



Sun Fire™ USBRDT 5240 Uniboard Installation Guide

Sun Microsystems, Inc.
www.sun.com

Part No. 820-2452-10
August 2008, Revision A

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Contents

Preface v

1. Preparation and Preliminary Tasks 1

Installation Process 1

Host Server Power Supplies and Cooling Fans 2

Shipping Contents 2

Front Panel Overview 3

Supported Configurations in Sun Fire Systems 5

Installing Host Server Patches 6

▼ To Determine the Software Version 7

▼ To Determine Which Patches to Install 7

Optional Components 8

Before You Install the Board 8

Cautions 8

Thermal Management Considerations 8

▼ To Prepare the Board for Installation 9

2. Installation Into the Host Server 17

Power Off, Installation, and Cabling 17

▼ To Power Off the Slot for Installation 17

▼	To Install the Board	19
▼	To Connect the Cables	23
	Login, Power On, and Configuration	25
▼	To Log Into the Service Processor Using the Serial Management Port	26
▼	To Enable Network Management	28
▼	To Log Into the Service Processor Using the Network Management Port	31
▼	To Change the Service Processor Password	31
▼	To Enable Power On for the Slot	32
▼	To Power On the Board and Redirect Console Output	34
▼	To Stop Console Output and Power Off the Board	35
	To Perform the Initial Configuration	36
	Install the Patches	37
3.	Basic Troubleshooting	39
	Status LEDs	39
	Advanced Troubleshooting	42
A.	Installing the Solaris Operating System	43
	Installing Solaris Software From the Sun ILOM Remote Console	43
▼	To Configure ILOM for Remote Management	44
▼	To Redirect Optical Media Drives	45
▼	To Exit the Sun ILOM Remote Console	45
	Installing the Solaris 10 8/07 Software	46
	Installation Prerequisites	46
▼	To Install the Solaris 10 8/07 Software	46
	Index	49

Preface

This installation guide provides detailed procedures that describe the installation of the Sun Fire™ USBRDT 5240 Uniboard into a host server.

This manual describes preparation, patch installation, board installation, cabling, powering on, and configuration. This document is written for technicians, system administrators, authorized service providers (ASPs), and users who have advanced experience installing mid-range and high-end servers.

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 resources for this information:

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

<http://docs.sun.com>

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	#

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> .

Note – Characters display differently depending on browser settings. If characters do not display correctly, change the character encoding in your browser to Unicode UTF-8.

Related Documentation

The documents listed as online are available at:

<http://docs.sun.com/app/docs/prod/usbrdt.5240.brd>

Application	Title	Part Number	Format	Location
Late-breaking information	<i>Sun Fire USBRDT 5240 Uniboard Product Notes</i>	820-2451	PDF, HTML	Online
Safety information	<i>Important Safety Information for Sun Hardware Systems</i>	816-7190	Printed	Shipping kit
	<i>Sun Fire USBRDT 5240 Uniboard Safety and Compliance Manual</i>	820-2455	PDF, HTML	Online
Installation	<i>Sun Fire USBRDT 5240 Uniboard Installation Guide</i>	820-2452	PDF, HTML	Online
Integrated Lights Out Manager (ILOM)	<i>Sun Integrated Lights Out Manager 2.0 User's Guide</i>	820-1188	PDF, HTML	Online
	<i>Sun Integrated Lights Out Manager 2.0 Supplement for Sun Fire USBRDT 5240 Uniboard</i>	820-3087	PDF, HTML	Online
Administration	<i>Sun Fire USBRDT 5240 Uniboard Administration Guide</i>	820-2453	PDF, HTML	Online
Service	<i>Sun Fire USBRDT 5240 Uniboard Service Manual</i>	820-2454	PDF, HTML	Online

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Preparation and Preliminary Tasks

This chapter describes the preparation and preliminary tasks required before installing the Sun Fire USBRDT 5240 Uniboard into a host server. Topics include:

- [“Installation Process” on page 1](#)
- [“Host Server Power Supplies and Cooling Fans” on page 2](#)
- [“Shipping Contents” on page 2](#)
- [“Front Panel Overview” on page 3](#)
- [“Supported Configurations in Sun Fire Systems” on page 5](#)
- [“Installing Host Server Patches” on page 6](#)
- [“Optional Components” on page 8](#)
- [“Before You Install the Board” on page 8](#)

Installation Process

The installation of the board requires the following tasks to be completed in order:

1. Check the cooling capacity of your host server.
See [“Host Server Power Supplies and Cooling Fans” on page 2](#).
2. Open the shipping box and verify the contents.
See [“Shipping Contents” on page 2](#).
3. Familiarize yourself with the board.
See [“Front Panel Overview” on page 3](#).
4. Determine the installation location and installation of patches.
See [“Supported Configurations in Sun Fire Systems” on page 5](#).

5. Install the board into the host server.
See [“Power Off, Installation, and Cabling” on page 17](#).
6. Cable the management, networking, and interface cables.
See [“To Connect the Cables” on page 23](#).
7. Power on and perform the initial configuration.
See [“To Enable Power On for the Slot” on page 32](#).
8. Troubleshoot any problems that might occur.
See [“Basic Troubleshooting” on page 39](#).

Host Server Power Supplies and Cooling Fans

The addition of Sun Fire USBRDT 5240 Uniboards to the host server might require an upgrade of the power supplies and cooling fans. For example, the Sun Fire 4800 server is not supported, but the upgraded Sun Fire 4800 is. The upgrade kit for the Sun Fire 4800 server is 594-3418.

Note – The Sun Fire 3800 and 4810 servers do not support the Sun Fire USBRDT 5240 Uniboards.

Shipping Contents

[FIGURE 1-1](#) shows the contents of the board shipping box. If you are missing any of the items indicated, contact your Sun Sales Representative.

FIGURE 1-1 Shipping Contents

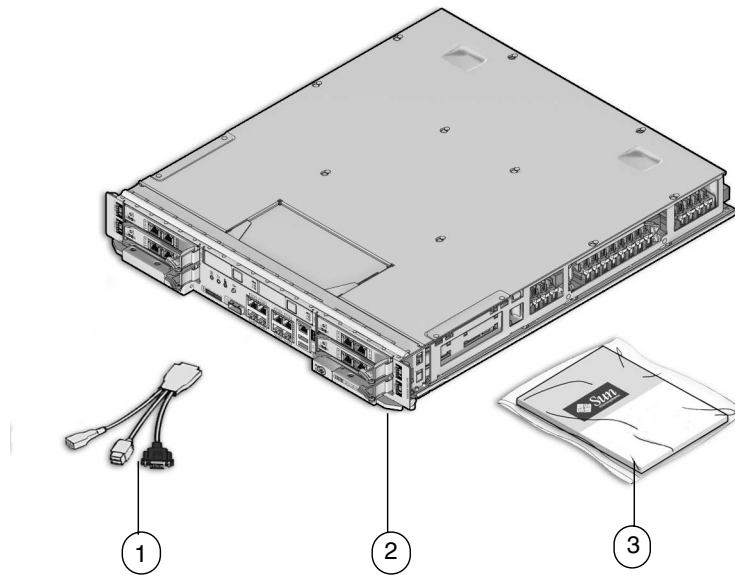


Figure Legend

-
- | | |
|---|---|
| 1 | Dongle |
| 2 | Board |
| 3 | Ship kit containing hard copy documents |
-

Note – Future shipping kits might contain different items than those described on the packing list. For example, to promote eco-responsibility, the kit might no longer contain the RJ-45 Ethernet cable, the antistatic wriststrap, or other ancillary items. Alternatively, serial adapters, fasteners, or other items not listed on the packing list might be included to enhance the customer experience. Contact Sun Microsystems, Inc. to purchase the items you need. These ancillary items also might be available at computer supply stores.

Front Panel Overview

FIGURE 1-2 shows the various features and components on the front panel of the board.

