Sun Fire™ V1280 Site Preparation and Installation Guide

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Preface

This Guide describes how to install and set up a Sun Fire V1280 system.

How This Book Is Organized

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Part II Site Preparation

Chapter 2 describes the environmental requirements and airflow considerations for the Sun Fire V1280 system.

Chapter 3 gives details of the electrical requirements for the system.

Chapter 4 explains the various rack mounting options.

Part III Installation

Chapter 5 is a step-by-step description of system installation.

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Appendix A gives details of the networking and other cables and connectors required to access the Sun Fire V1280 system.

Appendix B shows you how to assemble and install the optional DAT tape drive.

Appendix C describes how to start and set up the Sun Fire V1280 system for the first time.

Appendix D lists details of FRUs and X-Options.

Related Documentation

TABLE P-1

Application	Title	Part Number
Safety	*Sun Fire V1280 Compliance and Safety Manual*	816-7780
Use	*Sun Fire V1280 System Administration Guide*	816-0204
Service	*Sun Fire V1280 Service Manual*	816-0205

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PART I Introduction

CHAPTER 1

Introduction

This chapter describes what you will receive when you take delivery of a Sun Fire V1280 system and how to handle it, and an overview of the installation procedure.

What You Will Receive

When you take delivery of a Sun Fire V1280 system, you will receive the system mounted on a pallet and encased in cardboard packaging.

The Sun Fire V1280 system is secured to a wooden pallet by brackets. The whole system is covered by shock-resistant packaging secured by a corrugated cardboard cover, which itself is secured by unbreakable straps.

Graphics on the outside of the cover illustrate how to remove the cover and associated packaging. No special tools are required.

The modules shipped within the system depend on the configuration ordered.

The Shipkit

The shipkit box accompanying the system contains the following items:

- Sun Fire V1280 printed documentation:
  - *Sun Fire V1280 Release Notes* 816-7124
  - *Sun Fire V1280 SIte Preparation and Installation Guide* 816-0201
  - *Sun Fire V1280 Getting Started* 816-7780
  - *Sun Fire V1280 Compliance and Safety Manual* 816-7781
- CD: Sun Fire V1280 documentation:
  - *Sun Fire V1280 System Administration Guide* 816-0204
  - *Sun Fire V1280 System Controller Command Reference Manual* 816-0203
  - *Sun Fire V1280 Service Manual* 816-0205
- Rackmount kit:
  - 2 x slide assemblies with mounting brackets
  - 8 x #10-32 UNF screws with washers
  - 8 x M6 screws with washers
- Cable management arm.
- 3 x Ethernet cables.
- 1 x serial cable.
- Antistatic wrist strap and snap-on converter.
- RJ-45 to DB-25 adapter.
- RJ-45 to DB-9 adapter.
- Unpacking tools:
  - 13 mm wrench
  - 8 mm wrench

Note – The software kit and manual set can be ordered as separate items. The system is pre-loaded and pre-configured with Solaris and the LOM firmware; the manuals shipped with the system are all that are required in order to install the system and start it up.

Note – Power cords are supplied in a separate country kit – refer to Appendix D.

After Unpacking

A lifting device will be required to lift the unmounted system (still attached to the orange mounting cradle) into a rack. The system weighs approximately 107 kg (236 lb) when fully equipped. After the system (still attached to the orange mounting

cradle) is unbolted from the wooden pallet, the lifting device should be inserted as described in Chapter 5. Any other lifting method or point may result in deformation of the chassis and subsequent failure of the system to function correctly.

You should ensure that doorways, corridors and aisles are wide and high enough to accommodate the system while being manoeuvred by the lifting device.

Dimensions

This section gives the overall dimensions of the system and pallet as delivered to your site.

The shipping dimensions of the Sun Fire V1280 system are given in TABLE 1-1:

TABLE 1-1 System Dimensions

	Measurement	
Dimension	**Metric**	**Imperial**
Overall width / depth, including wooden pallet	W: 600 mm D: 705 mm	23.62 in 27.76 in
Overall width / depth, excluding wooden pallet but including orange mounting cradle	W: 564.8 mm D: 558.21 mm	22.24 in 21.98 in
Overall height, including wooden pallet	939 mm	36.97 in
Overall height, excluding wooden pallet but including orange mounting cradle	642.1 mm	25.28 in
Opening in wooden pallet to accommodate lifting device (accepts standard cargo lifting devices)	W: 625 mm H: 95 mm	24.61 in 3.74 in
Opening in orange mounting cradle to accommodate lifting device	337 mm	13.27 in

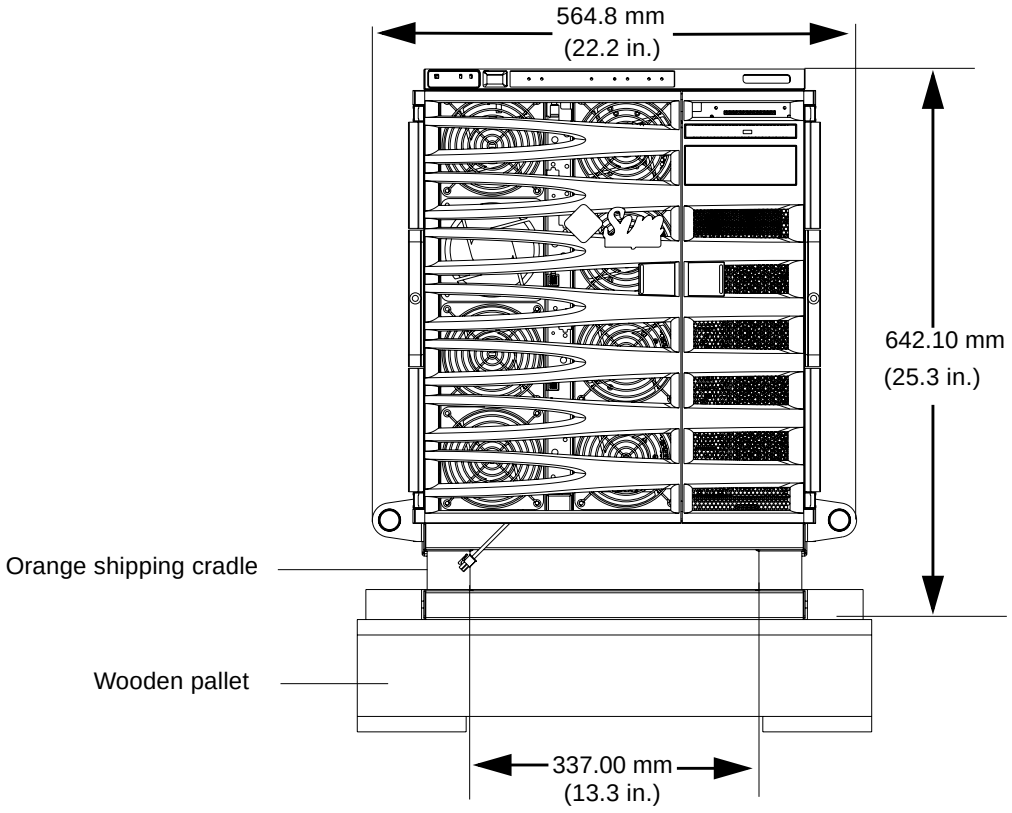

FIGURE 1-1 Dimensions – Front View

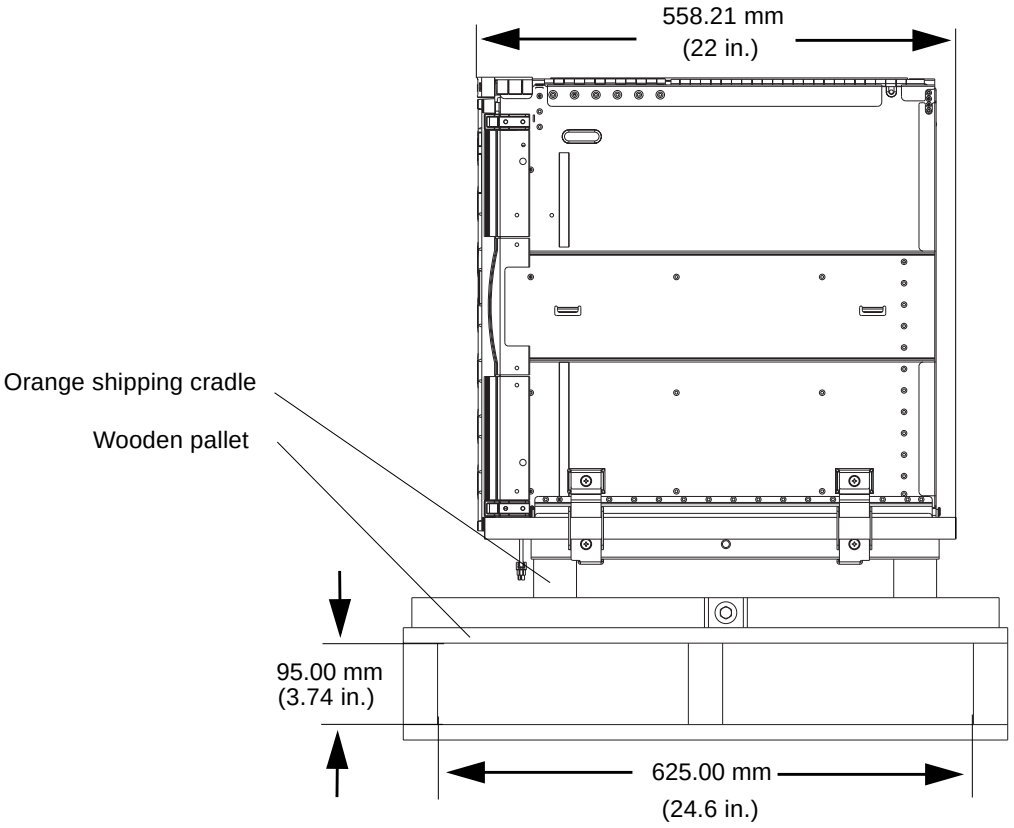

FIGURE 1-2 Dimension – Side View

Installation Procedure Overview

The steps you must carry out in order to successfully install a Sun Fire V1280 system are:

1. **Unpack the system.**

   Refer to “Unpacking the System” on page 29.

2. **Prepare the system for rackmounting.**

   Refer to “Preparing the System” on page 33.

3. **Install the rackmount slides in the cabinet or rack.**

   Refer to “Installing the Rackmount Slides” on page 35.

4. **Install the system in the rack or cabinet.**

   Refer to “Installing the System in the Rack” on page 44.

5. **Install the cable management arm.**

   Refer to “Installing the Cable Management Arm” on page 51.

6. **Install the optional DAT tape drive, if required.**

   Refer to Appendix B.

7. **Connect a terminal to the system.**

   Refer to “Installing and Cabling Hardware” on page 76.

8. **Power on the system for the first time.**

   Refer to “Powering On and Off” on page 83.

9. **Set up the system.**

   Refer to “Setting Up the System” on page 87.

PART II Site Preparation

CHAPTER 2

Environmental, Airflow and Mechanical Considerations

This chapter describes the environmental considerations and airflow requirements for a Sun Fire V1280 system.

The design of your environmental control system—such as computer room air-conditioning units—must ensure that intake air to the server system complies with the limits specified in this section.

To avoid overheating:

- Guard against directing any warmed air toward the front of the cabinet or rack.
- Guard against directing warmed air toward the server access panels.

The Sun Fire V1280 system can also be fitted with optional air filter cartridges, where required, to reduce the intake of dust particles. These can be fitted at the rear of the front doors and will require perdiodic cleaning or replacement.

The environmental limits for Sun Fire V1280 systems are listed in TABLE 2-1.

Note – When you receive your system, leave it in the shipping crate at its final destination *for 24 hours* in the environment in which you will install it. This is to prevent thermal shock and condensation.

Environmental Requirements

The system can be installed in an environment with the specific parameter ranges shown in TABLE 2-1.

TABLE 2-1 Environmental Limits for Sun Fire V1280 Systems

Environmental Factor	Range – Operating	Range – Non-Operating	Optimum
Ambient temperature	5 to 35˚C*	–40 to 65˚C*	21 to 23˚C*
Relative humidity	20 to 80% noncondensing†	10 to 90% noncondensing†	45% to 50% noncondensing†
Elevation	maximum 3000 meters (9840 feet)	maximum 12000 meters (39400 feet)	

* Does not apply to removable media devices.

† Subject to a maximum absolute humidity of 0.024kg of water per kg of dry air.

The operating environmental limits in TABLE 2-1 reflect what the systems have been tested to, in order to meet all functional requirements. The optimum operating condition is the recommended operating environment. Operating computer equipment for extended periods of time at or near the temperature or humidity extremes is known to significantly increase the failure rate of hardware components. In order to minimize any chance of down-time due to component failure, it is strongly recommended that customers plan and use the optimal temperature and humidity ranges.

Ambient Temperature Recommendations

The ambient temperature range of 21°C to 23°C is optimal for system reliability and operator comfort levels. Most computer equipment can operate within a wide temperature range, but a level near 22°C is desirable because it is easier to maintain safe associated relative humidity levels at this temperature. Operating in this temperature range provides a safety buffer just in case the environmental support systems go down for a period of time. Though individual standards vary slightly, 21°C to 23°C should be used as an optimal recommendation.

Ambient Relative Humidity Recommendations

The ambient relative humidity levels between 45% and 50% are the most suitable for safe data processing operations. Under certain circumstances, most data processing equipment can operate within a fairly wide environmental range (20% to 80%), but the optimal goal should be between 45% to 50% for several reasons:

- The optimal range helps protect computer systems from corrosivity problems associated with high humidity levels.
- It provides the greatest operating time buffer in the event of environmental control system failure.
- This range helps avoid failures or temporary malfunctions caused by intermittent interference from static discharges that occur when relative humidity is too low.

Electrostatic discharge (ESD) is easily generated and less easily dissipated in areas where the relative humidity is below 35%, and becomes critical when levels drop below 30%. The 5% relative humidity range may seem unreasonably tight when compared to the guidelines used in typical office environments or other loosely controlled areas, but it is not so difficult to maintain in a data center because of the high efficiency vapor barrier and low rate of air changes normally present.

Airflow and Heat Dissipation

The maximum rate of heat release a system with all slots occupied and active is 3300W (11300 BTU/hour). More detailed figures are given in TABLE 2-2.

TABLE 2-2 Heat Dissipation

Configuration	Heat Dissipation
4P 8 Gbytes	1400W (4780 BTU/hr)
8P 16 Gbytes	2150W (7330BTU/hr)
12P 24 Gbytes	2900W (10640 BTU/hr)
12P 96 Gbytes	3300W (11300 BTU/hr)

The Sun Fire V1280 system has been designed to function while mounted in a natural convection airflow, but to meet the declared environmental specification the following rules apply.

1. Adequate airflow through the chassis must be ensured. The Sun Fire V1280 system uses internal fans that can achieve a total airflow of 400cfm in normal operating conditions.

2. The inlet air must enter at the front of the Sun Fire V1280 chassis; the airflow exhausts from the rear of the chassis.

3. Ventilation openings for both the inlet and exhaust of the system should provide a minimum open area of 1030 cm^2 (160 in^2) each.

4. A minimum of 88.9 mm (3.5 inches) clearance must be allowed at the front and rear of the Sun Fire V1280 chassis when mounted unless an unobstructed airflow can be ensured. Refer to "Mounting Requirements" on page 17.

Mechanical Considerations

Dimensions (Unmounted)

- Height: 533.4 mm (21 inches) 12RU nominal
- Width: 445 mm (17.5 inches) including slides
- Depth (chassis only): 558 mm (22 inches) (including slides): 568 mm (22.4 inches)
- Weight: Approximately 107 kg (236 lb) (system only); 130 kg (286 lb) (with mounting cradle); 141 kg (310 lb) (including cable management and slides)

These dimensions are for the product without rack-mount adapters; the overall width of the adapters varies according to the equipment mounting requirements.

The depth given does not include any I/O or power connectors, or any cable management features. depending on the type of cable management arm used, between 60 mm (2.4 inches) and 200 mm (7.9 inches) must be added to the chassis depth. The power connectors could add 50 mm (2 inches) to the depth.

Note – Cables are likely to protrude a minimum of 30 mm (1.2 inches) from the rear of the chassis due to bend radii and connector backshells, and the telescopic slides protrude 28 mm (1.1 inches).

Caution – Mechanical assistance is required when installing a loaded chassis.

Note – When mounting the system in a rack, allow sufficient space at the front and rear for service access.

For details of the rack mounting options, see Chapter 4.

CHAPTER 3

Electrical Supply Installation

This chapter provides information about isolating the Sun Fire V1280 system and the installation of the electrical supply.

The Sun Fire V1280 system is supplied ready for installation in an equipment rack. The plug at the end of each AC power cord is the primary means of isolating the Sun Fire V1280 system.

Caution – This system has multiple power connections. You must disconnect all associated AC inlet circuits in order to completely remove power from the system.

Note – The voltage must be in the range 200–240VAC for the system to power up.

Caution – The power switch is not an On/Off switch, it is an On/Standby switch. It does not isolate the equipment.

The power (On/Standby) switch of the Sun Fire V1280 system is a rocker type, momentary action switch. It controls only low voltage signals and no high voltage circuits pass through it.

Four grounded socket outlets must be located near the final installation location for the Sun Fire V1280 system and must remain easily accessible once the unit has been installed in its host.

At least two dedicated branch circuits should be provided, one for each grounded socket outlet—see “Connecting AC Power for Redundancy” on page 15 for details.

The Sun Fire V1280 system is supplied with four detachable power supply cords fitted with wall plugs to mate with the local electrical socket outlets. Power cord ratings are shown in TABLE 3-1.

TABLE 3-1 Power Cord Ratings

Rating	Value
Voltage	200 to 240 VAC
Maximum input current per cord	200 VAC @ 9A
Line cord	10A nominal
Circuit breaker panel	40A

Note – The plug at the end of each power cord is the primary means of disconnection for this product.

The on-site AC power requirements are as shown in TABLE 3-2.

TABLE 3-2 Power Requirements

Voltage	200–240VAC
Frequency	Nominal 50–60 Hz

The current and power consumption of the Sun Fire V1280 system at 200VAC are as shown in TABLE 3-3.

TABLE 3-3 Current and Power Consumption

Current	9A per cord if only two cords are powered
Inrush Current	18A after 100µs
Surge Current	After 5ms brown-out short term surge is higher at 75A
Power Consumption	3300W max. total

Connecting AC Power for Redundancy

Caution – For optimum redundancy, the power cords should be connected to two independent branch circuits as shown in FIGURE 3-1. If a single branch circuit should fail, the system will continue to function *provided that the PSUs on the remaining branch circuit are in service.* A minimum of two functioning power supplies are required.

