Sun Ultra™ 40 Workstation Setup Guide

Sun Microsystems, Inc.
www.sun.com

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CHAPTER 1

System Setup

This chapter includes information about the following topics:

- "Safety and Compliance Information" on page 1
- "Planning the Installation Process" on page 2
- "Cabling the Workstation" on page 6
- "Powering On the Workstation" on page 7
- "Setting Up the Software" on page 8
- "Enabling the Secondary PCI-E Graphics Card" on page 13

Safety and Compliance Information

Refer to the following documents for safety information regarding the Sun Ultra 40 Workstation:

- *Important Safety Information for Sun Hardware Systems*, 816-7190 (included with the workstation kit).
- *Sun Ultra 40 Workstation Safety and Compliance Guide*, 819-3955 (available on the Sun Ultra 40 Workstation documentation web site. See "Sun Ultra 40 Workstation Documentation" on page 20).

Planning the Installation Process

Use the following flowchart as a process tool to assist you with installation of the Sun Ultra 40 Workstation.

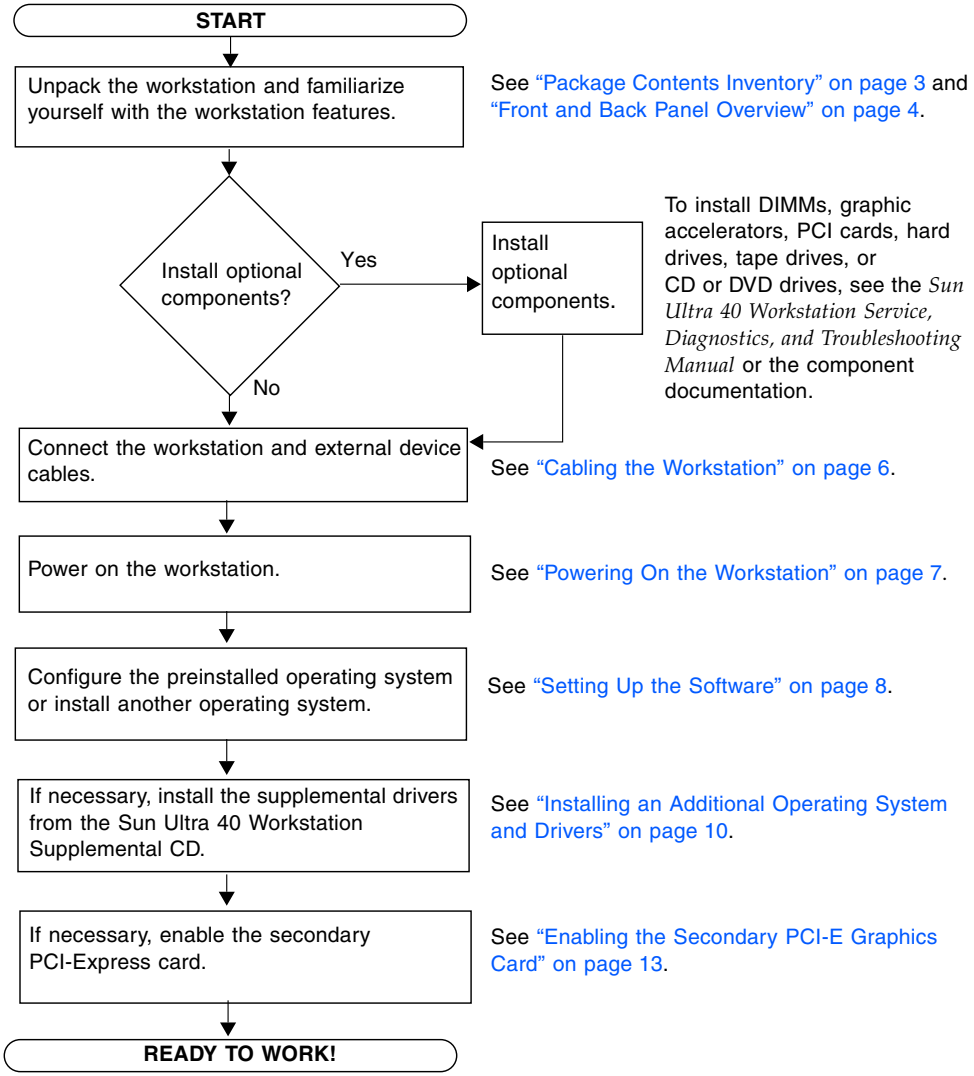

FIGURE 1-1 Process for Setting Up the Sun Ultra 40 Workstation

Package Contents Inventory

