Sun Fire™ V440 Server Product Notes

Sun Microsystems, Inc.
www.sun.com

Part No. 816-7733-15
March 2005, Revision B

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Contents

Sun Fire V440 Server Product Notes

This document contains information about known problems, workarounds, and other issues that affect this product release of the Sun Fire™ V440 server. The document is divided into three main sections:

Note – Be sure to examine the printed Product Notes located in the ship kit and in the rackmounting kit. Also, please refer to the online Product Notes at `http://www.sun.com/documentation` for continually updated information.

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Hardware Issues

The following bugs and defects affect the Sun Fire V440 server hardware and rackmounting documentation.

New Cable Management Arm

The system is now supplied with a new cable management arm. To install the cable management arm and route the system cables, see the *Cable Management Arm Installation Note*.

Note – The instructions in the *Cable Management Arm Installation Note* supercede the cable management arm installation and cable routing instructions in the *Sun Fire V440 Server Installation Guide*.

Air Duct for New CPU Module

An air duct is required for CPU cooling in the 1593 MHz CPU module. The air duct also increases cooling for the DIMMs and for the DC/DC converter field effect transistors (FETs). Cooling is effective for the new 2 GByte Micron FBGA style DIMMs.

Caution – The air duct must be installed to ensure proper system cooling in all systems equipped with the 1593MHz CPU module.

The air duct is made from a single piece of plastic, and is fastened to the CPU module at three points. Two of the holding points are round pegs that fit through holes in the DIMM cover, and the last is a snap feature that fits under the surface of the CPU heat sink.

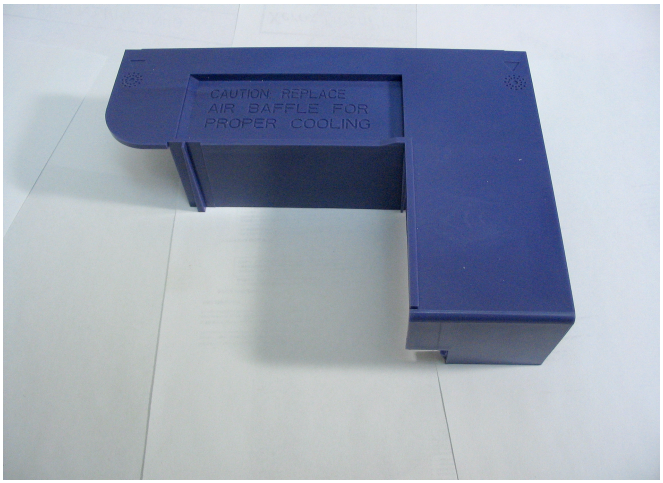


FIGURE 1 Air duct

▼ How To Remove the Air Duct

Note – The air duct must be removed from the CPU/memory module in order to service the memory modules.

Before You Begin

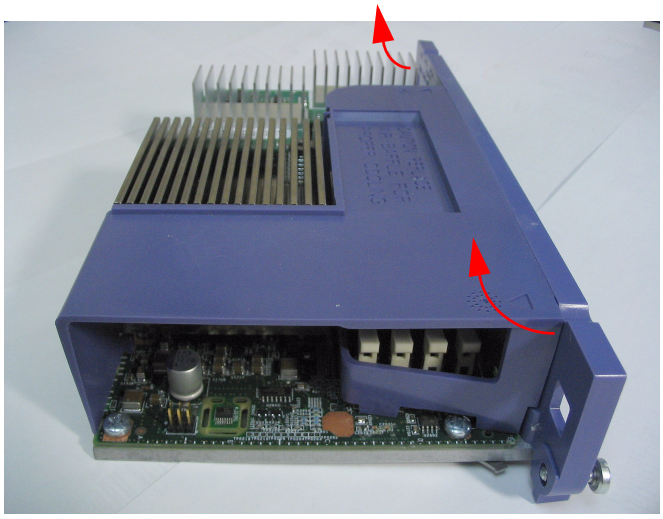
To remove the air duct, complete the following tasks, as described in the *Sun Fire V440 Server Parts Installation and Removal Guide*:

- How to Power Off the System
- How to Slide the System Out of the Cabinet
- How to Avoid Electrostatic Discharge
- How to Remove the Top Cover
- How to Remove the CPU/Memory module

What to Do

Complete the following tasks:

1. **Carefully unsnap the air duct from the edge of the CPU module.**
   Pull the air duct away from the edge of the CPU module and lift the air duct up.



