



Sun Fire™ V250 Server Product Notes

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Sun Fire V250 Server Product Notes

This document contains late-breaking news which was not available at the time the beta documentation went to press. It contains the following:

- “Online Documentation” on page 2
- “System Software Requirements” on page 2
- “Required and Recommended Patches” on page 2
- “Reinstalling the Solaris Operating Environment” on page 2
- “Unpacking the Server” on page 3
- “Replaceable Component Part Numbers” on page 4
- “Using Hard Disk Drives in Single-Ended Mode” on page 4
- “Audio” on page 4
- “Replacing the Battery” on page 5
- “System Power Rating” on page 5
- “Replacing the SCSI Backplane” on page 5
- “Replacing the Cable Kit” on page 6
- “Known Issues” on page 7
- “Automatic System Recovery (ASR)” on page 12

Online Documentation

Online documentation is available at the following URL:

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

Check this site periodically for the latest versions of the product documentation.

System Software Requirements

The Sun Fire V250 server requires Solaris 8 7/03, Solaris 9 8/03 or later. The server is supplied with Solaris 8 7/03 software preinstalled.

To identify the software installed on your system, use the `cat /etc/release` command:

```
# cat /etc/release
Solaris 8 HW 7/03 s28s_hw3wos_04 SPARC
    Copyright 2003 Sun Microsystems, Inc. All Rights Reserved.
        Assembled 21 May 2003
```

Required and Recommended Patches

There are none at present.

Reinstalling the Solaris Operating Environment

To reinstall the Solaris operating environment onto a Sun Fire V250 server, refer to the *Solaris Installation Guide* (806-0955) and the *Solaris Advanced Installation Guide* (806-0957).

Unpacking the Server

Unpack the server carefully and take care not to damage the packaging material. Do not discard the packaging material, it will be needed if you need to repack the server in future.