FIGURE 1-2 Front Panel Overview

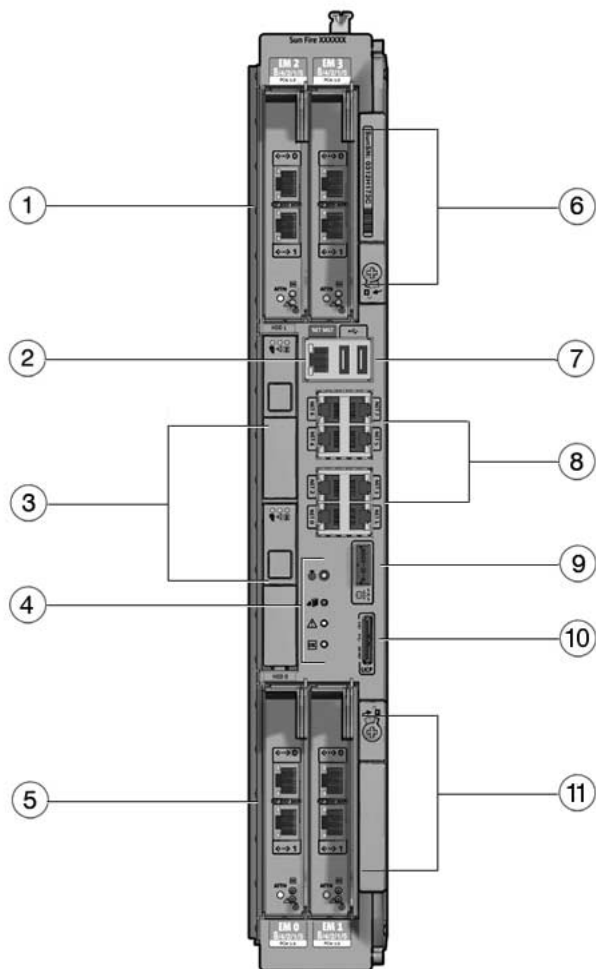


Figure Legend

1	Upper expansion module slots	7	USB ports
2	Network Management (NET MGT) port and status LEDs	8	Gigabit Ethernet ports and status LEDs
3	Hard drives and status LEDs	9	SATA connector
4	System status LEDs	10	UCP connector
5	Lower expansion module slots	11	Lower ejector lever
6	Upper ejector lever		

Supported Configurations in Sun Fire Systems

The number of Sun Fire USBRDT 5240 Uniboards that can be supported in a Sun Fire system chassis depends on:

- The type of power supply in the chassis
- The number and type of other UltraSPARC III, IV, and IV+ CPU/Memory boards in the chassis

TABLE 1-1 shows the maximum number of Sun Fire USBRDT Uniboards allowed in each Sun Fire system, by power supply.

TABLE 1-1 Sun Fire System Configurations With the Sun Fire USBRDT 5240 Uniboards

System	Power Supply	Maximum Number of Sun Fire USBRDT 5240 Uniboards
Sun Fire 4800 upgraded/E4900	A213	No limitation
Sun Fire 4800 upgraded/E4900	A185	No limitation
Sun Fire 6800 upgraded/E6900	A212	No limitation
Sun Fire 6800 upgraded/E6900	A184	No limitation
Sun Fire 6800	A152	4 (see TABLE 1-2)
Sun Fire 12K/E20K	A211	No limitation
Sun Fire 12K/E20K	A196	No limitation
Sun Fire 12K	A141	No limitation
Sun Fire 15K/E25K	A211	No limitation
Sun Fire 15K/E25K	A196	No limitation
Sun Fire 15K	A141	13 (see TABLE 1-3)

TABLE 1-2 and TABLE 1-3 show the maximum number of Sun Fire USBRDT 5240 Uniboards supported given the system power supply and number of CPU/Memory boards present. System configurations not shown in TABLE 1-2 and TABLE 1-3 do not have any limitations and are covered in TABLE 1-1.

Note – The Sun Fire System Controller Application (SCApp) firmware and the System Management Services (SMS) software protect against accidental violation of N+1 (enough power to withstand one power supply failure) by warning you of the violation and requiring a confirming response to continue.

TABLE 1-2 Sun Fire 6800, A152 Power Supply Example Configuration

Board Type	Number of Boards						
Current number of UltraSPARC III boards in chassis	6	5	4	3	2	1	0
Number of Sun Fire USBRDT 5240 Uniboards allowed in chassis	0	0	1	2	3	3	4

TABLE 1-3 Sun Fire 15K, A141 Power Supply Example Configuration

Board Type	Number of Boards																		
Current number of UltraSPARC III boards in chassis	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Number of Sun Fire USBRDT 5240 Uniboards allowed in chassis	0	0	1	1	2	3	4	5	5	6	7	8	8	9	10	11	12	12	13



Installing Host Server Patches

You must install additional patches so that the host server system controller firmware can recognize and communicate with the board. Install these patches before installing the board.

The host server system controller will be using either:

- SMS on the Sun Fire 12K/E20K/15K/E25K servers
- ScApp on the Sun Fire 4800/E4900/6800/E6900 servers

Patches are primarily for SMS. The SMS version must be 1.6 or newer, the ScApp version must be 5.21.0 or newer.

▼ To Determine the Software Version

- If you do not know which version of the software is being used by the host server system controller, type the following commands:

- For Sun Fire 12K/E20K/15K/E25K servers (SMS), type from the superuser prompt:

```
# /opt/SUNWSMS/bin/smsversion -t
```

- For Sun Fire 4800/E4900/6800/E6900 servers (ScApp), type from the system controller prompt:

```
sc> showsc
```

▼ To Determine Which Patches to Install

- Use TABLE 1-4 to determine which patches to install into the host server, depending on which version of the software is in the host server system controller.

TABLE 1-4 Patches for Host Server System Controllers

Server	Software Version	Patches
Sun Fire 12K	1.6 or newer	138754-01 – SMS binaries patch
Sun Fire E20K		138755-01 – HPOST binaries patch
Sun Fire 15K		138756-01 – man pages patch
Sun Fire E25K		
Sun Fire 4800	5.20.13 or earlier	114528-01 – ScApp software version 5.21.0
Sun Fire E4900		
Sun Fire 6800		
Sun Fire E6900		

Note – Keep patches and the firmware up-to-date. Check the *Sun Fire USBRDT 5240 Uniboard Product Notes* for updated patch information.

Patches are available from SunSolveSM, at this URL:

<http://www.sunsolve.sun.com>

Optional Components

If you plan to install optional components such as memory, hard drives, or PCIe modules before installing the board into the host server, refer to the *Sun Fire USBRDT 5240 Uniboard Service Manual*.

Before You Install the Board

Cautions

Follow these cautions when installing the board:



Caution – Take all antistatic precautions necessary to prevent electrostatic discharge which might damage your board.



Caution – Do not drop or set the weight of the board onto its centerplane connector. The connector will be damaged.



Caution – When manipulating the board, lift it by the handle.

Thermal Management Considerations

The cooling design of the Sun Fire USBRDT 5240 Uniboards is that it is passive; it uses the cooling fans of the host server for thermal management. It is important that all the fan trays are installed in the host server and are operating normally.

Additionally, the host server's thermal management is impacted when a slot is empty. Keep the vacancy time, the time between removing a Uniboard or filler panel and installing the board, to 1 minute. You can decrease the vacancy time by preparing the board for installation in advance.

Allow the board one to two hours to acclimate to the temperature of the data center before installation into the host server.

▼ To Prepare the Board for Installation

1. Attach an antistatic wriststrap or footstrap.
2. Connect an ESD strap to the system.
3. Place a grounded ESD mat or the open shipping carton near the system.
4. Unwrap the board from its antistatic packaging.
5. Inspect the centerplane connector.
 - a. Check to see if the plastic of the connector is deformed or damaged.
 - b. Verify that the holes of the connector are not blocked or contaminated.
 - c. Check that none of the pins are bent or out of alignment.
 - d. Ensure that there are no major (out of the normal) gaps between each pin row.
6. Verify that the board alignment tabs are not bent.
7. Check the board spring fingers for damage.
8. Check the host server chassis spring fingers for damage in the following slots:
 - Sun Fire 4800/E4900 – Check slot SB4. See [FIGURE 1-3](#).
 - Sun Fire 6800/E6900 – Check slot SB5. See [FIGURE 1-4](#).
 - Sun Fire E25K/15K/E20K/12K – Check slot SB0. See [FIGURE 1-5](#).
 - Sun Fire E25K/15K – Check slot SB9. See [FIGURE 1-6](#).