2. **Lift and and remove the air duct from under the CPU heat sink.**

What Next

Complete the following task:

- "How to Install the Air Duct" on page 4

▼ How to Install the Air Duct

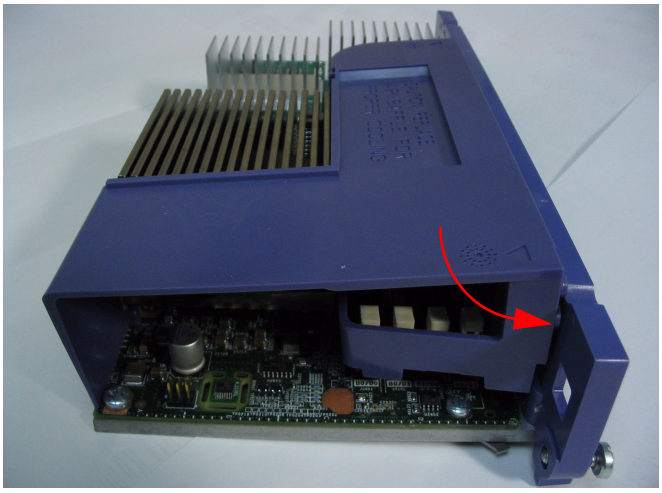
Before You Begin

Complete the following task:

- "How To Remove the Air Duct" on page 3

What to Do

1. **Align the air duct with the CPU heat sink and the mounting holes in the DIMM cover.**
2. **Snap the vent tab under the CPU heat sink and insert the mounting pegs into the mounting holes on the edge of the CPU/Memory module.**



What Next

Complete the following tasks, as described in the *Sun Fire V440 Server Parts Installation and Removal Guide*:

- How to Install the CPU/Memory Module
- How to Install the Top Cover
- How to Slide the System Into the Cabinet
- How to Power On the System

Updated List of Screws and Washers for Rackmounting

Chapter 1 of the *Sun Fire V440 Server Installation Guide* shows four bags of screws and washers in the rackmounting kit, but the kit contains only three bags. The 8-32 screws noted in Chapter 2 are not included, nor are they needed. The M6 and 10-32 washers are listed as separate pieces, but they are now captive washers.

The updated list of hardware for the 4-post rackmounting kit is:

- M4 screws (8)
- M6 screws with captive washers (12)
- 10-32 screws with captive washers (12)

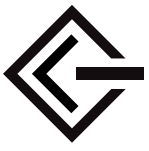
In addition, depending on which rackmounting kit is shipped with your system, your kit may also include the following:

- 8-32 hexagonal nuts (4)

For more information, see the *Cable Management Arm Installation Note.*

SCSI Port Label Incorrect on Some Systems

The SCSI port on some systems is labeled with an incorrect icon indicating that the port uses SE transceivers. The SCSI port uses both SE and LVD transceivers and should be labeled with the icon below.



Known Hardware Bugs

Using Antares P-0005 Card in a 66-MHz PCI Slot Causes Panic Messages

Bug ID 4788578

The Antares P-0005 card is a 33-MHz PCI card. When placed into a Sun Fire V440 66-MHz PCI slot, however, the card does not make itself known to the system as a 33-MHz card. As the system attempts to operate the slot at 66 MHz, the card fails and the system displays data parity panic error messages. Therefore, do not use the Antares P-0005 card in a Sun Fire V440 66-MHz PCI slot. The card works as expected in any Sun Fire V440 33-MHz PCI slot—slots 0, 1, and 3. This problem has been corrected in Revision 4 and later of the Antares P-0005 card.