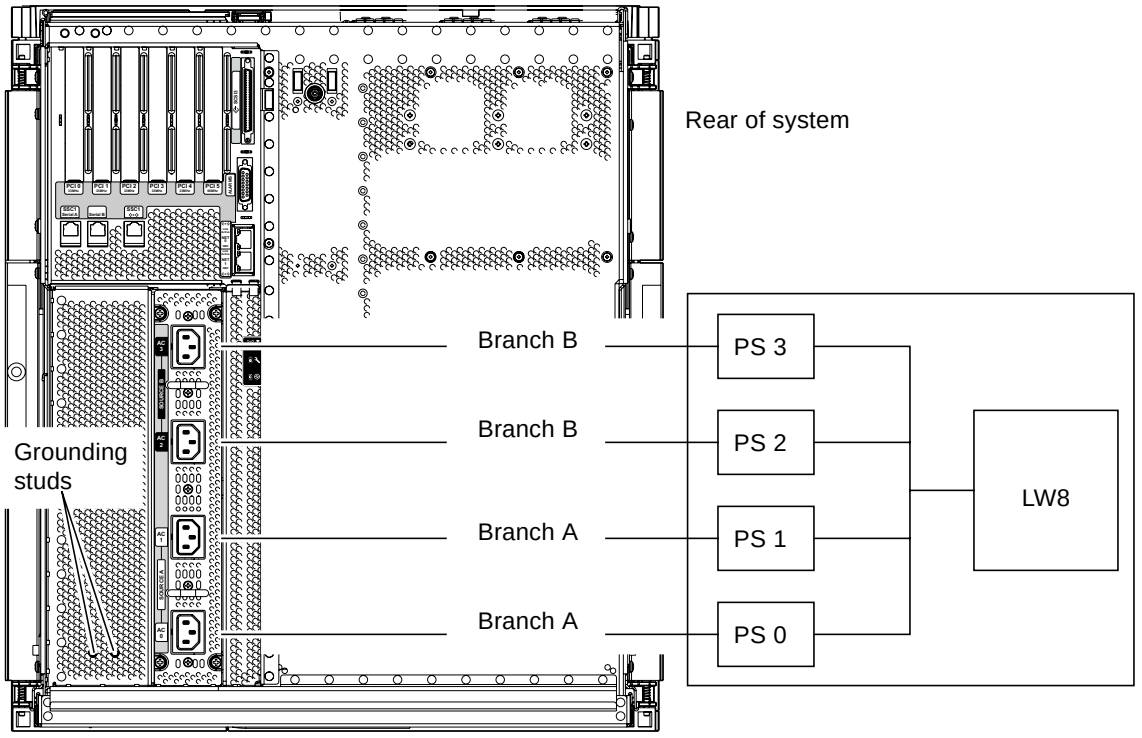

FIGURE 3-1 Connecting the Power Cords to Independent Branch Circuits for Optimum Redundancy

CHAPTER 4

Rack Guidelines

Sun Fire V1280 systems are shipped with a cradle, which protects the bottom of the chassis during transit and handling. The cradle must be removed once the Sun Fire V1280 system is installed in a rack, then stored in a safe place.

Mounting Requirements

The Sun Fire V1280 chassis has been designed to accommodate the most common mounting configurations. The standard rackmount kit allows installation in the following racks:

- Sun Fire Expansion Cabinet
- Sun Storedge Expansion Cabinet
- 19-inch two-post rack with a post depth of between 76.2 mm (3 inches) and 152.4 mm (6 inches).
- 19-inch IEC297/EIA310-D rack with a depth between mounting rails of between 450 mm (17.7 inches) and 780 mm (30.7 inches).

An optional rackmount kit provides adapters to allow installation in a 23-inch two-post rack with a post depth of 127 mm (5 inches). These are intended for use with telco unequal flange seismic frames.

The Sun Fire V1280 chassis must be mounted using screws suitable for the equipment rack. The screws should be M5, M6 or #10-32 UNF. All screws must be fitted. The recommended tightening torque value for either M5 or #10-32 UNF recess head screws is 3.8 N m (2.8 lbf/ft), and that for M6 screws is 6 N m (4.4 lbf/ft).

The vertical mounting hole pattern of the rack should conform to the standard dimensions shown in FIGURE 4-1.

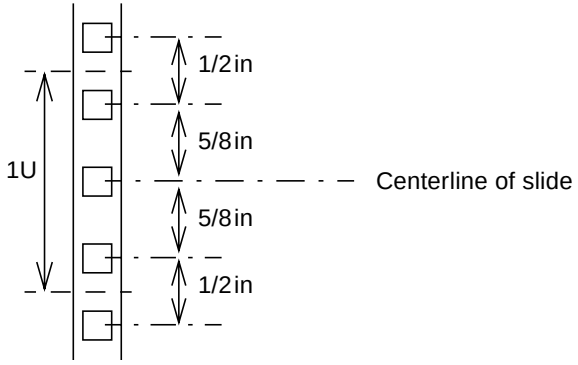

FIGURE 4-1 EIA / RETMA Universal Mounting Hole Pattern Dimensions

Ensure that the slides are fitted properly aligned with the RETMA hole pattern so that the system, when installed, aligns with a U boundary.

Installation Requirements

Vertical Space

The Sun Fire V1280 chassis occupies 12RU (533.4 mm / 21 inches) of vertical height.

Depth

There must be a minimum of 570 mm (22.4 inches) usable internal depth in the rack or cabinet.

Required usable depth (rack internal space) is dependant upon the type of cable management utilized and the cooling airflow arrangement.

Examples

1. Minimum = 570 mm (22.4 inches) (refer to FIGURE 4-2)

   The ‘minimum’ depth is based upon no rack front door (to provide maximum airflow) and no cable Management Arm fitted (support for cable service loops provided by the installer) This is dependant upon the method of routing cables away from the rear of the system.

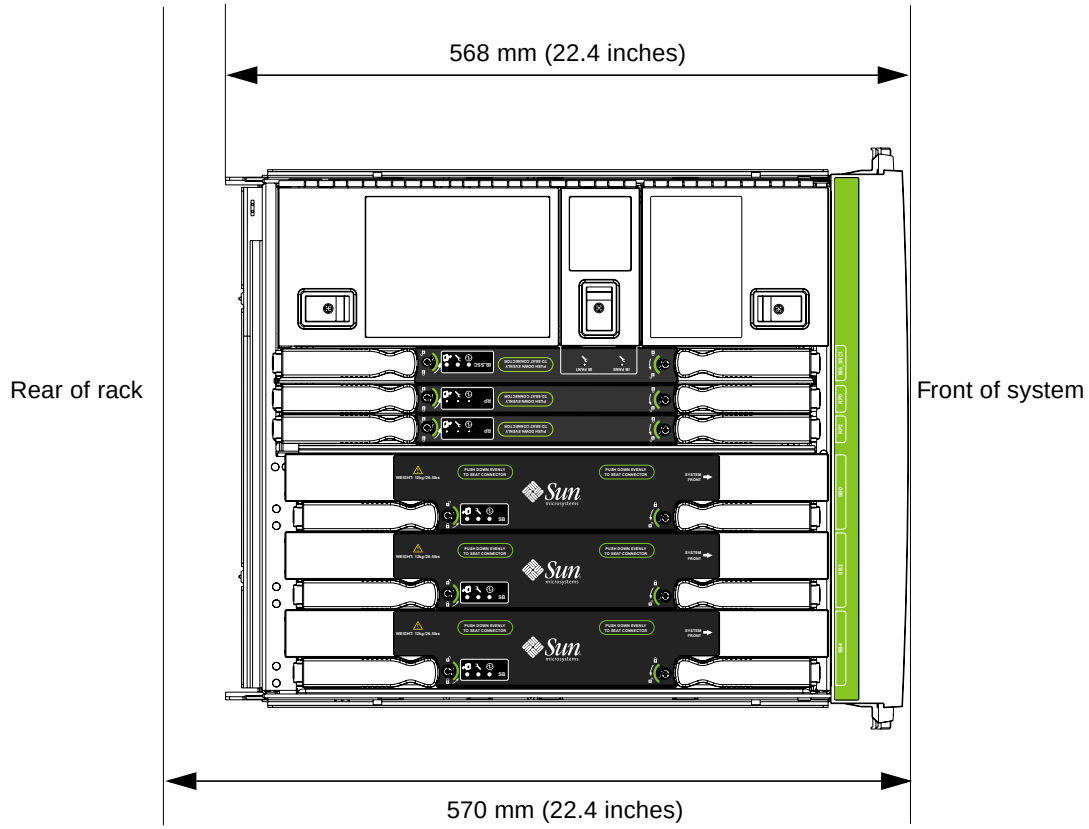

FIGURE 4-2 Minimum Rack Depth Requirement

2. Typical = 643 mm (25.3 inches) up to 783 mm (30.8 inches)

   A ‘typical’ depth requirement is based upon a rack with a ventilated front door, 25mm (1 inch) of air plenum and the CMA-lite Cable Management Arm fitted. Using the CMA-800 increases this to 783 mm (30.8 inches).

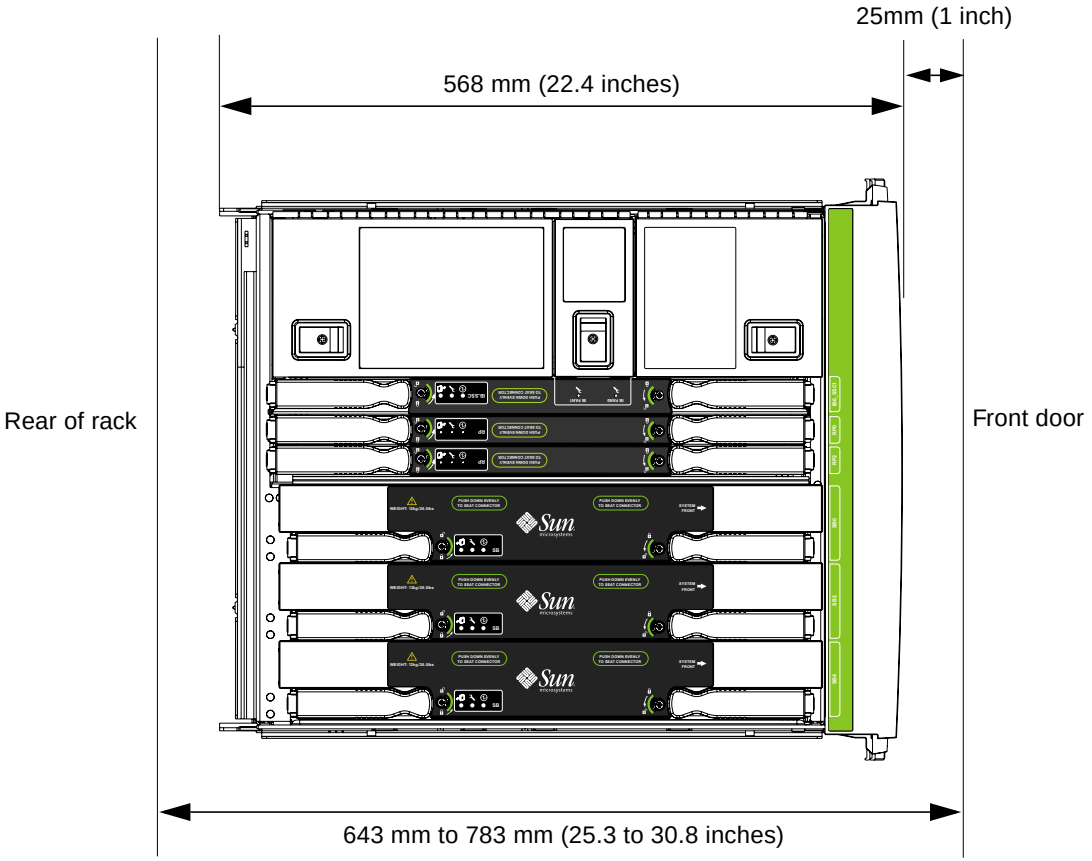

FIGURE 4-3 Typical Rack Depth Requirement

3. Maximum = 848 mm (33.4 inches)

   The least desirable case, based upon using a rack with solid doors, 90 mm (3.54 inches) of plenum at the front of the system to act as a ventilation chimney and the CMA-800 Cable Management Arm fitted. Note this is also dependant upon a rack with an inset to the front mounting rails of 115 mm (4.5 inches).

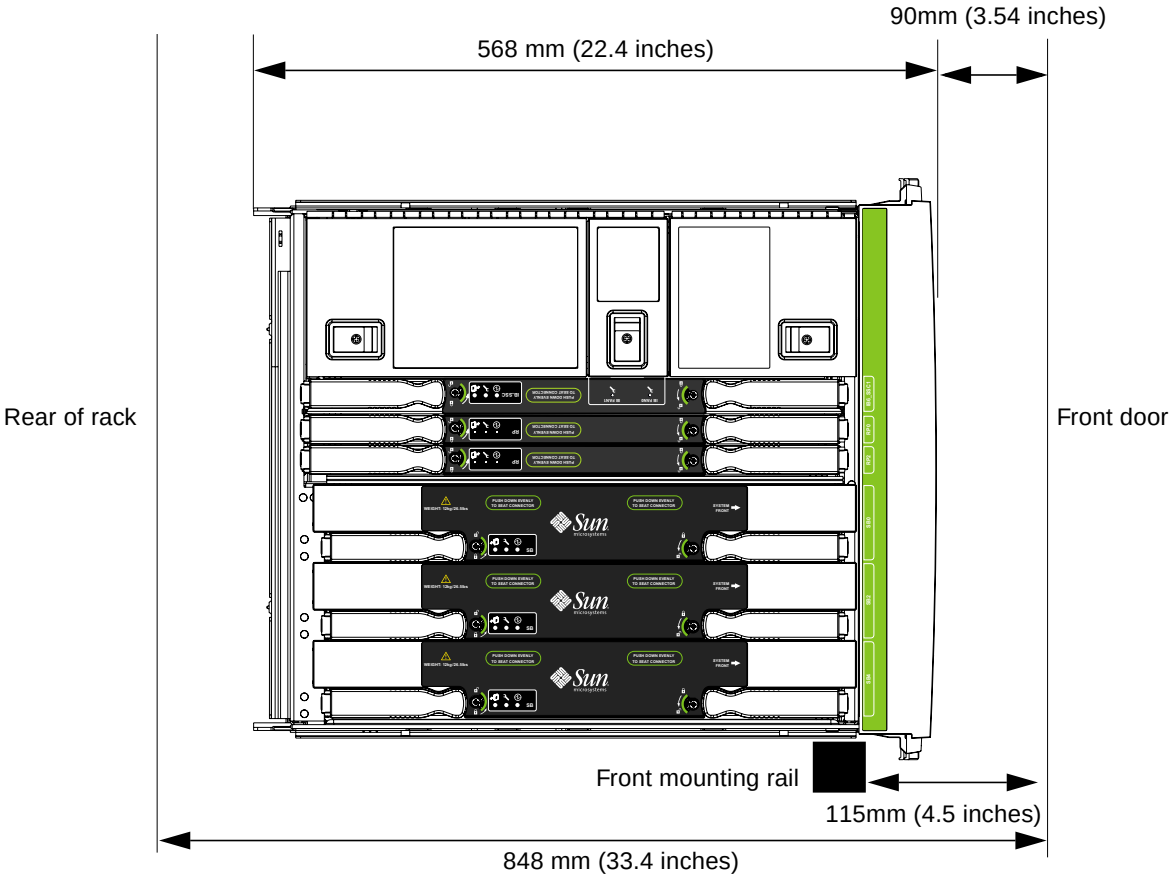

FIGURE 4-4 Maximum Rack Depth Requirement

Service Access

To allow full service access to the Sun Fire V1280 system, there are limits to vertical location within a rack. In a suitably stable four-post rack, two systems can be fitted; the first should be no lower than 254 mm (10 inches) above the floor. The second system can be mounted directly above this, but the top of the system should not exceed 1320mm (52 inches) above the floor.

Only one system should be fitted to a two-post rack, in the lower position described above.

No units or cables above or below a Sun Fire V1280 system should protrude beyond the front face of the system. This allows service access when the slides are fully extended.

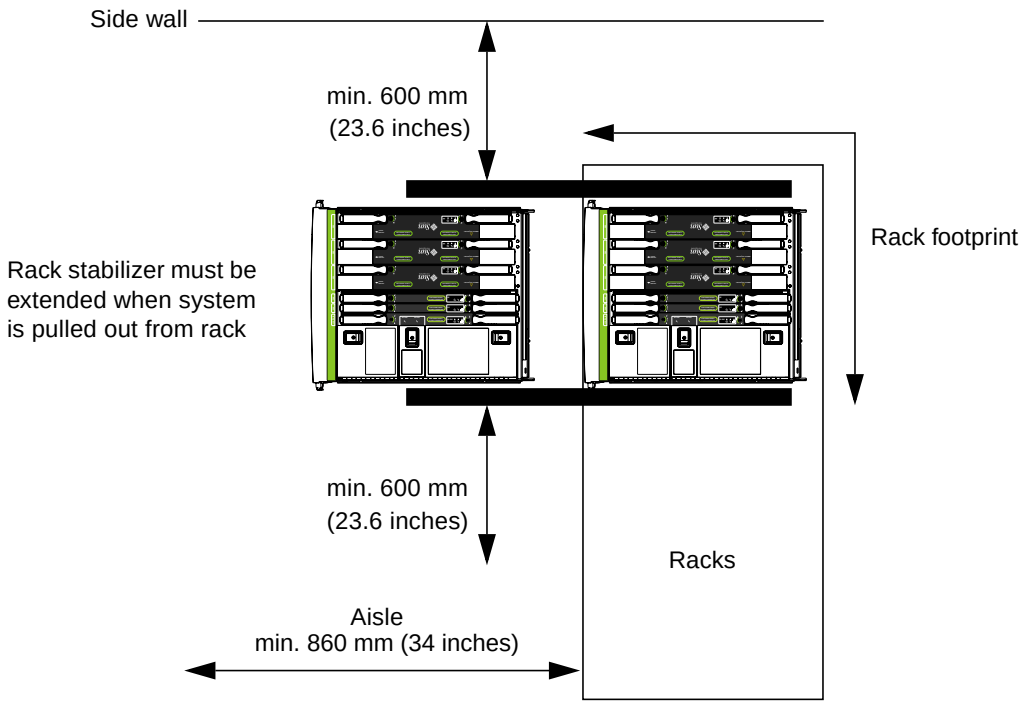

FIGURE 4-5 Service Access – Floor Space (plan view)

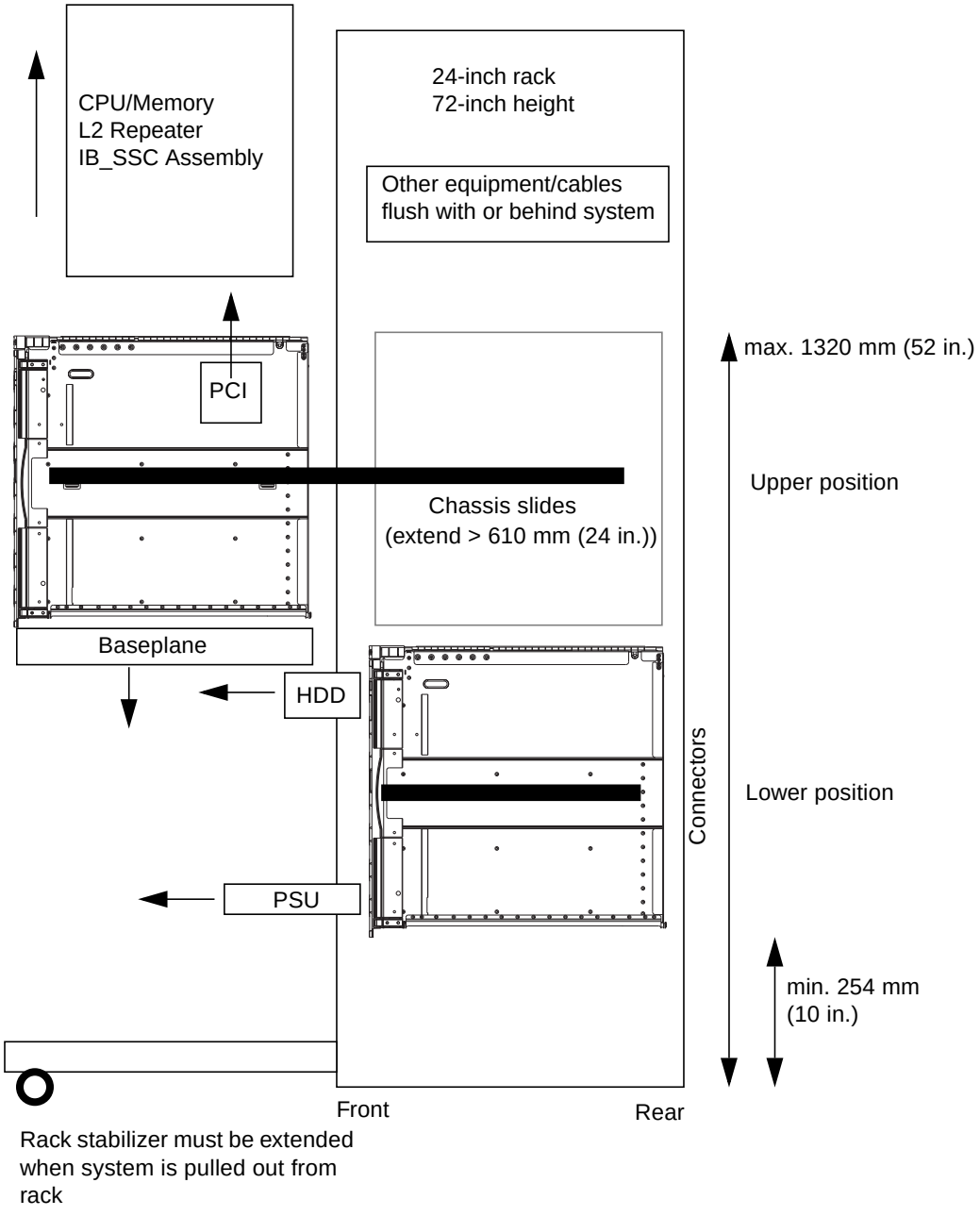

FIGURE 4-6 Service Access (side view)

