

The front blower bezel is a cosmetic cover for the blowers and is located above the front door. To install the front blower bezel, follow these steps:

1. Open the front door.

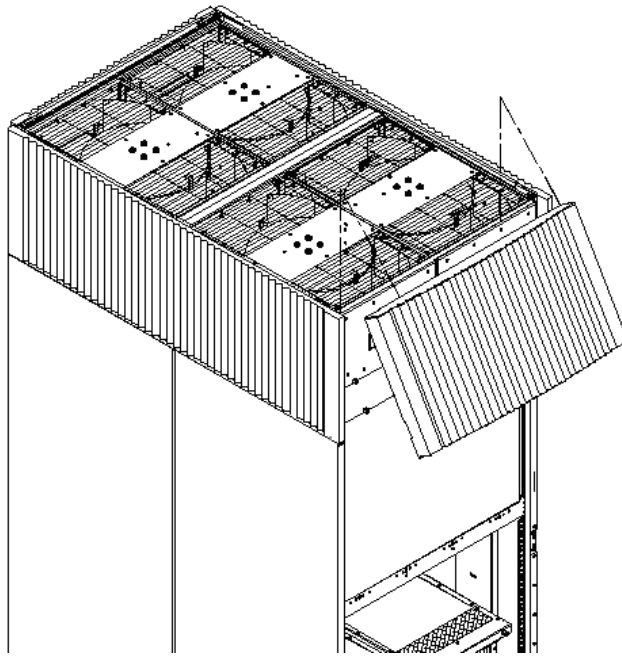
---

**NOTE:** The latch is located on the right side of the front door.

---

2. Position the bezel over the blower housing frame, hooking the lip of the bezel onto the cross support of the blower housing ([Figure 24 \(page 30\)](#)).

**Figure 24 Installing the Front Blower Bezel**



3. Align the bezel over the nuts that are attached to the bracket at the front of the cabinet.
4. Using a T-20 driver, tighten the two captive screws on the lower flange of the bezel.

---

**NOTE:** Tighten the screws securely to prevent them from interfering with the door.

---

5. Close the front door.

## Wiring Check

---

**⚠ WARNING!** LETHAL VOLTAGE HAZARD—Hazardous voltages can be present in the cabinet if incorrectly wired into the site AC power supply. Always verify correct wiring and product grounding before applying AC power to the cabinet. Failure to do so can result in injury to personnel and damage to equipment.

---

Verify the following items before applying AC power to the cabinet:

- Cabinet safety ground connects to the site electrical system ground and is not left floating or connected to a phase.
- The minimum required method of grounding is to connect the green power cord safety ground to the site ground point through the power cord receptacle wiring. HP does not recommend cabinet grounding. Treat cabinet grounding as auxiliary or additional grounding over and above the ground wire included within the supplied power cord.

If the product ground is left floating, anyone coming into contact with the cabinet can receive a lethal shock if a component fails and causes leakage or direct connection of phase energy to the cabinet.

If the product ground connects to a phase, the server is over 200 volts above ground, presenting a lethal shock hazard to anyone coming into contact with the product when site AC power is applied to the product.

Verify the connection of the product ground to site AC power ground through a continuity check between the cabinet and site AC power supply ground. Perform the continuity check while the site AC power supply circuit breakers serving the cabinet and the cabinet circuit breaker are all set to **OFF**.

To verify that the product ground connects to the site AC power supply ground, follow these steps:

1. Ensure that the site AC power supply circuit breakers serving the cabinet are set to **OFF**.
2. Ensure that the cabinet main circuit breaker is set to **OFF**.
3. Touch one test probe to the site AC power supply ground source.
4. Touch the other test probe to an unpainted metal surface of the cabinet.

---

**NOTE:** If the digital multimeter (DMM) leads can not reach from the junction box to the cabinet, use a piece of wire connected to the ground terminal of the junction box.

---

5. Check for continuity indication of less than 0.1 ohm.
  - If continuity is *not* found, check to ensure that the DMM test leads are making good contact to unpainted metal and try again.
  - If continuity is *still* not found, disconnect the cabinet site AC power immediately and notify the customer of the probability of incorrectly wired AC power to the cabinet.
  - If continuity is good, and connection of the cabinet to site AC power supply ground (and not floating or connected to a phase) is verified, then check the voltage.

---

**NOTE:** For dual power sources, proceed to “[Checking Voltage](#)” (page 35) with special attention to PDCA 0 ground pin to PDCA 1 ground pin voltage. Anything greater than 3 V is cause for further investigation.

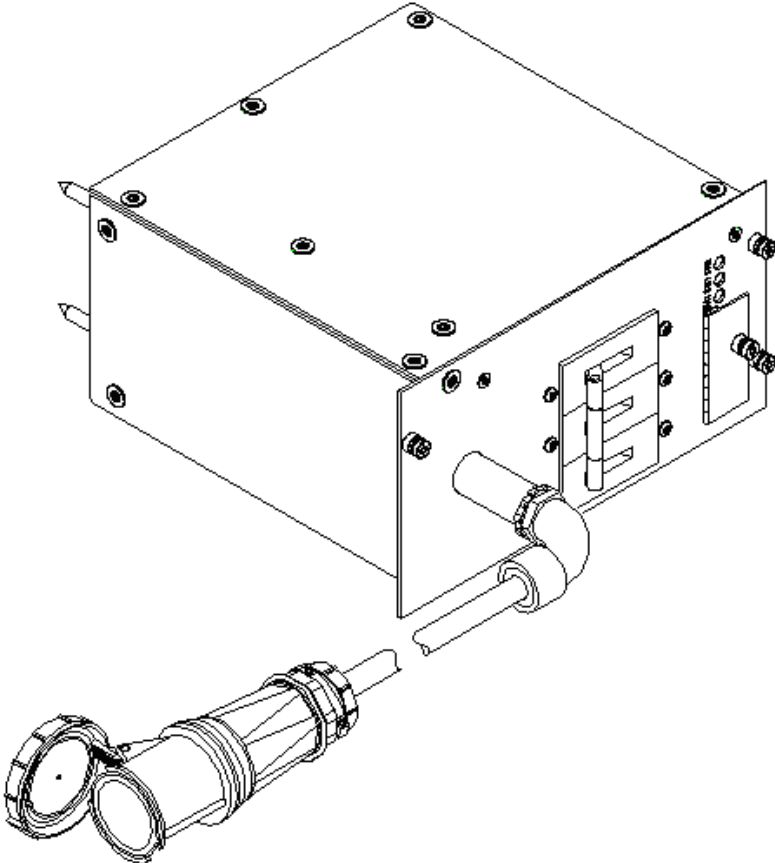
---

## Installing and Verifying the PDCA

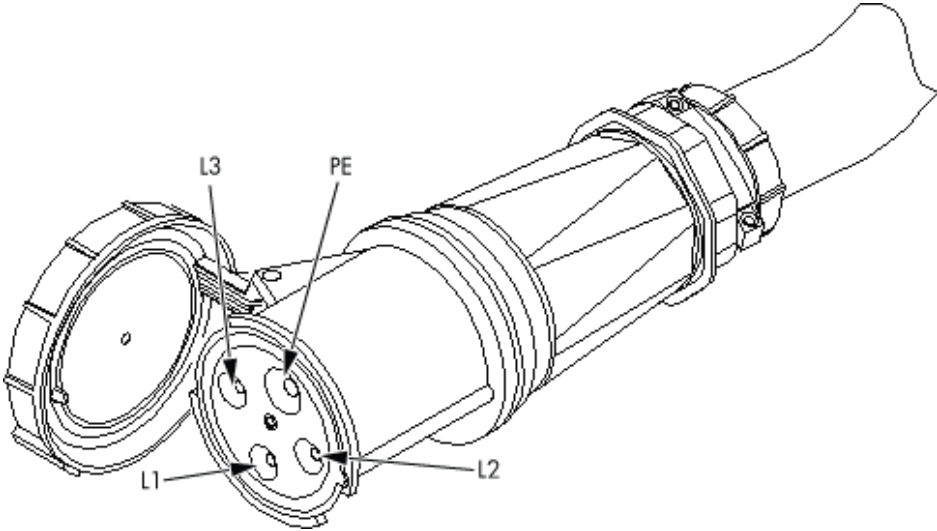
All systems are delivered with the appropriate cable plug for options 6 and 7 ([Figure 25 \(page 32\)](#)). Check the voltages at the receptacle prior to plugging in the PDCA plug.

- To verify the proper wiring for a 4-wire PDCA, use a digital voltmeter (DVM) to measure the voltage at the receptacle. Voltage must read 200–240 V ac phase-to-phase as measured between the receptacle pins as follows: L1 to L2, L2 to L3, L1 to L3 ([Figure 26 \(page 32\)](#)).
- To verify the proper wiring for a 5-wire PDCA, use a DVM to measure the voltage at the receptacle. Voltage must read 200–240 V ac phase-to-neutral as measured between the receptacle pins as follows: L1 to N, L2 to N, L3 to N ([Figure 27 \(page 33\)](#)).

**Figure 25 PDCA Assembly for Options 6 and 7**

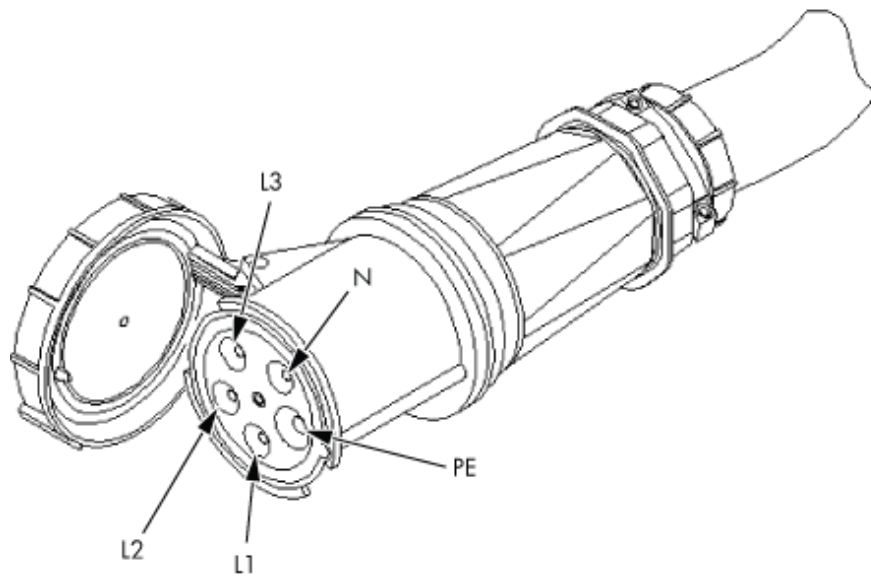


**Figure 26 A 4-Wire Connector**





**Figure 27 A 5-Wire Connector**

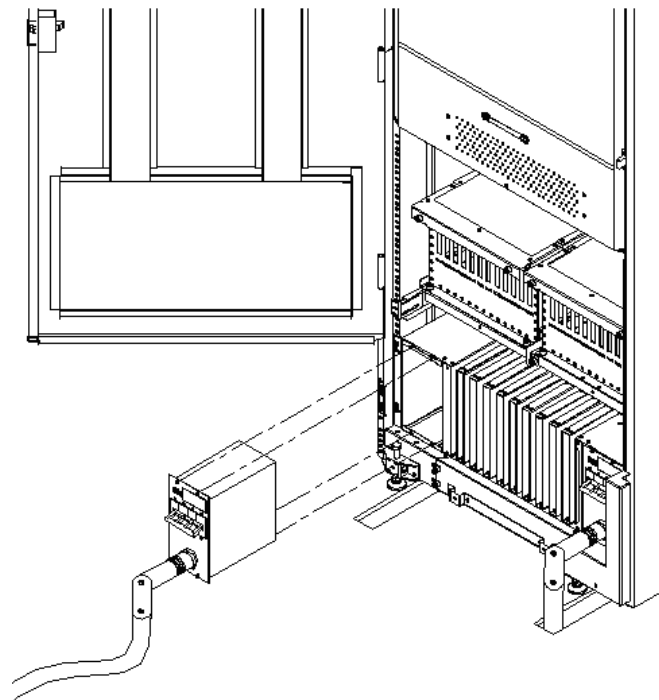


To install the PDCA, follow these steps:

**⚠ WARNING!** Make sure the circuit breaker on the PDCA is **OFF**.

1. Remove the rear PDCA bezel by removing the four retaining screws.
2. Run the power cord down through the appropriate opening in the floor tile.
3. Insert the PDCA into its slot ([Figure 28 \(page 33\)](#)).

