Sun Blade™ 1500 Getting Started Guide

Sun Microsystems, Inc.
www.sun.com

Part No. 816-7565-11
April 2004, Revision A

Submit comments about this document at: http://www.sun.com/hwdocs/feedback

Copyright 2004 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, California 95054, U.S.A. All rights reserved.

Sun Microsystems, Inc. has intellectual property rights relating to technology embodied in the product that is described in this document. In particular, and without limitation, these intellectual property rights may include one or more of the U.S. patents listed at http://www.sun.com/patents and one or more additional patents or pending patent applications in the U.S. and in other countries.

This document and the product to which it pertains are distributed under licenses restricting their use, copying, distribution, and decompilation. No part of the product or of this document may be reproduced in any form by any means without prior written authorization of Sun and its licensors, if any. Third-party software, including font technology, is copyrighted and licensed from Sun suppliers.

Parts of the product may be derived from Berkeley BSD systems, licensed from the University of California. UNIX is a registered trademark in the U.S. and in other countries, exclusively licensed through X/Open Company, Ltd. Mozilla is a trademark or registered trademark of Netscape Communications Corporation in the United States and other countries

Sun, Sun Microsystems, the Sun logo, Sun Blade, AnswerBook2, docs.sun.com, NetBeans, Power Management, Java, StarOffice, Java 3D, Solstice Disksuite, SunPCI, SunForum, SunSolve, ShowMe, Java Coffee Cup logo, OpenBoot, and Solaris are trademarks or registered trademarks of Sun Microsystems, Inc. in the U.S. and in other countries.

All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. in the U.S. and in other countries. Products bearing SPARC trademarks are based upon an architecture developed by Sun Microsystems, Inc.

The OPEN LOOK and Sun™ Graphical User Interface was developed by Sun Microsystems, Inc. for its users and licensees. Sun acknowledges the pioneering efforts of Xerox in researching and developing the concept of visual or graphical user interfaces for the computer industry. Sun holds a non-exclusive license from Xerox to the Xerox Graphical User Interface, which license also covers Sun's licensees who implement OPEN LOOK GUIs and otherwise comply with Sun's written license agreements.

ENERGY STAR

Sun Microsystems is an ENERGY STAR® partner. Those configurations of this product that bear the ENERGY STAR mark meet or exceed the ENERGY STAR guidelines.

Use, duplication, or disclosure by the U.S. Government is subject to restrictions set forth in the Sun Microsystems, Inc. license agreements and as provided in DFARS 227.7202-1(a) and 227.7202-3(a) (1995), DFARS 252.227-7013(c)(1)(ii) (Oct. 1998), FAR 12.212(a) (1995), FAR 52.227-19, or FAR 52.227-14 (ALT III), as applicable.

DOCUMENTATION IS PROVIDED "AS IS" AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

Copyright 2004 Sun Microsystems, Inc., 4150 Network Circle, Santa Clara, California 95054, Etats-Unis. Tous droits réservés.

Sun Microsystems, Inc. a les droits de propriété intellectuels relatants à la technologie incorporée dans le produit qui est décrit dans ce document. En particulier, et sans la limitation, ces droits de propriété intellectuels peuvent inclure un ou plus des brevets américains énumérés à http://www.sun.com/patents et un ou les brevets plus supplémentaires ou les applications de brevet en attente dans les Etats-Unis et dans les autres pays.

Ce produit ou document est protégé par un copyright et distribué avec des licences qui en restreignent l'utilisation, la copie, la distribution, et la décompilation. Aucune partie de ce produit ou document ne peut être reproduite sous aucune forme, parquelque moyen que ce soit, sans l'autorisation préalable et écrite de Sun et de ses bailleurs de licence, s'il y ena.

Le logiciel détenu par des tiers, et qui comprend la technologie relative aux polices de caractères, est protégé par un copyright et licencié par des fournisseurs de Sun.

Des parties de ce produit pourront être dérivées des systèmes Berkeley BSD licenciés par l'Université de Californie. UNIX est une marque déposée aux Etats-Unis et dans d'autres pays et licenciée exclusivement par X/Open Company, Ltd. Mozilla est une marque de Netscape Communications Corporation aux Etats-Unis et à d'autres pays..

Sun, Sun Microsystems, le logo Sun, Sun Blade, AnswerBook2, docs.sun.com, NetBeans, Power Management, Java, StarOffice, Java 3D, Solstice Disksuite, SunPCI, SunForum, SunSolve, ShowMe, le logo Java Coffee Cup, OpenBoot, et Solaris sont des marques de fabrique ou des marques déposées de Sun Microsystems, Inc. aux Etats-Unis et dans d'autres pays.

Toutes les marques SPARC sont utilisées sous licence et sont des marques de fabrique ou des marques déposées de SPARC International, Inc. aux Etats-Unis et dans d'autres pays. Les produits protant les marques SPARC sont basés sur une architecture développée par Sun Microsystems, Inc.

L'interface d'utilisation graphique OPEN LOOK et Sun™ a été développée par Sun Microsystems, Inc. pour ses utilisateurs et licenciés. Sun reconnaît les efforts de pionniers de Xerox pour la recherche et le développment du concept des interfaces d'utilisation visuelle ou graphique pour l'industrie de l'informatique. Sun détient une license non exclusive do Xerox sur l'interface d'utilisation graphique Xerox, cette licence couvrant également les licenciées de Sun qui mettent en place l'interface d 'utilisation graphique OPEN LOOK et qui en outre se conforment aux licences écrites de Sun.

LA DOCUMENTATION EST FOURNIE "EN L'ÉTAT" ET TOUTES AUTRES CONDITIONS, DECLARATIONS ET GARANTIES EXPRESSES OU TACITES SONT FORMELLEMENT EXCLUES, DANS LA MESURE AUTORISEE PAR LA LOI APPLICABLE, Y COMPRIS NOTAMMENT TOUTE GARANTIE IMPLICITE RELATIVE A LA QUALITE MARCHANDE, A L'APTITUDE A UNE UTILISATION PARTICULIERE OU A L'ABSENCE DE CONTREFAÇON.

Please Recycle

Adobe PostScript

Contents

Preface xi

1. Setting Up the Sun Blade 1500 Workstation 1

Safety and Compliance Information 1

Planning the Installation Process 1

Unpacking the Workstation 3

Front Panel Overview 4

Back Panel Overview 5

Cabling the Workstation 6

Powering On the Workstation 7

Powering Off the Workstation 8

2. Setting Up the Preinstalled Solaris Operating Environment Software 9

Planning the Installation Process for Solaris 9

Setting Up Your Operating Environment 10

Sun Install Check 12

Sun Blade 1500 Software Enhancement Script 13

Power Management Features 13

Putting the Workstation Into Low-Power Mode 14

Activating the Workstation From Low-Power Mode 15

3. Getting Started With the Additional Preinstalled Software 17

Solaris Documentation 18

Sun Blade 1500 Hardware Documentation 18

Documentation on the Hard Drive 18

Documentation on CD 19

Mozilla 19

Getting Started With Mozilla 19

Solstice DiskSuite and Volume Manager 20

Getting Started With Solstice DiskSuite on Solaris 8 20

Getting Started With Volume Manager on Solaris 9 20

Common Desktop Environment (CDE) 21

GNOME Desktop Environment 21

Getting Started With GNOME 21

Apache Server 22

Getting Started With Apache Server 22

Adobe Acrobat Reader 22

Getting Started With Adobe Acrobat Reader 22

Sun ONE Grid Engine 23

StarOffice 23

Getting Started With StarOffice 24

Sun ONE Studio 25

Getting Started With Sun ONE Studio 25

Perl 25

Getting Started With Perl 25

Development Tools for the Java Platform 26

JMStudio 27

Getting Started With JMStudio 27

SunForum 27

Getting Started With SunForum 28

Restoring Preinstalled Software 28

Restoring the Solaris Preinstalled Software 28

Restoring the Sun Blade 1500 Documentation 29

Reinstalling Other Software 29

Reinstalling StarOffice Software 29

Reinstalling Mozilla 30

Backing Up the Preinstalled Image to Another Hard Drive 30

Hard Drive Mirroring 31

Solaris 8 31

Solaris 9 31

4. Troubleshooting and Technical Support 33

Troubleshooting the Sun Blade 1500 Workstation 33

How to Get Technical Assistance 38

Figures

FIGURE 1-1 Process for Installing the Sun Blade 1500 Workstation 2

FIGURE 1-2 Unpacking the Workstation 3

FIGURE 1-3 Front Panel Overview 4

FIGURE 1-4 Back Panel Overview 5

FIGURE 1-5 Cabling Illustration 6

FIGURE 2-1 Installation Process Flow Diagram 10

FIGURE 2-2 Sun USB Type-6 Keyboard Sleep Key and Power Off Selection Menu 15

Tables

TABLE 1-1 Powering Off the Workstation 8

TABLE 2-1 Information for Setting Up the Solaris Desktop Operating Environment 11

TABLE 2-2 Power-Indicator LED Status 14

TABLE 4-1 Troubleshooting Procedures 33

TABLE 4-2 Sun Web Sites and Telephone Numbers 38

Preface

The *Sun Blade 1500 Getting Started Guide* (816-7565-11) describes how to set up the operating environment and use the preinstalled software applications. This book is written for users who have experience installing workstation hardware and software.

