Installation Guide

V2500 Server

First Edition

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Notice

The information contained in this document is subject to change without notice.

Hewlett-Packard makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance or use of this material.

Safety and regulatory information

For your protection, this product has been tested to various national and international regulations and standards. The scope of this regulatory testing includes electrical/mechanical safety, radio frequency interference, ergonomics, acoustics, and hazardous materials.Where required, approvals obtained from third-party test agencies are shown on the product label.

Notational conventions

CAUTION

A caution highlights procedures or information necessary to avoid damage to equipment, damage to software, loss of data, or invalid test results.

WARNING

Warnings highlight procedures or information necessary to avoid injury to personnel. The warning should tell the reader exactly what will result from what actions and how to avoid them.

Safety in material handling

WARNING

Do not lift the node manually. To avoid physical injury you must use a mechanical lifting device.

USA radio frequency interference FCC Notice

The Federal Communications Commission (in CFR Part 15) has specified that the following notice be brought to the attention of the users of this product.

NOTE

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

The user is cautioned that changes or modifications not expressly approved by Hewlett-Packard could result in the equipment being noncompliant with FCC Class A requirements and void the user's authority to operate the equipment.

Japanese radio frequency interference
VCCI

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

This equipment is a Class A category (Information Technology Equipment to be used in commercial and /or industrial areas) and conforms to the standards set by the Voluntary Control Council for Interference by Information Technology Equipment aimed at preventing radio interference in commercial and/or industrial areas.

Consequently, when used in a residential area or in an adjacent area thereto, radio interference may be caused to radios and TV receivers, etc. Read the instructions for correct handling.

EMI statement (European Union only)

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

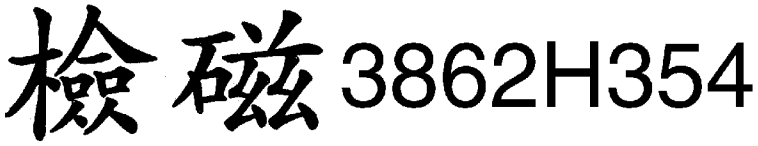
Digital apparatus statement (Canada)

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

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

BCIQ (Taiwan)

This product has been reviewed, evaluated by GesTek Taiwan and is fully compliant to CNS 13438 (CISPR 22: 1993) Class A.



Acoustics (Germany)

Laermangabe (Schalldruckpregel LpA) gemessen am fiktiver Arbeitsplatz bei normalem Betrieb nach DIN 45635, Teil 19: LpA = 75 dB.

Acoustic Noise (A-weighted Sound Pressure Level LpA) measured at the bystander position, normal operation, to ISO 7779: LpA = 75 dB.

IT power system

This product has not been evaluated for connection to an IT power system (an AC distribution system having no direct connection to earth according to IEC 950).

High leakage current

CAUTION High leakage current. Ground (earth) connection essential before connecting the supply.

Attention Forts courants de peretes. Connection a une borne de terre est essentielle avant tout raccord electrique.

Achtung Hoher ableitstrom. Vor inbetreiebnahme schutzleiterverbindung herstellen.

Installation conditions (U.S.)

See installation instructions before connecting to the supply.

Voir la notice d'installation avant de raccorder au réseau.

WARNING **Please note the following conditions of installation:**

An insulated earthing conductor that is identical in size, insulation material, and thickness to the earthed and unearthed branch-circuit supply conductors except that it is green with or without one or more yellow stripes is to be installed as part of the branch circuit that supplies the unit or system. The earthing

conductor described is to be connected to earth that the service equipment or, if supplied by a separately derived system, at the supply transformer or motor-generator set.

The attachment-plug receptacles in the vicinity of the unit or system are all to be of an earthing type, and the earthing conductors serving these receptacles are to be connected to earth at the service equipment.

CAUTION

For supply connections, use wires suitable for at least 60 ˚C.

Utillser des fils convenant à une température de 60 ˚C pour les connexions d'allmenation.

Fuse cautions

WARNING

Disconnect power before changing fuse.

Attention

Coupier le courant avant de remplacer le fusible.

CAUTION

For continued protection against risk of fire, replace fuses only with same type and rating.

Attention

Pour ne pas compromettre la protection contre les risques d'incendle, remplacer par un fusible de même type et de mêmes caractéristiques nominales.

Lithium battery caution

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Attention

II y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le contructeur. Metre au rebut les batteries usagées conformément aux intructions du fabricant.

Preface

Purpose and audience

This guide provides the system engineer with the background information and procedures needed to install a V2500 server.

Scope

The information contained in this manual applies to the V2500 server.

This guide is divided into the following chapters:

- Chapter 1, “Introduction”—Describes the responsibilities of the customer and the field engineer prior to and during installation.
- Chapter 2, “Safety considerations”—Lists the safety considerations for installing a new system or upgrading an existing system.
- Chapter 3, “Unpacking”—Discusses how to inspect equipment, unpack cabinets and accessories, and check inventory.
- Chapter 4, “Ac power”—Discusses procedures to connect ac power to the system and to power up the system.
- Chapter 5, “System installation”—Discusses procedures to interconnect the server and the teststation
- Chapter 6, “Software configuration”—Discusses procedures to set up the server to interface with the teststation. Also describes those tasks that ensure that the system is operating properly.
- Chapter 7, “Installation cleanup”—Discusses procedures to complete the cosmetic portion of the installation.
- Chapter 8, “Returning equipment”—Discusses procedures to follow if equipment must be returned to Hewlett-Packard.
- Appendix A, “Limited access server positioning”—Discusses the procedures to use in the event that the equipment as received will not pass through doorways or passages.
- Appendix B, “Server stacking”—Provides detailed information required to stack servers.
- Appendix C, “Installation checklist”—Provides a checklist to use during and after installation to ensure that all required tasks have been performed.

Notational conventions

This section discusses notational conventions used in this book.

Italic	In paragraph text, italic identifies new and important terms and titles of documents. In command syntax diagrams, *italic* identifies variables that must be supplied by the user.
Bold	In paragraph text, bold identifies either equipment markings or actions that require an operator response.

Notes and cautions

This document presents notes and cautions in the following format.

NOTE A Note highlights supplemental information.

CAUTION A caution highlights information that if not adhered to could cause harm or injury to personnel.

Cautions will be presented in English, French, and German when they appear in the text.

Associated documents

The following is a list of other documents that provide more details on the topics presented in this manual:

- *Standard for the Protection of Electronic Computer Data Processing Equipment, (NFPA75) National Fire Protection Association*
- *EIA Standard RS-232-C, Electronic Industries Association*
- *Electrostatic Discharge Failures of Semiconductor Devices, Unger, B.A. 1981, Bell Laboratories*
- *HP Model A3589A PowerTrust System Guide (5.5 kVa Rack-Mounted UPS)*
- *Site Preparation Guide: V2500 Server*

Contents

Figures

Tables

1 Introduction

This chapter contains a general description of the responsibilities of the customer and field engineer before and during an installation.

- Customer responsibilities
- Field engineering responsibilities

Customer responsibilities

The customer is responsible for:

- Preparing the site
- Accepting the equipment

Preparing the site

The customer and a Hewlett-Packard representative should review the site survey and site inspection checklists located in the *Site Preparation Guide: V2500 Server* to identify potential problems that may arise before, during, or after installation of a V2500 computer system. The checklists provide information on the following:

- Installation restrictions, such as size and weight limitations at the facility. Refer to Appendix A if it has been determined that the server is too large to pass through specific doorways or passageways.
- Special delivery procedures.
- Special equipment required for installation, for example, tracks or hoists.
- Times when the facility is available for installation, after the components are unpacked and ready for installation.
- Special security requirements applicable to the facility, such as security clearances, visitor or vendor badges, and so on.

Accepting the equipment

The customer should oversee the arrival of the equipment, including checking the inventory and moving the equipment to the final installation location.

The customer and the field engineer should inspect the equipment when it is unpacked. Inventory the equipment with the *Sales Order Packing Slip* or the customer's *Bill of Material*. It is the customer's responsibility to obtain and complete a damage claim form from the shipping representative if the system has been damaged. Refer to Chapter 3, "Unpacking," for more information on checking the inventory.

Field engineer responsibilities

The field engineer is responsible for:

- Unpacking the equipment
- Installing the cabinets
- Connecting the system to ac power
- Installing software
- Completing the installation report

Unpacking the equipment

The field engineer may unpack the equipment after it is located at the final installation site. Unpacking includes checking the inventory, inspecting the equipment with the customer, and removing the equipment from the containers. Save all packing material until the operational checkout of the equipment is completed. Saving all the packing material allows the equipment to be repacked for return if necessary.

Installing the cabinet

To install a V2500 server, the field engineer must connect the cables between the cabinet and the teststation, and modem and printer, if applicable. Refer to Chapter 5, “System installation,” for information on these procedures.

Connecting and testing ac power

After the equipment has been unpacked and moved into position, it must be connected to the site ac power supply.

NOTE

Before applying ac power to the system, check that the site supply voltage is 200-240 volts ac, 50-60 hz.

Verify the following items before applying power to the system:

- Ac power connections are wired correctly at the site
- Ac voltage levels are adequate

Domestic and international systems are shipped with a 4.5 meter ac power cord terminating with an ac power plug. The matching ac power receptacle must be prewired into the site ac power supply.

After installing the cabinet(s), the field engineer must verify ac wiring, apply ac power to the system, and check input ac voltages. Refer to Chapter 4, “Ac power,” for procedures on connecting ac power to the system and measuring the ac voltage.

Installing software

After installing the cabinet(s), the field engineer must boot the teststation and run the system diagnostics.

The field engineer must boot OS and verify that the version of the software from the teststation disk is the latest version released.

Layered products, products other than the operating system, such as compilers, may be added to the system after verifying version numbers.

Completing the installation report

Complete the Installation Report at the site during installation and mail it to:
Hewlett-Packard Company
Quality Dept
P.O. Box 833851
Richardson, TX 75083-3851

2 Safety considerations

It is important to observe safety procedures when installing Hewlett-Packard computers and their peripheral devices. General guidelines are provided in this chapter.

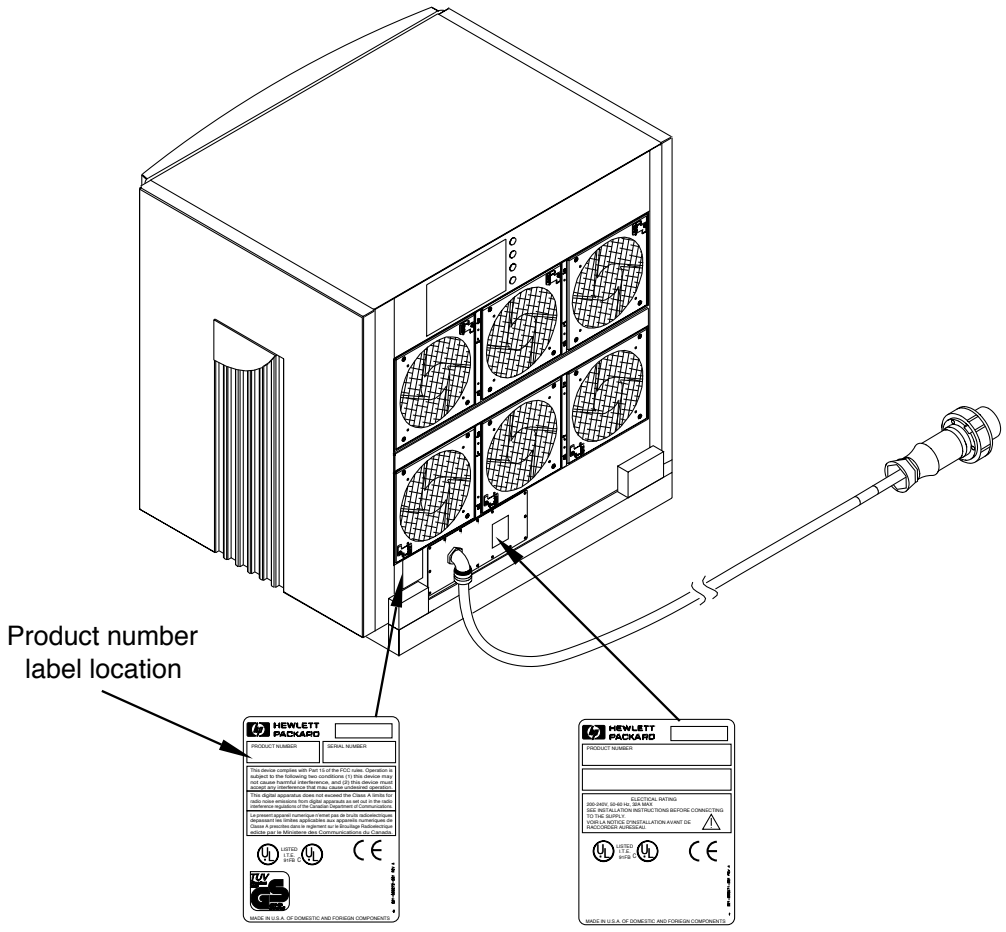
- Input power ratings
- Electrical safety precautions

Input power ratings

Each cabinet has a label mounted on its rear panel that lists its input power rating. See Figure 1 on page 7 for the location of the cabinet power label.

NOTE Do not exceed the cabinet's International Electrotechnical Commission (IEC) outlet power ratings. Doing so may cause damage to equipment.

Figure 1 Power label location



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Power label description

Each power label provides power rating information for its corresponding cabinet.

The dash (-) and the virgule (/) symbols on the labels indicate a specific value or range:

- The dash (-) means that the equipment operates properly between the values listed.
- The virgule (/) means that a specific voltage or frequency is required and that internal adjustments or specific component installation must be made by authorized personnel only.

When the virgule (/) symbol is used, the specific voltage or frequency is also listed on the cabinet's power cable safety caution label.

Input power inspection checklist

CAUTION

Injury to personnel or damage to equipment can occur if the ac input power does not comply with the specifications on the cabinet power label.

Es koennen Verletzungen von Personen oder Beschaedigungen von Geraeton auftreten, falls die Eingangswechselspannung nicht mit den Spezifikationen am Geraeteschild uebereinstimmt.

Des dommages matériels ou corporels peuvent se produire si le courant électrique ne correspond pas aux valeurs mentionnées sur l'etiquette secteur de l'armoire informatique.

The following information should be verified before applying ac power to a cabinet:

1. Facility ac voltage range and the cabinet voltage requirements are the same.
2. Facility ac input frequency range corresponds to the cabinet frequency range.
3. Facility circuit breakers are adequate for specified cabinet current loads. Refer to the *Site Preparation Guide: V2500 Server* for circuit breaker size requirements.
4. Facility ac power connection to the processor cabinet complies with and is tested by guidelines set forth in Chapter 4, "Ac power."

Circuit breakers

CAUTION

Set all ac input circuit breakers to the **OFF** position before connecting a power cable plug to the facility's ac power. Failure to do so may cause injury to personnel.

Alle Sicherungsschalter nuessen in die "AUS" (OFF) Position gebracht werden, bevor der Stromanschluss an die lokale Stromverteilung angeschlossen wird. Bei Nichtbeachtung kann Personenschaden entstehen.

Mettez tous les dijoncteurs d'alimentation d'entrée dans la position OUVERTE avant de connecter une prise au reseau du batiment. Non-conformance ä cete regle peut produire blessures du personnel.

Electrical safety precautions

Hazardous voltages are present inside the server cabinet while the site ac circuit breakers are set to **ON**. Ensure that the site ac circuit breakers are set to **OFF** before servicing the system.

3 Unpacking

Inspect shipping containers when the equipment arrives at the site. Check equipment after the packaging has been removed. This chapter discusses how to inventory, inspect, and unpack the cabinets and equipment accessories.

- Checking the inventory
- Inspecting for damage
- Unpacking

Checking the inventory

The *Sales Order Packing Slip* lists all equipment shipped from Hewlett-Packard. Use this packing slip to verify that all equipment has arrived.

Equipment will arrive on site packed on at least two pallets.

Each server will be packed on an individual pallet. See Figure 2 on page 13 for a typical server packaging arrangement.

NOTE

To identify each item by part number, refer to the *Sales Order Packing Slip*.

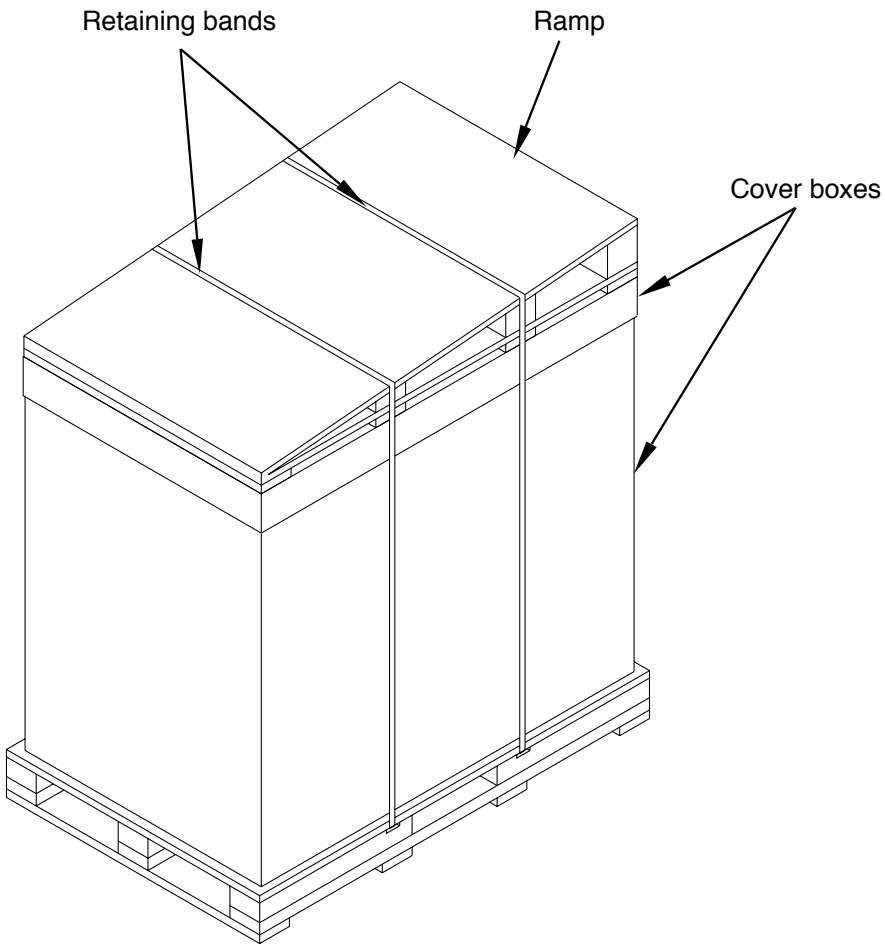
The following is found on the outside of the server container:

- Ramp

The following is found within the server container:

- V2500 server
- Open me first package
  - Customer packet
  - System key
  - Declaration of compliance
  - ASIC alignment pins
  - Packing list

Figure 2 Server packaging



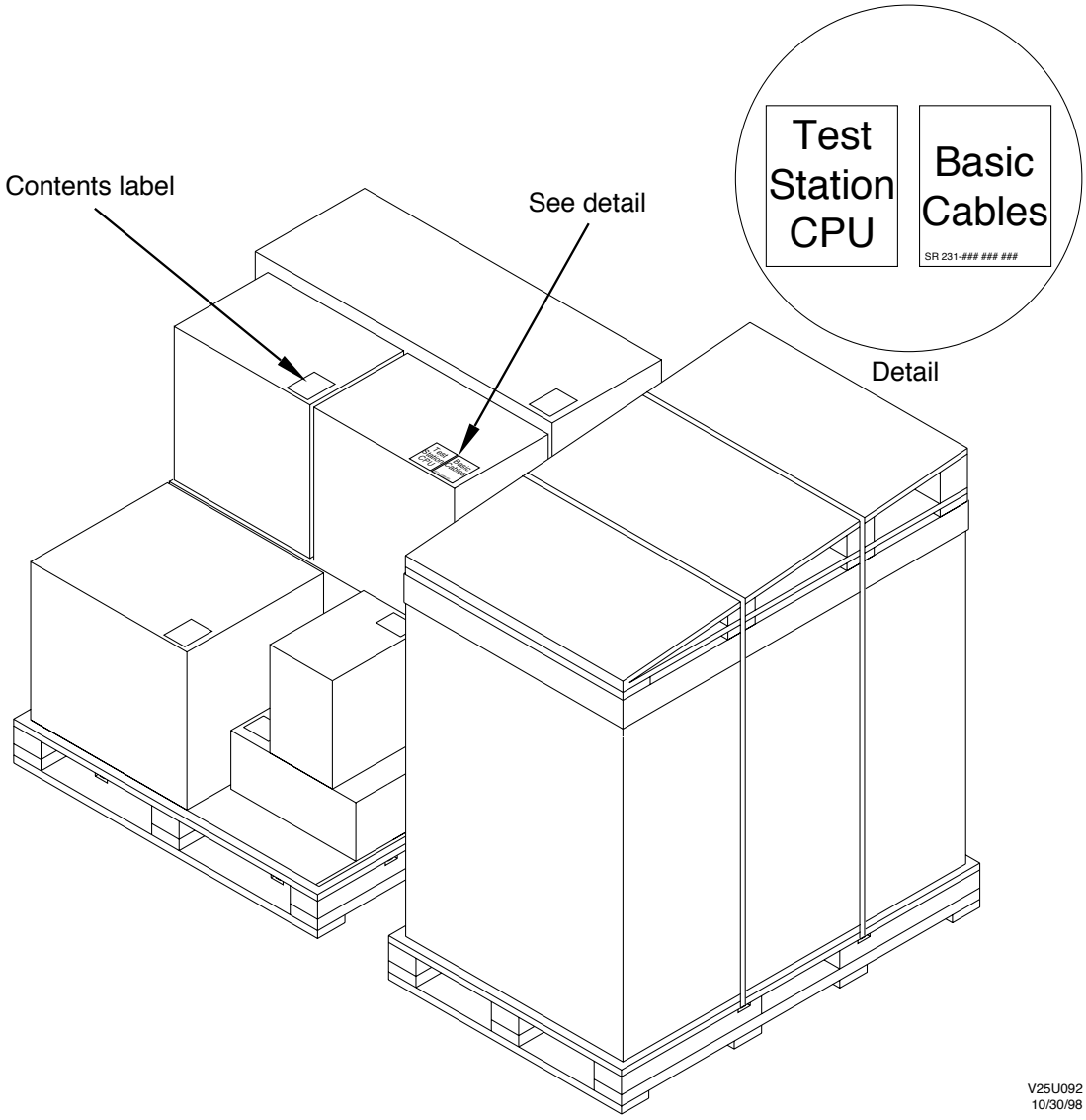
All equipment to support the server installation will be on an additional pallet(s). Each individual package will be labeled to indicate its contents. Typical contents are listed below. See Figure 3 on page 16 for typical accessories packaging.

NOTE To identify each item by part number, refer to the *Sales Order Packing Slip*.

