Contents

CHAPTER 3

Using Your CD or DVD Drive

CHAPTER 4

Identifying and Removing Computer Viruses

CHAPTER 5

Introducing Microsoft Windows 98

CHAPTER 6

Surfing the Internet

CHAPTER 7

Sending and Receiving Faxes

CHAPTER 8

Saving Energy with Sleep and Power Management

CHAPTER 11

Troubleshooting Guide

CHAPTER 12

Safety and Comfort

CHAPTER 13

Government Approvals

Chapter 1

Using this Guide

Thank you for buying a Compaq Internet PC. This Reference Guide will help you to familiarize yourself with your Internet PC, as well as safety and government approval information.

Please take a moment to familiarize yourself with the special text and messages used throughout this guide.

Text Conventions

The examples below explain the specially formatted text used in this guide.

- Keyboard key names appear in bold type: **Home**, **End**, **Backspace**, **Tab**

- Keyboard keys that must be pressed at the same time to perform a task appear in bold type with a plus (+) between the key names: **Ctrl+Home**

- Drives appear as capital letters: drive C

- Folder names appear with initial capital letters: Favorites

- File names appear in italics with an initial capital letter: *Setup.exe*

- Command line statements appear in lower case bold type: **a:\install**

- Names of icons appear in bold type followed by a picture of the icon: **My Computer** icon

- Menu items appear in bold type: **Programs**, **Accessories**

Special Messages

The following words and symbols have special meaning in this guide.

HINT: Helpful hints that will make using your computer easier and faster.

NOTE: Important information concerning the operation of your Internet PC.

CAUTION: Failure to follow directions may result in equipment damage or loss of data.

WARNING: Failure to follow directions may result in bodily harm or loss of life.

Locating Help

Compaq provides you with several resources to help you learn about your Internet PC. These resources include the following:

Glossary

Computer terms that may be unfamiliar to you are identified in the glossary.

Index

The index is a comprehensive list of the topics covered in this guide.

Troubleshooting

The Troubleshooting section shows how to fix many common computer-related issues.

Understanding Your Service and Support Options

Your Internet PC is equipped with several helpful programs that will aid you in identifying and solving common computer problems.

If you need further technical support, visit the Compaq Web site at:

www.compaq.com

Compaq Technical Support telephone numbers are listed in the Limited Warranty Statement.

NOTE: Locate the model and serial numbers for your computer before you call technical support. Write these numbers down for future use.

Computer Information	
Purchase Date	
Store Name	
Computer Model Number	
Computer Serial Number	
Monitor Model Number	
Monitor Serial Number	

Comments about this Guide

Compaq Computer Corporation welcomes comments and suggestions you may have concerning this guide. Send correspondence to the following address:

COMPAQ COMPUTER CORP
ATTN: DOCUMENTATION PROGRAM MANAGER
MAIL CODE 060504
20555 SH 249
HOUSTON TX 77070

NOTE: This address is for comments and suggestions only. It is not for the purpose of obtaining techinical assistance.

Chapter 2

Introducing Your Internet PC

Using the TouchPad

The TouchPad lets you use your finger to draw lines or point to items on the Windows desktop.

To simulate a mouse-click, press the left TouchPad button. It is located directly below the TouchPad. The left TouchPad button works as the select or drag button. To double-click an item, move the pointer over the item and press the left TouchPad button twice. The right TouchPad button works as the context menu or special drag button.

Setting the Tapping and Double-Tapping Feature

Your TouchPad has a tapping and double-tapping feature that works like a left mouse button. If this feature is turned on, you can tap once on the TouchPad to select an object and tap twice to double-click.

NOTE: The default setting of the tapping feature is turned off.

To turn on the tapping feature, complete the following steps:

1. From the Windows desktop, click **Start**, point to **Settings**, then click **Control Panel**.
2. Double-click the **Mouse** ⏛ icon.
3. Select the **Touch** tab.
4. Click the **Tap to Click** checkbox to turn on the tapping feature.
5. Click the **OK** button to apply the changes.

Setting the Edge Motion Feature

The Edge Motion feature allows you to continue to scroll once your finger reaches the edge of the TouchPad. When this feature is turned on, the window continues to scroll until you lift your finger.

To turn on the Edge Motion feature, complete the following steps:

1. From the Windows desktop, click **Start**, point to **Settings**, then click **Control Panel**.

2. Double-click the **Mouse** ⛢ icon.

3. Click the **Edge Motion** tab.

4. Select **When Dragging**, **Always**, and **When Scrolling** to turn on the Edge Motion feature.

5. Click the **OK** button to apply the changes.

To get additional help for setting advanced TouchPad features, click the [?] button or select **Help** from the Mouse Properties window.

For tips on keeping your TouchPad clean, refer to the Cleaning the Exterior Surfaces of Your Internet PC section in this guide.

Identifying Your Storage Drives

Your diskette drive, hard drive, CD or DVD, and SuperDisk drive are designated with letters of the alphabet, as well as with icons.

To determine your drive letters, complete the following steps:

1. From the Windows desktop, double-click the **My Computer** 🖥 icon. The icons for your drives will be displayed in the My Computer window. The drive letters are found next to the corresponding icons.

2. Use the icons below to identify your drive.

3 ½ Floppy Drive _____
Standard Diskette Drive or
SuperDisk Drive

Drive _____
Hard Drive

Drive _____
CD or DVD Drive

NOTE: The CD or DVD drive and the SuperDisk drive are available only on select models.

Using Your Diskette Drive

To insert a diskette into the diskette drive, hold the diskette with the label facing up and the arrow on the diskette pointing towards the drive, and gently push the diskette into the drive.

To remove a diskette, press the **Eject** button on the diskette drive.

CAUTION: Removing a diskette when the drive is reading from or writing to the diskette can damage the diskette or damage the information stored on it. Wait until the diskette drive activity is complete before removing a diskette.