Note – The *Sun Blade 1500 Getting Started Guide* is translated into French, German, Italian, Spanish, Swedish, Japanese, Korean, Simplified Chinese, and Traditional Chinese. The translated documentation is located on the *Sun Blade 1500 Hardware Documentation CD* (705-1078). The *Sun Blade 1500 Getting Started Guide* and its translations are also located at:
`http://www.sun.com/documentation/`

How This Book is Organized

The document is organized into chapters as follows:

Chapter 1 describes unpacking, cabling, and powering on the workstation.

Chapter 2 describes setup and use of the preinstalled Solaris™ operating environment.

Chapter 3 describes how to start the workstation's preinstalled software applications.

Chapter 4 describes workstation troubleshooting.

Using UNIX Commands

The *Sun Blade 1500 Getting Started Guide* might not contain all of the information needed to perform basic UNIX® commands and procedures such as shutting down the system, booting the system, and configuring devices.

See one or more of the following for additional UNIX commands:

- *Solaris Handbook for Sun Peripherals*
- *Sun Blade 1500 Service, Diagnostics, and Troubleshooting Manual*, 816-7564
- Other Software documentation that you received with your system
- Solaris™ operating environment documentation, which is at

  `http://docs.sun.com`

Typographic Conventions

Typeface*	Meaning	Examples
`AaBbCc123`	The names of commands, files, and directories; on-screen computer output	Edit your `.login` file. Use `ls -a` to list all files. `% You have mail.`
`AaBbCc123`	What you type, when contrasted with on-screen computer output	`% su` `Password:`
AaBbCc123	Book titles, new words or terms, words to be emphasized. Replace command-line variables with real names or values.	Read Chapter 6 in the *User's Guide*. These are called *class* options. You *must* be superuser to do replace command-line variables. To delete a file, type `rm` *filename*.

*The settings on your browser might differ from these settings.

Shell Prompts

Shell	Prompt
C shell	*machine-name*%
C shell superuser	*machine-name*#
Bourne shell and Korn shell	$
Bourne shell and Korn shell superuser	#

Related Documentation

Application	Title	Part Number
System setup	*Sun Blade 1500 Start Here*	816-7561
Basic troubleshooting	*Sun Blade 1500 Troubleshooting Card*	816-7563
Detailed service, diagnostics, and troubleshooting	*Sun Blade 1500 Service, Diagnostics, and Troubleshooting Manual*	816-7564
Changes to hardware, software and documentation	*Sun Blade 1500 Product Notes*	816-7569
Safety and compliance	*Sun Blade 1500 Safety and Compliance Guide* *Important Safety Information for Sun Hardware Systems*	816-7566 816-7190
Solaris operating environment	*Solaris 8 HW 2/04 Sun Hardware Platform Guide* *Solaris Handbook for Sun Peripherals* *Solaris 9 4/04 Release Notes Supplement for Sun Hardware* *Solaris 9 4/04 Sun Hardware Platform Guide*	(Subject to change)
Graphics accelerators	*Sun XVR-100 Graphics Accelerator Installation Guide* *Sun XVR-500 Graphics Accelerator Installation Guide* *Sun XVR-600 Graphics Accelerator Installation and User's Guide*	816-7560 816-3028 817-2195
Co-processor board	*SunPCi™ III 3.2 User's Guide*	817-3630

Accessing Sun Documentation Online

You can view, print, or purchase a broad selection of Sun documentation, including localized versions, at:

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

Third-Party Web Sites

Sun is not responsible for the availability of third-party web sites mentioned in this document. Sun does not endorse and is not responsible or liable for any content, advertising, products, or other materials that are available on or through such sites or resources. Sun will not be responsible or liable for any actual or alleged damage or loss caused by or in connection with the use of or reliance on any such content, goods, or services that are available on or through such sites or resources.

Contacting Sun Technical Support

If you have technical questions about this product that are not answered in this document, go to:

http://www.sun.com/service/contacting/

Sun Welcomes Your Comments

Sun is interested in improving its documentation and welcomes your comments and suggestions. You can submit your comments by going to:

http://www.sun.com/hwdocs/feedback/

Please include the title and part number of your document with your feedback. The part number of this *Sun Blade 1500 Getting Started Guide* is 816-7565-11.

CHAPTER 1

Setting Up the Sun Blade 1500 Workstation

This chapter includes information about the following topics:

- Safety and Compliance Information
- Planning the Installation Process
- Unpacking the Workstation
- Cabling the Workstation
- Powering On the Workstation
- Powering Off the Workstation

Safety and Compliance Information

Read the document, *Important Safety Information for Sun Hardware Systems*, 816-7190. The document is included with the Sun Blade 1500 workstation.

More safety and compliance information can be found in the *Sun Blade 1500 Safety and Compliance Guide*, 816-7566. This guide is available online at:

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

Planning the Installation Process

Use the following flowchart as a process tool to assist you with installation of the Sun Blade 1500 workstation.