**Figure 28 Installing the PDCA**



4. Using a T-20 driver, attach the four screws that hold the PDCA in place.
5. If required, repeat step 2 through step 4 for the second PDCA.

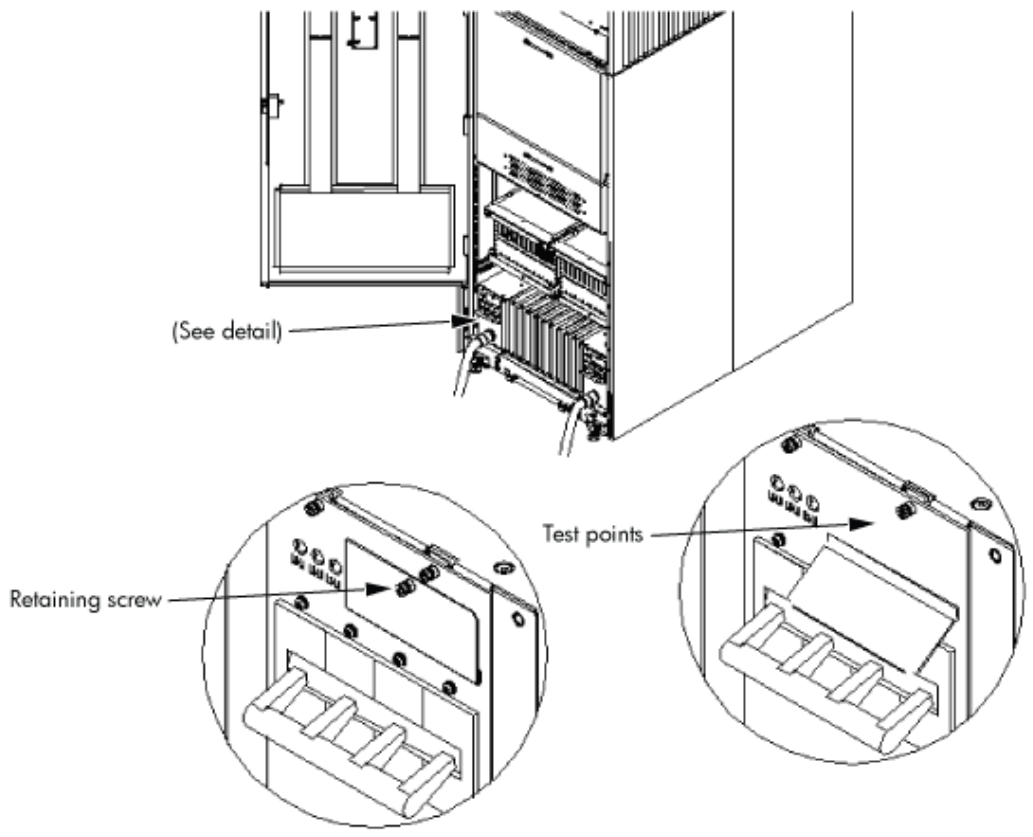
6. Reinstall the rear PDCA bezel.

**⚠ CAUTION:** Do not measure voltages with the PDCA breaker set to **ON**. Make sure the electrical panel breaker is **ON** and the PDCA breaker is **OFF**.

7. Plug in the PDCA connector.
8. Check the voltage at the PDCA:
  - a. Using a T-20 driver, remove the screw on the hinged panel at the top of the PDCA. (Figure 29).
  - b. Using a voltmeter, measure the test points and compare the values to the ranges given in Table 3 (page 34) to make sure the voltages conform to the specifications for the PDCA and local electrical specifications.

If the voltage values do not match the specifications, have the customer contact an electrician to troubleshoot the problem.

**Figure 29 Checking PDCA Test Points (5-Wire)**



**Table 3 4- and 5-Wire Voltage Ranges**

4-Wire	5-Wire
L2 to L3: 200-240 V	L1 to N: 200-240 V
L2 to L1: 200-240 V	L2 to N: 200-240 V
L1 to L3: 200-240 V	L3 to N: 200-240 V
	N to Ground: <sup>1</sup>

<sup>1</sup> Neutral to ground voltage can vary from millivolts to several volts depending on the distance to the ground/neutral bond at the transformer. Any voltage over 3 V must be investigated by a site preparation or power specialist.

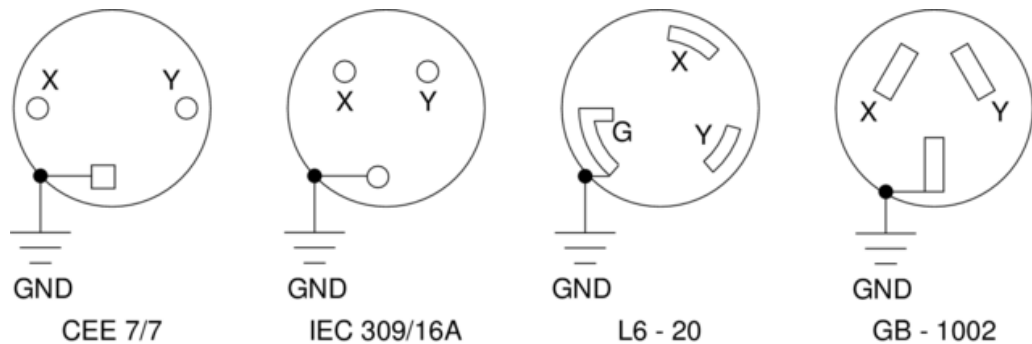
## Checking Voltage

The voltage check ensures that all phases (and neutral, for international systems) are wired correctly for the cabinet and that the AC input voltage is within specified limits.

**NOTE:** If you use a UPS, see applicable UPS documentation for information to connect the server and to check the UPS output voltage. UPS User Manual documentation is shipped with the UPS and is available at [www.hp.com/go/bizsupport](http://www.hp.com/go/bizsupport).

1. Verify that site power is **OFF**.
2. Open the site circuit breakers.
3. Verify that the receptacle ground connector is connected to ground. See [Figure 30](#) for connector details.
4. Set the site power circuit breaker to **ON**.

**Figure 30 Wall Receptacle Pinouts**



KIN006  
7/11/01

5. Verify that the voltage between receptacle pins x and y is 200–240 volts ac.
6. Set the site power circuit breaker to **OFF**.
7. Ensure that power is removed from the server.
8. Route and connect the server power connector to the site power receptacle.
  - For locking type receptacles, line up the key on the plug with the groove in the receptacle.
  - Push the plug into the receptacle and rotate to lock the connector in place.

**⚠ WARNING!** Do not set site ac circuit breakers serving the processor cabinets to **ON** before verifying that the cabinet has been wired into the site ac power supply correctly. Failure to do so can result in injury to personnel or damage to equipment when ac power is applied to the cabinet.

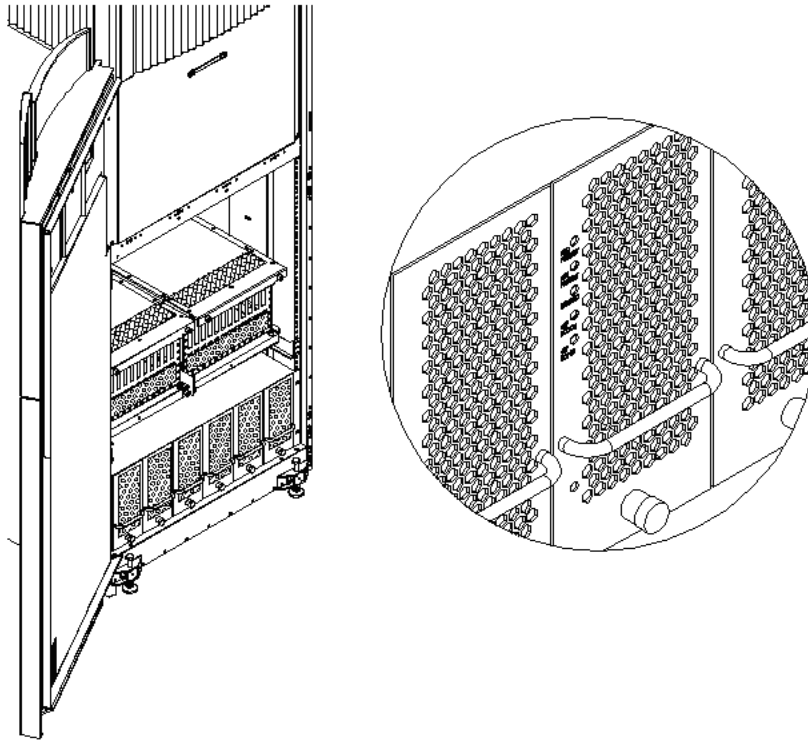
9. Set the site power circuit breaker to **ON**.

**⚠ WARNING!** There is a risk of shock hazard while testing primary power. Use properly insulated probes. Be sure to replace the access cover when you finish testing primary power.

10. Set the server power to **ON**.

11. Check that the indicator LED on each power supply is lit. See [Figure 31](#).

**Figure 31 Power Supply Indicator LED**



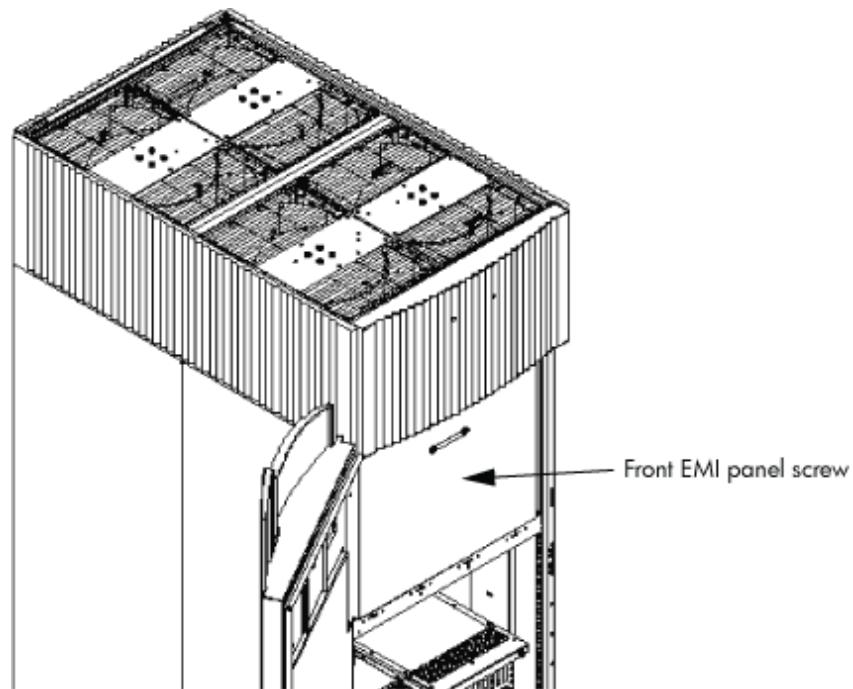
## Removing the EMI Panels

Remove the front and back electromagnetic interference (EMI) panels to access ports and to visually check whether components are in place and the LEDs are properly illuminated when power is applied to the system.

