

Sun Fire[™] X2100 Server Setup Guide

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CHAPTER

System Setup

This chapter includes information about the following topics:

- "Safety and Compliance Information" on page 2
- "Localization" on page 2
- "Planning the Installation Process" on page 3
- "Package Contents Inventory" on page 4
- "Installing the Server Into a Rack With Optional Slide-Rails" on page 4
- "Cabling the Server" on page 18
- "Powering On the Server" on page 21
- "Setting Up or Installing the Operating System" on page 22
- "Installing other Operating Systems and Drivers" on page 24

Related Documentation

The documents listed in the following table are available at:

http://www.sun.com/products-n-solutions/ hardware/docs/Servers/Workgroup_Servers/x2100/index.html

Application	Title	Part Number
Installation information	Sun Fire X2100 Server Getting Started Guide	819-3720- <i>xx</i>
Overview and service information	Sun Fire X2100 Server User Guide	819-3721- <i>xx</i>
Late-breaking information	Sun Fire X2100 Server Release Notes	819-3722- <i>xx</i>
Safety Information	Sun Fire X2100 Server Safety and Compliance Guide	819-3723- <i>xx</i>

Safety and Compliance Information

Refer to the following documents for safety information regarding the Sun Fire X2100 Server:

- Important Safety Information for Sun Hardware Systems, 816-7190-10 (hardcopy document included in the ship kit)
- Sun Fire X2100 Server Safety and Compliance Guide, 819-3723-xx, available at:

http://www.sun.com/products-n-solutions/ hardware/docs/Servers/Workgroup_Servers/x2100/index.html

Localization

If you wish to read the contents of this document in one of the following languages: French, German, Japanese, Traditional Chinese, Simplified Chinese, or Korean please refer to the *Sun Fire X2100 Server Getting Started Guide* and *Sun Fire X2100 Server User Guide* posted at:

http://www.sun.com/products-n-solutions/ hardware/docs/Servers/Workgroup_Servers/x2100/index.html

These localized documents will be posted within 30 days of the initial product release, and contain all of the information in this document as well as additional information on the Sun Fire X2100 Server.

Planning the Installation Process

Use the following flowchart as a process tool to assist you with installation of the Sun Fire X2100 Server.



FIGURE 1-1 Sun Fire X2100 Server Installation Process

Package Contents Inventory

Carefully unpack all server components from the packing cartons. The following items should be packaged with the Sun Fire X2100 Server:

- Sun Fire X2100 Server
- Sun Fire X2100 Server documentation
 - Sun Fire X2100 Server Setup Guide
 - Sun Fire X2100 Server Release Notes
 - Important Safety Information for Sun Hardware Systems
 - Sun Binary Code License
- Sun Fire X2100 Server Supplemental CD (includes drivers and diagnostics software)
- Optional rackmount kit

The optional power cable, keyboard, and mouse are packaged separately from the other items.

Installing the Server Into a Rack With Optional Slide-Rails

Perform the procedures in this section, in the order they are listed, to install your server into a four-post rack using the orderable slide-rail options 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 rack mounting plane at least 25.4 mm (1 inch).
- Clearance depth (to rear cabinet door) behind front rack mounting 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 rear mounting planes at least 456 mm (18 inches).



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



Caution – Ensure that the temperature in the rack does not exceed the server's maximum ambient rated temperatures. Consider the total airflow requirements of all equipment installed in the rack, to ensure that the equipment is operated within its specified temperature range.

Disassembling the Slide-Rails Before Installation

Use this procedure to remove the mounting brackets from the slide-rail assemblies.

- 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 1-2.
- 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 1-2.
- 4. Pull the mounting bracket release button toward the front of the mounting bracket, as shown in FIGURE 1-2, and simultaneously withdraw the mounting bracket from the slide-rail assembly.
- 5. Repeat for the remaining slide-rail assembly.



FIGURE 1-2 Disassembling the Slide-Rail Before Installation

Installing the Mounting Brackets Onto the Server

Use this procedure to install the mounting brackets onto the sides of 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 locating pins on the side of the chassis.



FIGURE 1-3 Aligning the Mounting Bracket With the Server Chassis

- 1. With the heads of the three chassis locating pins protruding though the three keyed openings in the mounting bracket, pull the mounting bracket toward the front of the chassis until the mounting-bracket clip locks into place with an audible click. (See FIGURE 1-3.)
- 2. Verify that the rear locating pin has engaged the mounting-bracket clip. (See FIGURE 1-3.)
- 3. Repeat to install the remaining mounting bracket on the other side of the server.