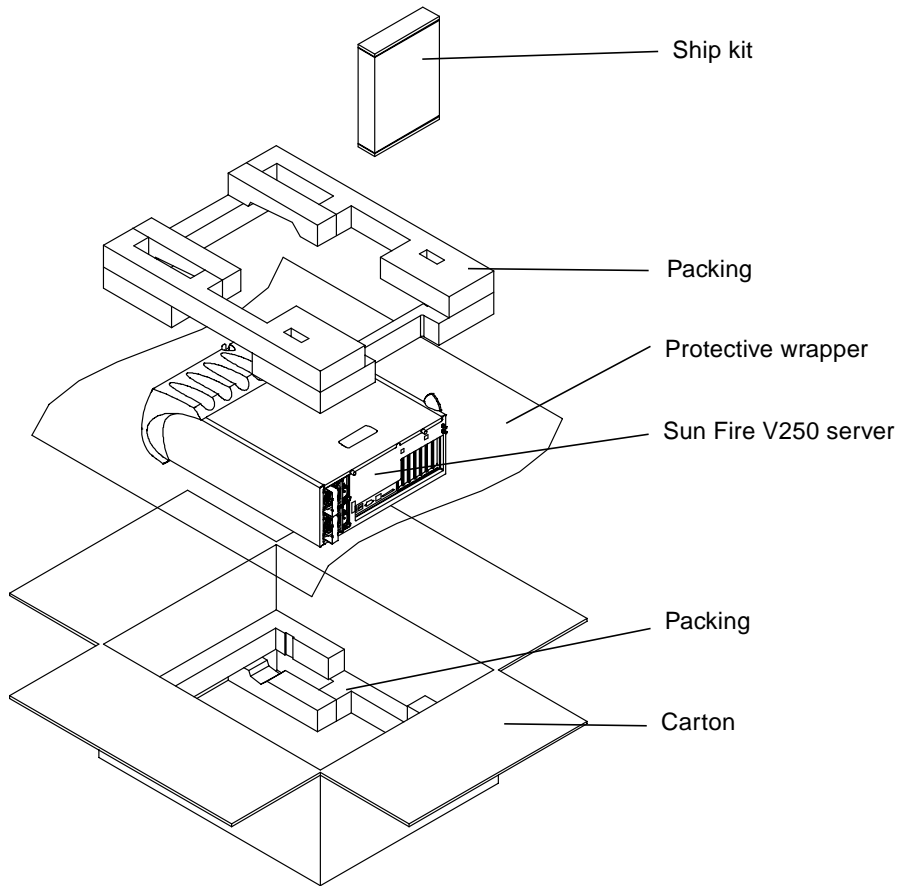


FIGURE 1 Sun Fire V250 Server Packaging

Replaceable Component Part Numbers

The part numbers listed in the Sun Fire V250 server platform documentation for two components are incorrect. The table below lists the components and the correct part numbers.

TABLE 1 Part Number Corrections

Component	Book / Section	Correct Part Number
36 GB hard disk drive	<i>Parts Replacement Manual</i> , 817-0901-10 Table 1-2 <i>Administration Guide</i> , 817-0900-10 "Replaceable Components" on page 16	F540-4904
DAT drive	<i>Parts Replacement Manual</i> , 817-0901-10 Table 1-2	F390-0027

Tape Drive in RMD0

If you place a SCSI tape drive in the lower slot (RMD0), set its SCSI ID to 4.

Using Hard Disk Drives in Single-Ended Mode

The Sun Fire V250 server is qualified for hard disk drives running in LVD mode only. If you insert a hard disk drive which operates in SE mode, the internal bus will automatically switch to SE mode to avoid damage, but it is possible that the hard disk drive will not function.

Audio

The Sun Fire V250 Server does not support the audiotool.

Replacing the Battery

When replacing the battery, always use a type identical to that removed. Replacing the battery should be carried out by service providers only.

System Power Rating

The power rating stated on the system label is 6A. That figure will be updated to a new system rating, detailed below:

- One PSU fitted: 7.1A maximum at 100VAC 60 Hz
 - Two PSUs fitted: 7.6A total at 100VAC 60 Hz (3.8A per PSU)
-

Replacing the SCSI Backplane



Caution – This section is for the attention of service providers only.

This section supplements the SCSI backplane removal procedure documented in the *Sun Fire V250 Server Parts Replacement Manual*.

- Before removing the SCSI backplane, remove the system configuration card reader module.
- After replacing the SCSI backplane, ensure that you reconnect the front fan power cables correctly:
 - The cable for the bottom fan (FT1) attaches to the plug at the top of the SCSI backplane.
 - The cable for the top fan (FT2) attaches to the plug at the bottom of the SCSI backplane.

Replacing the Cable Kit

This section provides additional procedures for replacing the cable kit. It supplements the information provided in the *Sun Fire V250 Server Parts Replacement Manual*.

▼ To replace the SCSI cable (SCSI backplane to system board)

1. Remove PCI card support arm.
2. Bend back the two cable retaining hooks to release cable.
3. Replace SCSI cable.
4. Bend cable retaining hooks back into place to secure cable.
5. Replace PCI card support arm.

▼ To replace the DAT cable (SCSI backplane to tape drive)

1. Remove the tie-wrap that secures the DAT cable to the power distribution board wiring loom.
2. Disconnect the cable from the DAT drive.
3. Disconnect the two connectors from the SCSI backplane.
4. Replace cable.
5. Fit new tie-wrap.

▼ To replace the cable assembly (SCSI backplane to system board)

1. Disconnect two connectors, one from each of the following:
 - SCSI backplane

- system board
- 2. **Replace cable.**
- 3. **Replace connectors.**

▼ To replace the cable assembly for power I²C

1. **Disconnect two connectors.**
2. **Replace cable.**
3. **Replace connectors.**

▼ To replace the cable assembly IDE cable

1. **Remove the cable from two plastic retaining clips.**
2. **Disconnect cable from DVD drive.**
3. **Disconnect cable from system board.**
4. **Replace cable.**
5. **Resecure the cable into the two plastic clips.**

▼ To replace the blower cable

1. **Remove front blower.**
2. **Replace cable.**
3. **Replace front blower.**

Known Issues



Caution – Sharp edges may exist. Take care when handling the server, particularly when replacing internal components or carrying out other service procedures.