Carefully unpack all workstation components from the packing cartons. The following items should be packaged with the Sun Ultra 40 Workstation:

Item Type	Item
Hardware	• DVI video adapter • DMS59 cable (if an NVS285 graphics card is installed) • SLI connector (if workstation has dual video cards with SLI support)
Documentation	• *Sun Ultra 40 Workstation Setup Guide* • *Sun Ultra 40 Workstation Release Notes* • *Where to Find Sun Ultra 40 Workstation Documentation* • Additional license and safety documentation
Media	• Sun Ultra 40 Workstation Supplemental CD (drivers and diagnostics) • DVD media kit containing the following software: Sun™ Studio 11, Sun Java™ Studio Creator Update 8, Sun Java™ Studio Enterprise Update 8
Additional hardware	Type 7 keyboard, mouse and power cord (in separate country kits)

Note – The Sun Ultra 40 Workstation is packaged with the stand in place, as shown in the following figure. This stand must be positioned as shown when the system is upright.

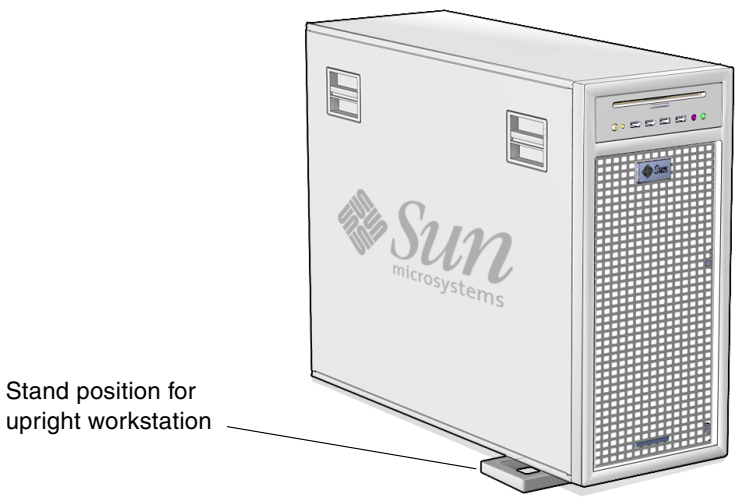

FIGURE 1-2 Sun Ultra 40 Workstation in Upright Position

Front and Back Panel Overview

FIGURE 1-3 and TABLE 1-1 show the front panel of the Sun Ultra 40 Workstation.

