



## **getting started guide**

Linux-based workstations

hp workstation xw5000

hp workstation xw8000

Document Part Number: 322496-001

### **April 2003**

Use this guide as a reference when setting up your new Linux®-based workstation. For more information about your workstation, review the other documentation that came with your system and visit HP's Web site at [www.hp.com/go/workstationsupport](http://www.hp.com/go/workstationsupport).

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**WARNING:** Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

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**CAUTION:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

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getting started guide  
Linux-based workstations  
hp workstation xw5000  
hp workstation xw8000  
First Edition (April 2003)

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# 1

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## setting up and using your workstation

### setting up your workstation



**WARNING:** If you have any doubt that you can lift the workstation and monitor safely, do not move them without help.

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### prepare your workspace

1. Unpack all components.
2. Place your monitor on a sturdy desk with easily accessible power outlets and enough space for the keyboard, mouse, and any other accessories.
3. Position the workstation on a sturdy desk or the floor with the front and rear connectors easily accessible. The workstation must be close enough to the peripherals so that the cables can be connected.

### installation tools

No tools are required for basic setup.

## **install your graphics card**

Your HP workstation is available with a range of graphics cards. For a complete and current list of supported cards, see:

<http://www.hp.com/workstations/ia32/options/graphicscontrollers.html>

Some video cards are pre-installed in the system, whereas others are packaged separately and shipped with the system.

If your workstation did not ship with a pre-installed graphics card, you must install the card and load the drivers. Refer to the documentation included with your graphics card for instructions.

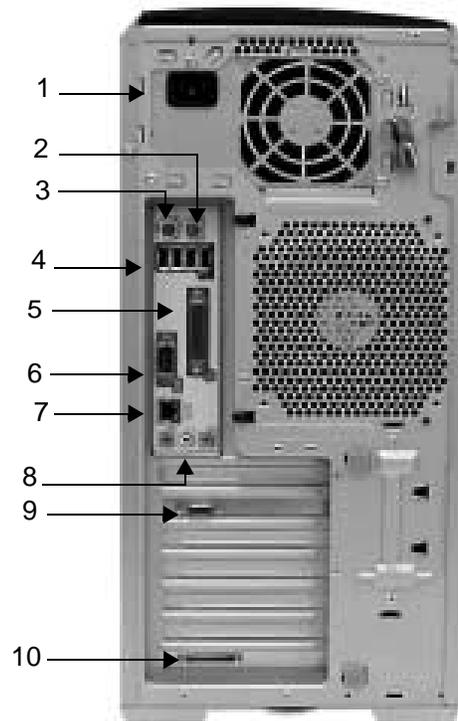
## **connect the components**

Before you connect any cords or cables to your workstation, read “Important Safety Warnings”.

The hp workstations xw5000 and xw8000 have front- and rear-panel connectors. The cable connectors are color-matched to their corresponding ports. The connectors are shaped to go in one way only.

## hp workstation xw5000 rear panel connectors

The following illustration shows the hp workstation xw5000 rear panel connectors.

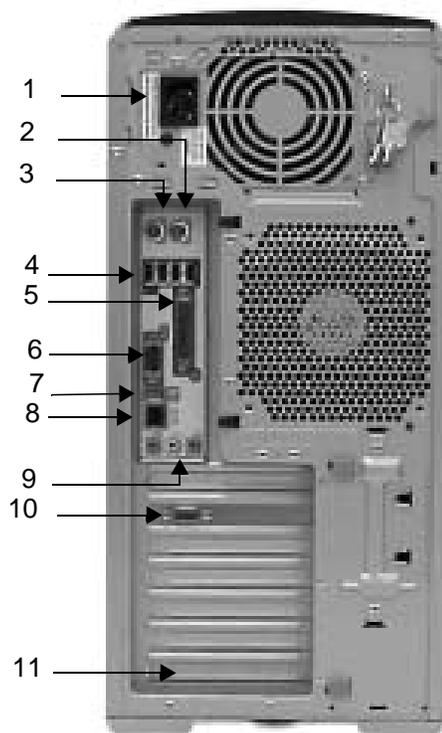


*hp workstation xw5000 rear panel connectors*

1	Power	6	Serial (teal)
2	PS2 Mouse (green)	7	LAN (orange)
3	PS2 Keyboard (purple)	8	Audio (Microphone — pink, Line Out — lime, Line In — light blue)
4	USB (black)	9	Monitor (connection on graphics card)
5	Parallel (burgundy)	10	SCSI Card (optional) (requires optional SCSI adapter card)

## hp workstation xw8000 rear panel connectors

The following illustration shows the hp workstation xw8000 rear panel connectors.



*hp workstation xw8000 rear panel connectors*

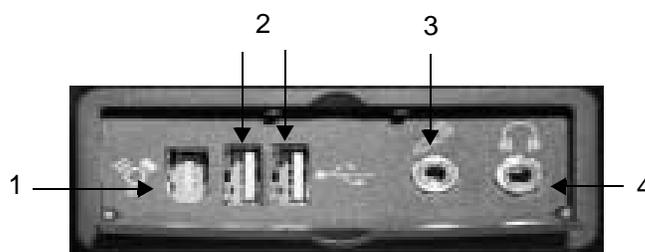
1	Power	7	IEEE-1394 (gray)
2	PS2 Mouse (green)	8	LAN (orange)
3	PS2 Keyboard (purple)	9	Audio (Microphone — pink, Line Out — lime, Line In — light blue)
4	USB (black)	10	Monitor (connection on graphics card)
5	Parallel (burgundy)	11	SCSI Card (optional)
6	Serial (teal)		

## front panel connectors

The front panel of the workstations include these connectors:

- dual USB
- audio line out (speakers or headphones)
- microphone
- IEEE-1394 (optional on xw5000)

**NOTE:** The IEEE-1394 connector comes is an optional feature on the hp workstation xw5000. If you did not order this feature, the connector comes covered with a removable plug. Flip down the front panel cover to access the front panel connectors. You can remove this cover for easier access to the connectors.



1	IEEE-1394 (optional for xw5000)	3	Microphone
2	USB	4	Audio Line Out

Connect the components:

1. Connect the display cable to the monitor and graphics card connectors. Lightly tighten the attachment screws.

**NOTE:** Depending on the graphics card you ordered and whether your monitor is analog or digital, you may also need to connect a dongle to convert between digital and analog signals.

2. Connect the mouse and keyboard to the rear panel of the system.

3. If you have a printer and it has a:

- parallel port connector, connect your printer cable to the parallel port and tighten the attachment screws.
- USB connector, connect your printer cable to a USB connector on the rear of the system.

Connect any serial devices to the serial port.

4. Connect any USB accessories to the front- or rear-panel USB connectors.

5. If you have a microphone, headphones or amplified speakers, connect them to the audio ports on the front or rear panel of the system.

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**NOTE:** The internal speaker is deactivated after you connect speakers or headphones to the front or rear-panel line out jack.