Identifying Your Hard Drive Size

To determine the size of your hard drive, complete the following steps:

1. From the Windows desktop, double-click the **My Computer** ⊟ icon.

2. In the My Computer window, right-click the **hard drive** ⊟ icon.

3. Click the **Properties** menu option. The size of the hard drive is found under the **General** tab.

Securing Your Mobile Internet PC

Using the Security Slot

To use the security slot found on your Internet PC, complete the following steps:

1. Insert the locking device (such as a Kensington lock) into the security slot.

2. Turn the locking device clockwise 90 degrees.

To remove the locking device, turn the locking device counter-clockwise 90 degrees and remove the locking device from the security slot.

Setting a Power-On Password

You can set a power-on password that will secure the information you store on your Internet PC. When turning on your computer, this password must be entered before your computer will start and you can access your files. To set this password, complete the following steps:

1. When you start your computer, the Compaq logo appears on your display. For a few seconds, there will be a cursor flashing in the upper right hand corner. When this cursor appears, press the **F10** key.

    CAUTION: F10 setup is for experienced users only. If you change any other settings, your computer may not restart. Pressing the F9 key at any point within the setup returns your computer to the default settings.

    NOTE: While in the F10 setup mode, you will not be able to use your mouse or TouchPad to move around the screen. You must use the arrow keys or the + and – keys.

2. Using your arrow keys, select the **Security** option from the menubar.
3. Move to **Set Supervisor Password**. Press the **Enter** key.
4. Set your personalized password and press the **Enter** key. You will have to confirm the password and press the **Enter** key again.

    CAUTION: Write your password down in a secure location. If you forget or lose your power-on password, a Compaq service technician will have to reset your computer for you to access your files.

5. Move to **Password on boot** and use the + or – key to select **Enable**.
6. Using your arrow keys, select **Exit** from the menubar.
7. Make sure that **Exit Saving Changes** is selected. Press the **Enter** key.
8. Select **Yes** to save your changes and exit.

Your power-on password is now set. Every time you turn on your computer or access F10 setup, you will have to enter this password.

Removing a Power-On Password

To remove a power-on password, complete the following steps:

1. When you start your computer, the Compaq logo appears on your display. For a few seconds, there will be a cursor flashing in the upper right hand corner. When this cursor appears, press the **F10** key.

2. Using your arrow keys, select the **Security** option from the menubar.

3. Move to **Set Supervisor Password**. Press the **Enter** key.

4. Enter your current password. In the spaces to enter your new password and confirm your new password, press the **Enter** key. Press the **Enter** key again to exit the screen.

5. Move to **Password on boot** and use the + or – key to select **Disable**.

6. Using your arrow keys, select **Exit** from the menubar.

7. Make sure that **Exit Saving Changes** is selected. Press the **Enter** key.

8. Select **Yes** to save your changes and exit.

Chapter 3
Using Your CD or DVD Drive

Inserting and Removing a Disc

Inserting a Disc

To load a disc into your computer's drive, complete the following steps:

1. Press the **Eject** ⏏ button located on the front the drive.

2. Remove a disc from its protective case, holding the disc by its center hole and outer edge to avoid touching the surface.

3. Place the disc into the round area of the tray. The side you want to play should face down in the tray. Gently push down on the disc over the center spindle of the tray until the disc snaps into place.
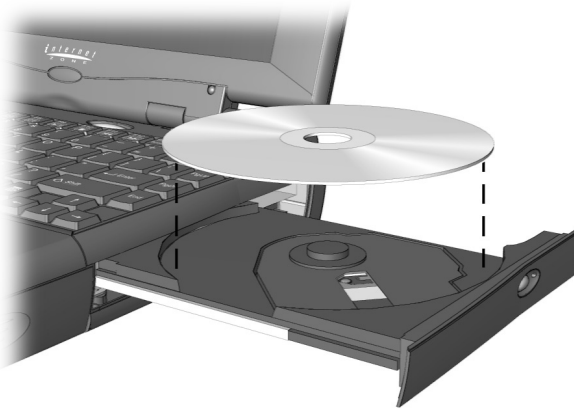
Inserting a Disc into the Drive

4. Push the tray back into the drive until the drive locks into place.

⚠ **CAUTION:** When inserting a disc, be sure to press the disc over the center spindle on the disc tray until the disc snaps into place. You can damage the disc or your computer if the disc is not installed properly.

Removing a Disc

To remove a disc from the drive, complete the following steps:

1. Press the **Eject ⏏** button on the drive.

2. Remove a disc from the tray, gently pushing down on the center spindle while pulling up on the outer edges. Avoid touching the surface of the disc.

3. Push the tray back into the drive until it locks into place.

Manually Ejecting a Disc

If you need to eject a disc when the power is off, complete the following steps to manually eject the disc:

1. Make sure the power is off and any external power sources are disconnected.

2. Insert a metal rod, such as a paper clip (approximately 1/16 inch in diameter and at least 3/8 inch in length) into the Manual Eject hole and push firmly as shown in the figure below. The tray slides should slide out.
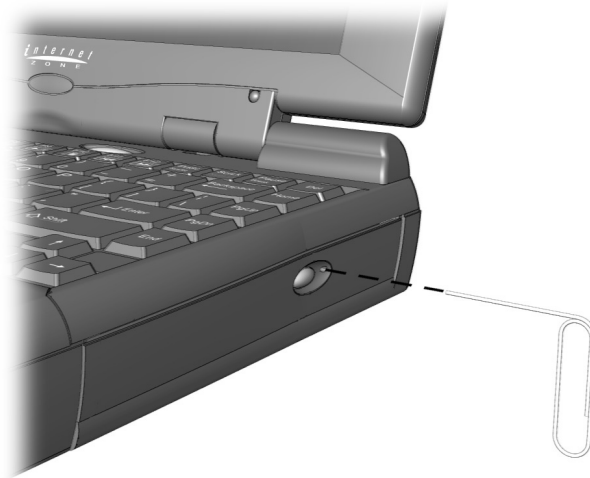
Manually Ejecting a Disc

3. Push the tray back into the drive until it locks into place.

Playing an Audio CD

To play a self-starting audio CD, insert the disc into the CD or DVD drive. After a few seconds, the disc automatically starts playing.