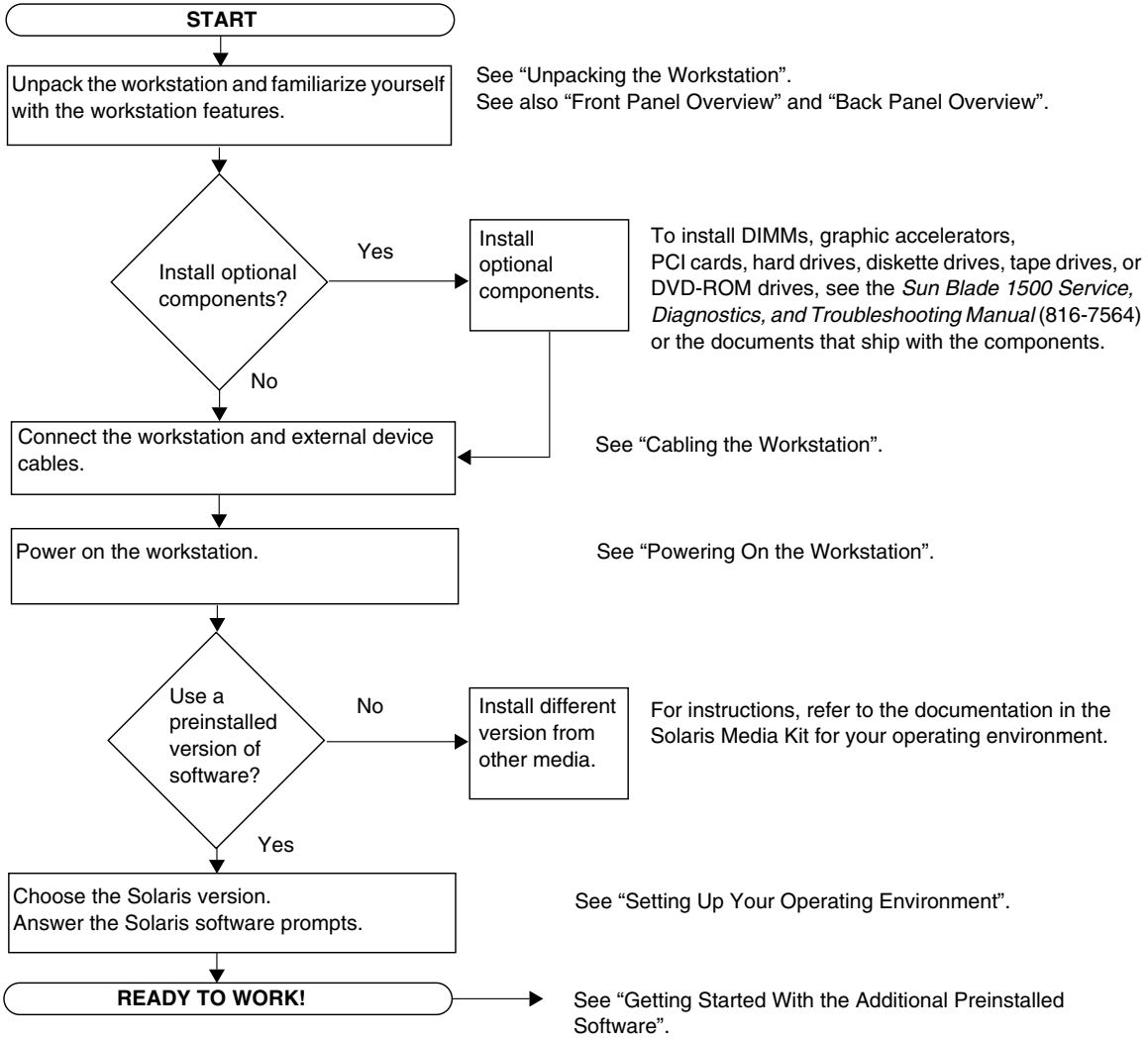

FIGURE 1-1 Process for Installing the Sun Blade 1500 Workstation

---

Note – Solaris 8 HW 2/04 or Solaris 9 4/04 and several additional software applications are preinstalled on your hard drive. See “Setting Up the Preinstalled Solaris Operating Environment Software” on page 9.

Unpacking the Workstation

Carefully unpack all workstation components from the packing cartons. Your workstation configuration might not contain all the components shown in FIGURE 1-2.

FIGURE 1-2 Unpacking the Workstation

Front Panel Overview

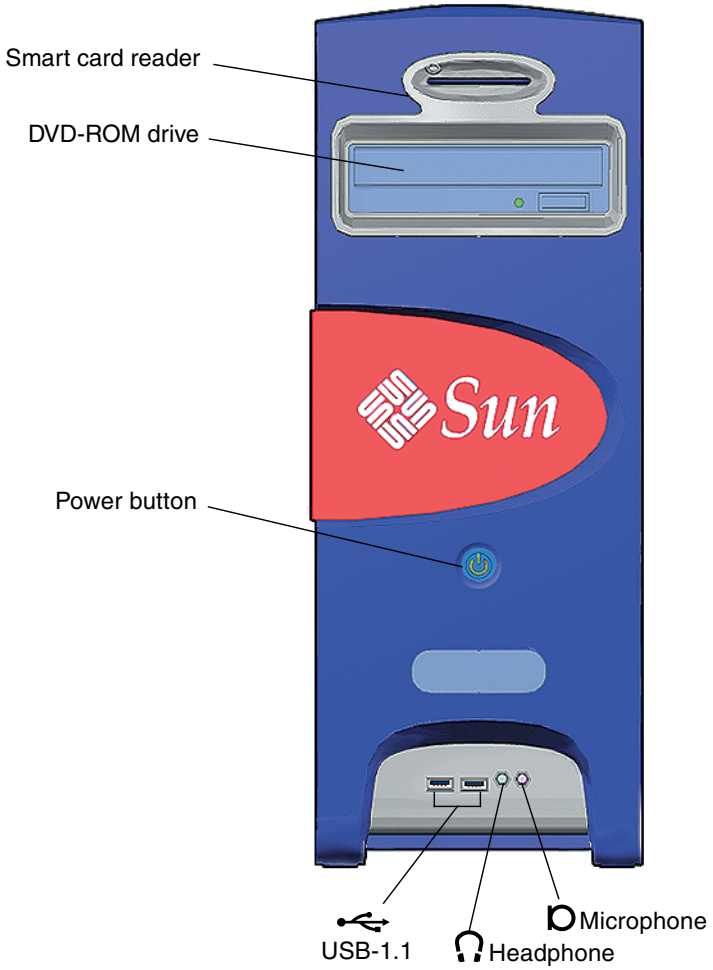

FIGURE 1-3 Front Panel Overview

Back Panel Overview

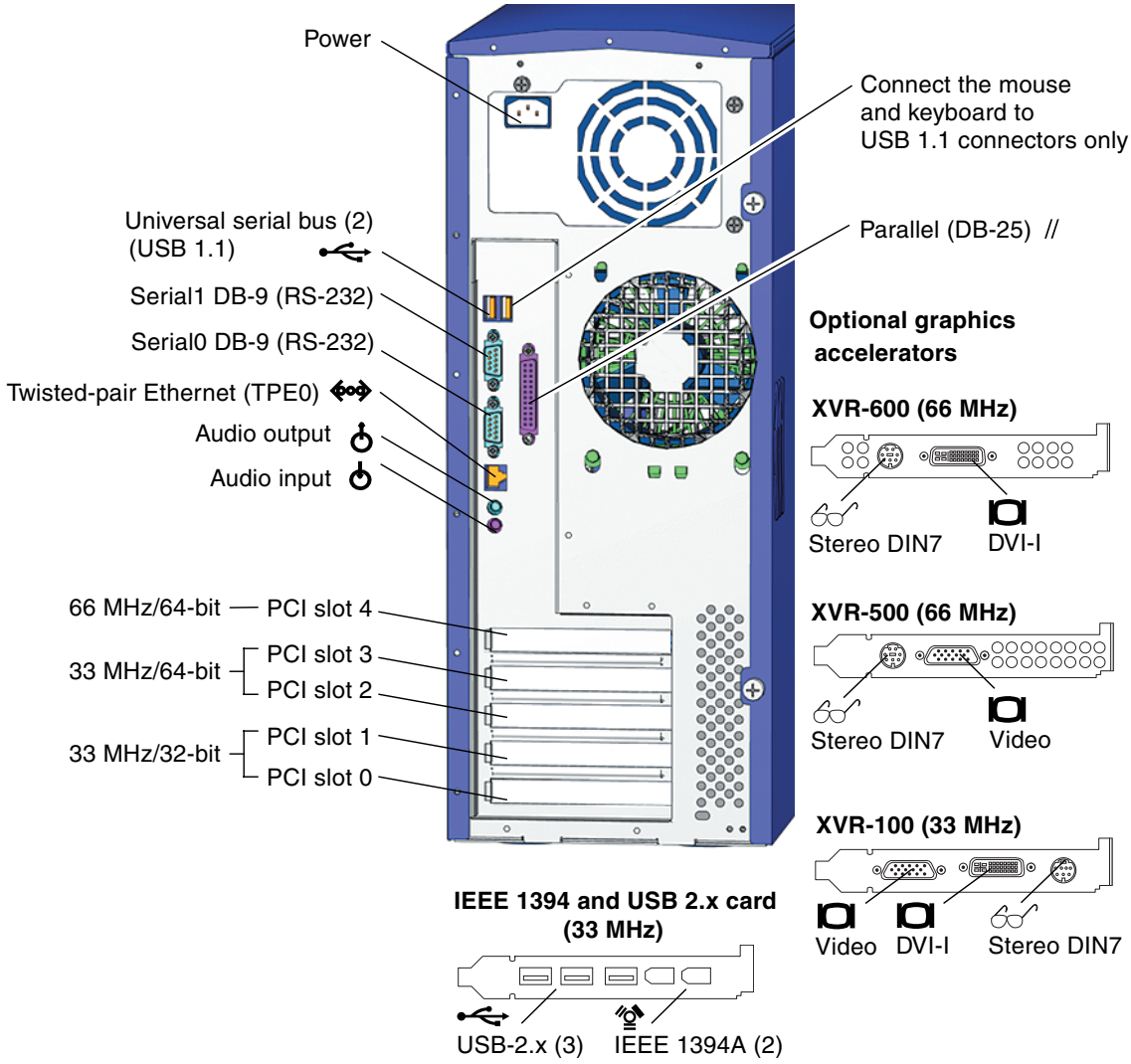

FIGURE 1-4 Back Panel Overview

Cabling the Workstation

FIGURE 1-5 illustrates the cable connections for the workstation.