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## connect to a Local Area Network (LAN)

The hp workstation xw5000 includes a 10BT/100TX LAN auto-sensing interface adapter supporting both 10Mbps and 100Mbps operation. The hp workstation xw8000 uses a 10/100/1000 Mb Ethernet adapter supporting 10Mbps, 100Mbps, and 1000Mbps.

Connect the network cable to the LAN connector on the rear panel of the system.

## connect the power cords



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**WARNING:** For your safety, always connect equipment to a grounded wall outlet. Always use the power cord provided with the equipment with a properly grounded outlet. To disconnect the workstation from power, you must remove the power cord from the power outlet. Therefore, the equipment must be located near and easily accessible power outlet.

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1. Connect the power cords to the rear of the monitor and the workstation.
2. Connect both power cords to grounded outlets.

# starting and shutting down your workstation

## starting your workstation for the first time

Your Linux® workstation has pre-installed Red Hat® Linux and HP software. It is initialized the first time you start the workstation. The software initialization process takes a few minutes. The first time the workstation is booted, the Linux Setup Tool utility displays. The Linux Setup Tool allows you to enter your password, network, graphics, time, and keyboard settings for your workstation.

## initializing your software



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**CAUTION:** It is important not to interrupt the boot process. Doing so may cause the boot to abort or leave the workstation in an unusable state.

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To initialize your software:

1. Turn on the monitor and any peripherals you have attached to the system.



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**CAUTION:** Some peripherals specifically state that you should not attach the device until the drivers are installed. Refer to the documentation for your peripherals for additional information.

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2. Press the power button on the front panel of the workstation.  
When you start your workstation:
  - The Power-On-Self-Test (POST) runs while the workstation logo is displayed. To view the details of this test, press **Esc**. If an error occurs in the POST, the error is displayed automatically.
  - The system initializes the software automatically after POST is complete.
3. If prompted, enter the password you set up in the Linux Setup Tool.

## workstation start-up

The following features are available during startup:

- Instant Boot Menu
- Keys During POST and Setup

### instant boot menu

The Instant Boot Menu allows you to choose a boot device without running the Setup program and rebooting the system. The choice is valid for this boot only; setup preferences are not modified.

To select a boot option, press **F8** when the HP splash screen is displayed.

This screen lists only allowed boot devices. For example, if the administrator has disabled the “boot from floppy” option in Setup program, the floppy drive will not be listed in the Instant Boot Menu.

### keys during POST and setup

The POST Welcome screen (HP logo) displays the following choices:

- Esc — Summary. If you press **Esc** during POST, the BIOS displays a summary of the configuration information before loading the OS.
- F2 — Setup
- F8 — Boot Order
- F12 — Forced Network Boot

In case of a warning or error, the following options are also available:

- F1 — Continue
- Enter — View Errors

## shutting down your workstation

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**CAUTION:** Turning off your system without using the following instructions may result in a loss of data or a damaged file system.

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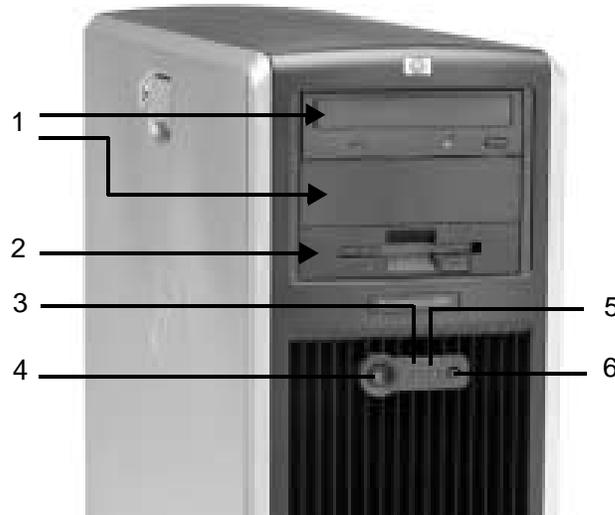
To shut down your workstation:

1. Exit all applications.
2. Shut down the workstation using the operating system's Shutdown command.
3. Press the On/Off button on the control panel.
4. Select one of the options and click OK.

## using your workstation

### understanding the control panel

The hardware control panel located on the front of the workstation is identical for both the hp workstation xw5000 and xw8000.



*xw5000 and xw8000 front panel components*

1	Optical Drive Bays	4	Power Button
2	Floppy Drive	5	Hard Disk Activity LED
3	Power LED	6	Reset Button

**Power On/Off button.** Press this button to start the workstation. You can also wake the workstation from Hibernate or Standby mode by pressing this button for less than four seconds. To turn the workstation off, press this button for more than four seconds (see “Shutting Down Your Workstation”).

**Power LED.** These LEDs indicates system status:

- Solid green — system is on.
- Solid yellow — workstation is in Standby or Hibernate mode.
- Flashing yellow, flashing red, or solid red — system error.

**Reset button.** Press this button to re-initialize all the hardware without cycling power to the system (soft boot). Avoid general use of this button because file damage may occur. Always use the OS Shut Down command before resetting the machine.

**Hard Disk Activity LED.** Flickers when your hard disk is being accessed.

## setting hardware passwords in the hp setup program

You can set hardware passwords to provide different levels of protection for your workstation: the Administrator password and the User password. You set the passwords using the Security menu in the Setup program.

The administrator can access and change all settings in the Setup program, while the User can only access and modify certain items in the Main menu.

### to set a password

1. Start the Setup program.
2. Select the Security menu.
3. Select the Administrator or User Password submneu.
4. Select the Set Administrator or User Password setup item. You must enter your password twice.
5. To save your changes and exit the Setup program, press **Esc** or select Exit Menu, then select Exit Saving Changes.

To remove the password, follow the same procedure to set a password. You will be asked to enter the existing password first. Then, for the new password leave the password field blank and press **Enter**. To confirm your choice, press **Enter** a second time.

## if you forget your user password

1. Turn off the workstation.
2. Re-start the workstation. If you are prompted for a password, enter the Administration password.
3. When Press F2 to Enter Setup displays, press the **F2** key.
4. Enter the Administrator password to access the Setup program.
5. Go into the Security menu.
6. Go to the Set User Password field and set a new User password. This replaces the old password.
7. Press **Esc** or select Exit Menu to save the new password and exit Setup.

## configuring your workstation

Use the HP Setup program to configure your workstation. With this program you can:

- set up BIOS-Access Administrator and User passwords
- change the system boot order
- solve configuration problems.



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**CAUTION:** It is recommended that you take note of any changes to the system setup before making any changes.

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## starting the hp setup program

1. Turn on the display and then the workstation. If the workstation is already turned on, save your data and exit all programs, then restart the workstation.
2. Press **F2** while F2 Setup is displayed at the bottom of the screen.

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**NOTE:** If you fail to press **F2** in time and the start-up process continues, you will need to restart your workstation and go through the POST again so you can press **F2**.