Caution – Low voltage energy is present in the SCSI back plane when the server is powered on. Do not touch the SCSI back plane with the server powered on.

Front Service Indicator

If the front service indicator is lit and ALOM is reset, the indicator does not come back on. However, the original condition which caused the indicator to come on could still exist.

Removal Of Power Supply Not Detected

If you remove a PSU with the system running, the PSU must remain out of the chassis for twelve seconds in order for its absence to be detected by system software.

ALOM `nettest` Fails

If ALOM is configured to use DHCP but fails to negotiate a lease with the DHCP server, `nettest` can fail.

`obdiag` Hangs the I2C Bus if a 33 MHz Card Occupies Slot 5 of the Server

This issue only occurs when a PCI card running with a clock speed of 33 MHz occupies slot 5 of the server. If a 33 MHz PCI card occupies slot 5 and `obdiag` is run, the I2C bus and ALOM might hang. This issue presents itself during server reset or reboot, when either of the following messages might appear as a result of the I2C bus hanging:

- No space left on device
- NOTICE: could not read from ICS951601

If you encounter either of these messages, you must disconnect power to the server in order to reset the I2C bus and ALOM.

I²C Bus Locks

Resetting the ALOM using `scadm resetsc` can lock up the I2C bus. If that happens then you will get the following error messages during early ALOM boot sequence:

```
ALOM - Could not get all data from I2C - min post, no power on
ALOM - Could not get diag-switch from I2C
ALOM - Could not get power-state from I2C
ALOM - Could not get previous state from I2C
```

Because of this, no ALOM POST will be performed. However, when ALOM finishes initializing, the I2C bus will be unlocked and normal operation will resume.

SunVTS Test Probe Failure

The SunVTS test probe may fail with segmentation violation when a DVD-RW disk is inserted in the DVD drive.

If this happens, use the DVD-ROM media for testing the DVD drive.

RamTest Lock Option May Cause System Panic

The memory locking option may cause a system panic due to the use of `libkvm` to tune some kernel variables. This is not a standard interface to tune the kernel.

You should instead modify `/etc/system`

openprom Driver Panics

There is a problem in the `openprom` driver causing the system to panic if the `kmem_debug` flag is set.

To prevent this problem occurring do not set the `kmem_debug` flag.

Hard Disk Drive Service LED

As the Sun Fire V250 server does not feature a service LED on its hard disk drives, ignore the status reported by ALOM for that component.

Operation Mode Switch

The operation mode switch is represented in PICL by a devices table beneath a location called `SYSCTRL`. As this location is never occupied by a FRU, Sun Management Center shows the 'Occupancy' of the `SYSCTRL` location as 'Empty'.

System Hangs With The Message 'automountd not running, retrying'

Attempting to switch the run-level from single user mode to multi-user mode by using the `init` command results in the system hanging with the message:

```
automountd not running, retrying
```

To avoid this problem, use the `reboot` command instead of the `init` command.

Local Disk Is Not Always Mapped To `c0t0d0s0` For Each New OS Installation

The logical device names may appear differently on your system, depending on the number and type of add-on disk controllers installed.

DVD Drive Power Management

If you attempt to access a DVD drive within a fraction of a second of its power being removed, the drive is not restarted. An indication of this condition is the message:

```
WARNING: Drive not ready before set_features
```

Wrong DIMM Shown As Failed By prtdiag

If POST disables a pair of DIMMs as a result of its testing, `prtdiag` might show only one DIMM as *disabled*, and the other as *unused*. To see the true state of both DIMMS use the `.asr` command at the `ok` prompt. Type:

```
ok .asr
```

SCC IDPROM Corrupted During XIR Testing

The `reset -x` command is intended only to debug systems that are otherwise unresponsive. A system whose operation has been interrupted by `reset -x` will be in a non-deterministic state and not all features can be guaranteed to work correctly.

In particular, attempting to set configuration variables could cause corruption of the non-volatile storage that holds the values of the variables. When the machine is in this state, issue only essential debugging commands .

