



Sun Fire V250 Server Parts Replacement Manual

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Preface

The *Sun Fire V250 Server Parts Replacement Manual* provides detailed instructions for removing and replacing components of the server. Some of the procedures can be carried out by the user, others by the service provider only.

Before You Read This Book

Read the *Sun Fire V250 Server Compliance and Safety Manual* before following any of the procedures described in this book.

Using UNIX Commands

This document does not contain information on basic UNIX® commands and procedures such as shutting down the system, booting the system, and configuring devices.

See one or more of the following for this information:

- *Solaris Handbook for Sun Peripherals*
- Other software documentation that you received with your system

Typographic Conventions

| Typeface | Meaning | Examples |
|------------------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AaBbCc123 | The names of commands, files, and directories; on-screen computer output | Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. % You have mail. |
| AaBbCc123 | What you type, when contrasted with on-screen computer output | % su Password: |
| <i>AaBbCc123</i> | Book titles, new words or terms, words to be emphasized. Replace command-line variables with real names or values. | Read Chapter 6 in the <i>User's Guide</i> . These are called <i>class</i> options. You <i>must</i> be superuser to do this. To delete a file, type <code>rm filename</code> . |

Shell Prompts

| Shell | Prompt |
|---------------------------------------|----------------------|
| C shell | <i>machine-name%</i> |
| C shell superuser | <i>machine-name#</i> |
| Bourne shell and Korn shell | \$ |
| Bourne shell and Korn shell superuser | # |
| ALOM shell | sc> |
| OpenBoot PROM shell | ok |

Related Documentation

| Application | Title | Part Number |
|-----------------------|----------------------------------------------------------|-------------|
| Latest information | <i>Sun Fire V250 Server Product Notes</i> | 817-1003-xx |
| Compliance and Safety | <i>Sun Fire V250 Server Compliance and Safety Manual</i> | 817-1959-xx |
| Unpacking | <i>Sun Fire V250 Server Quick Start Guide</i> | 817-0898-xx |
| Installation | <i>Sun Fire V250 Server Installation Guide</i> | 817-0899-xx |
| Administration | <i>Sun Fire V250 Server Administration Guide</i> | 817-0900-xx |
| Lights-Out Management | <i>Advanced Lights-Out Manager Online Help</i> | 817-3175-xx |

Read the *Sun Fire V250 Server Compliance and Safety Guide* before performing any of the procedures documented in this manual.

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Parts Installation and Removal

This chapter contains procedures for replacing the server's internal hardware components.



Caution – The procedures in this section are for the attention of service providers only.



Caution – Read “Avoiding Electrostatic Discharge” on page 5, and wear a properly grounded antistatic strap, before you carry out any of the procedures in this book.

The chapter contains the following sections:

- “Lifting the Server” on page 2
- “Replaceable Components” on page 2
- “Controlling Server Power” on page 3
- “Avoiding Electrostatic Discharge” on page 5
- “Service Panel” on page 7
- “Location of Components” on page 9
- “User Replaceable Components” on page 11
- “Service Provider Replaceable Components” on page 15

Lifting the Server

Close the door before you lift the server. The server should be lifted by two people, using the top part of the bezel at the front and the PSU handles at the back as gripping points.

Replaceable Components

This section lists components that can be replaced by users and service providers.

- Components listed in TABLE 1-1 can be replaced by the user.
- Components listed in TABLE 1-2 can be replaced by the service provider only.

TABLE 1-1 User Replaceable Components

| Component | Part Number |
|-------------------------------|--------------------|
| Front door/hinge assembly | F370-5960 |
| Power supply unit | F300-1588 |
| Hard disk drive, 36GB 10K RPM | F540-5462 |
| Hard disk drive, 73GB 10K RPM | F540-5455 |
| System configuration card | F370-5155 |

TABLE 1-2 Service Provider Replaceable Components

| Component | Part Number |
|----------------------------------------|--------------------|
| Motherboard, 0 MB, single 1.064GHz CPU | F375-3146 |
| Motherboard, 0 MB, dual 1.064GHz CPU | F375-3147 |
| Motherboard, 0 MB, single 1.28GHz CPU | F375-3176 |
| Motherboard, 0 MB, dual 1.28GHz CPU | F375-3130 |
| SCC reader module | F370-5646 |
| Front fan | F370-5962 |
| Cable kit | F370-6114 |
| SCSI backplane | F370-5959 |
| Power distribution board | F370-5961 |

TABLE 1-2 Service Provider Replaceable Components

| Component | Part Number |
|------------------------|-------------|
| Rear fan module | F370-6084 |
| ALOM card | F501-6346 |
| CPU heatsink with fan | F370-5686 |
| 256MB DDR1 DIMM (pair) | F370-5565 |
| 512MB DDR1 DIMM (pair) | F370-4939 |
| 1GB DDR1 DIMM (pair) | F370-4940 |
| DVD Drive | F370-5690 |
| DAT Drive | F390-0028 |



Caution – Printed circuit boards and hard disk drives contain electronic components that are extremely sensitive to static electricity. The quantities of static electricity generated by your clothes or your work environment can destroy some components. Do not touch any components or metal parts without taking full antistatic precautions.



Caution – Before you carry out any of the procedures covered in this book, the server must be powered down.

Controlling Server Power

The only way to turn server power off is to disconnect the server from its power source by removing the power cable or cables. The On/Standby button toggles the server between the On and Standby power states *only*; it cannot turn server power off.

For detailed information on controlling server's power state using the software, refer to the *ALOM Online Documentation*.

▼ To Turn Server Power On



Caution – Never move the server while it is powered on. Movement can cause disk drive failure. Always power off the system before moving it.

1. Connect the server to an AC power source.

When the server is connected to a power source, it immediately enters Standby power mode.

2. Turn on the power to any peripherals or external storage devices that are connected to the server.

If you have connected an external device to the server, read the documentation that was supplied with it for specific instructions.

3. Open the door.

4. Set the operation mode switch to the Normal or Diagnostics position.

5. Press the On/Standby button once.

6. Set the operation mode switch to the Locked position.

This prevents the server from being powered off accidentally.

7. Close and lock the door.

▼ To Turn Server Power Off

1. Notify users that the system will be powered down.

2. Back up system files and data.

3. Set the operation mode switch to the Normal or Diagnostics position.

4. Press and immediately release the On/Standby button.

This action initiates an orderly software system shutdown.

Note – Pressing and releasing the On/Standby switch initiates an orderly software shutdown. Pressing and holding the switch for four seconds causes an immediate hardware shutdown. Whenever possible, initiate an orderly shutdown. Forcing an immediate hardware shutdown can corrupt the disk drive and cause loss of data.

5. Wait for the front panel green LED to go out.

6. Disconnect the power cable.

This is the only way to remove power from the server. Electrical power is present when the server is in Standby mode.



Caution – As long as the power cord is connected, electrical energy is present inside the server.

Avoiding Electrostatic Discharge

Whenever you carry out service procedures on the server, follow these instructions to prevent static electricity damaging the server's internal components.

You need an antistatic wrist strap, an antistatic mat, or other suitable antistatic surface.

When the AC power cord(s) are removed for a service action to be carried out, provide a ground path to bring the following to the same electrical potential:

- ESD protective components
- Server
- Antistatic mat
- Service personnel

Electrostatic protection can be maintained at a potential above a zero voltage ground reference as long as all items listed above are at the same potential.

▼ To Avoid Electrostatic Discharge While Working on the Front of the Server

1. Turn system power off.

See “Controlling Server Power” on page 3.

2. **Attach one end of the antistatic strap to the grounding point on the server's front panel behind the door, and the other to your wrist.**

See FIGURE 1-1.