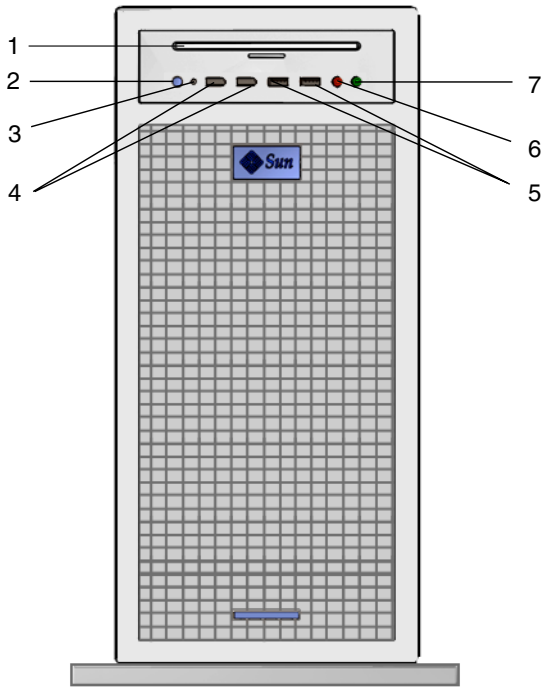

FIGURE 1-3 Front Panel of Sun Ultra 40 Workstation

TABLE 1-1 Front Panel

Label	Button/LED/Port
1	DVD drive
2	Power button
3	Platform power LED
4	1394 ports (2)
5	USB ports (2)
6	Microphone-in jack
7	Headphone-out jack

FIGURE 1-4 and TABLE 1-2 show the back panel of the Sun Ultra 40 Workstation.

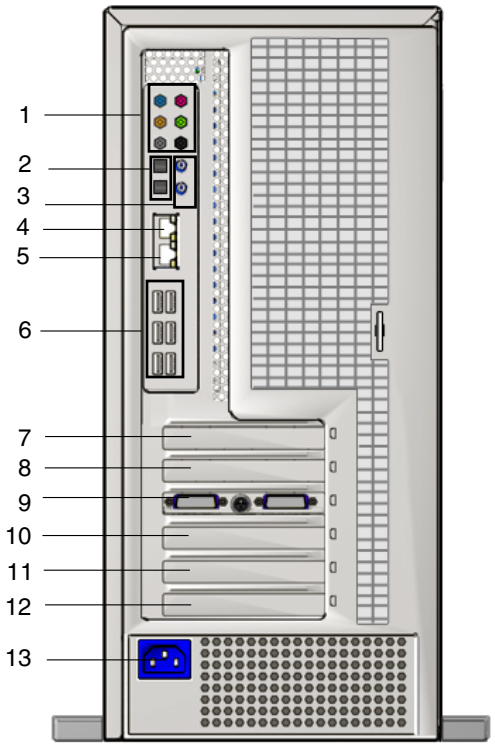

FIGURE 1-4 Sun Ultra 40 Workstation Back Panel

TABLE 1-2 Back Panel

Label	Connector/Slot	Label	Connector/Slot
1	Audio connectors (6) top left to bottom right: Blue: line in; Pink: microphone-in; Orange: center/LFE; Lime: line-out; Gray: side surround out; Black: back surround out	8	PCI-Express x4 slot (PCI-E 2)
2	SPDIF optical (out top, in, bottom)	9	Primary PCI-Express x16 graphics slot (PCI-E 1)
3	SPDIF coaxial (out top, in, bottom)	10	PCI 33 MHz/32-bit (PCI 1)
4	Secondary Ethernet connector (NIC1)	11	PCI 33 MHz/32-bit (fits 66 MHz/64-bit card) (PCI 0)
5	Primary Ethernet connector (NIC0)	12	PCI-Express x4 slot (PCI-E 0)
6	USB connectors (6)	13	Power connector
7	Secondary PCI-Express x16 graphics slot (PCI-E 3)		