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## setup program menus

The opening screen of the workstation setup program is displayed. The following display:

- The Main Menu presents a list of fields, for example, the installed BIOS version or Date and Time.
- A band along the top of the screen offers a list of menus. Select a menu by using either the left or right arrow keys.
- A band along the bottom of the screen gives instructions for using the keyboard-driven menus.

## main menu

The Main Menu presents a list of fields, including:

- The installed BIOS version
- Reset Configuration Data
- System Time
- System Date
- Key Click
- Key Auto-Repeat Speed
- Delay Before Auto-Repeat
- NumLock at Power-on

By default, “Reset Configuration Data” is set to No. Select Yes to clear the system configuration data and return to the default settings.

## advanced menu

The Advanced Menu offers a list of sub-menus allowing you to view or configure:

- processor speed
- advanced features of the chip set
- PCI cards

- the Advanced Graphics Port video card
- settings for the integrated:
  - floppy disk drive controller
  - IDE controller and for attached IDE devices
  - SCSI controller (optional)
  - 10/100BT network interface
  - serial and parallel ports
  - audio controller

## **security menu**

The Security menu lets you:

- change or set the System Administrator Password, User Password, or Power-on Password (see “Setting Passwords”)
- prevent unauthorized startup from the floppy, optical drives, and IDE drives
- prevent unauthorized use of the floppy drive
- prevent a Plug-and-Play OS from changing the BIOS configuration settings
- prevent unauthorized changes to the boot sector

## **boot menu**

The Boot menu allows you to select the order of the devices from which you want the BIOS to attempt to boot the operating system. The QuickBoot mode option allows the system to skip certain tests while booting. This decreases the time needed to boot the system.

## **power menu**

The Power menu lets you enable remote power-on. You can also set the mode of operation if an AC power loss occurs.

## viewing your workstation configuration

The Summary Screen gives you a summary of the current configuration of your workstation (for example: BIOS version, CPU speed, memory module size, and installed mass storage devices).

You should check the configuration of your workstation when you first use it and each time after you install, remove, or upgrade accessories. To check the configuration:

1. Turn on the display and then the workstation. If the workstation is already turned on, save your data and exit all programs, then restart the workstation. Consult your operating system documentation for any special instructions concerning turning off and restarting your workstation.
2. When the start-up logo appears on your display, press **Esc**. This takes you to the Summary Screen. (To go immediately into the Setup program, and bypass the Summary Screen, press **F2** instead of Esc.) The Summary Screen is displayed for only a short time. Press the **Pause/Break** key on the keyboard to retain the Summary Screen until another key is pressed.

## loading software applications for your optical drive

The Linux-based hp workstations xw5000 and xw8000 are available with different optical drives. Each requires different software or drivers to operate properly. Only the CD-ROM comes with pre-installed drivers. To locate the drivers for other types of drives (CD-RW, DVD-ROM, DVD+RW), visit [www.redhat.com](http://www.redhat.com) for the latest Linux software applications available.

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**NOTE:** No drivers are required for read-only access to these drives.

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**NOTE:** You cannot install a CD-RW and a DVD+RW in the same system.

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## **configuring your video card and monitor**

All video cards that ship with your workstation support multiple refresh rates, resolutions, and color depths.

For additional information, see the documentation that shipped with your card.

## **using power management**

Power management enables you to reduce the overall workstation power consumption by slowing down the workstation's activity when it is idle.

Operating systems differ in their power management capabilities. Refer to your operating system documentation for more information.

## **software and driver availability**

In the "Software and Drivers" section of the HP support site [www.hp.com/go/workstationsupport](http://www.hp.com/go/workstationsupport), you can download the latest drivers and BIOS for your workstation.

You can also register to obtain information on new driver availability automatically.

Contact your dealer for an up-to-date list of supported devices or check the HP website: [www.hp.com/go/workstationsupport](http://www.hp.com/go/workstationsupport).

## **recycling your workstation**

HP has a strong commitment towards environmental conservation. Your workstation has been designed to respect the environment as much as possible.

HP can take an old workstation back for recycling when it reaches the end of its useful life through the product take-back program. Collected equipment is sent to one of HP's recycling facilities. As many parts as possible are reused and the rest are recycled. Special care is taken with batteries and other potentially toxic substances.

For details about HP's product take-back program, contact your dealer or your nearest HP Sales Office.

# 2

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## Linux system setup and recovery

### configuring your Linux workstation

Make sure there are no disks in the 3.5-inch floppy drive or the CD-ROM drive, then turn on the power switch. As the workstation boots, it describes what is happening with messages on the screen. You do not need to respond to any messages you see. The start-up process is completely automatic.

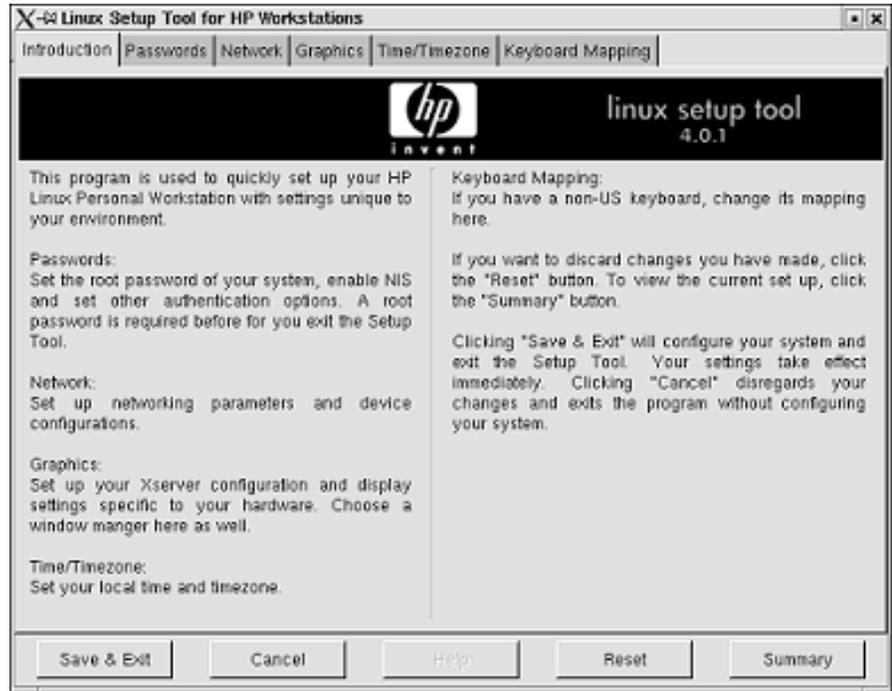
The `setparms` utility is run the first time the workstation is booted. It allows you to set up important functionality of your workstation before you login. These areas of functionality are: networking, the Xserver, timezone, system time, root password, and keyboard language. These areas will be discussed in more detail below.

`setparms` is written so that you can go back to a function as many times as you need to and change it before you exit.