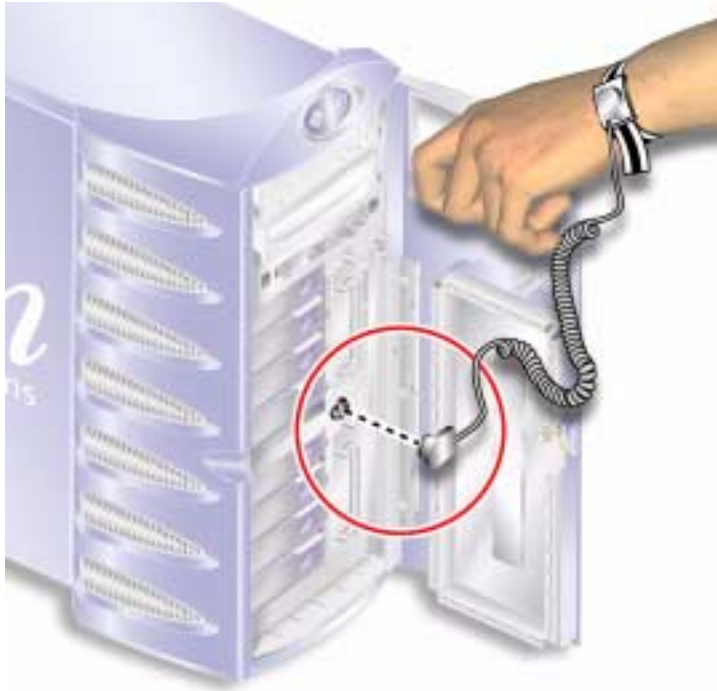


FIGURE 1-1 Front Panel Electrostatic Grounding Point

▼ To Avoid Electrostatic Discharge While Working On Internal Components

1. **Turn server power off.**

See “Controlling Server Power” on page 3.

2. Attach one end of the antistatic strap to the grounding stud located on the server's back panel, and the other end to your wrist.



FIGURE 1-2 Back Panel Electrostatic Grounding Point

Service Panel

Remove the service panel, which is located on one side of the server, to gain access to the internal components. The service panel is secured to the chassis by two screws on the back edge of the server.



Caution – The procedures in this section are for the attention of service providers only.

▼ To Remove the Service Panel

1. Turn server power off.

See “Controlling Server Power” on page 3.

2. Ensure you are properly grounded.

See “Avoiding Electrostatic Discharge” on page 5.

3. Unscrew the service panel retaining screws.

The service panel is retained by two captive screws on the right edge of the server’s back panel. See FIGURE 1-3.

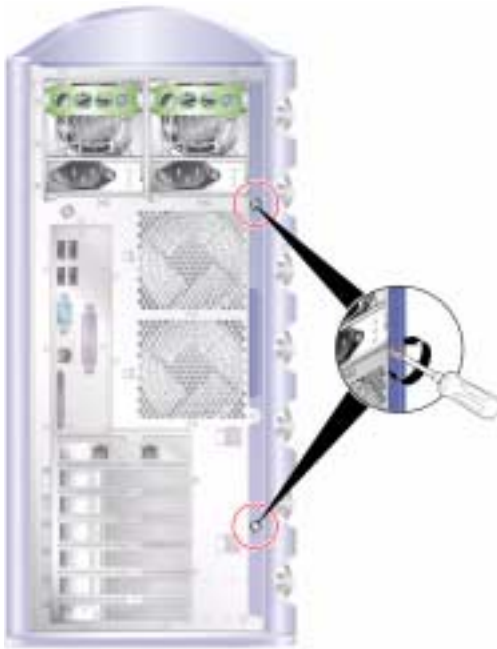


FIGURE 1-3 Location of the Service Panel Retaining Screws

4. Place the server on its side.

Take care not to damage the feet.

5. Remove the service panel from the body of the server.

See FIGURE 1-4.



FIGURE 1-4 Removing the Service Panel

Location of Components

The position of each of the server's major components is shown in FIGURE 1-5.

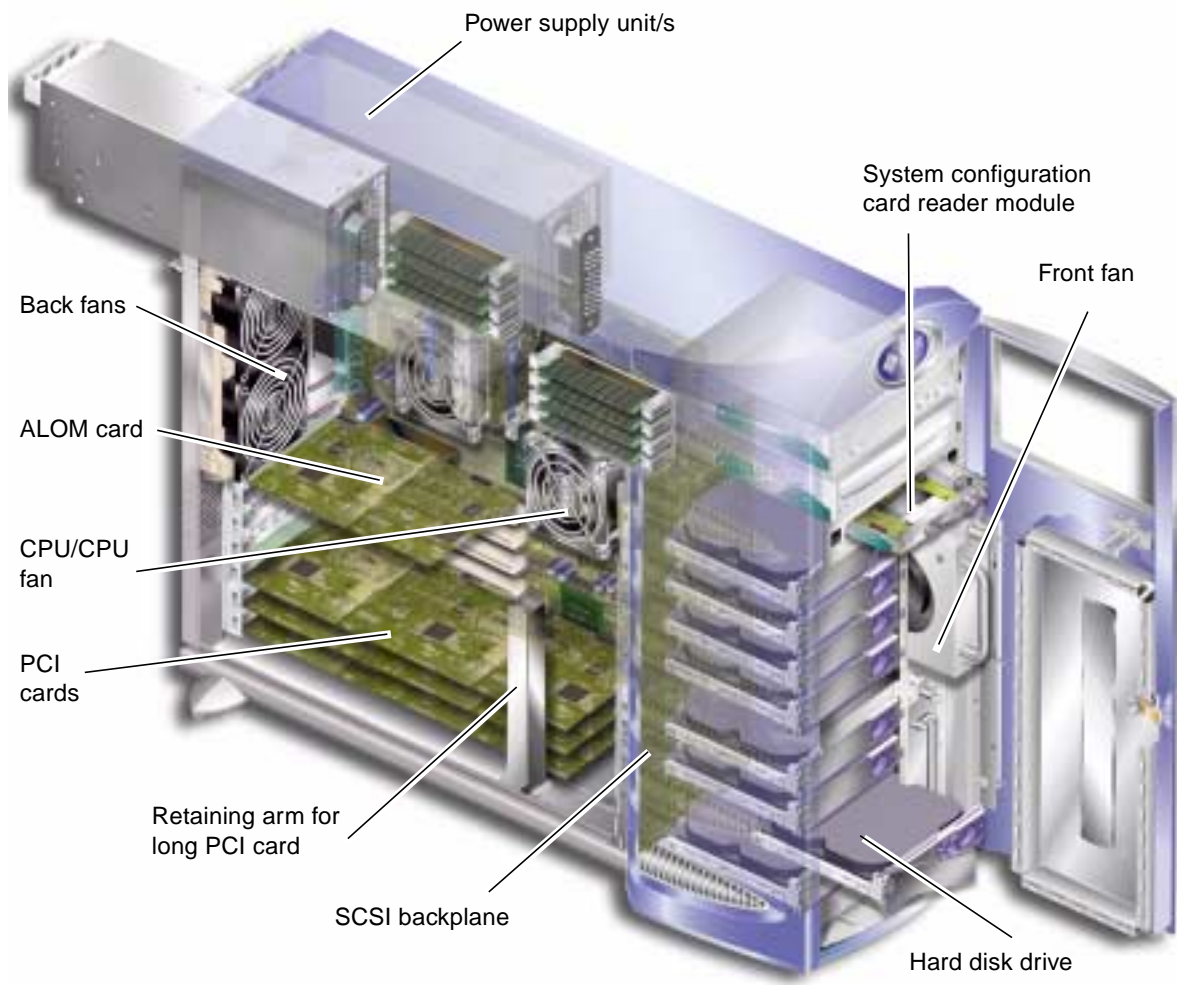


FIGURE 1-5 Location of Internal Components

User Replaceable Components

Hard Disk Drives

For information on removing a hard disk drive while the operating system is running, see the *Sun Fire V250 Server Administration Guide*.

▼ To Remove a Hard Disk Drive

1. Ensure you are properly grounded.

See “Avoiding Electrostatic Discharge” on page 5.

2. Unlock and open the front door.

3. Check that the blue “OK to Remove” indicator is lit on the hard disk drive you are going to remove.

4. Make a note of the hard disk drive bay identification number.

Put the replacement hard disk drive back into the bay from which you are removing a hard disk drive.

5. Slide the catch at the front of the hard disk drive to the right.

This releases the handle on the front of the hard disk drive. See FIGURE 1-6.