Cabling the Workstation

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

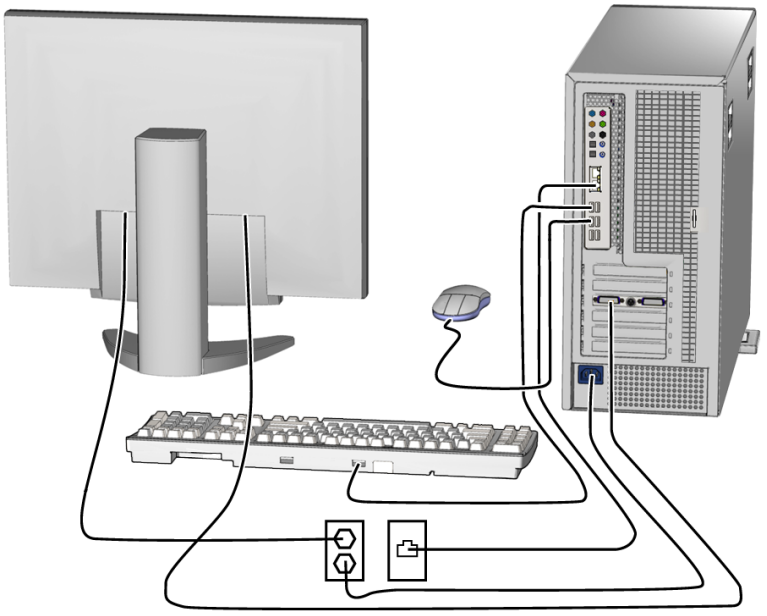

FIGURE 1-5 Cable Connections

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

1. **Connect the workstation power cord to a grounded electrical outlet.**
2. **Connect the keyboard and mouse to the USB connectors on the back panel.**
3. **Connect the monitor cable to a graphics card video connector installed in a PCI-Express graphics slot.**

Note – You might need to use the DVI adapter included with the workstation to connect the graphics card to the monitor. If your workstation has a NVS285 graphics card installed, a DMS59 cable will be packaged with the workstation.

---

4. **Connect the Ethernet cable to one of the Ethernet connector on the Sun Ultra 40 Workstation, and connect the other end of the cable to an Ethernet RJ-45 jack.**

Powering On the Workstation

Tip – If you are installing optional internal components, such as additional memory DIMMs, PCI cards, optical drives, or hard drives, install those components before you power on the workstation. If you are not installing optional components, you are ready to power on the workstation.

1. **Turn on power to the monitor and to all external devices.**
2. **Press and release the workstation Power button on the front panel.**
   See FIGURE 1-6 **(1).**
3. **After several seconds, verify that the platform power LED next to the Power button lights.**

   The platform power LED lights after the workstation begins the internal booting process. See FIGURE 1-6 (2) for location of the platform power LED.
4. **If you are powering on the workstation for the first time, configure the preinstalled operating system or install another operating system after the workstation has finished booting. See "Setting Up the Software" on page 8.**

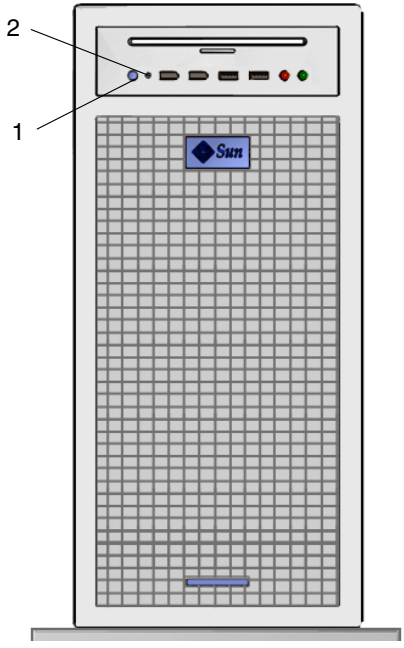

FIGURE 1-6 Power Button and LED on the Sun Ultra 40 Workstation

Setting Up the Software

For information on setting up the operating system and software:

- See "Setting Up the Preinstalled Solaris 10 Operating System" on page 8 if you plan to use the installed operating system.
- See "Installing an Additional Operating System and Drivers" on page 10 if you plan to install an additional operating system.
- See "Additional System Software" on page 12 for more information on additional Sun Ultra 40 Workstation software.

Setting Up the Preinstalled Solaris 10 Operating System

Further information on the preinstalled Solaris 10 Operating System can be found in the *Sun Ultra 40 Workstation Getting Started Guide*, 819-3953.

Use TABLE 1-3 to collect the information that you need, then follow the system prompts to configure the operating system.

TABLE 1-3 Information for Preinstalled Solaris 10 Setup

Setup Window	Explanation and Notes	Your Information
Select Language and Locale	Native language and locale to use for the workstation.	
Host Name	A name for 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.	
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.	