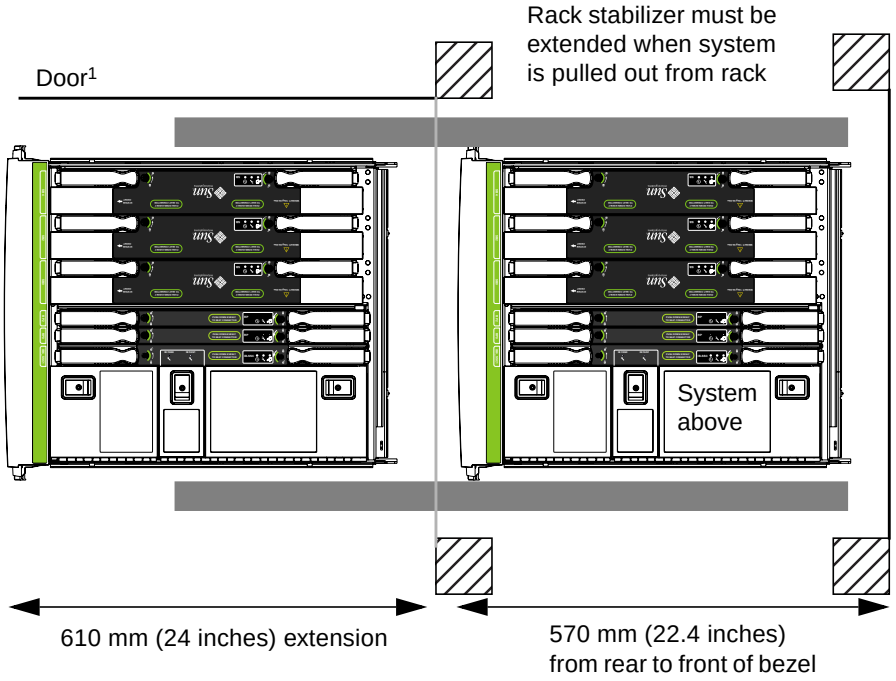

FIGURE 4-7 Service Access – Cabinet (plan view)

Notes

1. For some operations the door may need to be swung back 180 degrees, or possibly removed.

Loading

The rack must be capable of supporting a static load of 107kg (236lb) for a fully configured Sun Fire V1280 system, or 214kg (472 lb) if two systems are installed. Dynamic load considerations are subject to site location and application.

Note – Only one system should be mounted in a two-post rack.

Safety

For Sun Fire V1280 systems, we strongly recommend anchoring all host racks or cabinets to the floor, ceiling, or to adjacent frames, using the manufacturer's instructions.

Free standing racks or cabinets should be supplied with an anti-tilt feature which must be extended with a minimum of 270 mm (10.6 inches) from the front edge of the rack, or at least sufficiently to support the weight of the Sun Fire V1280 system when extended on its slides, in order to prevent instability during installation or service actions.

Where an anti-tilt feature is not supplied and the rack is not bolted to the floor, a safety evaluation will need to be conducted by the installation or service engineer as to rack stability when the Sun Fire V1280 system is extended on its slides, prior to any installation or service activity.

Caution – Where two systems are fitted in a rack, only one of them should be withdrawn for service at any one time.

Seismic Applications

If you intend to use the Sun Fire V1280 system in an environment that may be subject to earthquakes and Earthquake Zone 4 compliance is required, a specialist rack designed to tolerate Zone 4 earthquakes needs to be selected and independent tests undertaken to ensure system compliance in these areas.

A seismic rack should be rigid enough to result in a fundamental resonance in the horizontal axes of greater than 5 Hz with the Sun Fire V1280 system installed.

PART III Installation

CHAPTER 5

Physical Installation

This chapter describes how to install and cable the system. It contains the following sections:

If you want to install the optional DAT tape drive, refer to the instructions given in Appendix B.

Caution – The system must not be depopulated prior to installation. For this reason it will be necessary to use a lifting device in order to raise the system safely to the necessary height for installation. In any other case a minimum of four people are required in order to carry out installation in a safe manner.

Unpacking the System

1. **Ensure there is adequate space around the system to manoeuvre a lifting device.**

   Refer to "Installation Requirements" on page 18.

2. **Remove the yellow Customer Information Sheet from the plastic pocket on the side of the packaging and keep it for future reference.**

3. **Remove the outer packaging.**

   Instructions are printed on the outside of the shipping carton. Refer to FIGURE 5-1, FIGURE 5-3, and FIGURE 5-2.

a. Cut and remove the banding.

b. Open the carton.

c. Remove the shipkit carton.

d. Remove the internal saddle.

e. Remove the outer carton.

You may find it easier to lift off the outer carton with the saddle in place.

f. Lift off the system bag.

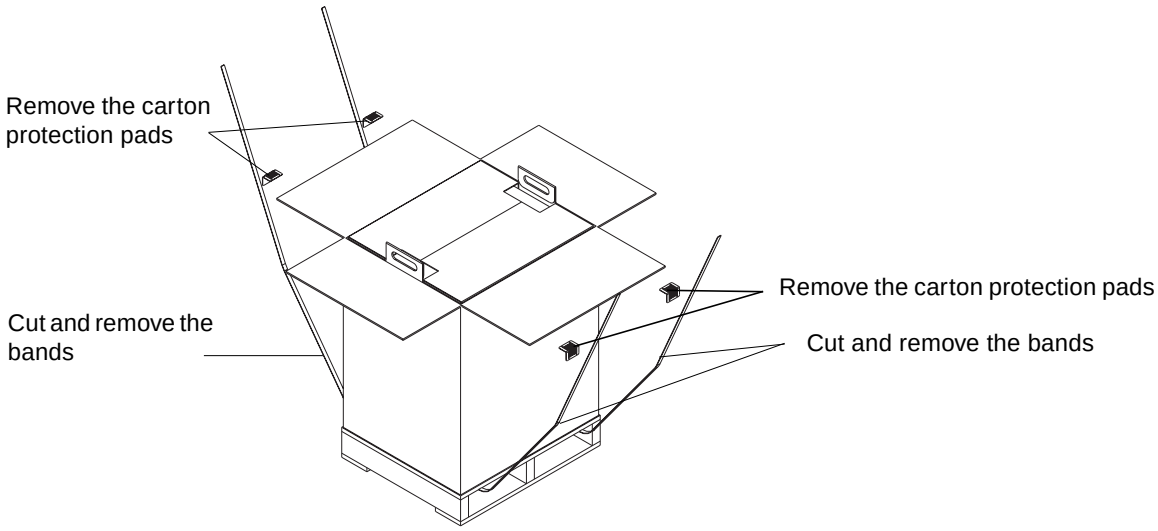

FIGURE 5-1 Unpacking the System – Opening the Carton – Steps 2a and 2b

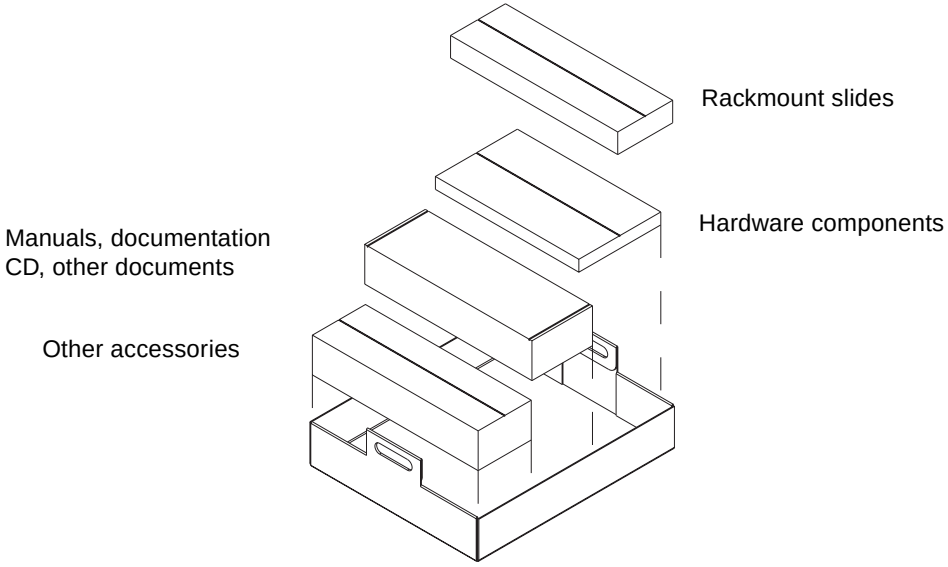

FIGURE 5-2 Unpacking the System #2 – Shipkit Tray

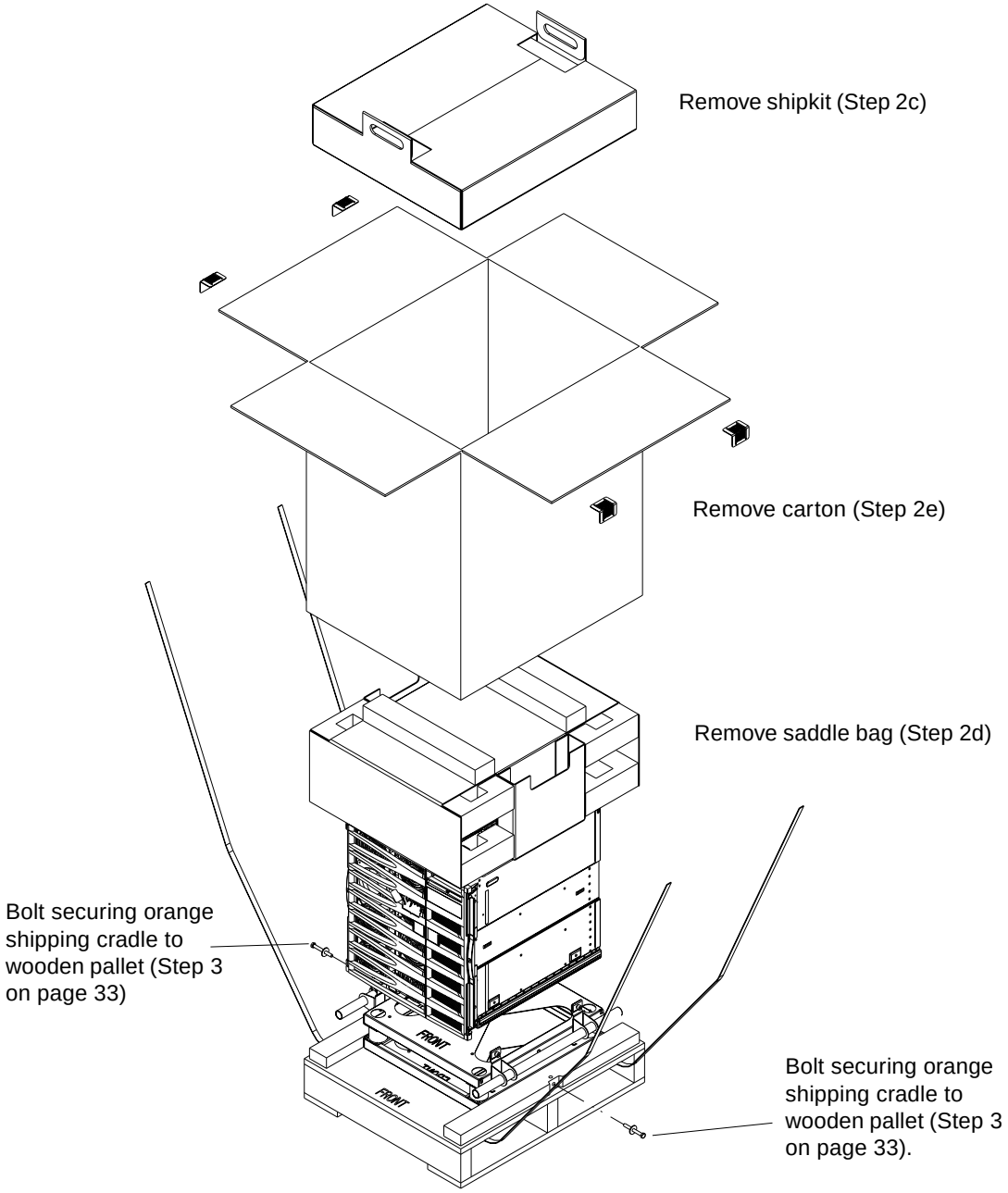

FIGURE 5-3 Unpacking the System #3 – Steps 2c, 2d, 2e and 2f

4. Make a visual check that the chassis is undamaged.

Preparing the System

1. **Remove the front bezel doors to avoid damage during installation.**

   Release the two hinges on each section of the bezel by pressing down the hingepin levers to release the hingepins. Refer to FIGURE 5-4.

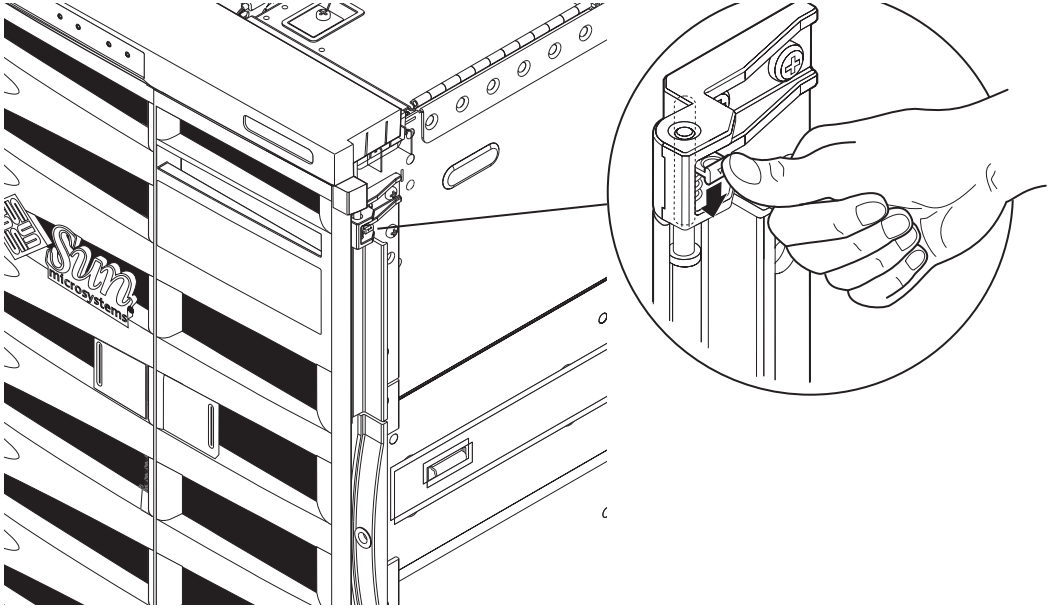

FIGURE 5-4 Bezel Hinge Release Mechanism

2. **If you intend to run the system without the environmental filters installed, remove them from the doors and store them in a safe place.**

3. **Remove the bolts securing the orange shipping cradle to the wooden pallet.**

   Refer to FIGURE 5-3.

Note – If a suitable lifting device cannot be used, the system can be lifted into place using the handles provided on the orange shipping cradle. A minimum of four people are required.

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4. **Gently use the lifting device to lift the system off the shipping pallet.**

   If necessary, use the handles of the orange shipping cradle to gently slide the system to the front edge of the pallet. Refer to FIGURE 5-5.

Note – The forks of the lifting device must be fully inserted through the opening provided in the orange shipping cradle to avoid damage to the system. Check at the rear of the system to confirm that the forks of the lifting device extend beyond the rear face of the orange shipping cradle.

Caution – Do not remove the handles at this point as they attach the cradle to the system.

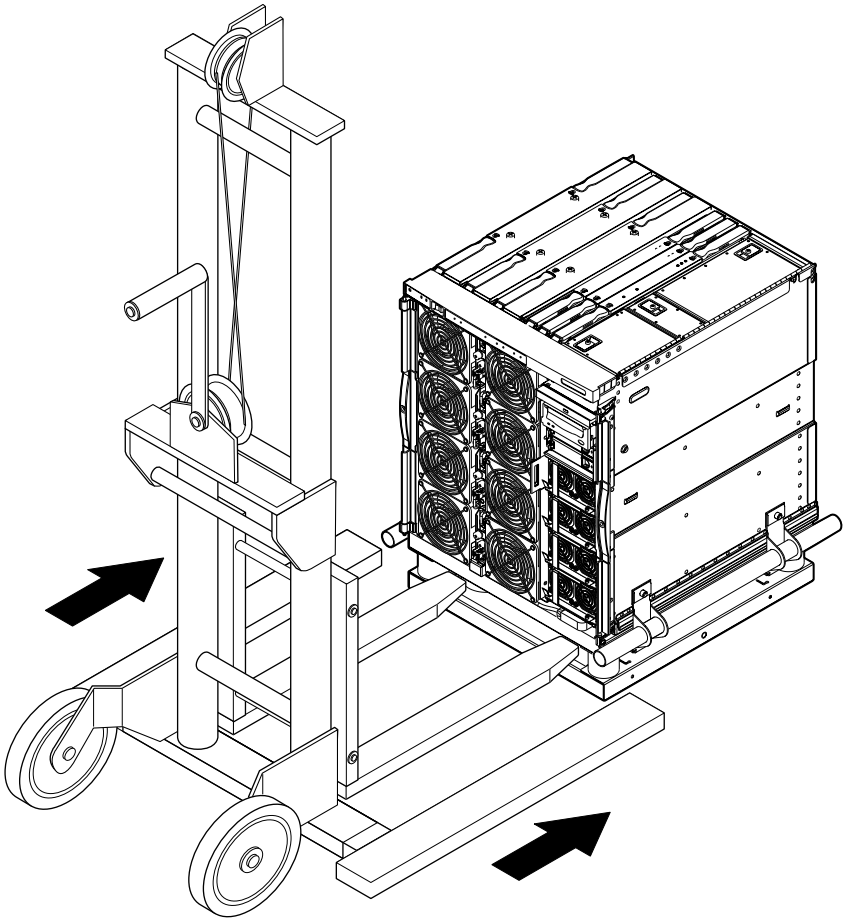

FIGURE 5-5 Inserting the Lifting Device

Installing the Rackmount Slides

Before attempting to install the system, the telescopic slides must be prepared and fitted.

▼ To Install the Inner Slides

1. **Remove the rackmount slides from the packaing.**
2. **Remove the inner slides from the outer slides by pressing in the latch adjacent to the green latch and pulling them free.**
3. **Attach the inner slide members to the chassis.**

   Push the slides up so that the locating tabs on the sides of the chassis clip over the cutouts in the slides and spring tab is engaged. Refer to FIGURE 5-6 and FIGURE 5-7.