ASR Fails To Disable A PCI Slot On OBDDiag Failure

This issue applies to PCI cards with

- a PCI bridge above the card functions
- built-in selftest

If the selftest fails, the ASR framework does not correctly identify the PCI slot that has failed, so cannot mark it as failed.

The card can be disabled manually by typing the following before booting:

```
ok asr-disable
```

Misleading error msg displayed when updating OBP with Operation Mode Switch Set To Locked

The OBP flash-update procedure might fail with the message:

```
Check the CPU board jumper J?????
```

Note – This message is given before any action has been taken, so the machine is still safe to use.

This situation can be caused by having the operation mode switch set to Locked. If it is, set the operation mode switch to Normal and try the flash update procedure again.

Incorrect fan failure message

If SunVTS executes the `env6test` with the fan sub-test enabled, there is a possibility of the following error being incorrectly reported:

```
ENCLOSURE_FAN @ FT<x>.F<x>.RS has FAULTED.
```

If you see this error message and you are running Sun VTS with the fan subtest enabled, then you can ignore the message.

Automatic System Recovery (ASR)

Note – Automatic System Recovery (ASR) is not the same as Automatic Server Restart, which the Sun Fire V250 server also supports.

Automatic System Recovery (ASR) consists of self-test features and an auto-configuring capability to detect failed hardware components and unconfigure them. By doing this, the server is able to resume operating after certain non-fatal hardware faults or failures have occurred.

If a component is one that is monitored by ASR, and the server is capable of operating without it, the server will automatically reboot if that component should develop a fault or fail.

ASR monitors the following components:

- Memory modules

If a fault is detected during the power-on sequence, the faulty component is disabled. If the system remains capable of functioning, the boot sequence continues.

If a fault occurs on a running server, and it is possible for the server to run without the failed component, the server automatically reboots. This prevents a faulty hardware component from keeping the entire system down or causing the system to crash repeatedly.

To support such a degraded boot capability, the OpenBoot firmware uses the 1275 Client Interface (via the device tree) to mark a device as either *failed* or *disabled*, by creating an appropriate status property in the device tree node. The Solaris operating environment will not activate a driver for any subsystem so marked.

As long as a failed component is electrically dormant (not causing random bus errors or signal noise, for example), the system will reboot automatically and resume operation while a service call is made.

Note – ASR is disabled by default.

Auto-Boot Options

The `auto-boot?` setting controls whether or not the firmware automatically boots the operating system after each reset. The default setting is `true`.

The `auto-boot-on-error?` setting controls whether the system will attempt a degraded boot when a subsystem failure is detected. Both the `auto-boot?` and `auto-boot-on-error?` settings must be set to `true` to enable an automatic degraded boot.

- To set the switches, type:

```
ok setenv auto-boot? true
ok setenv auto-boot-on-error? true
```

Note – The default setting for `auto-boot-on-error?` is `false`. Therefore, the system will not attempt a degraded boot unless you change this setting to `true`. In addition, the system will not attempt a degraded boot in response to any fatal non-recoverable error, even if degraded booting is enabled. For examples of fatal non-recoverable errors, see “Error Handling Summary” on page 14.

Error Handling Summary

Error handling during the power-on sequence falls into one of the following three cases:

- If no errors are detected by POST or OpenBoot Diagnostics, the system attempts to boot if `auto-boot?` is `true`.
- If only non-fatal errors are detected by POST or OpenBoot Diagnostics, the system attempts to boot if `auto-boot?` is `true` and `auto-boot-on-error?` is `true`.

Note – If POST or OpenBoot Diagnostics detects a non-fatal error associated with the normal boot device, the OpenBoot firmware automatically unconfigures the failed device and tries the next-in-line boot device, as specified by the `boot-device` configuration variable.

- If a fatal error is detected by POST or OpenBoot Diagnostics, the system will not boot regardless of the settings of `auto-boot?` or `auto-boot-on-error?`. Fatal non-recoverable errors include the following:
 - All CPUs failed
 - All logical memory banks failed
 - Flash RAM cyclical redundancy check (CRC) failure
 - Critical field-replaceable unit (FRU) PROM configuration data failure
 - Critical application-specific integrated circuit (ASIC) failure

Reset Scenarios

Three OpenBoot configuration variables, `diag-switch?`, `obdiag-trigger`, and `post-trigger`, control how the system runs firmware diagnostics in response to system reset events.