To play a non self-starting audio, press the **Play** button on your Internet keyboard or complete the following steps:

1. Click the **Start** button from the Windows Taskbar.
2. In the Start menu, point first to **Programs**, then to **Accessories**, and then to **Entertainment**.
3. Click **CD Player**. The CD Player window is displayed.
4. Click the **Play** button. The CD begins playing.

Click the **Stop** button to stop playing the CD.

To remove a disc from the drive, click the **Eject ▲** button.

Playing a non DVD Video CD

For a video CD to play automatically, insert the CD into the CD or DVD drive and playback begins.

To manually play a video CD, complete the following steps:

1. Click the **Start** button on the Windows Taskbar.
2. Select **Programs**, then **Accessories**, then **Entertainment**, and then **Media Player**. The Media Player opens.
3. Select **Device**, then **Active Movie** from the menu.
4. Go to **Select CD Disc**.
5. Double-click the **CD Drive** 🖴 icon. You should see a list of files and file folders. CD movies are usually stored in a file folder that begins with the letters MPEG.
6. Double-click the folder that contains the CD movie files.
7. Select a movie file and click the **Open** button. A view window for the movie is displayed.
8. Click the **Play** button on the window and the movie begins to play.

NOTE: It may take a moment for the CD or DVD drive to read the disc when you use the **Play**, **Pause**, **Next Track**, and **Previous Track** buttons.

Compaq DVD Player Control Panel

Using the DVD Player (available on select models)

To start your DVD Player program, double-click the **DVD Player** icon on your Windows desktop.

Alternatively, you may execute the following steps:

1. Click the **Start** button on the Windows Taskbar.
2. Point to **Programs**.
3. Click **DVD Player** and follow the directions on the window.

 NOTE: For the best playback quality, close all other applications in the background while playing a DVD**.**

Using a "Regionalized" DVD

Some models have a "regionalized" feature that limits the playback of discs to specific geographical regions.

If your computer has this feature, the region code on your DVD drive must match the region code on the disc.

Though the computer's region code is set at the factory, some DVD drives (depending on the make and model) offer an option to change the region code. If your computer has this feature, you can change the region code for a maximum of five times. The fifth setting change you make will become the permanent region on your player.

Identifying Your Region Setting

If your computer offers the option to change region settings, complete the following steps:

1. Insert a DVD into the CD or DVD drive. The DVD Options window opens. The selected radio button under the Select DVD Region tab indicates your computer's current region setting.

2. Click the **OK** button if your drive's region setting matches the disc's region setting.

Changing a Region Setting

To change the drive region, complete the following steps:

1. Insert a DVD into the CD or DVD drive. The Select DVD Region window opens.

2. Select another DVD region from the displayed map or from the radio buttons so that your drive's region setting matches the disc's region. After you make a change to your drive's region setting, the remaining number of changes allowed on your drive is displayed.

3. Click the **OK** button.

Play Settings

The DVD player has two modes or play settings. The DVD mode and the File mode. Use the DVD mode to play a standard DVD. Use the File mode to play MPEG file type.

To play content from the File mode, complete the following steps:

1. Point and click the **Open** ☛ icon on the DVD player control panel displayed on your computer window. The list of files is displayed.

2. Select the file you want to view.

3. Click the **Open** button. The content begins playing.

Not all of the following features are available on all DVDs:

• If the DVD player is in the File mode, the Subtitle button is disabled.

• If the DVD player is in the DVD mode and your disc does not have Subtitle language options, the subtitle button is disabled.

• If the DVD player is in the DVD mode and your DVD has Subtitle language options, the Subtitle button is enabled.

When a DVD is inserted into the CD or DVD drive, the features available on your DVD player are displayed. When a particular feature is not available, the respective button does not respond when clicked.

Display Options

You can choose how the controls and DVD content is displayed on your computer.

Viewing and Hiding the DVD Player Panel

To view the DVD Player panel when the DVD Content Picture window is set to full-window size, right-click anywhere on the picture.

To hide the DVD Player panel, click anywhere outside the DVD panel.

Enlarging and Reducing the View

To enlarge the DVD Content Picture window to full-window size, double-click the window's title bar.

To return to a smaller window, double-click anywhere on the picture.

Hiding the Taskbar
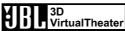
To hide the Windows Taskbar while you view DVD content in full-screen mode, complete the following steps:

1. Click the **Start** button on the Windows Taskbar.
2. Point to **Settings**, then click **Taskbar**. The Taskbar Options window is displayed.
3. To enable an option, click the checkbox. To disable an option, clear the checkbox.
4. Deselect the **Always on top** checkbox.
5. Check the **Auto hide** checkbox.

On-Screen Control Buttons

Button	Title	Description
	Open	Displays a list of files for playback.
	Eject	Opens the DVD drive to load or remove discs.
	DVD Options	Displays the **DVD Options** menu for selecting **Video Display** and **Parental Controls**.
	Previous	Moves to the previous track and resumes playback.
	Rewind	Rewinds the content. Press **Play** to resume playback.
	Stop	Stops content playback and returns to the start of the content file.
	Play	Begins playback of selected content.
	Pause	Pauses playback. Press **Pause** or **Play** to resume playback.
	Fast Forward	Advances to a selected location. Press **Play** to resume playback.
	Next	Skips to the beginning of the next track.
	Root Menu/ Resume	Shows what is available on the DVD for playback.
	Change Subtitle	Displays or changes subtitles viewed on the window. This feature is allowed only for DVD content with subtitles. This feature is available only when the content allows changes to the audio track.
	Change Audio	Changes the playing audio track to another audio track located on the DVD. Most commonly used with multi-language content to change the spoken/heard language. This feature is available only when the content allows changes to the audio track.
	Title Menu/ Resume	Displays the main title menu to select content.