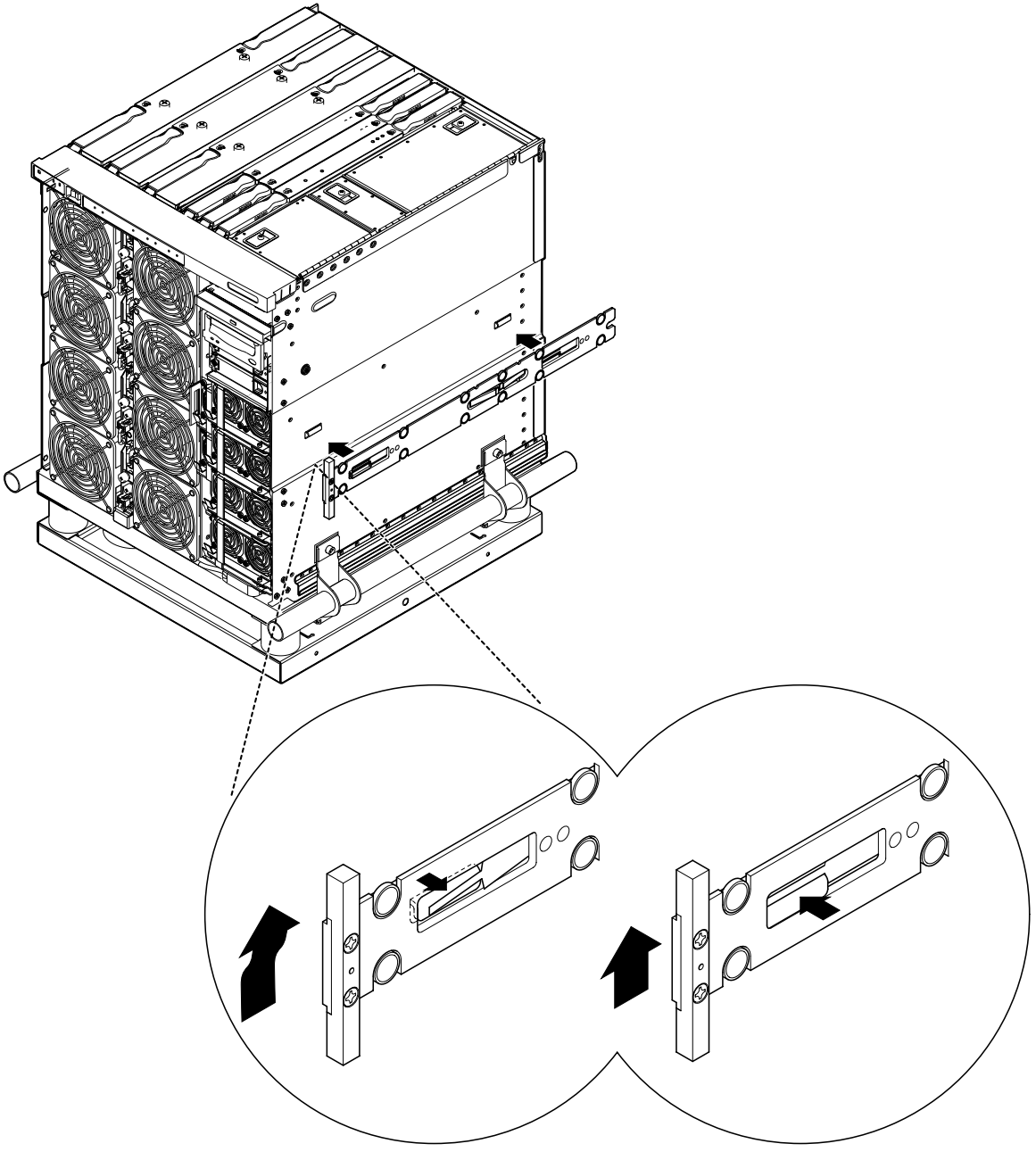

FIGURE 5-6 Installing the Rack Slides

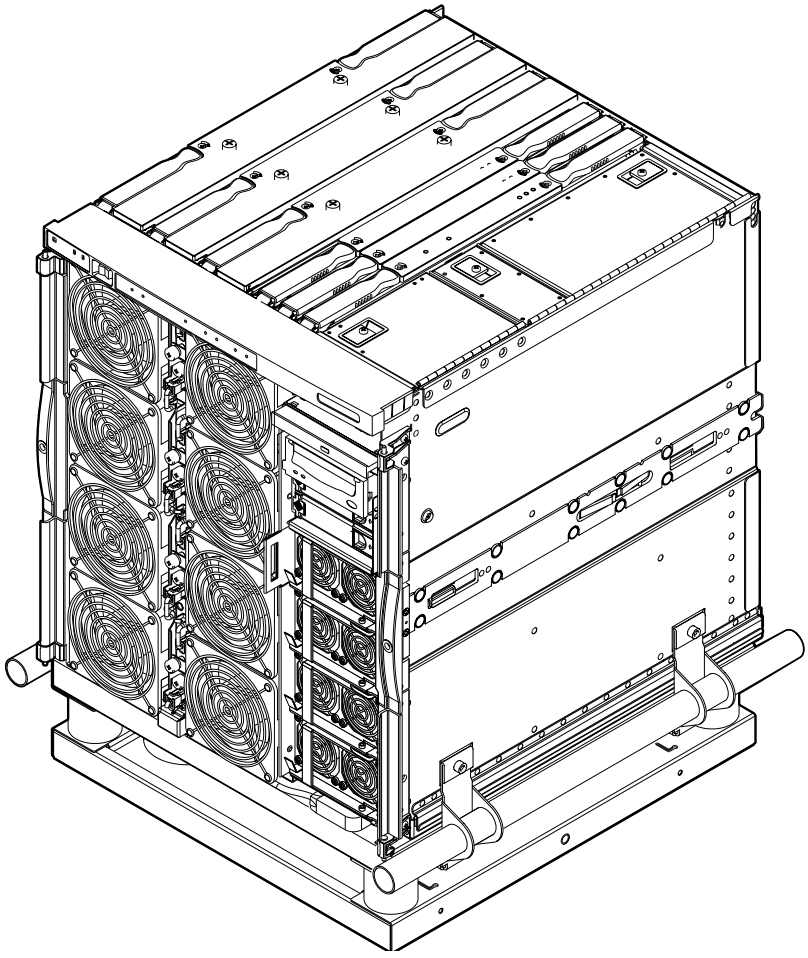

FIGURE 5-7 Rackmount Slide Installed

4. **Ensure the spring steel tabs of the rackmount glides are securely in place over the tabs on the chassis sides.**

   It is possible to fit the inner slide member incorrectly by pressing on the spring clips, so forcing them under the hook features on the chassis. When installed correctly, the spring clips must be above the chassis hooks; the lip on the main body of the slide member must engage under and behind the chassis hook. If necessary use a screwdriver to press the spring clips fully home.

Installing Slides in a Rack or Cabinet

Note – For guidance, the slides are marked with the correct bracket locations for some specific racks, however due to variation in rack dimensions, further minor adjustment may be required.

FIGURE 5-8 shows the labels on the slides which aid positioning of the rackmount brackets for various Sun racks and cabinets.

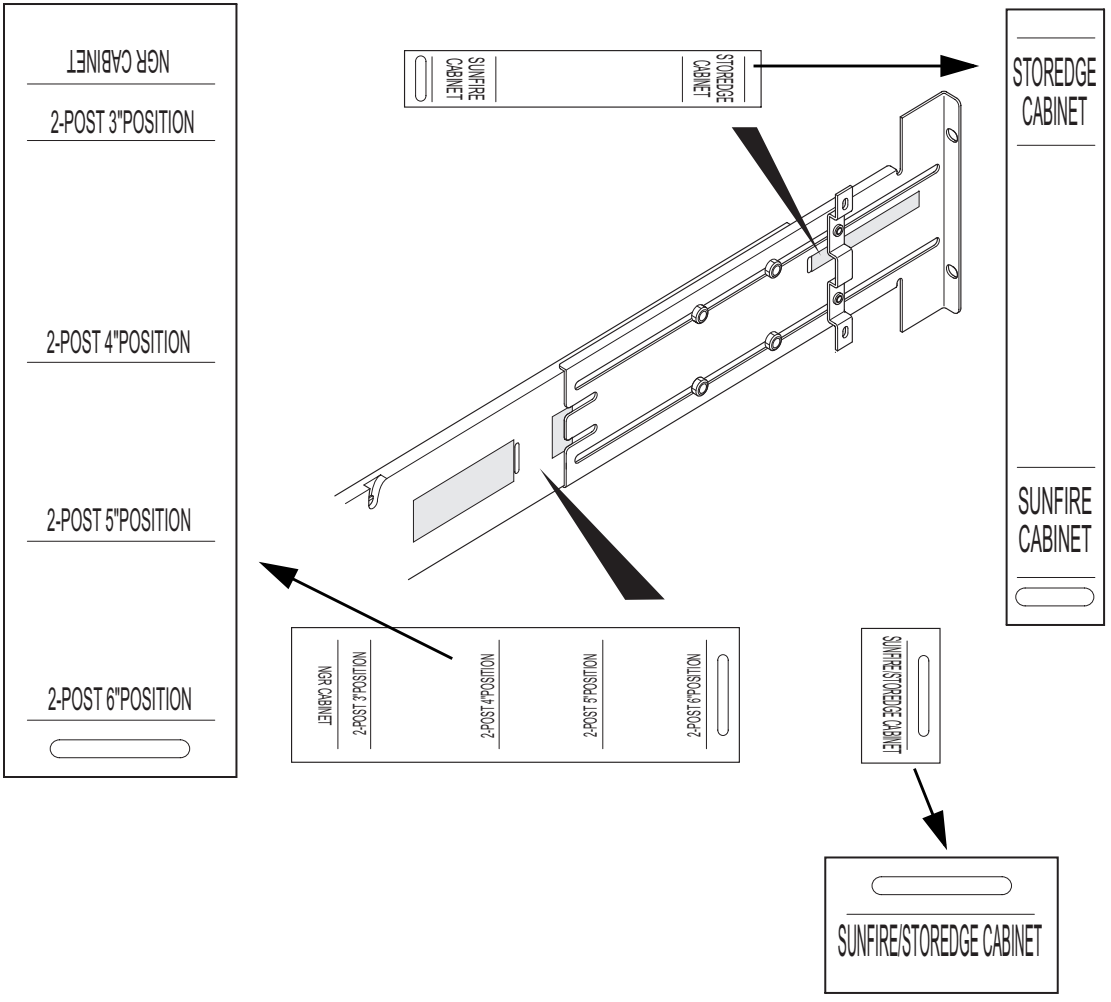

FIGURE 5-8 Rackmount Positioning Guidance Labels

▼ To Install Slides in a Sun Fire Expansion Cabinet

Note – The Sun Fire cabinet has #10-32 UNF tapped holes in the front and rear mounting rails that are numbered from bottom to top. The slides are identical, hence can be fitted to either side of the rack.

---

1. **Ensure that the adjustable rear bracket is aligned with the location on the main slide marked 'Sun Fire', and tighten the four nuts using the tool provided.**

   Refer to FIGURE 5-8.

2. **Adjust the 15mm-wide castellated bracket to the location on the rear bracket marked 'Sun Fire', and tighten the two screws.**

   Refer to FIGURE 5-8.

3. **To install a system in the lower position:**

   Refer to FIGURE 5-9.

   a. **Attach each slide by inserting the two pins in the front bracket into the rack holes numbered 22 and 33.**

   b. **Fit two #10-32 UNF screws through the castellated bracket into the side rack rail holes 24 and 31.**

   c. **Fit two #10-32 UNF screws through the front bracket into rail holes 24 and 31.**

4. **To install a system in the upper position:**

   Refer to FIGURE 5-9.

   a. **Attach each slide by inserting the two pins in the front bracket into the rack holes numbered 58 and 69;**

   b. **Fit two #10-32 UNF screws through the castellated bracket into the side rack rail holes 60 and 67.**

   c. **Fit two #10-32 UNF screws through the front bracket into rail holes 60 and 67.**

▼ To Install Slides in a StorEdge Expansion Cabinet

Note – The Sun StorEdge cabinet has #10-32 UNF tapped holes in the front and rear mounting rails that are numbered from bottom to top. The slides are identical, hence can be fitted to either side of the rack.

---

1. **Move the adjustable rear bracket on each slide to the location marked 'StorEdge', and tighten the two screws.**

   Refer to FIGURE 5-8.

2. **Adjust the 15 mm wide castellated bracket to the location on the rear bracket marked ‘StorEdge’, and tighten the two screws.**

   Refer to FIGURE 5-8.

3. **To install a system in the lower position:**

   Refer to FIGURE 5-9.

   a. **Attach each slide by inserting the two pins in the front bracket into the rack holes numbered 22 and 33.**

   b. **Fit two #10-32 UNF screws through the castellated bracket into the side rack rail holes 24 and 31.**

   c. **Fit two #10-32 UNF screws through the front bracket into rail holes 24 and 31.**

4. **To install a system in the upper position:**

   Refer to FIGURE 5-9.

   a. **Attach each slide by inserting the two pins in the front bracket into the rack holes numbered 58 and 69;**

   b. **Fit two #10-32 UNF screws through the castellated bracket into the side rack rail holes 60 and 67.**

   c. **Fit two #10-32 UNF screws through the front bracket into rail holes 60 and 67.**

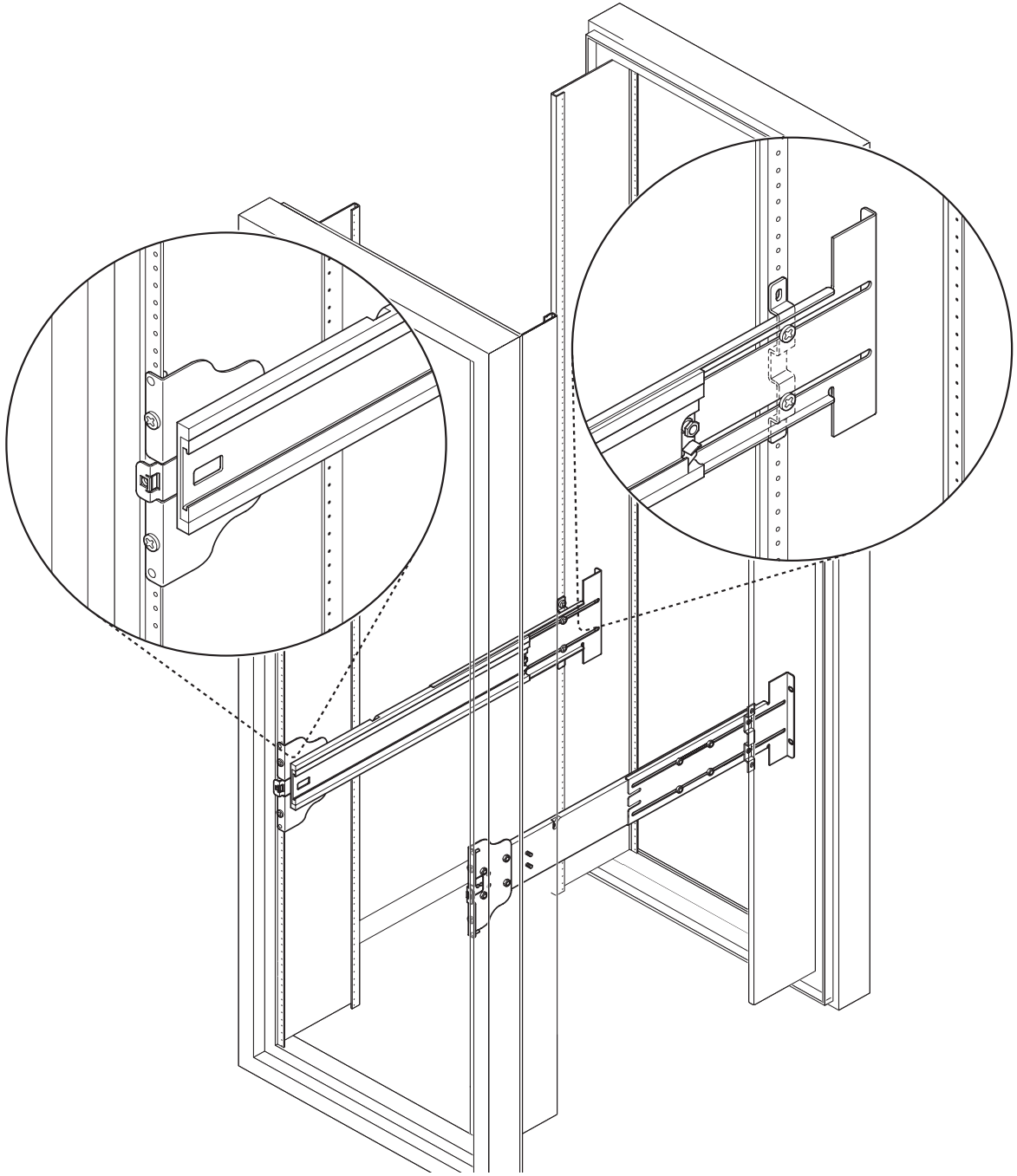

FIGURE 5-9 Installing Rackmounts in a Sun Rack

▼ To Install Slides in a Third-Party 19-inch Four-Post Rack

The slides can be adjusted to suit a 19-inch rack that is compliant with either IEC 297-4 or EIA 310-D, and has a distance between front and rear mounting rails in the range 450 to 780mm (17.7 to 30.7 inches). It is the installer's responsibility to ensure that the rack has sufficient structural strength and stability for the purpose. Refer to "Safety" on page 25.

1. **To adjust the length of the rackmount slides, slacken the four nuts retaining the rear bracket by half a turn and slide the bracket until the slide assembly length matches the rack.**

   The slides must be adjusted so that they can be attached to both the front and rear mounting rails on the rack, using fasteners appropriate to that rack.

2. **Retighten the nuts.**

3. **The slides should be attached directly through both front and rear brackets to the rack mounting rails.**

   - To install a Sun Fire V1280 system in the lowest permitted position, the rackmount securing screws must be inserted no lower than 18.5 inches (470 mm) and 22.5 inches (572 mm) respectively.
   - To mount a system in the highest permitted position, the screws must be inserted no higher than 39.5 inches (1000 mm) and 43.5 inches (1100 mm) respectively.

▼ To Install Slides in a Third-Party 19-inch Two-Post Rack

The slides can be adjusted to suit a 19-inch two-post rack that has a post depth in the range 75 to 150mm (3 to 6 inches). It is the installer's responsibility to ensure that the rack has sufficient structural strength and stability for the purpose. Refer to "Safety" on page 25.

1. **Ensure that the rack is anchored to the floor, ceiling and/or to adjacent frames to provide stability whilst the telescopic slides are extended.**

2. **To adapt the slide:**

   a. **Remove the four nuts retaining the front bracket**

   b. **Rotate the bracket 180 degrees.**

   c. **Refit the bracket over the two closer-spaced studs.**

   d. **Replace and tighten the four nuts.**

   e. **Remove the four nuts retaining the rear adjustable bracket**

   f. **Rotate the bracket 180 degrees.**

g. Refit the bracket so that it can be adjusted to align with the rear of the post.

There are alignment marks provided on the slides for guidance.

3. Fit screws appropriate to the rack through each of the holes provided in the mounting brackets.

- To install a Sun Fire V1280 system in the recommended position, the rackmount securing screws must be inserted no lower than 18.5 inches (470 mm) and 22.5 inches (572 mm) respectively.
- To maintain full service access the system should be installed so that its base is approximately 250mm (10 inches) from the floor.

