Sun Fire™ V125 Server Getting Started Guide

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Contents

Introducing the Sun Fire V125 Server

This *Sun Fire V125 Server Getting Started Guide* provides a basic hardware, firmware and software introduction to the Sun Fire™ V125 server.

This guide also includes links to server resources, instructions for planning installation of the server, information about locating server cable connections, server configuration information, and preinstalled software information.

Server Overview

The Sun Fire V125 server is a RoHS-compliant, UltraSPARC® IIIi based system that is rack mountable. The server comes with the Solaris™ 10 Operating System (OS), the Java™ Enterprise System, and the Advanced Lights Out Manager software preinstalled as a software image on the boot drive.

TABLE 1 summarizes some of the Sun Fire V125 server features.:

TABLE 1 Sun Fire V125 Server Features

Sun Fire V125	Feature
Height	One rack unit
CPU	One 1 GHz UltraSPARC IIIi
Memory	Two 512 megabyte DIMM
Ethernet	Two 10/100/1000BASE-T ports
ALOM	One 10BASE-T port
Serial	One port

TABLE 1 Sun Fire V125 Server Features *(Continued)*

Sun Fire V125	Feature
PCI expansion	One 64 bit 33/66-MHz 3.3 volt full-length slot
USB	Two ports
SCSI	One UltraSCSI LVD port
Hard drive (SCSI)	One 73 gigabyte drive
Power supply	One

For a detailed summary of features, available configurations, and compatible options, go to:

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

For detailed information about this server, go to:

`http://sunsolve.sun.com/`

See the *Sun System Handbook*.

Server Installation Process

This section contains a list of tasks that you must complete during the installation process. Each task includes a reference to the appropriate instructions. Each task must be completed in order.

1. Preparing the site according to the power, clearance, and environmental requirements.

   If you are installing the server into a new Sun™ rack, you must fully prepare the site for the installation. If you are installing the server into an existing rack, you must conduct some site preparation to satisfy the additional power and environmental requirements. See "Site Preparation" on page 3 for specific instructions.

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

   The Sun Fire V125 server ships in several packages. See "Shipping Kit Contents" on page 7 for a list of the shipping kit.

3. Installing the server into the rack.

4. Setting up a console to communicate with the server.

   You can communicate with the Sun Fire server using either a TIP connection from another server or an ASCII terminal connected to the SERIAL MGT port.

   To set up the console, refer to the *Sun Fire V125 Server Installation Guide* for instructions.

5. Powering on the server and configuring the preinstalled software.

   The Solaris 10 OS and the Java Enterprise System is preinstalled on the server. When you power the server on, you will automatically be taken through the Solaris OS configuration procedure. However, you must first go to the preinstalled software site to download and install the latest updates and patches.

   To power on the server and configure the preinstalled software, refer to the *Sun Fire V125 Server Installation Guide* for instructions.

6. Setting the desired OpenBoot™ PROM configuration options.

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

7. Loading additional software from the Solaris OS media kit (optional).

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

Site Preparation

Before you install the Sun Fire server, you must prepare the site. This section includes information and links to information you will need to prepare the site.

Physical Specifications

TABLE 2 shows the physical specifications for the Sun Fire V125 server.

TABLE 2 Physical Specifications

Dimension	Value
Height	43.2 mm (1.7 in.)
Width	425 mm (16.73 in.)
Depth	635 mm (25 in.)
Weight	12.3 kg unpackaged (27.1 lb.)

Environmental Requirements

You can operate and store the Sun Fire V125 system safely in the conditions detailed in TABLE 3.

TABLE 3 Operating and Storage Specifications

Specification	Operating	Storage
Ambient temperature	5° C – 35° C maximum ambient temperature is derated by 2° C per 500 m altitude change above 500 m	-40° C – 65° C
Relative humidity	10% – 90% RH noncondensing, 27° C max wet bulb	up to 93% RH nonconducting, 38° C max wet bulb
Altitude	-400 m up to 3000 m (-1312 ft. – 9843 ft.)	-400 m up to 12000 m (-1312 ft. – 39370 ft.)

Recommended Operating Environment

Your environmental control system must provide intake air for the server that complies with the limits specified in "Environmental Requirements" on page 4.

To avoid overheating, *do not* direct warmed air:

- Towards the front of the cabinet or rack
- Towards the server access panels

Note – When you receive your system, leave it in the environment in which you will install it for 24 hours. This process prevents thermal shock and condensation.

The operating environmental limits in TABLE 3 reflect the limits to which the systems have been tested to meet all functional requirements. Operating computer equipment in extremes of temperature or humidity increases the failure rate of hardware components. To minimize the chance of component failure, use the server within the optimal temperature and humidity ranges.