To remove the front and back EMI panels, follow these steps:

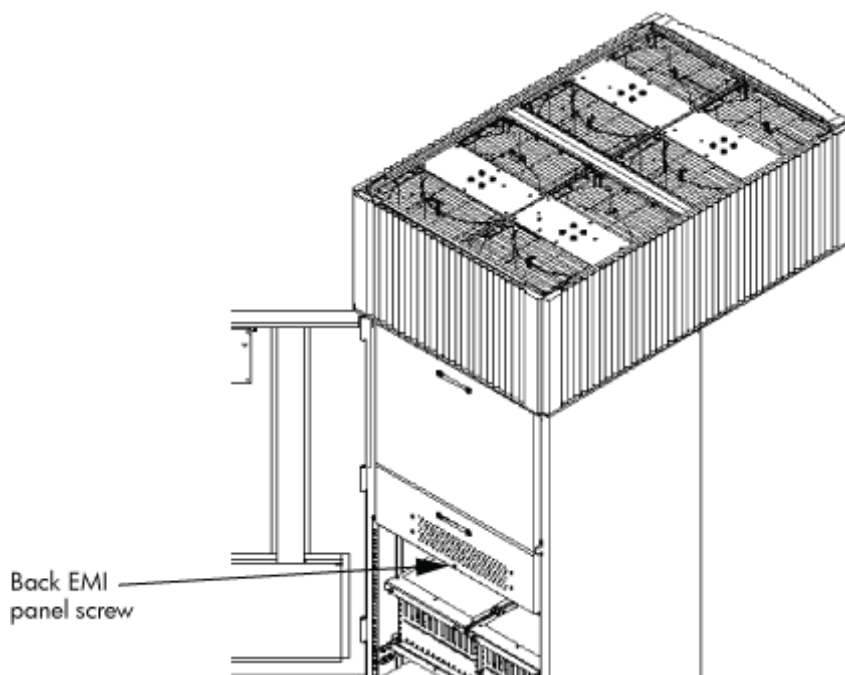
1. Using a T-20 driver, loosen the captive screw at the top center of the front EMI panel ([Figure 32](#)).

**Figure 32 Removing Front EMI Panel Screw**



2. Use the handle provided to remove the EMI panel and set it aside.  
When in position, the EMI panels (front and back) are tightly in place. Removing them takes controlled but firm exertion.
3. Loosen the captive screw at the lower center of the back EMI panel ([Figure 33 \(page 37\)](#)).

**Figure 33 Removing the Back EMI Panel**



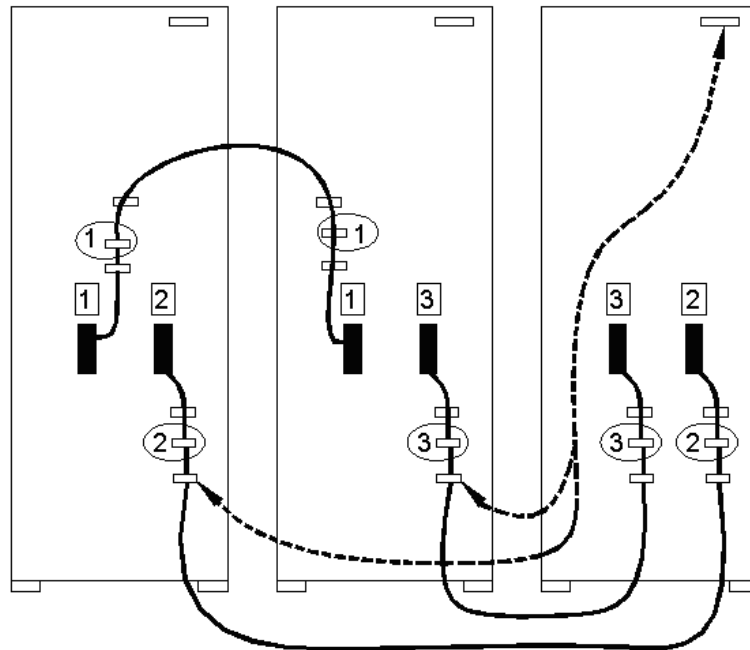
4. Use the handle provided to gently remove the EMI panel and set it aside.

## Connecting the Cables

The I/O cables are attached and tied inside the cabinet. When the system is installed, these cables must be untied, routed, and connected to the cabinets where the other end of the cables terminate. Use the following guidelines and [Figure 34](#) to route and connect cables. For more information on cable routing, see [“Routing the I/O Cables” \(page 38\)](#).

- Each cabinet is identified with a unique color. The cabinet color label is located at the top of the cabinet.
- The colored label *closest to the cable connector* corresponds to the color of the cabinet to which it is attached.
- The colored label farther away from the cable connector corresponds to the color of the cabinet where the other end of the cable is attached. In [Figure 34](#), the dotted lines show where the label is located and where the cable terminates.
- Each cable is also labeled with a unique number. This number label is applied on both ends of the cable and near the port where the cable is to be connected. In [Figure 34](#), the cable number labels are indicated by circled numbers, and the cabinet port numbers are indicated with boxed numbers.

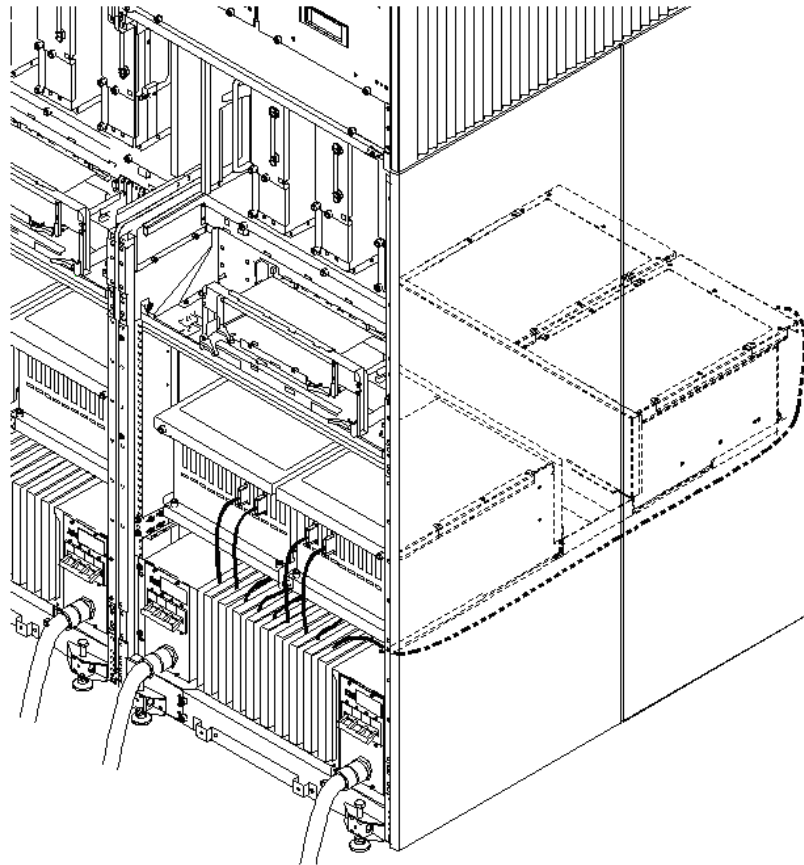
**Figure 34 Cable Labeling**



## Routing the I/O Cables

Routing the cables is a significant task in the installation process. Efficient cable routing is important not only for the initial installation, but also to aid in future service calls. The most efficient use of space is to route cables so that they are not crossed or tangled. [Figure 35 \(page 39\)](#) illustrates efficient I/O cable routing.

**Figure 35 Routing I/O Cables**



To route cables through the cable groomer at the bottom rear of the cabinet, follow these steps:

1. Remove the cable access plate at the bottom of the groomer.
2. Beginning at the front of the cabinet, route the cables using the following pattern:
  - a. Route the first cable on the left side of the leftmost card cage first. Route it under the PCI-X card cage toward the back of the cabinet and down through the first slot at the right of the cable groomer.
  - b. Route the second cable on the left side of the leftmost card cage to the right of the first cable, and so on, until routing all of the cables in the card cage is complete.

The number and width of cables varies from system to system. Use judgment and the customer's present and estimated future needs to determine how many cables to route through each cable groomer slot.
  - c. After routing the leftmost card cage at the front of the cabinet, route the cables in the rightmost card cage at the back of the cabinet. Begin with the right cable in the card cage and work toward the left.
  - d. After routing the cables in the rightmost card cage at the rear of the cabinet, return to the front of the system and route the cables in the next card cage to the right.
  - e. Repeat steps a through d until all the cables are routed.
3. Connect the management processor cables last.
4. Reattach the cable access plate at the bottom of the cable groomer.
5. Reattach the cable groomer kick plate at the back of the cabinet.
6. Slip the L bracket under the power cord on the rear of the PDCA.
7. While holding the L bracket in place, insert the PDCA completely into the cabinet and secure the L bracket with one screw.

## Adding an IOX Cabinet

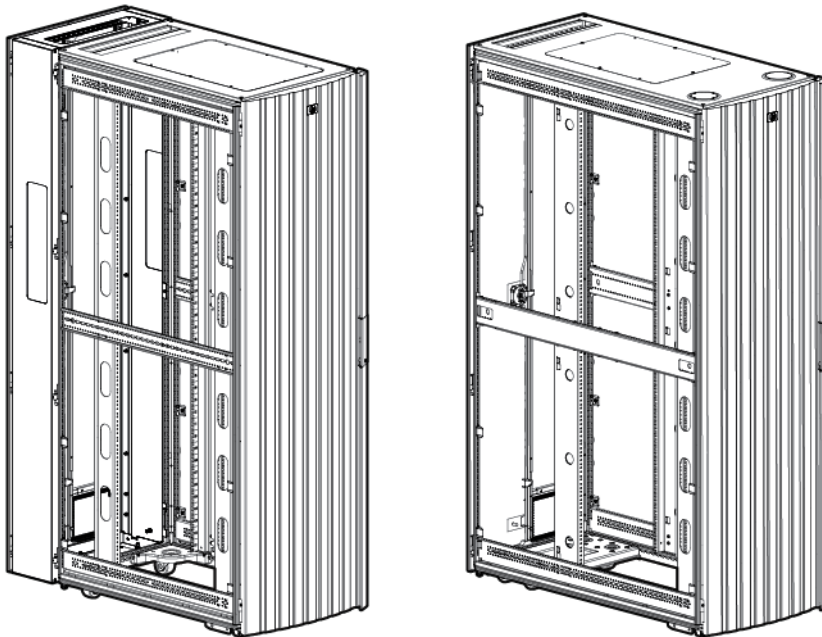
There are two (2) IOX cabinet designs available: AF034A and AF092A. Each are different in design. They support the IOX mounted inside to connect the e-link cables to the Superdome server. Ensure your customer's cabinet is identified correctly.

In [Figure 36 \(page 40\)](#), note that the AF034A cabinet on the left has 200mm length extension added to the rear with custom vertical side access panels. These vertical openings are located slightly above center height on either side to aid in e-link cable management routing.

On the right, the recently released AF092A rack is designed 200mm longer and requires that the middle and top side panels adjacent to the host Superdome cabinet are removed for e-link cable routing.