Installing the System in the Rack

Caution – It will be necessary to use a lifting device in order to raise the system safely to the necessary height for installation. In any other case a minimum of four people are required in order to carry out installation in a safe manner.

1. **Extend the rackmount slides as far forward as they will go and ensure they are latched in the extended position.**
2. **Ensure the spring steel tabs of the rackmount slides are securely in place over the tabs on the chassis sides.**

   Refer to “Installing the Rackmount Slides” on page 35.
3. **Extend the rack stabilizers (if fitted) and ensure they are locked in position.**

   Refer to “Safety” on page 25.

4. Lift the system until it is level with the rackmount slides.

Refer to FIGURE 5-11.

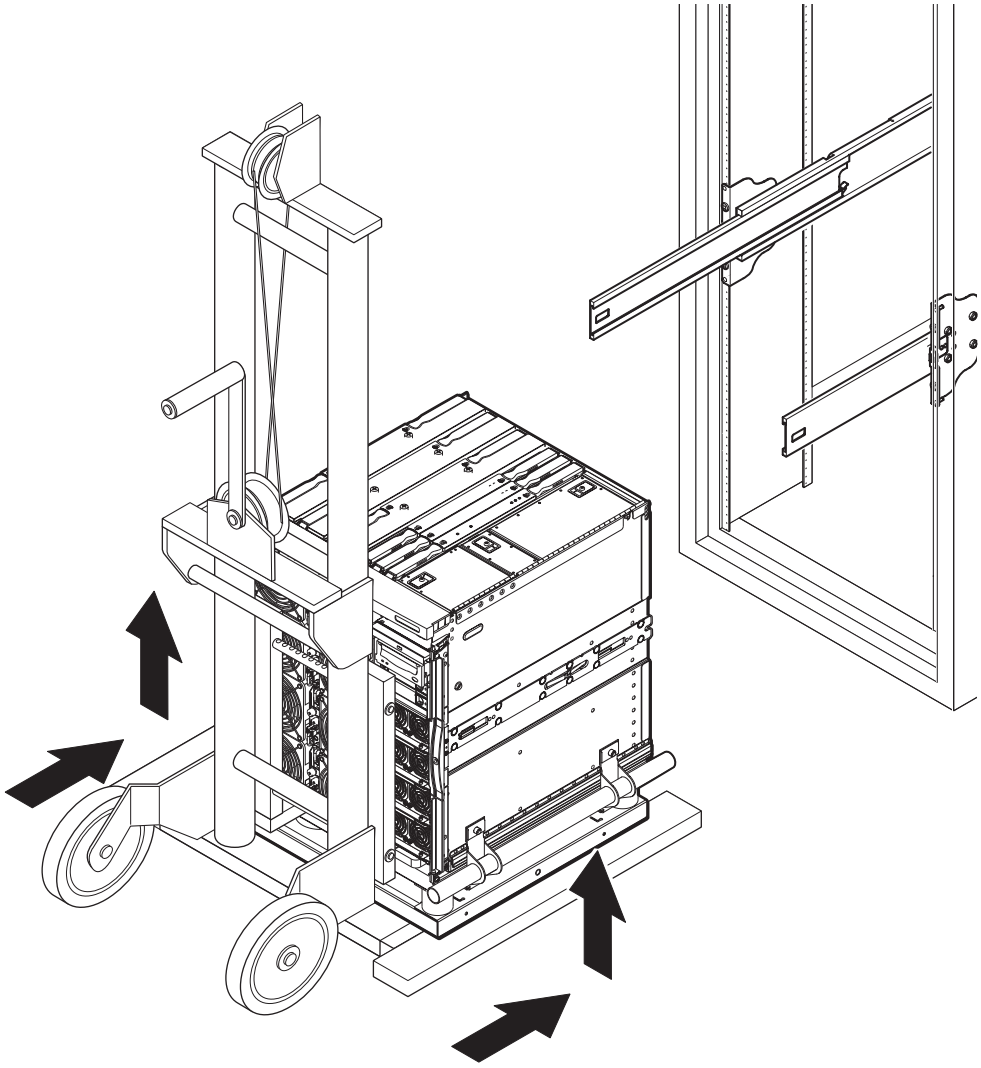

FIGURE 5-10 Raising the System Prior to Insertion in the Rack

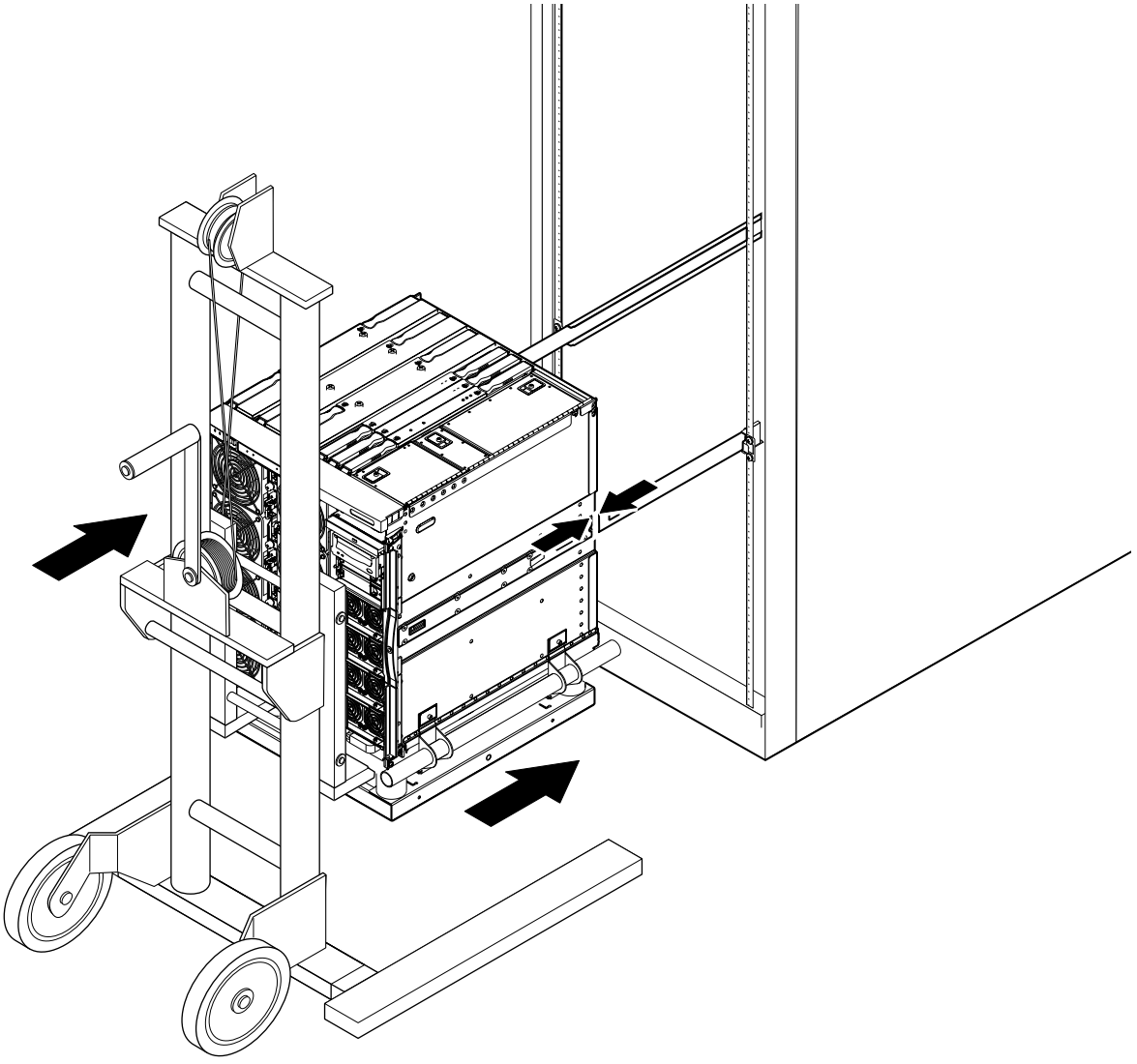

FIGURE 5-11 Aligning the System with the Rackmount Slides

5. **Move the system forwards carefully with the lifting device until the glides are fully engaged in the slides (**FIGURE 5-11**).**

   The latches on each side must click out, locking the slides.

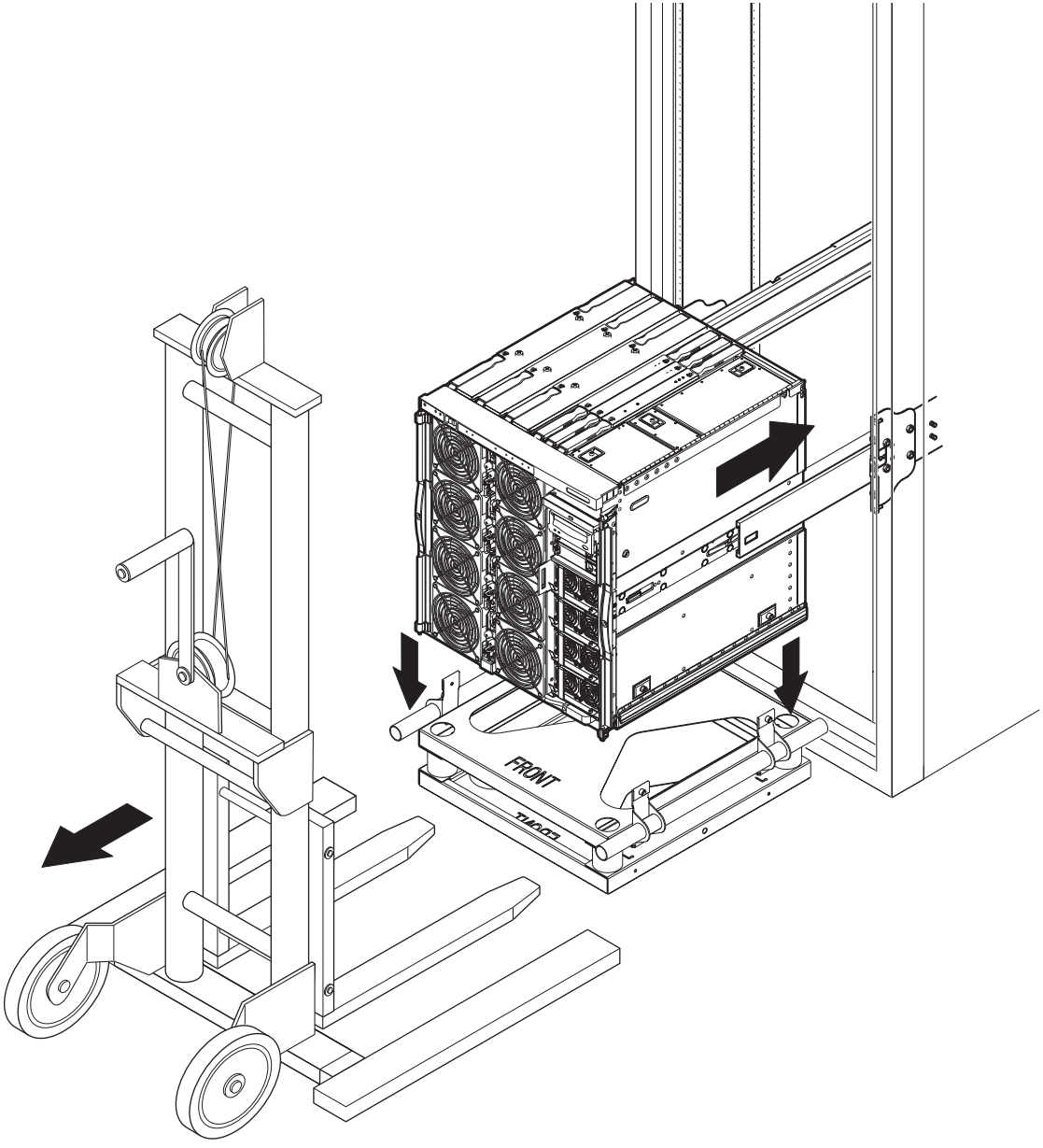

FIGURE 5-12 Engaging the Rackmount Slides and Glides

6. **With the lifting device still supporting the assembly, loosen the two screws attaching each handle to the chassis and orange shipping cradle.**

   The handles remain attached to the orange shipping cradle due to a feature on the underside of the orange shipping cradle deck.

7. **Simultaneously pull both handles out from the sides of the chassis, disconnecting the orange shipping cradle from the system.**

Caution – When manually installing the system it is critical to support the orange shipping cradle and disengage both handles at the same time to safely detach the orange shipping cradle with handles from the system.

8. **The orange shipping cradle with handles can now be lowered out of the way with the lifting device.**

   Remove the orange shipping cradle and store it for future use.

Caution – It is essential that the system is only lifted using the orange shipping cradle. Failure to do so will result in major damage to the chassis.

Refer to FIGURE 5-12.

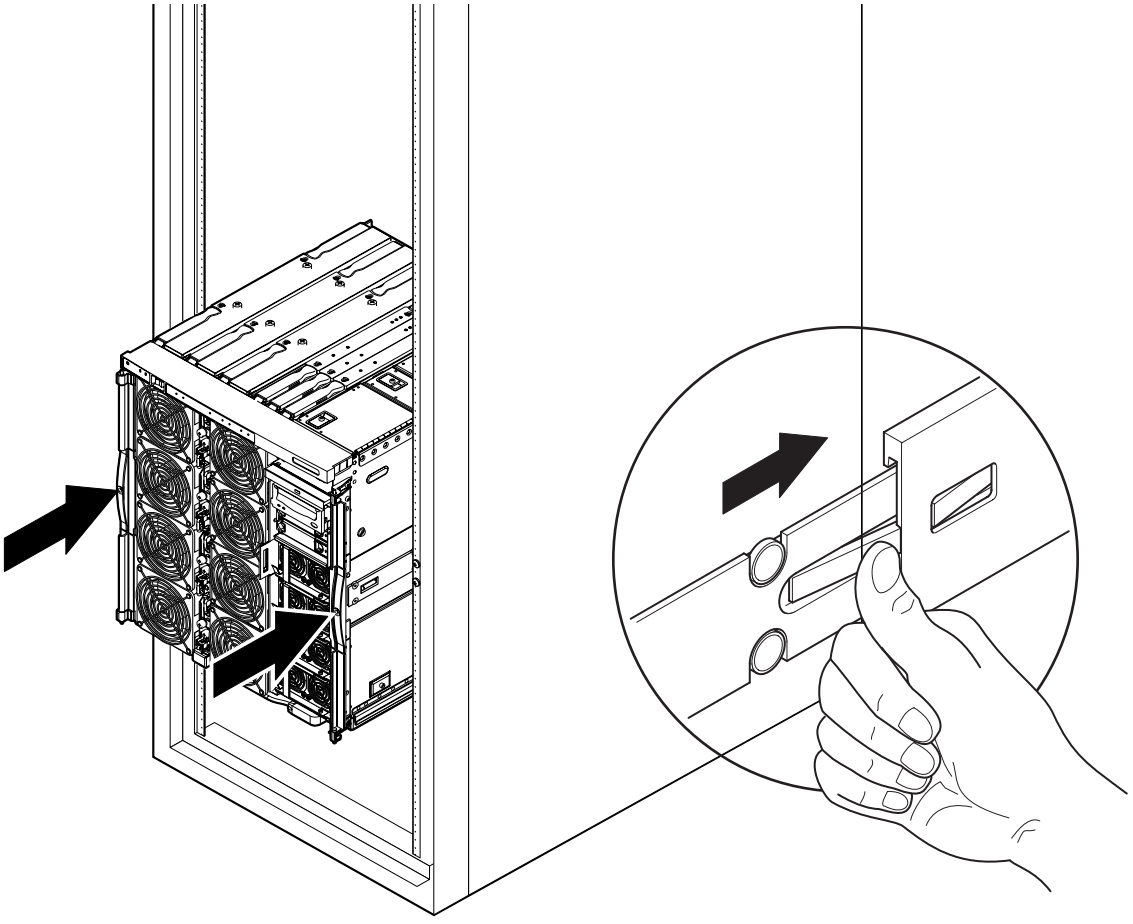

FIGURE 5-13 Pushing the System Fully into the Rack

9. **Release the green latches on each side by depressing them fully, and push the system fully home into the rack.**

   Refer to FIGURE 5-13.

10. **When the system is fully home in the rack, secure it using the appropriate screws.**
11. **Retract the rack stabilization mechanism (if used).**
12. **Reattach the front doors of the system.**

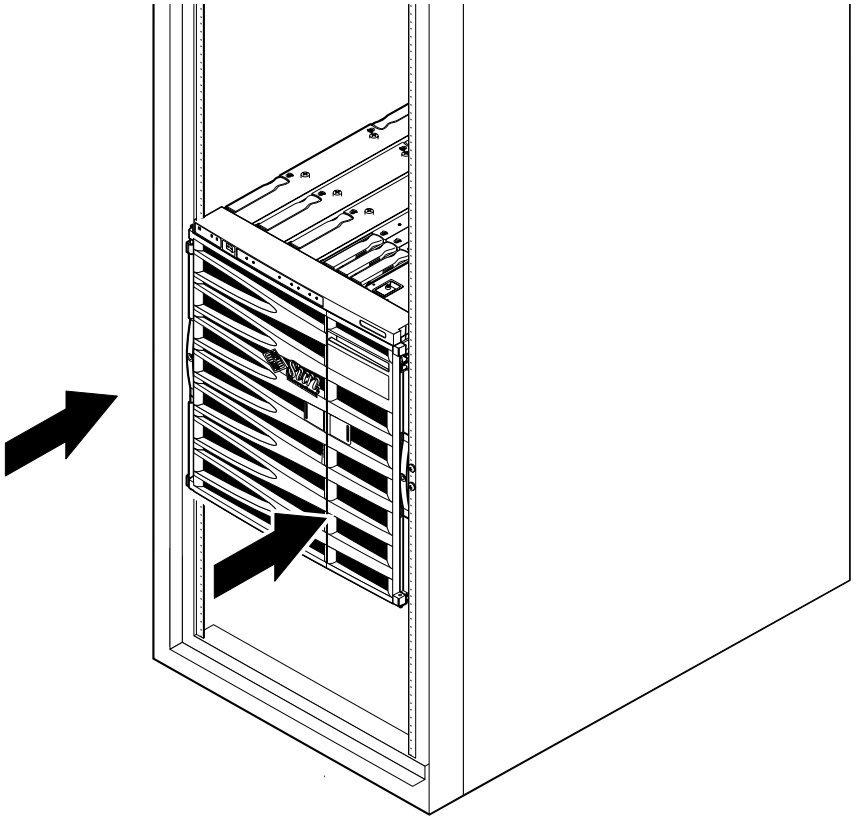

FIGURE 5-14 System Installed and Bezel Doors Reattached

Installing the Cable Management Arm

Two alternate cable management arms are offered: CMA-Lite and CMA-800. The optimum CMA to use is dependant upon the available depth in the rack and the quantity / type of cable to be supported.

Threaded holes are provided on the rear of the chassis, as shown in FIGURE 5-15, on which to mount the cable management arms using the captive screws provided.