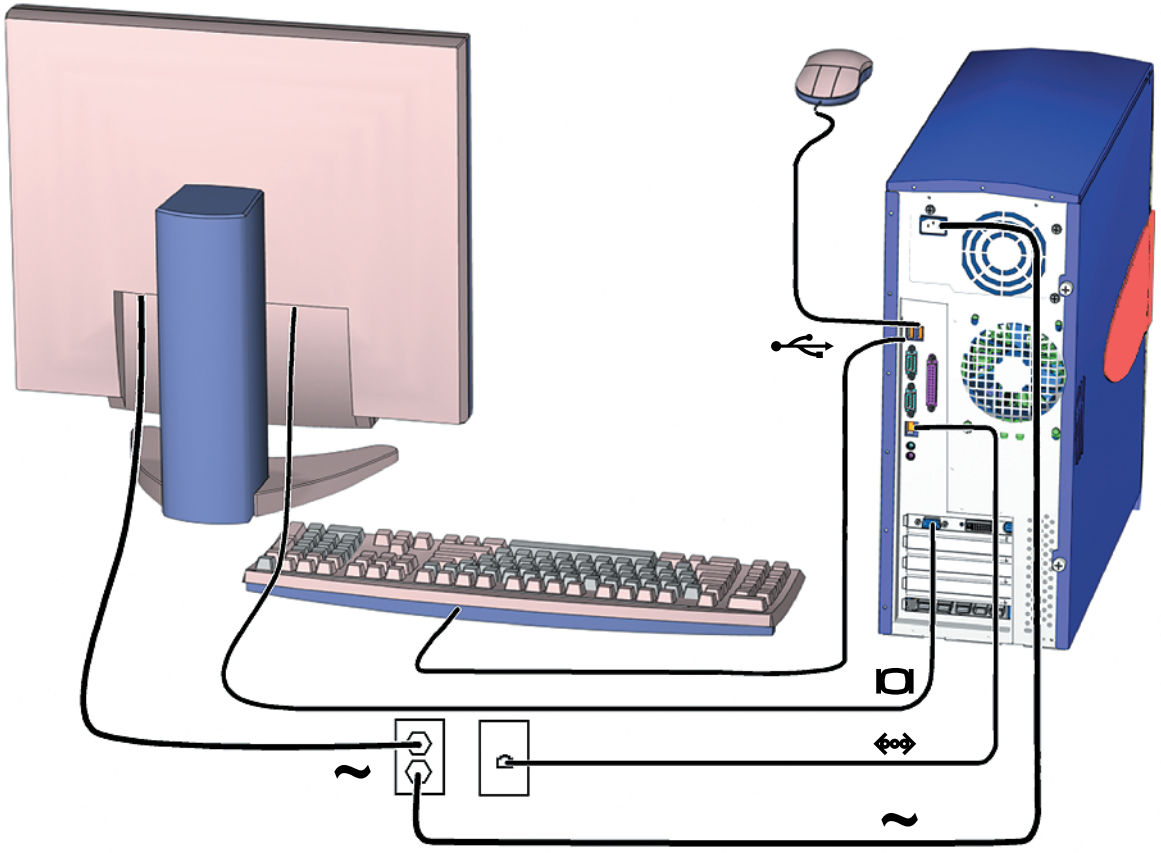

FIGURE 1-5 Cabling Illustration

Connect the workstation and external devices in this order (FIGURE 1-5):

1. **Connect the workstation power cord to a grounded electrical outlet.**
2. **Connect the keyboard and mouse to the on-board USB 1.1 connectors (the connectors near the fan (FIGURE 1-4).**

Note – The on-board connectors are USB 1.1. You *must* connect the mouse and keyboard to the USB 1.1 connectors, not the USB 2.x connectors. The IEEE 1394 and USB 2.x card connectors are more appropriate for devices that require faster data transfer.

3. **Connect the monitor power cord to a grounded electrical outlet.**
4. **Connect the monitor cable to the video connector on the filler panel of the graphics accelerator.**

Note – Your Sun Blade 1500 system might contain a different graphics accelerator than the one shown in FIGURE 1-5. Read the *Sun Blade 1500 Product Notes*, 816-7569, to determine if your graphics accelerator must be installed in a specific PCI slot.

Note – Monitors that have 13W3 connectors require a Sun 13W3-to-VGA adapter cable for proper connection. This adapter cable (Sun store part no. X471A) can be obtained from your Sun sales representative or the Sun store at:
`http://store.sun.com/`
To find the cable, search for both the part number and cable description.

5. **Connect the Ethernet cable to the TPE connector.**
6. **Connect any additional external devices to the workstation's other connectors.**

Note – The IEEE 1394 and USB 2.x card also has two internal USB 2.x connectors and one internal IEEE 1394 connector. These three connectors are only accessible from inside the workstation chassis.

Powering On the Workstation

Tip – If you are installing optional internal components such as additional memory DIMMs, PCI cards, optical drives, or hard drives, see the *Sun Blade 1500 Service, Diagnostics, and Troubleshooting Manual* (816-7564), or the installation document that was provided with the components, before you power on the workstation. If you are not installing optional components, you are ready to power on the workstation.

Tip – ShowMe™ How video animations are located on the *Sun Blade 1500 Hardware Documentation CD* (705-1078). These video animations demonstrate installation and removal procedures for DIMMs, PCI cards, hard drives, and digital media drives.

1. **Turn on power to the monitor and to all external devices.**
2. **Press and release the workstation Power button on the front panel** (FIGURE 1-3)**.**
3. **After several seconds, verify that the power-indicator LED on the Power button lights.**

   The power-indicator LED on the Power button lights after the workstation begins the internal booting process (FIGURE 1-3).

   If you experience problems during power on, see "Troubleshooting the Sun Blade 1500 Workstation" on page 33.

Tip – After you power on the workstation for the first time, you are ready to set up the preinstalled Solaris 8 HW 2/04 or Solaris 9 4/04 operating environment software. Go to "Planning the Installation Process for Solaris" on page 9.

Powering Off the Workstation

TABLE 1-1 describes two methods for powering off the workstation.

TABLE 1-1 Powering Off the Workstation

Method	Instructions
Method 1	1. Close and save any open applications. 2. Press the Sleep key (or press and release the Power button). 3. Select Shutdown.
Method 2	1. Close and save any open applications. 2. As superuser, type: **`shutdown`**

Note – After powering off the workstation, always wait at least four seconds before powering on the workstation again.

CHAPTER 2

Setting Up the Preinstalled Solaris Operating Environment Software

This chapter includes information about the following topics:

- Planning the Installation Process for Solaris
- Setting Up Your Operating Environment
- Power Management Features

Planning the Installation Process for Solaris

Your workstation has a dual-boot image. During the system set-up you can choose either the Solaris 8 or Solaris 9 operating environment. You can only choose one Solaris operating environment. After you choose an operating environment, the system automatically erases the other Solaris operating environment.

Note – The Solaris operating environment version that you select requires no licensing fee. If you install a different version of Solaris software, you may be required to pay a license fee for the new software version.
For more information, refer to the following web site:
`http://wwws.sun.com/software/solaris/licensing/index.html`

The exact configuration that has been preinstalled is as follows:

- Hard drive root partition—14.0 Gbytes
- Hard drive swap partition—0.5 Gbytes
- Hard drive space partition—the remainder of the primary hard drive

---

Note – The Sun Blade 1500 workstation requires Solaris 8 HW 2/04 or Solaris 9 4/04, or a subsequent compatible version of Solaris software.

Use the following flow chart to assist with setting up your operating environment.