Attaching the Slide-Rail Assemblies to the Rack

Use this procedure to install 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. (See FIGURE 1-4.)
- 2. Attach the slide-rail assembly to the rack posts, but do *not* tighten the screws completely.

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, first 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 1-4 Slide-Rail Assembly Mounting to Rack Post

- 3. Repeat Step 1 and Step 2 for the remaining slide-rail assembly.
- 4. From the front of the rack, set the proper width of the rails with spacer. (See FIGURE 1-5.)



FIGURE 1-5 Setting the Rail Width

- 5. Tighten the screws on the brackets.
- 6. Remove the spacer and confirm that the rails are attached tightly to the rack.
- 7. Repeat Step 4 through Step 6 for rear of the rack.

8. If available, extend the anti-tip foot at the bottom of the rack. (See FIGURE 1-6.)



FIGURE 1-6 Extending the Anti-tip Foot



Caution – If your rack does not have an anti-tip foot, there is some danger of the rack tipping.

Installing the Server Into the Slide-Rail Assemblies

Use this procedure to install the server chassis, with mounting brackets, into the slide-rail assemblies that are mounted to the rack.



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 in the rack 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 1-7.)
- 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 inches, or 30 cm).



FIGURE 1-7 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 1-7.) Continue pushing until the slide-rail locks on the front of the mounting brackets engage the slide-rail assemblies.

You will hear an audible click.



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

Installing the Cable Management Assembly

Use this procedure to install an optional cable management assembly (CMA).

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

Note – References to "left" or "right" in this procedure assume that you are facing the back 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. (See FIGURE 1-8.)

The CMA rail extension might be taped to the CMA assembly.



FIGURE 1-8 Inserting the CMA Rail Extension Into the Back of the Left Slide-Rail



4. Verify that the CMA rail extension engages the slide-rail, as shown in FIGURE 1-9.



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.

5. Insert the CMA's mounting bracket connector into the right slide-rail until the connector locks into place with an audible click. (See FIGURE 1-10.)



FIGURE 1-10 Inserting the CMA Mounting Bracket Into the Back of the Right Slide-Rail

6. Insert the right CMA slide-rail connector into the right slide-rail assembly until the connector locks into place with an audible click. (See FIGURE 1-11.)



FIGURE 1-11 Inserting CMA Slide-Rail Connector Into Back of Right Slide-Rail Assembly

7. Insert the right CMA slide-rail connector into the left slide-rail assembly until the connector locks into place with an audible click. (See FIGURE 1-12.)



FIGURE 1-12 Connecting the CMA Arm to Rail Extension Connector

8. Position the cable hangers in the appropriate mounting holes in the CMA and snap them into place. (See FIGURE 1-13.)

For best results, place three hangers, evenly spaced, on the rear-facing side of the CMA, and three on the side facing the server.



FIGURE 1-13 Installing CMA Cable Hangers

Attaching and Routing Cables

Use this procedure to attach cables to your server and route them through the CMA.

- 1. Refer to "Cabling the Server" on page 18 for an illustration of the server back panel ports and a procedure for installing cables to your server.
- 2. Install cables to your server, as required.
- 3. Route the cables through the CMA cable hangers.

Verifying Operation of the Slide-Rails and CMA

Use this procedure to ensure that the slide-rails and CMA are operating correctly.

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 from 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 back panel of the server. These levers are labeled "PUSH." Push in both levers simultaneously and slide the server toward the rack.

The server will travel approximately 15 inches (38 cm) and stop.

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 1-7. 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.
- 6. Continue with "Cabling the Server" on page 18.

Cabling the Server

Connect the server and external devices in this order (See FIGURE 1-14):

- 1. Connect the server power cord to a grounded electrical outlet.
- 2. Connect the keyboard and mouse to the USB connectors on the front or back panel.
- 3. Connect the monitor cable to the onboard video connector

Note – Keyboard, mouse and video are optional.

4. Connect Ethernet cables to the platform gigabit connectors.

See "Interconnecting Servers" on page 3 for information on how to interconnect servers and connect them to a LAN.

5. Connect any additional external devices to the server's other connectors.

FIGURE 1-14 depicts the back panel of the Sun Fire X2100 Server.



FIGURE 1-14 Back Panel

TABLE 1-1	Back Pan	el
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Label	Connector/Slot/LED	Label	Connector/Slot
1	Power connector	6	Onboard HD15 video connector
2	Locate LED	7	Ethernet connectors (2)
3	Service indicator LED	8	PCI EXPRESS x8 slot
4	Power LED	9	USB connectors (4)
5	Serial connector	10	

Interconnecting Servers

FIGURE 1-15 shows how to connect multiple servers, using the platform Ethernet connectors. LAN-1 can only be used for connecting to the internet. Remote server management is directed over LAN-2 if you have the optional service processor (SP) card installed.