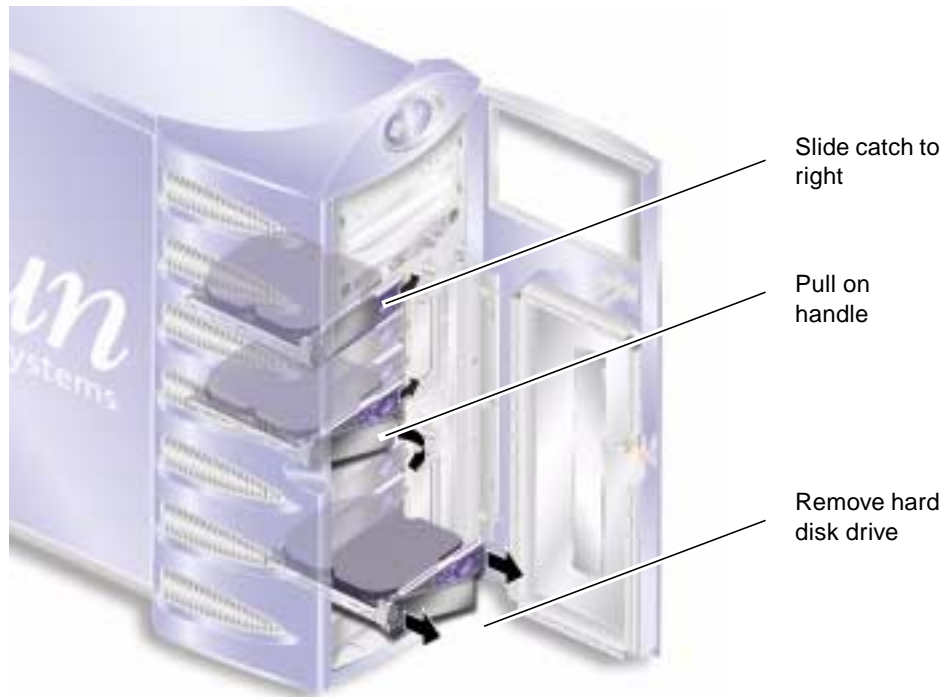


FIGURE 1-6 Removing a Hard Disk Drive

6. Pull the hard disk drive by its handle to remove it from the server.

7. Place the hard disk drive on an antistatic bag or mat.

▼ To Insert a Hard Disk Drive

1. Ensure you are properly grounded.

See “Avoiding Electrostatic Discharge” on page 5.

2. Unlock and open the door.

3. Slide the catch on the front of the hard disk to the right.

This releases the handle on the front of the hard disk drive. The lever must be open *before* you insert the hard disk drive into the server. If it is not, the hard disk drive will not engage with the server correctly.

4. **Make sure you are replacing the hard disk drive into the correct bay.**
Refer to the note you took when you removed the hard disk drive.
5. **Align the hard disk drive with the visual guides printed on both sides of each hard disk drive bay.**
6. **Slide the hard disk drive into the server body until the metal lever starts to close.**
This indicates that the hard disk drive has engaged with its connector in the server.
7. **Press the handle so that the disk drive clicks into place.**



FIGURE 1-7 Inserting a Hard Disk Drive

8. **Close the door and lock it.**

Power Supply Unit

Note – For information on replacing a redundant power supply unit, see the *Sun Fire V250 Server Administration Guide*.

▼ To Replace a PSU

1. Turn server power off.

See “Controlling Server Power” on page 3.

2. Disconnect the power cable from the PSU.

You cannot remove a PSU unless the power cable has been disconnected.

3. Pull the PSU handle into its down position.

Inside the server, this action breaks the connection between the PSU and the power distribution board.



FIGURE 1-8 Removing A Power Supply Unit

4. Slide the PSU out of the server body by pulling on the green PSU handle.

See FIGURE 1-8.

5. Place the module on an antistatic bag or mat.

6. Locate the replacement PSU in the correct bay.

7. **With the handle in its down position, slide the PSU into the server's chassis as far as it will go.**

Ensure that the handle does not return to a vertical position until the PSU is as far into the chassis as it will go, otherwise the PSU will not engage with the power distribution board inside the server.



FIGURE 1-9 Replacing A Power Supply Unit

8. **Press the handle until it clicks home. See FIGURE 1-9.**

This action engages the PSU with the power distribution board.

Service Provider Replaceable Components

The procedures in this section are for the attention of service providers only. Users should not carry out these procedures.

System Configuration Card Reader Module

The system configuration card reader module is replaced as a single unit and contains:

- system configuration card and reader
- On/Standby button
- operation mode switch

For information on the function of the system configuration card, see the *Sun Fire V250 Server Administration Guide*.

▼ To Remove the System Configuration Card Reader Module

1. **Turn server power off.**
See “Controlling Server Power” on page 3.
2. **Unlock and open the door.**
3. **Ensure you are properly grounded.**
See “Avoiding Electrostatic Discharge” on page 5.
4. **Cut the security cable-tie and remove the system configuration card.**
5. **Keep the system configuration card, you need to install it into the replacement reader module.**

Note – The system configuration card stays with the server, unless you are replacing a server unit.

6. Unclip and slide out the system configuration card reader module.

Squeeze the two green release catches at both sides to release it. See FIGURE 1-10.



FIGURE 1-10 Removing the System Configuration Card Reader Module

7. Place the module on an antistatic bag or mat.

▼ To Replace the System Configuration Card Reader Module

1. Remove the existing reader module.

See “To Remove the System Configuration Card Reader Module” on page 16.

2. Slide the replacement module into its bay on the server’s front panel.

3. Slide the module in so that the clips on either side engage with the server body.



FIGURE 1-11 Replacing the System Configuration Card Reader Module

4. Replace the system configuration card.

Resecure the system configuration card with a cable tie to prevent its accidental removal.

Power Distribution Board

The power distribution board (PDB) takes power to the server's internal components.



Caution – The procedures in this section are for the attention of service providers only.

▼ To Remove the Power Distribution Board

- 1. Turn server power off.**

See “Controlling Server Power” on page 3.

- 2. Open the door.**

- 3. Ensure you are properly grounded.**

See “Avoiding Electrostatic Discharge” on page 5.

- 4. Disconnect the power and data cables from the DVD-ROM drive and tape drive (if fitted).**

See “Follow the instructions in this section carefully. The DVD-ROM drive contains a laser device. Do not attempt to open the DVD-ROM drive’s enclosure or remove a DVD-ROM drive using any procedures other than those contained in this section.” on page 42 and “See “Avoiding Electrostatic Discharge” on page 5.” on page 38 for further details.

- 5. Ensure both PSU bays are empty.**

See “To Replace a PSU” on page 14.

- 6. Place the server on its side and remove the service panel.**

See “To Remove the Service Panel” on page 8.