- MFABI
  - Four leveling feet
  - Two side skirts
  - One front skirt
  - One rear skirt
  - Two cable closeouts
  - Mounting hardware
- TEST STATION CPU
  - One teststation CPU
  - Test station product documentation
  - Y-cable for LAN 1 ethernet connection
- TEST STATION CABLES
  - One 50-foot DART ethernet cable assembly
  - One 50-foot RS-232 cable assembly
  - One ThinNet coax terminator
  - One ethernet transceiver
  - One ThinNet coax tee connector
  - One 10-foot DART ethernet cable assembly
  - One AIU complex cable assembly containing:
    - One transceiver mounting bracket
    - Two ethernet transceivers
    - Two transceiver cable assemblies
    - Two ThinNet coax tee connectors
    - One ThinNet coax terminator
- TEST STATION MONITOR
  - One teststation monitor
- TEST STATION KEYBD
  - One keyboard

  - One mouse
- TEST STATION DAT and CD-ROM
  - One teststation DAT (external)
  - One teststation CD-ROM (external)
- MFABII
  - Two rear post cable trays
  - One filter
  - Mounting hardware
  - Grounding cable
- SKINS
  - One front skin
  - One right side skin
  - One left side skin
  - One top skin
- DOCS MEDIA 1
  - Contents dependent upon specific order
- STACK KIT
  - Two cable covers
  - Four cabinet tie brackets
  - Two power cord warning labels
  - Mounting hardware

Figure 3 Typical accessories packaging



Inspecting for damage

Hewlett-Packard 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. A shock indicator is installed on each carton shipped. The indicator changes from **clear** to **red** when the module is subjected to forces of 15 g for 50 msec. If a carton has been mishandled, accidentally dropped, or knocked against something, and the shock indicator is **red**, visually inspect the unit for any signs of damage. If damage is found, document the damage with photographs and contact the transport carrier immediately.

Examine the server cabinet for visible shipping damage. After unpacking the server, check for damage that may have been obscured by the shipping container. If damage is found after visual inspection, document the damage with photographs and contact the transport carrier immediately.

If the equipment has any damage, a damage claim form must be obtained from the shipping representative. The customer should complete the form and return it to the shipping representative.

Unpacking

To reduce clutter and to lessen the possibility of damaging or losing components, open each package as required by the instructions in this guide. While unpacking the equipment, inspect each item for any sign of shipping damage. Save all packing material until after the operational checkout of the equipment. This will allow equipment to be repacked for return, if necessary.

Tools

The following tools are required to complete the procedures in the following sections:

- 9/16-inch wrench/socket
- Wire cutters
- Safety goggles

Server unpacking

Ramps are provided to remove the server from the pallet.

Removing packaging from the cabinets

While removing the packaging, visually inspect each cabinet for any sign of shipping damage.

Step 1. Use wire cutters and safety goggles to cut the two retaining bands that cross the top of the cabinet box.

Step 2. Remove the cover box.

Step 3. Remove the plastic film cover from the chassis.

Removing the chassis from the pallet

Place the pallet in an open area, with enough room to connect the ramp to the pallet and to maneuver the chassis at the foot of the ramp.

Use the following steps to remove the chassis from the pallet.

Step 1. Slide the legs of the ramp under the front (open) edge of the pallet. The raised edge of the ramp should be against the front edge of the pallet.

Step 2. Remove the four nuts, bolts, and washers that connect the pallet brackets to the anchor holes in the chassis. Retain a bolt and washer to be used for installation of grounding cable if required.

Step 3. Remove the bracket bolts that connect to the pallet.

Step 4. Pull the brackets away from the chassis.

Step 5. Remove the foam blocks from under the chassis.

Step 6. Roll the chassis slowly down the ramp, keeping the chassis centered on the ramp. A person standing on the pallet should guide the chassis.

Step 7. Verify that the cutouts in a raised floor are where the chassis will sit. The cutouts should have channels for cable routing.

Step 8. Roll the server into position.

Step 9. Verify that the ac power connection is within reach of the chassis.

System skins

The skins are packaged separately from the chassis and will be unpacked and inspected later in the installation procedure.

System accessories

The accessories for the system include all items that were not shipped on the cabinet pallets, for example, printer, modem, and teststation. These items arrive at the site on a separate pallet. Inventory and inspect all packages for obvious shipping damage.

Use the following steps to remove system accessories from the pallet:

Step 1. Use wire cutters and safety goggles to cut the bands around the accessories on the pallet.

Step 2. Remove the plastic film covering the accessories.

Step 3. Remove each box from the pallet.

4 Ac power

Once the system has been unpacked and moved into position, it must be connected to a source of ac power which must be checked before the system is powered up. This chapter describes the details of these activities. Refer to Figure 4 on page 24 for V2500 server orientation.

- Overview
- Attention light installation
- Ac power connections
- Wiring and voltage checks

Overview

System a power connections

V2500 systems have an ac power plug on a 3-wire ac power cable. These systems may connect to a power source of 200-240 Vac.

Wiring and voltages checks

CAUTION

Do not set site ac circuit breakers serving the cabinet(s) to **ON** before verifying that the cabinet has been wired into the site ac power supply correctly. Failure to do so may result in injury to personnel or damage to equipment when ac power is applied to the cabinet.

Bevor lokale Sicherungsschalter auf “EIN” (ON) geschaltet werden, muss sichergestellt werden das Zentraleinheiten korrekt an die lokale Stromversorgung angeschlossen sind. Bei Nichtbeachtung kann Personenschaden oder Schaden am Geraet entstehen, wenn die Spannungszufuhr eingeschaltet wird.

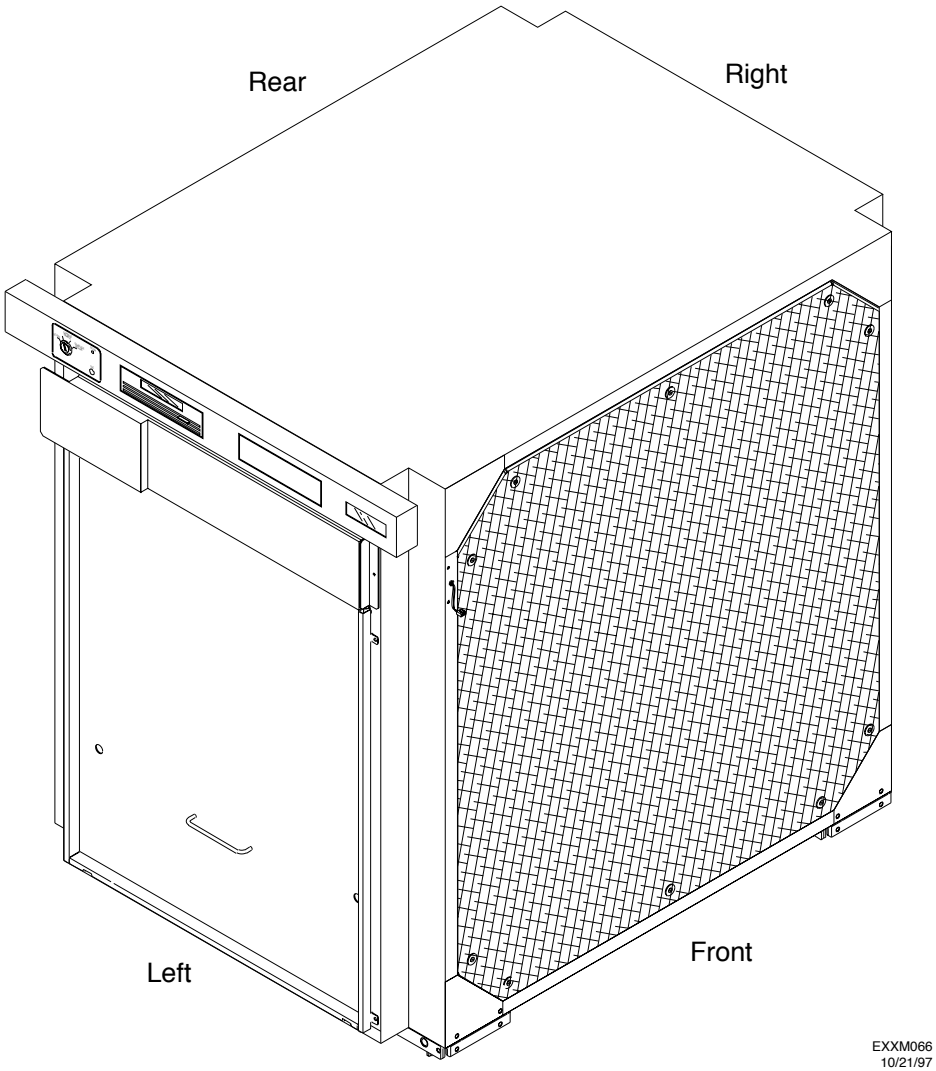
Ne pas fermer les dijoncteurs d’alementations du batiment sevant les armories avant d’avoir verifier que les armories sont connectées correctement au reseau electrique du batiment. Non-conformance á cette regle peut produire blessures du personnel ou dommages d’equipment quand le courant est appliqué aux armories.

Always perform a wiring check to verify that the ac power cable is wired into the ac power supply correctly before applying ac power to the cabinet(s).

Verify the following items before applying ac power to the cabinet and setting the main circuit breaker to **ON**:

- Cabinet ground connects to the site electrical system ground and is not left floating or connected to a phase
- Ac voltage is within limits
- Safety warning labels on the cabinet are correct

Figure 4 V2500 server orientation view



Attention light installation

It is necessary to remove the attention light assembly from its shipping position and install it in its proper position. Refer to Figure 5 on page 26 for details.

Tools

This tool is required to complete this procedure.

- Phillips screwdriver

Removal

Step 1. Locate the attention light assembly in its shipping position.

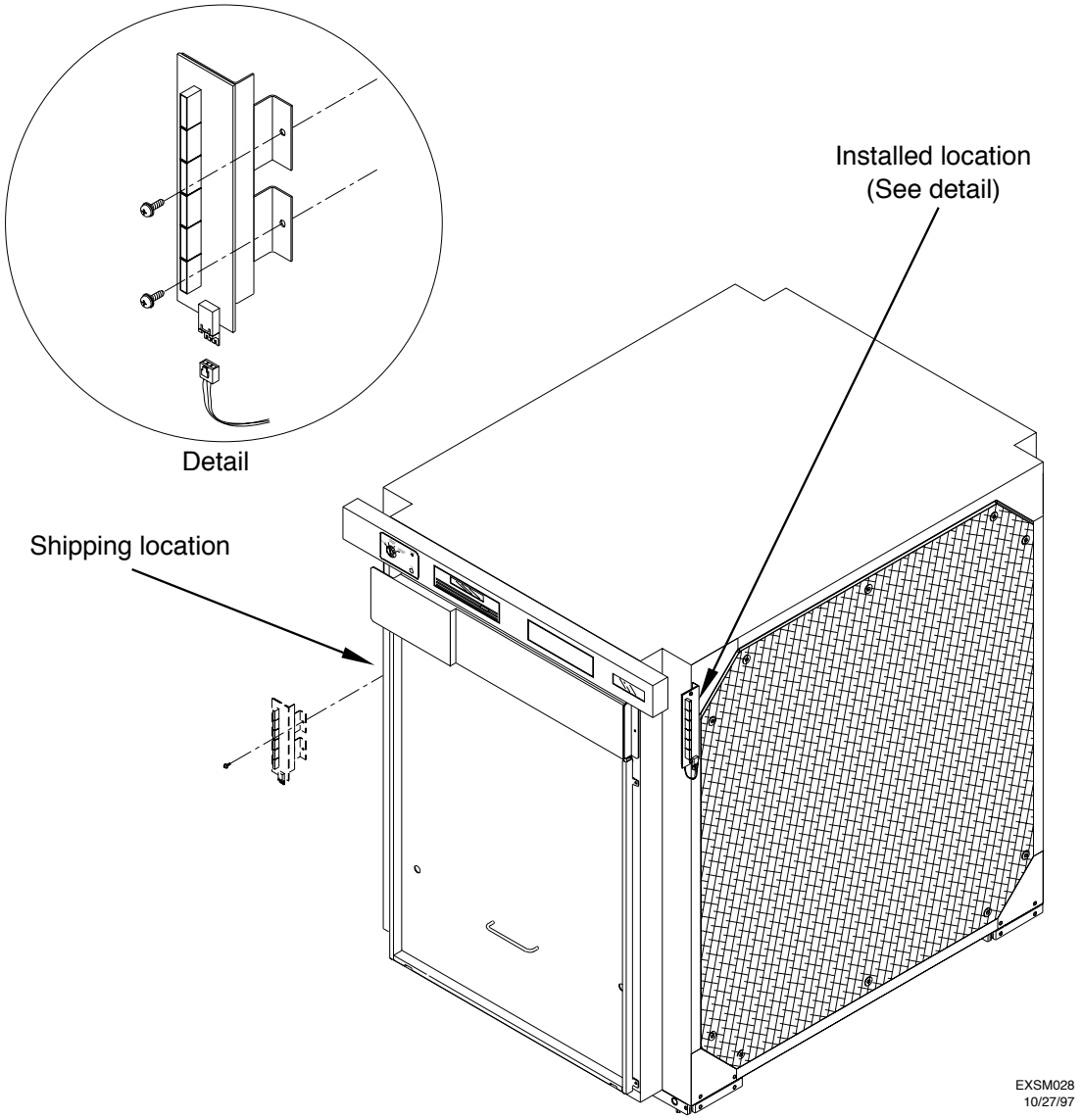
Step 2. Remove the screw securing the assembly.

Installation

Step 1. Attach the attention light assembly mount to the chassis using two screws.

Step 2. Connect the power connector.

Figure 5 Attention light assembly



Ac power connections

This section explains how to attach the site ac power to the V2500 server cabinet.

Tools

These tools are required to complete the procedures in the following sections:

- 9/16-inch wrench/socket
- Phillips screwdriver
- Digital multimeter (DMM)
- Personal grounding system
- Static dissipating mat

Position the cabinet

Verify that the cabinet is located in the proper position to allow for floor cutouts in a raised floor and for access to power in a nonraised floor.

Personal grounding

Electrostatic damage to electronic devices may be caused by the direct discharge of a charged conductor or by exposure to the static fields surrounding charged objects. The following procedure will eliminate this type of damage.

Step 1. Ground yourself to the server by wearing the wrist strap connected to a metal portion of the chassis.

Step 2. Set up a grounded work area by using a static dissipating mat grounded to the server chassis.

Step 3. Position the mat on the top of the server.

Visual Inspection

Visually inspect the chassis to ensure that there is no shipping damage. Check that all circuit cards are properly installed and seated.

EMI panel removal

Remove the EMI panels from the sides of the chassis. Refer to Figure 6 on page 29 for EMI panel removal details.

Step 1. Remove the screws securing the upper panel.

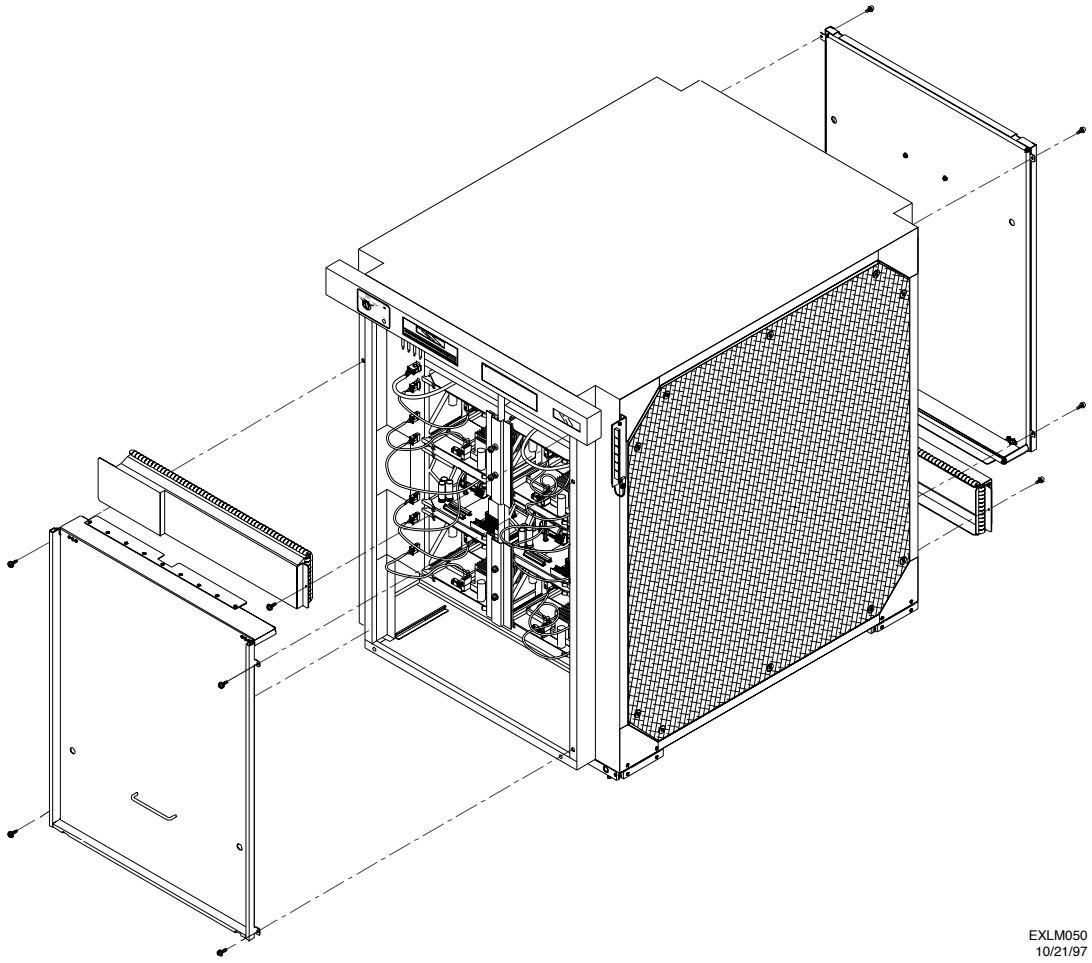
Step 2. Remove the upper panel.

Step 3. Remove four screws securing the lower panel.

Step 4. Use the handle to lift the lower panel from the chassis.

Step 5. Repeat Step 1 through Step 4 to remove the EMI panels on the other side of the server.

Figure 6 EMI panel removal



Inspection

Visually inspect to ensure that all circuit cards are securely installed and all cables are properly connected.

Install the leveling feet

Install the feet at this time to ensure that the cabinet remains in the desired position.

Step 1. Locate the container identified as MFABI.

Step 2. Inventory and inspect the contents of this container.

Step 3. Locate the four leveling feet and associated installation hardware (four screws per leveling foot).

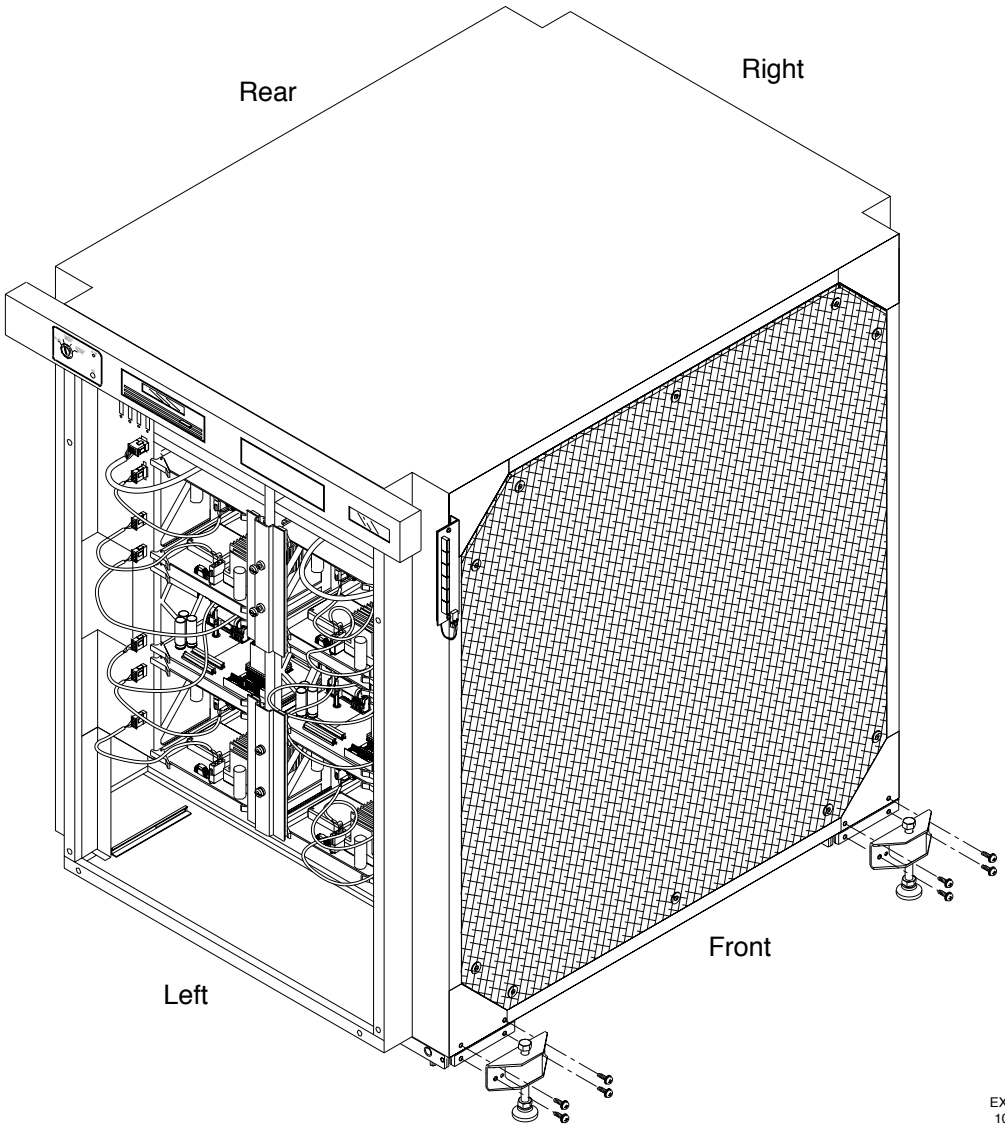
Step 4. Attach a leveling foot at each corner of the chassis. Refer to Figure 7 on page 31 for leveling feet installation details.

Step 5. Lower the two front leveling feet to their lowest position.

NOTE The two front leveling feet must be lowered as far as possible to allow for installation of the front skin.

Step 6. Lower the two rear lowering feet until the chassis is level.

Figure 7 Leveling feet installation



Grounding the cabinet

NOTE This procedure is optional and is only to be performed when necessary or when requested by the customer.

The cabinet may need to be grounded to ensure proper operation. If required, ground the cabinet at the nearest suitable ground, for example, building steel, grounded water pipe, steel raised floor grid, or other appropriate ground.