The standard system reset protocol bypasses POST and OpenBoot Diagnostics unless `diag-switch?` is set to `true`. The default setting for this variable is `false`. Because ASR relies on firmware diagnostics to detect faulty devices, `diag-switch?` must be set to `true` for ASR to run. For instructions, see “To Enable ASR” on page 15.

To control which reset events, if any, automatically initiate firmware diagnostics, use `obdiag-trigger` and `post-trigger`. For detailed explanations of these variables and their uses, see “Controlling POST Diagnostics” on page 55 and “Controlling OpenBoot Diagnostics Tests” on page 59.

ASR User Commands

You can use the OpenBoot commands `.asr`, `asr-disable`, and `asr-enable` to obtain ASR status information, manually unconfigure system devices, and reconfigure system devices, respectively.

▼ To Enable ASR

1. At the system `ok` prompt, type:

```
ok setenv asr-policy normal
```

2. Type:

```
ok reset-all
```

The system permanently stores the parameter change.

Note – To store parameter changes, you can also power cycle the system using the front panel on/standby button.

▼ To Disable ASR

1. At the system `ok` prompt, type:

```
ok setenv asr-policy service
```

In service mode, ASR flags faulty devices as disabled but still creates an entry in the device tree. The `auto-boot` will be disabled if a fault is detected, but when you manually boot the system to Solaris all devices present in the device tree will be available.

2. Type:

```
ok reset-all
```

The system permanently stores the parameter change.

Note – To store parameter changes, you can also power cycle the system using the front panel on/standby button.

▼ To Obtain ASR Status Information

- At the system ok prompt, type:

```
ok .asr
```

In the `.asr` command output, any devices marked `disabled` have been manually unconfigured using the `asr-disable` command. The `.asr` command also lists devices that have failed firmware diagnostics and have been automatically unconfigured by the OpenBoot ASR feature.

Unconfiguring a Device

Use the OpenBoot firmware command `asr-disable` to unconfigure system devices manually, allowing a degraded boot capability.

This command marks the specified device as *disabled* by creating an appropriate status property in the device tree node. The Solaris operating environment will not activate a driver for any device so marked.

▼ To Unconfigure a Device

1. At the system `ok` prompt, type:

```
ok asr-disable device-identifier
```

where the *device-identifier* is any device from the list given by typing the following at the `ok` prompt:

```
ok asr-list-keys
```

Note – The device identifiers are not case-sensitive; you can type them as uppercase or lowercase characters.

Manually unconfiguring a CPU causes the entire CPU/Memory board to be unconfigured.

You can determine full physical device paths by typing:

```
ok show-devs
```

The `show-devs` command lists the system devices and displays the full path name of each device.

You can display a list of current device aliases by typing:

```
ok devalias
```

You can also create your own device alias for a physical device by typing:

```
ok devalias alias-name physical-device-path
```

where *alias-name* is the alias that you want to assign, and *physical-device-path* is the full physical device path for the device.

Note – If you manually unconfigure a device alias using `asr-disable`, and then assign a different alias to the device, the device remains unconfigured even though the device alias has changed.

2. To cause the parameter change to take effect, type:

```
ok reset-all
```

The system permanently stores the parameter change.

Note – To store parameter changes, you can also power cycle the system using the front panel Power button.

Reconfiguring A Device Manually

You can use the OpenBoot `asr-enable` command to reconfigure any device that you previously unconfigured with `asr-disable`.

▼ To Reconfigure A Device

1. At the system `ok` prompt, type:

```
ok asr-enable device-identifier
```

where the *device-identifier* is one of the following:

- Any full physical device path as reported by the OpenBoot `show-devs` command
- Any valid device alias as reported by the OpenBoot `devalias` command
- Any device identifier from the following table

Note – The device identifiers are not case-sensitive; you can type them as uppercase or lowercase characters.