7. Undo the two screws securing the PDB to the chassis. (See FIGURE 1-12.)

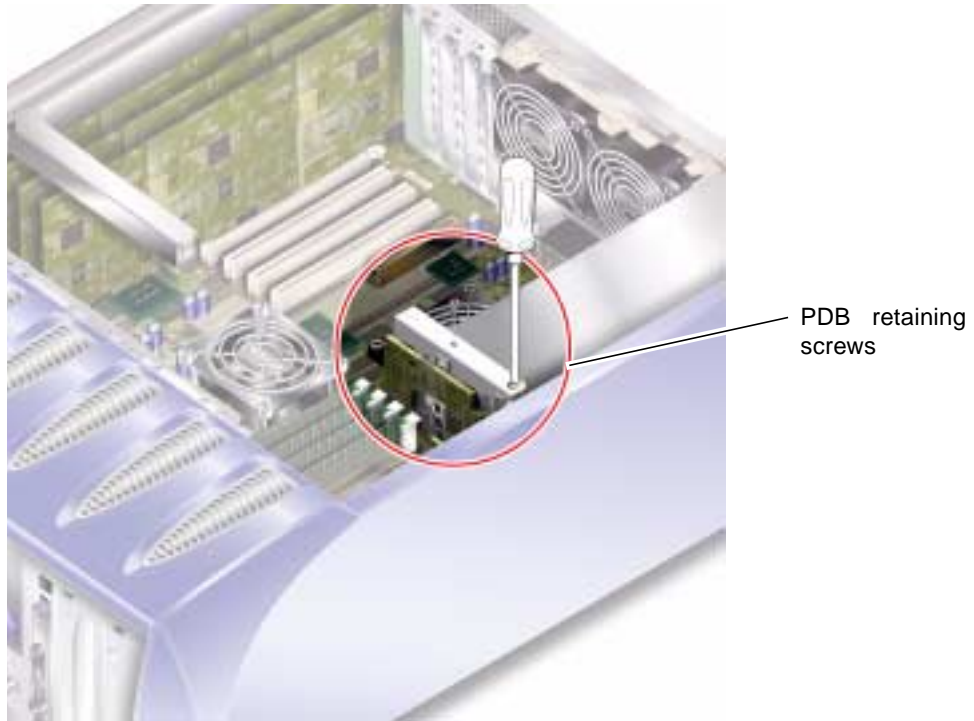


FIGURE 1-12 Power Distribution Board Retaining Screws

8. Disconnect the power and data cables:

- 2x power from the system board
- 1x data from the SCSI backplane

9. Disconnect the wiring from the cable management bracket.

10. Remove the power distribution board and wiring harness. See FIGURE 1-13.

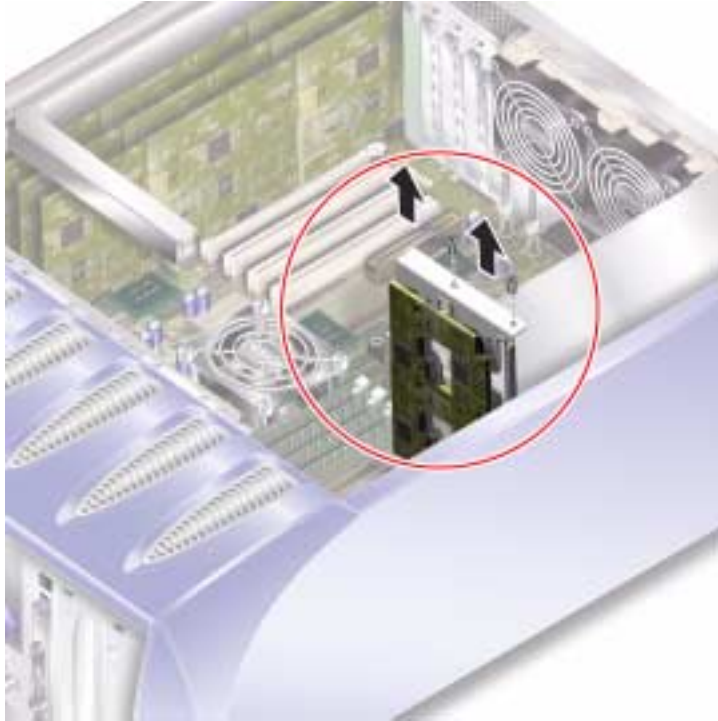


FIGURE 1-13 Power Distribution Board Removal

▼ To Replace the Power Distribution Board

1. Using the two locating pins at the bottom of the PDB as a guide, locate the unit in its correct position in the server. See FIGURE 1-14.

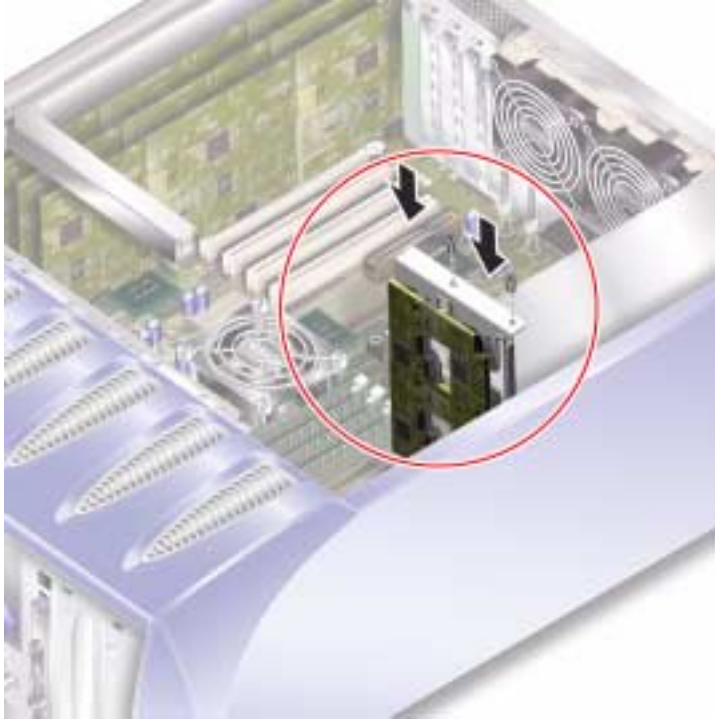


FIGURE 1-14 Power Distribution Board Replacement

2. Tighten the two retaining screws.
3. Reconnect all power and data cables.

Memory

There are four memory module sockets per processor on the server's system board. Memory is supplied by Sun in paired DIMMS. Ensure that you use the DIMM pairs as supplied and do not mix them.



Caution – The procedures in this section are for the attention of service providers only.

Memory Configuration Rules

Memory is shipped in matched pairs for use on the Sun Fire V250 server. Use memory only in these matched pairs - do not mix memory modules.

When you install memory, follow the configuration rules below.

- DIMMs must be identical.
- Install two DIMMs per CPU at a time.
- Maintain an equal amount of memory for each CPU.
- Use a minimum of two matched DIMMs per CPU.
- Do not mix DIMM capacities.

▼ To Add Memory

1. Turn server power off.

See “Controlling Server Power” on page 3.

2. Remove the service panel.

See “To Remove the Service Panel” on page 8.

3. Locate the correct DIMM socket.

4. Open the retaining clips.

5. Press the memory module into the DIMM socket.

- 6. Apply even pressure to the top edge of the memory module until it clips into place and the retention latches close to secure it.**

See FIGURE 1-15.

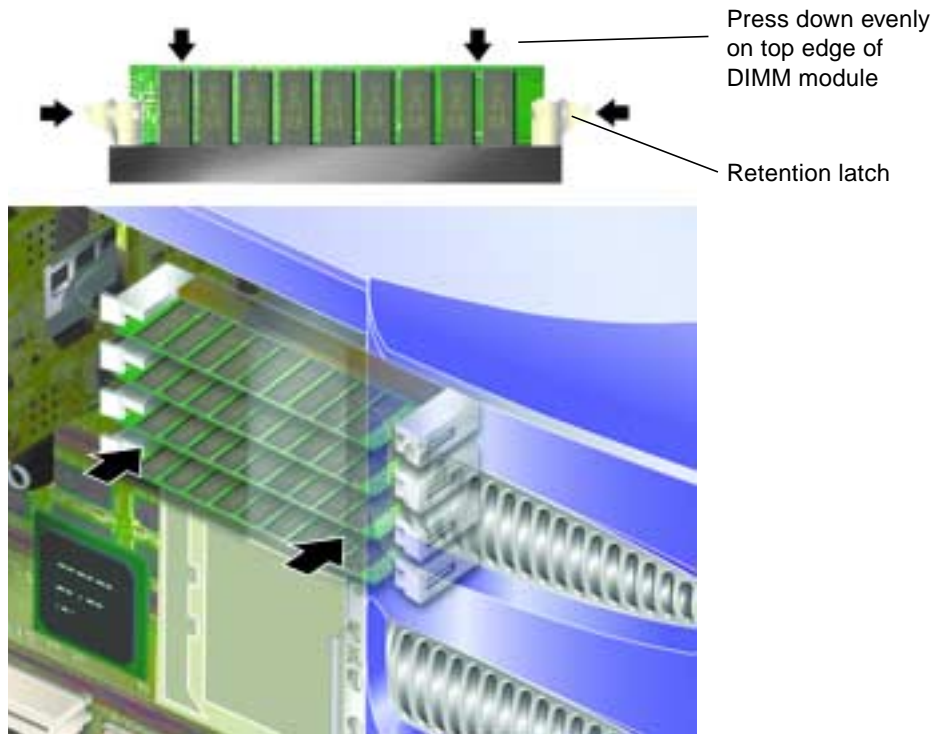


FIGURE 1-15 Inserting a DIMM

- 7. Replace the service panel.**

▼ To Remove Memory

- 1. Press down on the retention latches at the sides of the memory module.**

This frees the module from its socket. See FIGURE 1-16.