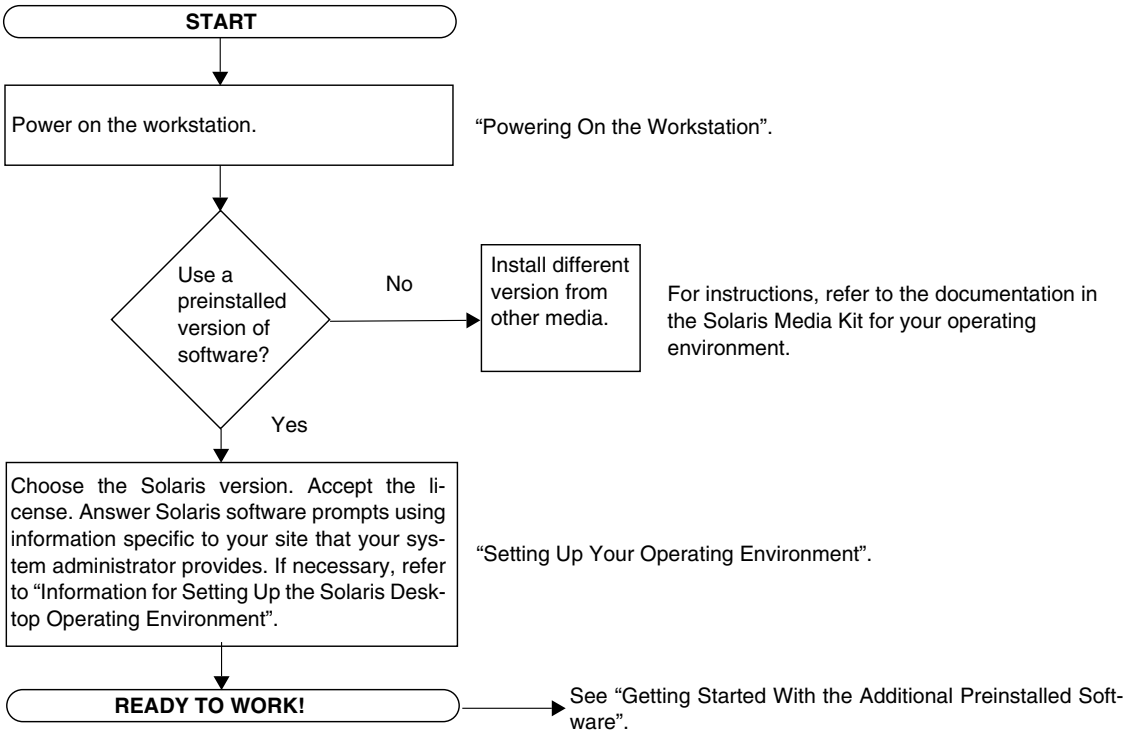

FIGURE 2-1 Installation Process Flow Diagram

Setting Up Your Operating Environment

1. **Power on the workstation.**

   See "Powering On the Workstation" on page 7.

2. **Verify the version of software installed. Alternatively, you can install a newer version of the Solaris operating environment software.**

Note – Some Solaris versions might not work on the Sun Blade 1500 system. Verify Solaris operating environment compatibility before you begin the installation.

---

3. **Answer the Solaris operating environment setup prompts by following the on-screen instructions.**

Tip – To help answer the setup prompts, your system administrator (SA) should provide you with information specific to your site before you begin. Some of the information might be available on your network—check with your SA. Use a copy of TABLE 2-1 to write down the information that you might need to collect before setting up the Solaris operating environment.

TABLE 2-1 Information for Setting Up the Solaris Desktop Operating Environment

Setup Window	Explanation and Notes	Your Information
Select Language and Locale	Native language and locale to use for the workstation.	
Host Name	A name to give the workstation.	
Network Connectivity (IP Address)	Network or stand-alone workstation protocols. A system administrator might be required to complete this section. **Note:** Depending on how you answer and what information is provided by your network, you might also be prompted for the workstation's IP address.	
Security Settings	Security settings and protocols.	
Name Service	Name service to use: NIS+, NIS, DNS, LDAP, or None. **Note:** This window is not displayed if the workstation is not connected to a network.	
Domain Name	NIS or NIS+ domain for this workstation. **Note:** This window is not displayed if the workstation is not using the NIS or NIS+ service.	

TABLE 2-1 Information for Setting Up the Solaris Desktop Operating Environment *(Continued)*

Setup Window	Explanation and Notes	Your Information
Name Server/ Subnet/ Subnet Mask	Name server (specify the server or have the workstation find one on a local subnet). **Note:** This window is not displayed if the workstation is not connected to a network. **Note:** Depending on how you answer and what information is provided by your network, you might also be prompted for: - The subnet for the workstation - The subnet mask for the workstation	
Time Zone	Local time zone (select by geographic region, GMT offset, or a time zone file).	
Date and Time	Current date and time (accept the default or enter the current date and time).	
Root Password	Root (superuser) password for the workstation.	
Proxy Server Configuration	Workstation connection: direct to the Internet or through a proxy server.	

4. **When you reach the setup window titled End, click the Confirm button.**

   The workstation displays the login window, in which you can enter your user name and password to log in and begin using the workstation.

Tip – A number of other useful software packages have also been preinstalled on your workstation. For information on those applications, see "Getting Started With the Additional Preinstalled Software" on page 17.

---

5. **Review the Solaris release notes for any late-breaking information about your preinstalled software.**

   The *Solaris 8 HW 2/04 Release Notes* and the *Solaris 9 4/04 Release Notes* can be found at:
   `http://docs.sun.com`

Sun Install Check

The Sun Install Check tool verifies and provides information about workstation software and hardware configuration. Before you can run the Sun Install Check tool, you need to download it from the following web site:

http://wwws.sun.com/software/installcheck/index.html

For more information, see Chapter 5 of the *Sun Blade 1500 Service, Diagnostics, and Troubleshooting Manual*, 816-7564.

Sun Blade 1500 Software Enhancement Script

To ensure that your system software has the latest improvements, install and run the software enhancement script. The script is available at the following web site:

http://sunsolve.sun.com/handbook_pub/Systems/SunBlade1500/SunBlade1500.html

To download the software enhancement script, select the link: Sun Blade 1500 Software Enhancement Script

For instructions on using the software enhancement script, see Chapter 5 of the *Sun Blade 1500 Service, Diagnostics, and Troubleshooting Manual*, 816-7564.

Power Management Features

Sun Microsystems is an ENERGY STAR® partner. Those configurations of this product that bear the ENERGY STAR mark, meet or exceed the ENERGY STAR guidelines. For information about which configurations are Energy Star compliant, select the Sun Blade 1500 link on the `http://www.sun.com/` web site.

The Power Management™ software that is integrated with your Solaris operating environment improves the energy efficiency of your workstation. Internal subsystems enter a low-power mode after a specified period of inactivity (the default period is 30 minutes). Power is returned to subsystems on an as-needed basis.

While in low-power mode, your workstation retains network-awareness, such that it responds to tasks directed to it. Subsystems then again enter low-power mode after the specified period of inactivity. For details and information on how to change the power management settings on your workstation, refer to the "Solaris User Collection" document, *Using Power Management* (see "Solaris Documentation" on page 18).

The power-indicator LED in the center of the front panel Power button has three states that indicate the power status of the workstation, as described in TABLE 2-2.

TABLE 2-2 Power-Indicator LED Status

LED Activity	Meaning
LED off	System power is off or the workstation is booting up.
LED blinking	All internal subsystems are in the lowest possible power consumption mode for this workstation. **Note:** Some hardware components and software drivers do not support the workstation's lowest possible power consumption mode. When this occurs, the power indicator LED does not blink.
LED on	Full power is on in one or more of the internal subsystems and the system self-test has completed successfully.

Putting the Workstation Into Low-Power Mode

After a predetermined period of inactivity, the workstation might automatically enter the low-power mode. You can manually put the workstation into low-power mode.

1. **Press the Sun Type 6 USB keyboard Sleep key (FIGURE 2-2).**

   The Power Off Selection dialog box is displayed.

2. **Select LowPower from the Power Off Selection dialog box.**

   The workstation completes any in-process activities, then enters low-power mode after a short time-out period.

Note – Use the keyboard Sleep key to place the workstation in low-power mode or to power off the workstation. See FIGURE 2-2.

Note – The Sleep key cannot be used to power on the workstation. Press the Power button on the front panel to power on the workstation.

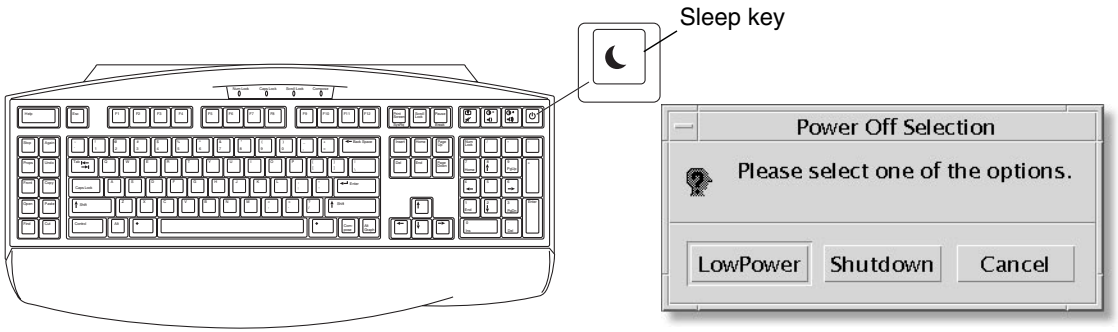

FIGURE 2-2 Sun USB Type-6 Keyboard Sleep Key and Power Off Selection Menu

Activating the Workstation From Low-Power Mode

To activate a workstation that is in low-power mode, move the mouse or press any key on your keyboard. The monitor display, if blank, refreshes and the CPU and hard drives return to full power as needed.

Note – By default, the internal disks of the hard drive are stopped when the workstation is in low-power mode. The internal disk drive can take as long as 30 seconds to restart and reach the correct speed. To change hard drive power management settings, refer to the preinstalled "Solaris User Collection" document, *Using Power Management* (see "Solaris Documentation" on page 18).