Reconfiguration Needed to Enable Full Performance of Sun StorEdge 3310™ SCSI Array

Bug ID 4876079

The Sun StorEdge™ 3310 SCSI Array is capable of 160-Mbyte/second performance, but performs at only half—80-Mbyte/second—when it is attached to the Sun Fire V440 server's external SCSI port. This issue only applies to arrays with firmware revision level 3.25Q or earlier.

This problem has been fixed with patch ID 113722-03, which can be obtained along with installation instructions from the SunSolve Online℠ web site at:

`http://sunsolve.sun.com`

Issues With Storage Connected to the External SCSI Port in a Dual Host Configuration

Bug IDs 4892419, 4907010

You might encounter the following issues on a Sun Fire V440 server with storage connected to its external SCSI port in a dual host configuration. During the boot sequence, the server might hang and display a SCSI error message similar to the following:

```
WARNING: pcisch3: ino 0x24 has been blocked
WARNING: mpt1:interrupt #0 has been blocked
/pci@1f,700000/scsi@2,1 (mpt1):
        got external SCSI bus reset.
WARNING: /pci@1f,700000/scsi@2,1 (mpt1):mpt_check_task_mgt: Task
4 failed. ioc status = 4a target= 0
```

This situation can occur when both servers in a dual host configuration are booted at the same time. A patch that fixes this problem is available. The patch number is 115275-02.

The server might also hang and display a similar message if you boot it via the network (`boot net`). This situation also occurs because both servers in the dual host configuration are booted at the same time. To avoid this issue, you should either boot one node of the dual configuration at a time or apply patch 115275-02 to your net installable image. This problem will be fixed in a future Solaris™ release.

Finally, a warning message similar to the following might be displayed on the system console during the boot sequence:

```
/pci@1f,700000/scsi@2,1 (mpt1):
        got external SCSI bus reset.
WARNING: /pci@1f,700000/scsi@2,1 (mpt1):
        mpt_check_task_mgt: Task 4 failed. ioc status = 4a target= 0
```

This message can be safely ignored and does not require any kind of corrective action. This issue is not fixed in patch 115275-02. It will be addressed in a future release of that patch.

Reinsertion of the System Configuration Card After ALOM Reset Could Disable ALOM Network Access

Bug ID 4847296

If you remove the system configuration card (SCC) from the host system and reset Sun Advanced Lights Out Manager (ALOM) *before* you reinsert the card, information that tracks the ALOM `if_network` parameter is lost, thereby disabling access to ALOM through the network.

Should this occur, reset the ALOM `if_network` parameter to `TRUE` after you reinsert the SCC and before you attempt to access ALOM through the network.

1-Gbyte DIMMs Can Cause Overtemperature in Some CPU Configurations

If you are using 1-Gbyte DIMMs and multiple CPU/memory modules, populate the CPU slots in the following order to ensure adequate cooling of the DIMMs: CPU0, CPU1, CPU2, CPU3.

Before Installing New Memory, Upgrade OpenBoot Firmware

If your system's OpenBoot™ PROM firmware revision is earlier than 4.10.10, you should upgrade the firmware to OpenBoot PROM 4.16.4 or later before installing any new memory module or CPU/memory module. Otherwise, the system might power off automatically as soon as it detects the new memory module during start-up. To determine your system's firmware revision, use the Solaris command `prtconf -V`

If you need to upgrade your firmware, go to the SunSolve Online web site at:

`http://sunsolve.sun.com`

Search for patch ID 115846 and follow the installation instructions provided with the patch to determine whether you need to upgrade your system firmware.

Sun StorEdge 3310 JBOD Array Requires Host Adapter Card

The Sun StorEdge 3310 JBOD Array is currently not supported when connected directly to the Sun Fire V440 server's external SCSI port. To connect a Sun StorEdge 3310 JBOD Array to a Sun Fire V440 server, you must install a supported host adapter card, such as the Sun Dual-channel Ultra160 PCI host adapter.

Extreme Load on Network Interface Can Cause the Service Required LED to Remain Lit

If your system is processingan extremely heavy load through the 1-Gigabit network interface at 1000 Megabits/second, and you have a 2-way 1062-MHz CPU configuration, ALOM might illuminate the Service Required LED to indicate a temporary overload condition. However, once network traffic has resumed, ALOM does not turn off the LED. To turn off the LED, you must reset ALOM, using the command `resetsc` from the ALOM prompt.