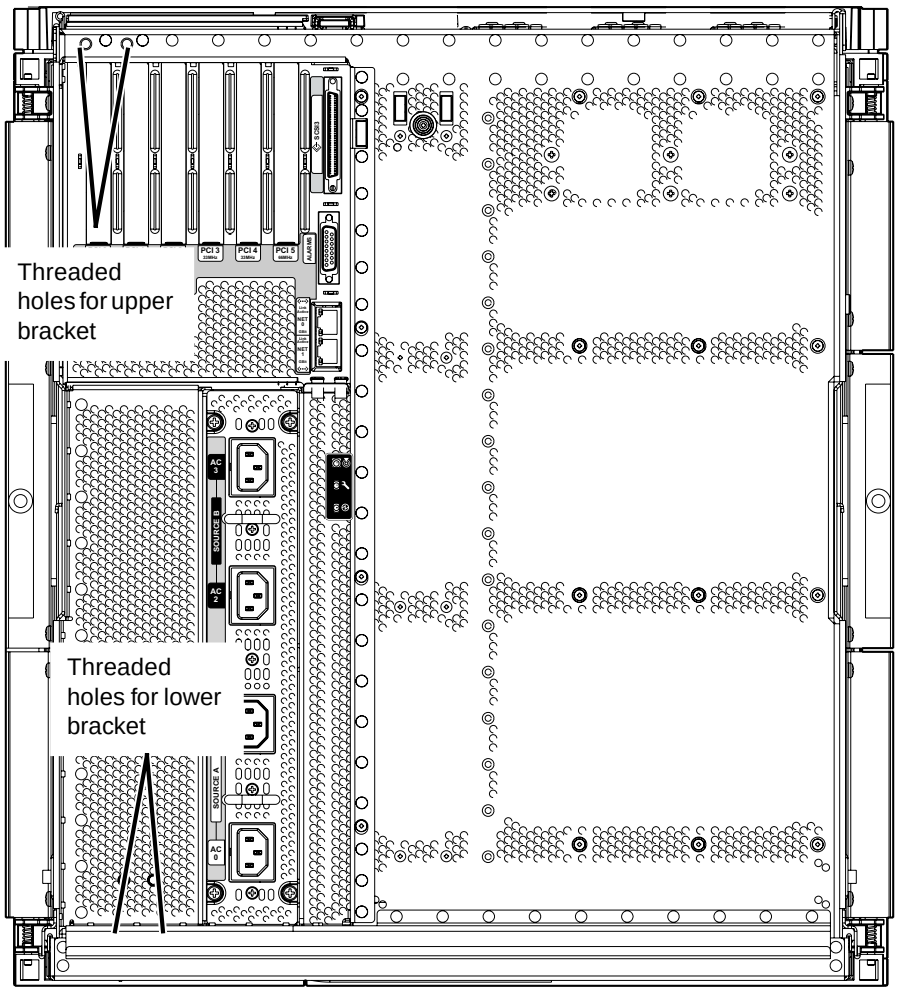

FIGURE 5-15 Locations of Pivot Bracket Mounting Holes

▼ To Install the CMA-Lite

1. **At the rear of the rack, hold the CMA-lite with its attachment points (six Phillips-head screws) to the left and the hinged arms to the right.**

   Refer to FIGURE 5-16 and FIGURE 5-15.

2. **Fit two captive screws at the centre pivot point of the CMA to the threaded holes on the inside at the rear of the left hand slide.**

3. **Fit two captive screws on the pivot at the end of the lower arm into the threaded holes on the horizontal area of the chassis adjacent to the power inlets.**

4. **Fit two captive screws on the pivot at the end of the upper arm into the threaded holes on the rear surface at the top of the chassis.**

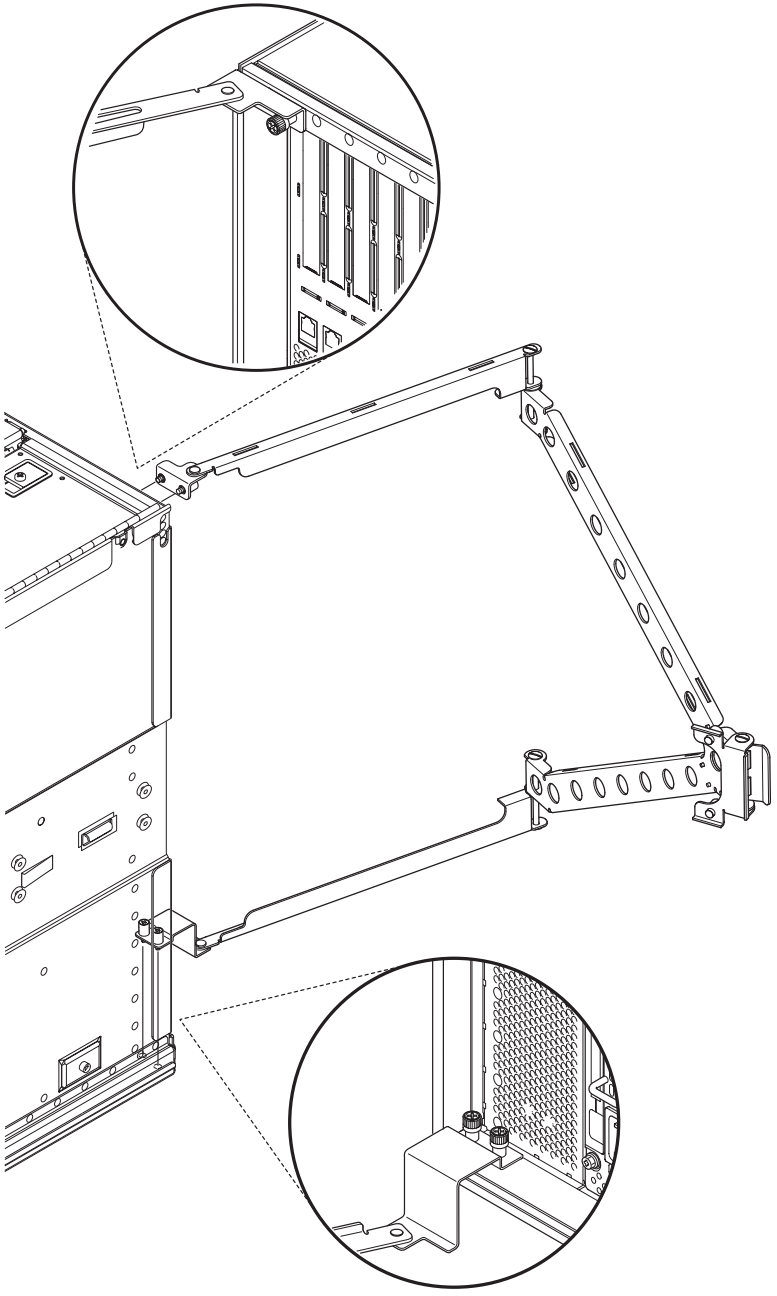

FIGURE 5-16 The CMA-Lite Cable Management Arm

▼ To Install the CMA-800

1. **Dismantle the CMA-800 by removing the hinge pins using the rings provided.**

   Refer to FIGURE 5-19.

2. **Fit the lower pivot bracket.**

   Tighten the two captive screws into the threaded holes on the horizontal area of the chassis adjacent to the power inlets. Refer to FIGURE 5-17 and FIGURE 5-17.

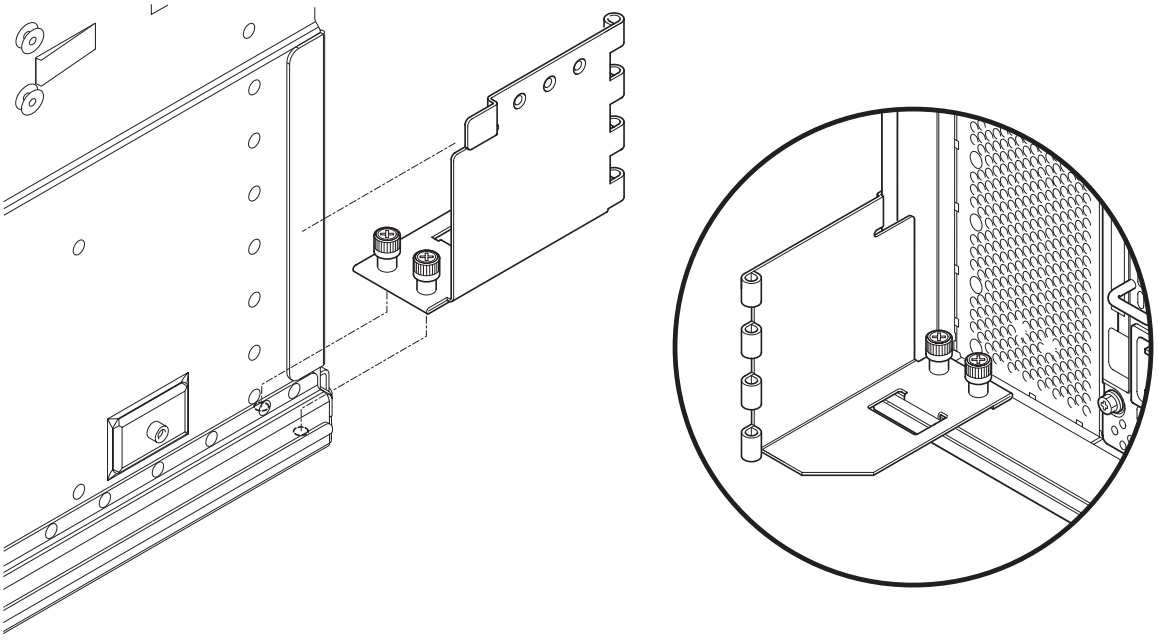

FIGURE 5-17 Fitting the Lower Pivot Bracket

3. **Fit the upper pivot bracket.**

   Tighten the two captive screws into the threaded holes on the rear surface at the top of the chassis. Refer to FIGURE 5-15 and FIGURE 5-18.

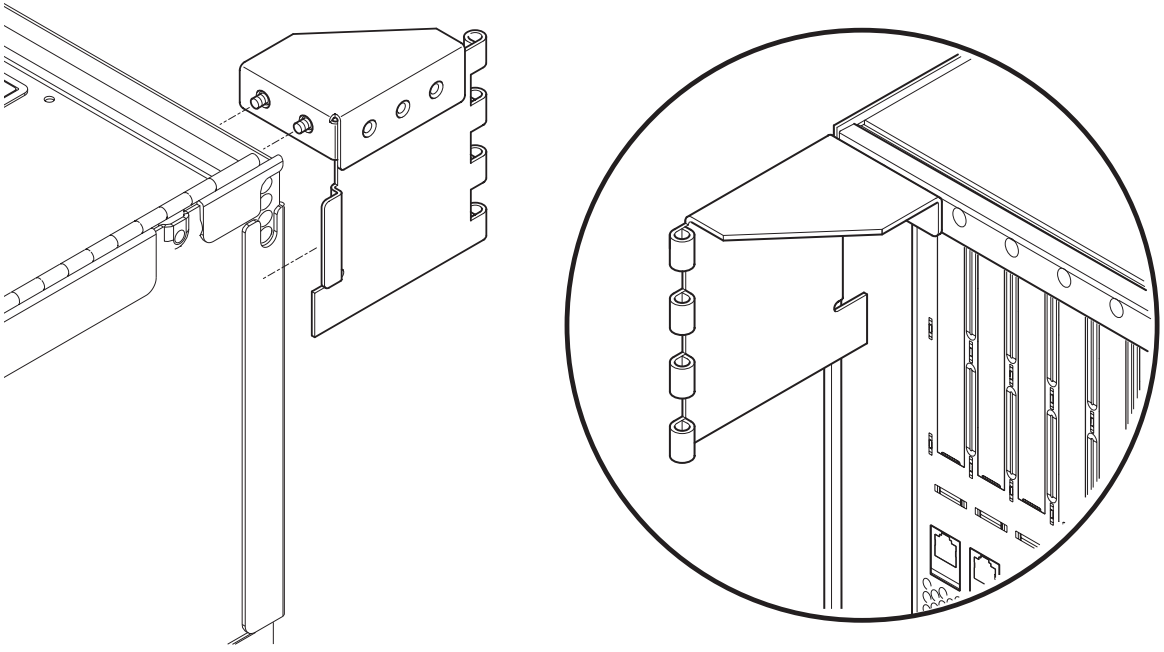

FIGURE 5-18 Fitting the Upper Pivot Bracket

4. **Attach the T-bracket to the left-hand slide using the thumbscrews.**

5. **Engage the castelleted hinge of the I/O cable arm (larger trays) into the castellations on the upper pivot bracket.**

   Retain it by fitting the hinge pin through the hinge from the top. Refer to FIGURE 5-19.

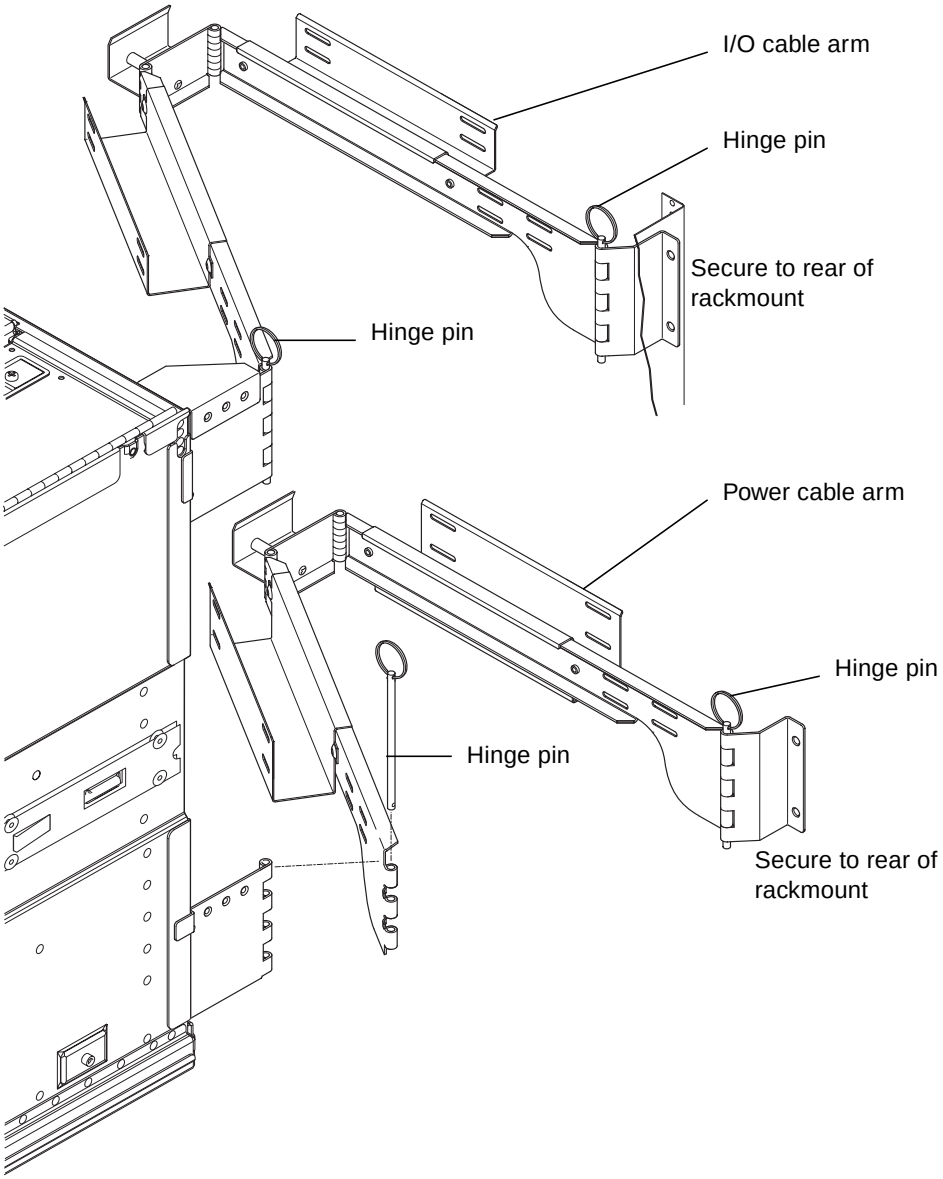

FIGURE 5-19 Assembling the Cable Arms

6. **Secure the free end of the I/O cable arm to the rackmount T-bracket using the captive screws.**

7. **Engage the castelleted hinge of the power cable arm (smaller trays) into the castellations on the lower pivot bracket.**

   Retain it by fitting the supplied pin through the hinge from the top. Refer to FIGURE 5-19.

8. **Secure the free end of the power cable arm to the rackmount T-bracket using the captive screws.**

9. **Attach the T-bracket with two ‘forks’ on to the right hand slide.**

   Tighten the two thumbscrews into the two threaded holes on the inside at the rear of the slide.

PART IV Appendices

APPENDIX **A**

External Connections

This chapter describes the various cables and connectors which should be made available in order for the installation to be completed.

The Sun Fire V1280 system has the following connectors on the rear:

- Two Gigabit Ethernet RJ45 ports
- Up to six PCI slots (5 x 33 MHz and 1 x 66 MHz)
- Two serial LOM/System Controller ports (one reserved)
- Alarms port
- 10/100 LOM/System Controller Ethernet port
- SCSI port

The locations of the ports are shown in FIGURE A-1.

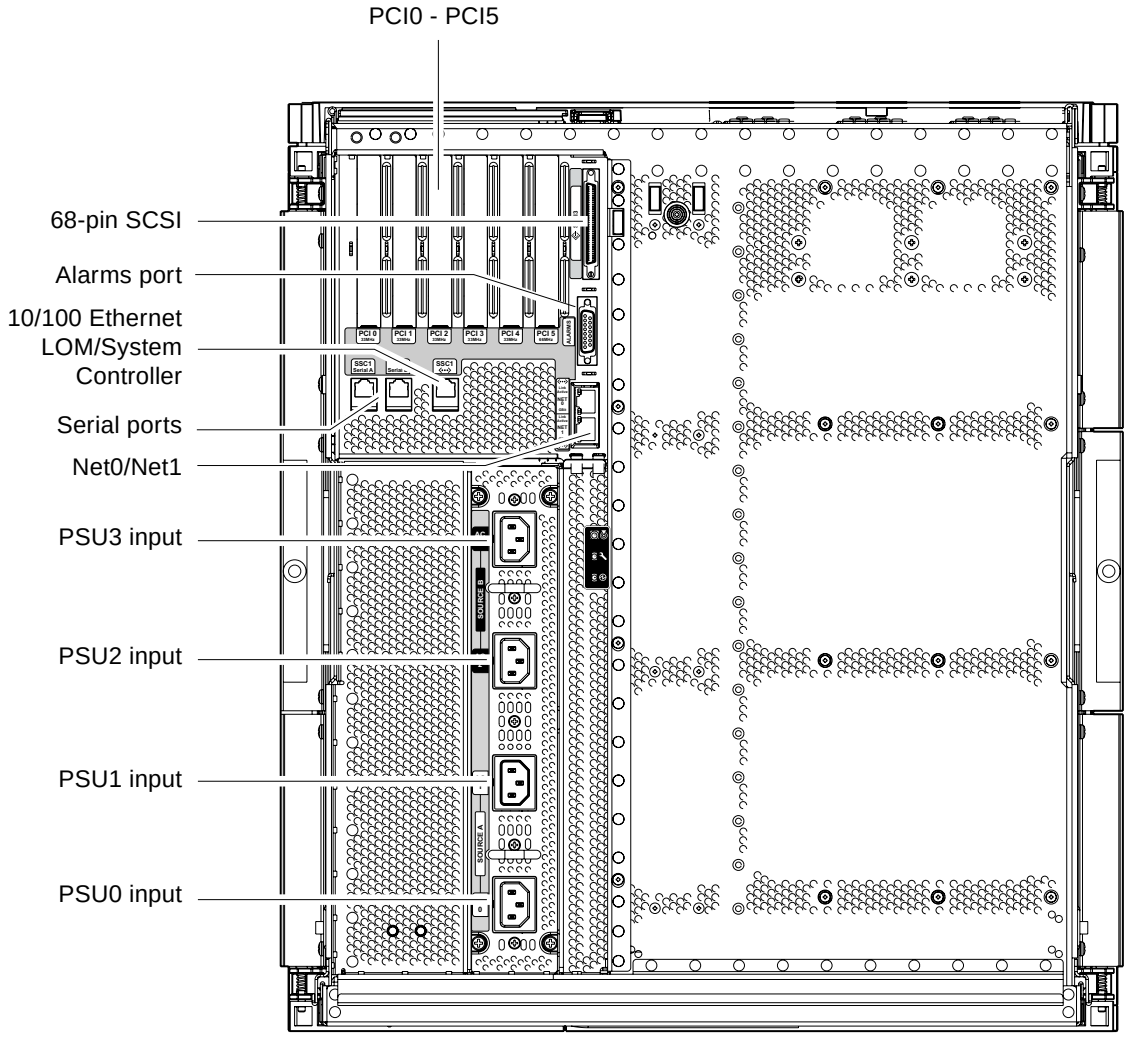

FIGURE A-1 External I/O Connections

Gigabit Ethernet Connectors

The Gigabit Ethernet connectors are shielded RJ45, and TABLE A-1 lists the connector pinout.