CHAPTER 3

Getting Started With the Additional Preinstalled Software

This chapter includes information about the following topics:

Desktop System Software and Related Documents

- Solaris Documentation
- Sun Blade 1500 Hardware Documentation
- Mozilla
- Solstice DiskSuite and Volume Manager
- Common Desktop Environment (CDE)
- GNOME Desktop Environment
- Apache Server
- Restoring Preinstalled Software
- Backing Up the Preinstalled Image to Another Hard Drive

Collaboration and Interoperability Software

- Adobe Acrobat Reader

Productivity Software

- Sun ONE Grid Engine
- StarOffice

Developer Tools

- Sun ONE Studio
- Perl
- Development Tools for the Java Platform

Multimedia Software

- JMStudio
- SunForum

Restoring Preinstalled Software and Backing Up the Preinstalled Image
- Restoring Preinstalled Software
- Backing Up the Preinstalled Image to Another Hard Drive

Solaris Documentation

For Solaris™ operating environment documentation, refer to the following web site:

http://docs.sun.com

For Solaris on Sun Hardware documentation, refer to the following web site:

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

Select the links:

Hardware Product Categories→Software→Solaris on Sun Hardware

Sun Blade 1500 Hardware Documentation

Documentation on the Hard Drive

The *Sun Blade 1500 Service, Diagnostics, and Troubleshooting Manual*, with linked multimedia service procedures, is installed on the hard drive in PDF format.

To view the service manual in PDF format, type the following at the command line:

/opt/SunBlade1500_Service_Manual/PDF/816-7564.pdf

Note – To view the documents, you might first need to install Adobe Acrobat reader. See "Getting Started With Adobe Acrobat Reader" on page 22.

Documentation on CD

Documentation for the Sun Blade 1500 is included on the Sun Blade 1500 Hardware Documentation CD that shipped with your system. The document, *How to Use This CD* (817-0584), contains a list of CD contents as well as instructions for using the *Sun Blade 1500 Hardware Documentation CD* (705-1078).

Note – ShowMe™ How video animations are located on the *Sun Blade 1500 Hardware Documentation CD* (705-1078). These video animations demonstrate installation and removal procedures for DIMMs, PCI cards, hard drives, and DVD-ROM drives.

Mozilla

Mozilla is the world's premiere open source browser for the Internet. For more information about Mozilla, refer to the following web site:

http://www.mozilla.org/

Getting Started With Mozilla

To start Mozilla in a terminal window type:

```
/usr/dt/bin/mozilla
```

Solstice DiskSuite and Volume Manager

Solstice DiskSuite™ and Volume Manager are disk and storage management applications for the Solaris operating environment that enable high data availability, improved data reliability, enhanced system and I/O performance, and simple large system and disk administration.

Getting Started With Solstice DiskSuite on Solaris 8

To start Solstice DiskSuite type: **/usr/sbin/metatool**

For additional information on starting Solstice DiskSuite, see the *Solstice DiskSuite User's Guide* at:

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

Select the links:

Hardware Product Categories→Software→Solaris on Sun Hardware

Getting Started With Volume Manager on Solaris 9

For additional information on starting Solaris Volume Manager, see the *Solaris Volume Manager Administration Guide* at:

http://docs.sun.com

Common Desktop Environment (CDE)

CDE is the default desktop environment for both Solaris 8 and Solaris 9 operating environments on the Sun Blade 1500 workstation.

Find more information about CDE within the Solaris User's Collections at:

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

- Solaris Operating Environment→Solaris 8→Solaris 8 User Collection
- Solaris Operating Environment→Solaris 9→Solaris 9 User Collection

GNOME Desktop Environment

GNOME is a freely distributable desktop environment that provides a graphical user interface. For more information on GNOME, go to this web site:

http://www.gnome.org/

Getting Started With GNOME

The default desktop environment for the Sun Blade 1500 workstation is CDE. Follow the instructions below to use GNOME.

1. **Log out of your CDE session.**
2. **At the login window, select the Options menu.**
3. **Select the Sessions submenu.**
4. **Select GNOME from the menu.**
5. **Log in to your system.**

Apache Server

Apache Server is an open-source web server. Apache Server is a secure, efficient, and expandable server that provides services that comply with the current HTTP standards.

Getting Started With Apache Server

To activate the web server on your workstation, follow the steps below:

1. **Become superuser (root) by typing** `su` **and your superuser password.**
2. **Copy the example configuration file** `httpd.conf-example` **to** `httpd.conf` **by typing the following:**

   ```
   cp /etc/apache/httpd.conf-example /etc/apache/httpd.conf
   ```

3. **Edit the configuration file to customize it for your workstation.**
   For example, you should set the HTML directory for your workstation.

   For more information, refer to the online *Apache User's Guide* by clicking the Documentation link on the following web site:

   `http://www.apache.org/httpd.html`

4. **Start the web server daemon by typing the following:**

   ```
   /etc/rc3.d/S50apache start
   ```

Adobe Acrobat Reader

Adobe Acrobat Reader is a free and freely distributable software program that allows you to view and print Portable Document Format (PDF) files. PDF is a file type that allows you to view and print a file exactly as the author designed it. You do not need the original application or fonts that the author used to create the file.

Getting Started With Adobe Acrobat Reader

To install Adobe Acrobat Reader, type:

/opt/spool/acroread/INSTALL

To start Adobe Acrobat Reader after installation, type:

/path/bin/acroread

Where *path* is the directory where you installed Adobe Acrobat Reader.

(The default installation path is /opt/Acrobat5.)

Sun ONE Grid Engine

Sun ONE Grid Engine is preinstalled on your hard drive. Before setting up Sun ONE Grid Engine, you should read the Sun ONE Grid Engine documents at the following web site:

http://www.sun.com/products-n-solutions/hardware/docs/Software/S1GEEE/index.html

For more information refer to the following web site:

http://wwws.sun.com/software/gridware/ds-gridware/index.html

StarOffice

StarOffice™ is the optimum in office productivity software from Sun Microsystems. StarOffice is a powerful and comprehensive office suite that integrates word processing, spreadsheets, graphics, HTML, and database components into a single workspace.

Key features include:

- Robust and scalable integrated office productivity tools that include word processing, spreadsheets, graphics, web publishing, and database applications.
- A cross-platform, open-world approach—StarOffice runs natively on Solaris software (SPARC® and Intel processors), Microsoft Windows NT, Windows 98, Windows ME, Windows 2000, and Linux.
- Interoperability with Microsoft Office files, allowing seamless and transparent migration and exchange of word processing, spreadsheet, and presentation files.
- A fully integrated work environment that utilizes a single workspace, enabling easy access, management, editing, and sharing of information.

- Built-in web publishing that enables easy HTML web page creation, design, and publishing.

Product components:

- StarOffice Writer—a universal word processing application for creating business letters, extensive text documents, professional layouts, and HTML creation
- StarOffice Calc—a sophisticated application for performing advanced spreadsheet functions, such as analyzing figures, creating lists, and viewing data
- StarOffice Impress—a tool for creating effective, eye-catching presentations
- StarOffice Draw—a vector-oriented drawing module for creating 3D illustrations
- StarOffice Base—a powerful data management tool that enables data to be moved between documents

Getting Started With StarOffice

To start the preinstalled StarOffice software, click the StarOffice icon on the CDE desktop task bar.

To start StarOffice, type:

`/opt/staroffice7/`*`language`***`/program/soffice`**

Where *language* is `english`, `french`, `german`, `italian`, `japanese`, `korean`, `spanish`, `swedish`, `simplified_chinese`, or `traditional_chinese`.

For details about using StarOffice software, refer to the application's built-in help system.

Note – Support for StarOffice is not included with your Sun Blade 1500 workstation. StarOffice software support services must be contracted separately. For the latest information on StarOffice support services, see the following web sites:
`http://wwws.sun.com/software/star/staroffice/index.html`
`http://wwws.sun.com/software/star/starsuite/`

Sun ONE Studio

Sun ONE Studio, Community Edition is an Integrated Development Environment (IDE) for Java™ technology developers. Based on the NetBeans™ Tools Platform, Sun ONE Studio software provides the latest support for Java and industry standards in the development of enterprise class applications and web services.

Getting Started With Sun ONE Studio

To install Sun ONE Studio, type:

/opt/spool/sun-one-studio/ffj_ce_solsparc.bin

For more information, refer to the following web site:

http://www.sun.com/software/sundev/jde/index.html

Perl

Perl is a programming (scripting) language available as open-source software. Perl's process, file, and text manipulation facilities make it particularly well-suited for tasks involving quick prototyping, workstation utilities, or software tools.