These views are from the front. Either IOX cabinet can be placed next to either side of the Superdome cabinet(s).

**Figure 36 3/4 Front View of IOX Cabinets AF034A (left) and AF092A (right)**



## Installing the Support Management Station

The Support Management Station (SMS) ships separately in boxes. The SMS software and 3 Revisions of Superdome Firmware history are preloaded at the factory.

---

**NOTE:** The SMS Shelf may or may not be installed in the factory prior to shipping.

---

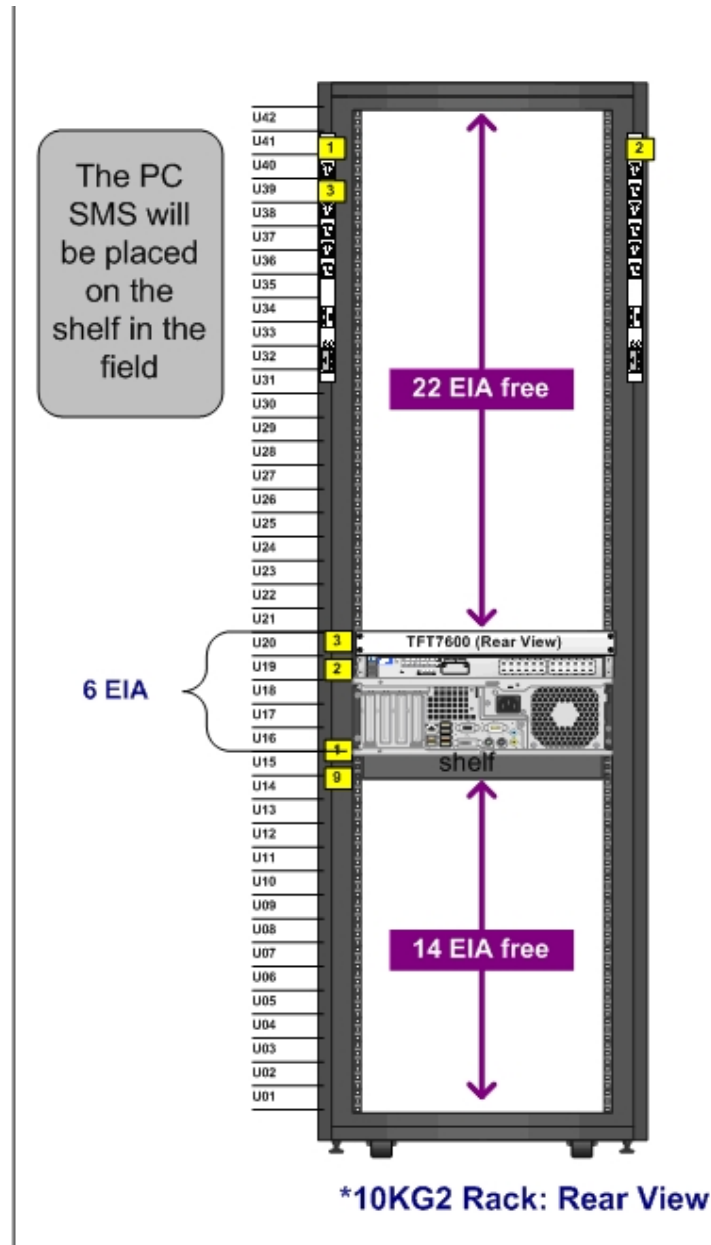
## Installing the SMS Support Shelf

1. Unpack the HP Compaq 6200 Pro Series SMS and Support Shelf from their respective shipping containers.



2. Install the Support Shelf Rack at the U15 position in the 10KG2 Rack and place the SMS PC onto the shelf.

See the following:



## Connecting the SMS to the Superdome

The Superdome Cookbook document is found through the following website (requires authentication):

<http://athp.hp.com/portal/site/sig/menuitem.260d6c199fc475a058b9d8a989806e01/>

In the *Search the Sales Library*: field, enter the keywords: SMS Cookbook. A second window is displayed with the file information. Select *Worldwide*, *English (US)* to download.

---

**NOTE:** The SMS Cookbook file is presented as a Windows Visio file.

---

The SMS software and 3 revisions of Superdome firmware histories are preloaded onto the SMS at the factory. If needed, see the following section for the procedures to capture the SMS SW and Superdome firmware files.

# SMS Software and Superdome Firmware Downloading Procedure

Go to the following URL (requires authentication):

<http://intranet.hp.com/tsg/WW2/CESL/Pages/SMS-SW-FW.aspx>

Select the *STSD SMS & FW Files* link at approximately mid page.

The `Superdome_Binaries.exe` file is a self-extracting archive containing the following Firmware binaries and SMS Software Utilities for Superdome Servers:

1. SX1000 – Last three revisions of PA and IA Firmware
2. SX2000 – Last three revisions of PA and IA Firmware
3. Legacy – Last three revisions of PA Firmware
4. SMS Software Utilities:
  - CYGWIN
  - EIT
  - PARCLI
  - SCAN

Either copy the `Superdome_Binaries.exe` file to the desktop, or save it to a CD.

Open the `Superdome_Binaries.exe` file.

---

**NOTE:** The `/opt` directory will be created as the default location.

---

## SMS Software Utilities

Move the Software Utilities onto the SMS as indicated:

- SCAN— `c:\opt\scansw`
- CYGWIN— `c:\CYGWIN`
- PARCLI— `c:\Program Files\Hewlett-Packard\nParCommands`
- EIT Tools— `c:\Program Files\Hewlett-Packard\EIT`

## Superdome Firmware Instructions

---

**NOTE:** Reference to `pa` or `ia` denotes two firmware types: one for *PARISC* Processors (`pa`) and one for *Itanium* Processors (`ia`). This is applicable for the `sx1000`, the `sx2000`, and the Legacy Servers. The Legacy Servers will only have the *PARISC* Processors (`pa`) installed.

---

## PC SMS

1. Create a `c:\opt\firmware\sxX000\X.Xx` directory.

### Example 1 Directory Example

---

`sx2000\8.7f`

---

2. Copy the `h_ipf_(pa or ia)_sxX000_X.Xx.tar.gz` file to the `c:\opt\firmware\sxX000\X.Xx` directory.
3. Open a `Cygwin` window.
4. Enter the following command to move that bundle into the targeted directory:  
`cd c:\opt\firmware\sxX000\X.Xx`
5. Enter the following command to un-compress the `gzip` file:  
`gunzip h_ipf_(pa or ia)_sxX000_X.Xx.tar.gz`

6. Enter the following command to un-tar the tar files:  

```
tar -xvf h_ipf_(pa or ia)_sxX000_X.Xx.tar
```

## HP-UX SMS

1. Create a /opt/firmware/sxX000/X.Xx directory.

### Example 2 Directory Example

---

sx2000/8.7f

---

2. Copy the h\_ipf\_(pa or ia)\_sxX000\_X.Xx.tar.gz file to the /opt/firmware/sxX000/X.Xx directory.
3. Change the directory to:  

```
/opt/firmware/sxX000/X.Xx
```
4. Enter the following command to un-compress the gzip file:  

```
gunzip h_ipf_(pa or ia)_sxX000_X.Xx.tar.gz
```
5. Enter the following command to un-tar the tar file:  

```
tar -xvf h_ipf_(pa or ia)_sxX000_X.Xx.tar
```

## Restore the A9802E SMS PC with the HP Recovery Manager

If the A9802E model SMS PC cannot launch Windows, it may be possible to use the HP Recovery Manager on the PC's hard drive to restore the A9802E SMS to the factory default configuration. The HP Recovery Manager can be launched during the start up process with the following procedure:

1. Press the **Power** button to start the PC.
2. When the standard BIOS prompts are displayed on the black screen, press the **f11** key. The HP Splash screen with the HP logo may also appear in the background.

---

**NOTE:** Pressing the **f11** key during the startup on a computer with an HP factory image will begin the system recovery process even if the prompt is not displayed.

---

- If the HP Recovery Manager can access the recovery partition on the PC's hard drive, a prompt will be displayed to backup the user files before beginning the recovery. Follow the on-screen instructions.
- If the HP Recovery Manager cannot access the hard drive to fix any system errors, you will need the personalized recovery disc. The recovery disc is created previously by the user to recover the hard drive to its original configuration.  
If the user has not created the personalized recovery disc or if the disc(s) is (are) corrupt, a replacement recovery kit can be ordered from HP.
- A replacement Windows 7 media recovery kit contains:
  - Restore Plus! disc
  - The OS disc for Windows 7 32/64
  - Language pack

The kit can be ordered by contacting HP post sales support at: **800-334-5144**.

---

❗ **IMPORTANT:** The serial number of the desktop PC must be provided.

---

- Place an order for the following product:  
HP Compaq 6200 Pro Series™ QT042AW #ABA

3. When the HP Recovery Manager begins, follow the step-by-step instructions.

## Configuring the Event Information Tools

There are three tools included in the Event Information Tools (EIT) bundle for the SMS. They are the Console Logger, the IPMI Log Acquirer and the IPMI Event Viewer. These tools work together to collect, interpret, and display system event messages on the SMS.

### EIT Tools Functionality

The Console Logger captures the commands typed at the console, the response displayed, and alert messages generated by the system. It stores them on the SMS disk drive in a continuous log format.

The IPMI Log Acquirer acquires FPL and FRUID logs from the remote system and stores them on the SMS disk drive.

The IPMI Event Viewer analyzes the FPL logs captured by the IPMI Log Acquirer and displays the system event information through either a command-line or Web-based interface.

### Where to Find the EIT Documentation

The latest documentation for setting up and configuring these tools is available at:

[www.hp.com/go/bizsupport](http://www.hp.com/go/bizsupport)

Once you are at the website, select “Event Information Tools (EIT) - formerly SMS”. You will find documentation for each of the following subjects:

- Console Logger
- IPMI Event Viewer
- IPMI Log Acquirer
- Release Notes

## Turning On Housekeeping Power

To turn on housekeeping power to the system, follow these steps:

1. Verify that the ac voltage at the input source is within specifications for each cabinet being installed.
2. Ensure the following:
  - The ac breakers are in the **OFF** position.
  - The cabinet power switch at the front of the cabinet is in the **OFF** position.
  - The ac breakers and cabinet switches on the I/O expansion cabinet (if present) are in the **OFF** position.
3. If the complex has an IOX cabinet, power on this cabinet first.

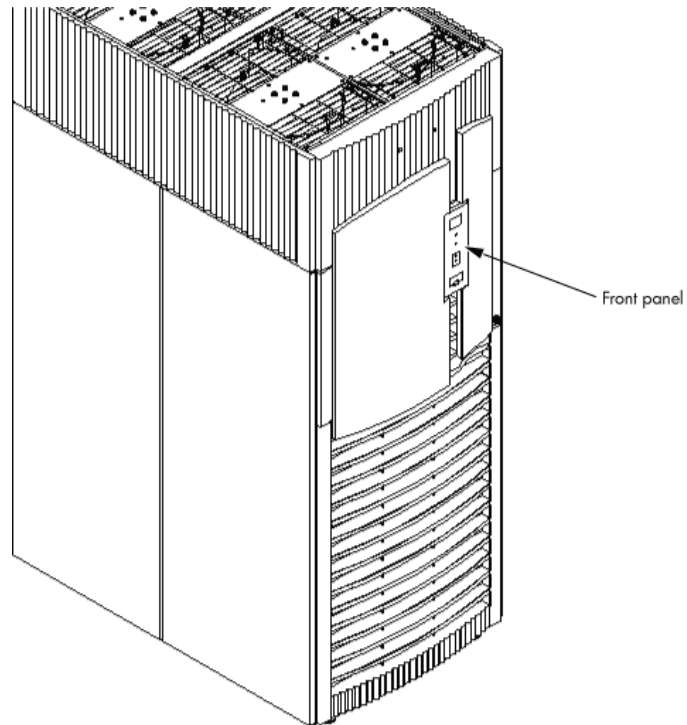
---

ⓘ **IMPORTANT:** The 48 V switch on the front panel must be **OFF**.