## Linux system setup and recovery

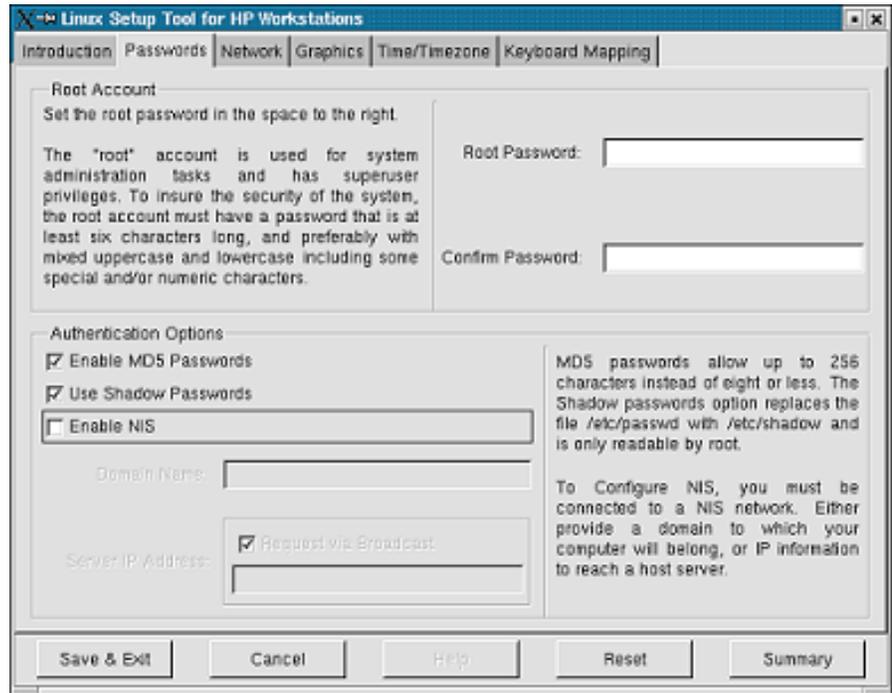
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After a few minutes, the start-up process ends and the Linux Setup Tool window, shown below, appears. You can choose from the tabs at the top of the screen to select the various areas of functionality.



## setting the root password (required)

Before you exit, you must set your own root password. `setparams` enforces this. Click on the Passwords tab at the top of the Setup Tool window. This brings up the window shown below.

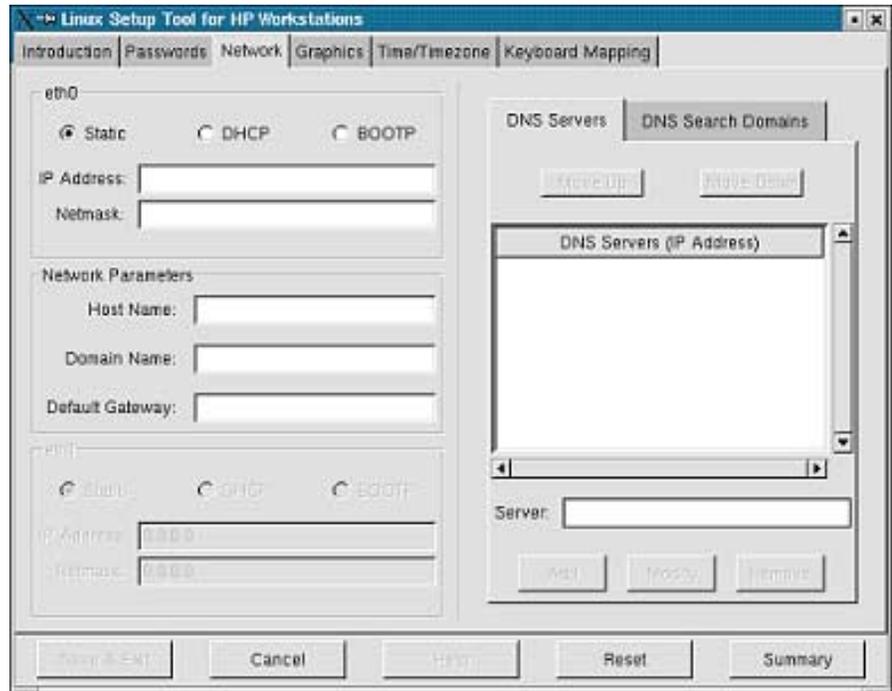


To set the password:

1. Choose a password, according to the directions in the window, and type it in the Enter Root Password box. Asterisks appear in the box, instead of what you type.
2. Type your password again in the Enter password again box.
3. Click Save & Exit.

## changing boot/network parameters

Choose the Network tab and the following window displays.



There are three kinds of booting protocols that setparms can set up for you: Static, DHCP, and BOOTP. Choose the appropriate protocol based on the following descriptions:

### static boot protocol

If you choose Static booting, you will have to set several networking parameters. Some of these are described below.

You will also need to provide an IP address for your workstation, a hostname, the IP address of the network gateway for your system, the netmask (255.255.248.0 for example), and a network domain name (for example, *company\_name.com*).

Set up your DNS Configuration. Refer to the section “DNS Parameters Configuration” in this chapter for an example of the screen interface and instructions.

Files that are modified with these network changes are:

- */etc/resolv.conf*
- */etc/sysconfig/network*
- */etc/sysconfig/network-scripts/ifcfg-eth0*

## DHCP boot protocol

If you choose DHCP booting, your IP address, hostname, gateway, netmask, domain name, and DNS server information are all set up for you at boot time. It should also set up your NIS information. However, the current DHCP client-side implementation from Red Hat does not request this from the server, so you will have to set that up yourself if you use it. See the “DNS Parameters Configuration” section in this chapter.

The file */etc/sysconfig/network-scripts/ifcfg-eth0* is modified when you select DHCP.

## BOOTP boot protocol

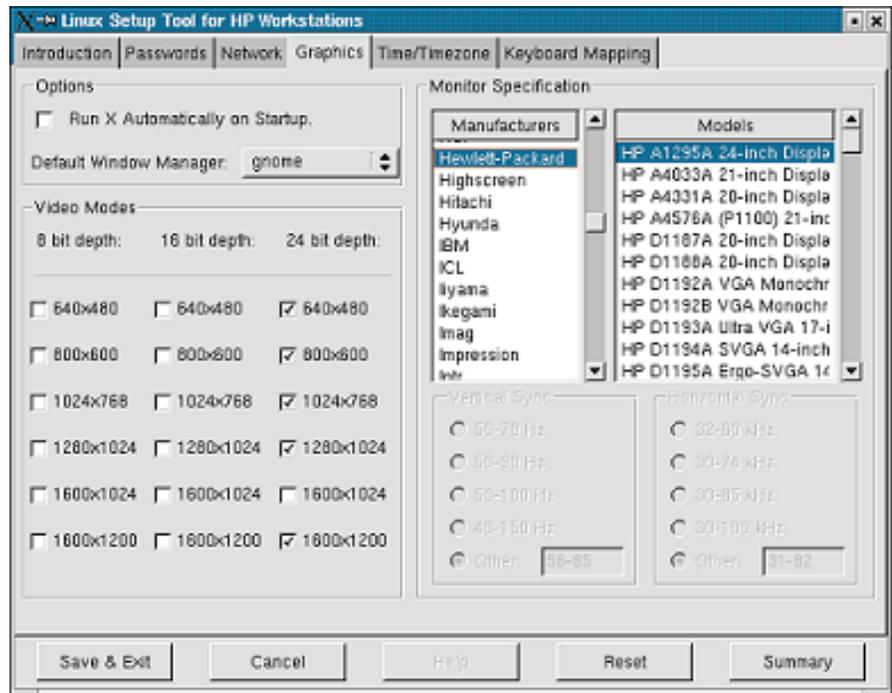
BOOTP is a subset of DHCP and will not be fully described here. It gets your IP address, hostname, gateway and netmask, but does not set up your DNS server information or NIS authentication, so you will have to do that yourself.