FIGURE 1-15 Interconnecting Servers

Powering On the Server

Tip – If you are installing optional internal components such as additional memory DIMMs, PCI cards, optical drives, or hard drives, install those components before you power on the server. If you are not installing optional components, you are ready to power on the server.

- 1. Ensure that a grounded AC power cord is plugged into the AC power connector on the rear of the server and into an AC power outlet. (See FIGURE 1-16.)
- 2. Press and release the server Power button on the front panel. (See FIGURE 1-16.)
- 3. After several seconds, verify that the power-indicator LED next to the Power button lights.

The power-indicator LED lights after the server begins the internal booting process. See FIGURE 1-16 for location of the power-indicator LED.

4. (Optional) Press the Locate button on the front of the server to activate the locate LEDs on the front and back of the server.

The locate LED will help you to locate the server in a rack configuration.

5. Continue with software setup tasks as described in "Setting Up or Installing the Operating System" on page 22.



FIGURE 1-16 Front Panel

Label	Button/LED/Port	Label	Button/LED/port
1	Locate button/LED	5	USB ports (2)
2	Service indicator LED	6	DVD drive (optional)
3	Power LED	7	Hard disk drives (1 or 2 optional)
4	Power button		

Setting Up or Installing the Operating System

If your server has at least one hard drive installed, the server will have the Solaris 10 Operating System preinstalled.

- If you plan to run Solaris 10 Operating System on your server, see "Solaris 10 Operating System Setup" on page 22.
- If you plan to install another operating system see "Installing other Operating Systems and Drivers" on page 24.

Solaris 10 Operating System Setup

To set up the preinstalled Solaris 10 Operating System, do the following:

1. Gather the information shown in TABLE 1-3.

Your system administrator (SA) should provide you with information specific to your site before you begin. Some of the information might be available on your network—check with your SA. Use a copy of TABLE 1-3 to write down the information that you might need to collect before setting up the Solaris Operating System.

Setup Window	Explanation and Notes	Your Information
Select Language and Locale	Native language and locale to use for the server.	
Host Name	A name to give the server.	
Network Connectivity (IP Address)	Network or stand-alone server protocols. A system administrator might be required to complete this section. Note: Depending on how you answer and what information is provided by your network, you might also be prompted for the server's IP address.	
Security Settings	Security settings and protocols.	
Name Service	Name service to use: NIS+, NIS, DNS, LDAP, or None. Note: This window is not displayed if the server is not connected to a network.	
Domain Name	NIS or NIS+ domain for this server. Note: This window is not displayed if the server is not using the NIS or NIS+ service.	
Name Server/ Subnet/ Subnet Mask	 Name server (specify the server or have the server find one on a local subnet). Note: This window is not displayed if the server is not connected to a network. Note: Depending on how you answer and what information is provided by your network, you might also be prompted for: The subnet for the server The subnet mask for the server 	
Time Zone	Local time zone (select by geographic region, GMT offset, or a time zone file).	
Date and Time	Current date and time (accept the default or enter the current date and time).	
Root Password	Root (superuser) password for the server.	

 TABLE 1-3
 Information for Preinstalled Solaris 10 Setup

- 2. Follow the system prompts to configure the operating system.
- 3. Install the networking and sound drivers from the Sun Fire X2100 Server Supplemental CD.

You can also access these drivers from:

http://sun.com/servers/entry/x2100/downloads.html

Instructions for installing the drivers are available in the *Sun Fire X2100 Server Getting Started Guide*, 819-3720-*xx*, available at:

http://www.sun.com/products-n-solutions/ hardware/docs/Servers/Workgroup_Servers/x2100/index.html

Installing other Operating Systems and Drivers

If you plan to install an operating system (OS) on your Sun Fire X2100 Server system other than the Solaris 10 Operating System, install the OS at this time. You will need to remove the Solaris 10 OS in order to do this.

The following sources of information can help you with installing additional operating systems on the Sun Fire X2100 Server:

• Information on removing the existing operating system, installing additional drivers, and installing another operating system is in the *Sun Fire X2100 Server Getting Started Guide*, 819-3720-xx, available at:

http://www.sun.com/products-n-solutions/ hardware/docs/Servers/Workgroup_Servers/x2100/index.html

 Drivers for supported operating systems are available on the Sun Fire X2100 Server Supplemental CD included with your system and can also be downloaded from:

http://sun.com/servers/entry/x2100/downloads.html

• The most recent list of operating systems supported for Sun Fire X2100 Server can be found on the product web site at:

http://sun.com/servers/entry/x2100/

Setup Troubleshooting

This chapter contains information to help you troubleshoot minor server problems.