FIGURE 1-3 Board Slot Assignments for Sun Fire E4900/4800 – Rear View

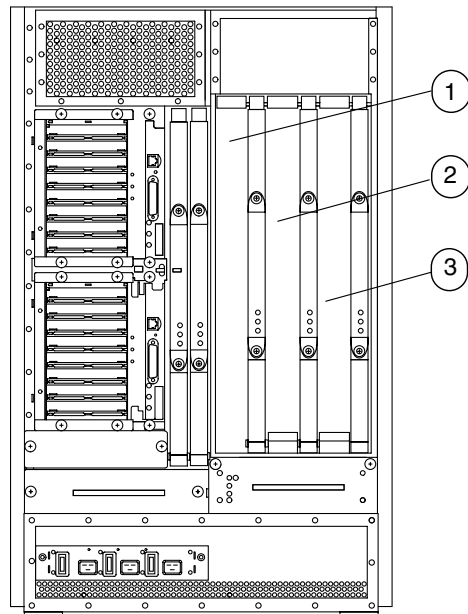


Figure Legend

-
- | | |
|---|-----------------------|
| 1 | System board slot SB0 |
| 2 | System board slot SB2 |
| 3 | System board slot SB4 |
-

FIGURE 1-4 Board Slot Assignments for Sun Fire E6900/6800 System – Front View

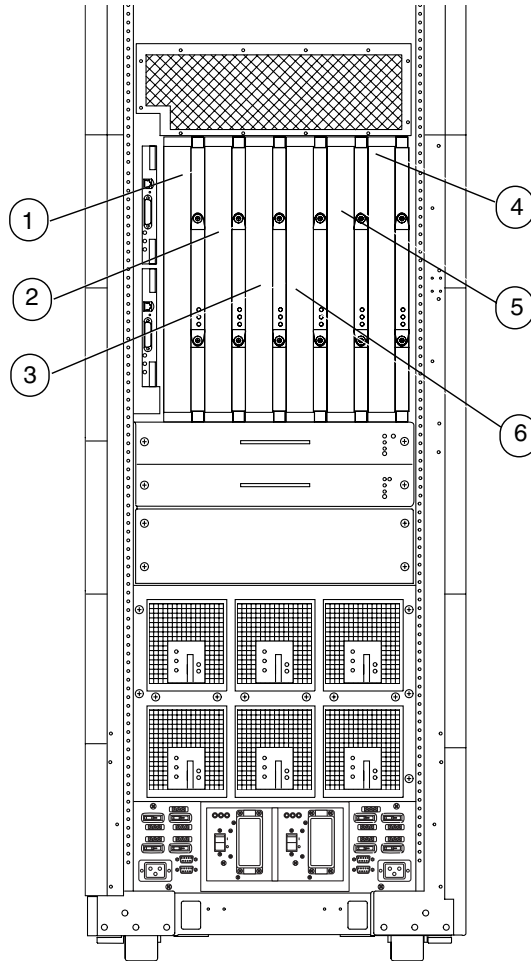


Figure Legend

-
- | | |
|---|-----------------------|
| 1 | System board slot SB0 |
| 2 | System board slot SB2 |
| 3 | System board slot SB4 |
| 4 | System board slot SB5 |
| 5 | System board slot SB3 |
| 6 | System board slot SB1 |
-

FIGURE 1-5 Board Slot Assignments for Sun Fire E25K/15K/E20K/12K Systems – Front View

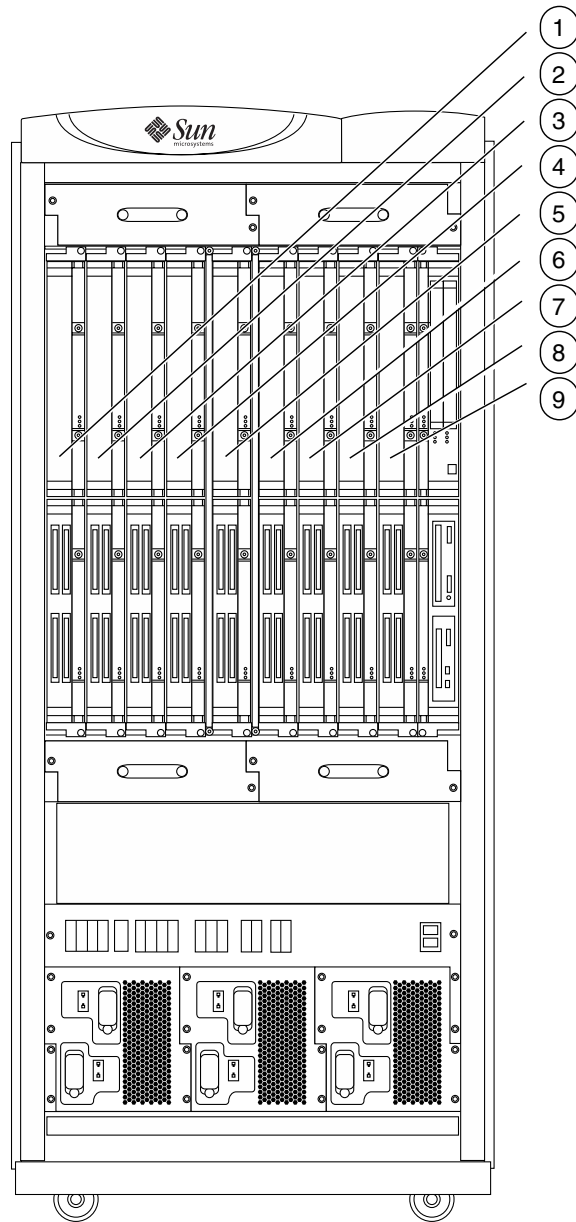


Figure Legend

1	System board slot SB8	6	System board slot SB3
2	System board slot SB7	7	System board slot SB2
3	System board slot SB6	8	System board slot SB1
4	System board slot SB5	9	System board slot SB0
5	System board slot SB4		

FIGURE 1-6 Board Slot Assignments—Sun Fire E25K/15K System – Rear View

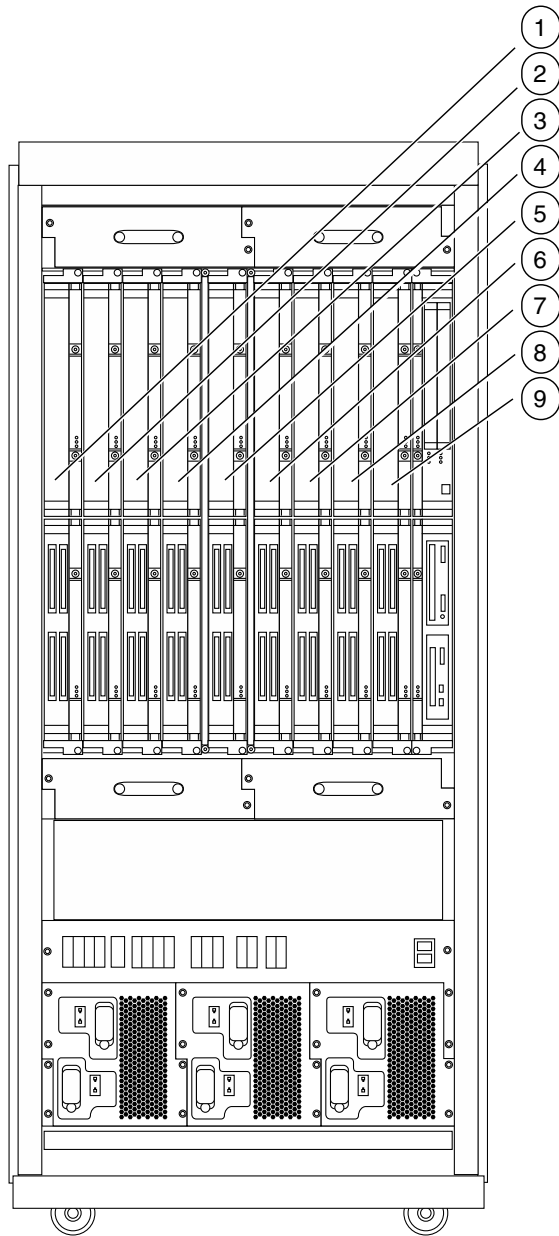


Figure Legend

1	System board slot SB17	6	System board slot SB12
2	System board slot SB16	7	System board slot SB11
3	System board slot SB15	8	System board slot SB10
4	System board slot SB14	9	System board slot SB9
5	System board slot SB13		

Installation Into the Host Server

This chapter describes the installation of the Sun Fire USBRDT 5240 Uniboard into a host server:

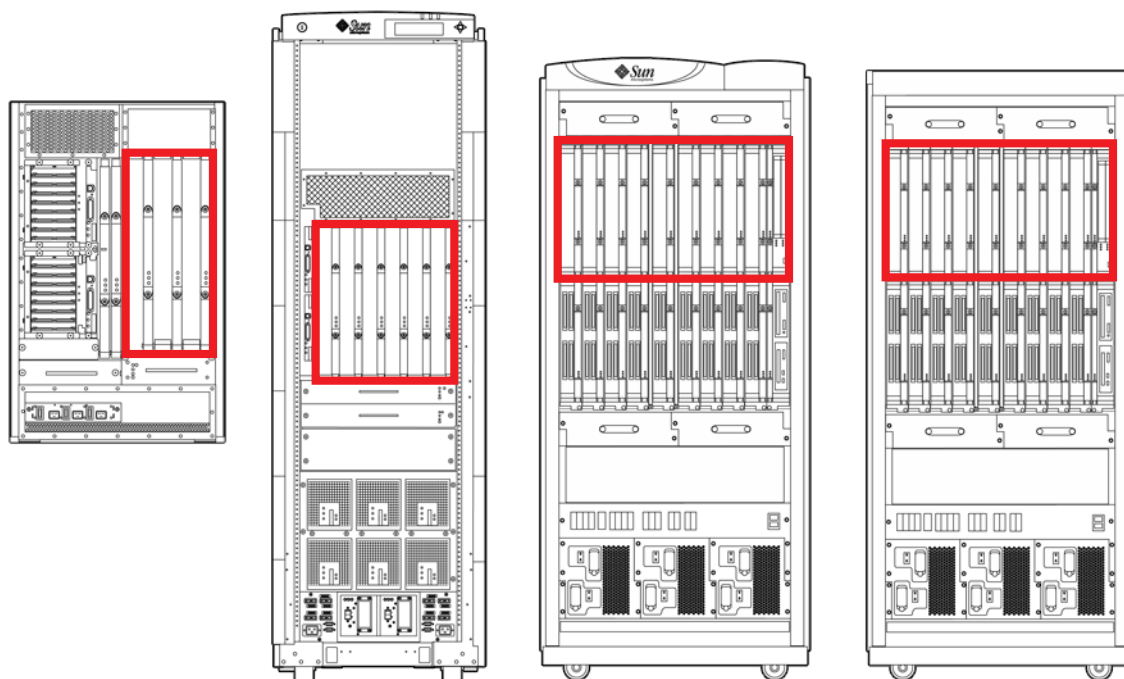
- [“Power Off, Installation, and Cabling” on page 17](#)
- [“Login, Power On, and Configuration” on page 25](#)
- [“Install the Patches” on page 37](#)