The file */etc/sysconfig/network-scripts/ifcfg-eth0* is modified when you select BOOTP.

Choose the Boot Protocol that is appropriate for your system. If you do not know which protocol to choose, ask your system administrator. The following instructions assume you are using the Static protocol.

## graphics parameters

To set Monitor and Video parameters, use the Graphics tab at the top of the Setup Tool window. The window (see below) allows you to choose monitor manufacturer/type, video modes and which Default Window Manager to use.

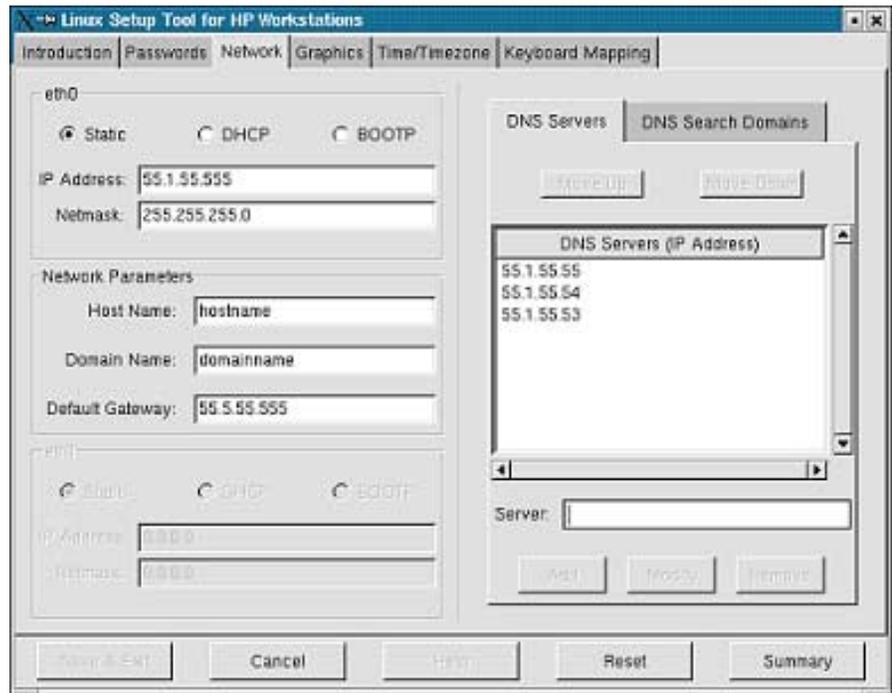


Follow the directions on the screen and click Save & Exit to save the changes.

**NOTE:** If you do not see your monitor listed, use the default selections that display when this program is opened.

## DNS parameters configuration

In the Network tab, select the DNS Servers tab to configure you DNS connections.



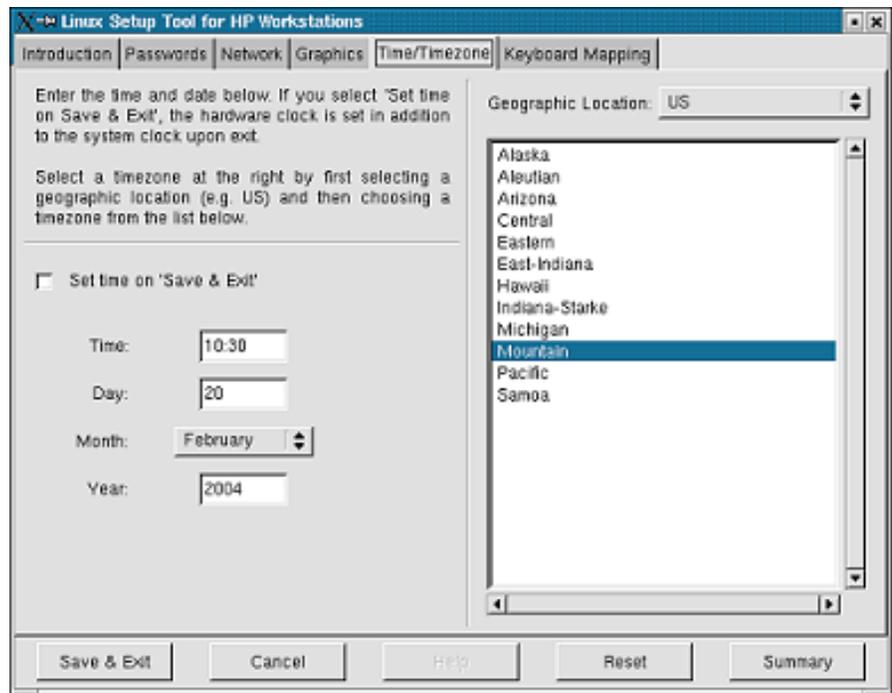
The window contains two other sections: DNS Servers (IP Address) and DNS Search Domains. To set the DNS parameters:

1. Type the network Domain Name Server address in the Server field.
2. Click the Add button below the Server field to place this address in the larger window. If there is more than one domain name server, you may keep adding addresses until you have added them all. The first one will be your primary DNS.
3. Type the domain name in the Domain Name field.
4. Click Save & Exit.

## system time, timezone, date parameters

The “Time/Timezone” tab at the top of the Setup Tool screen will display the window shown below which is used for setting your system time and date. To enter the current time, day, month, and year:

1. Type the current time using the 24-hour clock in the Time field.
2. Type the current day of the month in the Day field.
3. Pull down the Month menu to select the current month.
4. Type the year in the Year field.