This problem has been fixed with patch ID 111883-19, which can be obtained along with installation instructions from the SunSolve Online web site at:

`http://sunsolve.sun.com`

Software Issues

The following bugs, defects, and additional information affect the Sun Fire V440 server software, or the Solaris™ Operating System (Solaris OS) release that the server supports.

Supported Solaris Release

The Sun Fire V440 server requires release 8 HW 7/03 OS or a later compatible release of the Solaris OS.

Use of NET MGT Port Requires 10BASE-T Network Support

The NET MGT port of the Sun Fire V440 server supports 10BASE-T (10-Megabit) Ethernet only. Be sure to connect the port to a network that supports 10BASE-T operation.

Change to System Console Default Behavior

If your server has OpenBoot 4.10.10 or later firmware, the default settings have changed for the OpenBoot configuration variables that control where the system console is directed. To determine your system's firmware revision, use the command `prtconf -V`.

These variables, `input-device` and `output-device`, have new default settings as of OpenBoot 4.10.10 or later firmware:

Variable	Default Prior to 4.10.10	Default Setting for 4.10.10 or Later
input-device	ttya	keyboard
output-device	ttya	screen

As a result, the default system start-up behavior has changed as well. With OpenBoot 4.10.10 or later, the firmware checks for presence of a PCI graphics card and keyboard and directs the system console to those devices first, if found.

If those devices are not present, the system automatically directs console output to, and accepts input from, the SERIAL MGT port (ttya).

Known Bugs

Manually Disabling or Enabling of Memory DIMMs Requires the System to Be Power Cycled

Bug ID 4908334

When you disable a memory DIMM using the asr-disable command or enable a memory DIMM using the asr-enable command, you must power cycle the system for the action to take effect. This issue will be addressed in a future release of OpenBoot firmware.

Permanent Lease Time Must Be Set for DHCP Server

When using Dynamic Host Configuration Protocol (DHCP) to configure your ALOM IP address, you must have a permanent lease time set for your DHCP server. If you have a variable lease time set for your DHCP server, the ALOM software might not renew its lease, potentially losing its IP address as a result.

ALOM Firmware Might Be Upgraded to Ver. 1.2

Your Sun Fire V440 server documentation indicates that Sun Advanced Lights Out Manager (ALOM) is Version 1.1. Later systems might be shipped with ALOM firmware 1.2 or later. Version 1.2 firmware supports additional platforms.

You can view ALOM documentation on the Web at:

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

However, your ALOM 1.1 documentation provides adequate instructions for using the ALOM functionality, and you do not need to download the Version 1.2 documentation.

Connection to `vtsk` Kernel Could Be Lost

Bug ID 4861855

Due to a bug, in some cases your connection to the SunVTS™ software kernel, `vtsk`, is lost when you try to connect remotely from another system. A patch that fixes this problem is available. The patch number is 114479-11.

Service Required LED Fails to Relight After ALOM Reset

Bug ID 4839285

If you reset the ALOM system controller while the Service Required LED is lit, the LED will briefly turn off and then turn back on. However, in some instances, the LED might remain off, even though the fault condition persists. In any event, the LED will reflect the correct fault status the next time the system is reset.

Check CPU Temperatures Before Restarting a Server That Was Shut Down Because of a Temperature Fault

Bug ID 4737690

When ALOM detects a critical internal temperature fault in the host server, it automatically initiates a graceful shutdown and powers off the server. If you then attempt to power on the server while the critical temperature condition persists, ALOM will normally inhibit the power-on attempt. But, in some cases, ALOM allows the server to start booting but quickly initiates another shutdown. A future version of ALOM will inhibit all power-on attempts whenever a critical temperature condition exists. To avoid this scenario, use ALOM to verify that the system temperature is within the normal range.

Before Adding or Replacing a Disk Drive, Upgrade Firmware

Before adding or replacing a disk drive, you must install patch 115662-01, which you can obtain along with installation instructions from the SunSolve Online web site at:

http://sunsolve.sun.com.