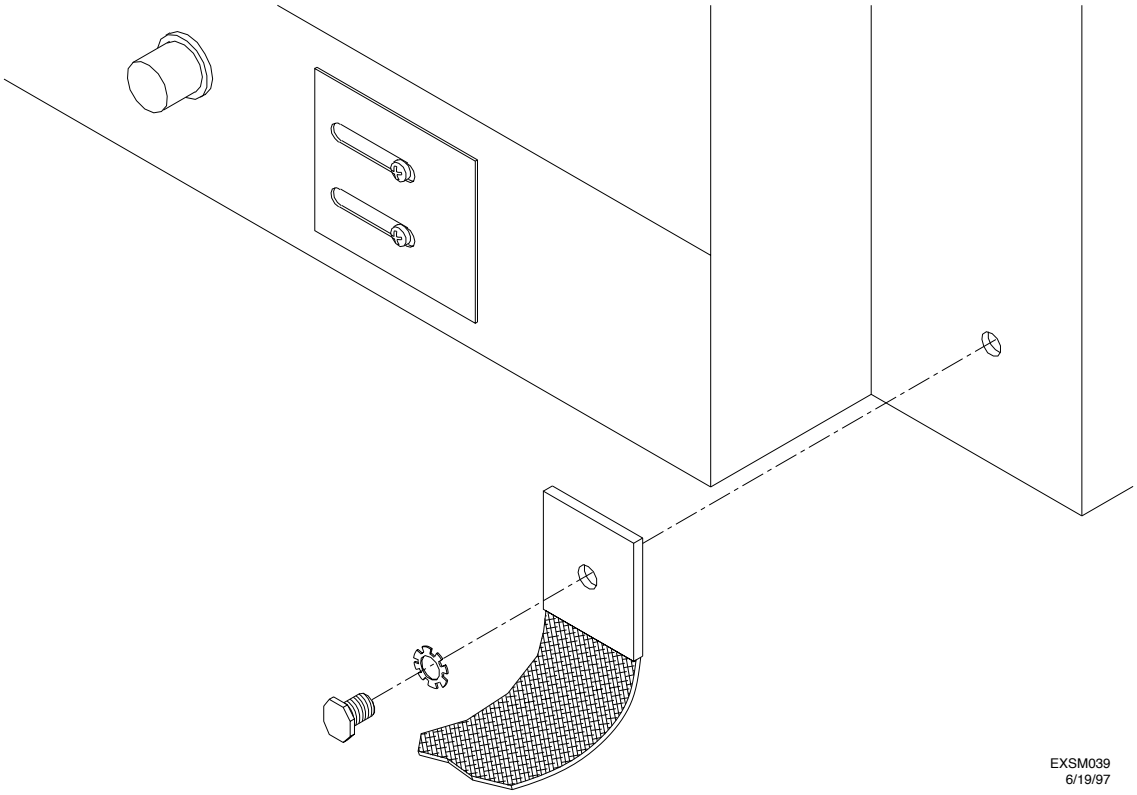
Step 1. Locate the container identified as MFABI.

Step 2. Locate the grounding cable and associated installation hardware (bolt and washer retained from shipping bracket removal).

Step 3. Attach one end of the grounding cable to the chassis by installing the bolt and washer into the threaded hole that originally held the shipping bracket. Refer to Figure 8 on page 33 for grounding details.

Step 4. Attach the other end of the grounding cable to a suitable site ground.

Figure 8 Cabinet grounding details



CAUTION

A licensed electrician knowledgeable of local codes is required when wiring the main ac power cable to the site ac power supply. Failure to comply may violate local laws and cause injury to personnel or damage to equipment.

Der Anschluss des Geraeteanschlusskabels darf nur von ausgebildetem Fachpersonal durchgefuehrt werden. Nichtbeachtung ist gesetzeswidrig und kann zu Personenschaeden oder zu Beschaedigungen des Geraetes fuehren.

La presence d'un electricien qualifie connaissant la reglementation / én vigueur est impêrative lors du branchement du cable secteur au réseau electrique du sitè. Toùt manquement a cette regle peut induire uné infraction vis a vis de la loi ainsi que des dommages corporels / et materiels.

Ac power receptacle and plug

Hewlett-Packard personnel should **not** be directly involved in the selection of material, installation, or connection of site ac power supply. In all cases, this work should be done **in strict adherence to local codes** by the customer, either directly through their personnel, or via licensed contractors. Hewlett-Packard personnel should not be involved with the selection of suitable materials, which must conform to local code (size, temperature rating, length, etc.).

The ac power receptacle mates with the ac power plug installed on the V2500 server cabinet ac power cable at the factory before shipment. Before beginning receptacle installation, consider the following:

- All local electrical codes and practices should be observed.
- The ac power receptacle should be wired to the site ac power supply via conductors routed through flexible metal conduit or via approved ac power cable before cabinet installation.
- When ac power cable is selected, ensure that it is properly sized, service rated, temperature rated, and complies with all applicable codes and regulations.
- When conductors in conduit are selected, ensure that the conductors are properly sized, service rated, temperature rated, color coded, and comply with all applicable codes and regulations.
- Ensure that the ac power cable or conduit is long enough to reach from the site ac power junction box to a location within the distance required to connect to the cabinet.

Wiring and voltage checks

This section details the methods to check wiring and voltage before powering up a new system.

CAUTION

Do not set site ac circuit breakers serving the cabinet(s) to **ON** before verifying that the cabinet has been wired into the site ac power supply correctly. Failure to do so may result in injury to personnel or damage to equipment when ac power is applied to the cabinet.

Bevor lokale Sicherungsschalter auf “EIN” (ON) geschaltet werden, muss sichergestellt werden das Zentraleinheiten korrekt an die lokale Stromversorgung angeschlossen sind. Bei Nichtbeachtung kann Personenschaden oder Schaden am Geraet entstehen, wenn die Spannungszufuhr eingeschaltet wird.

Ne pas fermer les dijoncteurs d’alimentations du batiment sevant les armories avant d’avoir verifier que les armoires sont connectées correctement au reseau electrique du batiment. Non-conformance à cette regle peut produire blessures du personnel ou dommages d’equipment quand le courant est appliqué aux armoires.

CAUTION

Do not set the cabinet circuit breaker to **ON** before verifying that ac input power is within limits. Failure to do so may cause damage to equipment.

Vor Einschalten des Geraetehauptschalters ist sicherzustellen, dass die Geraeteeingangsspannung den angegebenen Werten entspricht. Nichtbeachtung kann zur Beschaedigung des Geraetes fuehren.

Ne pas placer le coupe-circuit de l’armoire informatique en position ON ávant de verifier que le córant secteur est dans les tolerances sous peine d’éndommager le materiel.

Verify the following items before applying ac power to the cabinet and setting the main circuit breaker on the cabinet to **ON**:

- Cabinet ground connects to the site electrical system ground and is not left floating or connected to a phase
- Ac voltage is within limits
- Safety warning labels on the cabinet are correct

Wiring check

CAUTION

LETHAL VOLTAGE HAZARD—Hazardous voltages may be present in the V2500 cabinet if incorrectly wired into the site ac power supply. Always verify correct wiring and cabinet grounding before applying ac power to the cabinet. Failure to do so may result in injury to personnel and damage to equipment.

ACHTUNG TOETLICHE SPANNUNGS-GEFAHR-Gefaehrliche Spannungen koennen in der Zentral-Einheit auftreten, falls elektrische Verbindungen sur lokalen Stromversorgung nicht korrekt ausgefuehrt wurden. Bevor einschalten der Stromversorgung, immer Anschluesse auf korrekttheit ueberpruefen. Nichtbeachtung kann Schaden an Personen oder Geraeten zur Folge haben.

RISQUE de VOLTAGE MORTEL- Des voltages dangereuse peuvent être presentsdans l'armoire processeur si les connections au reseau du batiment sont incorrectes. Toujour verifiez les connections et la mise-a-la masse des armories avant de connecter le courant à l'armoire processeur. Non-conformance à cette regle peut produire du personnel ou dommages d'equipment.

Always verify that the ac power cable is correctly wired into the ac power supply before applying ac power to the cabinet.

Verify the following items before applying ac power to the cabinet and before setting cabinet circuit breakers to **ON**:

- Cabinet safety ground connects to the site electrical system ground and is not left floating or connected to a phase.

NOTE

The following identifies the minimum acceptable and the preferred methods of grounding. Use the preferred method whenever possible.

- Preferred method of grounding is to connect the green power cord safety ground to the site ground point. This is accomplished through the power cord receptacle wiring. When required, cabinets may be grounded by using grounding straps connected to a site grounding mesh or ground grid.
- As a minimum, the green power cord safety ground must be connected to the site ground point.

Safety warning labels on the cabinet are correct.

CAUTION

High Leakage Current
Earth connection essential before connecting supply.

Hoher Ableitstrom
Vor dem Anschluss der Versorgungsspannung ist der Schutzleiter anzuschliessen.

Fort courant de fuite
Lé branchément a la terre est imperatif avant de brancher le secteur.

If the cabinet ground is left floating, anyone coming into contact with the cabinet could receive a lethal shock if a component should fail causing leakage or direct connection of phase energy to the cabinet.

If the cabinet ground connects to a phase, the cabinet will be more than 200 volts above ground, presenting a lethal shock hazard to anyone coming into contact with the cabinet when site ac power is applied to the cabinet.

Verify the connection of the cabinet ground to site ac power ground through a continuity check between the cabinet and site ac power supply ground. The continuity check should be performed while the site ac power supply circuit breakers serving the cabinet and the cabinet circuit breaker are all set to **OFF**.

Use the following procedure to verify that the cabinet ground connects to the site ac power supply ground:

Step 1. Ensure that the site ac power supply circuit breakers serving the cabinet are set to **OFF**.

Step 2. Ensure that the cabinet main circuit breaker is set to **OFF**.

Step 3. Touch one test probe to the site ac power supply ground source.

Step 4. Touch the other test probe to an unpainted metal surface of the cabinet.

NOTE

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

Step 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 voltage checks may be performed.

Voltage check

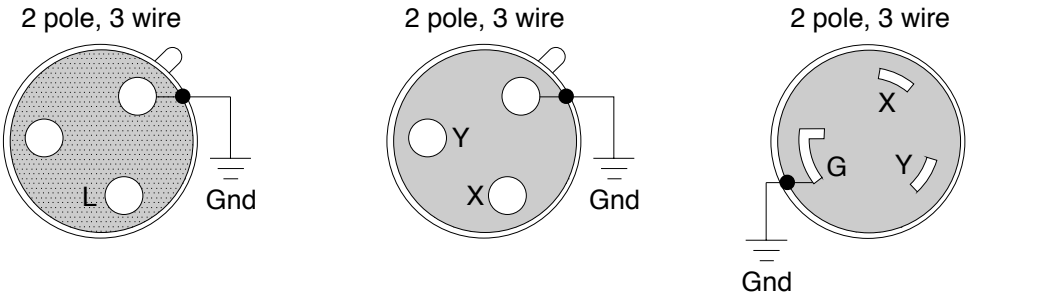
The voltage check ensures that all phases (and neutral, for international systems) are connected correctly to the cabinet and that the ac input voltage is within limits.

Step 1. Verify that site power is **OFF**.

Step 2. Open the site circuit breaker(s).

Step 3. Verify that the receptacle ground connector is connected to ground. Refer to Figure 9 for connector details.

Figure 9 **Receptacle pinouts**



Step 4. Set the site power circuit breaker to **ON**.

Step 5. Verify that the voltage between receptacle pins x and y is between 200 - 240 volts ac.

Step 6. Set the site power circuit breaker to **OFF**.

Step 7. Ensure that the V2500 server keyswitch is **OFF** and that the chassis circuit breaker is **OFF**.

CAUTION

High Leakage Current
Earth connection essential before connecting supply.

Hoher Ableitstrom
Vor dem Anschluss der Versorgungsspannung ist der Schutzleiter anzuschliessen.

Fort courant de fuite
Lé branchément a la terre est imperatif avant de brancher le secteur.

Step 8. Route and connect the V2500 server power connector to the site power receptacle.

- Line up the key on the plug with the groove in the receptacle.
- Push the plug into the receptacle.
- Ensure that the connector halves are seated, then engage and rotate the locking collar (about half a turn) to lock the connector.

CAUTION

Do not set site AC circuit breakers serving the processor cabinet(s) to **ON** before verifying that the cabinet has been wired into the site AC power supply correctly. Failure to do so may result in injury to personnel or damage to equipment when AC power is applied to the cabinet.

Bevor lokale Sicherungsschalter auf “EIN” (ON) geschaltet werden, muss sichergestellt werden das Zentraleinheiten korrekt an die lokale Stromversorgung angeschlossen sind. Bei Nichtbeachtung kann Personenschaden oder Schaden am Geraet entstehen, wenn die Spannungszufuhr eingeschaltet wird.

Ne pas fermer les dijoncteurs d’alimentations du batiment sevant les armories avant d’avoir verifier que les armoires sont connectées correctement au reseau electrique du batiment. Non-conformance à cette regle peut produire blessures du personnel ou dommages d’equipment quand le courant est appliqué aux armoires.

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

CAUTION

SHOCK HAZARD
Risk of shock hazard while testing primary power.
Use properly insulated probes.
Be sure to replace access cover when finished testing primary power.

Hochspannung
Bei Arbeiten an der Versorgungsspannung besteht die Gefahr eines Stromschlages. Ausreichend isolierte Pruefspitzen benutzen. Nach Beendigung der Arbeiten unbedingt Gehaeuseklappe schliessen und verschrauben.

CHOC ELECTRIQUE
Risque dé choc électrique en vérifiant l'arrivée secteur. Utiliser des sondes correctement isolées S'assurer de remettre le couvercle de protection après avoir vérifié l'arrivée secteur.

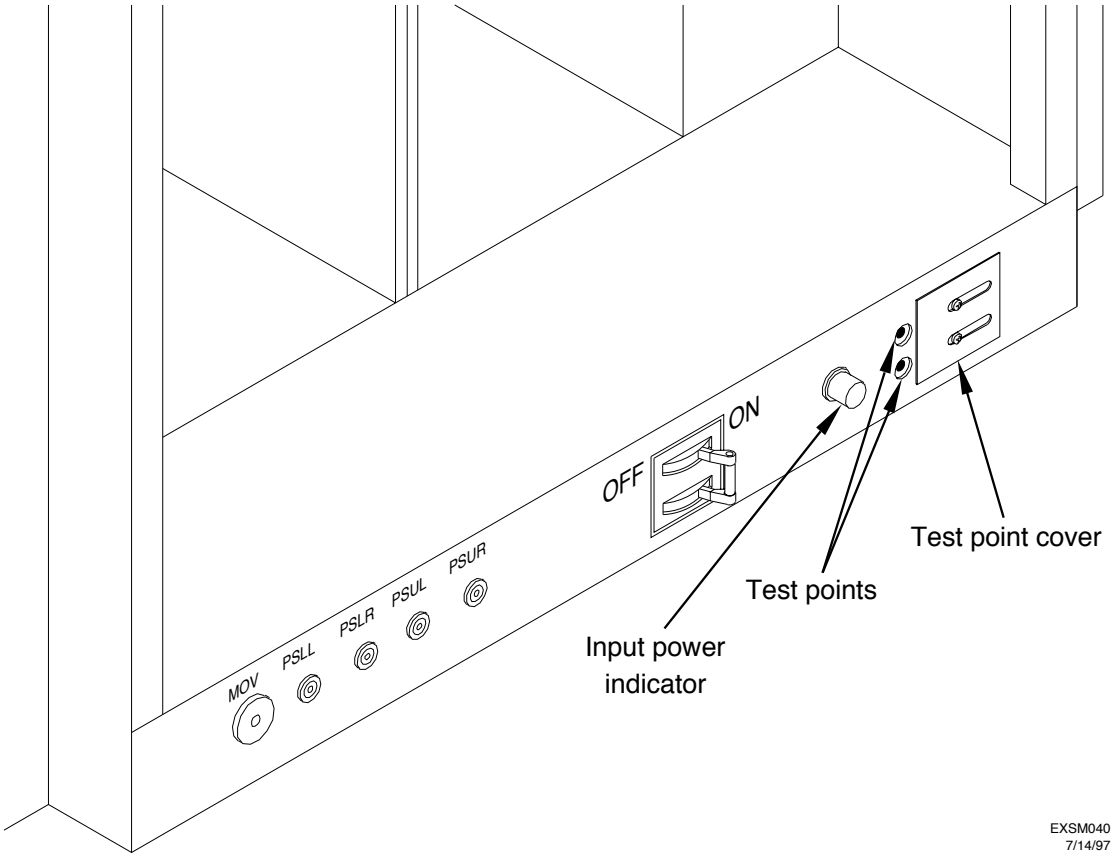
Step 10. Measure the voltage at the test points. The voltage shall be between 200 - 240 volts ac. If the voltage does not fall between 200 - 240 volts contact the customer and resolve before continuing. Refer to Figure 10 on page 41 for test point and circuit breaker location.

Step 11. Set the V2500 server system circuit breaker to **ON**.

Step 12. Check that the indicator light on each power supply is lit.

Step 13. Position and secure the cover over the test points.

Figure 10 Ac test point location



System serial number label and power label check

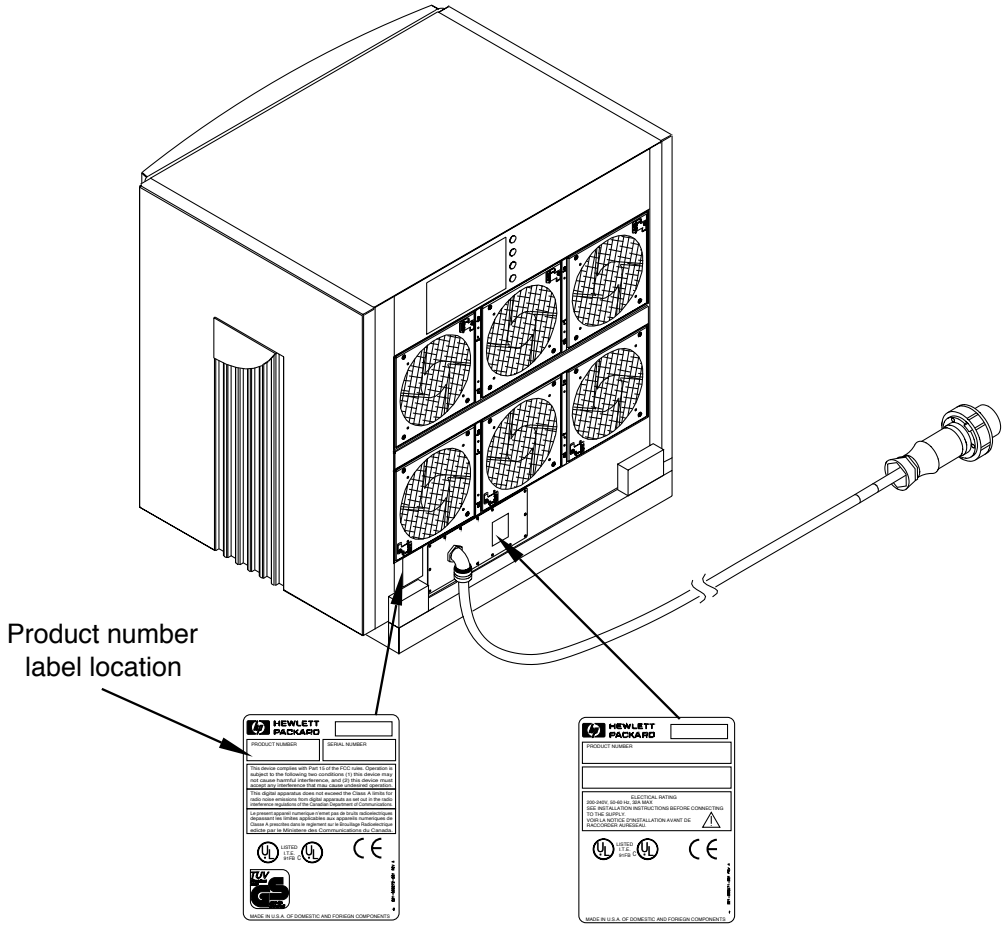
A system serial number label is affixed to the left side of the rear panel. This label provides the product number and serial number. Radio interference regulation information for this device is also printed on this label in three different languages.

Verify that the system serial number label is affixed and that the product number and serial number is provided. Refer to Figure 11 on page 43 for label details.

A power label is affixed to the power cord assembly on the rear of the server. This label shows the correct ac input voltages for the installation and an installation note printed in two different language.

Verify that the power label is affixed and that the correct ac input voltages for the installation is provided. Refer to Figure 11 on page 43 for label details.

Figure 11 System serial number and power labels



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CAUTION Safety warning labels affixed to the rear of the processor must be in the correct language for the installation and must show the power configuration of the power controller. Incorrect labels may result in injury to personnel and damage to equipment.

Die Gefahrenhinweisschilder an der Rueckseite des Geraetes muessen in der Landessprache beschriftet sein und sollten ein Schaltschema des Stromverteilers zeigen. Falsche Angaben koennên zu Personenschaeden oder zu Beschaedigungen des Geraetes fuehren.

Les etiquettes de sureté affichees a l'arriere de l'armoire processeur doivent tere dans la lanque correct pour le pays de l'installation et doivent indiquer la configuaration du controleur d'alimentation. Des etiquettes incorrectes peuvent produire des blessures du personnel ou dommages d'equipment.

Inspect the cabinet rear panel and verify that the safety warning label is securely attached and is printed in the correct language for the installation.

Ensure that the label is securely fastened.

If the label is printed in an incorrect language, notify the Response Center.

5 System installation

This chapter contains the procedures for the mechanical installation of a V2500 server. Final system integration and installation procedures are located in Chapter 6, “Software configuration”.

- Cabinet installation

Cabinet installation

The following procedures will complete the mechanical installation of a V2500 server. Refer to Figure 12 on page 47 for V2500 server orientation

Tools

The following tools are required to complete the procedures in this chapter:

- Phillips screwdriver
- Personal grounding system
- Static dissipating mat

Personal grounding

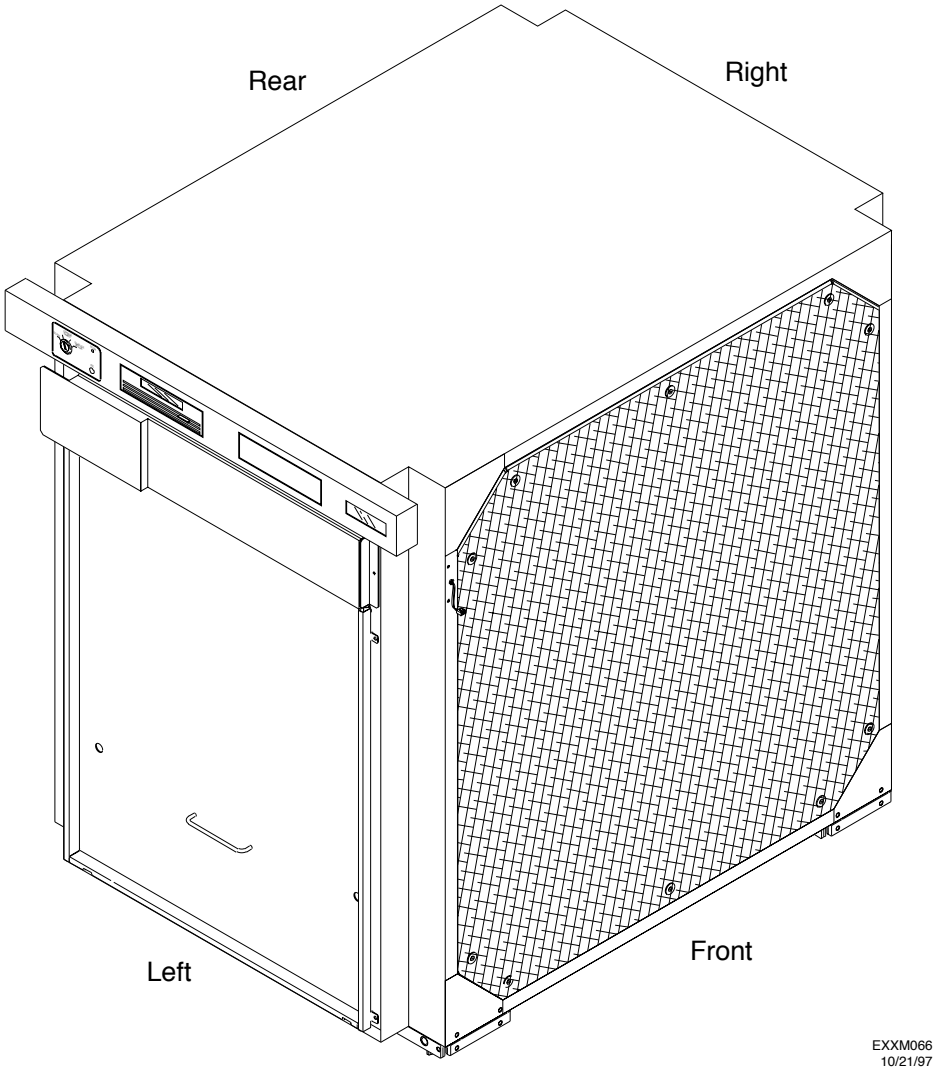
Electrostatic damage to electronic devices may be caused by the direct discharge of a charged conductor or by exposure to the static fields surrounding charged objects. The following procedure will eliminate this type of damage.