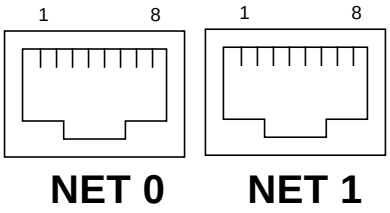

FIGURE A-2 RJ45 Gigabit Ethernet Connectors

TABLE A-1 Gigabit Ethernet Connector Pinout

Pin	Signal Name	Pin	Signal Name
1	TRD0_H	5	TRD2_L
2	TRD0_L	6	TRD1_L
3	TRD1_H	7	TRD3_H
4	TRD2_H	8	TRD3_L

Serial Connectors

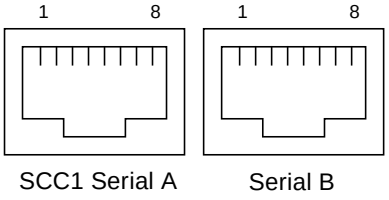

FIGURE A-3 RJ45 Serial Connectors

TABLE A-2 RJ45 Serial Connector Pinout

Pin	Signal
1	RTS
2	DTR
3	TXD
4	Signal Ground
5	Signal Ground
6	RXD
7	DSR
8	CTS

Note – Serial port B is reserved.

SCSI Connector

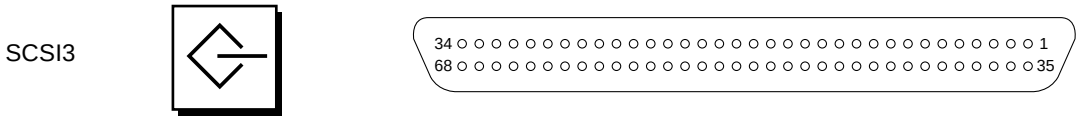

FIGURE A-4 68-Pin SCSI Connector

TABLE A-3 68-pin SCSI Connector Pinout

Pin No.	Signal Name	Type	Pin No.	Signal Name	Type	Pin No.	Signal Name	Type
1	+DB(12)	I/O	24	+ACK	I/O	47	–DB(7)	I/O
2	+DB(13)	I/O	25	+RST	I/O	48	–P_CRCA	I/O
3	+DB(14)	I/O	26	+MSG	I/O	49	Ground	GND
4	+DB(15)	I/O	27	+SEL	I/O	50	Ground	GND
5	+DB(P1)	I/O	28	+C/D	I/O	51	Termpwr	POWER
6	+DB(0)	I/O	29	+REQ	I/O	52	Termpwr	POWER
7	+DB(1)	I/O	30	+I/O	I/O	53	Reserved	NA
8	+DB(2)	I/O	31	+DB(8)	I/O	54	Ground	GND
9	+DB(3)	I/O	32	+DB(9)	I/O	55	–ATN	I/O
10	+DB(4)	I/O	33	+DB(10)	I/O	56	Ground	GND
11	+DB(5)	I/O	34	+DB(11)	I/O	57	–BSY	I/O
12	+DB(6)	I/O	35	–DB(12)	I/O	58	–ACK	I/O
13	+DB(7)	I/O	36	–DB(13)	I/O	59	–RST	I/O
14	+P_CRCA	I/O	37	–DB(14)	I/O	60	–MSG	I/O
15	Ground	GND	38	–DB(15)	I/O	61	–SEL	I/O
16	Diffsens	ANAL	39	–DB(P1)	I/O	62	–C/D	I/O
17	Termpwr	POWER	40	–DB(0)	I/O	63	–REQ	I/O
18	Termpwr	POWER	41	–DB(1)	I/O	64	–I/O	I/O
19	Reserved	NA	42	–DB(2)	I/O	65	–DB(8)	I/O
20	Ground	GND	43	–DB(3)	I/O	66	–DB(9)	I/O

TABLE A-3 68-pin SCSI Connector Pinout *(Continued)*

Pin No.	Signal Name	Type	Pin No.	Signal Name	Type	Pin No.	Signal Name	Type
21	+ATN	I/O	44	–DB(4)	I/O	67	–DB(10)	I/O
22	Ground	GND	45	–DB(5)	I/O	68	–DB(11)	I/O
23	+BSY	I/O	46	–DB(6)	I/O			

Note – All signals shown in TABLE A-3 are active low.

SCSI Implementation

- SCSI Fast-160 (UltraSCSI) low-voltage differential parallel interface
  - 16-bit SCSI bus
  - 160Mbps data transfer rate
- Support for 16 SCSI addresses:
  - Target 0 to 6 and 8 to F for devices
  - Target 7 reserved for SCSI host adapter on main logic board
- Support for up to three internal SCSI devices (plus the host adapter) (on a second SCSI bus):
  - Disk 0[0]
  - Disk 1[1]
  - Tape [5]
- Maximum cable length 25 meters (terminator to terminator) for low-voltage differential, point-to-point interconnect.

10 / 100 LOM / System Controller Ethernet Connector

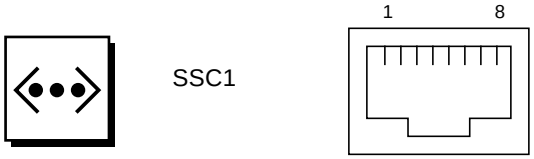

FIGURE A-5 RJ45 TPE Socket

TABLE A-4 TPE Connector Pinout

Pin	Description	Pin	Description
1	TXD+	5	Common mode termination
2	TXD–	6	RXD–
3	RXD+	7	Common mode termination
4	Common mode termination	8	Common mode termination

TPE Cable-Type Connectivity

The following types of twisted-pair Ethernet cable can be connected to the 8-pin TPE connector:

- For 10BASE-T applications, shielded twisted-pair (STP) cable:
  - Category 3 (STP-3, *voice* grade)
  - Category 4 (STP-4)
  - Category 5 (STP-5, *data* grade)
- For 100BASE-T applications, shielded twisted-pair category 5 (STP-5, *data* grade) cable.

TABLE A-5 TPE STP-5 Cable Lengths

Cable Type	Application(s)	Max Length (Metric)	Max Length (Imperial)
Shielded twisted pair category 5 (STP-5, *data* grade)	10BASE-T	1000m	3282ft
Shielded twisted pair category 5 (STP-5, *data* grade)	100BASE-T	100m	327ft

Alarms Port

The alarms service port connector is a male DB-15. TABLE A-6 lists the pinout.

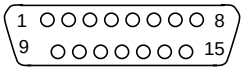

FIGURE A-6 DB-15 (Male) Alarms Service Port Connector

TABLE A-6 Alarms Service Port Connector Pinout

Pin	Signal Name	Description	State
1	Not connected		
2	Not connected		
3	Not connected		
4	Not connected		
5	SYSTEM_NO	UNIX Running	Normally open
6	SYSTEM_NC	UNIX Running	Normally closed
7	SYSTEM_COM	UNIX Running	Common
8	ALARM1_NO	Alarm1	Normally open
9	ALARM1_NC	Alarm1	Normally closed
10	ALARM1_COM	Alarm1	Common
11	ALARM2_NO	Alarm2	Normally open
12	ALARM2_NC	Alarm2	Normally closed
13	ALARM2_COM	Alarm2	Common
14	Not connected		
15	Not connected		

APPENDIX **B**

Installing the Optional DAT Tape Drive

Caution – Use proper ESD grounding techniques when handling components. Wear an antistatic wrist strap and use an ESD-protected mat. Store ESD-sensitive components in antistatic bags before placing them on any surface.

Caution – This procedure requires the system to be extended out of the rack on its slides. Before attempting this procedure you must deploy rack stabilization devices, if fitted.

1. **If necessary, power down the system and remove the input power connectors.**

   Refer to “Using the Power (On/Standby) Switch” on page 82.

2. **Deploy the rack stabilization device, if fitted.**

3. **Extend the system from the rack.**

   Loosen the captive screws securing the system to the rack and gently pull it out on its slides.

4. **Open the right-hand front door of the system.**

5. **Attach a wrist strap or foot strap to one of the grounding attachment points.**

   These are located on each side of the chassis..

6. **Open the media bay cover.**

   Loosen the latch securing screw, lift the latch and raise the cover. Refer to FIGURE B-1.

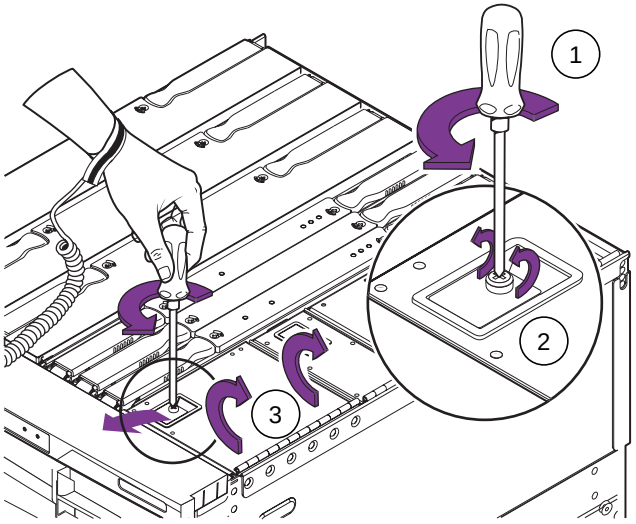

FIGURE B-1 Opening the Media Bay Cover

7. **Remove the DAT drive filler module by pulling it from the front of the media bay.**
8. **Remove the front of the blank module by removing the two countersunk screws.**
   This part can be discarded. Refer to FIGURE B-2.

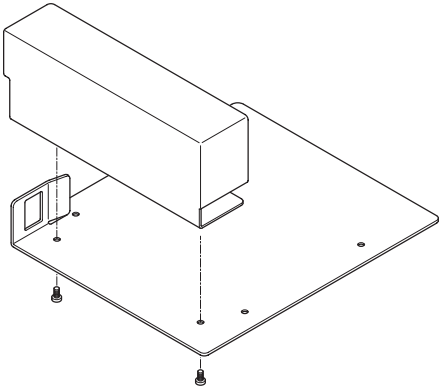

FIGURE B-2 Dismantling the Tape Drive Filler Panel

9. Offer up the base plate from the blank module to the DAT tape drive.

Fix the base plate from the blank module to the DAT tape drive using the four countersunk screws shipped with the drive. Refer to FIGURE B-3.

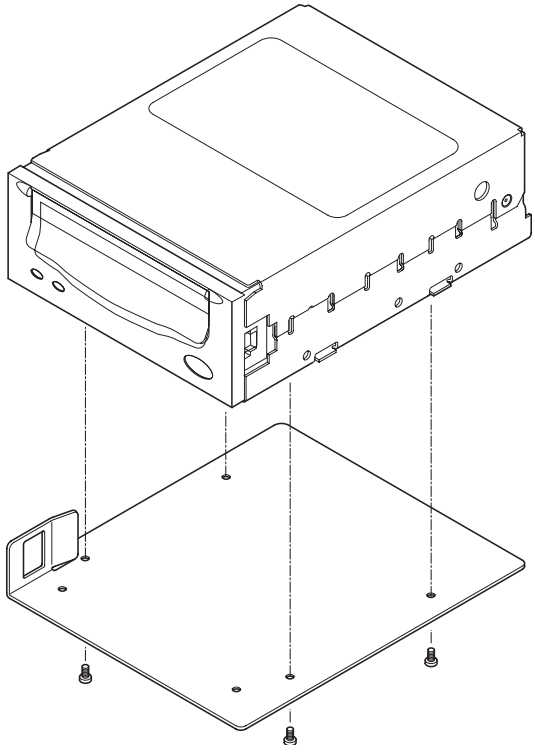

FIGURE B-3 Assembling the DAT Tape Drive

10. **Inside the media bay, remove the cables from the SCC reader and hard disk drives to the IB_SSC assembly.**

Refer to FIGURE B-4.

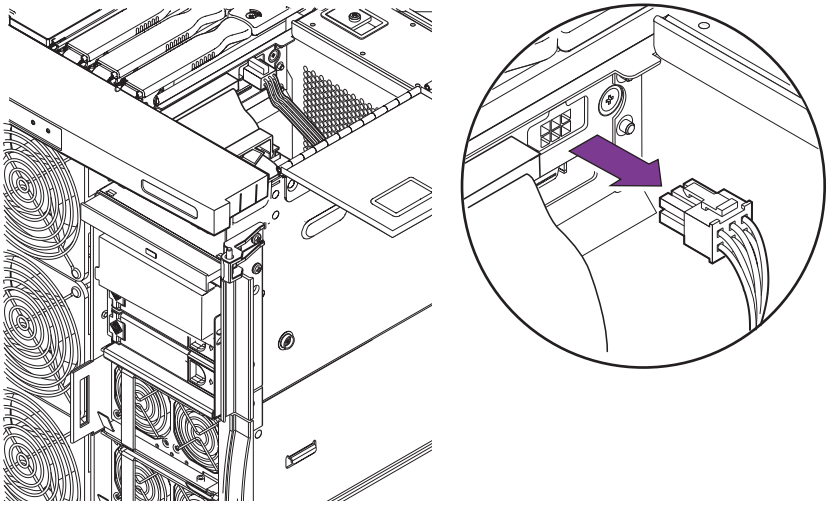

FIGURE B-4 Removing Cables from IB_SSC Assembly to the Media Bay

11. **Locate the convex spring behind the right-hand side of the media bay and press it in so it becomes concave.**

Refer to FIGURE B-5.

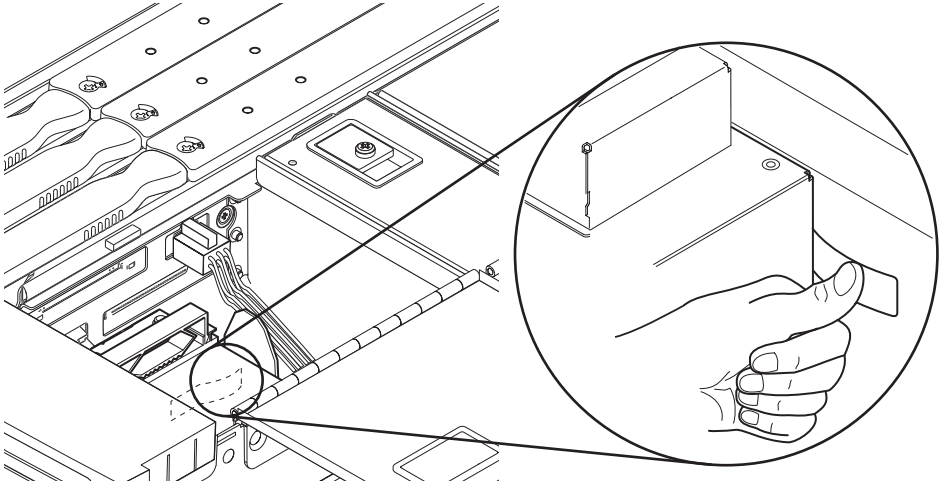

FIGURE B-5 Releasing the Media Bay Retaining Spring

12. **Grasping the metal blade at the front, withdraw the media bay a short distance from the system chassis.**

    Refer to FIGURE B-6.

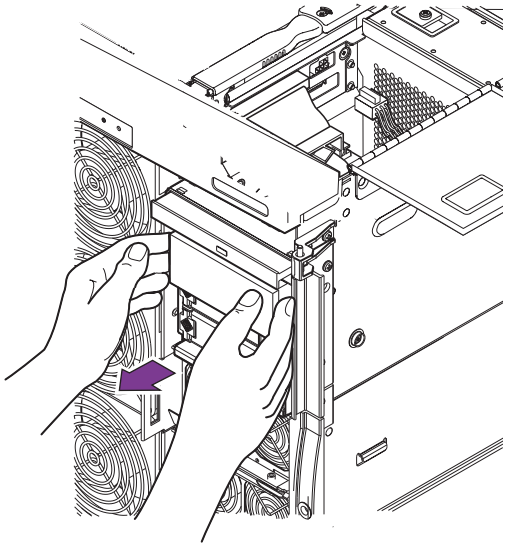

FIGURE B-6 Pulling Out the Media Bay a Short Distance

13. **Unplug the tape drive connectors.**
14. **Install the drive by pushing it into the chassis until the metal latch on the left-hand side engages.**
15. **Insert the chassis into the system a short way.**
16. **Connect the tape drive connectors.**
17. **Push the media bay fully home until the metal tag engages.**
18. **Reconnect the remaining cables.**
19. **Close the media bay cover and tighten the latch securing screw.**
20. **Detach the antistatic wrist strap.**
21. **Close the front door of the system.**
22. **Slide the system back into the rack and secure it.**
23. **Retract the rack stabilization device, if fitted.**

APPENDIX **C**

System Setup

This appendix describes briefly the steps required to power on and set up the system using the System Controller command line interface (LOM prompt). Details of the full procedure can be found in the *Sun Fire V1280 System Administration Guide*.

As shipped from the factory the LOM/System Controller on the IB_SSC will be configured as follows:

- SC configured to be on a network
- SC Ethernet configured for DHCP
- No pre-configured SC Ethernet IP address, Gateway, DNS domain, DNS servers.

The System Controller serial port connection will therefore need to be used for initially modifying the system controller settings from these defaults unless DHCP is available and the IP address assigned to the System Controller Ethernet connection by DHCP is known.

The list below summarizes the major steps you must perform to power on and set up the system:

1. Install and cable the hardware (“Installing and Cabling Hardware” on page 76).
2. Apply external power to the hardware (“Powering On” on page 83).
3. Set the date and time for the system (“Setting the Date and Time” on page 87).
4. Set the password for the System Controller (“Setting the Password” on page 87).
5. Set up system-specific parameters with the `setupnetwork` command (“Configuring Network Parameters” on page 87).
6. Power on all hardware with the `poweron` command (“Powering On from Standby Mode” on page 83).
7. If the Solaris operating environment is not pre-installed, install it.
8. Boot the Solaris operating environment.
9. Install the LOM packages from the Solaris Supplemental CD.

Installing and Cabling Hardware

To use the server's remote monitoring and management facilities, you must use the port labeled SSC1 Serial A.

If you intend to configure the server directly from a dumb terminal or a Sun workstation, insert the loose end of the serial cable into the DB-25 adapter supplied. Then plug the adapter into the DB-25 serial connector on the terminal or Sun workstation you intend to use.

Setting Up Serial Connections

To perform the initial configuration when you install a Sun Fire V1280 system, and also for ongoing monitoring and management of the server, you will need to use either the serial port at SSC1 Serial A or the 10/100 LOM/SC Ethernet port. To use the serial port you can connect the port labeled SSC1 Serial A to any of the following devices:

- **Dumb terminal**
  For this connection, you can use the standard RJ-45 patch cable supplied with the server, but you need to insert one end into the DB-25 adapter also supplied.
- **Sun workstation**
  For this connection, you can use the standard RJ-45 patch cable supplied with the server, but you need to insert one end into the DB-25 adapter also supplied.
- **Terminal server (or patch panel connected to a terminal server)**
  The pinouts for the server's serial ports correspond with the pinouts for the RJ-45 ports on the Cisco AS2511-R79J Terminal Server. For terminal servers from other manufacturers, you may need to make your own roll-over cable (see "Connecting to a Terminal Server" on page 76).