Installing an Additional Operating System and Drivers

The Solaris 10 Operating System is preinstalled on your workstation. If you plan to install an additional operating system, install it at this time. You might need to remove the Solaris 10 Operating System in order to do this.

The following sources of information can help you with installing additional operating systems on the Sun Ultra 40 Workstation:

- Overview instructions for installing the drivers can be found in the following section: "Overview Instructions for Additional Operating Systems and Drivers" on page 10.
- Detailed information on removing the existing operating system, installing additional drivers, and installing another operating system is in the *Sun Ultra 40 Workstation Getting Started Guid*e, 819-3953, available at:

  `http://www.sun.com/products-n-solutions/hardware/docs/Workstation_Products/Workstations/ultra_40/index.html`
- Drivers for supported operating systems are available on the Sun Ultra 40 Workstation Supplemental CD included with your system and can also be downloaded from the download link at:

  `http://sun.com/ultra40`
- The most recent list of operating systems supported for Sun Ultra 40 Workstation can be found on the product web site at:

  `http://sun.com/ultra40`

Overview Instructions for Additional Operating Systems and Drivers

If you want detailed instructions on installing drivers, see the Sun Ultra 40 Workstation Getting Started Guide, 819-3953. If you want to install using overview instructions only, refer to the following steps.

Installing the Operating System

Follow these directions for installing a supported operating system (OS) on the Sun Ultra 40 Workstation.

1. **Power on the Sun Ultra 40 Workstation.**
2. **Do one of the following:**
   - If you are installing a Linux OS or the Solaris 10 Operating System, and the BIOS Installed O/S option has not been changed from the default, proceed to Step 3.
   - If you are installing Windows XP, make the following change to the BIOS settings:

   a. **Select the Advanced tab and change the Installed O/S option to Windows.**

   b. **Press the F10 key to save your changes and exit the BIO Setup Utility.**
3. **Install the operating system, following the instructions that come with the software.**

Note – If you need to install RAID drivers for Windows XP, you will need to create a new Windows CD before installing the Windows XP OS. See the *Sun Ultra 40 Workstation Installation Guide* for further information.

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4. **After installing the operating system, install the appropriate drivers from the Sun Ultra 40 Workstation Supplemental CD, using one of the following procedures.**

Installing the Drivers for a Linux OS

To install the drivers from the Supplemental CD for supported Red Hat and SUSE operating systems:

a. **If you have installed Red Hat Enterprise Linux, run the** `up2date` **utility.**

b. **If the CD does not automount, manually mount the CD.**

c. **Change to the following directory: /***mountpoint***/drivers/linux/***operating_system*

   Where *mountpoint* is the directory the CD is mounted to, and *operating_system* is the operating system installed (`red_hat` or `suse`).

d. **Run `./install.sh`**

Installing the Drivers for a Windows XP OS

To install the drivers from the Supplemental CD for Windows XP 32-bit or 64-bit:

a. Change to the following directory: `D:\drivers\windows\`*OS*`\chipset`

Where *OS* is `XP32` or `XP64`.

b. Double-click on the executable file.

c. Follow the instructions in the installation software.

d. Repeat the above instructions for the video drivers in the following directory:

`D:\drivers\windows\`*OS*`\video`

Where *OS* is `XP32` or `XP64`.

Installing the Drivers for the Solaris 10 OS

If you are using the preinstalled version of Solaris, the drivers are already installed. To install the drivers from the Supplemental CD if you have reinstalled Solaris 10 Operating System:

a. Change to the `/cdrom/cdrom0/drivers/sx86` directory.

b. Run `./install.sh`

Additional System Software

The following software is preinstalled on the Sun Ultra 40 Workstation: Sun Studio 11, Sun Java Studio Creator 2004Q2 Update 8, Sun Java Studio Enterprise Update 8, and NetBeans IDE 4.1. Media kits for Sun Studio 11, Sun Java Studio Creator 2004Q2 Update 8, Sun Java Studio Enterprise Update 8 are also included with the workstation.