---

4. Turn on the ac breakers on the PDCAs at the back of the each cabinet.
  - In a large complex, power on the cabinets in one of the two following orders:
    - 9, 8, 1, 0
    - 8, 9, 0, 1
  - On the front and back panels, the HKP and the Present LEDs illuminate (Figure 37).
  - On cabinet 0, the HKP and the Present LEDs illuminate, but only the HKP LED illuminates on cabinet 1 (the right cabinet).

**Figure 37 Front Panel with HKP and Present LEDs**

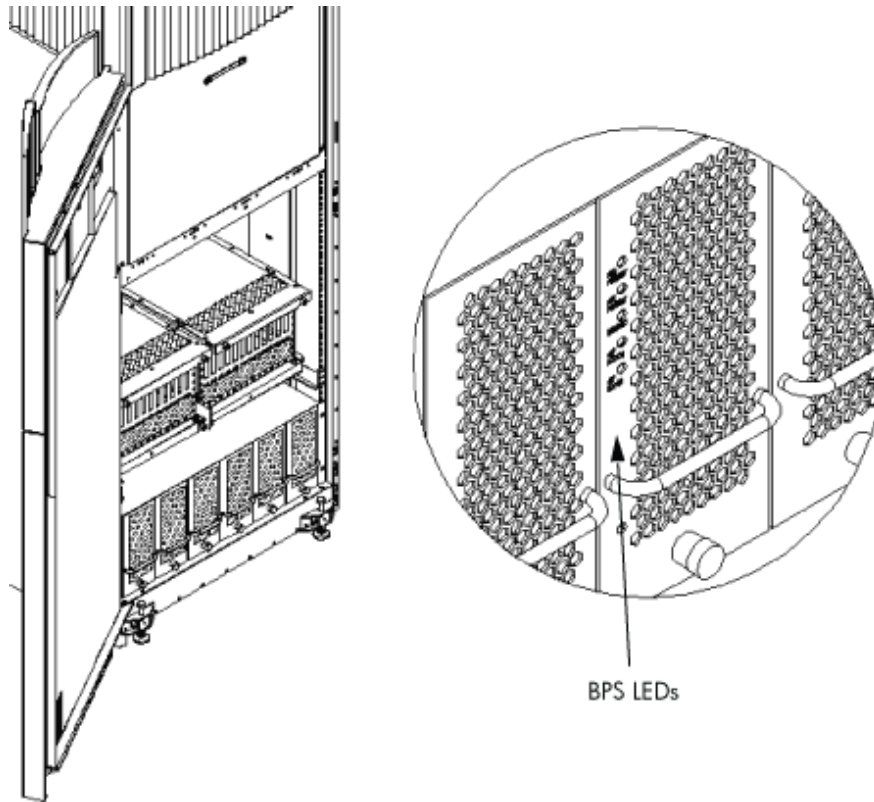


5. Examine the BPS LEDs (Figure 38).

When on, the breakers on the PDCA distribute ac power to the BPSs. Power is present at the BPSs when:

- The amber LED next to the AC0 Present label is on (if the breakers on the PDCA are on the left side at the back of the cabinet).
- The amber LED next to the AC1 Present label is on (if the breakers on the PDCA are on the right side at the back of the cabinet).

**Figure 38 BPS LEDs**



## Connecting the MP to the Customer LAN

This section describes how to connect, set up, and verify the management processor (MP) to the customer LAN. LAN information includes the MP network name (host name), the MP IP address, the subnet mask, and the gateway address. The customer provides this information.

## Connecting the MP to the Network

---

**NOTE:** Based on the customer's existing SMS configuration, make the appropriate modifications to add in the Superdome/sx2000 SMS LAN configuration.

Unlike earlier systems, which required the MP to be connected to the private LAN, the sx2000 system MP now connects to the customer's LAN through the appropriate hub, switch, router, or other customer-provided LAN device.

In some cases, the customer can connect the SMS to the MP on the private management LAN. In this case, inform the customer that administrators will not be able to access the SMS remotely and will have to use the SMS as a "local" device.

---

Connect the MP to the customer's LAN:

1. Connect one end of the RJ-45 LAN cable to the LAN port on the MP (Figure 39).

**Figure 39 MP LAN Connection Location**



2. Connect the other end of the LAN cable to the customer-designated LAN port. Obtain the IP address for the MP from the customer.  
Connect the dial-up modem cable between the MP modem and the customers phone line connection.

## Setting the Customer IP Address

---

**NOTE:** The default IP address for the customer LAN port on the MP is **192.168.1.1**.

---

To set the customer LAN IP address, follow these steps:

1. From the MP Command Menu prompt `MP:CM>`, enter `1c` (LAN configuration).  
The screen displays the default values and asks if you want to modify them.



**TIP:** Write down the information, as it may be required for future troubleshooting.

If you are not already in the Command Menu, enter `ma` to return to the Main Menu, then enter `cm`.

The LAN configuration screen appears (Figure 40).

**Figure 40 LAN Configuration Screen**

```

c:\ Telnet feshd1-u.rsn.hp.com
[feshd1-u] MP> cm
                Enter HE to get a list of available commands
                (Use ^B to return to main menu.)

[feshd1-u] MP:CM> 1c
This command modifies the LAN parameters.
Current configuration of MP customer LAN interface
MAC address  : 00:10:83:fd:07:54
IP address   : 10.99.49.138      0x0f63318a
Name        : feshd1-u
Subnet mask  : 255.255.248.0    0xfffff800
Gateway     : 10.99.49.254     0x0f6331fe
Status      : UP and RUNNING

Do you want to modify the configuration for the customer LAN? <Y/[N]> _

```

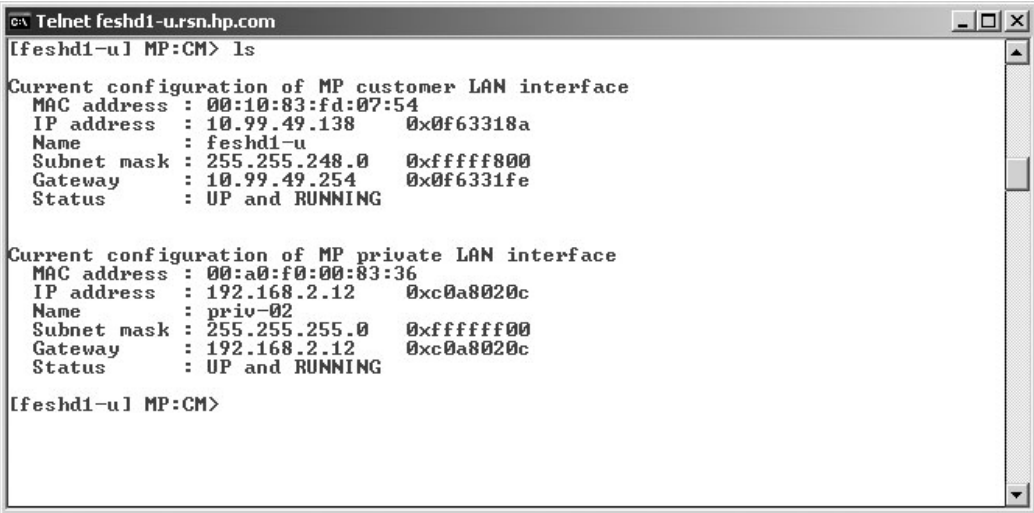
2. If the LAN software on the MP is working properly, the message `LAN status: UP and RUNNING` appears. The value in the `IP address` field has been set at the factory.

**NOTE:** The customer LAN IP address is designated LAN port 0.

3. The prompt asks if you want to modify LAN port 0. Enter `Y`.  
The current customer IP address appears; then the *Do you want to modify it? (Y/[N])* prompt appears.
4. Enter `Y`.
5. Enter the new IP address.
6. Confirm the new address.
7. Enter the MP network name.  
This is the host name for the customer LAN. You can use any name up to 64 characters long. It can include alphanumeric, dash (-), under score (\_), period (.), or the space character. HP recommends that the name be a derivative of the complex name. For example, `Maggie.com_MP`.
8. Enter the LAN parameters for *Subnet mask* and *Gateway address*.  
Obtain this information from the customer.
9. To display the LAN parameters and status, enter the `1s` command at the MP Command Menu prompt (`MP:CM>`).  
The `1s` command screen appears (Figure 41).



**Figure 41 The ls Command Screen**



```
Telnet feshd1-u.rsn.hp.com
[feshd1-u] MP:CM> ls

Current configuration of MP customer LAN interface
MAC address : 00:10:83:fd:07:54
IP address  : 10.99.49.138      0x0f63318a
Name        : feshd1-u
Subnet mask : 255.255.248.0    0xffff800
Gateway     : 10.99.49.254    0x0f6331fe
Status      : UP and RUNNING

Current configuration of MP private LAN interface
MAC address : 00:a0:f0:00:83:36
IP address  : 192.168.2.12     0xc0a8020c
Name        : priv-02
Subnet mask : 255.255.255.0    0xfffff00
Gateway     : 192.168.2.12     0xc0a8020c
Status      : UP and RUNNING

[feshd1-u] MP:CM>
```

To return to the MP Main Menu, enter **ma**.

To exit the MP, enter **x** at the MP Main Menu.

10. Check the settings for the model string, UUID, and Creator Product Name using the **ID** command. For example:

MP modifiable stable complex configuration data fields.

```
Model String           : 9000/800/SD32B
Complex System Name    : maggie
Original Product Number: A5201A
Current Product Number : A9834A
UUID                   : ffffffff-ffff-ffff-ffff-ffffffffffffff
Creator Manufacturer    : hp
Creator Product Name   : superdome server SD32B
Creator Serial Number  : USRxxxxxxxx
OEM Manufacturer       :
OEM Product Name       :
OEM Serial Number      : USRxxxxxxxx
```

11. Set the date and time using the MP command.

## Booting and Verifying the System

After installing the system, verify that the proper hardware is installed and booted.

This section describes how to power on the cabinet and boot and test each partition. You must open a console window for each partition. You must also open two additional windows, one window for initiating reset on partitions and the other for monitoring system partition status. Initiate the MP in each window.

---

**NOTE:** The HKP must be **ON** and the 48 V switch on the front panel must be **OFF** . To turn on the HKP, see [“Turning On Housekeeping Power” \(page 44\)](#) .