Step 1. Ground yourself to the server by wearing the wrist strap connected to a metal portion of the chassis.

Step 2. Set up a grounded work area by using a static dissipating mat grounded to the server chassis.

Step 3. Position the mat on the top of the server.

Figure 12 V2500 server orientation



Skirt installation

Install the skirts. Position the two side skirts first. The front and rear skirts will interlock with the side skirts as they are installed. The skirts are located in the container labeled MFABI. Refer to Figure 13 on page 49 for skirt installation details

Step 1. Locate the side skirts.

NOTE The left side skirt and the right side skirt are exactly the same and are interchangeable.

Step 2. Loosely attach the right side skirt using two screws.

Step 3. Loosely attach the left side skirt using two screws.

Step 4. Slide the ends of the front skirt inside the side skirts and loosely attach with two screws.

Step 5. Slide the ends of the rear skirt inside the side skirts and loosely attach with two screws.

Step 6. Position the skirts as high as possible above the floor and tighten the screws attaching the side skirts.

Step 7. Tighten the screws attaching the front skirt.

Step 8. Tighten the screws attaching the rear skirt.

Cable closeout installation

Install the cable closeouts. The cable closeouts are located in the container marked MFABI. Refer to Figure 14 on page 50 for cable closeout installation details.

Step 1. Locate the cable closeouts.

Step 2. Install the cable closeout on the left rear side of the server. Use two screws.

Step 3. Install the cable closeout on the right rear side of the server. Use two screws.

Figure 13 Skirt installation

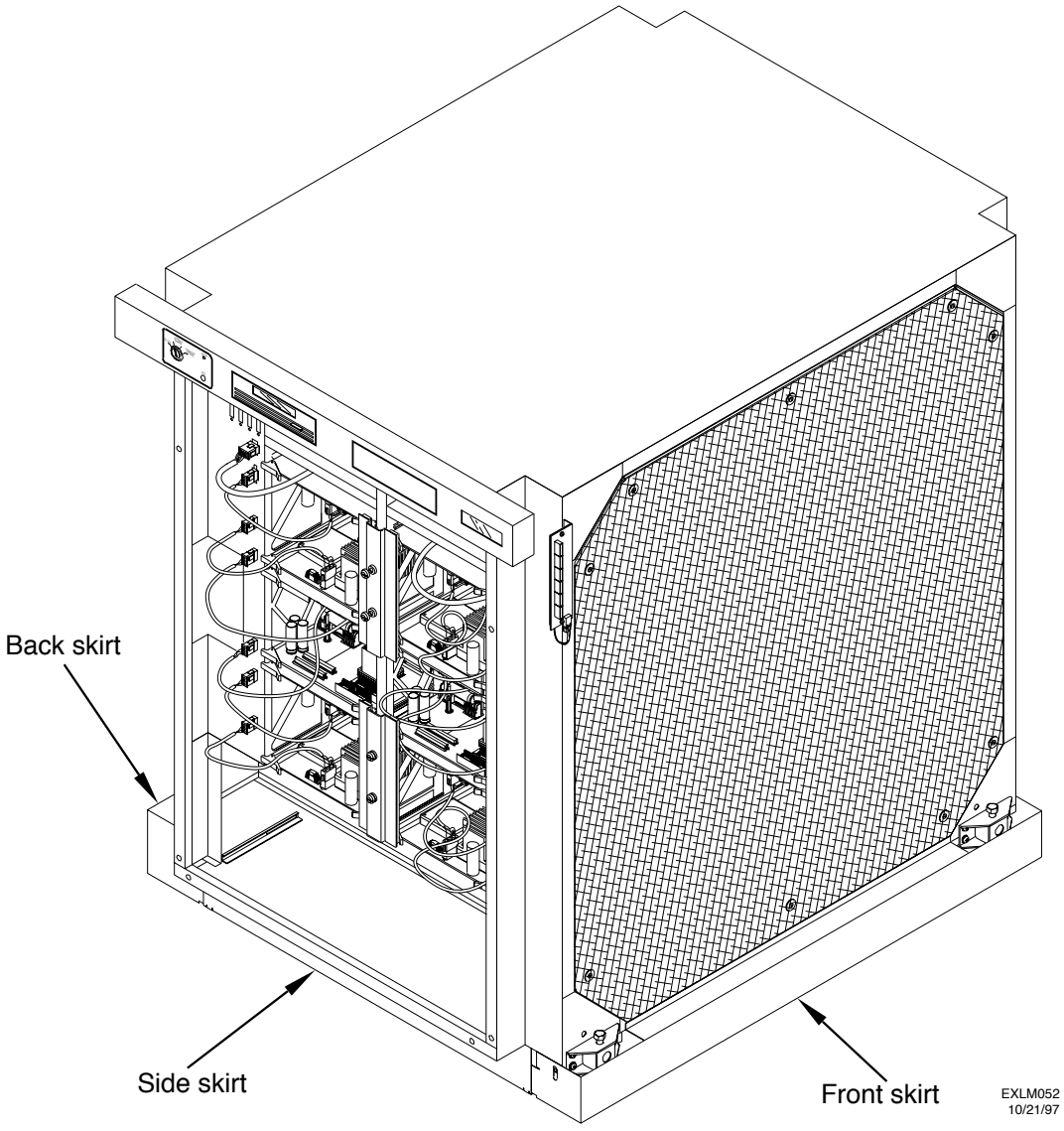
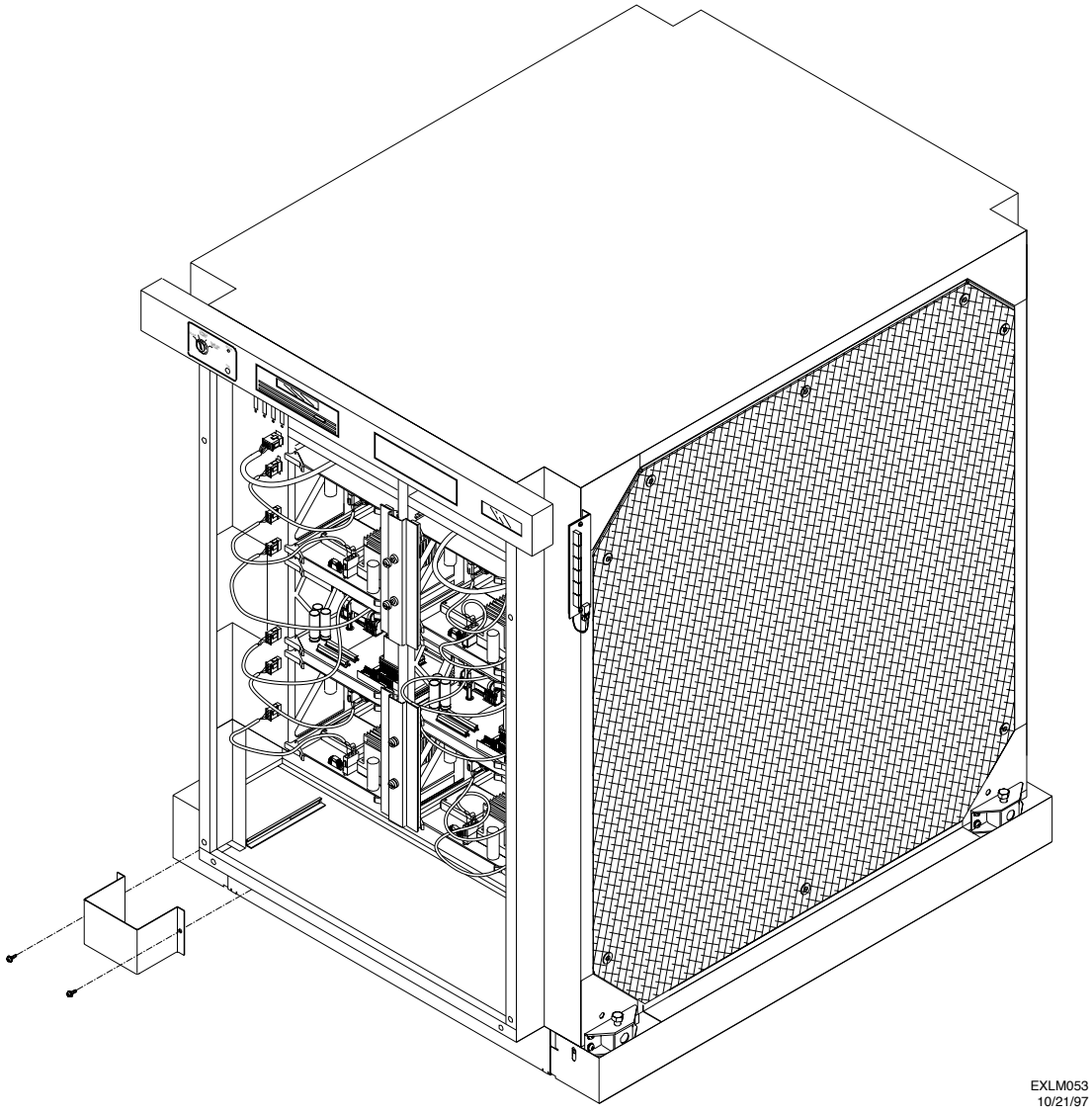


Figure 14 Cable closeout installation



Filter installation

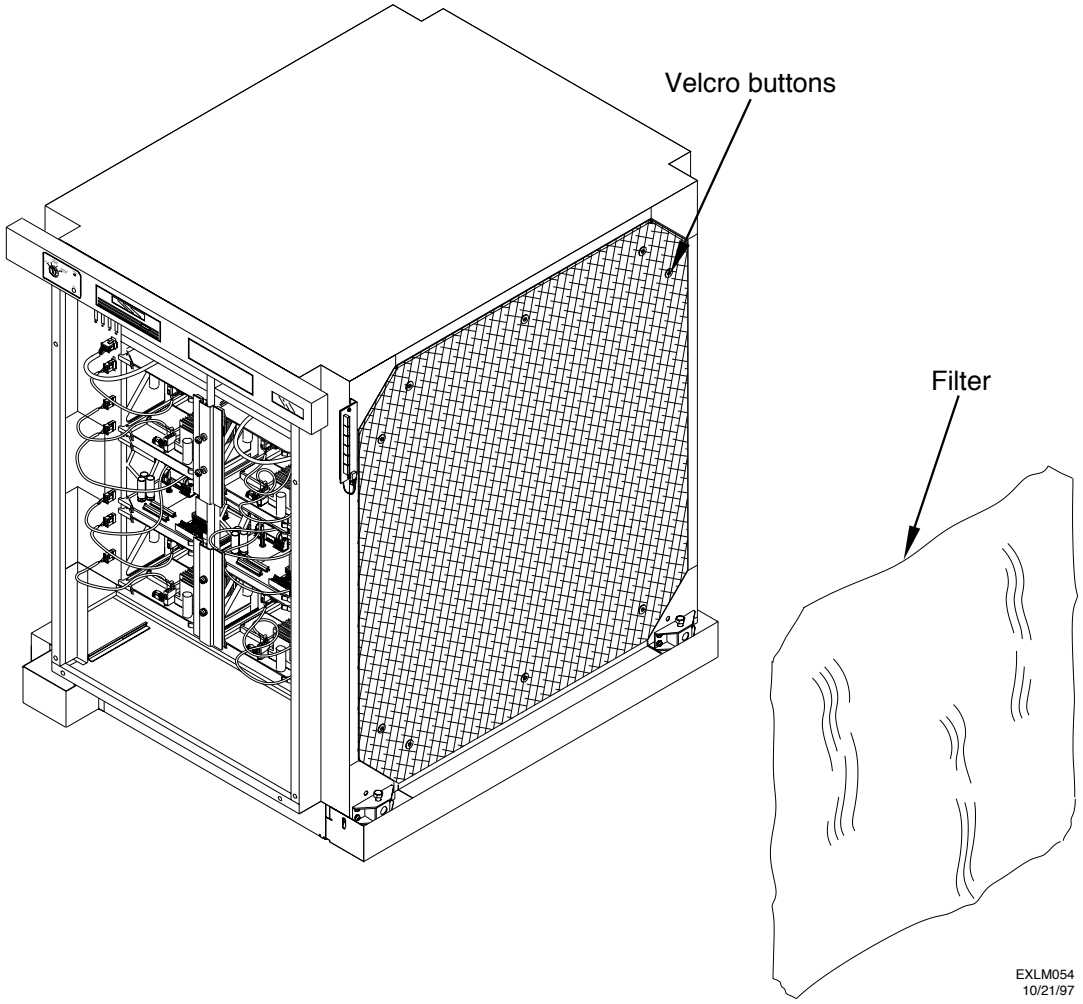
The filter is held in place by velcro tabs located on the front EMI panel. Refer to Figure 15 on page 52 for filter installation details.

Step 1. Locate the container identified as MFABII.

Step 2. Inventory and inspect the contents of this container.

Step 3. Position the filter on the front EMI panel and apply pressure to the filter in the area of the velcro tabs.

Figure 15 Filter installation



Install the rear post cable trays

Install the rear post cable trays. The cable trays are located in the container labeled MFABII. Refer to Figure 16 on page 54 for cable tray installation details

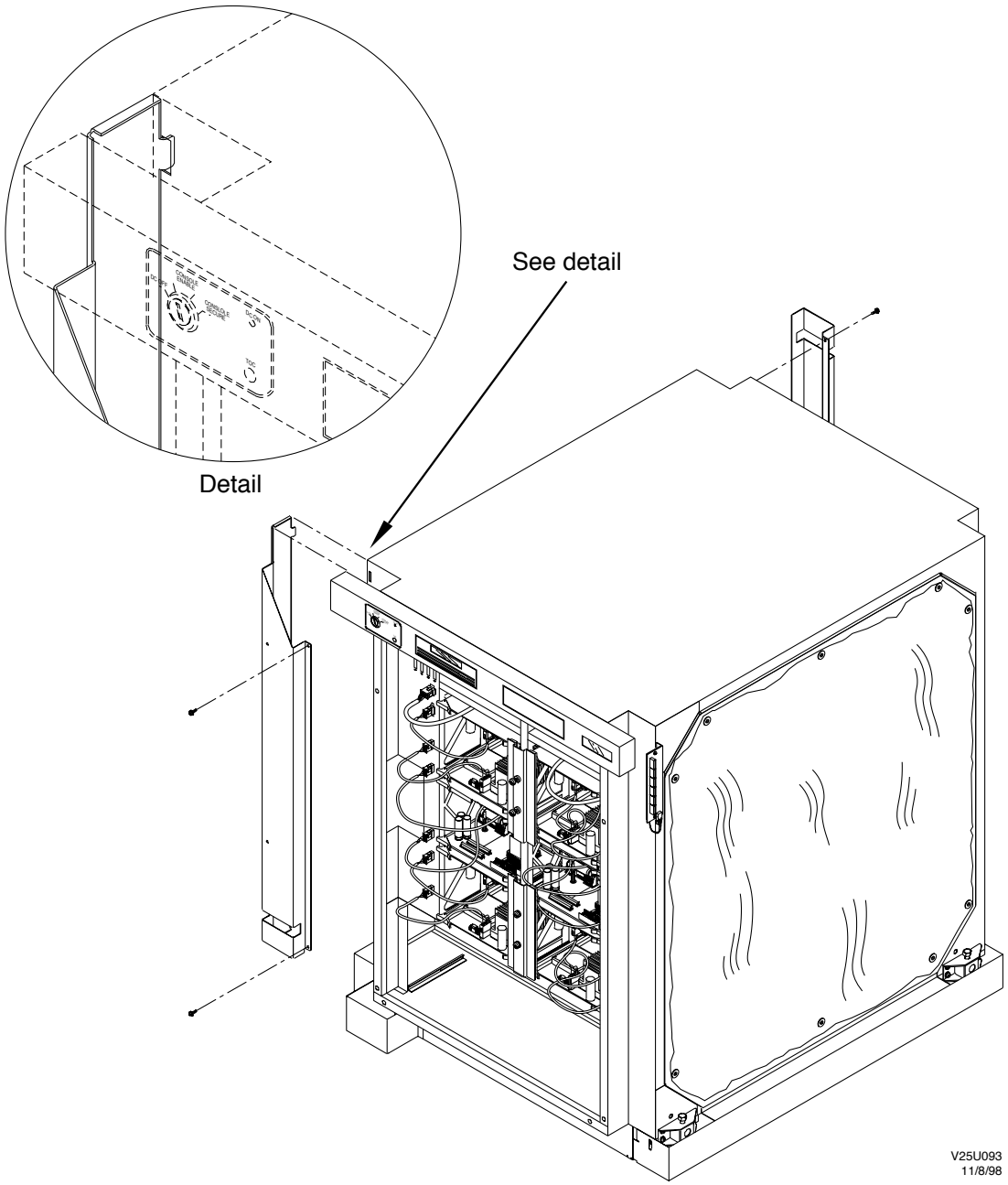
Step 1. Locate the cable trays.

Step 2. Insert the tabs on the left side cable tray into the slots provided on the left rear of the chassis.

Step 3. Attach the cable tray with two screws.

Step 4. Repeat steps 2 and 3 to install the right side cable tray on the right rear of the chassis.

Figure 16 Rear post cable tray installation



Teststation installation

This section provides the details to position the teststation components and to interconnect these components. It also details the steps required to interconnect the cabling between the teststation and the server.

Position the teststation components. Refer to Figure 17 on page 56 for typical teststation component layout.

Step 1. Locate the container identified as TEST STATION CPU.

Step 2. Inventory and inspect the contents of this container.

Step 3. Position the CPU as shown in Figure 17 on page 56.

Step 4. Locate the container identified as TEST STATION MONITOR.

Step 5. Inventory and inspect the contents of this container.

Step 6. Position the monitor as shown in Figure 17 on page 56.

Step 7. Locate the container identified as TEST STATION KEYBD.

Step 8. Inventory and inspect the contents of this container.

Step 9. Position the keyboard as shown in Figure 17 on page 56.

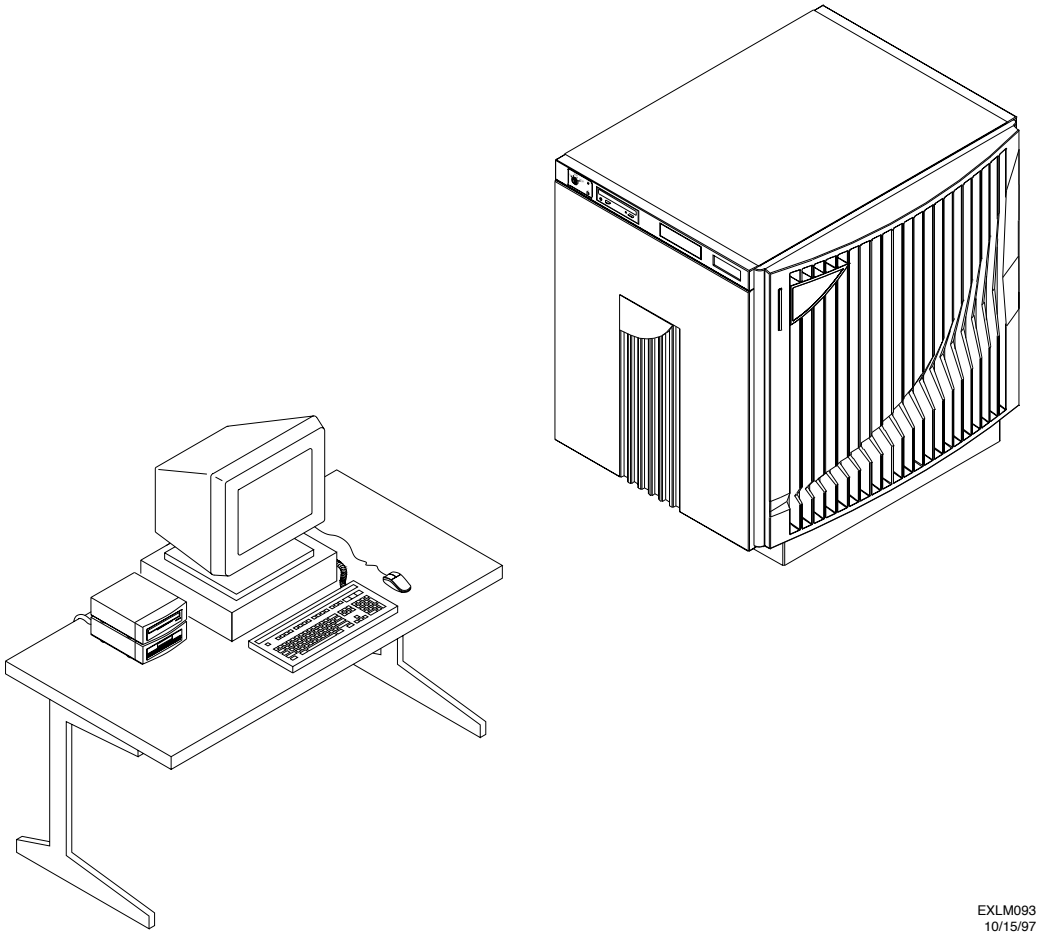
Step 10. Position the mouse as shown in Figure 17 on page 56.

Step 11. Locate the container identified as TEST STATION DAT and CD-ROM.

Step 12. Inventory and inspect the contents of this container.

Step 13. Position the DAT and CD ROM as shown in Figure 17 on page 56.

Figure 17 Typical teststation layout



Interconnect the teststation components. Refer to Hardware Installation Guide packaged with the teststation for teststation setup.

Connect the server to the teststation

Use the following steps to interconnect the server to the teststation. Refer to Figure 18 on page 59, Figure 19 on page 60 and Figure 20 on page 61 to verify proper connection of the cabling between the server and the teststation.

Actual cable routing between the teststation and the server will be dependent upon many factors, not least of which will be whether the installation is being performed on a raised or nonraised floor. Before connecting the RS-232 cable and the ethernet cable to the teststation, determine the cable routing for your specific installation.