Replacing a Failed Disk Using the Hot Plug Option

This section describes how to replace a failed disk non-mirrored on the Sun Fire™ server. This procedure replaces the removal and replacement procedure in the *Sun Fire V440 Server Parts installation and Removal Guide*.

▼ How to Replace a Failed Disk Drive

1. **Verify which disk drive corresponds with which logical device name and physical device name.**

   See the *Sun Fire V440 Server Administration Guide* for a reference for physical disk slot numbers, physical device names and logical device names.

2. **Make sure that no applications or processes are accessing the disk drive.**

   To view the status of the SCSI devices, type the following command:

```
# cfgadm -al
Ap_Id           Type         Receptacle   Occupant     Condition
c0              scsi-bus      connected    configured   unknown
c0::dsk/c0t0d0  CD-ROM        connected    configured   unknown
c1              scsi-bus      connected    configured   unknown
c1::dsk/c1t0d0  disk          connected    configured   unknown
c1::dsk/c1t1d0  disk          connected    configured   unknown
c1::dsk/c1t2d0  disk          connected    configured   unknown
c1::dsk/c1t3d0  disk          connected    configured   unknown
c2                scsi-bus    connected    configured   unknown
c2::dsk/c2t2d0    disk        oonnected    configured   unknown
usb0/1            unknown     empty        unconfigured ok
usb0/2            unknown     empty        unconfigured ok
usb1/1            unknown     empty        unconfigured ok
usb1/2            unknown     empty        unconfigured ok

#
```

Note – The logical device names might be different on your system, depending on the number and type of add-on disk controllers installed.

The `-al` options return the status of all SCSI devices, including buses and USB devices. (In the example, no USB devices are connected to the system.)

Although you can use the `cfgadm install_device` and `cfgadm remove_device` commands (Solaris OS) to perform a disk drive hot-plug procedure, these commands issue the following warning message when you invoke them on a bus containing the system disk:

```
# cfgadm -x remove_device c0::dsk/c1t1d0

Removing SCSI device: /devices/pci@1f,4000/scsi@3/sd@1,0

This operation will suspend activity on SCSI bus: c0

Continue (yes/no)? y

dev = /devices/pci@1f,4000/scsi@3/sd@1,0

cfgadm: Hardware specific failure: failed to suspend:

        Resource              Information

   ------------------  -------------------------

   /dev/dsk/c1t0d0s0   mounted filesystem "/"

   /dev/dsk/c1t0d0s6   mounted filesystem "/usr"
```

The warning is issued because these commands attempt to quiesce the Ultra-4 SCSI bus, but the Sun Fire V440 server firmware prevents it. The warning message can be safely ignored in the Sun Fire V440 server, but the following procedure avoids the warning message altogether.

3. **To remove the disk drive from the device tree, type the following command:**

```
# cfgadm -c unconfigure device_name
```

For example:

```
   # cfgadm -c unconfigure c1::dsk/c1t3d0
```

This example removes `c1t3d0` from the device tree and the OK-to-Remove LED is lit.

4. **To verify that the device has been removed from the device tree, enter the following command:**

```
# cfgadm -al
Ap_Id              Type         Receptacle   Occupant     Condition
c0                 scsi-bus      connected    configured   unknown
c0::dsk/c0t0d0     CD-ROM        connected    configured   unknown
c1                 scsi-bus      connected    configured   unknown
c1::dsk/c1t0d0     disk          connected    configured   unknown
c1::dsk/c1t1d0     disk          connected    configured   unknown
c1::dsk/c1t2d0     disk          connected    configured   unknown
c1::dsk/c1t3d0     unavailable   connected    unconfigured unknown
c2                 scsi-bus      connected    configured   unknown
c2::dsk/c2t2d0     disk          oonnected    configured   unknown
usb0/1             unknown       empty        unconfigured ok
usb0/2             unknown       empty        unconfigured ok
usb1/1             unknown       empty        unconfigured ok
usb1/2             unknown       empty        unconfigured ok

#
```

Note that `c1t3d0` is now unavailable and unconfigured. The OK-to-Remove LED is lit on the corresponding disk drive.