Ambient Temperature

An ambient temperature range of 21˚C – 23˚C (69.9˚ F – 73.4˚ F) is optimal for system reliability. At 22˚C (71.6˚ F) it is easy to maintain safe relative humidity levels. Operating in this temperature range provides a buffer in the event of the environmental support systems failing.

Ambient Relative Humidity

Ambient relative humidity levels between 45% and 50% are the most suitable for data processing operations to:

- Provide an operating time buffer in the event of environmental control system failure
- Help avoid failures caused by the intermittent interference from static discharges that occur when relative humidity is too low

Electrostatic discharge (ESD) is easily generated and less easily dissipated in areas where the relative humidity is below 35%, and becomes critical when levels drop below 30%.

Airflow Considerations

The Sun Fire V125 server is self-cooling when operated in still air. Follow these guidelines:

- Ensure unobstructed airflow through the chassis. The Sun Fire V125 server uses internal fans that can achieve a total airflow of 30 cfm in normal operating conditions.
- Ensure that inlet air enters at the front of the server and exits from the back.

- Ensure that entilation openings for both the inlet and exhaust of the system should provide a minimum open area of 85 cm^2 (13 in^2) each.
- Allow a minimum of 88.9 mm (3.5 inches) clearance at the front and back of the servers when mounted, unless an unobstructed airflow can be ensured.

Acoustic Noise

TABLE 4 shows the amount of acoustic noise generated by the Sun Fire V125 Server.

TABLE 4 Acoustic Noise

	Operating	Idling
LWAm (1B=10dB)	7.4B	7.2B
LpAm	64.2dBA	62.2dBA

Operating Power Limits and Ranges

The table shows the operating power for the Sun Fire V125 server.

TABLE 5 Operating Power Limits and Ranges for the Sun Fire V125 Server

Description	Sun Fire V125 Server
Operating input voltage range	90 – 264 Volts
Operating frequency range	47 – 63 Hz
Maximum operating current	3.58 Amps @ 90 VAC
Maximum AC input	459 Watts

Calculating Power Consumption

The estimated power consumed in a fully powered server depends on the configuration of the server. For more information on calculating power consumption, go to the following site:

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

Calculating Heat Dissipation

To calculate the heat generated by a server so that you can estimate the heat your cooling system must dissipate, convert the figure for the system's power requirement from Watts to BTU/hr. A general formula for doing this is to multiply the power requirement figure in Watts by 3.412.

Shipping Kit Contents

The server is supplied with the components described in the following list:

- Rackmount kit
- Cat5 RJ-45 cable
- Accessories kit
  - RJ-45 to DB-9 adapter
  - RJ-45 to DB-25 adapter
  - Server documentation

Note – The contents of the shipping kit might vary, depending on any options that you have ordered. Make sure that all the basic parts, as described in the list, are present in the shipping kit. If any component is missing, contact your Sun sales representative.

Power Inlets and I/O Ports

Before you attach and route the cables, become familiar with the location of the power inlets and I/O ports on the back of the servers. FIGURE 1 shows the back panel for the Sun Fire V125 server.

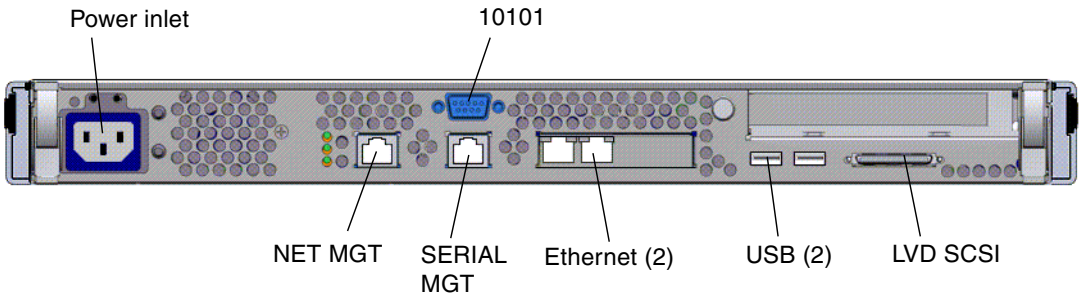

FIGURE 1 Sun Fire V125 Server Back Panel

Power

The Sun Fire V125 server has a single AC inlet on the back of the server. As long as the server is connected to a power source, the server is in Standby power mode. The only way to turn the server fully off is to remove the server from the power source by unplugging the power cable.