Button	Title	Description
▉━	Change Camera Angle	Changes the camera angle of content being played. This feature is allowed only for DVD content created using multiple cameras and camera angles.
♫	Karaoke mode	Toggles between left channel, right channel, and stereo (dual mode). During left or right modes, the program turns the microphone on. Left mode selects the left channel and feeds it to both speakers. Right mode behaves in a similar fashion. The stereo mode enables left and right channels to be played through left and right speakers, respectively.
JBL 3D VirtualTheater	3D Audio	Activates the 3D Audio feature for virtual surround sound.
▮	Volume	Increases the volume level when the bar is moved up and decreases the volume level when the bar is moved down.
🔊	Mute	Turns off the audio. Press the **Mute** or **Volume Control** button to resume audio.
⊠	Close Player	Closes the program.
⊟	Minimize	Minimizes the size of the Display window of the program.
?	Help	Shows the Help file.

Chapter 4

Identifying and Removing Computer Viruses

Recognizing a Computer Virus

A computer virus is a program that damages or erases files or programs. Your computer can become "infected" with a virus when you open a contaminated program or file. Some signs that your computer may be infected include:

- Strange characters or crude statements suddenly appearing on your screen
- Hard drive, memory, or software error messages
- Damage to files or directories for no apparent reason
- Strange responses to commands
- Sharp decrease in system performance or program speed

Using McAfee Anti-Virus Software

Your Internet PC is equipped with anti-virus software. Scanning your computer for viruses is an important part of keeping your files safe from becoming infected with computer viruses. However, hundreds of new viruses are created each month, so you should update the anti-virus tool often.

Scanning for Viruses

To configure and perform a virus scan of your diskettes, your local hard drive, or a network drive, complete the following steps:

1. From the Windows desktop, double-click the **Compaq Support** *Ω* icon.

2. Double-click the **McAfee VirusScan** 🌷 icon. The VirusScan Launcher is displayed.

3. Click **Scan**. The McAfee VirusScan window is displayed. If you want to perform an Advanced Scan, refer to the Perform an Advanced On-Demand Scan in the McAfee on-line Help.

4. Select the **Where & What** tab. The C:\ drive, your local hard drive, is the default. If you want to scan a different drive, click **Browse** and select another drive letter.

5. Select the **Include Subfolders** option, if you want to scan the subfolders.

6. Select one of the following options:

   - Scan All Files

   - Program Files Only

   If you select **Program Files Only**, click **Extensions** to view a list of file extensions that VirusScan will scan. You can edit the list.

7. Select the **Compressed Files** option to include files created with file compression utilities. For more information on Scanning Compressed Files, refer to the McAfee on-line Help.

NOTE: Because VirusScan decompresses these file types in memory before checking for viruses, this option can increase the time it takes to complete a scan.

8. Determine if you want to start scanning immediately or to continue customizing your scan. To start VirusScan immediately, click **Scan Now**. If you want to continue configuring your scan, select one of the following tabs:

   - Action tab

   - Report tab

9. Click **Stop** to halt a VirusScan after it has started, or click **New Scan** to start a new scan and change your configuration choices to the VirusScan defaults.

Creating an Anti-Virus Emergency Diskette

Having an Anti-Virus Emergency Diskette available to use is an essential part of an effective virus prevention program. If your system becomes infected, you may not be able to access your hard drive or start Windows. The Emergency Diskette will, at a minimum, diagnose and resolve infections on your hard drive, enabling you to start your computer from a virus-free environment.

Use VirusScan's Emergency Diskette utility to create an Emergency Diskette. If you ever need to start your computer from the Emergency Diskette, we recommend you perform a scan of your computer and its contents immediately after starting your computer.

To create an Emergency Diskette, complete the following steps:

1. Get a blank, formatted 3.5-inch, high-density diskette.
2. From the Windows desktop, double-click the **Compaq Support** *q* icon.
3. Double-click the **McAfee VirusScan** ⚕ icon. The VirusScan Launcher is displayed.
4. Click **Tools**. The Utility Toolbox is displayed.
5. Click **Emergency Disk**. The Emergency Disk Wizard is displayed.
6. If you have inserted a formatted diskette, click the **Don't Format** option. Click **Next**. You are instructed to insert the diskette into your computer's diskette drive.
7. Insert the diskette and click **Next**. The Emergency Disk Utility scans the diskette for viruses and copies the files necessary to scan your system for viruses. A window informs you when the process is complete.
8. Click **Finish**.
9. Remove the diskette from the diskette drive, label it "**VirusScan Emergency Diskette**," and store it in a safe place.

You will now have a diskette that contains the system files necessary to start your computer.

Using an Anti-Virus Emergency Diskette

If you need to use the emergency diskette, complete the following steps:

1. Shut down your computer using the **Main Power** button.

NOTE: Do not use the Restart command from the Start menu. Do not use your computer Reset button.

2. Insert the emergency diskette into the diskette drive.
3. Turn on the computer and follow the on-screen instructions.
4. When the scan is complete, press **Ctrl+Alt+Del** to restart your computer.

NOTE: The emergency disk scans your computer for viruses in the MS-DOS mode, not the Windows mode. Scanning takes about 15 to 20 minutes. However, the length of time depends on the size of your hard drive and the number of files to be scanned.

Keeping Your Anti-Virus Software Current

By registering with McAfee Anti-Virus, you can receive free anti-virus software updates for one year. Once you have registered, you will be able to simply download the updates at any time. To register and begin downloading updates, complete the following steps:

1. From the Windows desktop, double-click the **Compaq Support** *a* icon.

2. Double-click the **McAfee VirusScan** ⚘ icon. The McAfee VirusScan Launcher will display.

NOTE: The McAfee VirusScan Launcher shows how many days have elapsed since the last update.

3. Click the **Update** button. The Welcome to McAfee VirusScan! window is displayed. Read the information on the screen.

4. Click the **Update** button. The Welcome to McAfee SecureCast Online! window will display. Select **Yes** if you have access to the Internet, or select **No** if you do not have an Internet connection.

5. Click **Next**. The User Registration Information window is displayed.

6. Enter your information in the User Identification and Additional Information areas.

7. Click the **Next** button. The Online Activity Status window displays the status of the download.

Once the download is complete, your anti-virus software will be prepared to detect the latest viruses. It is recommended that you download updates at least once a month.