Power Off, Installation, and Cabling

▼ To Power Off the Slot for Installation

1. **Determine which slot of the host server will receive the board.**
See [FIGURE 2-1](#).

FIGURE 2-1 Host Server Slots



2. If the slot is occupied by an active board or module, shut it down.

Refer to the board, module, or host server documentation for instructions about how to do this.

Note – Consider that before shutting down an active board or module, you must first bring down the respective domain. Additionally, a server with dynamic reconfiguration might have a dependency on that board or module which is being shut down.

3. Use [FIGURE 2-1](#) and [TABLE 2-1](#) to derive the slot identifier string for your host server.

TABLE 2-1 Slot Identifier Strings for Host Servers

Sun Fire 4800 Sun Fire E4900	Sun Fire 6800 Sun Fire E6900	Sun Fire E20K Sun Fire 12K	Sun Fire E25K Sun Fire 15K
SB0, SB2, SB4	SB0, SB1, SB2, SB3, SB4, SB5	SB0, SB1, SB2, SB3, SB4, SB5, SB6, SB7, SB8	SB0, SB1, SB2, SB3, SB4, SB5, SB6, SB7, SB8, SB9, SB10, SB11, SB12, SB13, SB14, SB15, SB16, SB17

Note – Refer to [FIGURE 1-3](#), [FIGURE 1-4](#), [FIGURE 1-5](#), and [FIGURE 1-6](#) as a visual reference of available slots for a particular host server.

4. Log in to the system controller of the host server and type the following command to power off the slot in the host server:

```
sc> poweroff slot-identifier
```

Where *slot-identifier* is SB0, SB1, SB2, etc.
The Ready to Remove LED illuminates to indicate that the slot is at standby voltage.

5. If the slot is occupied by a module or filler panel, remove it.
Refer to the host server documentation for instructions.

▼ To Install the Board

1. Remove the filler board or filler panel.

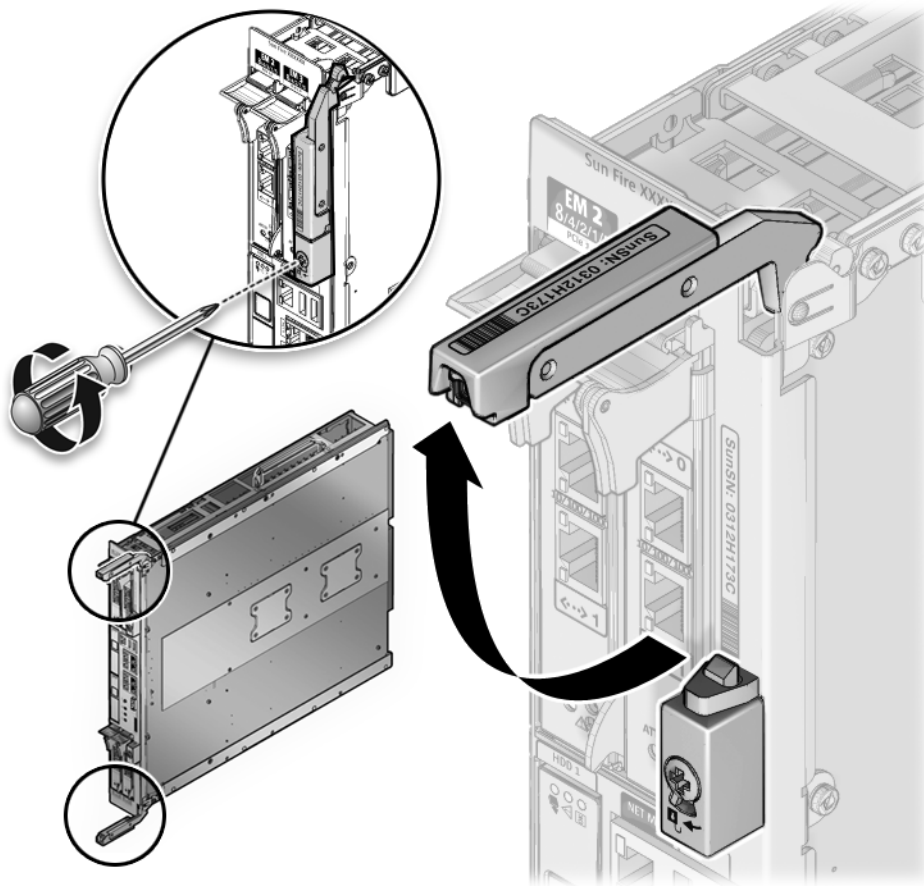


Caution – You must insert a Sun Fire USBRDT 5240 Uniboard into an operational system within one minute of removing the filler board or filler panel, or overheating will occur.

2. Using a No. 2 Phillips screwdriver, release the locks securing the board ejector levers.

The ejector levers will pop out. See [FIGURE 2-2](#).

FIGURE 2-2 Releasing the Ejector Levers



3. Raise the board to the slot in the host server, and align the guide rails.

The top of the Sun Fire USBRDT 5240 Uniboard has a narrow rail, while the bottom of the board has a wide rail. Additionally, the system status LEDs are at the lower half of the front panel when the board is oriented correctly. See [FIGURE 2-2](#).

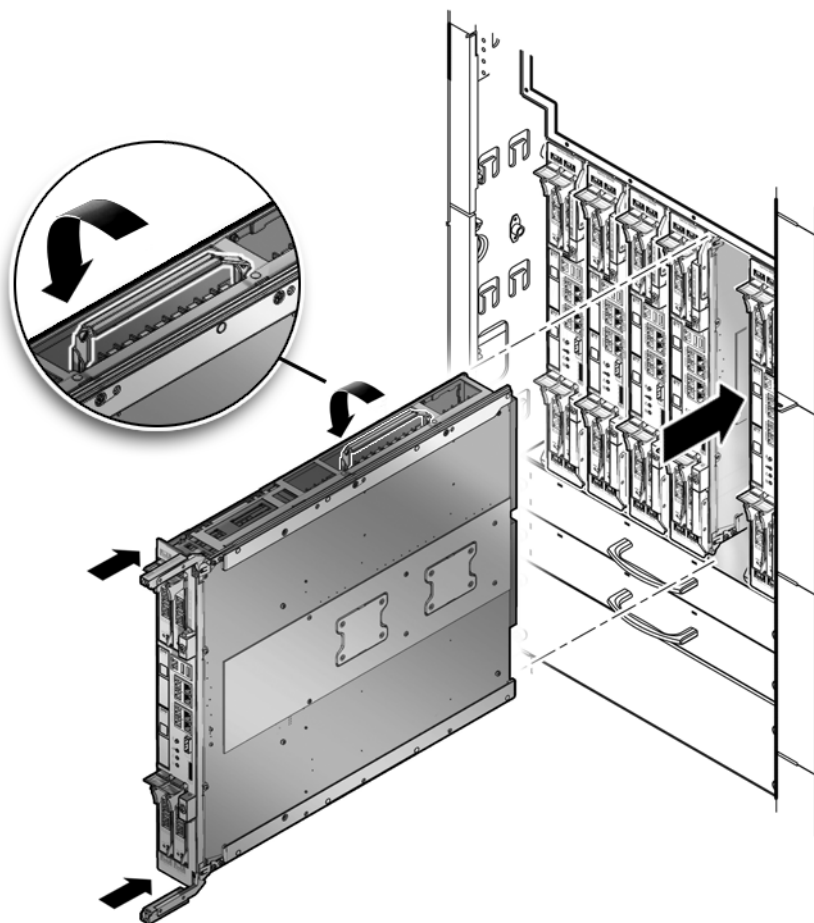
- a. Hold the board by the handle with one hand and place the other hand on the bottom mounting rail supporting the board vertically.
- b. Tip the handle of the board away from the slot so that the bottom rail meets the bottom chassis guide rail.