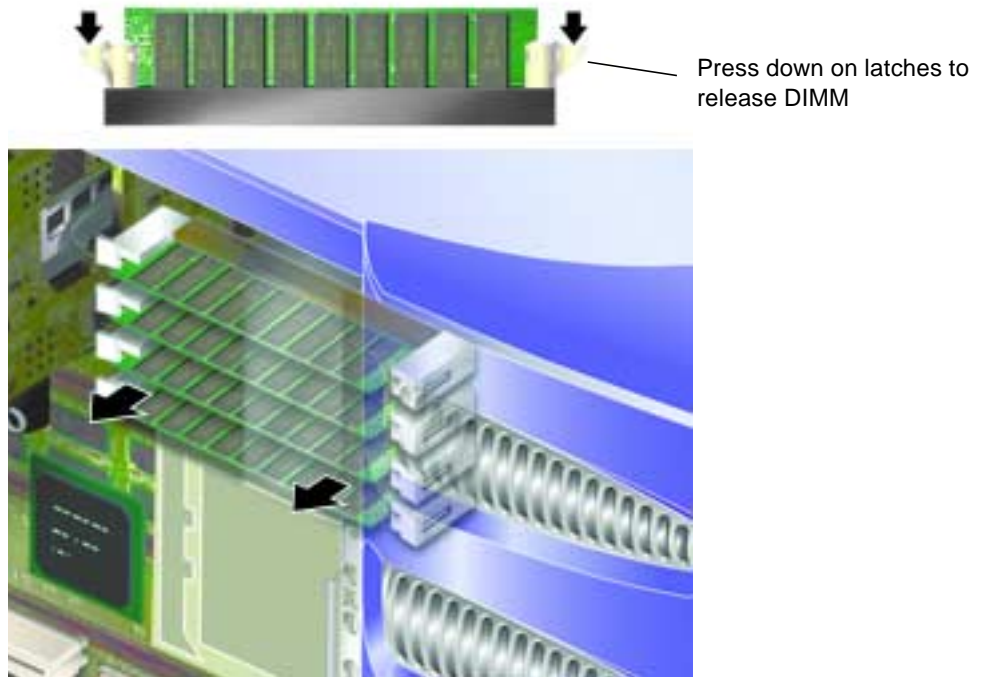


FIGURE 1-16 Removing a DIMM

2. Remove the memory module.
3. Replace the service panel.

Rear Cooling Fans

The Sun Fire V250 server has one cooling fan module in the back, which contains two fans. Remove and replace the module as a single unit.



Caution – The procedures in this section are for the attention of service providers only.

▼ To Remove the Fan Module

1. Turn server power off.

See “Controlling Server Power” on page 3.

2. Remove the service panel.

See “To Remove the Service Panel” on page 8.

3. Disconnect the fan module power cables from the system board.

See FIGURE 1-17.



FIGURE 1-17 Disconnecting the Fan Module Power Cables

4. Unclip the fan retaining tab.

See FIGURE 1-18.

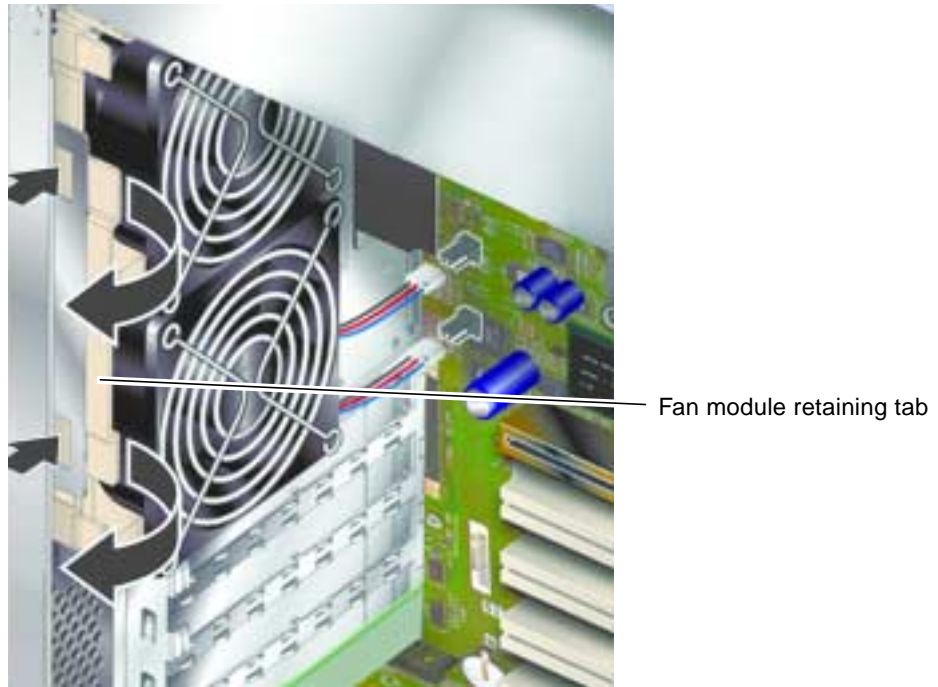


FIGURE 1-18 Removing the Fan Module

- 5. Rotate the fan module out and remove it from the chassis.**

▼ To Replace the Fan Module

- 1. Insert the replacement fan module.**
- 2. Connect the fan power cables to the system board.**
- 3. Replace the service panel.**

CPU Fan and Heatsink Assembly

The processor fan and heatsink assembly is replaced as one unit.

▼ To Remove a CPU Fan and Heatsink Assembly



Caution – The procedures in this section are for the attention of service providers only.



Caution – The assembly may be hot. After disconnecting power from the server, allow the assembly time to cool before continuing with the procedures in this section.

1. Disconnect the server from its power source.

See “Controlling Server Power” on page 3.

2. Ensure the server is properly grounded.

See the instructions in “Avoiding Electrostatic Discharge” on page 5.

3. Remove the service panel.

See “To Remove the Service Panel” on page 8.

4. **Disconnect the power cable for the CPU fan from the system board.**



FIGURE 1-19 CPU Fan Removal

5. **Press down on the tabs to release the rear clips.**
6. **Remove the clips from the side of the assembly.**
7. **Slide the heatsink assembly to release the front clips.**
See FIGURE 1-19.
8. **Lift the CPU heatsink up and away from the CPU.**

▼ To Replace a CPU Fan and Heatsink Assembly

1. **Clip the assembly into place on the system board.**
Locate the back of the assembly first.

2. Lock the retaining clips into position on both sides of the assembly.



FIGURE 1-20 Removing a Processor Fan and Heat Sink Assembly

3. Connect the CPU fan and heatsink assembly power cable.

System Board Assembly

The CPU and system board is replaced as a single assembly.



Caution – The procedures in this section are for the attention of service providers only.

▼ To Remove The System Board

1. Power off the server.

See “Controlling Server Power” on page 3.

2. Place the system on its side.

3. Ensure the server is properly grounded.

See “Avoiding Electrostatic Discharge” on page 5.

4. Remove the service panel.

See “To Remove the Service Panel” on page 8.

5. Disconnect all power and data cables from the system board.

- SCSI cable to SCSI backplane
- Data cable to SCSI backplane
- IDE cable to DVD drive
- Power connectors to power distribution board

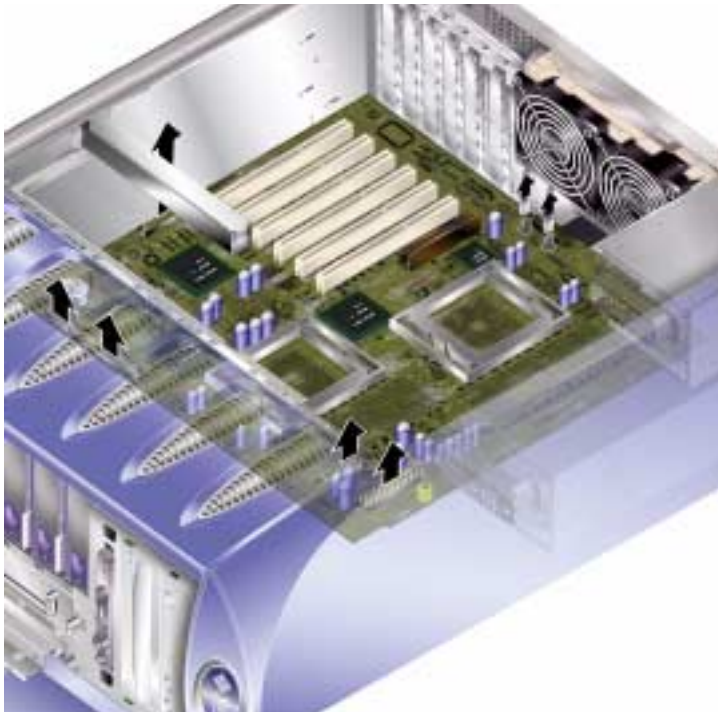


FIGURE 1-21 Removing System Board Power and Data Cables

6. **If any PCI cards are fitted, remove them, and place on an anti-static surface or bag.**
See “PCI Cards” on page 33.
7. **Remove the PCI long card holder.**
See “To Remove a PCI Card” on page 35.
8. **Remove the ALOM card and place it on an antistatic surface or mat.**
9. **Remove the fan module.**
See “Rear Cooling Fans” on page 25.
10. **Remove the DIMMS and place on an anti-static surface or bag.**
See “To Remove Memory” on page 24.
11. **Loosen the system board retaining screw. See FIGURE 1-22.**

The system board is on a spring-loaded assembly which moves the board away from the back of the server when the retaining screw is loosened.