### time zone

To set the time zone:

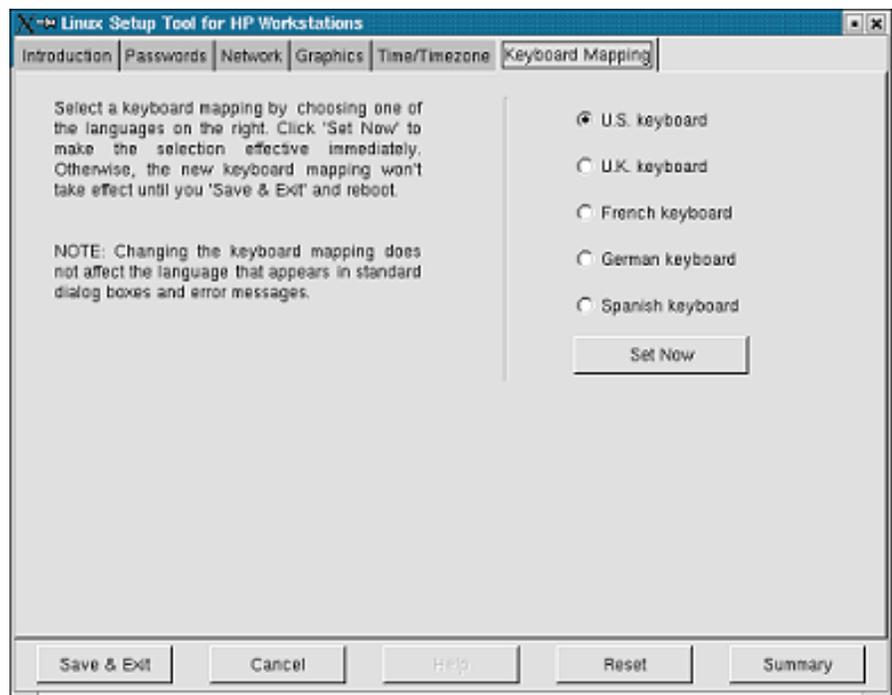
1. Click the Geographical Location button at the top of the window to select your location, if it is not “U.S.”
2. Use the scroll bar to show your city/time zone, then click on it.
3. Click Save to use these selections and close this window.

This step creates a symbolic link from `/etc/localtime` to `/usr/share/zoneinfo/<timezone>`.

Selecting the “Set time on Save” option causes `setparms` to set and save the system clock and the hardware clock with the time and date specified in the Time and Date fields. If you do not select that option, they will remain set to their current value.

## setting the keyboard language

The Keyboarding Mapping functionality currently supports five keyboard languages: U.S., U.K., French, German, and Spanish. U.S. is the default.



As soon as you click Set Now in this window, the keyboard language is set and the keyboard is re-mapped, but only for the time you are in `setparms`. The change is saved only if you click the Save button when you leave `setparms`, otherwise the change is discarded (that is, the previous keyboard mapping is kept).

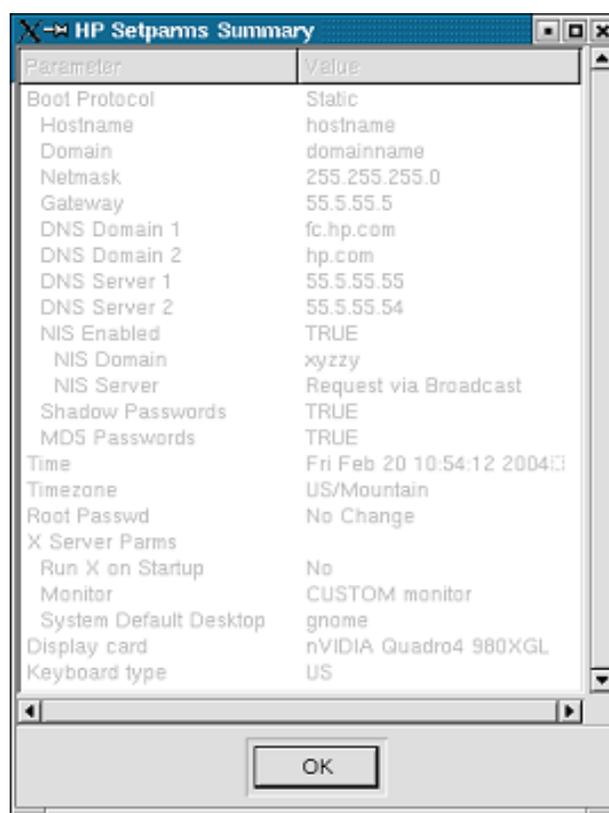
This step modifies the files:

- `/etc/sysconfig/keyboard`
- `/etc/sysconfig/i18n`

## summary

This completes the miscellaneous parameters you can set from the Linux Setup Tool window. If you want to erase the changes you have made and keep the current configuration settings, click the Reset Configuration button.

The Show Summary window, shown below, contains all the information you entered. To change any choices, click OK to close the Show Summary window, and click the appropriate parameter box in the Linux Setup Tool window.



Click OK to close this window.

If you are satisfied with all the information you have entered, click Save at the bottom of the Linux Setup Tool window to save this configuration.

---

**NOTE:** The system will not let you exit until you have set the root password.

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## recovering your Linux system

This section provides information on how to recover your Linux system should it be required.

### the Linux Rescue Mode

The Linux Rescue Mode is a Linux environment that lets you access files on your Linux workstation when you cannot actually run Linux. You may be unable to run Linux because it will not boot or you have had a hardware or software failure.

Linux may not boot if you have installed another operating system. Some operating systems assume that you have no other operating systems on your computer. When such an operating system is installed, it overwrites the Master Boot Record that contained the Linux GRUB bootloader. If this happens, Linux will not boot.

Any computer can experience a hardware or software failure for many reasons. With the Linux workstation, it might happen because of problems with a hard drive or because LILO was not run after building a new kernel.

Rescue Mode can give you access to the system so you can try to solve the problem or, at least, make copies of important files.

## booting your system in Rescue Mode

To boot your system in Rescue Mode, enter the following parameter at the installation boot prompt:

```
boot: linux rescue
```

You can get to the installation boot prompt in one of these ways:

1. By booting your system from the diskette or CD-ROM that came with your Red Hat Linux boxed set.
2. By booting from a network or PCMCIA boot diskette. These methods assume your network connection is working and require you to identify the network host and transfer type.

Once you have your system in Rescue Mode, a prompt appears:

```
bash#
```

From this prompt, you can use the following commands:

**table 2-1. Linux commands**

anaconda	gzip	mke2fs.ext2	ps
badblocks	head	mknod	python
bash	hwclock	mkraid	python
cat	ifconfig	mkswap	raidstart
chatter	init	mlabel	raidstop
chmod	insmod	mmd	rcp
chroot	less	mmount	rlogin
clock	ln	mmove	rm
collage	loader	modprobe	rmmod
cp	ls	mount	route
cpio	lsattr	mpartition	rpm
dd	lsmod	mrd	rsh

**table 2-1. Linux commands** (Continued)

ddcprove	mattrib	mread	sed
depmode	mbadblockes	mren	sh
df	mcd	mshowfat	sync
e2fsck	mcopy	mt	tac
fdisk	mdel	mtools	tail
fsck	mdeltree	mtype	tar
fsck.ext2	mdir	mv	touch
ftp	mdu	mzip	traceroute
genhdlist	mformat	open	umount
gnome-pty-helper	minfo	pico	uncpio
grep	mkdir	ping	uniq
gunzip	mke2fs	probe	zcat

**NOTE:** The `man` command is not available in Rescue Mode. Make sure you know how to use all the above commands before you use Rescue Mode.