Teststation connections

Step 1. Obtain the 50-foot RS-232 cable from the container identified as TEST STATION CABLES.

Step 2. Connect the RS-232 cable to the RS-232 connector on the rear of the workstation.

Step 3. Obtain the 50-foot DART ethernet cable from the container identified as TEST STATION CABLES.

Step 4. Obtain the tee connector, terminator, and transceiver, from the container identified as TEST STATION CABLES.

Step 5. Obtain the cable for LAN 0 ethernet connection from the container identified as TEST STATION CPU.

Step 6. Connect the cable through a transceiver to the LAN 0 ethernet connector on the rear of the teststation.

Step 7. Connect the ethernet cable to the tee connector.

Step 8. Connect the terminator to the tee connector.

Step 9. Connect the tee connector to the transceiver.

Server connections

Step 1. Obtain the AIU complex cable assembly which includes the transceiver mounting bracket, two ethernet transceivers, two transceiver cables, two tee connectors, and terminator from the container identified as TEST STATION CABLES.

Step 2. Obtain the 10-foot DART ethernet cable from the container identified as TEST STATION CABLES.

Step 3. Connect the 10-foot DART ethernet cable to the tee connector on each of the AIU complex cable assembly transceivers.

Step 4. Connect the terminator to the tee connector located on the left.

Step 5. Connect the 50-foot DART ethernet cable from the teststation to the remaining connection on the tee connector on the right.

Step 6. Connect the RS-232 cable from the teststation to the server RS-232 port.

Step 7. Connect one of the transceiver cables from one of the transceiver to the server TEST AUI port.

Step 8. Connect the remaining transceiver cable from the remaining transceiver to the server CORE AUI port.

Figure 18 Server to teststation connections

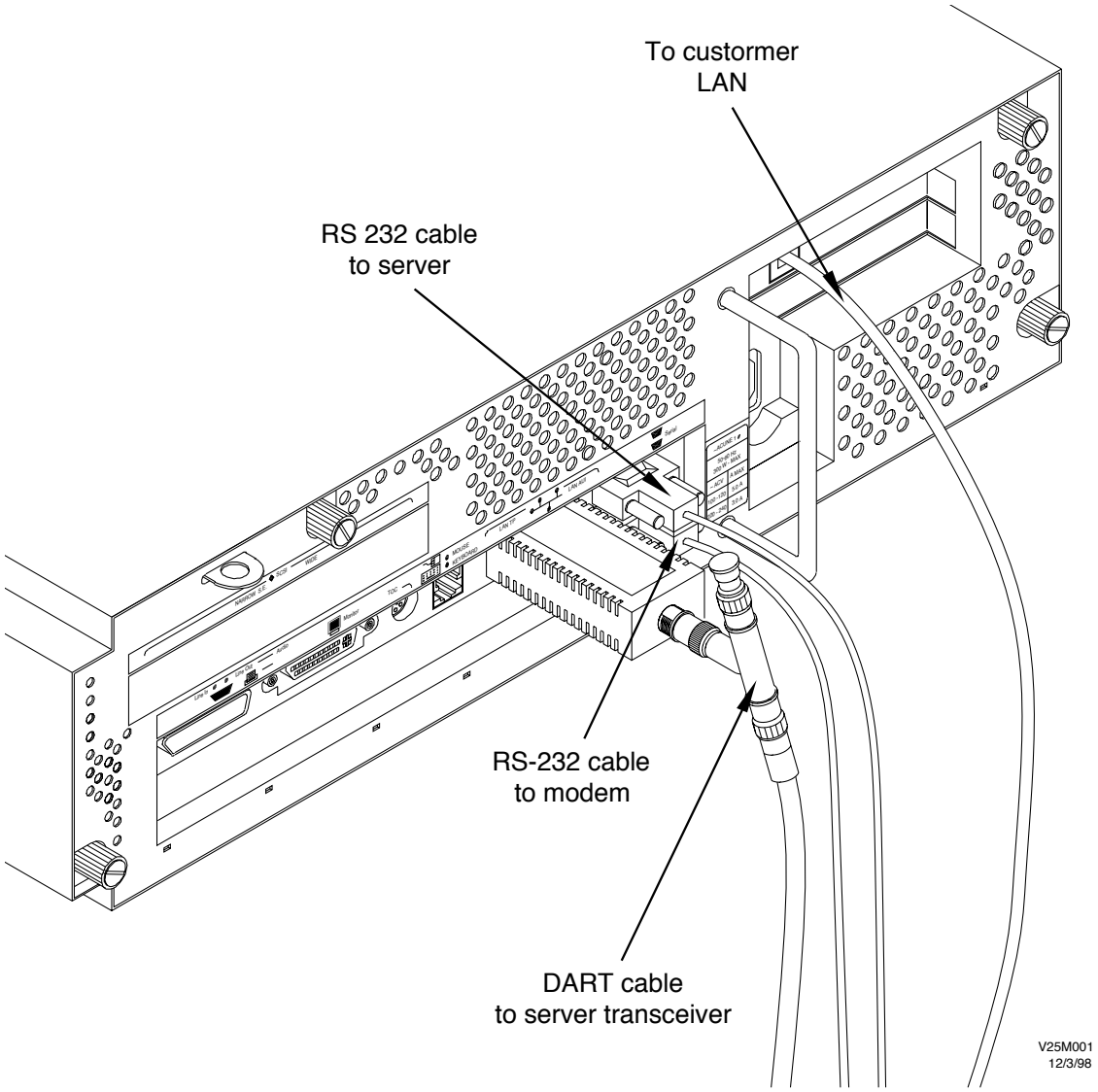


Figure 19 Server ethernet and RS-232 cable connections

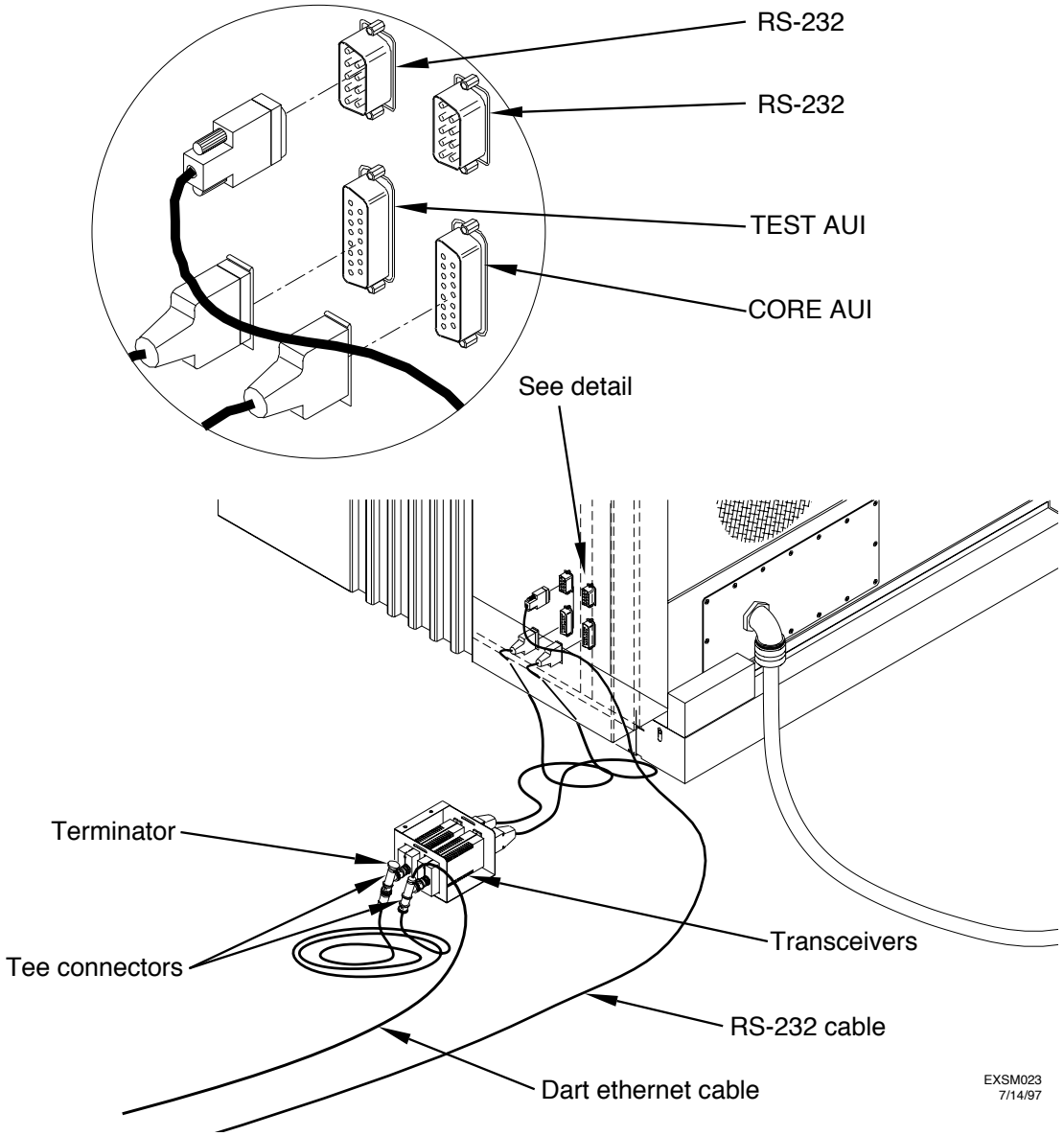
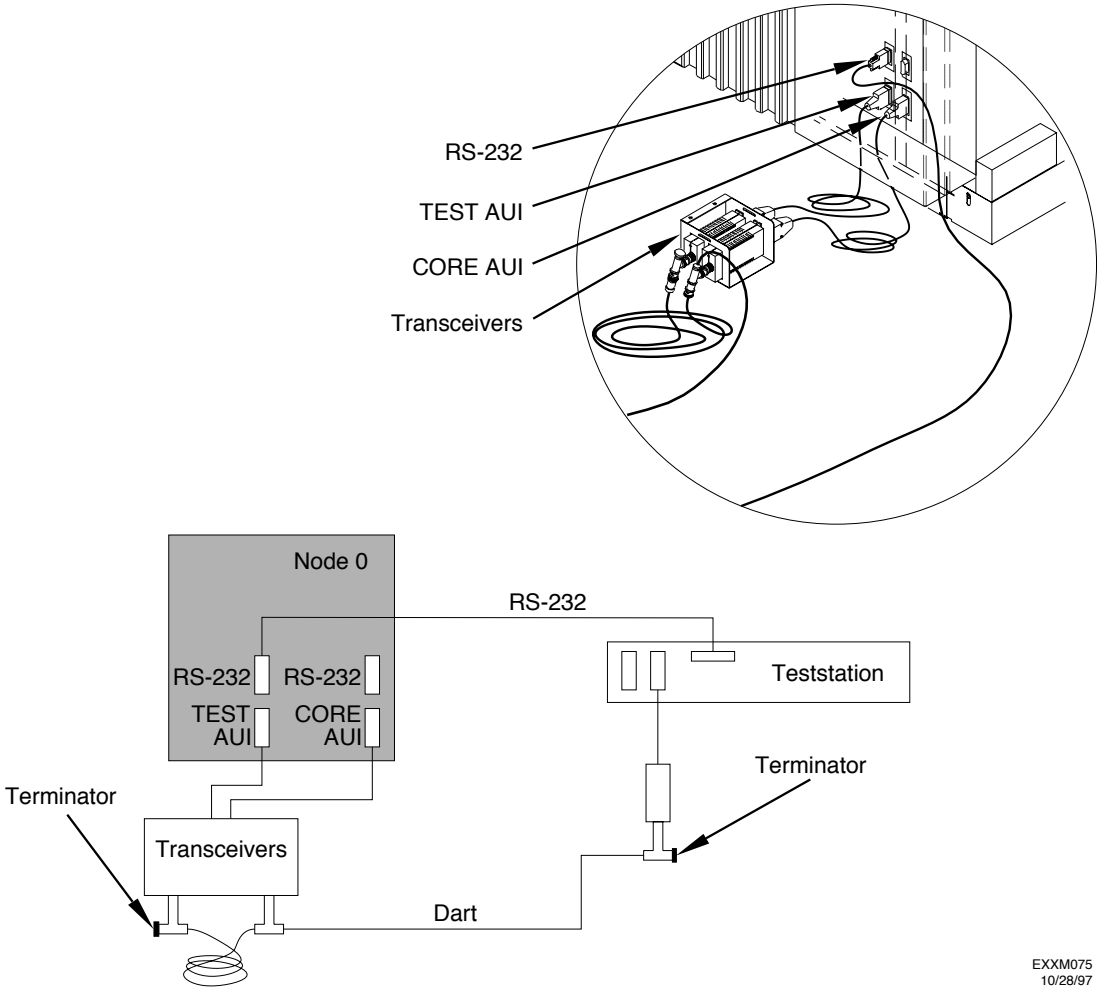


Figure 20 Server to teststation cabling diagram



External peripheral cable routing

The specific cables that will be routed will depend upon the requirements of the specific site. Once connected to the appropriate slot in the PCI card cage, internal cable routing for all external peripherals is the same. Refer to Figure 21 on page 63 for peripheral cable routing details.

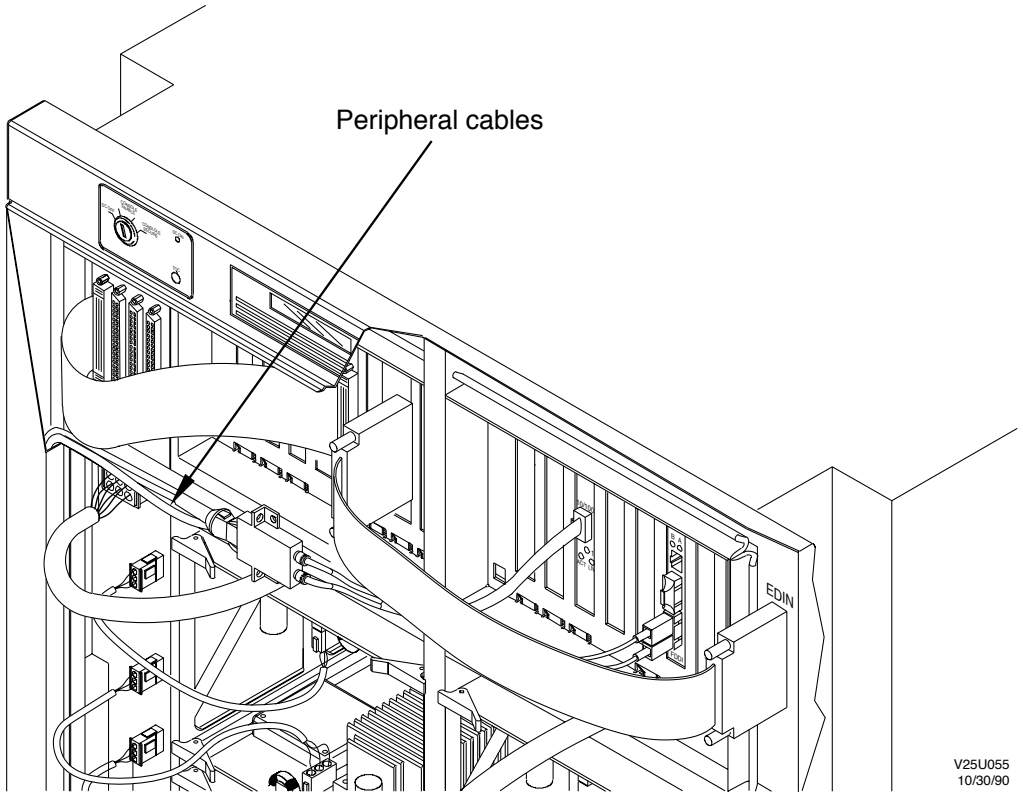
Step 1. Connect the peripheral cable to the appropriate slot on the front of the PCI card cage.

Step 2. Route the cable(s) to the left in the direction of the rear post cable tray.

Step 3. Drop the cable(s) down through the cable tray.

NOTE The routing from the bottom of the cable tray will be determined by the type of flooring and the location of the peripherals at your particular site.

Figure 21 Peripheral cable routing



Connecting the boot device

The boot device can be connected to any SCSI interface card in the V-Class server. The default location for the boot device is set at the factory for I/O location 1/0/0.6.0.

Location 1/0/0.6.0 represents a device with a SCSI address of 6, attached to a SCSI card in slot 0 of the card cage controlled by SAGA 1. Refer to Figure 22 on page 64 for PCI cardcage slot identification.

Figure 22 **PCI cardcage slot identification**

EMI panel installation

Install side EMI panels on the left and right side. Refer to Figure 23 on page 66 for EMI panel installation details.

Step 1. Locate the EMI panels.

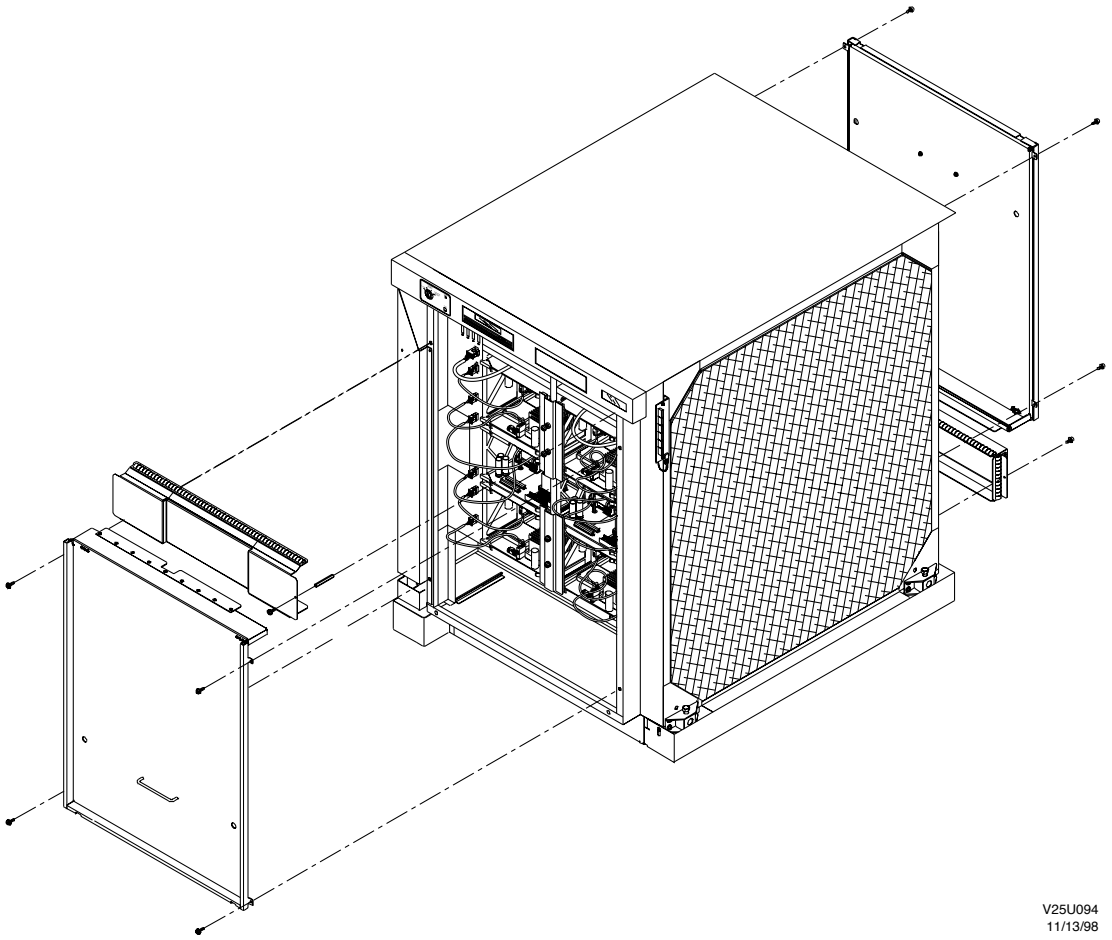
Step 2. Attach the left lower EMI panel with four screws.

Step 3. Attach the left upper EMI panel with one screw.

Step 4. Attach the right lower EMI panel with four screws.

Step 5. Attach the right upper EMI panel with one screw.

Figure 23 EMI panel installation



6 Software configuration

This chapter provides information required to integrate the teststation with the server and ensure that the server is working properly.

- Preliminary
- Configuring the teststation
- Connectivity verification
- Preparing the server to Boot
- Configuring the server

Preliminary

This section describes the initial power up sequence for the V2500 server.

NOTE Ensure that the system circuit breaker is closed.

- Set the key switch to the **DC ON** position to power up the server.
- The front panel LCD will indicate the process of booting POST.

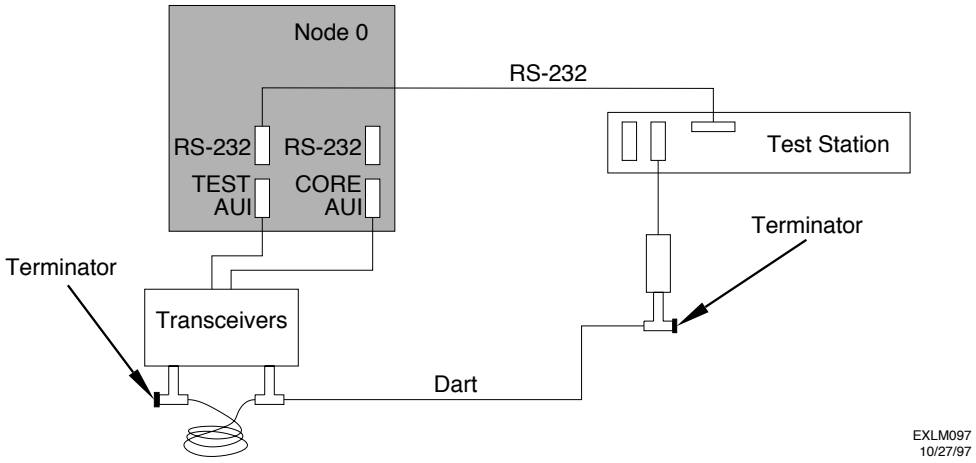
Configuring the teststation

This section details the procedures for the initial teststation setup.

Teststation configuration concepts

The teststation communicates with the V2500 server in two ways. Refer to Figure 24 for details.

Figure 24 Teststation - server communications setup



- The serial (RS-232) line connected between the test station and the RS-232 connector on the V2500 server is used for the serial console communications.

- The private LAN connection between the teststation and the transceiver assembly that connects to the V2500 server is also referred to as LAN0, JTAG, TEST BUS, or Diagnostic LAN. This connection allows the teststation to access each section of the utility board (CUB) in the server allowing control, verification, internal management, and scanning (est) of the server.

Teststation software configuration

Step 1. Power on all peripheral devices.

Step 2. Power on the teststation and the monitor.

Step 3. The teststation screen may cycle through all of the choices that are available for the type of monitor that is connected. Press **`return`** when **`type 3`** is displayed. If that selection goes by, wait for the screen to cycle to the next display of **`type 3`** and then press **`return`**.