FIGURE 1-22 Location of System Board Retaining Screw

12. **Slide the system board release lever towards the front of the server to release the system board.**

13. Holding the system board by the plastic grab-handles, lift it out of the chassis.
See FIGURE 1-23.

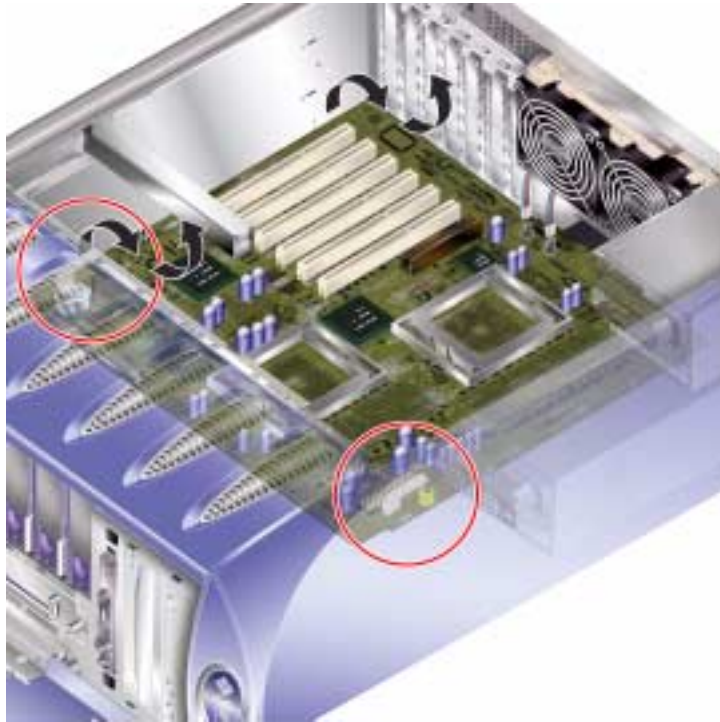


FIGURE 1-23 Removing the System Board from the Chassis

PCI Cards

For information on the PCI cards that are available for the server, see the *Sun Fire V250 Server System Administration Guide*.



Caution – The procedures in this section are for the attention of service providers only.

▼ To Add a PCI Card

1. **Power off the server.**

See “Controlling Server Power” on page 3.

2. Ensure the server is properly grounded.

See “Avoiding Electrostatic Discharge” on page 5.

3. Place the server on its side.

4. Remove the service panel.

See “To Remove the Service Panel” on page 8.

5. Unclip the PCI retainer mechanism.

Rotate the retaining mechanism to release the PCI cards.

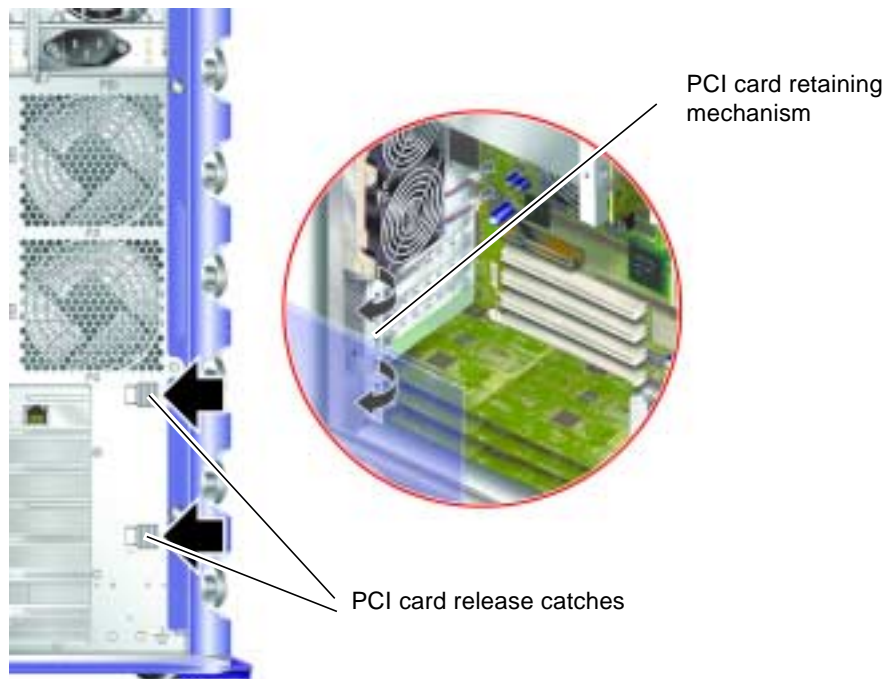


FIGURE 1-24 PCI Card Retaining Mechanism

6. Place the PCI card into its slot and press it home.

7. Replace the support for long PCI cards, if necessary, and screw into place.

8. Return the PCI card retaining mechanism to its closed position.

▼ To Remove a PCI Card

1. **If removing a long PCI card, loosen the screws which secure the support for long PCI cards.**

These are located on the base of the server. See FIGURE 1-25.

2. **Slide the support towards the back of the PCI card.**

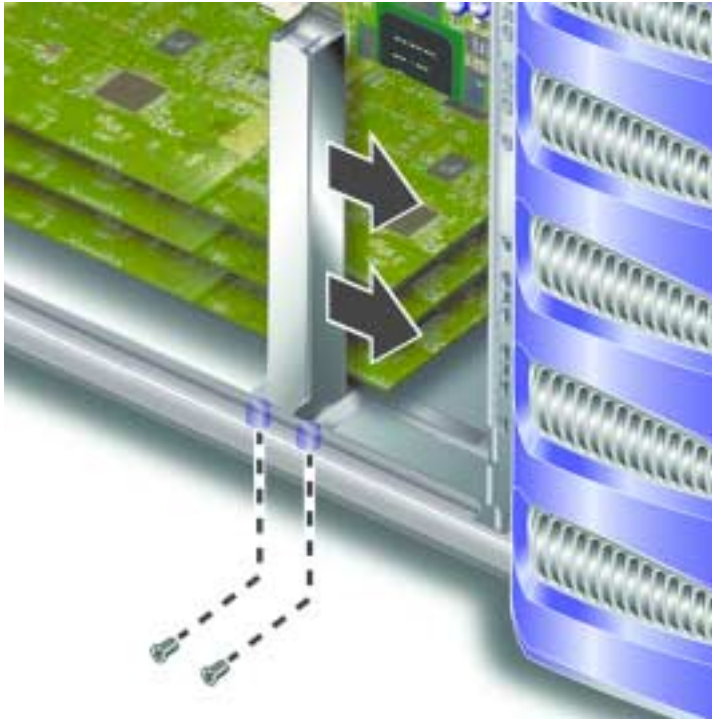


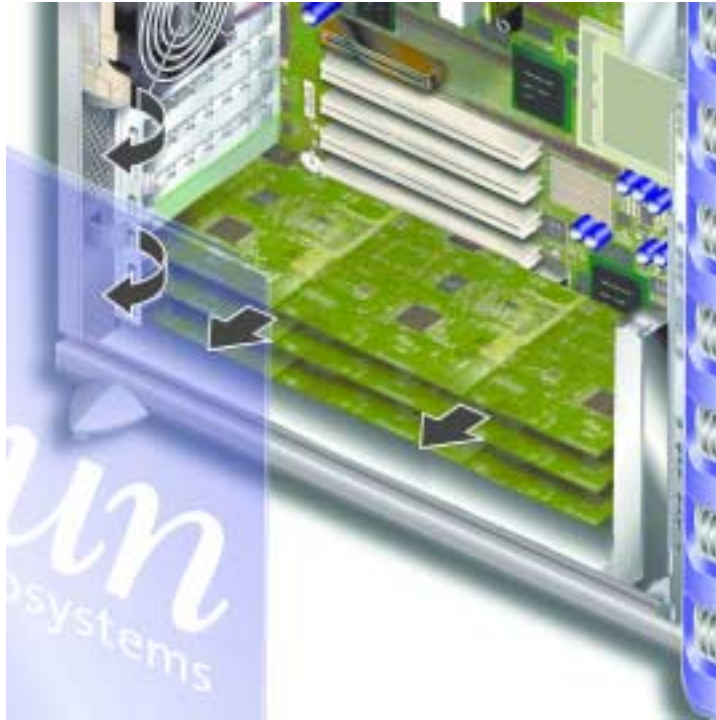
FIGURE 1-25 Moving the Support for Long PCI Cards

3. **Unclip the PCI retainer mechanism.**

Rotate the retaining mechanism to release the PCI cards.