Getting Started With Perl

To start Perl, type:

```
/usr/bin/perl
```

For information about using Perl, refer to the man pages for the application by typing:

man perl

Development Tools for the Java Platform

The following Sun development tools for the Java platform are preinstalled on your workstation.

Note – If you need to restore the Java products, you can download the latest versions by selecting links from the following web site:
http://java.sun.com/products/

- Java 2 Runtime Environment and Software Development Kit is installed at `/usr/java/`. For more information, refer to the following web site:

  http://java.sun.com/products/j2se/

- Java 3D™ API is available in the Java 2 SDK. For more information, refer to the documentation links from the following web site:

  http://java.sun.com/products/java-media/3D/

- Java Plug-In is a plug-in for the Netscape browser that provides complete support for the standard Java runtime software. For more information, refer to the following web site:

  http://java.sun.com/products/plugin/

- Java Media Framework is installed at `/opt/JMF`. For more information, refer to the following web site:

  http://java.sun.com/products/java-media/jmf/

  To install the Java Media Framework, type:
  `cd /opt ; /opt/spool/jmf/install`

- The Java Communications API can be used to write platform-independent communications applications for technologies such as voice mail, fax, and smart cards. For more information, refer to the following web site:

  http://java.sun.com/products/javacomm/

JMStudio

JMStudio is a stand-alone Java application that uses the JMF 2.0 API to play, capture, transcode, and write media data. JMStudio also uses the JMF RTP APIs to receive and transmit media streams across the network.

JMStudio is included with the Java Media Framework, a development package. (See "Development Tools for the Java Platform" on page 26.)

For more information on Java Media Framework, refer to the following web site:

For more information on JMStudio, refer to the following web site:

`http://java.sun.com/products/java-media/jmf/2.1.1/jmstudio/jmstudio.html`

Getting Started With JMStudio

To use JMStudio, you must first install Java Media Framework. (See "Development Tools for the Java Platform" on page 26.)

To start JMStudio, type: **`/opt/JMF2.1.1/bin/jmstudio`**

Note – ShowMe How video animations are located on the *Sun Blade 1500 Hardware Documentation CD* (705-1078). These video animations demonstrate installation and removal procedures for DIMMs, PCI cards, hard drives, and DVD-ROM drives. You can use JMStudio to play these animations.

SunForum

SunForum™ enables you to collaborate with colleagues while working in a heterogeneous environment of Sun workstations, PCs, and Apple computers. Using SunForum, you can choose to interact through any of the following industry standard H.323 features over your TCP/IP network:

- Video and audio conferencing between two or more people.
- Shared native and non-native applications that enable PC applications to run on a Solaris desktop, and vice-versa, providing the ability to transfer control of the applications between participants.

- A shared whiteboard, chat window, clipboard, or file.

Getting Started With SunForum

To start SunForum, type: **/opt/SUNWdat/bin/sunforum**

For more information about SunForum, or to download the latest version, refer to the following web site:

http://www.sun.com/desktop/products/software/sunforum/

Restoring Preinstalled Software

Your workstation comes preconfigured with the Solaris operating environment and other preinstalled software. However, if you replace your hard drive for any reason, the replacement drive does not come preconfigured with the Solaris operating environment or the other preinstalled software.

You should make and keep a full backup of the operating environment, which can be used to restore your system if it is ever needed. Instructions for backing up your operating environment are included in the preinstalled *Solaris System Administration Guide*.

You can also restore some of the software that is preinstalled on your disk from the CD-ROMs included in the appropriate version of the Solaris Media Kit. The Solaris Media Kit contains some of the same software that is preinstalled on your workstation. To reinstall some software, you may need to download the software from the web sites provided throughout this document. Some software product companies, such as Netscape, offer different versions of software on their respective web sites.

Restoring the Solaris Preinstalled Software

Note – You must use Solaris 8 HW 2/04 or Solaris 9 4/04 or subsequent compatible versions on the Sun Blade 1500 workstation.

1. **Get the backup media, the Solaris Media Kit.**

   You might already have the Solaris Media Kit if you ordered it with your workstation. If you did not order the kit with your system, contact your Sun sales representative and ask to order the Solaris Media Kit for your language and Solaris version. For more information, refer to the following web site:

   http://wwws.sun.com/software/solaris/binaries/get.html

2. **Follow the installation instructions in the *Start Here* document that comes with the kit.**

   You can install the Solaris operating environment and as much of the additional software as you want.

   More patch information is available at this web site. You can also download patches from this web site:

   http://sunsolve.sun.com/

   The *Sun Blade 1500 Product Notes* might also contain patch and software version information. To obtain the latest *Sun Blade 1500 Product Notes*, refer to the following web site:

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

   Select the links: Additional Hardware Documentation→Desktop & Workstation→ Sun Blade Workstations→Sun Blade 1500.

Restoring the Sun Blade 1500 Documentation

- **To restore the workstation hardware documentation, reinstall it from the *Sun Blade 1500 Hardware Documentation CD* (705-1078) that is included with your workstation.**

  Use the instructions in the document, *How to Use This CD* (817-0584).

Reinstalling Other Software

If you must reinstall other software packages, be sure that you have the latest software version. For more information on the latest software versions, refer to the web sites listed throughout this guide.

Reinstalling StarOffice Software

You can download the Community Edition of StarOffice for free from:

http://Openoffice.org/

To obtain the full-featured StarOffice product, contact your StarOffice business development representative or authorized Sun sales agent to order the Enterprise Edition of StarOffice.

You can also order the latest version of a full product media kit that includes user documentation and the software on CD-ROM from the following web sites:

http://wwws.sun.com/software/star/staroffice/get/index.html

http://wwws.sun.com/software/star/starsuite/get/index.html

Reinstalling Mozilla

For more information on reinstalling Mozilla, refer to the following web site:

http://wwws.sun.com/software/download/

Select the link:

Top 10 Software Downloads

Backing Up the Preinstalled Image to Another Hard Drive

Information about hard drive backups can be found in the *Solaris System Administration Guide.* To obtain this guide, refer to the following web site:

http://docs.sun.com

Select the links:

- All Solaris Versions→Solaris 8→Solaris 8 System Administrator Collection
- Solaris 9→System Administrator Collection

Hard Drive Mirroring

Solaris 8

Refer to the *Solstice DiskSuite User's Guide* for your Solaris version. The guide describes many different methods for managing hard drives.

For additional information on Solstice DiskSuite, see the *Solstice DiskSuite User's Guide* at:

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

Select the links:

Solaris Operating Environment→Software→Storage

Solaris 9

For additional information on starting Solaris Volume Manager, see the *Solaris Volume Manager Administration Guide* at:

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

Select the links:

Solaris Operating Environment→Solaris 9 4/04→Solaris 9 4/04 System Administrator Collection→Solaris Volume Manager Administration Guide

CHAPTER 4

Troubleshooting and Technical Support

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

This chapter includes information about the following topics:

- Troubleshooting the Sun Blade 1500 Workstation
- How to Get Technical Assistance

Troubleshooting the Sun Blade 1500 Workstation

If you experience problems while setting up your workstation, refer to the troubleshooting information in TABLE 4-1.

TABLE 4-1 Troubleshooting Procedures

Symptom	Troubleshooting
Workstation powers on, but the monitor does not.	1. Is the Power button for the monitor turned on? 2. Is the monitor power cord connected to a wall outlet? 3. Does the wall outlet have power? Test by plugging in another device.
System stops booting after the `ok` prompt is displayed.	At the `ok` prompt type: **`boot`** If the system does not boot, contact your system administrator or a Sun Service Support Center.