4-6 *Identifying and Removing Computer Viruses*

Chapter 5

Introducing Microsoft Windows 98

Customizing the Windows Desktop

The Windows desktop is the screen you see when the Windows startup is complete. You can arrange your desktop just the way you want it.

Windows Desktop
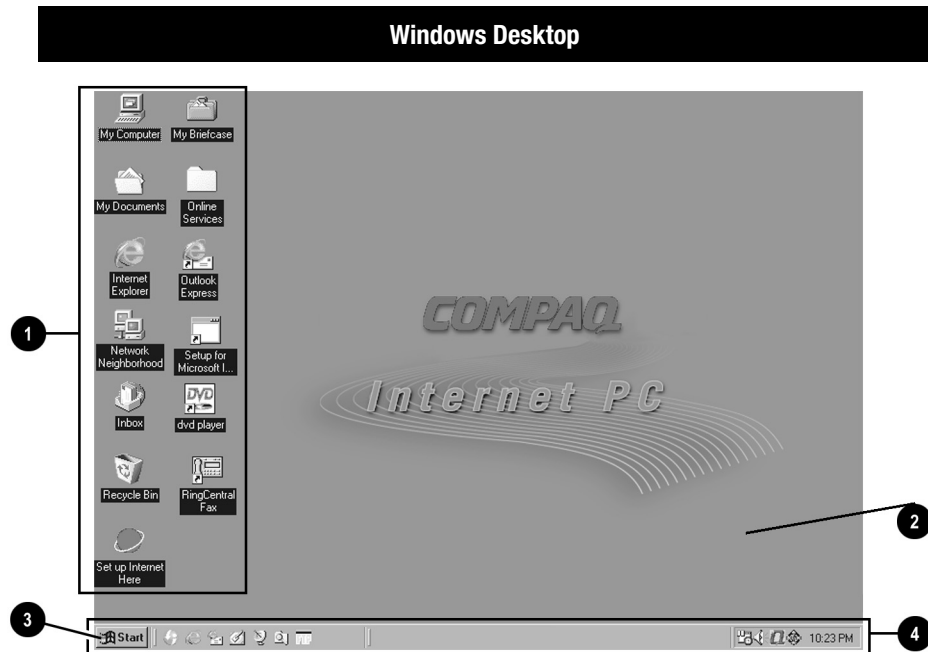
Components			
❶	**Icons** represent files, folders, programs, and other objects that you use.	❸	**Start** button displays a menu of commands for starting programs, changing system settings, locating files, updating your system, and getting help.
❷	**Windows desktop** is the basic Windows work area.	❹	**Windows Taskbar** provides a way to organize your programs and files, and navigate between files.

Arranging Icons

You can arrange the icons on your desktop for quick and easy access to frequently used items.

To arrange icons, complete the following steps:

1. Right-click anywhere on the Windows desktop.
2. From the Shortcut menu, select **Arrange Icons**.
3. Choose the method by which you want to arrange the icons. You can arrange icons in the following ways:

    *   By Name (alphabetically)
    *   By Type (file extension)
    *   By Size (size of the file)
    *   By Date (date the file was created or edited)
    *   AutoArrange (automatic icon arrangement)

You can also arrange your icons in organized rows. Right-click the Windows desktop and choose **Line Up Icons** from the Shortcut menu.

Selecting a Background

To change the background on your desktop, complete the following steps:

1. Right-click the **Windows desktop** and select **Properties** from the Shortcut menu.
2. Select the **Background** tab and click **Pattern**.
3. From the Patterns list, choose the background you prefer.
4. Click **OK**.

Adding a Screen Saver

To add a screen saver, complete the following steps:

1. Right-click the **Windows desktop** and select **Properties** from the Shortcut menu.

2. Select the **Screen Saver** tab.

3. From the Screen Saver drop-down menu, choose the design you prefer.

4. Click the **Settings** button to choose the options for your screen saver. For example, you can set the length of time you want the computer to be inactive before the screen saver begins.

5. Click **Preview** to view the screen saver.

6. Once you have the screen saver you prefer, click **Apply**.

7. Click **OK**.

For more information on customizing your desktop, refer to Microsoft Windows Help.

Microsoft Windows is the latest innovation in PC operating system technology. An operating system is the software that gives your computer the ability to run programs, display your work, and connect to printers, keyboards, and other devices.

The Windows operating system allows you to perform tasks by clicking menu items and small pictures (called icons). Windows also allows more than one program to run at a time, and each program to share information with other programs.

Before you can begin using your Compaq Internet PC, you must complete the Microsoft Windows setup process and register your new computer. When you turn on your computer for the first time, the Microsoft Windows setup begins automatically.

Finding Help

If you are not familiar with the many features of Microsoft Windows, you have the following tools that have been included with your computer.

Windows Help

Windows Help is a valuable tool that can provide answers to many of your questions about Microsoft Windows.

To search for information in Windows Help, complete the following steps:

1. Click the **Start** button, then click **Help**.
2. Select the **Content, Index,** or **Find** tab for help.

Running Microsoft Windows (available on select models)

The electronic version of the Microsoft Press publication *Running Microsoft Windows 98* is installed on your computer. From the Windows desktop, double-click **Running Microsoft Windows**.

Microsoft Windows Starts Here (available on select models)

Another Microsoft Press publication, *Microsoft Windows 98 Starts Here*, is also loaded on your computer. From the Windows desktop, double-click **Microsoft Windows Starts Here**.

Microsoft Windows 98 Starts Here is a tutorial designed to help you master the basic concepts of the Microsoft Windows operating system. The following topics can be found in this tutorial:

- **Introducing Windows 98** provides information on Windows features and how they can help you complete daily tasks.
- **Communicating and Collaborating** contains information about how to use the communication tools in Windows.
- **Keeping Your Computer Healthy** shows you how to use Windows to keep your computer performing efficiently.

These tools can provide answers to your questions as you use Microsoft Windows.

Searching for Files

In Windows you can search for files or folders by entering a complete or partial name, the date the file was created, or the file type or size.