4. **Make a note of the slot you are about to remove the PCI card from.**

5. Remove the PCI card by lifting it vertically from the PCI slot.



6. Place the PCI card on an antistatic surface or bag.

SCSI Backplane

The SCSI backplane is located at the front of the internal section of the server.



Caution – The procedures in this section are for the attention of the service provider only.

▼ To Remove the SCSI Backplane

1. Power off the server.

See “Controlling Server Power” on page 3.

2. Ensure the server is properly grounded.

See “Avoiding Electrostatic Discharge” on page 5.

3. Remove all hard disk drives.

See “To Remove a Hard Disk Drive” on page 11. Make a note of which slot you remove each hard disk drive from.

4. Place the server on its side.

5. Remove the service panel.

See “To Remove the Service Panel” on page 8.

6. Disconnect all power and data cables from the SCSI backplane.

The cable at the bottom of the server is secured by two retaining hooks. Bend these back to release the cable.

7. Unscrew the ten screws that secure the SCSI backplane to the chassis.

There are nine screws at the top edge of the board (closest to the service panel), and one at the bottom edge (closest to the system board). See FIGURE 1-26.

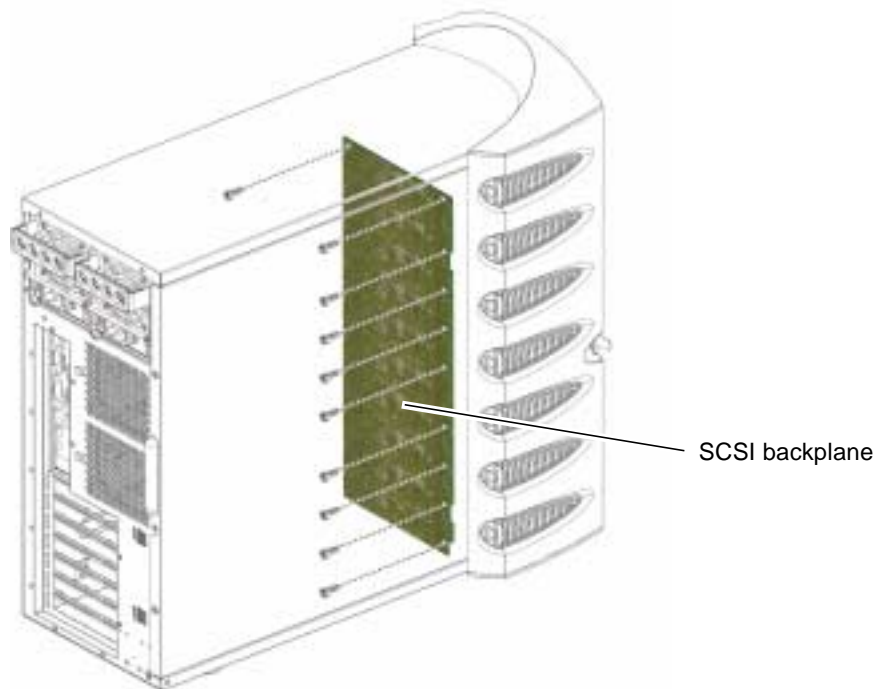


FIGURE 1-26 Location of SCSI Backplane and Fixing Screws

8. **Remove the SCSI backplane from the server body and place on an antistatic surface or bag.**

▼ To Replace the SCSI Backplane

1. **Locate the bottom of the SCSI backplane into the clips on the server body.**
2. **To help position it correctly, align the LEDs on the top edge of the SCSI backplane with the lightpipes on the server body.**

3. **Replace and tighten the screws.**

See FIGURE 1-26.

4. **Replace all power and data cables.**

5. **Replace the hard disk drives.**

Refer to the notes you took when you removed the hard disk drives to ensure each is returned to its correct bay.

Tape Drive (Optional)

The tape drive is located on the server's front panel. If it is not installed, a blanking plate is fitted in its place.

▼ To Install a Tape Drive

1. **Turn server power off.**

See "Controlling Server Power" on page 3.

2. **Open the door.**

3. **Ensure the server is properly grounded.**

See "Avoiding Electrostatic Discharge" on page 5.

4. Remove the blanking plate. See FIGURE 1-27.

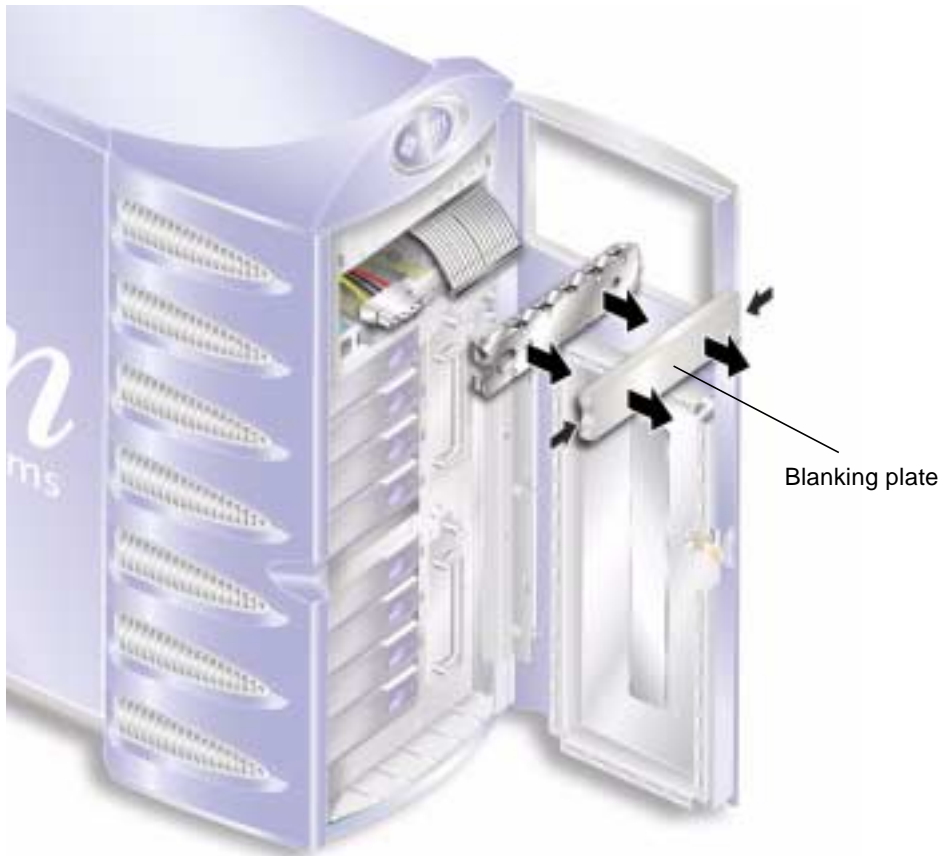


FIGURE 1-27 Tape Drive Blanking Plate Removal

5. Attach the power and data cables to the tape drive module.

- 6. Slide the tape drive firmly into its slot. See FIGURE 1-28.**
The green tabs secure the drive when it is inserted correctly.



FIGURE 1-28 Installing a Tape Drive Module

▼ To Remove the Tape Drive

- 1. Check that no media is present in the tape drive.**
- 2. Turn server power off.**
See “Controlling Server Power” on page 3.
- 3. Open the door.**
- 4. Ensure the server is properly grounded.**
See “Avoiding Electrostatic Discharge” on page 5.

