

Sun Fire[™] V210 and V240 Servers Installation Guide

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Preface

This document provides you with a detailed guide for rackmounting, cabling, and configuring the Sun[™] Fire V210 and V240 servers.

Before You Read This Document

Before you use the instructions in this document, you must have prepared your site for the installation and read the latest product notes. See these documents before you begin the installation process:

- Sun Fire V210 and V240 Servers Getting Started Guide
- Sun Fire V210 and V240 Servers Product Notes
- OpenBoot PROM Enhancements Diagnostics Operation
- Sun Advanced Lights Out Manager User Guide

See "Related Documentation" on page iv for links to these documents.

As you will read in the *Sun Fire V210 and V240 Servers Getting Started Guide*, you must visit the SunTM preinstalled software site for specific configuration instructions, software updates, and newly released patches. You must have Internet access to perform this task. If not, contact your Sun support representative for a copy of the instructions, updates, and patches.

How This Document Is Organized

Chapter 1 contains a description of the installation process, a list of the contents of the shipping kit, and an overview on using the Sun Advanced Lights Out Manager software.

Chapter 2 contains a list of the rack mounting kit, a list of compatible racks, and instructions for mounting the server into the rack, installing the cable management arm, cabling the server, and verifying the installation.

Chapter 3 contains an overview of the status indicators and instructions for powering on the server, connecting a console, and configuring the preinstalled software.

Using UNIX Commands

This document might not contain information about basic UNIX[®] commands and procedures such as shutting down the system, booting the system, and configuring devices. Refer to the following for this information:

- Software documentation that you received with your system
- SolarisTM Operating System documentation, which is at:

http://docs.sun.com

Shell Prompts

Shell	Prompt
C shell	machine-name%
C shell superuser	machine-name#
Bourne shell and Korn shell	\$
Bourne shell and Korn shell superuser	#

Typographic Conventions

Typeface*	Meaning	Examples
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your.login file. Use ls -a to list all files. % You have mail.
AaBbCc123	What you type, when contrasted with on-screen computer output	% su Password:
AaBbCc123	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 rm <i>filename</i> .

* The settings on your browser might differ from these settings.

Related Documentation

The documents listed as online are available at:

http://www.sun.com/products-n-solutions/hardware/docs/

Application	Title	Part Number	Format	Location
Getting Started	Sun Fire V210 and V2420 Servers Getting Started Guide	819-4206	PDF, HTML, and hard copy	Online and accessories kit (English only)
Administratio n	Sun Fire V210 and V240 Servers Administration Guide	819-4208	PDF and HTML	Online
Service	Sun Fire V210 and V40 Servers Service Manual	819-4207	PDF and HTML	Online
Safety and Compliance	Sun Fire V210 and V240 Safety and Compliance Manual	817-4827	PDF and HTML	Online
Late-breaking news	Sun Fire V210 and V240 Servers Product Notes	819-4205	PDF and HTML	Online
OpenBoot™ PROM	OpenBoot PROM Enhancements for Diagnostic Operation	817-6957	Hard copy	Accessories kit
ALOM	Sun Advanced Lights Out Manager User's Guide	817-5481	PDF and HTML	Online

Documentation, Support, and Training

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Sun Fire V210 and V240 Servers Installation Guide, part number 819-4209-10

Introduction to the Sun Fire V210 and V240 Servers Installation

This chapter provides a description of the Sun Fire servers and gives an overview of the installation process. The chapter contains the following sections:

- "Previewing the Installation Process" on page 1
- "Verifying the Contents of the Shipping Kit" on page 3
- "Using the Sun Advanced Lights Out Manager Software" on page 3

Previewing the Installation Process

This section contains an overview of the installation process. Each step in the procedure includes references to the appropriate instructions that you must complete. Each step must be completed in order.

1. Prepare the site for the power, clearance, and environmental requirements.

If you are installing the server into a new Sun rack, you must fully prepare the site for the installation. If you are installing the server into an existing rack, you must conduct some site preparation to satisfy the additional power and environmental requirements. Refer to the *Sun Fire V210 and V240 Getting Started Guide* for specific instructions.