To search for a file or folder, complete the following steps:

1. From the Windows Taskbar, click the **Start** button.
2. Point to **Find** and choose **File or Folders**.
3. From the Name & Location tab, type the name of the file or folder, or as much as you can remember, in the Named box.
4. From the Look in box, select the location to be searched.
5. Click the **Include subfolders** checkbox.
6. From the Date tab, you can specify **All Files**, or **Find all files** and provide a time frame in which the file was created or modified.
7. From the Advanced tab, you can specify the type of document to search for or the size of the document.
8. Click **Find Now**.

Creating New Folders

Microsoft Windows allows you to create folders to organize your files. For example, you can create a folder and name it Budget99. In this folder you could store all of your files related to expenses, profits, taxes, and so forth.

To create a folder, complete the following steps:

1. Right-click the **Start** button and choose **Explore** from the Shortcut menu to open Windows Explorer.
2. From Windows Explorer, click the drive where you want to place the new folder so that it is selected.
3. Right-click in Explorer and choose **New** from the Shortcut menu.
4. Choose **Folder**.
5. Type a name for the new folder and press **Enter**.

Deleting Files and Folders

To delete a file or folder, complete the following steps:

1. Click the file or folder you want to delete.

2. Press **Delete**. The message "Are you sure you want to send to the Recycle Bin?" is displayed.

3. Click **Yes** if you want to delete the file or folder. If you do not want to delete the file or folder click **No** or **Cancel**.

Creating Shortcuts

Shortcuts are used to open files and programs without having to select them from the Start menu or from their permanent location on the hard drive. If you frequently use a certain file or folder, you can place a shortcut for it on your desktop as an icon or on the Start menu for quick access.

To create a shortcut to a file or folder, complete the following steps:

1. Right-click the **Start** button and choose **Explore** from the Shortcut menu to open Windows Explorer.

2. From Windows Explorer, locate the file or folder you want to use to create the shortcut.

3. Click the file or folder to select it.

4. Right-click the selected file or folder and choose **Create Shortcut** from the Shortcut menu.

5. Right-click and drag the shortcut to any of the following areas:

   - on the Windows desktop

   - in a particular folder

6. When Windows prompts you with a Shortcut menu, choose **Create Shortcut Here**.

To use the shortcut, double-click the new shortcut icon.

Using Microsoft Windows Accessories

Microsoft Windows is equipped with a number of accessories. Brief descriptions of the accessories available to you are provided as follows:

- **Accessibility** allows you to configure Windows for your vision, hearing, and mobility needs.
- **Communications** offers the following features:
  - **Dial-Up Networking** enables you to connect to another computer or to a network.
  - **Direct Cable Connection** enables you to quickly and easily establish a direct serial or parallel cable connection between two computers.
- **HyperTerminal** enables you to connect to a remote computer, send and receive files, and connect to computer bulletin boards or similar information services.
- **Phone Dialer** enables you to place calls using your computer. It also stores a list of your calls for you to review as needed.
- **Entertainment** offers the following features:
  - **ActiveMovie Control** provides a way to view ActiveMovie files, usually encountered on the Web.
  - **CD Player** allows you to play audio CDs in your CD drive while you work in other programs.
  - **Media Player** allows you to play multimedia files (audio and video) saved in these formats: .wav, .mid, .rmi, .avi, and .mpg.
  - **Sound Recorder** allows you to play audio files. You can also record sounds using a microphone attached to your computer.
  - **Volume Control** provides the power to control Windows sound. You can control the balance between your left and right speakers, change the volume, and mute certain devices.
- **Games** provides several activities for your entertainment.
- **System Tools** offers various utilities for your system, including Clipboard Viewer, Disk Cleanup, Disk Defragmenter, and ScanDisk.
- **Calculator** provides a means to perform simple and complex calculations.
- **Imaging** allows you to view, zoom, rotate, and print a previewed image.
- **Notepad** offers a place to work with unformatted text.

- **Paint** allows you to create and edit graphics.
- **WordPad** provides basic word processing features.

To use any one of these accessories, complete the following steps:

1. From the Windows Taskbar, click the **Start** button, then point to **Programs**.
2. Click **Accessories** and choose the feature you want to use.

Installing Additional Software

Once you have become accustomed to using your Internet PC and have explored the pre-installed software, you may wish to purchase and install additional software. When selecting software for your Internet PC, make sure it states on the packaging that it is compatible with your Microsoft Windows operating system.

HINT: If the software documentation contains installation instructions, use those instructions. If not, you can complete the following steps for installing software from a CD or diskette.

Software can be installed from a CD, a diskette, or downloaded from a Web site. Many software CDs automatically begin the installation process when placed in the CD drive. If you have a software CD that does not automatically begin the installation process, you can install the software by using the Microsoft Windows Add/Remove Programs utility.

Installing Software from a CD or Diskette

To install software from a CD that does not automatically install, or from a diskette, complete the following steps:

1. Close all open programs.
2. From the Windows Taskbar, click the **Start** button, point to **Settings**, and then click **Control Panel**.
3. Double-click the **Add/Remove Programs** icon. The Add/Remove Programs Properties window is displayed. Click **Install**.
4. Insert the CD or diskette into the proper drive and click **Next**.

Microsoft Windows will find the CD or diskette and begin the installation process.

Installing a Downloaded Program File

HINT: If you choose to download software from a Web site, follow the installation instructions that may be included on the Web page. If installation instructions are not available, complete the steps below.

To install a program file that you have downloaded from the Internet to your hard drive, complete the following steps:

1. Terminate your Internet connection.
2. Close all open programs.
3. From the Windows Taskbar, click the **Start** button, point to **Settings**, and then click **Control Panel**.
4. Double-click the **Add/Remove Programs** icon. The Add/Remove Programs Properties window is displayed. Click **Install**. The Install Program from Floppy Disk or CD-ROM window is displayed. Click **Next**. The Run Installation Program window is displayed. Click **Browse**.
5. Locate and select the *Setup.exe* or *Install.exe* file for the downloaded software.
6. Click **Open** to begin the installation process.