---

## Connecting to the MP

Before powering on the cabinet, you need to open several windows connected to the MP. Then switch the 48 V on and boot each partition to the EFI prompt, (the BCH prompt in the case of an HP 9000/sx2000 server). To connect to the MP, follow these steps:

1. On the SMS, open the following command prompt windows:
  - One console window for each partition (MP CO option)
  - One for initializing the RS command from the MP
  - One for monitoring partition status (MP VFP option)

In each window, connect to the MP by entering the following:

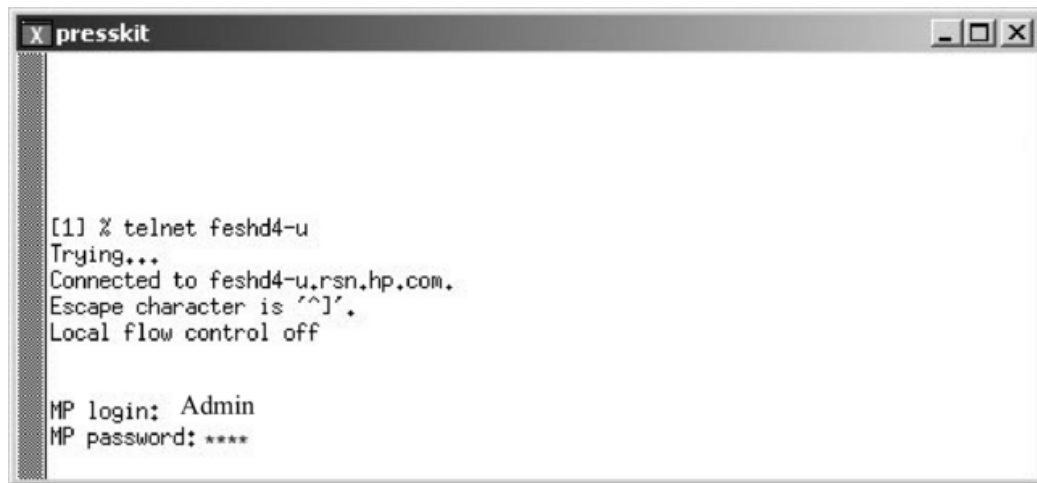
```
telnet <MP hostname>
```

Or

```
telnet <IP address>
```

2. Enter the appropriate login and password at the MP prompts ([Figure 42](#)).

**Figure 42 Logging In**



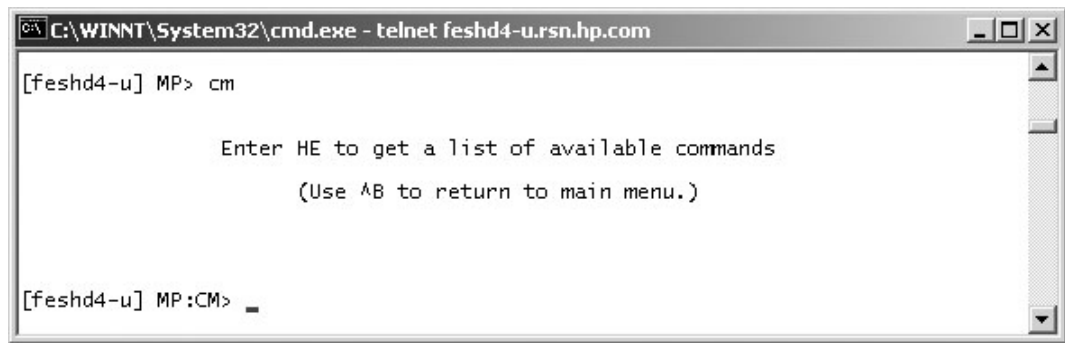
The MP Main Menu appears ([Figure 43](#)).

**Figure 43 Main MP Menu**



3. Repeat steps 1 and 2 for each partition.
4. In one window bring up the command prompt by entering `cm` at the MP> prompt ([Figure 44](#)).

**Figure 44 MP Command Option**



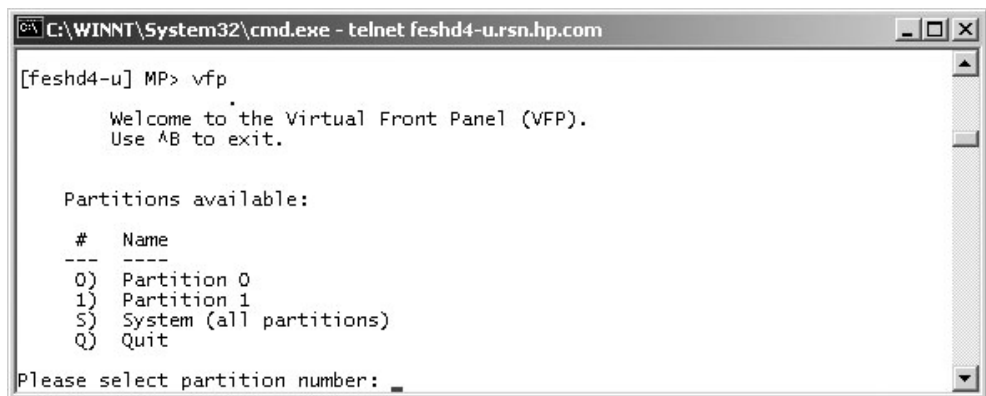
```
C:\WINNT\System32\cmd.exe - telnet feshd4-ursn.hp.com
[feshd4-u] MP> cm

Enter HE to get a list of available commands
(Use ^B to return to main menu.)

[feshd4-u] MP:CM> _
```

5. In the another window, open the Virtual Front Panel (VFP) by entering `vfp` at the MP prompt (Figure 45). Use this window to observe partition status.

**Figure 45 MP Virtual Front Panel**



```
C:\WINNT\System32\cmd.exe - telnet feshd4-ursn.hp.com
[feshd4-u] MP> vfp

Welcome to the Virtual Front Panel (VFP).
Use ^B to exit.

Partitions available:

#  Name
---  ---
0)  Partition 0
1)  Partition 1
S)  System (all partitions)
Q)  Quit

Please select partition number: _
```

6. From the VFP menu, enter `s` to select the whole system, or enter the partition number to select a particular partition. An output similar to Figure 46 appears. In this example, no status is listed because the system 48 V has not been switched on.

**Figure 46 Example of Partition State—Cabinet Not Powered Up**



```
C:\WINNT\System32\cmd.exe - telnet feshd4-ursn.hp.com
#  Partition state      Activity
-  -
0  -----
1  -----

0 Logs
0 Logs

E indicates error since last boot
MP:VFP (Use '?' to display help or ^B to Quit) > _
```

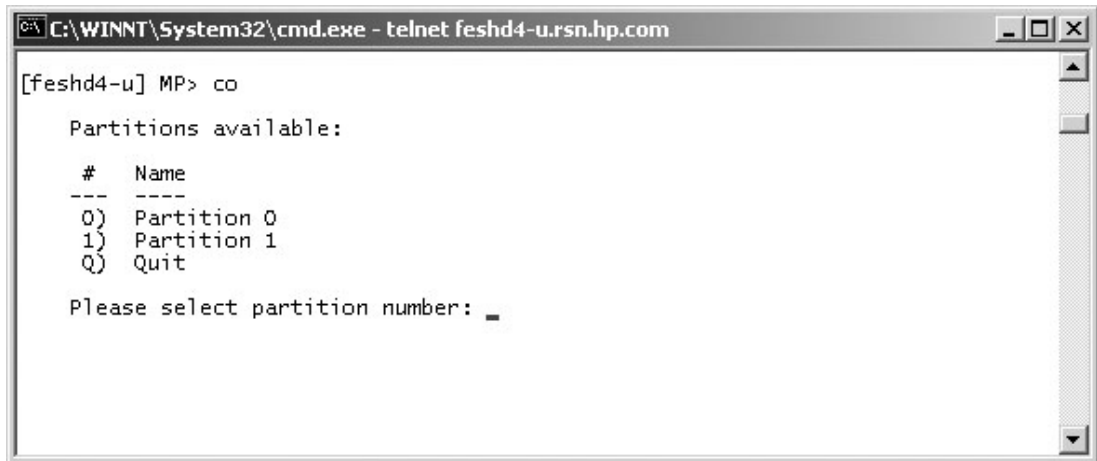
7. For each of the remaining windows, open the partition console for each partition by enter `co` at the `MP>` prompt (Figure 47). These windows open blank.

---

**NOTE:** If information appears in the windows, it means nothing because the cabinet is powered off.

---

**Figure 47 MP Console Option**



```
C:\WINNT\System32\cmd.exe - telnet feshd4-u.rsn.hp.com
[feshd4-u] MP> co

Partitions available:

#   Name
---  ---
0)  Partition 0
1)  Partition 1
Q)  Quit

Please select partition number: _
```

## Powering On the System 48 V Power Supply

To power on the system 48 V power supply, follow these steps:

1. Switch on the 48 V supply from each cabinet front panel.

---

① **IMPORTANT:** If the complex has an IOX cabinet, power on this cabinet first.

---

In a large complex, power on cabinets in one of the two following orders: 9, 8, 1, 0 or 8, 9, 0, 1.

---

① **IMPORTANT:** The MP must be running in each window.

---

As the cabinet boots, observe the partition activity in the window displaying the VFP.

2. For HP Integrity Superdome/sx2000 systems, follow the procedure in [“Booting the HP Integrity Superdome/sx2000 to an EFI Shell”](#) (page 52).
3. For HP 9000/sx2000 systems, follow the procedure in [“Booting an HP 9000 sx2000 Server to BCH”](#) (page 54).

## Booting the HP Integrity Superdome/sx2000 to an EFI Shell

After powering on or using the `CM bo` command, all partition console windows show activity while the firmware initializes and stops momentarily at an EFI Boot Manager menu (Figure 48).

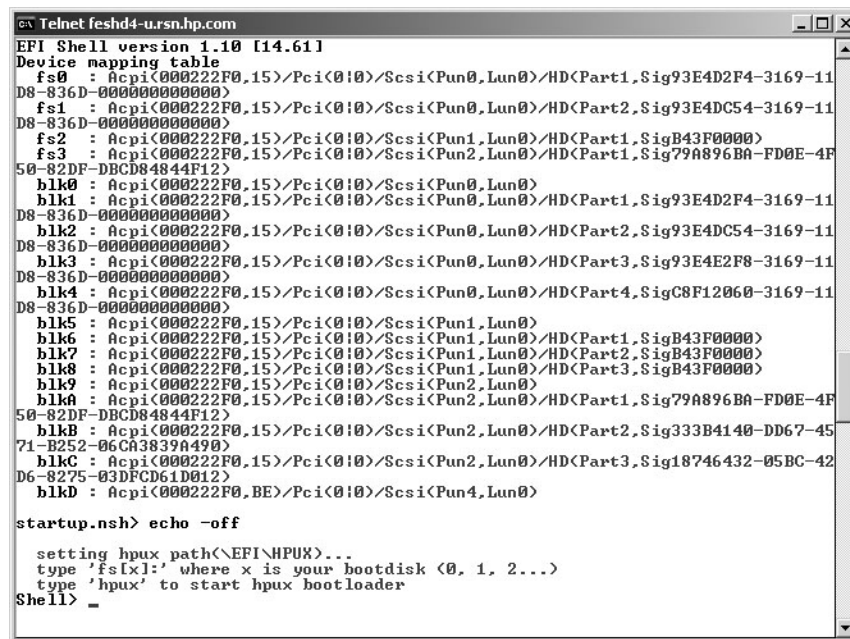
**Figure 48 HP Integrity Superdome/sx2000 EFI Boot Manager**



Use the up and down arrow keys on the keyboard to highlight **EFI Shell (Built-in)** and press **Enter**. Do this for all partitions.

After you start the EFI Shell, the console window displays the EFI shell prompt (Figure 49).