- c. When the bottom rail is in the chassis guide rail, tip the board back up and align the top rail into the chassis guide rail.
4. Gently slide the board into the chassis.

Note – Do not push on the ejector levers to slide the board in. Push on the flat surface of the front panel.

See [FIGURE 2-3](#).

FIGURE 2-3 Installing the Board



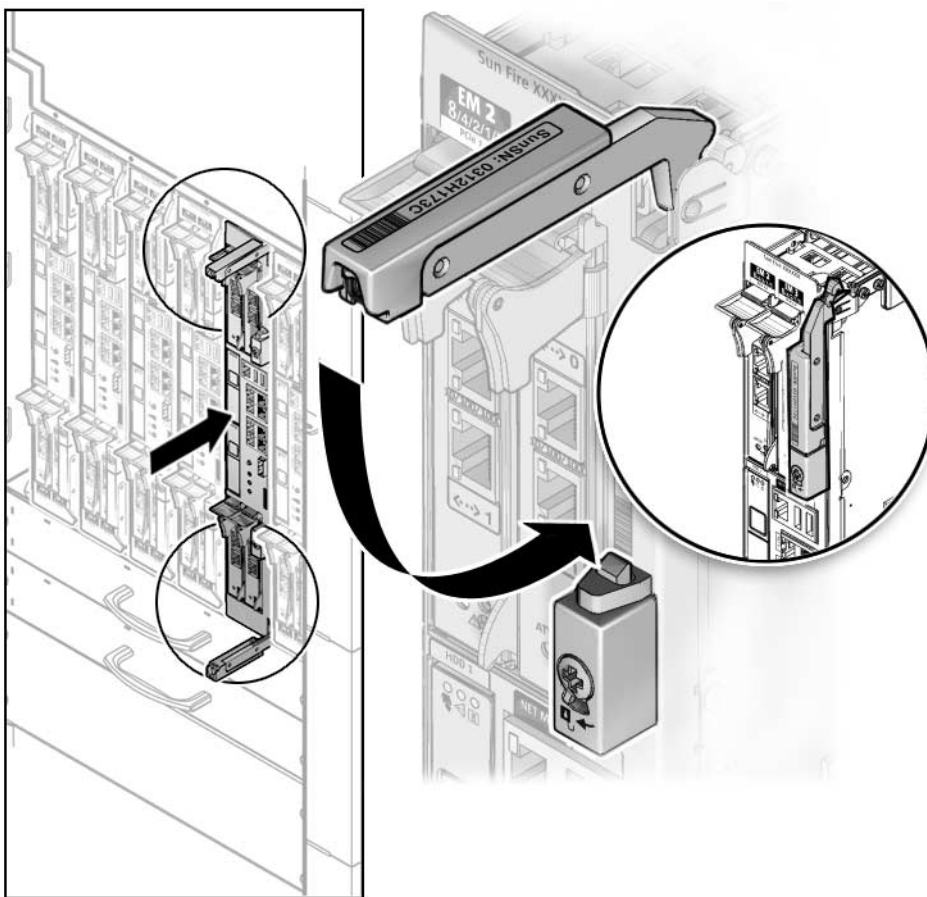


Caution – *Do not force* a board into a slot. Force can cause damage to the board and host server. The board should insert and seat smoothly. If the board binds, remove it and inspect the slot interior for any obvious obstructions. Also inspect both the board connector and the centerplane for bent pins or other damage.

5. Push the board all the way in until the ejector levers move and then press the ejector levers closed simultaneously to seat the board into the host server.

See [FIGURE 2-4](#).

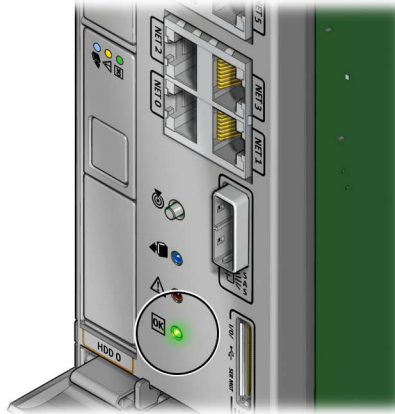
FIGURE 2-4 Securing the Board in the Host Server



6. Verify that the OK LED on the board flashes.

See [FIGURE 2-5](#).

FIGURE 2-5 OK LED Flashing



Note – At this time, standby power is being supplied to the board and the service processor within the board is initiating the firmware boot sequence.

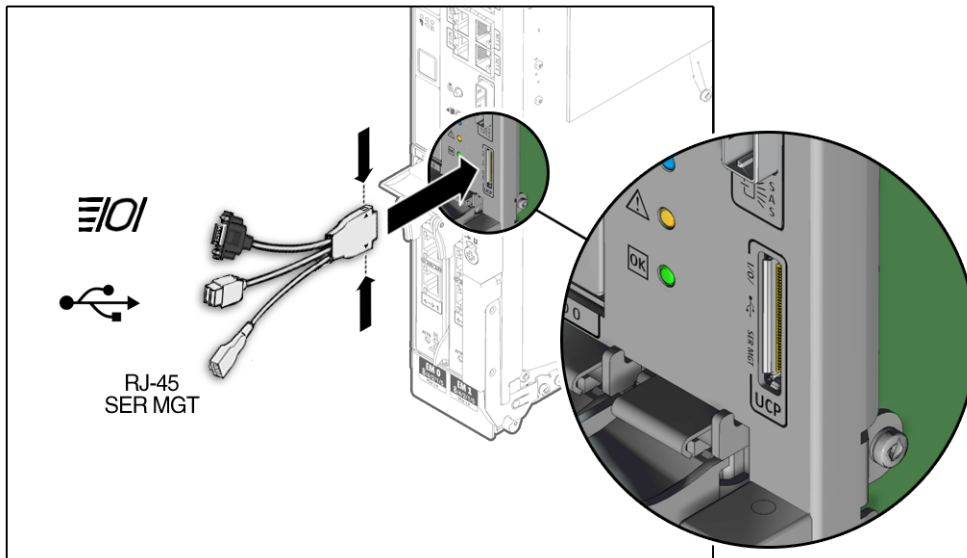
▼ To Connect the Cables

To initially administer the board, you must connect the dongle to the Universal Connector Port (UCP) and attach a serial management cable to the dongle. The serial management device can be a terminal, a terminal server, or an other system with a serial or TIP connection. The communication parameters are 9600, 8, N, 1. You must use the dongle to have a standard RJ-45 serial management port.

1. Feed the cables that are to connect to the board through the cable management hardware.
2. Attach the dongle to the UCP at the front of the board.

See [FIGURE 2-6](#).

FIGURE 2-6 Attaching the Dongle to the Board



Note – The dongle is not a permanent solution. It protrudes from the board and the connector is susceptible to damage. Using the network management port is a long-term solution.

3. Attach the serial management cable from the serial management device to the serial management port on the dongle.

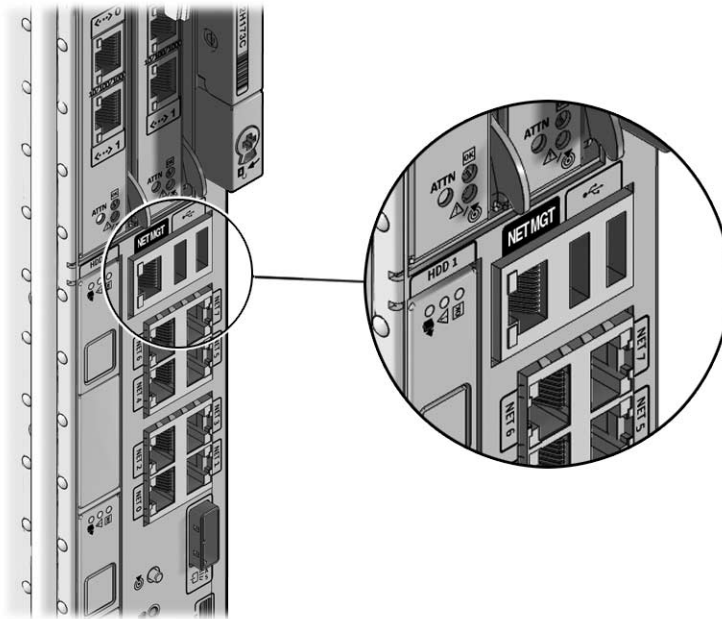
See [FIGURE 2-6](#).

Note – Ignore any messages you might see on the display.

4. If network management is to be used, also attach the network cable to the network management (NET MGT) port on the board.

See [FIGURE 2-7](#).

FIGURE 2-7 Network Management (NET MGT) Port



5. Attach the remaining network cables to the respective ports.
6. Attach the appropriate cables to the PCIe modules, if any.