5. **Remove the disk drive.**

   The OK-to-Remove LED light goes out when you remove the disk drive.

6. **Install a new disk drive.**

7. **To configure the new disk drive, enter the following command:**

```
# cfgadm -c configure device_name
```

For example:

```
# cfgadm -c configure c1::dsk/c1t3d0
```

The Activity LED flashes as the new disk at c1t3d0 is added to the device tree.

8. **To verify that the new disk drive is in the device tree, enter the following command:**

```
# cfgadm -al
Ap_Id              Type         Receptacle   Occupant     Condition
c0                 scsi-bus      connected    configured   unknown
c0::dsk/c0t0d0     CD-ROM        connected    configured   unknown
c1                 scsi-bus      connected    configured   unknown
c1::dsk/c1t0d0     disk          connected    configured   unknown
c1::dsk/c1t1d0     disk          connected    configured   unknown
c1::dsk/c1t2d0     disk          connected    configured   unknown
c1::dsk/c1t3d0     disk          connected    configured   unknown
c2                 scsi-bus      connected    configured   unknown
c2::dsk/c2t2d0     disk          oonnected    configured   unknown
usb0/1             unknown       empty        unconfigured ok
usb0/2             unknown       empty        unconfigured ok
usb1/1             unknown       empty        unconfigured ok
usb1/2             unknown       empty        unconfigured ok

#
```

Redundant `console` Command Causes Problems When Connecting to Established ALOM Console Session Through `telnet`

Bug ID 4802486

If you establish an ALOM console session on a serial connection, and then use the `telnet` utility from this session to connect to ALOM, do not issue the `console` command again. Doing so results in a continuous string of `Console session already in use` messages that are sent to the console. In addition, other users attempting to log in to the console will receive those messages.

Another complication caused by issuing a second `console` command is that it creates a "phantom" user. When the user who incorrectly issued the second `console` command logs out, only that user's *first* login session ends. As a result, only four users, rather than five, are able to log in to ALOM until ALOM is reset.

To escape this condition, type the console escape characters (`#.` by default) to return to an ALOM console session, or use another `telnet` session to establish an ALOM console session. At the ALOM command prompt (`sc>`), type the `resetsc` command to reset ALOM.

Booting Server in `kadb` Mode Brings Notification-Only Warning Message

Bug ID 4840924

When you boot a Sun Fire V440 server in `kadb` (debug) mode, a warning message similar to the following is displayed:

```
WARNING: todm5819p_rmc: kernel debugger detected: hardware
watchdog disabled
```

This is a normal message for the purpose of notification only, and does not require any kind of corrective action.

Installing Important Man Page Packages for the Sun Fire V440 Server

If you install the Solaris 8 HW 7/03 operating system for your Sun Fire V440 server *without using the Solaris Web Start installation method*, you must install two important man page packages manually. These packages include man pages for various features, including the `raidctl` utility, which supports hardware disk mirroring, and the `scadm` utility, which enables you to perform ALOM administration tasks through Solaris software while you are logged in to the host as root.

The two packages—`SUNWs8hwman` and `SUNWs8hwman1`—are on the Supplement CD. If you do not install the Solaris operating environment by using the Web Start method, then use the `pkgadd` utility to install both man page packages manually.

In addition, regardless of the method you use to install the man pages, special steps are required to access the man pages. For additional details, see the *Solaris 8 HW 7/03 Hardware Platform Guide*, which is provided with your Solaris operating system release.

Repeated Alerts When Resetting or Powering On Via ALOM Are Expected

Bug ID 4808609

If the OpenBoot PROM (OBP) variables `diag-switch?` and `auto-boot?` are set to `TRUE`, and you issue either the `reset -y` command or the `poweron` command from the ALOM command line, several `reset` and `cleared bootmode` messages are displayed, which appear to be redundant. For example:

```
SC Alert: SC Request to Reset Host.
SC Alert: Host System has Reset
```

```
SC Alert: Host System has read and cleared bootmode.
SC Alert: Indicator SYS_FRONT.ACT is now OFF
SC Alert: Host System has Reset
SC Alert: Host System has Reset
SC Alert: Host System has read and cleared bootmode.
SC Alert: Indicator SYS_FRONT.ACT is now ON
```

Such messages are normal and derive from the method by which the server is reset or powered on.