Step 4. Type **`y`** `[return]`

Running `set_parms`

NOTE Do not configure a DNS server when configuring the teststation. The test station requires `/etc/hosts` name resolution for the private LAN. Any systems that the customer requires connection to through the teststation will require an entry in the `/etc/hosts` file for the teststation.

NOTE Contact the Response Center for configuration instructions if the customer insists on using a DNS server.

The script `set_parms` will run during the boot process. The first time `set_parms` is run in the stand alone mode, you will be asked to answer the prompts from the `set_parms` program.

Teststation software verification

The procedures in this section will determine the revision level of the software installed on the teststation.

Insure that the node is properly connected to the test station before proceeding.

Step 1. Login as `root.`

NOTE After login, messages will be echoed to the screen. You may disregard them at this time.

Step 2. Type the command `swlist`

Example: `# swlist [return]`

Step 3. View the list of software and determine if the software provided on the CD-ROM packed with the teststation is a higher revision then that which is currently installed.

Step 4. If it is determined that the installed version is not the latest version, load the CD-ROM provided and type the command `swinstall`. Refer to teststation documentation enclosed for additional information relating to the installation of software.

Example: `# swinstall [return]`

Step 5. Reboot the teststation

Example: `# /etc/reboot [return]`

NOTE Upon rebooting the teststation, `set_parms` will run again. This time you will enter additional network information for the teststation. This additional information includes network server and DNS information.

Teststation configuration verification

The procedures in this section verify the proper teststation configuration.

Step 1. Login as sppuser at the login prompt.

Step 2. Select “ts_config (root) from the desktop root menu. When prompted, enter the “root” password.

Step 3. Use ts_config to configure the node. Refer to *Teststation Software Release Notes* and *ts_config* man page for additional information.

Connectivity verification

Use a teststation window to start the Scan Test. When the EST menu appears, run the ac and dc test patterns.

An example is provided below.

sppuser> est 0 [return]

```
.......................

General EST Tests:
a       ... board level ac tests
d       ... board level dc tests
g [ [dev file [limit] ] ... gen_ga_patterns( )

Special Scan Tests:
b       ... bypass/id test
c       ... compare id's to config file
i       ... print id's found in design

EST Options:
D       ... design query menu
F       ... set option & debug flags
Q       ... quit, not so nice
q       ... quit nicely
qq      ... quit but dont ask
h       ... print this help message
v       ... print EST version info
!cmd    ... send the command to Unix (ex. "!ls patterns")
>> d (to run dc connectivity)
0 errors
>> a (to run ac connectivity)
0 errors
```

```
>> q (to quit)
```

From a teststation window issue a do_reset command.

sppuser> do_reset [return]

Verify your boot-device and boot-directory parameters are at the correct setting and boot the OS.

Preparing the server for Boot

The following section provides the information required to complete the V2500 server Boot.

With the keyswitch in the DC ON position and after POST has completed the boot menu will be displayed in the console window labeled “sppconsole”.

```
Command                          Description
-------                          -----------
AUto [BOot|SEArch ON|OFF]        Display or set the specified flag
BOot [PRI|ALT|<path> <args>]     Boot from a specified path
BootTimer [time]                 Display or set boot delay time
CLEARPIM                         Clear PIM storage
CPUconfig [<proc>] [ON|OFF]      Configure/Deconfigure Processor
DEfault                          Set the system to defined values
DIsplay                          Display this menu
ForthMode                        Switch to the Forth OBP interface
IO                               List the I/O devices in the system
LS [<path>|flash]                List the boot or flash volume
OS [hpux|sppux]                  Display/Select Operating System
PASSword                         Set the Forth password
PAth [PRI|ALT|CON] [<path>]      Display or modify a path
PDT [CLEAR|DEBUG]                Display/clear Non-Volatile PDT state
PIM_info [cpu#] [HPMC|TOC|LPMC] Display PIM of current or any CPU
RESET [hard|debug]               Force a reset of the system
RESTrict [ON|OFF]                Display/Select restricted access to Forth
SCSI [INIT|RATE] [bus slot val] List/Set SCSI controller parms
SEArch [<path>]                  Search for boot devices
SECure [ON|OFF]                  Display or set secure boot mode
TIme [cn:yr:mo:dy:hr:mn[:ss]]    Display or set the real-time clock
VErsion                          Display the firmware versions
Command:
```

NOTE

If necessary you can get control of the sppconsole window by positioning the mouse cursor in the middle of the window and entering Ctrl-Ecf (hold down the Control key and press “e”. Release the Control key and press “c” then “f”).

You can now use the menu commands to set the various parameters.

Example: To set Autoboot and Autosearch flags use the AUTO command.

Example: To set new values for the boot paths use the PATH command.

Setting the boot paths

To view the current settings for the boot paths use the PATH command at the boot menu prompt.

Example

```
Command: PATH
Primary boot path = 5/2/0.6.0
Alternate boot path:= 15/3
Console path = 15/1
Keyboard path = 15/1
```

Verify that the displayed paths are correct for this installation. If they are not correct, use the PATH command to set the correct values.

Example

```
PATH PRI 0/0/0.6.0
```

V2500 server I/O paths

The I/O paths for a V2500 server have a different format then previous PA-RISC systems. The V2500 format is:

<SAGA #. / <SLOT #> . 0 . <SCSI_ID #, if any>

Example

3/2/0 - SAGA 3 (PCI cardcage IORF), Slot 2, LAN card

Example

6/1/0.3.0 - SAGA 6 (PCI cardcage IORR}, Slot 1, SCSI disk with a SCSI ID of 3

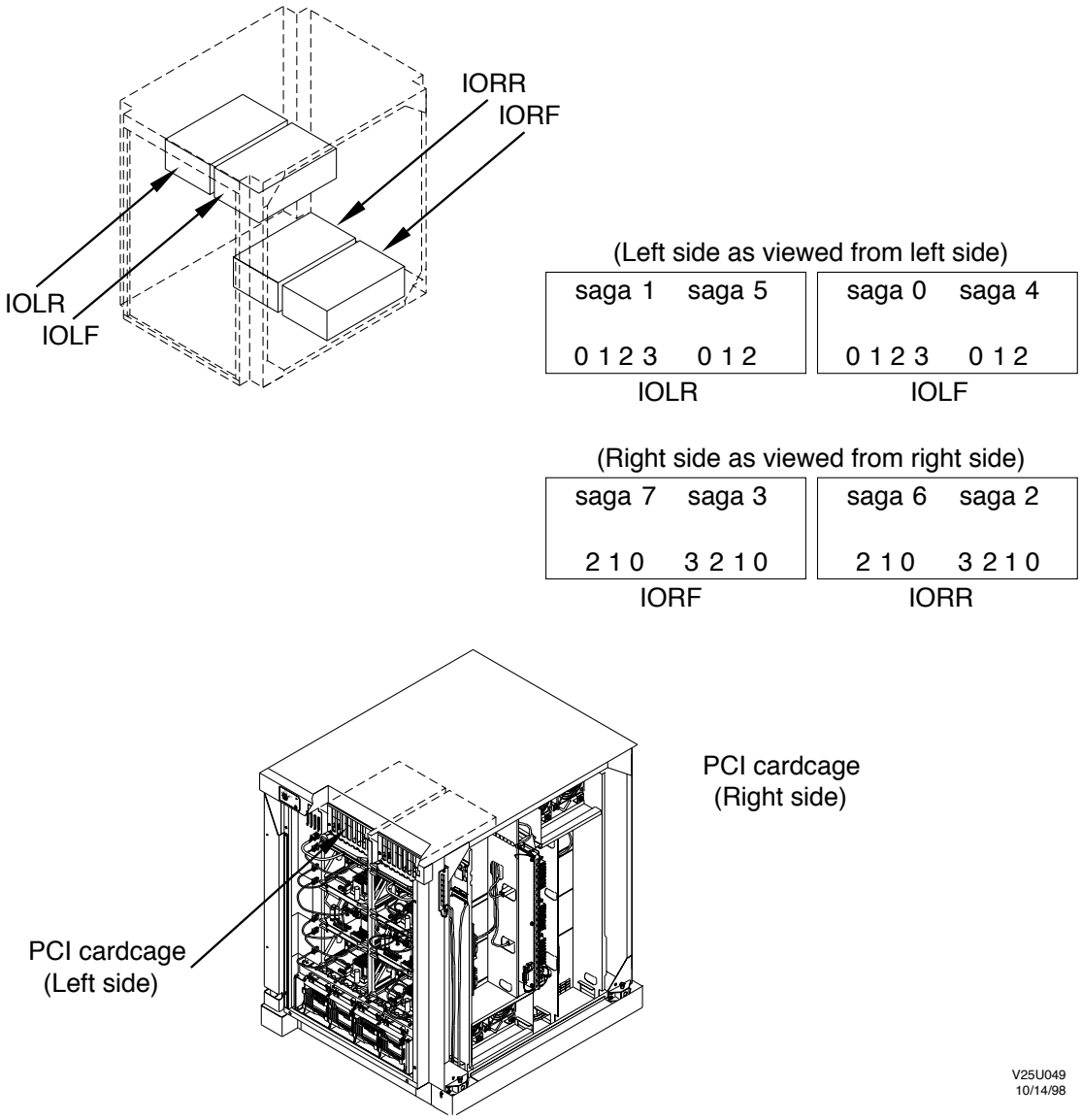
Example

0/0/0.6.0 - SAGA 0 (PCI cardcage IOLF}, Slot 0, DDS tape with a SCSI ID of 6

NOTE In some firmware displays and prompts, the I/O path may have a slightly different format. For example, 5/2:0.2 may be presented instead of 5/2/0.2

The SAGA controls three of the six slots in the PCI cardcage, Since a cardcage has six active slots, there are two SAGA designators for each cardcage. SAGA designators for each I/O cardcage are shown in Figure 25 on page 78.

Figure 25 SAGA designators



Note that the numbering on the lower I/O cardcages on the right side appear backwards. This is because these I/O cardcages are installed upside down thereby reversing the numbers.

Systems with instant ignition

HP-UX is already loaded on a disk when the V2500 server is ordered with instant ignition. After verifying the boot paths you can boot the operating system with the `BOOT PRI` command.

Example

```
Command: BOOT PRIDevice: /pci@fe,290000/symbios@1000,0/
sd@6,0:cntlDirectory: LIFFile: HPUXArguments: hpuxLoading:
HPUX.................162896 bytes loaded

101456 + 61440 + 864184 start 0xd01cc0

Boot

: disc (5/2/0.6.0;0}/stand/vmunix

7499776 + 1337792 + 712828 start 0x29168

HPUX : kernel load begins

etc.
```

Systems without instant ignition

HP-UX will have to be installed from a CD-ROM for those systems that were not ordered with instant ignition. Use the following steps to install HP-UX.

Step 1. Locate the CD-ROM install media.

NOTE DAT tape will not work on a V2500 server.

Step 2. Set both the primary and the alternative boot paths using the `PATH` command at the boot menu.

Example

```
PATH ALT 5/2:0.2.0
```

Step 3. Boot from the CD-ROM and begin the install.

```
BOOT ALT
```

NOTE An alternate to Step 2 and Step 3 above is to use the boot path **`SEA`** command and booting the applicable device determined by the **`SEA`** command

Step 4. Allow data transfer to begin and reboot to complete. Wait for CPU to reboot from newly created boot disk.

Step 5. After the V2500 server boots from the new boot disk, allow post-installation activities to complete.

Step 6. Begin the network, the LVM (Logical Volume Manager), and other configuration tasks.

Configuring the server

To configure networking on the server, you will need the following types of info:

- Server host name and ip address
- Default router ip address
- Domain name server host name and ip address
- nis server host name and ip address

Step 1. `set_parms` will run during the boot process. If you are ready to configure networking, answer **`yes`** to the first question and proceed through the script. Answer the questions according to your site specific information. Once completed, the system will finish the boot process and allow you to log in as root.

NOTE Disregard the warnings that will appear during script execution regarding your ability to contact other hosts.

An example of the set_parms script is provided below for your reference.

```
                Welcome to HP-UX!

Before using your system, you will need to answer a few questions.

The first question is whether you plan to use this system on a network.

Answer "yes" if you have connected the system to a network and are ready
to link with a network.

Answer "no" if you:

     * Plan to set up this system as a standalone (no networking).

     * Want to use the system now as a standalone and connect to a
```

```
       network later.
```

```
Are you ready to link this system to a network?
Press [y] for yes or [n] for no, then press [Return] y
```

```
Do you wish to use DHCP to obtain networking information?
Press [y] for yes or [n] for no, then press [Return] n
```

```
   Before you begin using this system, you need to obtain the
   following information from your local network administrator:

      * Your system name (host name).

      * Your Internet Protocol (IP) address.

      * Your time zone.

    If you do not have this information, you may stop now and restart
    your system once you have it.
```

```
Do you wish to continue?

Press [y] for yes or [n] for no, then press [Return] y
```

```
For the system to operate correctly, you must assign it a unique
system name or "hostname".  The hostname can be a simple name or
```

```
an Internet fully-qualified domain name.  A simple name, or each
dot (.) separated component of a domain name, must:

   * Contain no more than 64 characters.

   * Contain only letters, numbers, underscore (_), or dash (-).

   * Start with a letter.

NOTE:
   * Uppercase letters are not recommended.

   * The first component should contain 8 characters
     or less for compatibility with the `uname' command.

The current hostname is unknown.  You cannot configure networking
or run HP-VUE if the hostname is unknown.  Please choose another name.
```

```
Enter the system name, then press [Return].  Just pressing [Return] will
keep the (not recommended) name "unknown":  (Your hostname here)

You have chosen (Your hostname here) as the name for this system.
Is this correct?

Press [y] for yes or [n] for no, then press [Return] y
```

```
The following procedure enables you to set the time zone.

Select your location from the following list:

  1) North America or Hawaii
```

```
  2) Central America

  3) South America

  4) Europe

  5) Africa

  6) Asia

  7) Australia, New Zealand
```

```
Enter the number for your location (1-7) then press [Return] 1
```

```
Select your time zone from the following list:

  1) Newfoundland Standard/Daylight    |  8) Pacific Standard/Daylight
                                       |
  2) Atlantic Standard/Daylight        |  9) Yukon Standard/Daylight
                                       |
  3) Eastern Standard/Daylight         | 10) Aleutian Standard/Daylight
  4) Eastern Standard Only             | 11) Hawaii Standard
     (US: Most of Indiana)             |
                                       | 12) Unlisted time zone
  5) Central Standard/Daylight         |
                                       | 13) Previous menu
  6) Mountain Standard/Daylight        |
                                       |
  7) Mountain Standard Only (Arizona)  |
```

```
Enter the number for your time zone (1 - 13), then press [Return]  5

_____________________________________________________________________

You have selected:

   Central Standard/Daylight (CST6CDT).

_____________________________________________________________________

Is this correct?

Press [y] for yes or [n] for no, then press [Return] y

_____________________________________________________________________

This section enables you to set the system clock.

_____________________________________________________________________

The current system time is Tue Nov 12 15:32:14 CST 1996

Is this correct?

Press [y] for yes or [n] for no, then press [Return] y

_____________________________________________________________________

  If you wish networking to operate correctly, you must assign the
  system a unique Internet Protocol (IP) address.  The IP address must:

     * Contain 4 numeric components.
```

```
    * Have a period (.) separating each numeric component.

    * Contain numbers between 0 and 255.

    For example:  134.32.3.10

  If you have not yet obtained an IP address from your local system
  administrator, you may use the default address of 127.0.0.1 by
  pressing [Return].
```

```
Enter your IP address, then press [Return] or just press [Return] to select
the default address (127.0.0.1):  (Your IP address here)

You have chosen (Your IP address here) as the IP address for this system.
Is this correct?

Press [y] for yes, [n] for no or [c] to cancel then press [Return] y
```

```
  You may configure some additional network parameters at this time:

    * Subnetwork Mask and Default Gateway

    * Domain Name System (DNS)

    * Network Information Service (NIS)

  Your local network administrator can tell you which if any of these
  parameters should be configured for your system, and provide you the
  appropriate values.
```

```
  If you do not have these values now, you can configure them later.
```

```
Do you want to configure these additional network parameters?

Press [y] for yes or [n] for no, then press [Return] y
```

```
  Additional Network Parameters: Subnetwork Mask and Default Gateway

  This section enables you to specify the subnetwork mask and default
  network gateway.  This information is necessary if your network has
  gateways and you wish to communicate beyond your local subnetwork.

  You will need to know the following information:

    * Subnetwork mask

    * Default gateway host name

    * Default gateway IP address
```

```
Do you wish to specify this information?

Press [y] for yes or [n] for no, then press [Return] y
```

```
  Additional Network Parameters: Subnetwork Mask and Default Gateway

  Enter the subnetwork mask and default gateway information.
```

```
  Example:

      Subnetwork mask:    255.255.255.0
      Gateway host name:  lab_gw
      Gateway IP address: 15.99.77.1

  Current Settings:

   -> Subnetwork mask:    255.255.255.0
      Gateway host name:  lab_gw
      Gateway IP address: 15.99.77.254
```

```
Enter the subnetwork mask, then press [Return] or just press [Return]
to select the current netmask (255.255.255.0): (Your subnetwork mask here)
```

```
  Additional Network Parameters: Subnetwork Mask and Default Gateway

  Enter the subnetwork mask and default gateway information.

  Example:

      Subnetwork mask:    255.255.255.0
      Gateway host name:  lab_gw
      Gateway IP address: 15.99.77.1

  Current Settings:

      Subnetwork mask:    (Your subnetwork mask here)
   -> Gateway host name:  lab_gw
      Gateway IP address: 15.99.77.254
```

```
Enter the gateway host name, then press [Return] or just press [Return]
to select the current gateway (lab_gw): (Your gateway hostname here)
```

```
  Additional Network Parameters: Subnetwork Mask and Default Gateway

  Enter the subnetwork mask and default gateway information.

  Example:

      Subnetwork mask:    255.255.255.0
      Gateway host name:  lab_gw
      Gateway IP address: 15.99.77.1

  Current Settings:

      Subnetwork mask:    (Your subnetwork mask here)
      Gateway host name:  (your gateway hostname here)
   -> Gateway IP address: 15.99.77.254
```

```
Enter the gateway address, then press [Return] or just press [Return]
to select the current gateway address (15.99.77.254): (Your gateway ip address
here)
```

```
  Additional Network Parameters: Subnetwork Mask and Default Gateway

  Enter the subnetwork mask and default gateway information.

  Example:
```

```
      Subnetwork mask:    255.255.255.0
      Gateway host name:  lab_gw
      Gateway IP address: 15.99.77.1

  Current Settings:

      Subnetwork mask:    (Your subnetwork mask here)
      Gateway host name:  (your gateway hostname here)
      Gateway IP address: (Your gateway ip address here)
```

```
Are the parameters above correct?

Press [y] for yes, [n] for no or [c] to cancel then press [Return] y
```

```
  WARNING: Unable to contact gateway (Your gateway hostname here) at (Your
gateway ip address here).

  The spp_gw system may be down or there may be a network disruption.

  Verify that the name (Your gateway hostname here) and the address (Your gateway
ip address here) are correct.
```

```
Are the gateway host name and IP address correct?

Press [y] for yes, [n] for no or [c] to cancel then press [Return] y
```

```
Additional Network Parameters: Domain Name System (DNS)

  This section enables you to configure the Domain Name System
  or DNS (also known as BIND), which enables this system to query
  a DNS server for names and/or addresses of other network systems.

  To configure DNS you will need to know the:

    * Local domain name

    * DNS server host name

    * DNS server IP address
```

```
Do you wish to specify this information?

Press [y] for yes or [n] for no, then press [Return] y
```

```
  Additional Network Parameters: Domain Name System (DNS)

  Enter the domain name and DNS name server information.

  Example:

      Domain name:           lab.corp.com
      DNS server host name:  name_svr
      DNS server address:    15.99.77.1

  Current Settings:
```

```
  -> Domain name:           rsn.hp.com
     DNS server host name:  hpserver
     DNS server address:    15.99.100.5
```

```
Enter the domain name, then press [Return] or just press [Return]
to select the current domain name (rsn.hp.com): (Your domain name here)
```

```
  Additional Network Parameters: Domain Name System (DNS)

  Enter the domain name and DNS name server information.

  Example:

      Domain name:           lab.corp.com
      DNS server host name:  name_svr
      DNS server address:    15.99.77.1

  Current Settings:

      Domain name:           (your domain name here)
   -> DNS server host name:  hpserver
      DNS server address:    15.99.100.5
```

```
Enter the DNS server host name, then press [Return] or just press [Return]
to select the current DNS server (hpserver): (Your DNS server host name here)
```

```
  Additional Network Parameters: Domain Name System (DNS)
```

```
  Enter the domain name and DNS name server information.

  Example:

      Domain name:           lab.corp.com
      DNS server host name:  name_svr
      DNS server address:    15.99.77.1

  Current Settings:

      Domain name:           (Your domain name here)
      DNS server host name:  (Your DNS server host name here)
   -> DNS server address:    15.99.100.5
```

```
Enter the DNS server address, then press [Return] or just press [Return]
to select the current DNS server address (15.99.100.5): (Your DNS server address
here)
```

```
  Additional Network Parameters: Domain Name System (DNS)

  Enter the domain name and DNS name server information.

  Example:

      Domain name:           lab.corp.com
      DNS server host name:  name_svr
      DNS server address:    15.99.77.1

  Current Settings:

      Domain name:           (Your domain name here)
```

```
      DNS server host name:  (Your DNS server host name here)
      DNS server address:    (Your DNS server address here)
```

```
Are the parameters above correct?

Press [y] for yes, [n] for no or [c] to cancel then press [Return] y
```

```
WARNING: Unable to contact DNS server (Your DNS server host name here) at (Your
DNS server address here).

  The hpserver system may be down or there may be a network
  disruption.

  Verify that the name (Your DNS server host name here) and the address (Your DNS
server address here) are correct.
```

```
Are the DNS server host name and address correct? y
```

```
    Note: DNS has been successfully configured on your system.  However,
    in order to make use of DNS, your local network administrator must
    first register your system with the server.
```

```
Press [Return] to continue... (carriage return)
```

```
  This section enables you to configure the system as a Network Information
  Service (NIS) client in order to access the various information provided
  by an NIS server.

  You will need to know the following information:

    * The NIS domain name.  The NIS domain name is
      not related to the DNS domain name.

    * Whether you want your system to wait during
      bootup on the availability of an NIS server
      for the specified NIS domain.  There is no
      limit to how long it will wait.
```

```
Do you wish to specify NIS client information?

Press [y] for yes or [n] for no, then press [Return] n
```

```
Congratulations!  Your system is now configured for networking, with
system name (your system name), and IP address (your ip address)!

You may later want to set up (or finish setting up) additional network
parameters for routing (gateways), DNS, and/or NIS.  If so, please run
the following command (you may want to note this for later reference):

     /sbin/set_parms addl_netwrk [Return]

To fully utilize the capabilities of your system, you may have to
perform some additional system configuration tasks using the HP-UX
"sam" (System Administration Manager) command.  Consult your local
```

```
administrator or the "HP-UX System Administration Tasks" manual for
more information.

The system will now complete its boot process, and allow you to login
as 'root'.
```

Step 2. Press [return] to continue.

Step 3. Reboot the server using the `/etc/reboot` command.

7 Installation cleanup

Inspection

Before installing the skins and securing the server, it is important to do a visual inspection.