Login, Power On, and Configuration

This section describes software activities and includes the following procedures:

- [“To Log Into the Service Processor Using the Serial Management Port” on page 26](#)
- [“To Change the Service Processor Password” on page 31](#)
- [“To Enable Network Management” on page 28](#)
- [“To Log Into the Service Processor Using the Network Management Port” on page 31](#)
- [“To Enable Power On for the Slot” on page 32](#)
- [“To Power On the Board and Redirect Console Output” on page 34](#)
- [“To Perform the Initial Configuration” on page 36](#)

▼ To Log Into the Service Processor Using the Serial Management Port

While you were attaching the various cables to the board, the service processor within the board initialized with default values.

1. If you have not done so, attach the serial cable from the serial management device to the SER MGT port on the dongle.

See [FIGURE 2-6](#).

2. Configure the serial management device with the following parameters:

- 9600 baud
- 8 data bits
- No parity
- 1 stop bit
- No handshake

Note – Hardware handshaking is achieved in the supplied dongle.

3. From the serial device, press the Return or Enter key several times to synchronize with the service processor.

If the service processor responds to the key press, the two are synchronized. For example:

```
.  
.   
.   
Starting OpenBSD Secure Shell server: sshd.  
Starting Servicetags discoverer: stdiscoverer.  
Starting Servicetags listener: stlistener.  
Starting CDServer :cdserver.  
Starting FDServer :fdserver.  
Starting Video Server :videod .  
  
SUNSP00144FB20F7D login:  
SUNSP00144FB20F7D login:  
SUNSP00144FB20F7D login:
```

In this example, the login prompt is `SUNSPaabbccddeeff login:`, where `aabbccddeeff` is the MAC address of the service processor inside the board.

4. Log in as the `root` user, with the appropriate password:

```
SUNSP00144F96D411 login: root
Password: password

Waiting for daemons to initialize...
.
Daemons ready

Sun(TM) Integrated Lights Out Manager

Version 2.0.4.0

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d'autres pays.

Warning: password is set to factory default.

->
```

The ILOM prompt is displayed.

Note – The password is set at the default of `changeme`. You should change the password from the default value at your earliest convenience. See [“To Change the Service Processor Password” on page 31](#).

Note – If the initial password is not `changeme`, or if the password is unknown, refer to the *Sun Fire USBRDT 5240 Uniboard Service Manual* for instructions about how to reset the service processor password.

▼ To Enable Network Management

Use the following procedure to enable network management of the board service processor.

1. Determine if you will use DHCP or static IP parameters for the network management port.
2. If you will use static parameters, acquire the following information:
 - *IPaddr* – IP address of the service processor
 - *gateway-IPaddr* – IP address of the subnet gateway
 - *netmask* – Netmask for the subnet
3. If you have not already done so, log in to the service processor from the serial management port.

See [“To Log Into the Service Processor Using the Serial Management Port”](#) on page 26.

4. At the ILOM prompt, enable network management:

```
-> set /SP/network state=enable
```

5. If you are configuring network management through DHCP, go to [Step 6](#). Otherwise:

- a. Set the service processor to use a static IP address:

```
-> set /SP/network pendingipdiscovery=static
Set 'pendingipdiscovery' to 'static'
```

- b. Set the IP address for the service processor:

```
-> set /SP/network pendingipaddress=IPaddr
Set 'pendingipaddress' to 'IPaddr'
```

- c. Set the IP address for the subnet gateway:

```
-> set /SP/network pendingipgateway=gateway-IPaddr
Set 'pendingipgateway' to 'gateway-IPaddr'
```

- d. Set the netmask for the subnet:

```
-> set /SP/network pendingipnetmask=netmask
Set 'pendingipnetmask' to 'netmask'
```

- e. Go to [Step 7](#).

6. If you are configuring network management through DHCP, set the service processor to use DHCP:

```
-> set /SP/network pendingipdiscovery=dhcp
Set 'pendingipdiscovery' to 'dhcp'
```

7. Verify that the pending network parameters were set properly:

```
-> show /SP/network
/SP/network
Targets:
Properties:
    commitpending = (Cannot show property)
    dhcp_server_ip = none
    ipaddress = current-address
    ipdiscovery = static
    ipgateway = current-address
    ipnetmask = current-netmask
    macaddress = 00:14:4F:3F:8C:AF
    pendingipaddress = new-address-you-just-typed
    pendingipdiscovery = static
    pendingipgateway = new-address-you-just-typed
    pendingipnetmask = new-netmask-you-just-typed
    state = enabled
Commands:
    cd
    set
    show
->
```

Note – The output provided here is an example. Your output will be different.

8. Save and commit the network parameters:

```
-> set /SP/network commitpending=true
Set 'commitpending' to 'true'
```

9. Verify the new network parameters:

```
-> show /SP/network
/SP/network
Targets:
Properties:
    commitpending = (Cannot show property)
    dhcp_server_ip = none
    ipaddress = new-address-you-just-typed
    ipdiscovery = static
    ipgateway = new-address-you-just-typed
    ipnetmask = new-netmask-you-just-typed
    macaddress = 00:14:4F:3F:8C:AF
    pendingipaddress = new-address-you-just-typed
    pendingipdiscovery = static
    pendingipgateway = new-address-you-just-typed
    pendingipnetmask = new-netmask-you-just-typed
    state = enabled
Commands:
    cd
    set
    show
->
```

10. If you have not already done so, attach a network cable to the NET MGT port.

See [FIGURE 2-7](#).

11. Continue to the next procedure, “To Log Into the Service Processor Using the Network Management Port” on page 31.

▼ To Log Into the Service Processor Using the Network Management Port

1. Open an SSH session and connect to the service processor of the board by specifying its network address.

```
% ssh root@xxx.xxx.xxx.xxx
...
Are you sure you want to continue connecting (yes/no)? yes
...
Password: password (nothing displayed)
Waiting for daemons to initialize...
.
Daemons ready

Sun(TM) Integrated Lights Out Manager

Version 2.0.4.0

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d'autres pays.

Warning: password is set to factory default.

->
```

The ILOM prompt is displayed.

2. Remove the dongle from the UCP.

▼ To Change the Service Processor Password

The message: “Warning: password is set to factory default.” will be displayed upon login until the password is changed.

1. Log in to the service processor as the `root` user with the appropriate password:

```
SUNSP00144F96D411 login: root
Password: password
....
->
```

The ILOM prompt is displayed.

Note – If the initial password is not `changeme`, or if the password is unknown, refer to the *Sun Fire USBRDT 5240 Uniboard Service Manual* for instructions about how to reset the service processor password.

2. At the ILOM prompt, change the password:

```
-> set /SP/users/root password
Enter new password: *****
Enter new password again: *****
->
```

▼ To Enable Power On for the Slot

Note – Installing the board into the host server puts the board into a standby state. Though it is possible to communicate with the service processor within the board, the board cannot initiate a full power on, because the power to do so has not been supplied to the slot. This procedure is the first of two tasks necessary to fully power on the board.

1. Use [FIGURE 2-1](#) and [TABLE 2-1](#) to derive the slot identifier string for your host server.

2. Log in to the system controller of the host server and verify the slot status:

```
sc> showboard
```

Slot	Pwr	Component	Type	State	Status	Domain
----	---	-----	-----	-----	-----	-----
SSC0	On	System Controller		Main	Passed	-
SSC1	On	Present		Spare	-	-
ID0	On	Sun Fire 6800 Centerplane		-	OK	-
PS0	On	A184 Power Supply		-	OK	-
PS1	On	A184 Power Supply		-	OK	-
.						
.						
.						
SB0	On	USBRDT-5240 Board		Active	-	-
SB1	Off	CPU Board V2		Available	Not tested	Isolated
/N0/SB2	Off	CPU Board V3		Assigned	Not tested	A
SB3	Off	USBRDT-5240 Board		Active	-	-
SB5	On	USBRDT-5240 Board		Active	-	-
.						
.						
.						

In this example, the board in slot SB3 is off.

3. Type the following command to enable power on for the slot in the host server:

```
sc> poweron slot-identifier
```

Where *slot-identifier* is SB0, SB1, SB2, etc. For example:

```
sc> poweron SB3  
SB3: poweron enabled  
sc>
```

4. Verify the slot status again:

```
sc> showboard
```

Slot	Pwr	Component	Type	State	Status	Domain
----	---	-----		-----	-----	-----
SSC0	On	System Controller		Main	Passed	-
SSC1	On	Present		Spare	-	-
ID0	On	Sun Fire 6800 Centerplane		-	OK	-
PS0	On	A184 Power Supply		-	OK	-
PS1	On	A184 Power Supply		-	OK	-
.						
.						
.						
SB0	On	USBRTD-5240 Board		Active	-	-
SB1	Off	CPU Board V2		Available	Not tested	Isolated
/N0/SB2	Off	CPU Board V3		Assigned	Not tested	A
SB3	On	USBRTD-5240 Board		Active	-	-
SB5	On	USBRTD-5240 Board		Active	-	-
.						
.						
.						