Informational-Level Disk Warning Messages (ASC 0x29/ASCQ0x3)

Bug ID 4886938

Occasionally, an informational-level warning message related to a disk appears on the console. The message is harmless and the system is still fully functional. A patch that fixes this problem is available. The patch number is 115275-02 (or later).

Flash Updating OBP Firmware With the Keyswitch in the Locked Position Causes an Unclear Message

Bug ID 4893726

If the system control keyswitch is in the Locked position while flash updating the OpenBoot PROM (OBP) from Solaris software, you see the following message:

```
Flash Update: Couldn't determine the Flash PROM component type;
Check the CPU board jumpers J4205, J4206, J4207.
```

Turn the keyswitch to the Normal position and restart the flash update. If you continue to see the message after the keyswitch is turned to the Normal position, check the jumpers on the motherboard—not the CPU board—as suggested in the message.

Documentation Issues

The following additional information relates to Sun Fire V440 server documentation.

Power Supply Inlets Mislabeled

In Figure 1-4 of the *Sun Fire V440 Server Administration Guide*, the labels show the power supply inlets in the wrong order. The inlet for power supply 0 (PS0) is below the inlet for power supply 1 (PS1).

ALOM Help Incorrectly States That a Minimum and Maximum Number of Characters Can Be Set for `setsc sc_escapechars` Command

Sun Advanced Lights Out Manager (ALOM) 1.1 Online Help incorrectly states that you can set a minimum and a maximum number of characters for the ALOM escape sequence command. The *only* number of characters that you can set is two (the default characters are `#.`). You can change the default characters via the ALOM `setsc sc_escapechars` command.

Gigabit Ethernet Connection LEDs Incorrectly Documented

Bug ID 4879844

In the *Sun Fire V440 Server Administration Guide*, the *Sun Fire V440 Server Diagnostics and Troubleshooting Guide*, and the *Sun Fire V440 Server Parts Installation and Removal Guide*, the color of the illuminated Gigabit Ethernet connection LED is incorrectly described as amber. The color of that illuminated LED is green.

Volume Numbering for Hardware-Mirrored Disks in the OpenBoot Environment

If you use the Solaris `raidctl` utility to configure a hardware RAID mirror from two Sun Fire V440 internal disk drives, the two mirrored disks do not appear in the output of the OpenBoot `probe-scsi` and `probe-scsi-all` commands. Instead, these commands display a single mirrored volume named `Volume` *n*, where *n* is equal to the target ID of the primary (master) disk used to create the mirror.

For example, the following command creates a hardware-mirrored volume by copying the primary disk `c1t2d0` (specified first) to the secondary disk `c1t3d0`.

```
# raidctl -c c1t2d0 c1t3d0
```

When you issue `probe-scsi-all` at the `ok` prompt, the mirrored volume is called `Volume 2`, as shown below:

```
ok probe-scsi-all
/pci@1f,700000/scsi@2,1
/pci@1f,700000/scsi@2
Target 0
Unit 0 Disk SEAGATE ST336607LSUN36G 0307 71132959 Blocks, 34732 MB
Target 1
Unit 0 Disk SEAGATE ST336607LSUN36G 0307 71132959 Blocks, 34732 MB
Volume 2
Unit 0 Disk LSILOGIC1030 IM IM1000 71132927 Blocks, 34732 MB
```

The volume name inherits its number (`2`) from the target ID of the primary disk (`t2`). If the mirrored volume contains the boot disk, you can boot the system from the `ok` prompt using the device alias for the primary disk (in this case, `disk2`):

```
ok boot disk2
```

Removing the System From the Rack With the Cable Management Arm in Use

If you need to uninstall the system from the rack, you must completely remove the cable management arm from the slide assemblies and the inner glides. Failure to do so might cause damage to the cable management arm.