This chapter includes information on the following topics:

- "Setup Troubleshooting for the Sun Fire X2100 Server" on page 26.
- "Technical Assistance" on page 28

Setup Troubleshooting for the Sun Fire X2100 Server

If you experience problems while setting up your server, refer to the troubleshooting information in TABLE 2-1.

Problem Possible solution		
Server powers on, but the monitor does not.	 Is the Power button for the monitor turned on? Is the monitor power cord connected to a wall outlet? Does the wall outlet have power? Test by plugging in another device. 	
CD or DVD does not eject from the media tray when you press the Eject button.	Move the mouse or press any key on the keyboard. The drive might be in the low-power mode.Use the utility software installed on your server to eject the CD.	
No video displays on the monitor screen.	 Is the monitor cable attached to the graphics accelerator? Does the monitor work when connected to another system? If you have another monitor, does it work when connected to the original system? Verify that the BIOS settings are correct. 	
Server does not power on when the front panel Power button is pressed.	 Keep notes on the following situations in case you need to call service: Is the Power button LED illuminated on the front of the system? (Ensure that the power cord is connected to the system and to a grounded power receptacle.) Does the wall outlet have power? Test by plugging in another device. Does the system beep when the system is powered on? (Ensure that the keyboard is plugged in). Test with another keyboard that you know is functional. Does the system beep when you connect the keyboard and power on the system? Does the monitor sync within 5 minutes after power on? (The green LED on the monitor stops flashing and remains illuminated) 	

TABLE 2-1	Troubleshooting	Procedures
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Problem	Possible solution	
Keyboard or mouse does not respond to actions	• Verify that the mouse and keyboard cables are connected to the on-board USB 2.0 connectors on the server.	
	• Verify that the server is powered on and the front Power LED is illuminated.	
Server appears to be in low-power mode, but the Power button LED does not blink.	The power-indicator LED only blinks when all server components are in low-power mode. A tape drive might be connected to your server. Because tape drives do not enter low-power mode, the power-indicator LED does not blink.	
Hung or frozen server: No response from mouse or keyboard or any application.	 Try to access your system from a different server on the network. 1. From a terminal window, type: ping hostname 2. Is no response, remotely log in from another system using telnet or rlogin, and ping the system again. 3. Attempt to kill processes until the system responds. If the above procedures do not work: 1. Press the Power button to power off the system. 2. Wait 20 to 30 seconds and power on the system. 	

 TABLE 2-1
 Troubleshooting Procedures (Continued)

Note – For additional troubleshooting information, see *Sun Fire X2100 Server User Guide*.

Technical Assistance

If the troubleshooting procedures in this chapter fail to solve your problem, use TABLE 2-2 to collect information that you might need to communicate to the support personnel. TABLE 2-3 lists the Sun web sites and telephone numbers for additional technical support.

 TABLE 2-2
 System Information Need for Support

System Configuration Information Needed	Your Information	
Sun service contract number		
System model		
Operating environment		
System serial number		
Peripherals attached to the system		
Email address and phone number for you and a secondary contact Street address where the system is located		
Superuser password		
Summary of the problem and the work being done when the problem occurred		
Other Useful Information		
IP address		
Server name (System host name)		
Network or internet domain name		
Proxy server configuration		

Server Documents and Support Resources	URL or Telephone Number
PDF files for all the current Sun Fire X2100 Server documents.	http://www.sun.com/documentation/
Solaris TM and other software documents. This web site has full search capabilities.	http://docs.sun.com/documentation/
Discussion and troubleshooting forums.	http://supportforum.sun.com/
Support, diagnostic tools, and alerts for all Sun products.	http://www.sun.com/bigadmin/
SunSolve SM web site. Contains links to software patches. Lists some system specifications, troubleshooting and maintenance information, and other tools.	http://www.sunsolve.sun.com/handbook_pub/
SunService SM support phone numbers.	1-800-872-4786 (1-800-USA-4Sun) Select Option 1
Lists international telephone numbers for SunService Support.	http://www.sun.com/service/contacting/ solution.html
Warranty and contract support contacts. Links to other service tools.	http://www.sun.com/service/online/
Warranties for every Sun product.	http://www.sun.com/service/support/warranty