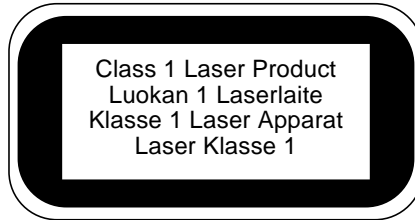
5. **Release the tape drive module from the server. See FIGURE 1-29.**
Squeeze the two green release catches at both sides to release it.



FIGURE 1-29 Removing the Optional Tape Drive

6. **Slide the tape drive out of the server's chassis.**
7. **Disconnect the power and data cables.**

DVD-ROM Drive



Caution – Follow the instructions in this section carefully. The DVD-ROM drive contains a laser device. Do not attempt to open the DVD-ROM drive’s enclosure or remove a DVD-ROM drive using any procedures other than those contained in this section.

▼ To Remove the DVD-ROM Drive

1. **Check that no media is present in the DVD-ROM drive.**
2. **Turn server power off.**
See “Controlling Server Power” on page 3.
3. **Open the door.**
4. **Ensure the server is properly grounded.**
See “Avoiding Electrostatic Discharge” on page 5.

5. **Unclip the DVD-ROM drive module.** See FIGURE 1-30.
Squeeze the two green release catches at both sides to release it.



FIGURE 1-30 Removing the DVD-ROM Drive

6. **Slide the DVD-ROM drive out of the slot.**
7. **Disconnect the power and data cables.**

▼ To Replace the DVD-ROM Drive

1. **Ensure server power is off.**
See “Controlling Server Power” on page 3.
2. **Open the door.**

3. Ensure the server is properly grounded.

See “Avoiding Electrostatic Discharge” on page 5.

4. Connect the power and data cables to the replacement DVD-ROM drive module.

5. Slide the replacement module firmly into its slot.

The green tabs secure the drive when it is inserted correctly.



FIGURE 1-31 Replacing a DVD-ROM Drive

Front Fan Modules

There are two cooling fan modules on the front of the server, next to the hard disk drive bays. Open the door to access the fan modules.

▼ To Remove a Front Fan Module

- 1. Turn server power off.**
See “Controlling Server Power” on page 3.
- 2. Open the door.**
- 3. Ensure the server is properly grounded.**
See “Avoiding Electrostatic Discharge” on page 5.
- 4. Loosen the retaining screw.**

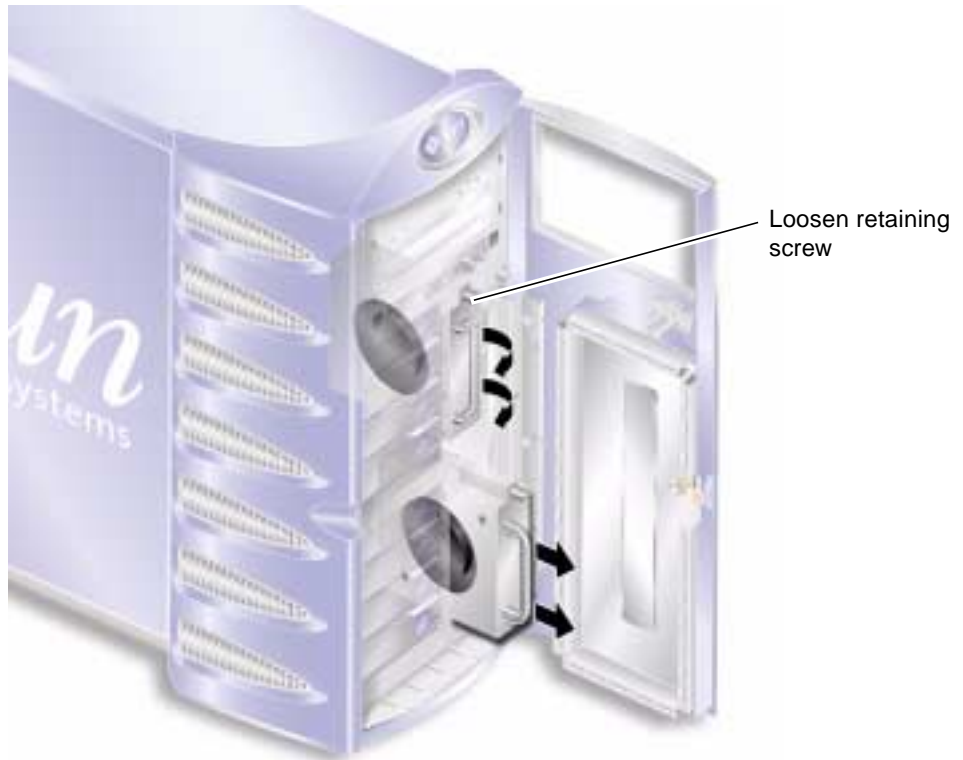


FIGURE 1-32 Front Fan Module Removal

- 5. Open the fan module handle.**
- 6. Grip the fan module by its handle and pull the module out of the server.**
See FIGURE 1-32.

▼ To Replace a Front Fan Module

1. **Ensure server power is off.**
See “Controlling Server Power” on page 3.
2. **Open the door.**
3. **Ensure the server is properly grounded.**
See “Avoiding Electrostatic Discharge” on page 5.
4. **Align the fan module in the empty bay.**
5. **Slide the fan module all the way in to its bay.**
6. **Tighten the retaining screw.**



FIGURE 1-33 Replacing a Front Fan Module

Battery

The battery powers the server's clock.



Caution – There is a risk of explosion if the battery is replaced with the wrong type. Dispose of used batteries according to the instructions.

▼ To Replace the Battery

- 1. Turn server power off.**
See “Controlling Server Power” on page 3.
- 2. Ensure the server is properly grounded.**
See “Avoiding Electrostatic Discharge” on page 5.
- 3. Remove the service panel.**
See “Service Panel” on page 7.
- 4. Unclip the battery from its housing on the system board.**
Push the retaining clip to one side to release the battery.

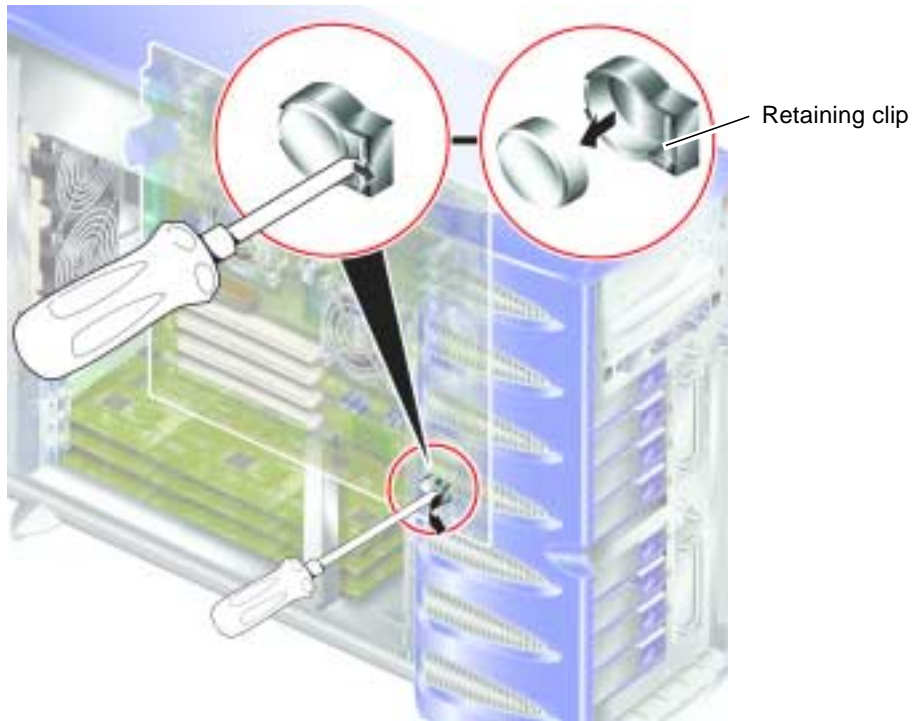


FIGURE 1-34 Removing the Battery

5. Locate the new battery in the housing and press down on it to secure it in place.

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