In addition, two fully licensed RTU's for the Sun's N1 Grid Engine are also included with the workstation. To purchase support, no additional licenses are required. These RTU's can only be used with the Sun Ultra 40 workstation that it came with. The RTU's are non-transferable and cannot be used on other hardware.

You can download Sun N1 Grid Engine by clicking on the “Get the Software” button at the following URL:

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

See the *Sun Ultra 40 Workstation Getting Started Guide*, 819-3953, for more information on the preinstalled software and CD media. The *Sun Ultra 40 Workstation Getting Started Guide* and other Sun Ultra 40 Workstation documentation can be found at the following web site:

http://www.sun.com/products-n-solutions/hardware/docs/Workstation_Products/Workstations/ultra_40/index.html

Enabling the Secondary PCI-E Graphics Card

The lower PCI-Express x16 slot (PCI-E 1) is the primary graphics slot. The BIOS is set up for displaying video from a graphics card installed in this slot by default. This card is powered by the 6-pin to 6-pin GFX1_PWR_OUT supplemental power connector.

If you want to use the secondary PCI-Express x16 graphics slot (the top-most PCI-E 3 slot), you must do the following to set it up:

- Connect the GFX2 supplemental power connector to the card (if required by the card).

  See the *Sun Ultra 40 Workstation Service, Diagnostics, and Troubleshooting Manual* for more information on connecting the power connector.
- Set up the BIOS as shown in the following procedure.

Note – Attempting to use the wrong supplemental power cable for the wrong graphics card may result in the machine not powering up.

To set up the secondary PCI-E x16 graphics card slot:

1. **Boot the workstation with the video display connected to the primary graphics card slot.**
2. **When you see the Sun logo screen displayed, press F2 to enter the BIOS Setup Utility.**
3. **Select the Advanced menu.**

   The entry PCI-E X16 VGA CARD SELECT defines which slot is the primary graphics slot. POST and BOOT information will be displayed to this card only.
4. **Select** `PCI Express Slot 3` **(i.e. PCI-E 3) to enable the PCI-E 3 graphics slot.**
5. **Press the F10 key to save your changes and exit the BIOS.**

CHAPTER 2

Setup Troubleshooting and Documentation

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

This chapter includes the following sections:

- "Troubleshooting the Sun Ultra 40 Workstation Setup" on page 16
- "Technical Assistance" on page 18
- "Sun Ultra 40 Workstation Documentation" on page 20

Troubleshooting the Sun Ultra 40 Workstation Setup

If you experience problems while setting up your workstation, refer to the troubleshooting information in TABLE 2-1. For additional troubleshooting information, see the *Sun Ultra 40 Workstation Service, Diagnostics and Troubleshooting Guide*, 819-3952.

TABLE 2-1 Troubleshooting Procedures

Problem	Possible solution
Workstation powers on, but the monitor does not.	• Is the Power button for the monitor turned on? • Is the monitor power cord connected to a wall outlet? • Does the wall outlet have power? Test by plugging in another device. • Is the monitor connected to the onboard video connector or PCI Express video connector?
CD or DVD does not eject from the DVD slot when you press the Eject button.	• Move the mouse or press any key on the keyboard. The drive might be in low-power mode. • Use the utility software installed on your workstation to eject the CD.
No video displays on the monitor screen.	• Is the monitor cable attached to the onboard video connector or PCI Express video connector? • Does the monitor work when connected to another system? • If you have another monitor, does it work when connected to the original system? • Verify that the BIOS settings are correct.