2. Verify that you have received all of the components.

The Sun Fire server ships in several packages. See "Verifying the Contents of the Shipping Kit" on page 3 for a list of the shipping kit.

3. Install the server into the rack.

The installation of the rack slides and cable management arm (CMA) represent the majority of physical work described in this guide. This release of the Sun Fire servers includes new rack slides, so the slide installation differs greatly from prior releases. In addition, this guide replaces the rackmounting poster that shipped with prior Sun Fire V210 and V240 servers. See "Installing the Slide Rails" on page 6 for specific instructions.

4. Install the optional components, if any, shipped with your server.

This instruction guide does not cover the installation of optional components. For those instructions, see the *Sun Fire V210 and V240 Servers Administration Guide*.

5. Set up a console to communicate with the server.

You can communicate with the Sun Fire server using either a Tip connection from another server or an ASCII terminal connected to the SERIAL MGT port. To set up the console, refer to the *Sun Fire V210 and V240 Servers Adminstration Guide*.

6. Power on and configure the server.

The Solaris 10 Operating System (Solaris OS) and the Java[™] Enterprise System are preinstalled on the server. When you power the server on, you will automatically be taken through the Solaris OS configuration procedure. However, you must first go to the preinstalled software site for the latest updates and patches.

To power the server on and configure the preinstalled software, see "Powering On the Server" on page 17.

7. Set the desired OpenBoot PROM configuration options.

The initial boot will test the entire system. You can change the level of testing by using the OpenBoot PROM commands and configuration variables. To change the boot test level and other boot variables, see the *OpenBoot PROM Enhancements Operations*.

8. Load additional software from the Solaris media kit (optional).

The Solaris OS media kit includes several CDs containing software to help you operate, configure, and administer your server. See the documentation provided with the media kit for a complete listing of included software and detailed installation instructions.

Verifying the Contents of the Shipping Kit

The server is supplied with several components. Make sure that all the parts are present in the shipping kit. If any components are missing, contact your Sun sales representative.

- Rackmount kit
- Cat5 RJ-45 cable
- Accessories kit
 - System key (V240 server only)
 - Antistatic wrist strap
 - RJ-45 to DB-9 adapter
 - RJ-45 to DB-25 adapter
 - Sun product documentation

Note – The contents of the shipping kit might vary, depending on any options you ordered. Make sure that all the basic parts, as described in the list, are present in the shipping kit.

Using the Sun Advanced Lights Out Manager Software

The Sun Fire V210 and V240 servers ship with the Sun Advanced Lights Out Manager (ALOM) software installed. The system console is directed to ALOM by default and is configured to show server console information on startup.

ALOM enables you to monitor and control your server over either a serial connection (using the SERIAL MGT port) or an Ethernet connection (using the NET MGT port).

Note – The ALOM serial port, labelled SERIAL MGT, is for server management only. If you need a general purpose serial port, use the serial port labeled 10101.

ALOM can be configured to send email notification of hardware failures and other events related to the server or to ALOM.

The ALOM circuitry uses standby power from the server. This means that:

- ALOM is active as soon as the server is connected to a power source, and remains active until power is removed by unplugging the power cable.
- ALOM continues to be effective even when the operating system is offline and when the server is in Standby mode.

For more information about ALOM, see the *Sun Advanced Lights Out Management User's Guide*.

Installing the Hardware

This chapter describes how to mount the Sun Fire V210 and V240 servers into a rack and attach the cables. It includes the following sections:

- "Rackmounting Kit Contents" on page 5
- "Compatible Racks" on page 5
- "Installing the Slide Rails" on page 6
- "Installing the Cable Management Arm" on page 10

Rackmounting Kit Contents

The rackmount kit consists of the following components:

- Slide assemblies
- Spacer tool
- Cable management arm
- Screw kit

Compatible Racks

The slide rail kit enables you to mount the server into a Sun rack. For a complete listing of compatible racks, go to:

```
http://www.sun.com/servers/
```

Perform the procedures in this chapter, in the order they are listed, to install your server into a four-post rack using the orderable slide rail option. This set of slide rails has been designed to work with both the Sun Fire V210 and Sun Fire V240 servers. These slide rails are compatible with a wide range of equipment racks that meet the following standards:

- Four-post structure (mounting at both front and rear). Two-post racks are not compatible.
- Rack horizontal opening and unit vertical pitch conforming to ANSI/EIA 310-D-1992 or IEC 60927 standards.
- Distance between front and rear mounting planes between 610 mm and 915 mm (24 inches to 36 inches).
- Clearance depth (to front cabinet door) in front of front rackmounting plane at least 25.4 mm (1 inch).
- Clearance depth (to rear cabinet door) behind front rackmounting plane at least 800 mm (31.5 inches), or 700 mm (27.5 inches), without cable management arm.
- Clearance width (between structural supports and cable troughs) between front and back mounting planes at least 456 mm (18 inches).

Note – Although the Sun Fire V210 server is pictured in the illustrations, these procedures also apply to the Sun Fire V240 server.



Caution – Always load equipment into a rack from the bottom up so that it will not become top heavy and tip over. Deploy the anti-tilt bar to prevent the rack from tipping during equipment installation.

Installing the Slide Rails

The procedures in this section contain instructions to install the slide rail assemblies to the rack and the server chassis, with mounting brackets, into the slide rail assemblies that are mounted to the rack.

▼ To Disassemble the Slide Rails

1. Unpack the slide rails.

- 2. Locate the slide rail lock at the front of one of the slide rail assemblies, as shown in FIGURE 2-1.
- 3. Squeeze and hold the tabs at the top and bottom of the lock while you pull the mounting bracket out of the slide rail assembly, until it reaches the stop. See FIGURE 2-1.
- 4. Pull the mounting bracket release button toward the front of the mounting bracket, as shown in FIGURE 2-1, and simultaneously withdraw the mounting bracket from the slide rail assembly.
- 5. Repeat for the remaining slide rail assembly.



FIGURE 2-1 Disassembling the Slide Rail Before Installation

▼ To Install the Mounting Brackets Onto the Server

- 1. Position a mounting bracket against the chassis so that the slide rail lock is at the server front and the three keyed openings on the mounting bracket are aligned with the three screw holes on the side of the chassis.
- 2. Attach the slide rail onto the server with the supplied screws.
- 3. Repeat Steps 1 and 2 to install the other slide rail.

▼ To Attach the slide rail Assemblies to the Rack

- **1.** Position a slide rail assembly in your rack so that the brackets at each end of the slide rail assembly are on the outside of the front and rear rack posts (as depicted in FIGURE 2-2).
- 2. Attach the slide rail assembly to the rack posts.

The method used to attach the slide rails varies depending on the type of rack:

- If your rack has threaded mounting holes in the rack posts, determine whether the threads are metric or standard, then insert the correct mounting screws through the slide rail brackets and into the threaded holes.
- If your rack does not have threaded mounting holes, insert the mounting screws through both the slide rail brackets and rack posts, then secure them with the caged nuts.



FIGURE 2-2 Slide Rail Assembly Mounting to Rack Post

3. Repeat for the remaining slide rail assembly.

▼ To Install the Server Into the Slide Rail Assemblies



Caution – This procedure requires a minimum of two people because of the weight of the server. Attempting this procedure alone could result in equipment damage or personal injury.

- 1. Push the slide rails into the slide rail assemblies as far as possible.
- 2. Raise the server so that the rear ends of the mounting brackets are aligned with the slide rail assemblies that are mounted in the equipment rack (see FIGURE 2-3).
- 3. Insert the mounting brackets into the slide rails, then push the server into the rack until the mounting brackets encounter the slide rail stops (approximately 12 in or 30 cm).



FIGURE 2-3 Inserting the Server With Mounting Brackets Into the Slide Rails

4. Simultaneously, pull and hold the slide rail release buttons on each mounting bracket while you push the server into the rack (see FIGURE 2-3).



5. Continue pushing until the slide rail locks on the front of the mounting brackets engage the slide rail assemblies.



Caution – Verify that the server is securely mounted in the rack and that the slide rails locks are engaged with the mounting brackets before continuing.

Installing the Cable Management Arm

The section contains procedures to install the optional cable management assembly (CMA), to route and attach the cables, and to verify the operation of the CMA.