If your root filesystem is undamaged, you can mount it and then run any standard Linux utility. For example, suppose your root filesystem is in `/dev/hda5`. Here is how to mount this partition:

```
mount -t ext2 /dev/hda5 /foo
```

Where `/foo` is a directory that you have created.

Now you can run `chroot`, `fsck`, `man`, and other utilities. At this point, you are running Linux in single-user mode.

If you do not know the names of your Linux partitions, you can guess; mounting non-existent partitions will do no harm.

## booting single user mode directly

You may be able to boot single-user mode directly. If your system boots, but does not allow you to login when it has completed booting, try rebooting and specifying one of these options at the LILO boot prompt:

```
LILO boot: linux single
```

```
LILO boot: linux emergency
```

In single-user mode, your computer boots to runlevel 1. Your local filesystems will be mounted but your network will not be activated. You get a usable system maintenance shell.

In emergency mode, you are booted into the most minimal environment possible. The root filesystem will be mounted read-only and almost nothing will be set up. The main advantage of this over Linux single user is that your *init* files are not loaded. If *init* is corrupted or not working, you can still mount filesystems to recover data that could be lost during a re-installation.

# 3

---

## troubleshooting

This chapter contains basic information to help you get your workstation up and running in the unlikely event that you experience a problem.

### solving common problems

This section contains information for diagnosing and solving common problems on the hp workstation xw5000 and xw8000.

- Your Workstation Does Not Start Properly
- You Find a Hardware Problem
  - Your System Does Not Start Properly
  - Keyboard and Mouse Problems
  - Video Problems
  - Optical Drive Problems
  - Audio Problems
- You Forgot Your Password
- Understanding the E-buzzer Beep Code

For more detailed help, refer to the *hp workstation xw5000* and *xw8000 Technical Reference Guides* at <http://www.hp.com/go/workstationsupport>.

## workstation does not start properly

The following table will assist you in resolving issues when your workstation does not start properly.

**table 3-1. system does not start properly**

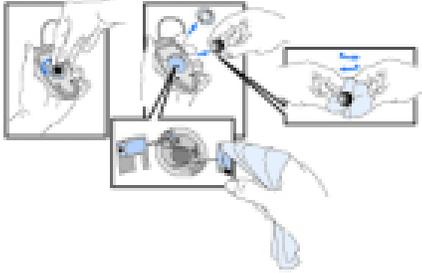
<b>the system doesn't power on.</b>	
<i>Make sure...</i>	<i>How</i>
The system's power cord is properly connected.	Connect the power cord to a working power outlet and to the rear of the system.
<b>there is a POST error.</b>	
The POST can detect errors and changes to the configuration. In either case, a code and short description is displayed.	
<i>Make sure...</i>	<i>How</i>
You read the message and select the appropriate action.	<ul style="list-style-type: none"> <li>• Press <b>F1</b> to ignore the message and continue.</li> <li>• Press <b>F2</b> to run the Setup program and correct a system configuration error.</li> <li>• Press <b>Enter</b> to see details about the message. After viewing these details, you are returned to the original POST display screen.</li> </ul> <p><b>Note:</b> A list of POST errors with suggested solutions is included in the <i>hp workstation xw5000 and xw8000 Technical Reference Guides</i> at:  <a href="http://www.hp.com/go/workstationsupport">http://www.hp.com/go/workstationsupport</a></p>

<b>there are one or more beeps and the system does not boot.</b>	
When your workstation starts, the system tests your hardware for possible problems. If a critical problem is detected, the system emits audible beeps.	
<i>Make sure...</i>	<i>How</i>
You count the beeps to determine the error and suggested solutions.	See the "Understanding the E-buzzer beep code" section for more information.
<b>the display is blank.</b>	
<i>Make sure...</i>	<i>How</i>
Both the workstation and monitor power cords are firmly connected and plugged in.	Connect the power cords to a working power outlet and to the rear of the workstation and the monitor.
The outlet power is functioning.	Turn on any light switches, power strips, or surge protectors connected to the outlet.
The workstation and monitor are turned on. (The power light should be illuminated.)	Turn on the workstation and monitor using the power button. Make sure that any power strips are turned on.

## hardware problems

The following table will assist you in resolving issues when your workstation has a hardware problem.

**table 3-2. keyboard and mouse problems**

<b>the keyboard doesn't work.</b>	
<i>Make sure...</i>	<i>How</i>
The keyboard cable is correctly connected.	Ensure that the keyboard is connected to the keyboard connector on the rear panel of the workstation.
The keyboard is free of debris.	Check all keys are the same height, and none are stuck in the down position.
The keyboard itself is not defective.	Either replace the keyboard with a known working unit or try the keyboard with another system.
<b>the mouse doesn't work.</b>	
<i>Make sure...</i>	<i>How</i>
The mouse cable is correctly connected.	Ensure that the mouse is connected to the mouse connector rather than the keyboard connector on the rear panel of your workstation.
The mouse is clean.	Clean the mouse ball as shown below. 
The mouse itself is not defective.	Replace the mouse with a unit that is known to work or try the mouse with another system.

**table 3-3. video problems**

<b>the system's power indicator light works, but the monitor remains blank.</b>	
<i>Make sure...</i>	<i>How</i>
The monitor is switched ON (LED is on).	Refer to the monitor manual for an explanation of the LED signals.
The monitor's power cord is correctly connected.	Ensure that the power cord is plugged into a working grounded power outlet and into the monitor.
The graphics card is installed and the monitor (video) cable is correctly connected.	Ensure the video cable is properly connected to both the system and the monitor. Ensure that the cable is connected to the graphics card's connector.
The monitor's brightness and contrast settings are correctly set.	Check the settings using the monitor's OSD (on-screen display) or using controls on the front of the monitor.
<b>the display works properly during the POST, but goes blank when the OS starts.</b>	
<i>Make sure...</i>	<i>How</i>
The OS display settings are compatible with your monitor.	Refer to your OS and monitor documentation for more information. Also, refer to the "changing boot/network parameters" section in chapter 2 for additional information.

**table 3-4. optical drive problems**

<b>the workstation does not boot from CD-ROM or DVD drive.</b>	
<i>Make sure...</i>	<i>How</i>
The CD or DVD boot is enabled through the Computer Setup utility.	Run the Setup program and enable booting to removable media and verify boot order settings.
A bootable CD is in the optical drive.	Insert a bootable CD in the drive.
<b>CD or DVD devices are not detected or driver is not loaded.</b>	
<i>Make sure...</i>	<i>How</i>
The drive is connected and configured properly.	Refer to the <i>hp workstation xw5000 and xw8000 Technical Reference Guides</i> at <a href="http://www.hp.com/go/workstationsupport">http://www.hp.com/go/workstationsupport</a>
<b>movie will not play in the DVD drive.</b>	
<i>Make sure...</i>	<i>How</i>
The decoder software is installed properly.	Install decoder software. See the "Loading Software Applications for Your Optical Drive" section in this guide for additional information.
<b>you can't eject a CD.</b>	
<i>Make sure...</i>	<i>How</i>
The disc is properly seated in the drive.	Turn off computer and insert a thin metal rod into the emergency eject hole and push firmly. Slowly pull the tray out from the drive until the tray is fully extended, then remove the CD.