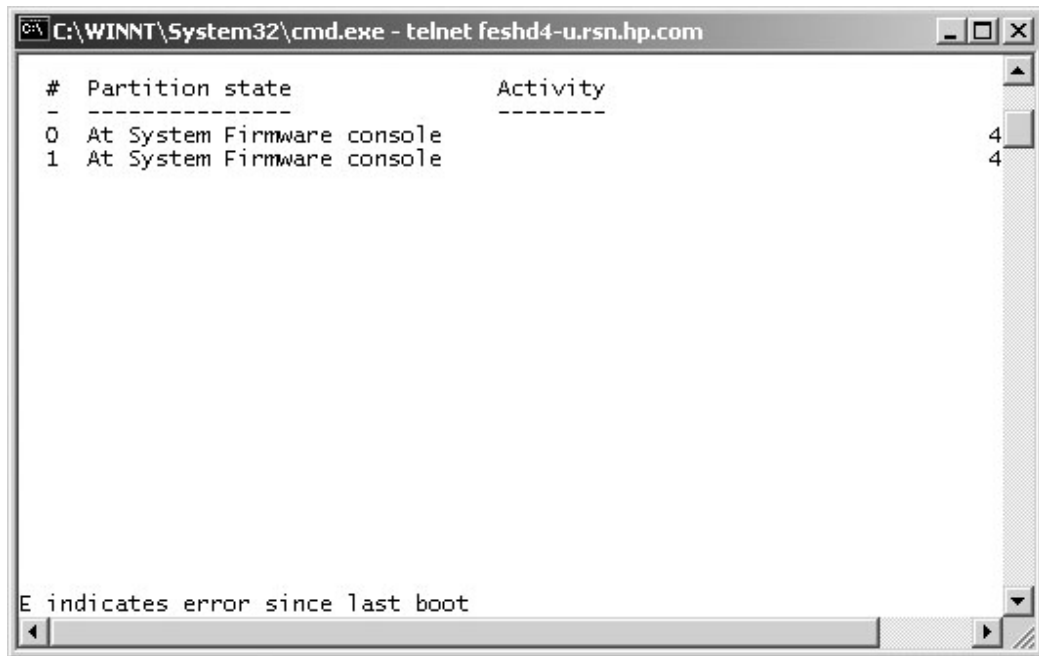
**Figure 49 EFI Shell Prompt**



**NOTE:** If autoboot is enabled for an nPartition, you must interrupt it to stop the boot process at the EFI firmware console.

The VFP indicates that each partition is at system firmware console (Figure 50).

**Figure 50 HP Integrity Superdome/sx2000 Partitions at System Firmware Console**



## Booting an HP 9000 sx2000 Server to BCH

After you power on the server or use the MP BO command to boot an nPartition past boot-is-blocked (BIB), the nPartition console shows activity while the firmware initializes and stops at the BCH Main Menu (the Main Menu: Enter command or menu> prompt).

To redisplay the current menu and its available commands, enter the BCH DI command.

Main Menu: Enter command or menu > **di**

```

---- Main Menu -----

```

Command	Description
BBoot [PRI HAA ALT <path>]	Boot from specified path
PAth [PRI HAA ALT] [<path>]	Display or modify a path
SEArch [ALL <cell> <path>]	Search for boot devices
ScRoll [ON OFF]	Display or change scrolling capability
COntfiguration menu	Displays or sets boot values
INformation menu	Displays hardware information
SERvice menu	Displays service commands
DIisplay	Redisplay the current menu
HElp [<menu> <command>]	Display help for menu or command
REBOOT	Restart Partition
RECONFIGRESET	Reset to allow Reconfig Complex Profile

Main Menu: Enter command or menu >

For information about any of the available BCH commands, enter the HE command.

## Verifying the System

To verify the system, follow these steps:

1. To observe the power status, enter `ps` at the `CM>` prompt. A status screen similar to the one in [Figure 51](#) appears.

**Figure 51 Power Status First Window**

```

C:\WINNT\System32\cmd.exe - telnet feshd4-ursn.hp.com
[feshd4-u] MP:CM> ps
This command displays detailed power and hardware configuration status.
The following MP bus devices were found:
-----
|Cab. |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| #   | MP  | CLU | PM  | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | IO Bay | IO Bay | IO Bay | IO Bay | IO Chas. | IO Chas. | IO Chas. | IO Chas. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
You may display detailed power and hardware status for the following items:
B - Cabinet (UGUY)
C - Cell
G - MP
I - Core IO
Select Device: _
  
```

2. At the `Select Device:` prompt, enter `b` then the cabinet number to check the power status of the cabinet. Observe `Power Switch:` on and `Power:` enabled ([Figure 52](#)).

**Figure 52 Power Status Window**

```

C:\WINNT\System32\cmd.exe - telnet feshd4-ursn.hp.com
G - MP
I - Core IO
Select Device: b
Enter cabinet number: 0
HW status for SB32A compute cabinet #0: NO FAILURE DETECTED
Power switch: on; Power: enabled, good; Door: open
Fan speed: high; Temperature state: normal
Redundancy state: fans and blowers redundant, BPSs redundant
-----
|      | Main BP |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|      | Power  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|      | Boards |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | Main   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|      | BP    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Populated | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |
| Power Enabled | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |
| Powered On | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |
| Power Fault | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |
| Attention LED | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | BPS   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|      | 0 1 2 3 4 5 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Populated | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |
| Failed   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   | *   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
-- Press <CR> to continue, or 'Q' to Quit --
  
```

[Figure 52](#) shows that cells are installed in slots 0 and 4. In the cabinet, verify that cells are physically located in slots 0 and 4.

3. Press `<CR>` one more time to observe the power status ([Figure 53](#)).

**Figure 53 Power Status Showing State of UGUY LEDs**

```

C:\WINNT\System32\cmd.exe - telnet feshd4-u.rsn.hp.com
Populated      *      * * *      *      *      * *
Power Enabled  *      * * *      *      *      * *
Powered On     *      * * *      *      *      * *
Power Fault
Attention LED

          BPS      Cabinet      IO
          0 1 2 3 4 5 | 0 1 2 3 | 0 1 2 3 4
-----|-----|-----
Populated      * * * * * * | * * * * * | * * * * *
Failed

          -- Press <CR> to continue, or 'Q' to Quit --

Voltage margin: nominal; Clock margin: nominal

UGUY LEDs:      CLU Status      PM Status      CLU POST
                *** _____      *** _

Flex connections | Connected | Parity      | Connected      | Location
                  |          | error       | to cabinet     | (Upper/Lower)
-----|-----|-----|-----|-----
XBC [7-0]        | NYNYNYNY | NNNNNNNN   | 00000000      | N/A
RC [7-0]         | NNNNNNNN | NNNNNNNN   | 00000000      | LLLLLLLL

PM firmware rev 14.4, time stamp: FRI APR 25 14:33:38 2003
CLU firmware rev 14.2, time stamp: WED APR 16 16:36:42 2003

[feshd4-u] MP:CM> _

```

4. Verify that there is an asterisk (\*) in the columns marked MP, CLU, and PM.

❗ **IMPORTANT:** An asterisk (\*) appears in the MP column only for cabinet 0; that is, the cabinet containing the MP.

Verify that there is an asterisk (\*) for each of the cells installed in the cabinet by comparing what is in the *Cells* column with the cells located inside the cabinet.

## Running JET Software

To ensure that the network diagnostic is enabled at the MP prompt, enter the `nd` command; `MP:CM>nd`. You must run `nd` to run scan and to do firmware updates to the system.

The JTAG Utility for Scan Tests (JUST) Exploration Tool (JET) collects system information for each system on a network and places it in files for use by other scan tools. JET gathers configuration data by executing a series of queries targeted at the MP and the CLU portion of the UGUY board.

❗ **IMPORTANT:** You must resolve any problems you find as a result of running JET before booting the operating system.

## Running JUST

To run JUST to ensure that the hardware is working properly, follow these steps:

1. Enter `jet_setup` at the Windows® SMS command window or enter `scan_setup` at the HP-UX SMS command window.
2. Enter the `complex_name`, IP address, and system type.
3. Enter `jet -s <complex_name>`.
4. Enter `just -s <complex_name>`.

See the JET User Guide, JUST Users Guide, and other related documentation for testing located in:

- `\opt\scansw\docs\stt` directory on the Windows® Support Management Station
- `/opt/scansw/docs/stt` directory on the HP-UX Support Management Station



- 
- ❗ **IMPORTANT:** After scan testing successfully completes, reset the complex by cycling the AC power.
- 

## Power Cycling After Using JET

After using JET, you must recycle the system power because the offline diagnostic can deallocate the CPUs.

To remove the 48 V power, run the `MP pe` command. Then cycle the ac breakers on the rear of the cabinets. Leave power off for about 30 seconds to allow the backplane CSRs to reset.

- 
- ❗ **IMPORTANT:** If the complex has any IOX cabinets with IDs 8 or 9, you must power cycle these cabinets in the proper sequence.
- 

## Offline Diagnostic Environment

Now that scan has been run, you can run all the appropriate diagnostics for this system. See the offline diagnostic environment (ODE) documentation for instructions.

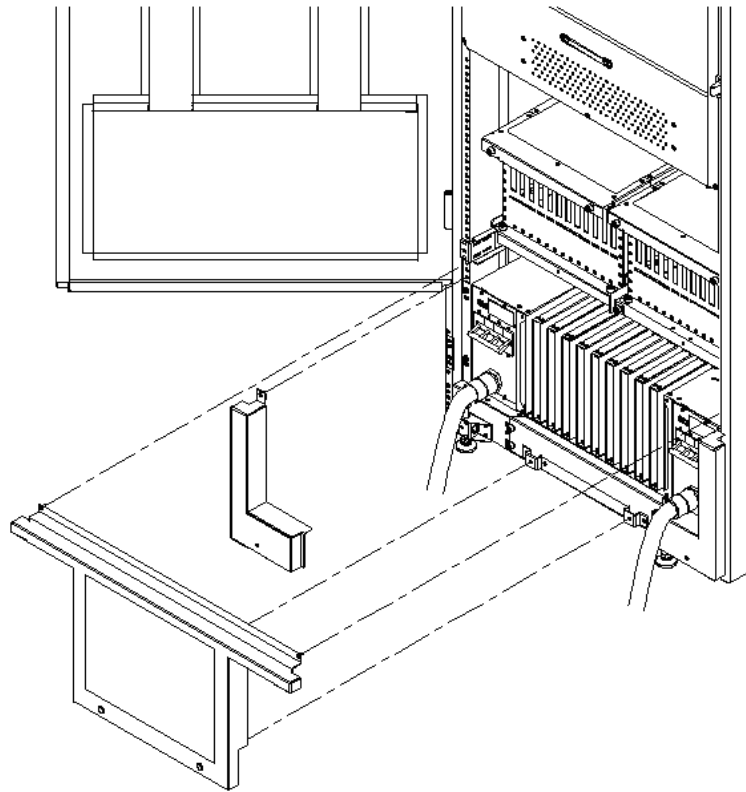
## Attaching the Rear Kick Plates

Kick plates protect cables from accidentally being disconnected or damaged and add an attractive cosmetic touch to the cabinet. You must attach three metal kick plates to the bottom rear of the cabinet.

To install the kick plates, follow these steps:

1. Hold the left kick plate in position and attach a clip nut (0590-2318) on the cabinet column next to the hole in the flange at the top of the kick plate ([Figure 54](#)).
2. Using a screw (0515-0671) and a T-25 driver, attach the flange on the kick plate to the nut clip.
3. Using a T-10 driver and a screw, attach the bottom of the kick plate to the center hole in the leveling foot.

**Figure 54 Attaching Rear Kick Plates**



4. Perform steps 1–3 on the right kick plate.
5. Position the upper flange of the center kick plate under the I/O trays complementary mounting bracket, to retain the center kick plate top flanges. No top screws are needed on the center kick plate. Orient this asymmetrical bracket with the hole located nearest the edge in the up position.
6. Using a T-20 driver, tighten the thumbscrews at the bottom of the center kick plate.