Circuit boards

Check that all circuit boards are installed and properly seated and that the circuit board retainers are reinstalled.

Cabling

Check that all cables are installed and properly routed.

Test points

Check that test leads are removed from the test points and that the test points are properly covered.

Debris

Remove all debris from the area surrounding the server.

Miscellaneous

Inspect the area to ensure that all parts, tools, or other items used during the installation are secured.

Skin installation

Install the skins. Refer to Figure 26 on page 100 for skin installation details.

CAUTION The front skin is heavy (25 lbs, 12kg). It can slip and fall if not properly supported during installation. To prevent injury, ensure you have a firm grasp of the skin during installation.

Step 1. Install the side skins by inserting the retaining pins in the receptacles, and push forward to snap in place.

Step 2. Align the front skin insertion pins with the receptacles provided on the chassis.

Step 3. Carefully push the front skin until the insertion pins seat in their respective receptacles.

Step 4. Use a phillips screwdriver to secure the captive retaining screws located at the upper corners of the skin into the receptacles provided.

Step 5. Firmly grasp the sides of the front skin and gently tug outward. If the skin is properly installed, it will not come loose.

NOTE Do not remove the tape from the underbody of the top skin until directed to do so.

Step 6. Position the top skin on the top of the server.

Step 7. Align the top skin so that there is an equal distance from the top skin to each side and the rear of the top skin is flush with the rear of the server.

Step 8. After checking the alignment of the top skin, lift on end of the skin and remove the tape from that end of the skin.

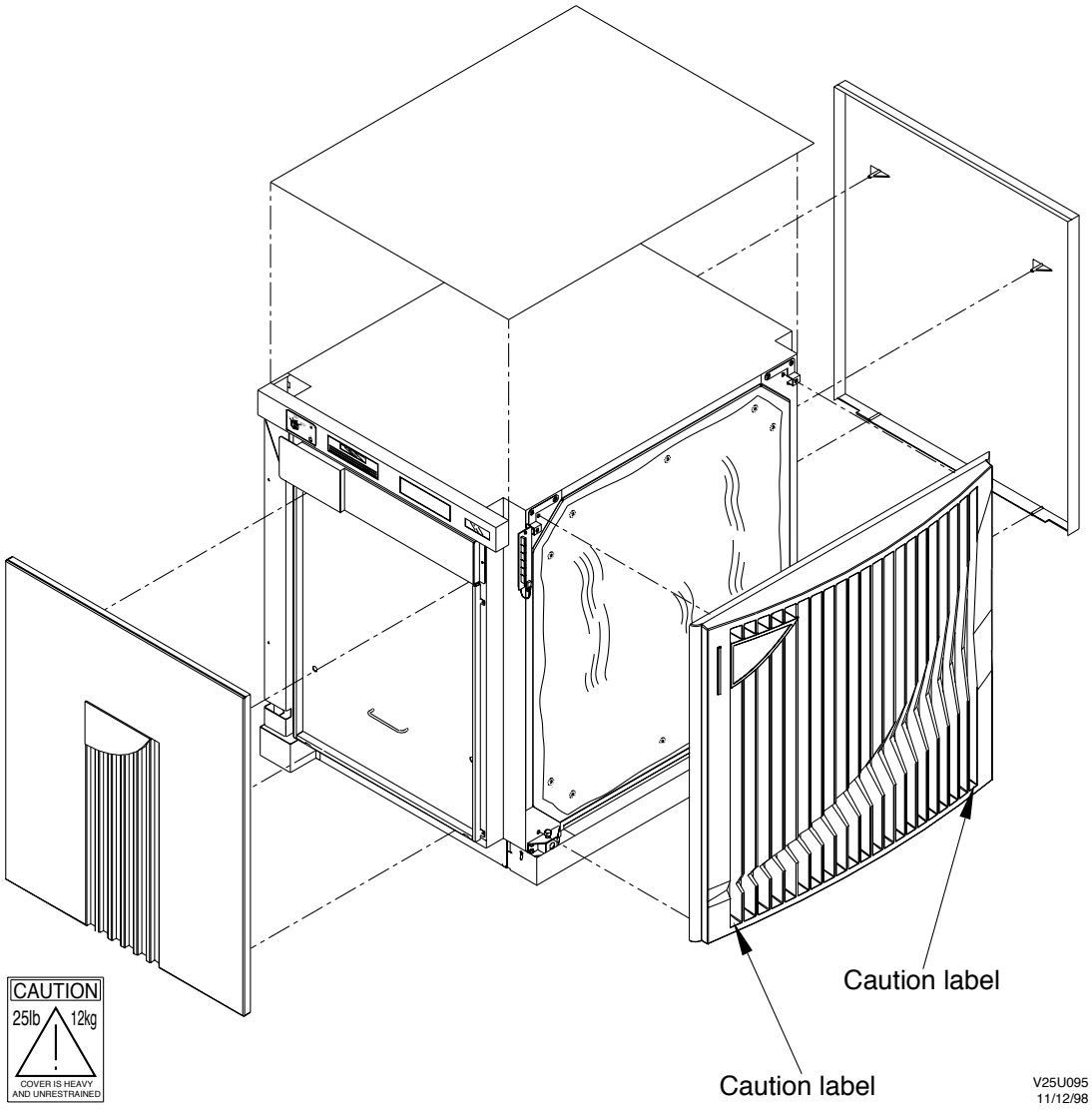
Step 9. Gently lower the top skin ensuring that it is still aligned.

Step 10. Press down on the area of the skin that the tape has been removed from to cause the skin to adhere to the server.

Step 11. Maintaining the alignment, remove the remaining pieces of tape and press the top onto the server.

Step 12. Use a rag to rub the top skin in the area of the sealant to get a good bond.

Figure 26 Skin installation



8 Returning equipment

This chapter discusses the steps required to return a server.

- Checking the inventory

Checking the inventory

When returning equipment, inventory each item and inspect it for damage. Visually inspect the cabinets and document any damage found. Document any damage with photographs and complete a damage claim form.

Obtain and complete a Shipper Request form to return with the equipment removed from service during upgrade procedures.

Use the following procedure to fill out a Shipper Request form:

1. Complete the preliminary information in the top section of the form.
2. Fill in the address and the date then sign the PREPARED BY space. Leave blank the other spaces in the top portion of the form.
3. List all equipment that is being returned in the center portion of the form.
4. Enter the quantity of each item to be returned in the QTY column.
5. Describe the equipment being returned in the DESCRIPTION column. If the equipment is a cabinet, indicate whether the cabinet includes additional items such as processor cards, tape drives, etc.
6. Complete the shipping information on the form. Fill in the following blocks:

   DATE SHIPPED

   # OF CARTONS

   CARRIER

   TOTAL WEIGHT

   WAY BILL #
7. Leave the SHIPPED BY box of the form blank.

A Limited access server positioning

This chapter provides the steps that may be required to transport the server when it must be positioned in areas that provide limited access.

Node preparation

This section covers the specific tasks that may be required to allow for transporting a server through narrow doors and or passages. Determine what combination of the following tasks are required to gain the required clearances.

Unpacking

It may be necessary to unpack the server to enable it to pass through narrow doors and or passages.

NOTE Ramps are provided to remove the server from the pallet.

Tools

The following tools are required to complete the procedures in the following sections:

- 9/16-inch wrench/socket
- Wire cutters
- Safety goggles

Removing packaging from the cabinets

While removing the packaging, visually inspect each cabinet for any sign of shipping damage.

Step 1. Use wire cutters and safety goggles to cut the two retaining bands that cross the top of the cabinet box.

Step 2. Remove the cover box.

Step 3. Remove the plastic film cover from the chassis.

Removing the server(s) from the pallet

Place the pallet in an open area, with enough room to connect the ramp to the pallet and to maneuver the server(s) at the foot of the ramp.

Use the following steps to remove the server(s) from the pallet.

Step 1. Slide the legs of the ramp under the front (open) edge of the pallet. The raised edge of the ramp should be against the front edge of the pallet.

Step 2. Remove the four nuts, bolts, and washers that connect the pallet brackets to the anchor holes in the chassis.

Step 3. Loosen the bracket bolts that connect to the pallet.

Step 4. Pull the brackets away from the chassis.

Step 5. Roll the server(s) slowly down the ramp, keeping the server(s) centered on the ramp. A person standing on the pallet should guide the chassis.

Ac power filter cord assembly

If it is necessary to remove the ac power filter cord assembly to enable the server to pass through narrow passages or doors, proceed as follows. Refer to Figure 27 on page 107 for removal and installation details.

Tools

The following tool is required to complete the procedures in the following sections:

- Phillips screwdriver

CAUTION

SHOCK HAZARD
Verify that the Power Cord assembly is disconnected from the supply before removing or replacing AC Power Cord assembly.

Hochspannung
Bei Arbeiten an der Versorgungsspannung besteht die Gefahr eines Stromschlages. Ausreichend isolierte Pruefspitzen benutzen. Nach Beendigung der Arbeiten unbedingt Gehaeuseklappe schliessen und verschrauben.

CHOC ELECTRIQUE
Risque dé choc électrique en vérifiant l'arrivée secteur. Utiliser des sondes correctement isolées S'assurer de remettre le couvercle de protection après avoir vérifié l'arrivée secteur.

Removal

Step 1. Remove the 16 screws securing the assembly to the chassis.

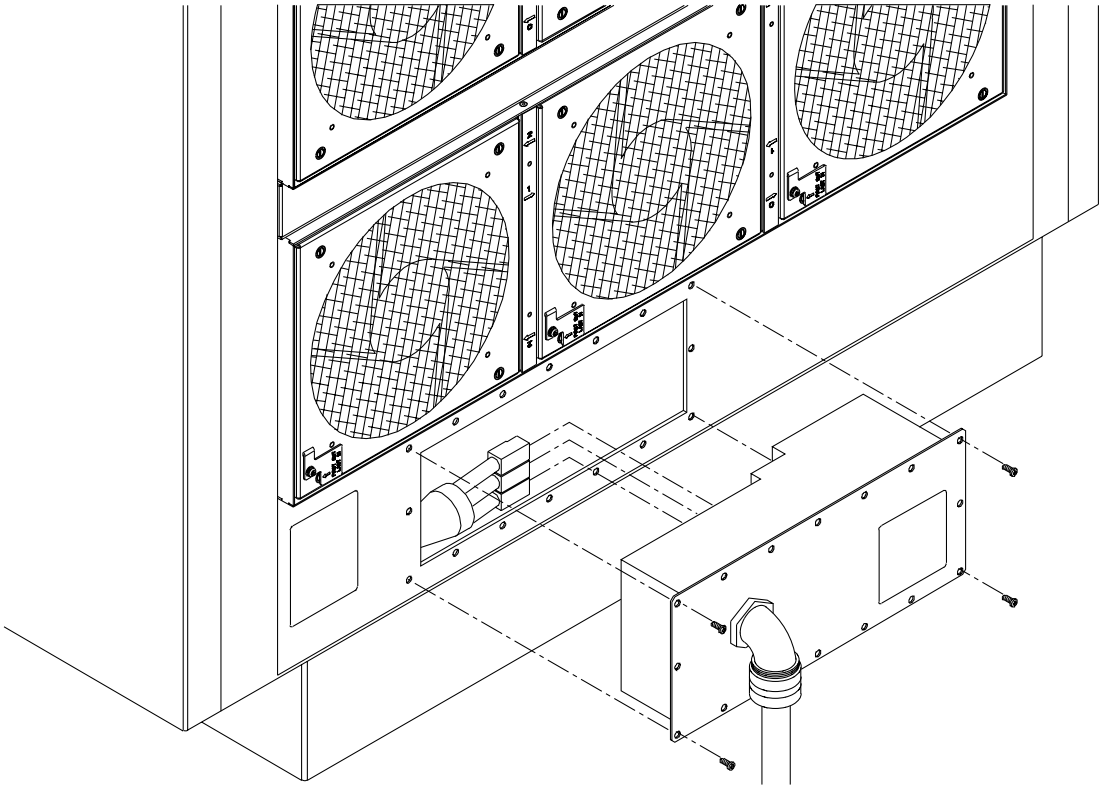
Step 2. Disconnect the power connector.

Installation

Step 1. Connect the power connector.

Step 2. Secure the assembly to the chassis using 16 screws.

Figure 27 Ac power filter cord assembly



B Server stacking

Nodes are pre stacked for installation. However, servers may need to be stacked when systems are being upgraded by adding servers. This chapter provides the details and instructions to set up the hoist and to stack servers.

Hoist positioning

The construction and size of the hoist assembly may make it difficult to pass through some doorways and passageways. This section describes the steps to use to enable it to pass through these obstacles.

Step 1. Remove the upper portion of the hoist from the base. Refer to Figure 28 on page 112 for details.

- Remove the locking pin from each upright.
- Lift the upright from its stowed position and transport it to the area where the hoist will be used.

Step 2. Turn the hoist base on its side and transport it to the area where it will be used.

Hoist preparation

The hoist must be assembled after it has been located in the approximate area where it will be used.

Step 1. Assemble the two sections of the hoist. Refer to Figure 28 on page 112 and Figure 29 on page 113 for assembly details.

- Remove the locking pin from each upright.
- Lift the upright from its stowed position and place it on the lower half of the hoist frame.
- Insert the two locking pins.

Step 2. Connect the spreader to the hoist cable. Refer to Figure 30 on page 114 for spreader connection details.

- Open the D-ring on the spreader.
- Connect the “D”-ring to the cable.
- Tighten the “D”-ring.

Figure 28 Hoist assembly

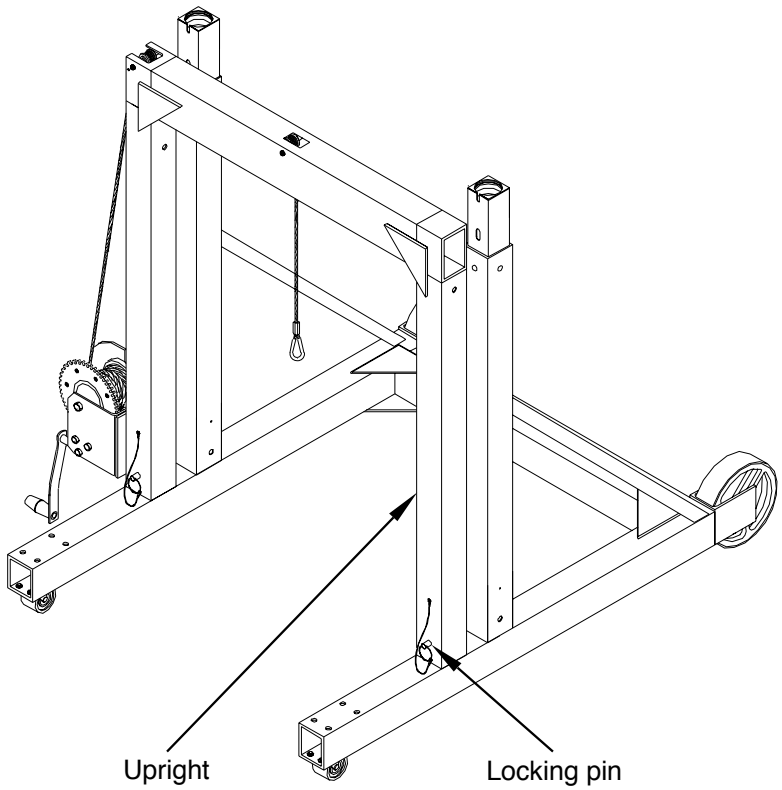


Figure 29 Hoist assembled

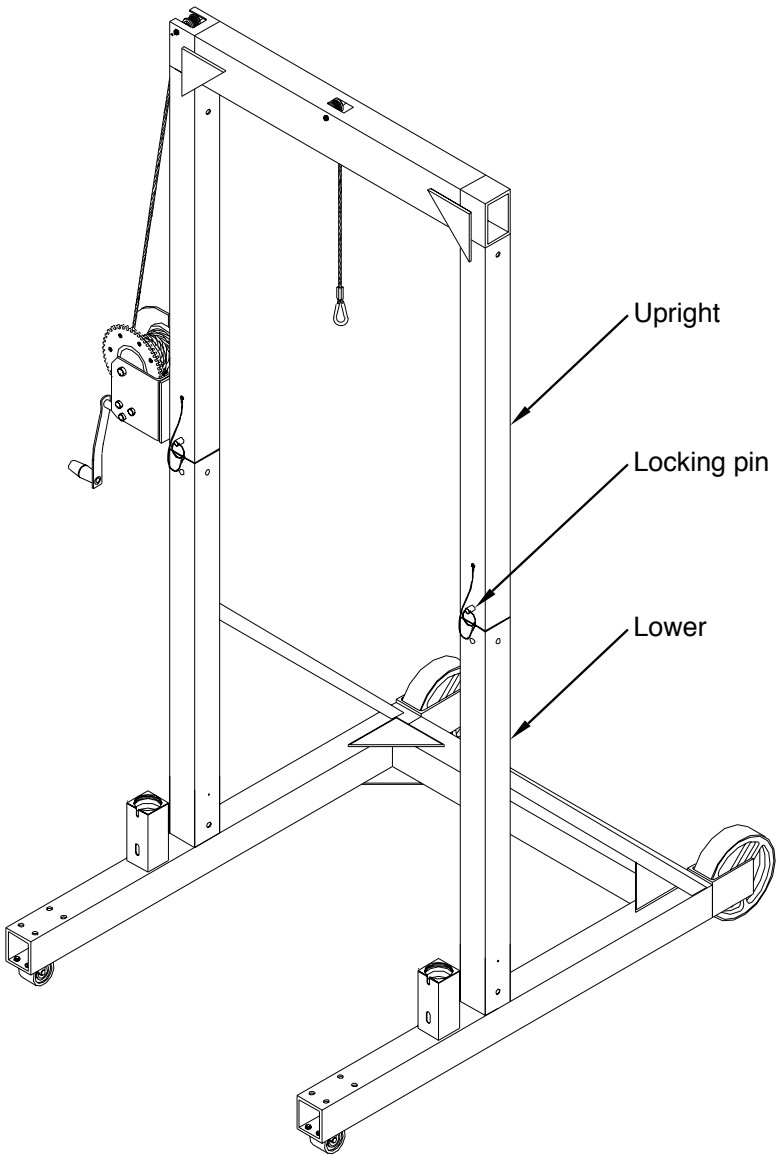
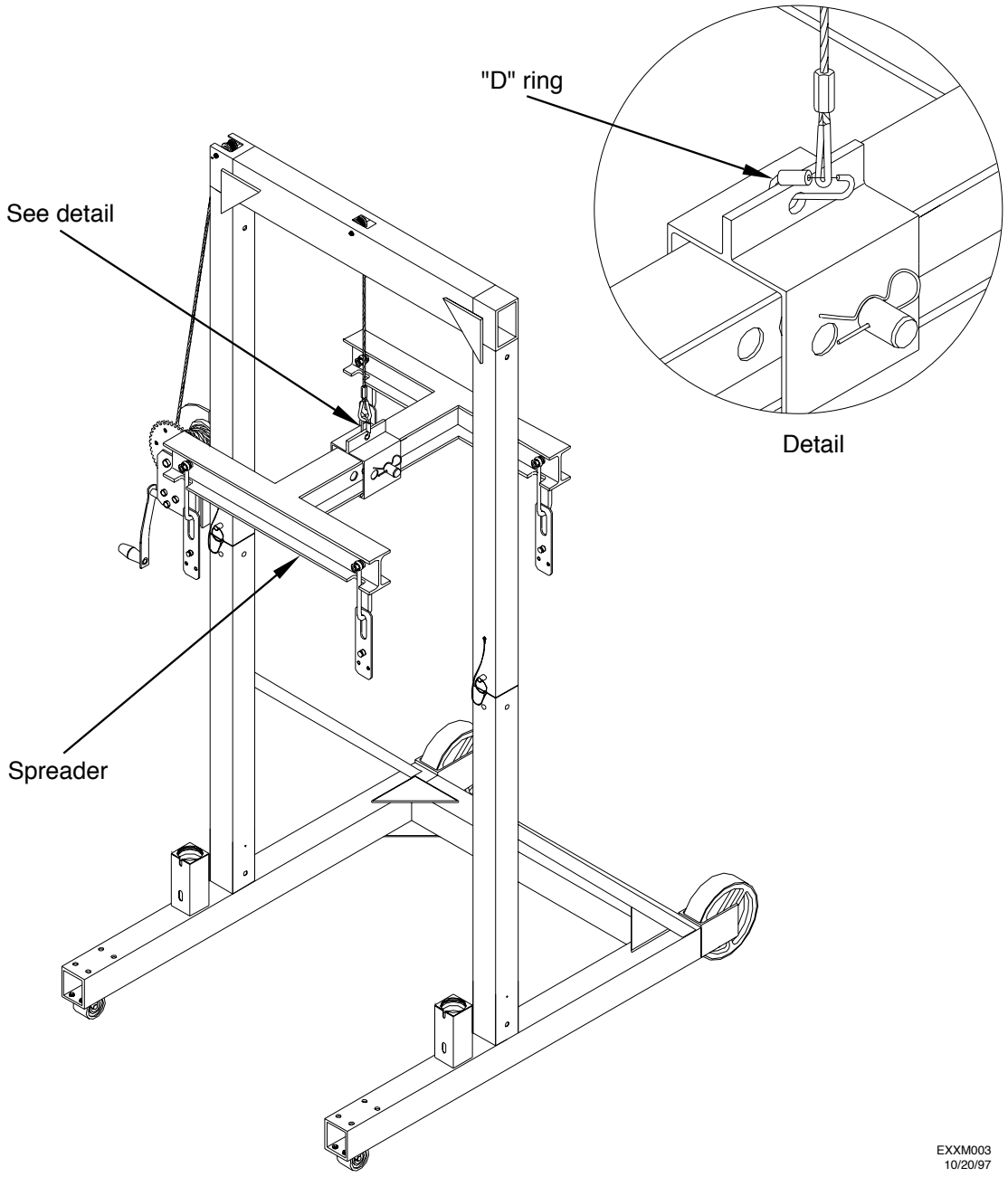


Figure 30 Spreader installation



Gasket installation

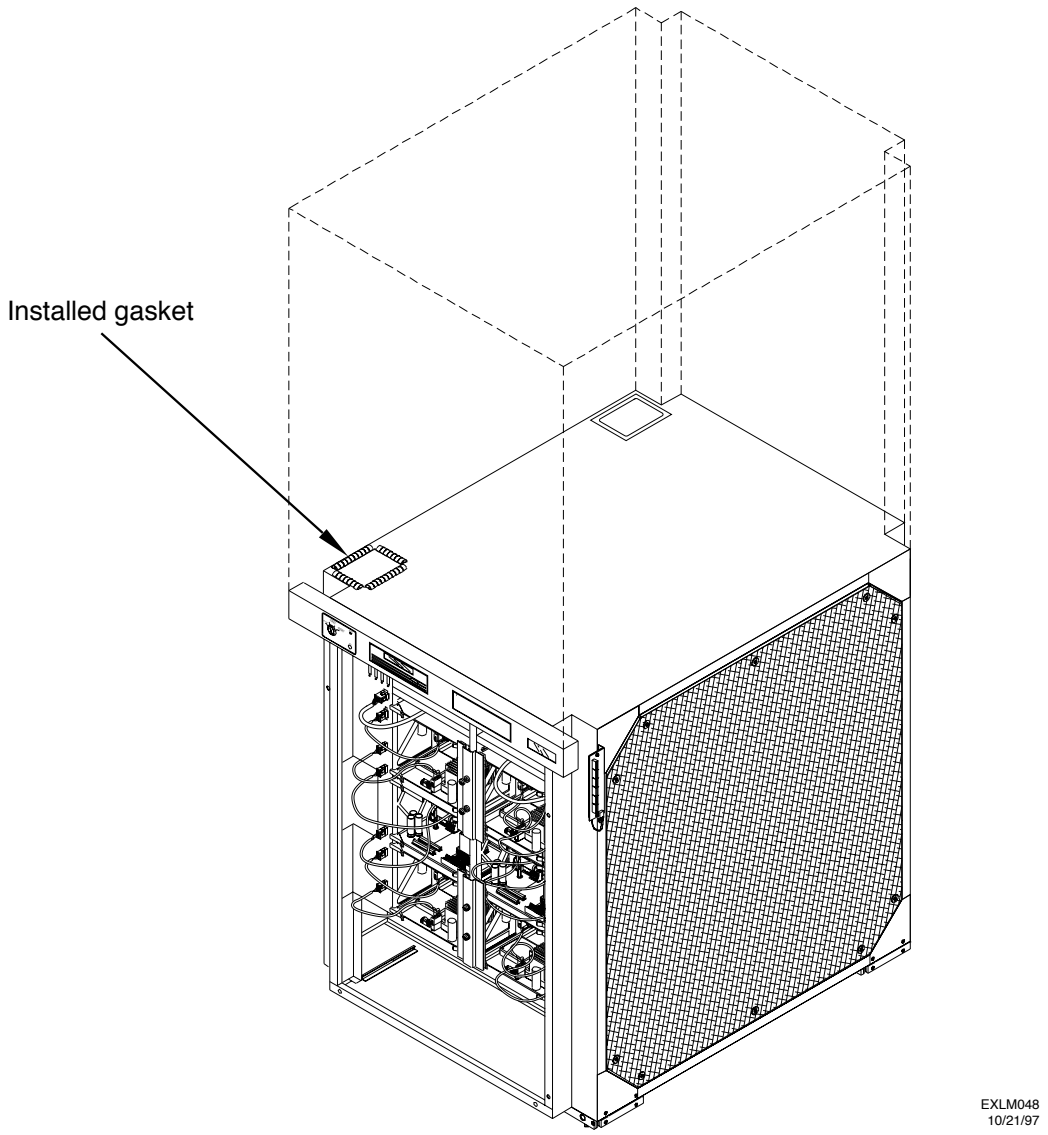
The gasket on the server designated as the lower server must be replaced. Refer to Figure 31 on page 116 for gasket replacement details.