TABLE 4-1 Troubleshooting Procedures *(Continued)*

Symptom	Troubleshooting
CD or DVD does not eject from the media tray when you press the Eject button.	**User-Level Procedures** 1. Move the mouse or press any key on the keyboard. The drive might be in low-power mode. 2. Attempt to eject the CD using the Eject button on the media drive. 3. In a terminal window type: **`eject cdrom`** 4. If Step 3 does not work, verify that the CD is not mounted. In a terminal window, type: **`df | grep cdrom`** If the CD is mounted, text similar to this example will be displayed: `/cdrom/wzi-2230 (/vol/dev/dsk/c0t2d0/wzi-2230): 0 blocks 0 files` 5. Unmount the CD by typing: **`umount`** *and the command output shown in parentheses above.* In the example above, the mount point is `wzi-2230` and you would type: **`umount /vol/dev/dsk/c0t2d0/wzi-2230`** 6. Type the command: **`eject cdrom`** **Alternate Procedure for Media CDs** 1. Right-click the mouse and select Workspace Menu→Folders→Open CDROM. A File Manager window should open. 2. Select File→Eject. 3. If the CD does not eject, use a terminal window to exit the CD directory by typing: **`cd`** 4. Try again to eject the CD from the File Manager window. If you need further assistance, contact your system administrator or a Sun Service Support Center. **System Administrator Emergency Procedures for All CDs** As superuser, stop the `vold` daemon: 1. Open a terminal window. 2. As superuser, type: **`/etc/init.d/volmgt stop`** 3. Press the Eject button on the media player. **Note:** To mount another CD, you need to start `vold` by typing: **`/etc/init.d/volmgt start`** **If the CD has not ejected using Step 3 above, complete these steps:** 1. Bring the system to the `ok` prompt. 2. Press the Eject button. If the CD still does not eject using the two processes above, there might be a cable problem or other hardware problem. Call a Sun Service Support Center for further assistance.

TABLE 4-1 Troubleshooting Procedures *(Continued)*

Symptom	Troubleshooting
No video displays on the monitor screen.	1. Is the monitor cable attached to the graphics accelerator? 2. Does the monitor work when connected to another system? 3. If you have another monitor, does it work when connected to the original system? 4. Verify that OpenBoot™ PROM defaults are set properly: • Press and hold the Power button for 4 seconds to power off the system. • Wait 4 seconds and power on the system. • As soon as the Power button blinks, quickly press the Power button twice. The `ok` prompt is displayed and the system enters a safe NVRAM mode. • Verify these OpenBoot PROM parameters: `output-device` is set to `screen` and `input-device` is set to `keyboard`. • If the `ok` prompt does not display, or if changing the `output-device` setting does not help, contact a Sun Service Support Center.
Workstation does not power on when the front panel Power button is pressed.	Keep notes on the following situations in case you need to call service: 1. Is the Power button LED illuminated on the front of the system? (Ensure that the power cord is connected to the system and to a grounded power receptacle.) 2. Does the wall outlet have power? Test by plugging in another device. 3. Does the system beep when the system is powered on? (Ensure that the keyboard is plugged in.) 4. Test with another keyboard that you know is functional. Does the system beep when you connect the keyboard and power on the system? 5. Does the monitor sync within 5 minutes after power on? (The green LED on the monitor stops flashing and remains illuminated.) **Note:** If the monitor syncs but does not display an `ok` prompt or a login window, the system might not be passing POST. Call a Sun Service Support Center. If the system passes POST and displays the `ok` prompt but does not boot Solaris, type: **`boot`**
Keyboard or mouse does not respond to actions.	1. Verify that the mouse and keyboard cables are connected to the on-board *USB 1.1 connectors* on the workstation. (Do not connect the mouse and keyboard to the USB connectors on the IEEE 1394 and USB 2.x card.) 2. Verify that the workstation is powered on and the front Power button LED is illuminated.
Workstation appears to be in low-power mode, but the Power button LED does not blink.	The power-indicator LED only blinks when all workstation components are in low-power mode. A tape drive might be connected to your workstation. Because tape drives do not enter low-power mode, the power-indicator LED does not blink.

TABLE 4-1 Troubleshooting Procedures *(Continued)*

Symptom	Troubleshooting
Hung application. Application won't respond.	**Procedure 1: Using the Host Workstation** 1. From the CDE toolbar, select Tools→Process. 2. In the Process Manager window, select Find Process. 3. Select the process that is hung. The name of the application or process is in the Command column. 4. From the Process Manager menu, select Process→Kill Process. **Note:** You may be able to log in from another workstation and use these same GUI tools to save and close, or kill applications. **Procedure 2: Using a Terminal Window From Your Own Workstation** 1. To determine the ID number of the hung process, type: **`ps -ef | grep`** *process name* **Note:** First kill the last application you used when the system hung and, if necessary, kill the next most recent applications that you used. 2. To stop the process, type: **`kill -9`** *process ID* **Procedure 3: Using Remote Login or Telnet** 1. From another workstation, use a terminal window and type either: **`rlogin`** *hostname* or type: **`telnet`** *hostname* 2. Type your login ID and password. 3. From the terminal window, type: **`ps -ef | grep`** *process name* 4. Start killing processes. Type the name of the last application you were using when the system froze. Type: **`kill -9`** *process ID* After killing the processes for the last-used application, look at your system to see if it is usable. If not, continue to kill processes until the system is usable or until you can shut it down and restart it. **CAUTION:** Be sure to log off from the remote system. Another user might be able to access your system if you do not exit the terminal window. 5. On the second workstation, type **`exit`** and close the terminal window.

TABLE 4-1 Troubleshooting Procedures *(Continued)*

Symptom	Troubleshooting

During the boot procedure, the system displays a network error message.	Use this procedure if the system displays these error messages:
	`Warning: timed out waiting for NIS to come up`
	`:Timeout waiting for ARP/RARP packet`
	1. From a remote system, ping the system with this command: **`ping`** *hostname*
	2. Verify with your system administrator that the network is operational.
	3. Is the Ethernet cable connected between the workstation and the wall outlet or router?
	4. Try connecting another Ethernet cable. Does the new cable work?
	5. If cable changes do not help, bring the system to the `ok` prompt and verify the OpenBoot PROM settings. Most systems should be set to `diag-switch? = false` and `boot-device` set to `disk net`. For more information on OpenBoot PROM settings, see the *Sun Blade 1500 Service, Diagnostics, and Troubleshooting Manual*, 816-7564, or contact a Sun Service Support Center.

Hung or frozen workstation: No response from mouse or keyboard or any application.	1. Try to access your system from a different workstation on the network. 2. From a terminal window type: **`ping`** *hostname* 3. If no response, remotely log in from another system using `telnet` or `rlogin`, and ping the system again. 4. Attempt to kill processes until the system responds. (See the procedures for "Hung Application" in this table.) **If the above procedures do not work:** **Caution:** Only experienced system administrators should use a "Stop" command. Using any "Stop" command might cause loss of core dumps, which makes it difficult to diagnose system problems. 1. Press Stop-A. If the system responds, the system displays the `ok` prompt. 2. Try to force a core file dump. At the `ok` prompt, type this command: **`sync`** **Note:** The default location for a core file deposit is: /var/crash/*hostname* 3. The Sun Service Support Center might request the core file for root cause analysis. **If the above procedures do not work:** 1. Press the Power button to power off the system. 2. Wait 20 to 30 seconds and power on the system. **Note:** When you power on the system again, you might need to run `fsck` to repair damaged links. If the system still does not function properly, contact Sun Service Support.
For more troubleshooting information see the *Sun Blade 1500 Service, Diagnostics, and Troubleshooting Manual* (816-7564).	

How to Get Technical Assistance

TABLE 4-2 Sun Web Sites and Telephone Numbers

Sun Blade 1500 Workstation Documents and Support Resources	URL or Telephone Number
PDF files for all the current Sun Blade 1500 Documents. Key documents include: *Sun Blade 1500 Service, Diagnostics, and Troubleshooting Manual*, 816-7564 *Sun Blade 1500 Getting Started Guide*, 816-7565 *Sun Blade 1500 Product Notes*, 816-7569	http://www.sun.com/documentation/ Select the links: Desktops & Workstations→Sun Blade Workstations. Select the Sun Blade 1500 link.
Find Solaris and other software documents here. This is also an alternative web site for some Sun Blade 1500 workstation documents. This web site has full search capabilities.	http://docs.sun.com/
Find Solaris on Sun Hardware documentation here.	http://www.sun.com/documentation/ Select the links: Hardware Product Categories→Software→Solaris on Sun Hardware.
Warranty and Contract Support contacts. Links to other service tools.	http://www.sun.com/service/online/
Discussion and Troubleshooting Forums.	http://supportforum.sun.com/
Support, Diagnostic Tools, Alerts, for all Sun products.	http://www.sun.com/bigadmin/
SunSolve™: Contains links to software patches. Lists some system specifications, troubleshooting and maintenance information, and other tools.	http://www.sunsolve.sun.com/handbook_pub/
Warranties for every Sun product.	http://www.sun.com/service/support/warranty/
Sun Service Support Phone Numbers.	1-800-872-4786 (1-800-USA-4Sun) Select Option 1
This web site lists international telephone numbers for Sun Service Support.	http://www.sun.com/service/contacting/solution.html