▼ To Install the Cable Management Assembly

- 1. Unpack the CMA parts.
- 2. Take the CMA to the rear of the equipment rack and ensure that you have adequate room to work around the rear of the server.

Note – References to "left" or "right" in this procedure assume that you are facing the rear of the equipment rack.

3. Locate the CMA rail extension and insert it into the left slide rail until the extension locks into place with an audible click (FIGURE 2-4).





Note – Support the CMA in the remaining installation steps. Do not allow the assembly to hang by its own weight until it is secured by all three of the attachment points.

4. Insert the CMA's mounting bracket connector into the right slide rail until the connector locks into place with an audible click (FIGURE 2-5).





5. Insert the remaining CMA arm connector into the plastic cutout on the CMA rail extension (FIGURE 2-6).



FIGURE 2-6 Connecting the CMA Arm to Rail Extension Connector

6. Position the cable hangers in the appropriate mounting holes in the CMA and snap them into place (FIGURE 2-7).



FIGURE 2-7 Installing CMA Cable Hangers

7. Install the cables to the server, as required.

Refer to the *Sun Fire V210 and V240 Servers Getting Started Guide* for information about the locations of the power inlets and I/O ports on the front and back of the servers.

8. Route the cables through the CMA cable hangers.

To Verify the Operation of the slide rails and CMA

Note – Two people are recommended for this procedure: one to move the server in and out of the rack and one to observe the cables and CMA.

- 1. Slowly pull the server out of the rack until the slide rails reach their stops.
- 2. Inspect the attached cables for any binding or kinks.
- 3. Verify that the CMA extends fully and does not bind in the slide rails.
- 4. Push the server back into the rack, as described below.

When the server is fully extended, you must release two sets of slide rail stops to return the server to the rack:

a. The first set of stops are levers, located on the inside of each slide rail, just behind the rear panel of the server. These levers are labeled "PUSH." Push in both levers simultaneously and slide the server toward the rack.

The server travels approximately 15 inches (38 cm) and stops.

Verify that the cables and the CMA retract without binding before continuing.

- b. The second set of stops are the slide rail release buttons, located near the front of each mounting bracket. See FIGURE 2-3. Simultaneously push or pull both of the slide rail release buttons and push the server completely into the rack until both slide rail locks engage.
- 5. Adjust the cable hangers and CMA as required.

Powering On and Configuring the Server

This chapter tells you how to power on and configure the server to suit your application. It contains the sections:

- "Understanding the Status Indicators" on page 15
- "Powering On the Server" on page 17
- "Configuring the Server" on page 20
- "Accessing the Sun Advanced Lights Out Manager Software" on page 23

Understanding the Status Indicators

Before you power on the server, you should become familiar with the LED indicators associated with the server itself and with various components. The server status indicators are located on the bezel and repeated on the back panel. The components with LED indicators to convey status are power supply units, Ethernet ports and hard disk drives. TABLE 3-1 contains explanations of the indicators.

Indicator	LED Colour	LED State	Meaning
Activity	Green	On	The server is powered on and running the Solaris OS.
		Off	Either power is not present, or the Solaris OS is not running.
Service Required	Yellow	On	The server has detected a problem and requires the attention of service personnel.
		Off	The server has no detected faults.
Locator	White	On	Identifies the server from others in a rack.

	TABLE 3-1	Server	Status	Indicators
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TABLE 3-2 Hard Drive Indicators

Indicator	LED Colour	LED State	Component Status
Activity	Green	Flashing	Active SCSI transactions
		Off	No activity
Ready to remove	Blue	On	Ready to remove
		Off	Not ready to remove

TABLE 3-3 Network Link Indicators

LED Colour	LED State	Network Link Status	
Green	On	Link is established.	
	Blinking	Link is transferring data.	
	Off	Link is not established.	

LED Colour	LED State	Network Speed Status
Green	On	The network link is established and running at its maximum supported speed.
	Off	 If the network link indicator is on, the network link is established but not running at its maximum supported speed. If the network link indicator is off, network link is not established.