TABLE 2-1 Troubleshooting Procedures *(Continued)*

Problem	Possible solution
Workstation does not power on when you press the front panel Power button.	Keep notes on the following situations in case you need to call service: • 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.) • Does the wall outlet have power? Test by plugging in another device. • Do you hear a beep when the system is powered on? (Ensure that the keyboard is plugged in.) • Test with another keyboard that you know is functional. Do you hear a beep when you connect the keyboard and power on the system? • Does the monitor sync within 5 minutes after power on? (The green LED on the monitor stops flashing and remains illuminated.)
Keyboard or mouse does not respond to actions.	• Verify that the mouse and keyboard cables are connected to the on-board USB 2.0 connectors on the workstation. • Verify that the workstation is powered on and the front platform power LED is illuminated.
Workstation appears to be in low-power mode, but the Power button LED does not blink.	The power-indicator LED blinks only 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.
Hung or frozen workstation: No response from mouse, keyboard, or any application.	Try to access your workstation from a another workstation on the network. 1. From a terminal window, type: **`ping`** *hostname* 2. If there is no response, remotely log in from another system using `telnet` or `rlogin`, and ping the system again. 3. Attempt to kill processes until the system responds. 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.

Technical Assistance

If the troubleshooting procedures in this chapter fail to solve your problem, use TABLE 2-2 to collect information that you might need to communicate to the support personnel. TABLE 2-3 lists the Sun web sites and telephone numbers for additional technical support.

TABLE 2-2 System Information Required for Support

System Configuration Information Needed	Your information
Sun service contract number	
System model	
Operating system, including service pack number or update number	
System serial number	
Peripherals attached to the system	
Hardware configuration information, including the following: • Graphics cards installed • PCI or PCI Express cards installed • Amount of memory • Processor speed • Optical disk type	
Email address and phone number for you and a secondary contact Street address where the system is located	
Superuser password	
Summary of the problem and the work being done when the problem occurred	
Output of diagnostics test, if applicable	
Other useful information	
IP address	
Workstation name (System host name)	
Network or internet domain name	
Proxy server configuration	

TABLE 2-3 Sun Web Sites and Telephone Numbers

Workstation Documents and Support Resources	URL or Telephone Number
HTML and PDF files for all the current Sun Ultra 40 Workstation documentation.	http://www.sun.com/documentation/
Solaris™ and other software documents. This web site has full search capabilities.	http://docs.sun.com/documentation/
Discussion and troubleshooting forums.	http://supportforum.sun.com/
Support, diagnostic tools, and alerts for all Sun products.	http://www.sun.com/bigadmin/
Links to software patches some system specifications, troubleshooting and maintenance information, and other tools.	http://www.sunsolve.sun.com/handbook_pub/
Service support phone numbers.	1-800-872-4786 (1-800-USA-4Sun) Select Option 1
International telephone numbers for SunService Support.	http://www.sun.com/service/contacting/
Warranty and contract support contacts. Links to other service tools.	http://www.sun.com/service/warrantiescontracts/
Warranties for every Sun product.	http://www.sun.com/service/warranty

Sun Ultra 40 Workstation Documentation

Refer to the documentation described in the following sections for further information on setting up the Sun Ultra 40 Workstation.

Accessing the Documentation

The documentation listed in the following table for the Sun Ultra 40 Workstation can be found at:

http://www.sun.com/products-n-solutions/hardware/docs/Workstation_Products/Workstations/ultra_40/index.html

Application	Title	Part Number
Late-breaking information	*Sun Ultra 40 Workstation Release Notes*	819-3954
System overview, troubleshooting, diagnostics, and service information	*Sun Ultra 40 Workstation Service, Diagnostics, and Troubleshooting Manual*	819-3952
Installation information	*Sun Ultra 40 Workstation Getting Started Guide*	819-3953
System setup information	*Sun Ultra 40 Workstation Setup Guide*	819-3951
Safety information	*Important Safety Information for Sun Systems*	816-7190
	Sun Ultra 40 Workstation Safety and Compliance Guide	819-3955

Localization

If you want to read the contents of this document in one of the following languages: French, Spanish, German, Italian, Swedish, Japanese, Traditional Chinese, Simplified Chinese, Korean, or Russian, please refer to the *Sun Ultra 40 Workstation Getting Started Guide* at:
http://www.sun.com/products-n-solutions/hardware/docs/Workstation_Products/Workstations/ultra_40/index.html

The translated documents contain all of the information in this document as well as additional information on the Sun Ultra 40 Workstation.