Ethernet Ports

The Sun Fire V125 server has two autonegotiating 10/100/1000BASE-T Ethernet system domain ports. All the Ethernet ports use a standard RJ-45 connector, the transfer rates for which are given in TABLE 6.

TABLE 6 Ethernet Connection Transfer Rates

Connection Type	IEEE Terminology	Transfer Rate
Ethernet	10BASE-T	10 Mbit/s
Fast Ethernet	100BASE-TX	100 Mbits/s
Gigabit Ethernet	1000BASE-T	1000 Mbit/s

In addition, each server has one 10BASE-T Ethernet management domain interface, labelled NET MGT. For information on configuring this port for managing the server with ALOM, see the *Sun Advanced Lights Out Management (ALOM) 1.6 Administration Guide*.

Serial Ports

The server has two serial ports, labelled SERIAL MGT and 10101. The SERIAL MGT port accepts an RJ-45 connector. Use this port *only* for server management. The port labeled 10101 accepts a DB-9 connector. Use this port for general-purpose serial data transfer.

The default serial connection settings are listed in TABLE 7.

TABLE 7 Default Serial Connection Settings

Parameter	Setting
Connector	SERIAL MGT or 10101
Rate	9600 baud
Parity	None
Stop bits	1
Data bits	8

If you need to connect to the SERIAL MGT port using either a DB-9 or a DB-25 connector, use an adapter to perform the crossovers. See the *Sun System Handbook* for more information about crossovers.

USB Ports

The server has two USB ports for attaching supported devices.

External SCSI Port

The SCSI port is a mulitmode Ultra160 SCSI interface. To operate at Ultra160 SCSI speeds, the port must be in LVD mode. If a single-ended device is connected to the server, it automatically switches to single-ended mode.

Preinstalled Software

Your Sun Fire V125 server is shipped with the Solaris 10 Operating System (OS) and the Java Enterprise System software. You must configure the preinstalled software as part of the installation process. However, before you begin the configuration process, go to:

http://www.sun.com/servers

This site contains the latest information about the preinstalled software and links to the software updates and patches you must install.

OpenBoot PROM Diagnostics

This product ships with OpenBoot PROM 4.22.17 or a subsequently compatible version of the OpenBoot PROM. OpenBoot PROM diagnostics are enabled by default. This ensures complete diagnostic test coverage on the initial boot and after error reset events. This change results in increased boot time.

To change the system defaults and diagnostic settings after the initial boot, refer to *OpenBoot PROM Enhancements for Diagnostic Operation* at:

http://www.sun.com/documentation

Sun Advanced Lights Out Manager

The Sun Fire V125 server ships with the Sun Advanced Lights Out Manager (ALOM) software installed. The system console is directed to ALOM by default and is configured to show server console information on startup.

ALOM enables you to monitor and control your server over either a serial connection (using the SERIAL MGT port), or Ethernet connection (using the NET MGT port). For information about configuring an Ethernet connection, refer to the *Sun Advanced Lights Outs Manager Software (ALOM) 1.6 Administration Guide*.

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

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

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

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

For more information about ALOM, see the *Sun Advanced Lights Out Management (ALOM) 1.6 Administration Guide*.

Sun Fire V125 Server Documentation

The following table summarizes important Sun Fire V125 server documentation. The documents listed as online are available at:

http://www.sun.com/documentation/

TABLE 8 Sun Fire V125 Server Documentation

Application	Title	Part Number	Format	Location
Getting Started	*Sun Fire V125 Server Getting Started Guide*	819-7423	PDF and HTML	Online
Installation	*Sun Fire V125 Server Installation Guide*	819-7422	PDF and HTML	Online
Administration	*Sun Fire V125 Server Administration Guide*	819-7420	PDF and HTML	Online
Service	*Sun Fire V125 Server Service Manual*	819-7421	PDF and HTML	Online
Safety and Compliance	*Sun Fire V125 Safety and Compliance Manual*	817-7425	PDF and HTML	Online
Late-breaking news	*Sun Fire V125 Server Product Notes*	819-7424	PDF and HTML	Online
OpenBoot PROM	*OpenBoot PROM Enhancements for Diagnostic Operation*	817-6957	PDF	Online
ALOM	*Sun Advanced Lights Out Manager (ALOM) 1.6 Guide*	819-2445	PDF and HTML	Online

Documentation, Support, and Training

Sun Function	URL
Documentation	http://www.sun.com/documentation/
Support	http://www.sun.com/support/
Training	http://www.sun.com/training/

Third-Party Web Sites

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Please include the title and part number of your document with your feedback:

Sun Fire V125 Server Getting Started Guide, part number 819-7423-10.