TABLE 3-4 Network Speed Indicators

Powering On the Server

To power on the server, you can use either the On/Standby button, located behind the front bezel, or you can use the keyboard. Powering on from the keyboard enables you to see system output as the server powers on.

Before you begin the procedures in this section, make sure that the keyswitch is in the *normal* position. This position allows the On/Standby button to control the power state of the server. For more information on the operation of the keyswitch, see the *Sun Fire V210 and V240 Servers Administration Guide*.

The Sun Fire V210 server does not have a keyswitch.

▼ To Power On From the Keyboard

1. Connect the server to the power supply.

The server automatically goes into Standby power mode when it is connected to a power source.

2. Set up a connection to the SERIAL MGT port.

For details, refer to the Sun Fire V210 and V240 Servers Administration Guide.

When you switch to the ALOM prompt after initial power on, you will be logged in as the admin user and prompted to set a password. You must set this password in order to execute certain commands.

3. If you are prompted to do so, set a password for the admin user.

The password must:

- Contain at least two alphabetic characters
- Contain at least one numeric or one special character
- Be at least six characters long

Once the password is set, the admin user has full permissions and can execute all ALOM command-line interface (CLI) commands.

4. Turn on power to any peripherals and external storage devices you have connected to the server.

Read the documentation supplied with the device for specific instructions.

5. At the console prompt, type the following command to power on the server:

sc> poweron

6. At the console prompt, type the following to access the server:

sc> console

▼ To Power On Using the On/Standby Button



Caution – Never move the system when the system power is on. Movement can cause catastrophic hard drive failure. Always power off the system before moving it.

1. Connect the server to the power supply.

The server automatically goes into Standby power mode when it is connected to a power source.

2. Turn on power to any peripherals and external storage devices you have connected to the server.

Read the documentation supplied with the device for specific instructions.

- 3. Open the front bezel.
- 4. (Sun Fire V240 only) Insert the system key into the keyswitch and set it to the Normal or Diagnostics position.
- 5. Press the On/Standby button.

- 6. (Sun Fire V240 only):
 - a. Turn the keyswitch to the Locked position.

This prevents anyone from accidentally powering off the system.

- b. Remove the system key from the keyswitch and store it in a secure place.
- 7. Close the front bezel.

To Power Off the System Using the On/Standby Button

Note – Applications running on the Solaris OS can be adversely affected by a poorly executed system shutdown. Make sure you have gracefully shut down any applications before powering off the system.

- 1. Notify users that the system will be powered down.
- 2. Back up the system files and data, if necessary.
- 3. (Sun Fire V240 only) Ensure that the keyswitch is in the Normal or Diagnostics position.
- 4. Press and release the On/Standby button behind the front bezel.

The system begins an orderly software system shutdown.

Note – Pressing and releasing the On/Standby button 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. (Sun Fire V240 only) Remove the system key from the keyswitch and store it in a secure place.
- 7. Set up a console session to the server.

Refer to the *Sun Fire V210 and V240 Servers Administration Guide* for instructions on how to set up a console session.

Configuring the Server

The Sun Fire server ships with the Solaris 10 OS and the Java Enterprise System preinstalled on the hard drive. When you power on the server for the first time, a series of questions lead you through the configuration procedure. This procedure consists of a number of questions. The answers you give determine how the server is configured.

With the release of OpenBoot PROM 4.16.2, diagnostics are enabled by default. This ensures complete diagnostic test coverage on the initial boot and after error or reset events. This change results in increased boot time. To change the diagnostic settings after the initial boot and after you configure the server for the first time, refer to the *OpenBoot PROM Enhancements for Diagnostic Operation* in the shipping kit.

Choose the configuration that best suits your requirements from the list below and follow the instructions in the appropriate section to power on and configure your server.

- "To Configure With the Server's Details Registered at a Name Server" on page 20
- "To Configure Without the Server's Details Registered at a Name Server" on page 21
- "To Configure a Standalone Server for the First Time" on page 22
- "To Clear the Configuration" on page 22

To Configure With the Server's Details Registered at a Name Server

Note – Follow the instructions in this section only if you have a name server installed on your network. For instructions on using a name server to automate the process of configuring the Solaris operating environment on multiple servers, refer to the Solaris *Advanced Installation Guide* that accompanies the Solaris operating environment CDs.