**the optical drive cannot read a disc or takes too long to start.**

DVD drives take longer to start because they must determine the type of media played, such as audio or video. Wait at least 30 seconds to let the DVD drive determine the type of media being played. If the CD still does not start, read the other solutions listed for this topic.

<i>Make sure...</i>	<i>How</i>
The disc has been inserted right-side up.	Re-insert the CD with the label facing up.
The disc is clean and has not been scratched.	Clean CD or DVD with a cleaning kit, available from most computer stores.
The OS detects the optical drive.	<ol style="list-style-type: none"> <li>1. Use your OS to remove or uninstall the device in question.</li> <li>2. Restart your computer.</li> </ol>

**you can't record to a CD.**

<i>Make sure...</i>	<i>How</i>
You have the correct type of media.	<p>Verify that you are using the correct media for the drive.</p> <p>Try a different brand of media. Quality varies widely among manufacturers.</p>
You are recording at the correct speed.	Try using a slower speed when recording audio CDs.

**table 3-5. audio problems**

<b>the system has no sound.</b>	
<i>Make sure...</i>	<i>How</i>
Software volume control is not turned down or muted.	Open up the Speaker/Sound program and set the volume. If the volume is muted, clear any mute check boxes.
The speaker or optical drive volume control is not turned down.	If your speakers or optical drive have volume control knobs, turn the knob to increase the volume.
External speakers are plugged into the correct audio port.	Plug external speakers into the correct port on the front- or rear-panel of the system. See the "Connect the Components" section in this guide for more information.
The optical drive audio cable is properly connected.	Connect the audio cable between the CD or DVD-ROM drive and the system board. See the <i>hp workstation xw5000 and xw8000 Technical Reference Guides</i> at <a href="http://www.hp.com/go/workstationsupport">http://www.hp.com/go/workstationsupport</a>
Headphones or speakers connected to the line out connector are not muting the internal speaker.	Turn on and use headphones or external speakers, if connected, or disconnect headphones or external speakers.
The workstation is not in Standby mode.	Press the power button to resume from Standby mode.

<b>noise or no sound comes out of the speakers or headphones.</b>	
<i>Make sure...</i>	<i>How</i>
The workstation is detecting the correct speaker/headphone type and analog-to-digital auto-sense is engaged.	<ul style="list-style-type: none"> <li>• If you are using digital speakers that have a stereo jack and want the system to auto-switch to digital, use a stereo-to-mono adapter to properly engage the auto-sense feature.</li> <li>• If a stereo-to-mono adapter is not available, use your OS to access the multimedia device properties and manually switch the audio signal from analog to digital.</li> <li>• If the headphones have a mono jack, use your OS to access the multimedia device properties and manually switch the system to analog out.</li> </ul>

## issues with BIOS passwords

If you forget the BIOS passwords for the workstation, you must clear them before you can set new passwords.

### clearing the BIOS user password

If you forgot your User password and remember the Administrator password, you can clear the User password through the Setup Menu.

To clear the User password:

1. Start the Setup Program
2. Enter the Administrator password when prompted.
3. Select Security Menu > Clear all Passwords.
4. Enter and confirm a new User password if needed.
5. Press **Esc** to leave the Security Menu.
6. Select Exit > Exit Saving Changes to save your changes.

## clearing the BIOS administrator password

To clear the Administrator password:

1. Turn off the workstation and remove the left side panel (see the *hp workstation xw5000 and xw8000 Technical Reference Guides* for additional information).
2. Set switch 1 on the system board switch block to On (see the label on the inside of the left side panel for switch location).
3. Replace the workstation cover.
4. Turn on the workstation and press **Esc** when prompted to see the summary page.
5. When a message appears indicating that the passwords have been cleared, turn off the workstation and remove the cover.
6. Set switch 1 on the system board block back to Off.
7. Replace the side panel.
8. If you want to set new passwords, follow the instructions given in the “setting hardware passwords in the hp setup program” section in Chapter 1.

## understanding the E-buzzer beep codes

When your workstation starts, the system tests your hardware for possible problems. If a problem is detected, the e-buzzer will emit audible beeps and an encoded error signal that can be sent through a telephone line to an authorized Help desk or HP Support. This signal can be decoded by Help desk equipment to extract the workstation model, serial number, and details about any faults. To send this signal to HP Support, hold your telephone next to the speaker on the system front bezel when the system is booting.

**table 3-6. E-buzzer beep codes**

No. beeps	component	error	solution
1	Processor	Processor absent, not correctly connected.	Contact HP Customer Care.
2	Power Supply	Power supply is in protected mode.	Contact HP Customer Care.
3	Memory	No memory, bad memory modules, or incompatible memory module.	<ol style="list-style-type: none"> <li>1. Remove any newly installed RAM and reseal it. Ensure that memory is loaded in the correct order.</li> <li>2. If the problem persists, contact HP Customer Care or replace the system RAM.</li> </ol> <p>See the help section in this guide or the <i>hp workstation xw5000 and xw8000 Technical Reference Guides</i> at <a href="http://www.hp.com/go/workstationsupport">http://www.hp.com/go/workstationsupport</a></p>

## troubleshooting

No. beeps	component	error	solution
4	Video Card	Graphics card failure.	<ol style="list-style-type: none"> <li>1. Remove the graphics card and reseal it.</li> <li>2. If the problem persists, remove the graphics card and replace it with a good card.</li> </ol>
5	PCI Card	PCI card initialization problem.	<ol style="list-style-type: none"> <li>1. Remove PCI cards until you find the one causing the failure.</li> <li>2. Reseat the offending PCI card.</li> <li>3. If the problem persists, replace the defective PCI card.</li> </ol>
6	BIOS	Corrupted BIOS.	<p>Perform a BIOS Boot Block Recovery. See the <i>hp workstation xw5000 and xw8000 Technical Reference Guides</i> at <a href="http://www.hp.com/go/workstationsupport">http://www.hp.com/go/workstationsupport</a></p>
7	System Board	Defective motherboard.	Contact HP Customer Care.

## restoring your OS and software from CD

Restore the original OS and factory-installed software by using the CDs provided with your workstation. Carefully read and follow the instructions that came with the CDs. For questions about problems with these CDs, contact HP Customer Care.



**WARNING:** The operations you perform using the recover CDs permanently erase the contents of your hard disk. Always back up your data and personal files before using the recovery CDs.

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