Step 1. Remove the top skin by peeling the skin off. It is attached with two sided tape.

Step 2. Either remove the cover over the cable feed throughs or use a knife to cut through the material. Trim to the same size as the cable opening.

Step 3. Locate the gasket material in the stacking kit and place it around the perimeter of both cable pass throughs.

Figure 31 Gasket replacement

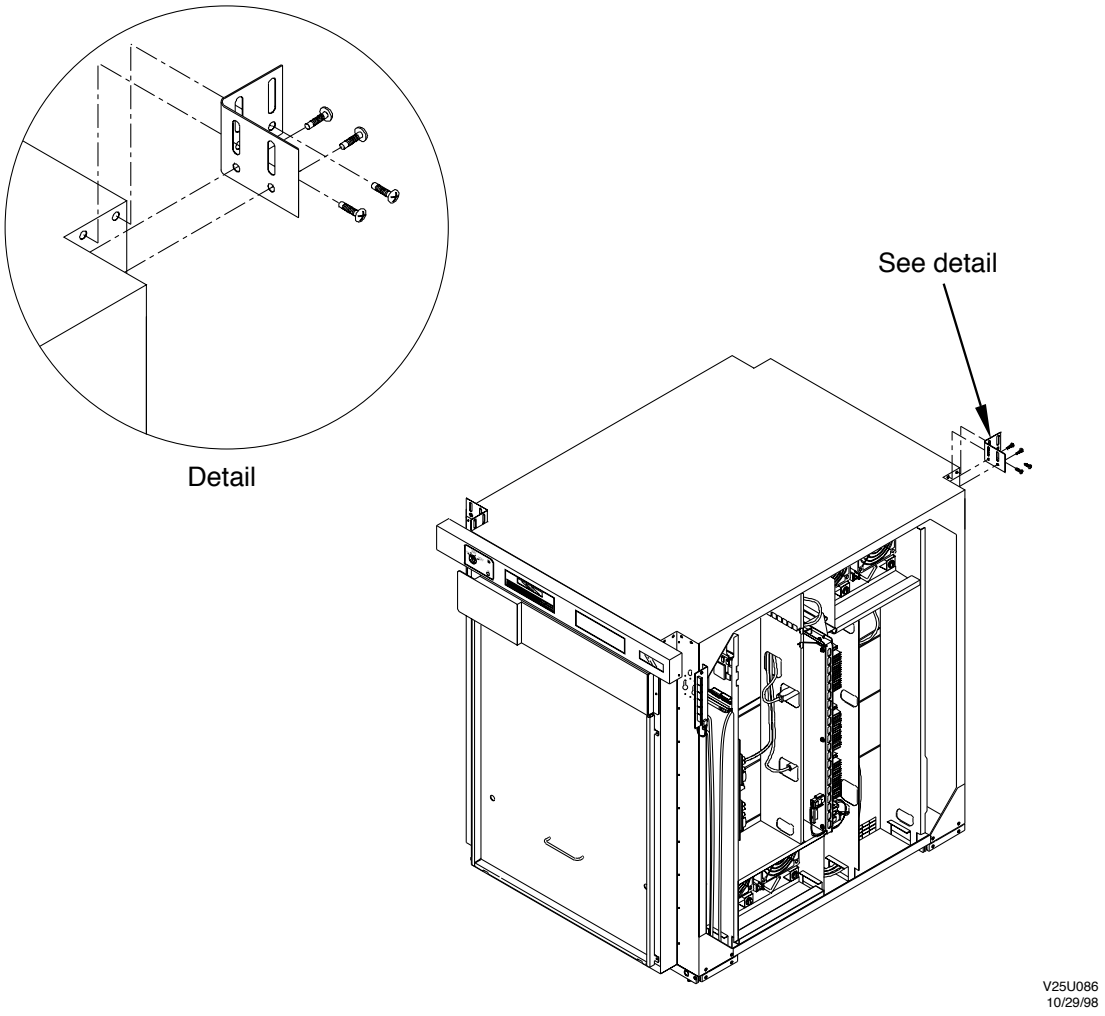


Tie bracket installation

A tie bracket is installed on each corner. These brackets are first attached to the lower server and are used during the server stacking as guides to positioning the top server on top of the lower server. The brackets will then be attached to the upper server to increase stability.

Install each tie bracket by attaching it to the lower server using four screws. Refer to Figure 32 on page 118 for tie bracket installation.

Figure 32 Tie bracket installation



Stacking the servers

The hoist is used to stack the servers. The following procedures describe attaching the spreader to the server and lifting the server.

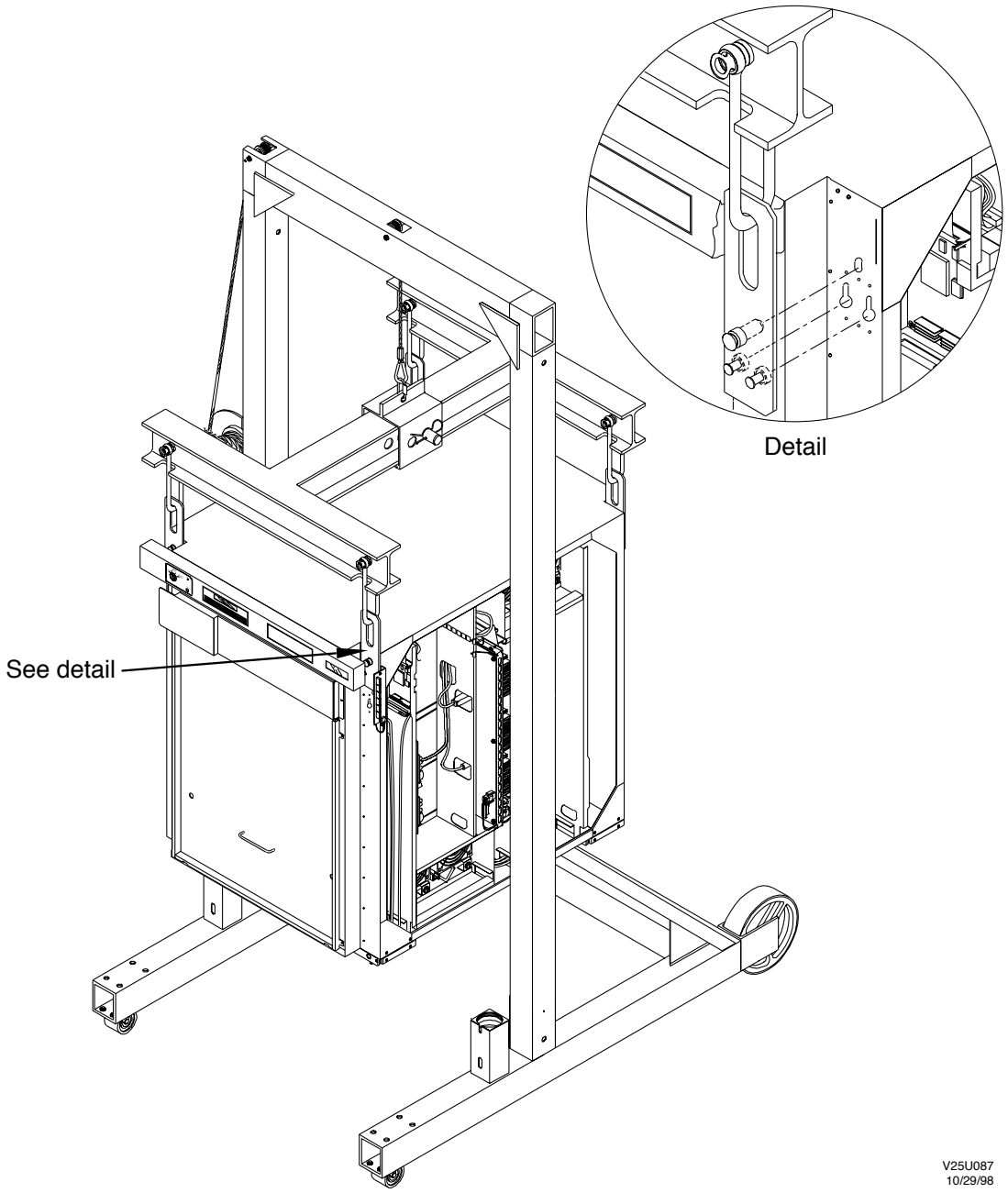
Attaching the spreader

Step 1. Position the hoist over the server to be lifted.

Step 2. Use the hand crank to lower the spreader. Lower the spreader until the attaching plates are below the top of the server.

Step 3. Attach the attaching plates to the server. Insert the two lower pins in the slots provided and lift up on the plate until the upper pin engages into the hole in the chassis. Refer to Figure 33 on page 120 for attachment details.

Figure 33 Spreader attaching points



Lifting the server

Step 1. After connecting all four attaching plates to the server, use the hand crank to put tension on the cable.

Step 2. Check to ensure that all four attaching plates are engaged.

Step 3. Check that the server lifts evenly. If it does not, the spreader must be repositioned to center the load. Refer to Figure 34 on page 122 for details.

- Lower the server to the floor.
- Remove the center of gravity (cg) adjustment pin on the spreader.
- Position the cg adjusting connector to a point that will center the cg.
- Reinsert the cg adjustment pin.

Step 4. Check that the server lifts evenly. If it does not, repeat the actions in Step 3.

Step 5. Repeat the actions in Step 3 and Step 4 until the server lifts evenly.

Step 6. Slowly raise the server high enough to gain access to the casters.

Step 7. Remove four casters by removing four screws from each caster. Refer to Figure 35 on page 123 for caster removal details.

Figure 34 Center of gravity adjustment

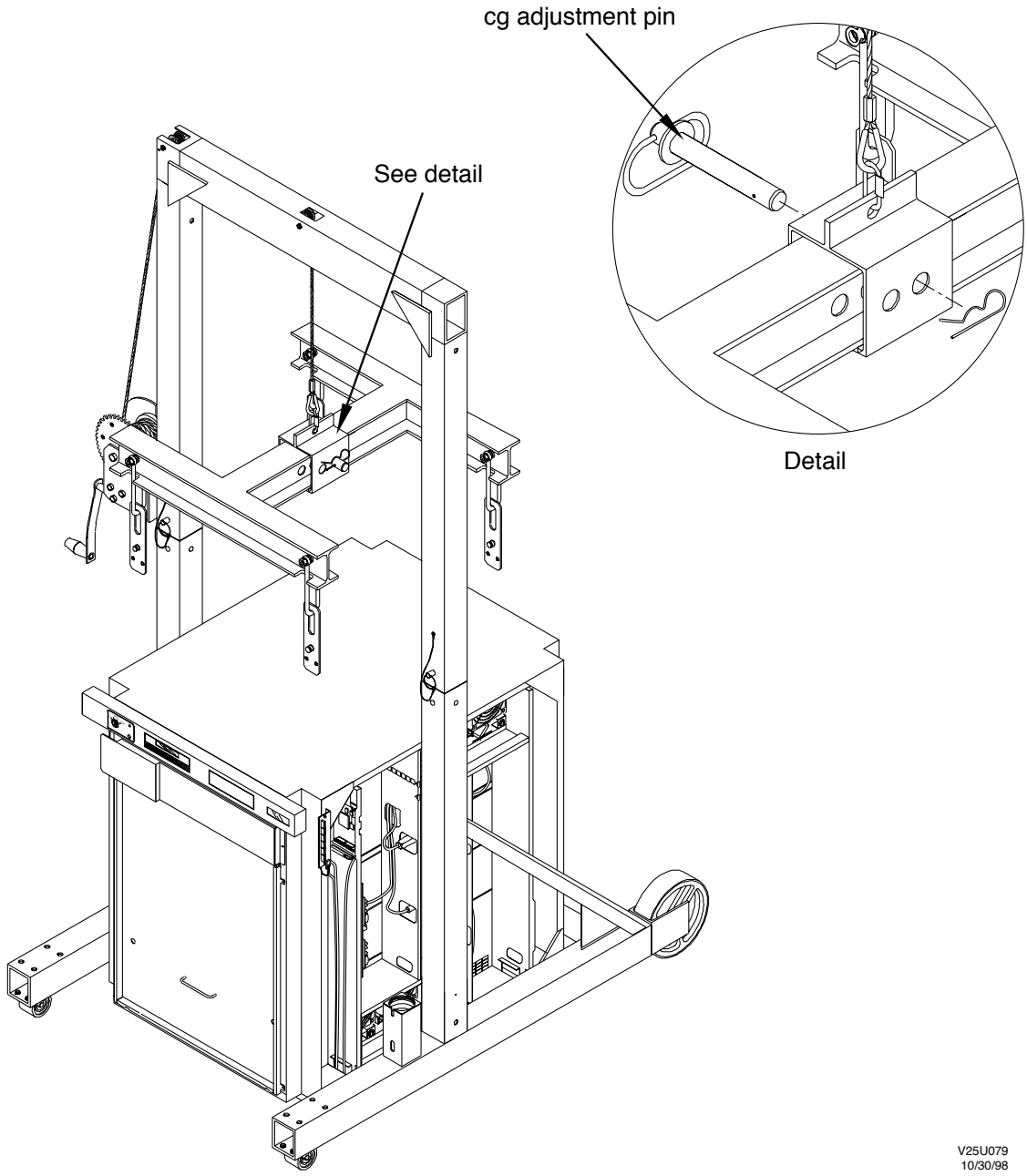
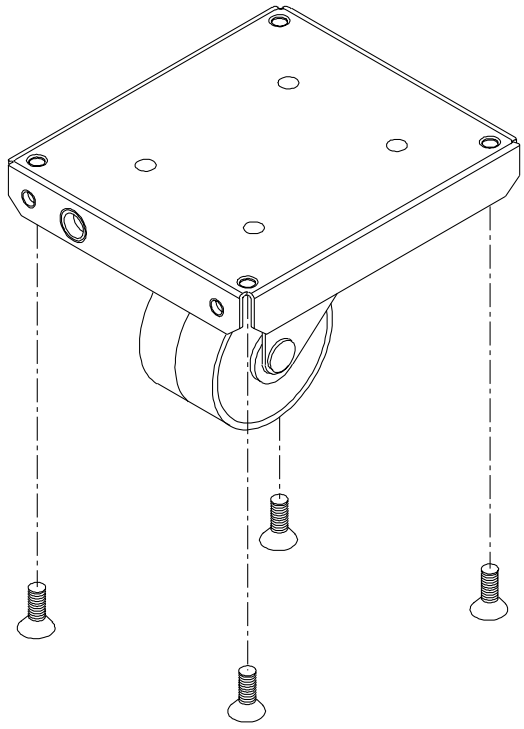


Figure 35 Caster removal



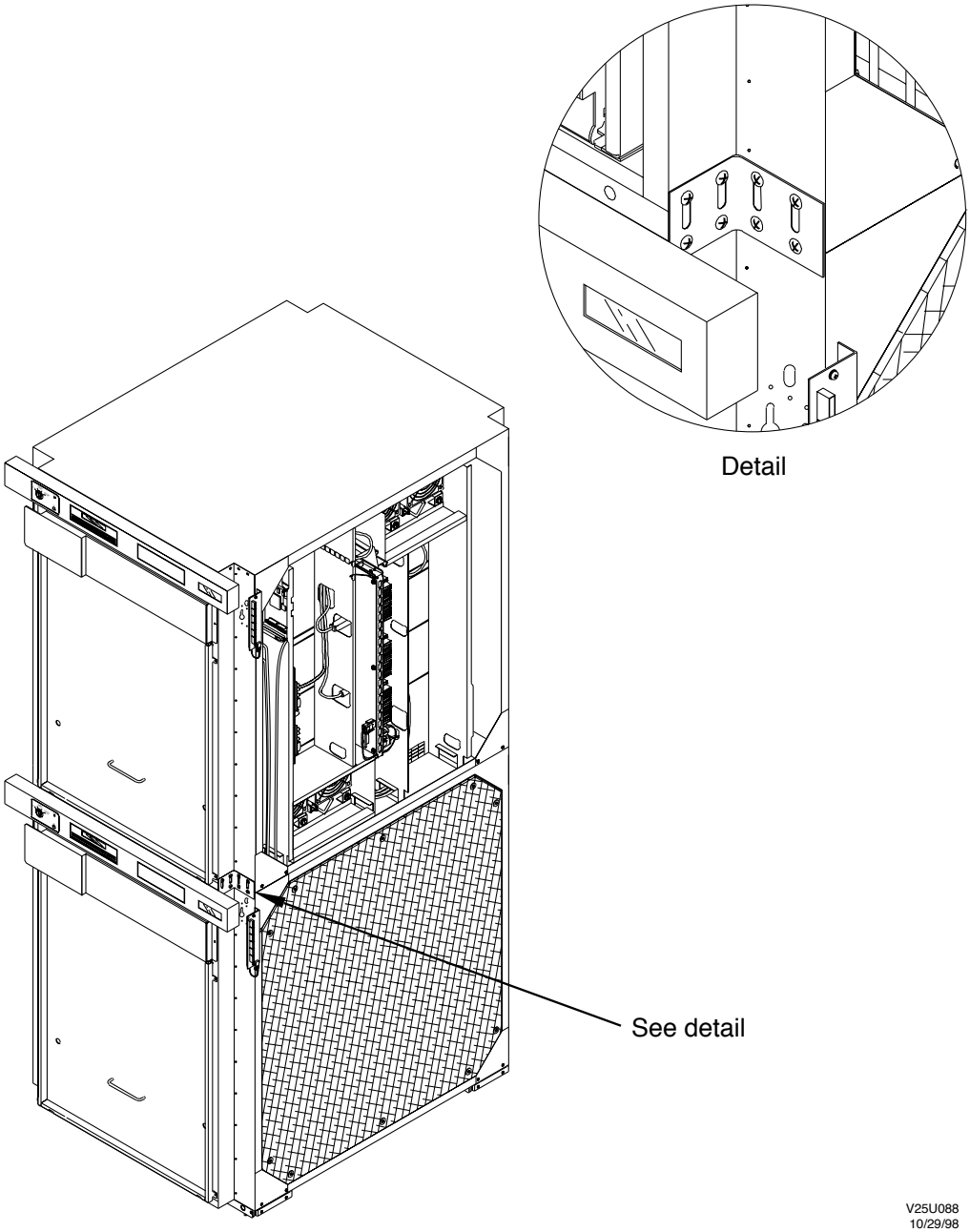
Step 8. Carefully raise the server to its near maximum height. This will place it approximately three inches above the lower server.

Step 9. Carefully roll the hoist and server to a position where the upper server is positioned above the lower server.

Step 10. Carefully lower the server. Use the previously installed tie brackets as guides. Refer to Figure 36 on page 124 for server positioning details.

Step 11. After verifying that the server is properly positioned as determined by being positioned within the tie brackets, lower the server until it rests on the lower server.

Figure 36 Server positioning



Removing the hoist

After ensuring that the servers are properly stacked, disconnect the hoist from the top server and move it away from the servers.

Disconnect the hoist from the server as follows.

Step 1. Use the hand crank to lower the spreader. Lower the spreader until the attaching plates are below the top of the server.

Step 2. Disconnect the attaching plates from the server. Pull to release the upper pin, and allow the two lower pins to drop and disengage from the server.

Step 3. Use the hand crank to raise the spreader well above the server.

Step 4. Move the hoist to a position away from the stacked servers.

Attach the tie brackets to the upper server

After removing the hoist, connect the tie brackets to the upper server.

Attach each tie bracket to the upper server using four screws. Refer to Figure 36 on page 124 for tie bracket installation.

Securing the hoist

To secure the hoist, the spreader must be removed, and the upper portion of the hoist must be removed from the lower portion of the hoist and placed in its stored position.

Securing the hoist

C Installation checklist

This section provides a means of tracking the procedures to ensure that all steps required for a successful installation are completed.

In process checklist

The center section of the checklist allows you to check each step as it is performed.

Completion checklist

The right section of this checklist can be used as a final check to ensure that all steps have been completed.

Table 1 Installation Checklist

PROCEDURE	IN-PROCESS		COMPLETED	
	Initial	Comments	Initial	Comments
Input power inspection				
Inspecting for damage				
Remove packaging				
Remove chassis from pallet				
Unpack accessories				
EMI panel removal				
Circuit board retainer removal				
Leveling feet installation				
Grounding the cabinet				
LCD installation				
Wiring check				
Voltage check				
Serial number check				
Skirt installation				
Cable closeout installation				

PROCEDURE	IN-PROCESS		COMPLETED	
Filter installation				
Rear post cable tray installation				
Teststation installation				
Teststation connection to the server				
External peripheral cable routing				
EMI panel installation				
Skin installation				
Teststation configured				
System verified				
Stability verified				

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