Connecting to a Terminal Server

The serial port on the Sun Fire V1280 system is a DTE port. If you are connecting it to other DTE ports, then the cabling between the devices you are connecting needs to take account of this. The pinout for the Sun Fire V1280 system's serial port corresponds with the pinouts for the RJ-45 ports on Cisco terminal servers. This means, for example, that if you are using a Cisco AS2511-RJ Terminal Server, you can do either of the following:

- Connect a roll-over cable directly to the Sun Fire V1280 system.
- Connect a roll-over cable to a patch panel and use a straight-through patch cable to connect the patch panel to the Sun Fire V1280 system (see FIGURE C-1).

Note – You do not have to use a Cisco terminal server. For other terminal servers, check the manufacturer's documentation to see if the pinouts of the serial ports on the terminal server match the pinout of the Sun Fire V1280 system serial port. If they do not, then write down which pins on the terminal server's serial port carries the signals listed in the right-hand column in TABLE C-1. Then make a roll-over cable taking each of the pins on the Sun Fire V1280 system serial port to the correct pin on your terminal server's serial port.

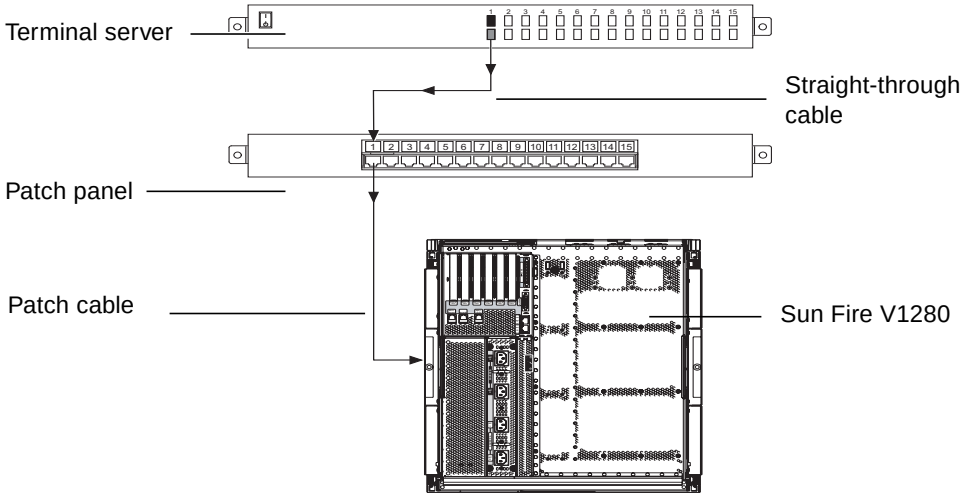

FIGURE C-1 Patch Panel Connection Between a Terminal Server and a Sun Fire V1280

Note – When the Sun Fire V1280 system is viewed from the rear, pin 1 of the RJ-45 serial port is on the left, and pin 8 is on the right.

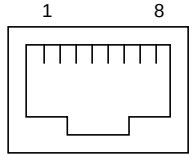

FIGURE C-2 Pins 1 to 8 on the Serial Port

TABLE C-1 Serial Port Connection to a Terminal Server

Pin number on Sun Fire V1280	Signal	Signal to connect to on the Terminal Server
Pin 1	RTS	CTS
Pin 2	DTR	DSR
Pin 3	TXD	RXD
Pin 4	Signal Ground	Signal Ground
Pin 5	Signal Ground	Signal Ground
Pin 6	RXD	TXD
Pin 7	DSR	DTR
Pin 8	CTS	RTS

Using a DB-25 Adapter for Your Serial Link

To connect from a VT100 terminal, you need to use either the DB-25 (25-Pin DSUB male to 8-POS RJ-45 female) adapter supplied by Sun (part number 530-2889) with your server or an alternative adapter that performs the same pin inter-connections. The Sun-supplied DB-25 adapter enables you to connect to any Sun system. The pin inter-connections it performs are listed in TABLE C-2.

TABLE C-2 Pin Inter-connections Performed by the Sun DB-25 (25-pin) Adapter

Serial Port (RJ-45 Connector) Pin	25-pin Connector
Pin 1 (RTS)	Pin 5 (CTS)
Pin 2 (DTR)	Pin 6 (DSR)
Pin 3 (TXD)	Pin 3 (RXD)
Pin 4 (Signal Ground)	Pin 7 (Signal Ground)
Pin 5 (Signal Ground)	Pin 7 (Signal Ground)
Pin 6 (RXD)	Pin 2 (TXD)
Pin 7 (DSR)	Pin 20 (DTR)
Pin 8 (CTS)	Pin 4 (RTS)

Using a DB-9 Adapter for Your Serial Link

To connect to a terminal that has a 9-pin serial connector, connect the Sun Fire V1280 system serial port to a DB-9 (9-pin) adapter that performs the pin inter-connections listed in TABLE C-3.

TABLE C-3 Pin Inter-connections Required to be Performed by a DB-9 (9-pin) Adapter

Serial Port (RJ-45 Connector) Pin	9-pin Connector
Pin 1 (RTS)	Pin 8 (CTS)
Pin 2 (DTR)	Pin 6 (DSR)
Pin 3 (TXD)	Pin 2 (RXD)
Pin 4 (Signal Ground)	Pin 5 (Signal Ground)
Pin 5 (Signal Ground)	Pin 5 (Signal Ground)
Pin 6 (RXD)	Pin 3 (TXD)
Pin 7 (DSR)	Pin 4 (DTR)
Pin 8 (CTS)	Pin 7 (RTS)

Settings for the Serial Connections

The settings you need to use for a serial connection are listed in TABLE C-4. You cannot change the configuration of this port. Communication on the SSC1 Serial A port is subject to interruption by the Lights-Out Management device (refer to the *Sun Fire V1280 System Administration Guide*.

TABLE C-4 Default Settings for Connecting to the SSC1 Serial A Port

Parameter	Setting
Connector	SSC1 Serial A
Rate	9600 baud
Parity	No
Stop bits	1
Data bits	8

Connecting to Your System From a Laptop Running Microsoft Windows

Connecting the Sun Fire V1280 System to the Laptop

Note – Do not attempt to use the laptop's (25-pin) parallel port instead of its serial port. The serial port is a male 9-pin D-type connector.

1. **Connect the RJ-45 to RJ-45 patch cable (supplied with the server) to the SSC1 Serial A port on the back panel of the server.**
2. **Connect the other end of the patch cable to the RJ-45 connector on the silver-colored DB25 (25-way DSUB male-to-female 8 POS RJ-45) adapter (part number 530-2889) supplied with the Sun Fire V1280 system.**
3. **Next connect the 25-way D-type male connector to an adapter that has one 25-way female connector and one 9-way D-type female connector.**

   Sun does not supply a 25x9-way D-type female-to-female adapter. However, adapters like this are available from home computer suppliers and electronics stores. The pin interconnections that the adapter must perform are listed in TABLE C-3.

TABLE C-5 Pin Interconnections Required for the 25x9-way D-type Female-to-Female Adapter

9-way Female Connector	25-way Female Connector
Pin 1	Pin 8
Pin 2	Pin 3
Pin 3	Pin 2
Pin 4	Pin 20
Pin 5	Pin 7
Pin 6	Pin 6
Pin 7	Pin 4
Pin 8	Pin 5
Pin 9	Pin 22

4. **Finally, connect the 9-way female connector to the serial port on the laptop.**

Using Microsoft Windows HyperTerminal

Note – If you normally connect the serial port on your laptop to a handheld device, you must close the Hot Sync Manager before following the instructions in this section. Otherwise you will not be able to use the serial port to communicate with the Sun Fire V1280 system.

The instructions in this section were verified on a laptop PC running Microsoft Windows 98 and with HyperTerminal Applet version 3.0.

1. **Run the Windows HyperTerminal utility.**
2. **In the HyperTerminal window, double-click the Hypertrm.exe icon.**
3. **In the Connection Description window, specify a name for the HyperTerminal connection you are creating on the laptop.**

   Then select an icon for it and click OK.
4. **In the Connect to... window, click the arrow for the "Connect using" option and select the port you are using for your connection to the server.**

   Unless you have a particular reason for using a different port, select DIRECT TO COM1. Click OK.
5. **In the COM1 Properties Port Settings window, set the parameters as follows:**

   Bits per second: 9600
   Data bits: 8
   Parity: None
   Stop bits: 1
   Flow control: specify 'None'.

   Note – Do not select 'Hardware' or 'Xon/Xoff' for the Flow control option.

   Click OK.
6. **Your HyperTerminal session is now active. From the File menu, select Properties.**
7. **In the Properties window, click the Settings tab.**

   On the Settings tab, click the arrow for the "Emulation" option and select VT100. For the "Telnet terminal" option, specify VT100. Click OK.
8. **If your Sun Fire V1280 system is not powered on, the `lom>` prompt will appear in the HyperTerminal window.**

   To power the server on, refer to "Powering On" on page 83.

Using the Power (On/Standby) Switch

Caution – The power switch is not an On/Off switch, it is an On/Standby switch. It does not isolate the equipment.

The power (On/Standby) switch of the Sun Fire V1280 system is a rocker type, momentary action switch. It controls only low voltage signals and no high voltage circuits pass through it.

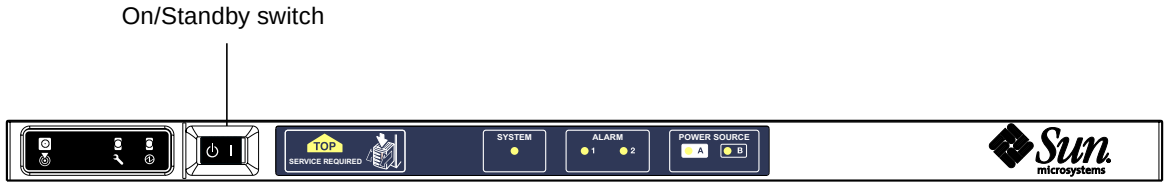

FIGURE C-3 Sun Fire V1280 System Power (On/Standby) Switch

The symbols on the switch are:

| On

- Press and release to apply power to the server. This is the equivalent of the LOM `poweron` command.

⏻ Standby

- Press for less than four seconds to initiate an orderly shutdown of the system (and of Solaris if it is running) into Standby mode. This is equivalent to issuing the `shutdown` command at the `lom>` prompt. This is the method to use under normal operation.
- Press and hold down for more than four seconds to perform a system power down to standby mode. This is equivalent to issuing the `poweroff` command at the `lom>` prompt. This process is not interruptible. There is a risk of loss of data if you use the On/Standby switch to power the system down without shutting down Solaris first.

Powering On and Off

Powering On

Initial Power-On

1. **Ensure all power cables are connected and external circuit breakers are switched on.**
2. **The system will enter Standby mode.**

   The only indicator LEDs to be illuminated on the system indicator board are the Source A and Source B indicators. The IB_SSC assembly Active LED will also be illuminated, but not visible from the front of the system.

Powering On from Standby Mode

Powering the system on from Standby mode can be achieved in either of two ways:

- Operating the On/Standby switch
- Sending the `poweron` command via the LOM port.

If the `auto-boot?` variable has been set in the OBP, the system will automatically boot into the Solaris operating environment.

Using the On/Standby Switch

1. **Check that power is applied to the system and that it is correctly in Standby mode.**

   The only indicator LEDs to be illuminated on the system indicator board are the Source A and Source B indicators. The IB_SSC assembly Active LED will also be illuminated, but not visible from the front of the system.

2. **Momentarily press the On/Standby switch to the right.**

   The system will power on completely. The System Active indicator will be illuminated in addition to the Source A and Source B indicators. The system will execute the power on self tests (POST).

Using the LOM poweron *Command*

- **At the** lom> **prompt, type:**

```
lom>poweron
```

The system will power on completely. The System Active indicator will be illuminated in addition to the Source A and Source B indicators. The system will execute the power on self tests (POST).

Refer to the *Sun Fire V1280 System Controller Command Reference Manual* for a full description of the poweron command.

Bringing the System to Standby Mode

This can be achieved in one of five ways:

- Using the UNIX shutdown command.
- Sending the shutdown command via the LOM port
- Sending the shutdown command using the On/Standby switch
- Sending the poweroff command via the LOM port
- Sending the poweroff command using the On/Standby switch

Note – You should ensure that Solaris is cleanly shut down before powering a system to standby mode otherwise data is at risk of being lost.

Using the Solaris shutdown Command

- **At the system prompt, type:**

```
# shutdown -i5
```

The system will power off to standby mode. The only indicator LEDs to be illuminated on the system indicator board are the Source A and Source B indicators. The IB_SSC assembly Active LED will also be illuminated, but not visible from the front of the system.

Sending the LOM shutdown Command

Note – If Solaris is running this command will attempt to halt the system cleanly before powering down the system to standby mode, and is the equivalent of the Solaris `init 5` command.

- **At the** `lom>` **prompt, type:**

```
lom>shutdown
```

After Solaris has been stopped, the system will power off to standby mode. The only indicator LEDs to be illuminated on the system indicator board are the Source A and Source B indicators. The IB_SSC assembly Active LED will also be illuminated, but not visible from the front of the system.

Refer to the *Sun Fire V1280 System Controller Command Reference Manual* for a full description of the LOM `shutdown` command.

Sending the shutdown Command Using the On/Standby Switch

- **Momentarily press the system On/Standby switch to the left.**

This initiates an orderly shutdown of the system into Standby mode. This is equivalent to issuing the `shutdown` command at the `lom>` prompt.

Sending the LOM poweroff Command

Note – You should ensure that Solaris is cleanly shut down before powering a system to standby mode by this method, otherwise data is at risk of being lost.

- **At the** `lom>` **prompt, type:**

```
lom>poweroff

This will abruptly terminate Solaris.
Do you want to continue? [no]
```

Type **y** to continue or press Return to cancel the command.

The system will power off to standby mode. The only indicator LEDs to be illuminated on the system indicator board are the Source A and Source B indicators. The IB_SSC assembly Active LED will also be illuminated, but not visible from the front of the system.

Refer to the *Sun Fire V1280 System Controller Command Reference Manual* for a full description of the `poweroff` command.

Sending the `poweroff` Command Using the On/Standby Switch

- **Press the On/Standby switch to the left and hold it for at least four seconds.**

  The system will power down to standby mode. The only indicator LEDs to be illuminated on the system indicator board are the Source A and Source B indicators. The IB_SSC assembly Active LED will also be illuminated, but not visible from the front of the system.

Setting Up the System

Setting the Date and Time

Note – If your time zone area is using daylight or summer time, this is set automatically.

Set the date, time, and time zone for the system using the `setdate` command, for instance, to set the date and time to Thursday, April 20, 2000 at 18 hours 15 minutes and 10 seconds and the time zone to Eastern Standard Time (EST), using the time zone abbreviations, type:

CODE EXAMPLE 1 Using the `setdate` Command

```
lom>setdate -t EST 042018152000.10
```

Setting the Password

At the LOM prompt, type the System Controller `password` command.

Configuring Network Parameters

Refer to the *Sun Fire V1280 System Administration Guide* and the *Sun Fire V1280 System Controller Command Reference Manual*.

APPENDIX **D**

Parts List

This appendix describes the availability of FRUs and X-options for the Sun Fire V1280 system, and who can perform the upgrade/installation procedures.

Some of the FRUs and X-options can be installed by a competent system administrator, but many *must* be installed by an appropriately qualified service engineer, as shown in TABLE D-1.

TABLE D-1 FRUs and X-Options

				Can be installed by:	
Description	**Configuration**	**X-Option Part Number**	**FRU Part No.**	**System Administrator**	**Qualified Service Engineer**
CPU/Memory module	4 x UltraSPARC III 900 MHz	X7057A	F540-4979		✓
Memory expansion	1 Gbyte (4 x 256 Mbyte)	X7053A	F540-5084		✓
	2 Gbyte (4 x 512 Mbyte)	X7051A	F540-5085		✓
	4 Gbyte (4 x 1 Gbyte)	X7052A	F540-5086		✓
AC Power cord kit	US/Asia (NEMA6-15P)	X321L	N/A	✓	✓
	Europe (CEE 7-VII, DIN VDE 0620)	X322L	N/A	✓	✓
	Denmark (DEMKO 107/10-1973)	X323L	N/A	✓	✓
	Switzerland (SEV 1011-S 24507)	X324L	N/A	✓	✓
	Italy (CEI.23-16-V11)	X325L	N/A	✓	✓
	Australia (AS3112)	X326L	N/A	✓	✓
	UK (BS1363A)	X327L	N/A	✓	✓

TABLE D-1 FRUs and X-Options *(Continued)*

Description	Configuration	X-Option Part Number	FRU Part No.	Can be installed by: System Administrator	Can be installed by: Qualified Service Engineer
	Argentina (IRAM 2073)	X335L	N / A	✓	✓
Cable management arm	CMA-Lite	X1209A	N / A	✓	✓
	CMA-800		F370-5411		
SCSI hard disk drive	36 Gbyte, 10krpm, 1-inch	N / A	F540-4904	✓	✓
DDS-4 tape drive		X6298A	F390-0900		✓
DVD-ROM drive			F370-4412		✓
Environmental filter kit		X6805A		✓	✓
Bezel kit		X7006A		✓	✓
CPU / memory filler board		X1092A			✓
Tape drive blanking panel		X1093A		✓	✓
AC Power supply			F300-1523	✓	✓
Power distribution board			F370-4394		✓
Baseplane			F540-4968		✓
System configuration card reader			F540-4983		✓
Media bay (includes SCSI backplane)			F540-4966		✓
Repeater board			F540-5521		✓
IB_SSC assembly			F540-5290		✓
Main system fans			F540-5193		✓
System fan tray (includes 8 fans)			F540-4972		✓
IB fan			F540-5222		✓
Top bezel and system indicator board			F560-2690		
AC power inlet assembly			F370-4422		

TABLE D-1 FRUs and X-Options *(Continued)*

Description	Configuration	X-Option Part Number	FRU Part No.	Can be installed by: System Administrator	Can be installed by: Qualified Service Engineer
DVD-ROM backplane			F370-4344		
System configuration card			F370-5155		
Cable kit			F560-2686		
Anti-gravity clutch kit			F560-2687		
Rackmount slide kit			F370-5408		
PCI cards					
SCSI	Dual channel differential Ultra / Wide SCSI	X6541A			✓
	SCSI LVD 160 / 320	X6758A			✓
Serial	High speed serial 4-port 2.0	X1155A	F605-1611		✓
	Asynchronous serial 8-port 3.0	X2156A	F605-1644		✓
Ethernet	Quad Fast Ethernet QFE / P	X1034A	F605-1594		✓
	10 / 100 / 1000 Ethernet Category 5 PCI66	X1150A			✓
	Gigabit Ethernet Fibre PCI66	X1151A			✓
ATM	SunATM-155 / MMF 4.0 PCI66	X1157A			✓
	SunATM / P-622MMF 4.0 PCI66	X1159A			✓
	SunATM-155 / MMF 5.0 PCI66	X1201A			✓
	SunATM / P-622MMF 5.0 PCI66	X1210A			✓
Fiber Channel	FC-AL single loop host	X6799A			✓
	FC-AL dual loop host	X6727A			✓
	Redundant DC 8-port switch	X6746A			✓

TABLE D-1 FRUs and X-Options *(Continued)*

Description	Configuration	X-Option Part Number	FRU Part No.	Can be installed by: System Administrator	Can be installed by: Qualified Service Engineer
Combination	Dual Fast Ethernet + Dual SE LVD SCSI	X2222A			✓
Encryption	Encryption	X1133A			✓
	Encryption - Deimos	X1198A			✓
	Encryption - Venus	X1199A			✓
Clustering	Cluster SCSI/PCI	X1074A			✓
Graphics	Graphics	X3668A			✓