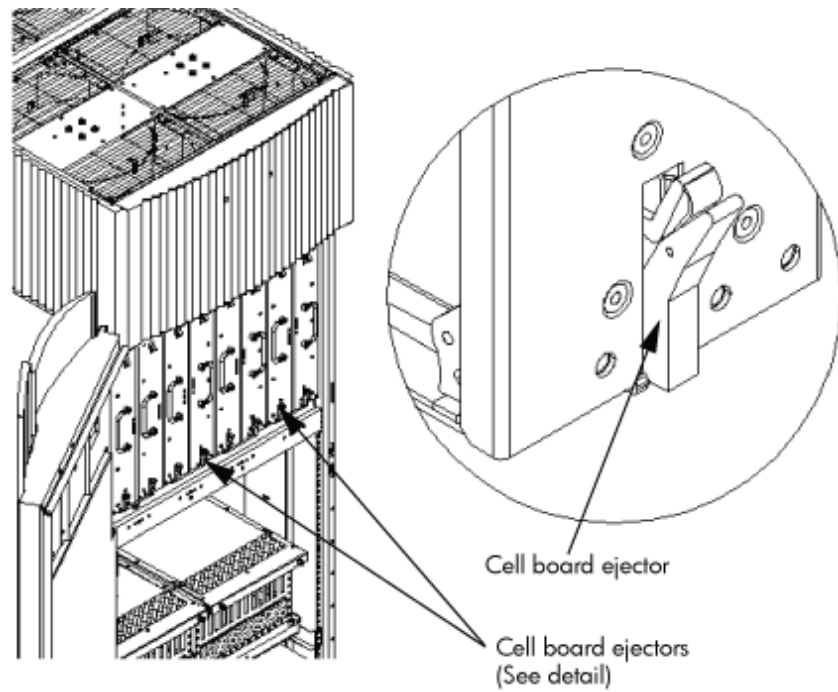
## Performing a Visual Inspection and Completing the Installation

After booting the system, carefully inspect it and reinstall the EMI panels. To perform a final inspection and complete the installation, follow these steps:

1. Visually inspect the system to verify that all components are in place and secure.
2. Check that the cables are secured and routed properly.
3. Check that the cell board ejectors are secure ([Figure 55](#)).

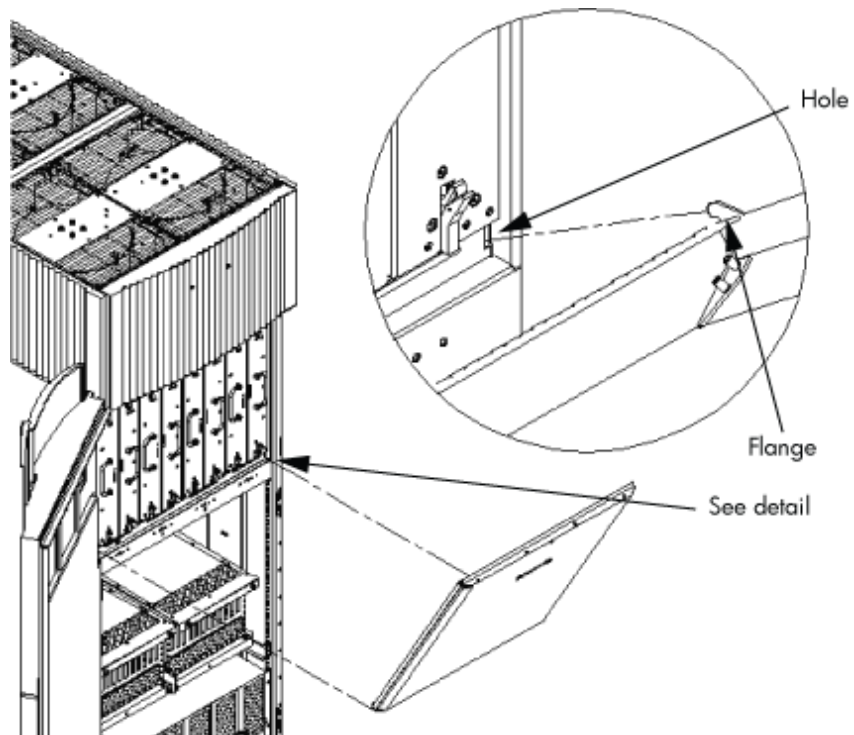
If the ejectors are broken or open, the cell board is disconnected.

**Figure 55 Cell Board Ejectors**



4. Reinstall the front EMI panel (Figure 56).

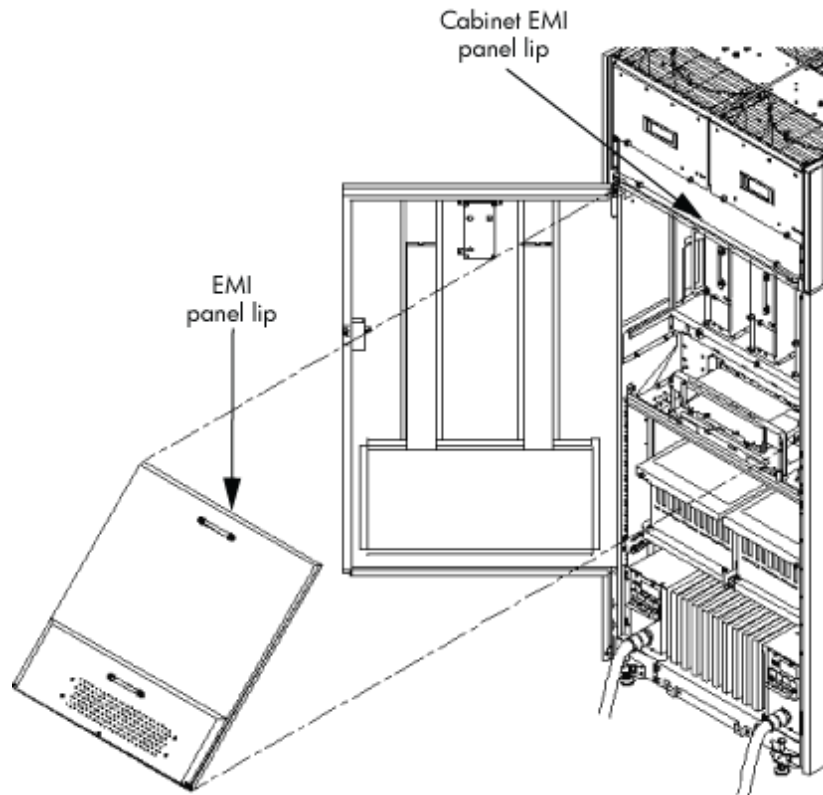
**Figure 56 Front EMI Panel Flange and Cabinet Holes**



- a. Hook the flange at the lower corners of the EMI panel into the holes on the cabinet.
  - b. Position the panel at the top lip, and lift the panel up while pushing the bottom into position.  
If needed, compress the EMI gasket to seat the panel properly.
  - c. Reattach the screw at the top of the EMI panel.
5. Check that the cables inside the rear enclosure are secure.

6. Reinstall the back EMI panel (Figure 57 (page 60)).
  - a. Align the lip inside the cabinet with the lip on the EMI panel.

**Figure 57 Reinstalling the Back EMI Panel**



- b. Push the EMI panel up and in. If needed, compress the EMI gasket at the top of the enclosure to get the panel to seat properly.
- c. Reattach the screw at the bottom of the EMI panel.

## Conducting a Post-Installation Check

After the system is installed in a computer room and verified, conduct the post-installation check. Before turning the system over to the customer, inspect the system visually and clean up the installation area. Perform the following:

- **Inspect circuit boards.** Verify that all circuit boards are installed and properly seated and that the circuit board retainers are reinstalled.
- **Inspect cabling.** Ensure that all cables are installed, secured, and properly routed.
- **Inspect test points.** Verify that test leads are removed from the test points and that the test points are properly covered.
- **Clean up and dispose of debris.** Remove all debris from the area and dispose of it properly.
- **Perform final check.** Inspect the area to ensure that all parts, tools, and other items used to install the system are disposed of properly. Then close and lock the doors.
- **Enter information in the Gold Book.** When the installation and cleanup are complete, make the appropriate notations in the Gold Book shipped with the system.
- **Obtain customer acceptance (if required).** Be sure to thank the customer for choosing HP.

---

# Index

## A

- ac power verification
  - 4-wire PDCA, 31
  - 5-wire PDCA, 31
- ACO Present LED, 46
- AC1 Present LED, 46

## B

- bezel
  - attaching front bezel, 29
  - attaching rear bezel, 28
  - attaching side bezels, 22
- blower bezels (See also "bezel"), 22
- blower housings
  - installing, 19
  - unpacking, 19
- booting
  - checking cabinet power status, 55
  - checking installed cell slot locations, 55
  - invoking the EFI shell, 53
  - output from the EFI shell, 53
  - system verification, 49
  - to the EFI boot manager menu, 52
  - viewing UGUY LED status, 55

## C

- cabinet unpacking, 10
- cable groomer, 39
- cables
  - connecting I/O, 38
  - labeling I/O, 38
  - routing I/O, 38
- cell board
  - ejectors, 58
  - verifying presence of, 56
- checklist
  - repackaging, 18
- claims procedures, 9
- clock and utilities board, see CLU
- CLU
  - status seen in window, 56
- communications interference, 6
- connecting I/O cables, 38
- customer LAN, 47
- customer signoff, 60

## D

- damage
  - returning equipment, 18
  - shipping containers, 8
- discharge
  - electrostatic, 6
- door installation
  - back, 26
  - front, 26

## E

- ejectors
  - cell board, 58
- electrostatic discharge, 6
- EMI panel
  - installing, 59
  - removing, 36
- equipment
  - returning, 18

## G

- gateway address, 48
- Gold Book, 60

## H

- housekeeping power
  - front panel display, 45
  - HKP LED, 45
  - turning on, 44
- housekeeping power LED, 45

## I

- inspecting
  - cables, 60
  - circuit boards, 60
- installation
  - EMI panel, 59
  - PDCA, 33
  - tools required for, 10
  - visual inspection, 58
- interference
  - communications, 6
- inventory check, 7
- IP address
  - default values, 47
  - LAN configuration screen, 48
  - setting private and customer LAN, 47

## J

- JET
  - invoking the software, 56
  - power cycling after usage, 56
  - purpose for invoking, 56
- JTAG utility for scan test
  - JUST, 56
- JUST
  - JTAG utility for scan test, 56

## K

- kick plates
  - attaching to cabinet, 57
  - shown on cabinet, 57

## L

- LAN

- port 0, 48
- port 1, 48
- status, 48

## LED

- AC0 Present, 46
- AC1 Present, 46
- HKP (housekeeping), 45
- Present, 45

## leveling feet

- attaching, 26

## M

- MAC address, 48

- moving the system, 19

## MP

- displaying the customer LAN parameters, 48
- exiting the main menu, 49
- invoking a partition console, 52
- invoking the virtual front panel, 51
- physical connection to the customer LAN, 46
- returning to the main menu, 49
- setting the customer LAN parameters, 48
- viewing the virtual front panel screen, 51

## P

- packing carton contents, 7

## PDCA

- 4-wire voltage verification, 31
- 5-wire voltage verification, 31
- ac breakers, 45
- installation, 33
- unpacking, 18
- wiring configurations, 18, 33

- post installation check, 60

## power

- housekeeping, 44

- power supply mounting screws, 13

## power up

- power on sequence for cabinets, 52

## R

- ramp extensions, 12

- repackaging checklist, 18

- returning equipment, 18

- routing I/O cables, 38

## S

- signoff, customer, 60

- site of installation, 19

- site preparation verification, 7

- skins, attaching, 22

- subnet mask, 48

## Support Management Station

- private LAN IP address, 47

- private LAN port designations, 48

## T

- tilt indicator

- description, 8

- shown in diagram, 9

## U

### unpacking

- blower housings, 19

- blowers, 19

- pallet ramps, 12

- PDCA, 18

- system cabinet, 10

## W

- wrist strap usage, 6