The board in slot SB3 is on.

5. Continue to the next procedure, [“To Power On the Board and Redirect Console Output” on page 34.](#)

▼ To Power On the Board and Redirect Console Output

1. Log in to the service processor.

See:

- [“To Log Into the Service Processor Using the Serial Management Port” on page 26](#)
- [“To Log Into the Service Processor Using the Network Management Port” on page 31](#)

2. (Optional) Enable POST output:

```
-> set /SYS keyswitch_state=diag
Set 'keyswitch_state' to 'diag'
```

3. Power on the board:

```
-> start /SYS  
Are you sure you want to start /SYS (y/n)? y  
Starting /SYS
```

Note – After typing this command, perform the next step as quickly as possible.

4. Redirect the console output:

```
-> start /SP/console  
Are you sure you want to start /SP/console (y/n)? y  
Serial console started. To stop, type #.
```

Boot and system startup information is displayed.

Note – If this is the first time the board has been booted, continue to [“To Perform the Initial Configuration” on page 36](#).

▼ To Stop Console Output and Power Off the Board

1. Gracefully shutdown the Solaris Operating System and services on the board.

Note – If you perform this procedure without first gracefully shutting down the Solaris operating system on the board, services will be abruptly halted and the filesystem might become corrupted.

2. At the `ok` prompt of the console on the board service processor, stop console output and change to the ILOM shell by typing `#`.

```
{0} ok #.  
->
```

3. Power off the board:

```
-> stop /SYS  
Stopping /SYS  
->
```

4. From the system controller of the host server, disable power on to the slot of the host server:

```
sc> poweroff slot-identifier
```

Where *slot-identifier* is SB0, SB1, SB2, etc. For example:

```
sc> poweron SB3
SB3: poweron disabled
sc>
```

To Perform the Initial Configuration

When the board boots the Solaris software for the first time, the software must be configured. During this process, you will provide the values of the configuration parameters as described in [TABLE 2-2](#).

- When prompted, follow the on screen instructions for configuring the Solaris OS on your host, and enter the configuration information listed in [TABLE 2-2](#).

TABLE 2-2 Solaris Initial Configuration Parameters

Parameter	Description
Language	Select a number from the displayed language list.
Locale	Select a number from the displayed locale list.
Terminal Type	Select a terminal type that corresponds with your terminal device.
Network?	Select Yes.
Multiple Network Interfaces	Select the network interfaces that you plan to configure. If you are not sure, select the first one in the list.
DHCP?	Select Yes or No according to your network environment.
Host Name	Enter the host name for the server.
IP Address	Enter the IP address for this Ethernet interface.
Subnet?	Select Yes or No according to your network environment.
Subnet Netmask	(If subnet was Yes) Enter the netmask for the subnet for your network environment.
IPv6?	Specify whether or not to use IPv6. If you are not sure, select No to configure the Ethernet interface for IPv4.

TABLE 2-2 Solaris Initial Configuration Parameters (*Continued*)

Parameter	Description
Security Policy	Select either standard UNIX security (No) or Kerberos Security (Yes). If you are not sure, select No.
Confirm	Review the on screen information and change it if needed. Otherwise, continue.
Name Service	Select the name service according to your network environment. Note—If you select a name service other than None, you will be prompted for additional name service configuration information.
NFSv4 Domain Name	Select the type of domain name configuration according to your environment. If you are not sure, select Use the NFSv4 domain derived by the system.
Time Zone (Continent)	Select your continent.
Time Zone (Country or Region)	Select your country or region.
Time Zone	Select the time zone.
Date and Time	Accept the default date and time or change the values.
root Password	Enter the root password twice. This password is for the superuser account for the Solaris OS on this server. This password is not the service processor password.

Note – If you are not sure how to respond to a particular parameter, you can accept the default and then make further changes when the Solaris Operating System is running.

Note – If you want to install the Solaris 10 8/07 Operating System, refer to [“Installing the Solaris 10 8/07 Software” on page 46](#).

Install the Patches

In the future, refer to the *Sun Fire USBRDT 5240 Uniboard Product Notes* to determine which patches to install.

Basic Troubleshooting

This chapter describes how to perform basic troubleshooting of the Sun Fire USBRDT 5240 Uniboard. Topics include:

- [“Status LEDs” on page 39](#)
- [“Advanced Troubleshooting” on page 42](#)

Status LEDs

The board has several LEDs to display the status of various components or network connections. [FIGURE 3-1](#) shows the locations of the status LEDs.

FIGURE 3-1 Location of Status LEDs

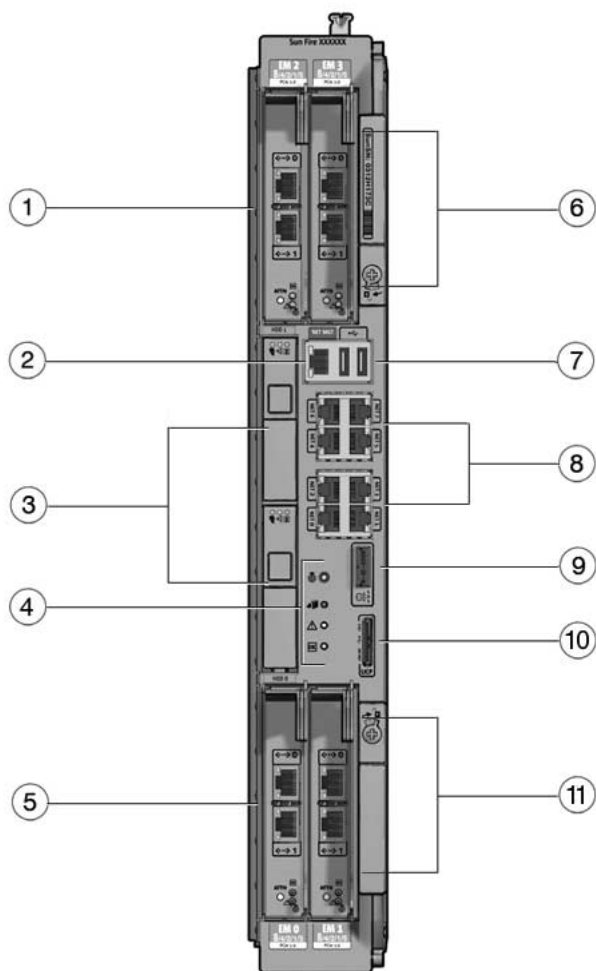


Figure Legend

1	Upper expansion module slots	7	USB ports
2	Network Management (NET MGT) port and status LEDs	8	Gigabit Ethernet ports and status LEDs
3	Hard drives and status LEDs	9	SATA connector
4	System status LEDs	10	UCP connector
5	Lower expansion module slots	11	Lower ejector lever
6	Upper ejector lever		

TABLE 3-1, TABLE 3-2, and, TABLE 3-3 provide the information about the status LEDs.

TABLE 3-1 System Status LEDs





Glyph	Color	Name	State	Meaning
	Green	Power	On	Functional without fault. Solaris operating.
			Off	Off or initializing.
			Flashing	Slow – Booting Linux. Fast – Running POST.
	Amber	Fault	On	Normal fault detected.
			Off	No faults detected.
			Flashing	Critical fault detected.
	White	Locator	On	No function.
			Off	Disabled.
			Flashing	Identifying itself.
	Blue	Ready to Remove	On	Standby power - the board can be removed.
			Off	If other LEDs are on, the board cannot be removed.
			Flashing	No function.

TABLE 3-2 Hard Drive Status LEDs




Glyph	Color	Name	State	Meaning
	Green	Power	On	The drive is receiving power.
			Off	Power is off.
			Flashing	The drive is processing a command.
	Amber	Fault	On	The drive has a fault and requires attention.
			Off	Normal operation.
			Flashing	No function.
	Blue	Ready to Remove	On	The drive is ready for hot-plug removal.
			Off	If other LEDs are on, the drive cannot be removed.
			Flashing	No function.

TABLE 3-3 Network Connection Status LEDs

Glyph	Color	Name	State	Meaning
N/A	Green	Link	On	A link is established.
			Off	No link is established.
			Flashing	There is activity on the port.
N/A	Amber	Speed	On	The link is operating as a Gigabit connection.
			Off	The link is operating as a 10/100-Mbps connection.
			Flashing	No function.

Advanced Troubleshooting

Refer to the *Sun Fire USBRDT 5240 Uniboard Administration Guide* and the *Sun Fire USBRDT 5240 Uniboard Service Manual* for more thorough troubleshooting commands and procedures.