During booting you will be prompted for certain information. The information you provide determines the configuration of the server.

- 1. Specify the type of terminal with which you are communicating with the server.
- 2. Specify whether you need IPv6 enabled, and then follow the instructions on the screen.

- 3. Specify whether you want to enable the Kerberos Security mechanism, and then follow the instructions on the screen.
- 4. When prompted, give a password (if any) for users logging in as root.

To Configure Without the Server's Details Registered at a Name Server

Follow the instructions in this section if you do not have a Name Server configured on your network.

Tip – Read these instructions through before you follow them, to see what information the system will prompt you for when you start it for the first time.

During booting you will be prompted for certain information. The information you provide determines the configuration of the server.

- 1. Specify the type of terminal you are using to communicate with the server.
- **2.** When asked if you want the server to be networked, answer Yes. You must manually specify an IP address when prompted.
- 3. Specify whether the IP address is to be configured by DHCP.
- 4. Specify which of the Ethernet ports you intend to use as the primary Ethernet connection.
- 5. Specify a host name for the server.
- 6. If prompted, specify the IP address for the system.

The system prompts you for this address if you declined to use DHCP in Step 3. It also asks you whether the server is to be part of a subnet, and if you answer Yes it prompts you to provide the netmask of the subnet.

- 7. Specify whether you need IPv6 enabled, and then follow the instructions on the screen.
- 8. Specify whether you want to enable the Kerberos Security mechanism, and then follow the instructions on the screen.
- 9. Specify the name service you want the server to use.
- 10. Specify the name of the domain of which the server will be a part.
- 11. Specify whether you want the system to search the network for a name server or whether you want it to use a particular name server.

- 12. If you chose to use a particular name server, specify the host name and IP address of the name server.
- 13. At the name server, create entries in the network administration files for the system you are setting up.
- 14. At the system you are setting up, follow the prompts to provide time and date information.
- 15. When prompted, give a password (if any) for users logging in as superuser.
- To Configure a Standalone Server for the First Time
 - 1. Specify the type of terminal you are using to communicate with the server.
 - 2. When prompted to indicate whether you want the server to be networked, specify No.
 - 3. Specify a Host Name for the server.
 - 4. Confirm the information you have given.
 - 5. Specify the date and time information.
 - 6. When prompted, give a password (if any) for users logging in as root.

Clearing Your Configuration

If you want to start the power on process again, as if from a previously unused server, you must clear the configuration of the server.

▼ To Clear the Configuration

1. At the Solaris OS prompt, type:

sys-unconfig

2. When prompted to confirm that you want to create a "blank" server, type y.

3. When the OpenBoot PROM prompt appears, type:

ok> **boot**

- 4. Follow the instructions in one of the following sections:
 - "To Configure With the Server's Details Registered at a Name Server" on page 20
 - "To Configure Without the Server's Details Registered at a Name Server" on page 21
 - "To Configure a Standalone Server for the First Time" on page 22

Accessing the Sun Advanced Lights Out Manager Software

This section contains a brief introduction to the Sun Advanced Lights Out Manager (ALOM) software. For detailed ALOM instructions and configuration information, refer to the *Sun Advanced Lights Out Manager User's Guide*.

The ALOM software is preinstalled on the server and is ready to run as soon as power is applied to the server. However, you need to perform some basic configuration steps to customize the ALOM software to suit your application.

To Display the ALOM Prompt

1. Type the default keystroke sequence:

#.

Note – When you switch to the ALOM prompt after initial poweron, you will be logged in as the admin user and prompted to set a password. You must set this password in order to execute certain commands.

2. If you are prompted to do so, set a password for the admin user.

The password must:

- Contain at least two alphabetic characters
- Contain at least one numeric or one special character

Be at least six characters long

After you set the password, the admin user has full permissions and can execute all ALOM CLI commands.

- ▼ To Display the Console Prompt
 - Type:

sc> console

More than one ALOM user can be connected to the server console stream at a time, but only one user is permitted to type input characters to the console.

If another user is logged on and has write capability, you will see the message below after issuing the console command:

```
sc> Console session already in use. [view mode]
```