Chapter 6

Surfing the Internet

The Internet is a worldwide network of computer networks. Computer networks are two or more computers linked or connected together by cables or phone lines.

These computers are linked together to provide seemingly endless amounts of information for research, education, commerce, and entertainment purposes.

This information is stored on computers called Web servers. Web servers are set up exclusively for Internet users to access this information.

The graphic below illustrates how a Web site stored on a Web server in North America can be viewed all around the world.

The Internet

When you "surf" the Internet, you are accessing these millions of computers and reviewing the information that they have stored on their Web servers.

Internet Addresses (URLs)

Surfing the Internet is made possible by the addresses assigned to these linked computers. The Web address (also called the Uniform Resource Locator, or URL) allows other computers to view the information as Web pages. For example, the Compaq Web site address is www.compaq.com. When you access this address, the Compaq Web site and all associated Web pages can be viewed on your Internet PC.

Understanding the World Wide Web

The World Wide Web, also known as the Web, is a popular format that has been set up on the Internet specifically for publishing and accessing information.

This information is formatted into attractive pages in the form of text, graphics, animation, audio, and video called Web sites. Web sites also contain hyperlinks to other Web sites so you can easily follow a path of associated ideas. Hyperlinks provide a means for moving from page to page, computer to computer, and idea to idea on the Web.

To begin surfing the Internet, you must have the following:

- A physical connection to the Internet, such as a modem through a telephone line – a modem is the hardware that your computer uses to send and receive information on the Internet through standard telephone lines.

- An active Internet Service Provider (ISP) account – an Internet service provider serves as your entry point to the Internet and to the Web.

- A Web browser installed on your computer – a Web browser is a software program that allows you to view Web sites.

Choosing an Internet Service Provider

Compaq makes it easy to connect to the Internet by offering Compaq Easy Internet Access, but if you choose to install a third party ISP account, refer to their documentation for setup instructions. Any ISP of your choice can be installed at anytime; however, it is recommended that you first complete the initial system registration process.

Using a Web Browser

A Web browser is a program that allows you to see Web sites on the Internet.

Your Internet PC comes preinstalled with Microsoft Internet Explorer and Netscape Navigator browsers.

Microsoft Internet Explorer

To begin surfing the Internet with Internet Explorer, complete **one** of the following:

- From the Windows desktop, double-click the **Internet Explorer** *e* icon.

- From the Windows Taskbar, click the **Start** button, point to **Programs**, and then click the **Internet Explorer** *e* icon.

NOTE: For America Online users, you must start AOL and log on before starting Internet Explorer.

Surfing Tips

After you have set up an Internet connection with your ISP and you log on to the Internet, you are ready to surf. To help your surfing experience be productive, we have provided a few tips, after a quick review on the Internet.

To begin surfing the Internet you must use a Web browser, such as Internet Explorer or Netscape Navigator. However, some ISPs, such as America Online, require you to log on to their service before you can use a Web browser.

There are two ways to connect to the Internet:

- By starting the ISP program.
- By starting the Web browser program.

If you start the ISP first, there are two ways to begin surfing the Internet:

- By using the ISP connection to the Internet (usually an icon on the task menu).
- By minimizing the ISP program and starting the Web browser from the Windows desktop.

Each of the browsers has a default "home" page. The home page is the first page displayed as the browser launches. Compaq has configured the browser to launch a Compaq-recommended Web site, which you can customize to your own taste. Of course you can change this home page if you want to start at another Web site. Look in the browser Help files for instructions on resetting the default home page.

Accessing a Search Engine

Once you access the Internet, your can begin searching for information using a search engine.

A search engine is a type of program found on various Web sites that allows you to search the Internet for keywords you type in. The search engine will return a list of Web pages that have your keywords in them.

There are many search engines to choose from on the Internet, such as AltaVista. To go to one of these search engines, type in the URL, such as www.altavista.com in the Address box. This will take you to the AltaVista home page.

The browsers have a Search button that will automatically take you to their recommended search engine, and your Internet PC comes with a button that takes you to a search engine.

Using a Search Engine

The following points are additional tips on how to find information on the Internet using a search engine:

- When entering keywords, you can enter an entire sentence to limit the search to a more specific topic. For example, for information on carving a turkey, type carving a turkey in the keyword box instead of just turkey.

- After entering a keyword search, the search engine that you are using will return a list of all Web sites that contain your keywords. You must click the link to a Web site to find more detailed information.

- Some Web sites are connected to other Web sites with hyperlinks often appearing as colored, underlined text. When you click a hyperlink, you access the Web page associated with that link. The new Web page may be from the same Web site or a Web site in another country.

For practice, search for the Compaq Web site by typing the following URL into the **Address** box of your Web browser:

www.compaq.com/athome/exploration

Chapter 7

Sending and Receiving Faxes

Your computer comes with the ability to send and receive faxes. Before you try to send or receive faxes, you must have your modem connected to a telephone line and have the software running. For more information on connecting your modem, refer to the *Compaq Hardware and Software Setup* poster that came with your computer.

Using RingCentral Fax (Available in select models)

Your computer comes with the RingCentral Fax program. RingCentral Fax is used to send and receive faxes. Refer to the online Help in RingCentral Fax for detailed instructions on using the software.

Setting Up RingCentral Fax

The first time you use RingCentral Fax, the program will prompt you through a setup process. The setup process is simple and takes approximately three to five minutes to complete.

To start the RingCentral Fax setup, complete the following steps:

1. Double-click the **RingCentral Fax** icon located on your desktop or click the **Start** button from the Windows Taskbar, point to **Programs**.

2. Select **RingCentral Fax** from the menu. The RingCentral Fax Setup Wizard window is displayed.

3. Click the **Next** button and follow the instructions in the RingCentral Fax Setup Wizard window until the setup process is complete.

Sending a Fax

To send a fax using RingCentral Fax, complete the following steps:

1. Double-click the **RingCentral Fax** ⌨ icon located on your desktop or click the **Start** button from the Windows Taskbar, point to **Programs**.