Installing the Solaris Operating System

This appendix describes installing the Solaris operating system (OS) on the Sun Fire USBRDT 5240 Uniboard. Topic include:

- “Installing Solaris Software From the Sun ILOM Remote Console” on page 43
- “Installing the Solaris 10 8/07 Software” on page 46

Installing Solaris Software From the Sun ILOM Remote Console

The Sun ILOM Remote Console is a Java[®] application that you can launch from the ILOM web interface as seen from your local client. The Sun ILOM Remote Console can remotely redirect and control optical media drives mounted on other systems in the network, including the host server. The drives behave as if they were directly attached to the Sun Fire USBRDT 5240 Uniboard.

To run the Sun ILOM Remote Console, you must have the following software installed on your local client:

- **Web browser** – Supported browsers include: Internet Explorer 6.0 or later; Mozilla 1.7.5 or later; Mozilla Fire Fox 1.0 or later.
- **JRE 1.5 or higher (Java 5.0 or higher)** – To download the Java 1.5 runtime environment, see <http://java.com>.

Additionally, to install the Solaris software from DVD-ROM, the local client must be configured with a optical media drive.

▼ To Configure ILOM for Remote Management

1. **Log in as superuser of the system with the optical media drive.**
2. **Open a web browser and in the URL field, type the IP address of the Sun Fire USBRDT 5240 Uniboard service processor.**

For example:

`http://123.456.789.0`

The ILOM login page appears.

3. **Type the user name `root` and respective password.**
4. **Click Log In.**

The ILOM web interface is displayed.

5. **Click the Remote Control tab.**

The Remote Control page is displayed.

Note – Only Console Redirection is supported with this release of the Sun Fire USBRDT 5240 Uniboard.

6. **Click the Redirection tab.**

The Redirection page appears.

7. **Select one of the following console color redirection options:**
 - 8-bit. Select 8-bit redirection for slower network connections.
 - 16-bit. Select 16-bit redirection for faster network connections.
8. **Click Launch Redirection.**

A Java applet is downloaded and installed.

Note – If permission to continue is requested, grant the permission.

Note – The screen portion of the ILOM Remote Console window might be blank, as ILOM video is not supported in the initial release of the Sun Fire USBRDT 5240 Uniboard.

9. **Continue to the next section, [“To Redirect Optical Media Drives”](#) on page 45**

▼ To Redirect Optical Media Drives

1. If you are using a Solaris system as the local client, follow these steps. Otherwise, continue to [Step 2](#).
 - a. As superuser of the system with the optical media drive, open a terminal window.
 - b. Disable the volume manager:

```
# svcadm disable -t svc:/system/filesystem/volfs
```

- c. Determine the process ID number of the Java console:

```
# ps -ef | grep java
```

- d. Assign `root` privileges to the processor that is running the Sun ILOM Remote Console:

```
# ppriv -s +file_dac_read processID
```

Where *processID* is the process ID number determined in [Step c](#).

2. Return to the web browser and the Sun ILOM Remote Console window and select the **Devices** menu.
3. In the **Devices** menu, select **CD-ROM**.

Available drives are displayed.
4. Select the optical media drive you want to mount, and click **OK**.

The optical media drive is now mounted through the ILOM Remote Console.

Note – To reuse these storage settings on the host at a later time, in the **Devices** menu, click **Save as Host Default**.

5. Install Solaris as you would from a locally attached optical media drive using the instructions provided in the *Solaris Installation Guide* or other Solaris documentation.

▼ To Exit the Sun ILOM Remote Console

Follow these steps to exit the Sun ILOM Remote Console and close any remote server sessions that might have remained opened:

1. In the Sun ILOM Remote Console window, select the Redirection menu.
2. In the Redirection menu, select Quit.

Installing the Solaris 10 8/07 Software

Some users might need an older version of the Solaris OS. This procedure describes how to install the Solaris 10 8/07 OS.

Installation Prerequisites

For the installation, you will need:

- The Solaris 10 8/07 software, made available from a boot server.
- The latest versions of the following patches, also on the boot server.
 - 119254-53 – Install and Patch Utilities Patch
 - 125891-01 – `libc_psr_hwcap.so.1` patch
 - 127755-01 – Fault Manager patch
 - 127892-04 – UFS utilities patch
 - 127127-11 – SPARC Solaris 10 8/07 KU patch
 - 137111-01 – SPARC Solaris 10 8/08 KU patch
- The *Solaris 10 8/07 Installation Guide: Network-Based Installations*, which is at the following URL:

<http://docs.sun.com/app/docs/doc/820-0177/>

Note – Refer to patch README files for information about patch requirements and special installation instructions.

▼ To Install the Solaris 10 8/07 Software

This procedure uses `disk1` as a sample disk, or other storage disks can be installed with the Solaris 10 8/07 software.

1. **Configure a network module in one of the PCIe module slots for a Solaris network installation.**

See the *Sun Fire USBRDT 5240 Uniboard Service Manual* for information.

2. **Boot the board from the net through the PCIe network module and perform a complete Solaris network installation.**

Refer to the *Solaris 10 8/07 Installation Guide: Network-Based Installations* for instructions.

3. **Reboot disk1 using the shutdown command:**

```
# shutdown -i6 -g0 -y
```

4. **Download the latest versions of all required patches from the SunSolve website.**

<http://www.sunsolve.sun.com>

5. **Copy all patches to the /var/sadm/spool directory on disk1.**

6. **Decompress all .zip patch files using the unzip command.**

7. **Add the patches to disk1 in the order of the example:**

```
# mkdir -p /export/backout
# patchadd -M /var/sadm/spool -B /export/backout 119254-53
# patchadd -M /var/sadm/spool -B /export/backout 125891-01 127755-01 127892-04
# patchadd -M /var/sadm/spool -B /export/backout 127127-11
# patchadd -M /var/sadm/spool -B /export/backout 137111-01
```

8. **Reboot disk1 again using the shutdown command:**

```
# shutdown -i6 -g0 -y
```

9. **Reconfigure the on board network.**

Refer to the *Solaris 10 8/07 Installation Guide: Network-Based Installations* for instructions.

10. Verify the Solaris Operating System patch level:

```
# uname -a
SunOS [host name] 5.10 Generic_137111-01 sun4v sparc SUNW,USBRDT-5240
# cat /etc/release

        Solaris 10 8/07 s10s_u4wos_12b SPARC
Copyright 2007 Sun Microsystems, Inc. All Rights Reserved.
Use is subject to license terms.
        Assembled 16 August 2007
```


Index

B

boards

- maximum quantity, 5
 - exception for Sun Fire 15K/25K, 6
 - exception for Sun Fire 6800, 6
- slot assignments
 - Sun Fire 12K/15K/E20K/E25K, 12
 - Sun Fire 15K/E25K, 14
 - Sun Fire 4800/E4900, 10
 - Sun Fire 6800/E6900, 11

C

command

- password, 32
- patchadd, 47
- poweroff, 19
- poweron, 33
- shutdown, 47
- start, 35

configuring

- ILOM, 44
- remote console, 44

connector

- NET MGT, 25
- network management, 25
- SER MGT, 24
- serial management, 24

CPU/Memory board, 5

D

- disabling volume manager, 45
- documentation, vii

- dongle, 23

E

enabling

- network management, 28
- POST, 34

F

- fans, 2
- front panel, 3

I

ILOM

- configuring, 44

initial configuration, 36

installation

- cautions, 8
- preparation, 9
- process, 1
- Solaris, 46
 - remote console, 43
- thermal management, 8
- time limit, 19

L

LEDs

- Activity, 42
- Attention
 - hard drive, 41
 - system, 41
- hard drive status, 41
- Link, 42

- Locator, 41
- network connection status, 42
- OK
 - hard drive, 41
 - system, 41
- Ready-to-Remove
 - hard drive, 41
 - system, 41
 - system status, 41
- Locator LED, 41
- login
 - network management, 31
 - serial management, 26

N

- NET MGT
 - connector, 25
 - login, 31
- network management
 - connector, 25
 - enabling, 28
 - login, 31

O

- optional components, 8

P

- password command, 32
- patchadd command, 47
- patches, 6
 - host server system controller, 7
 - Solaris 10 8/07, 46
- power supplies, 2
- powering on, 35
- poweroff command, 19
- poweron command, 33

R

- redirecting optical media drives, 45
- remote console
 - configuring, 44
 - exiting, 45
 - installing Solaris, 43

S

- SER MGT

- connector, 24
- login, 26
- serial management
 - connector, 24
 - login, 26
- shipping contents, 2
 - note, 3
- shutdown command, 47
- Solaris
 - installing, 46
 - verifying patch level, 48
- standby state, 32
- start command, 35
- status LEDs
 - hard drive, 41
 - network connection, 42
 - system, 41
- supported configurations, 5

U

- UCP dongle, 23
- upgrade, 2

V

- verifying Solaris patch level, 48