4. Select **RingCentral Fax** from the menu. The RingCentral Fax window is displayed.

5. Click the **Send Fax** tab on the RingCentral Fax Taskbar. The Send Fax window is displayed.

6. Complete the information in the Recipients portion of the window. The fax number field must be filled in or RingCentral Fax will not be able to deliver the message.

7. Type your message inside the **Note** text box.

8. Click the **Send Fax Now** button.

HINT: You can also fax an existing document and add an attachment to it. For more information, refer to the online Help included in the RingCentral Fax program.

Receiving a Fax

If the RingCentral Fax program is open, you are set to automatically receive any fax sent to you. A message indicating a fax is being delivered will be displayed.

To disable the automatic-receipt feature in RingCentral Fax and receive faxes manually, complete the following steps:

1. Click the **Start** button from the Windows Taskbar and point to **Programs**.

9. Select **RingCentral Fax** from the menu. The RingCentral Fax window is displayed.

10. Click **Menu** from the RingCentral Fax window and point to **Commands**.

11. Click **Manual Fax Receive**.

12. Click **View Faxes** to check if you have received a new fax.

13. If you have received faxes, point to the new faxes and click **Open**.

14. Click **Close** button to exit from the View Faxes window.

NOTE: Incoming faxes cannot exceed 100 pages.

Chapter 8

Saving Energy with Sleep and Power Management

Your Compaq Internet PC is equipped with power management features. These power-saving settings are preset for optimal performance. For more information about power management, refer to the Windows Help.

What are Sleep and Hibernation?

Compaq Internet PCs have two levels of power management: Hibernation and Sleep.

Hibernation mode occurs by pressing the **Power** ⏻ button once. Your computer saves the content of your computer memory to the hard drive. This is followed by your computer turning off.

Sleep mode is a low-power mode, also referred to as Standby mode. It occurs by pressing the **Fn+F4** function key or by clicking the **Start** button, then **Shutdown**, then **Standby**.

The following table shows the conditions and indicators for getting in and out of the various power modes: Sleep, Hibernation, and Off.

Sleep and Hibernation Functions

Mode	To Start	To End	Indicators
Sleep	**Manual** – **Fn+F4** key combination or click the **Start** button on the Windows Taskbar, then point to **Shutdown**, then click **Standby**. **Time-Out Default** – 15 minutes if using battery power. Computer will not automatically enter Sleep mode if on AC power.	Press any key.	Flashing **Power** ⏻ light* *Moon ☾ icon appears on status display (1800 Series only)

Sleep and Hibernation Functions

Mode	To Start	To End	Indicators
Hibernation	**Manual** – Press **Power** ⏻ button once. **Time-Out Default** – If your battery is low or after 1 hour of Sleep. Computer will not automatically enter Hibernation mode if on AC power.	Press **Power** ⏻ button once.	**Power** light is off, screen is blank* *Power ⏻ icon does not appear on status display (1800 Series only)
Off	**Standard** – Perform normal Windows shutdown using the **Start** button on the Windows Taskbar. **Manual*** – Press and hold down the **Power** ⏻ button for 4 seconds. *The Manual shutdown mode is not recommended unless the Standard shutdown mode does not work.	Press **Power** ⏻ button once.	No **Power** light (or icon), screen is blank.

The Importance of Hibernation Mode

Hibernation mode conserves battery life and protects your data. Hibernation can be a routine power-saving event or the result of a low battery. As your computer enters Hibernation, it automatically saves the content of your computer memory to the hard drive before it turns off.

Your computer will automatically enter Hibernation mode when the battery has little power left or when your computer (operating on battery power) has been in Sleep mode for more than one hour. You can also activate Hibernation mode by pressing the **Power** button once.

To restart your computer, press the **Power** button once. While your computer enters or wakes from Hibernation mode, it displays a Progress window.

NOTE: If you are using battery power, your computer will automatically enter Hibernation mode after one hour in Sleep mode.

Putting Your Computer into Sleep Mode

You may put your computer into Sleep mode manually by pressing the **Fn+F4** keys simultaneously.

Another way to put your computer into Sleep mode manually is to click **Start**, point to the **Shut Down** option, and click **Standby** from the list of choices.

> ⚠ **CAUTION:** While in Sleep mode, your computer will maintain system information and open files. Unsaved information is lost if you turn off your computer before you end Sleep mode.

Resuming from Sleep or Hibernation Mode

To begin using your computer from Sleep or Hibernation mode, complete one of the following steps:

- From **Sleep** – Press the spacebar.
- From **Hibernation** – Press the **Power** button.

Adjusting Power Settings

You can create different power settings, or power schemes, under which your computer will go into Sleep mode. The optional settings are **Home/Office Desk**, **Portable/Laptop**, and **Always On**. These default settings will work for most users. You can adjust the settings for your work habits. You are able to change the following:

- when your computer goes into Sleep (Standby) mode
- when the screen times out and goes blank
- when the hard drive goes into low power mode

Changing Your Power Management Settings in Microsoft Windows

To change the power management settings, complete the following steps:

1. Click the **Start** button from the Windows Taskbar.
2. Point to **Settings**.
3. Click **Control Panel**.
4. Double-click the **Power Management** icon.

Power Schemes Tab

1. Click the **Power Schemes** tab.

2. Using the **System Standby** dropdown menu, select the length of time on AC power or on battery that you want your computer to wait before initiating Standby.

> **NOTE:** If you are connected to a network, Compaq recommends you set **System Standby** to **Never**.

3. Select the **Turn off Monitor** dropdown list to set the time allowed before the monitor turns off.

4. Select the **Turn off Hard Disk** dropdown list to adjust the length of idle time before the hard disk goes into low power mode.

> **NOTE:** These options are available for both AC power and battery power.

5. Click **Save As** and type in the name for your personal power management settings OR click **Apply** to activate your new setting.

Your personal power settings are now turned on.

Alarms Tab

⚠️ **CAUTION:** The settings on the Alarms tab have been preset for your computer to run at its best. Changing any of these settings could cause your computer to function improperly. It is recommended that these settings be left at their default values.

For the recommended settings, make sure the following values are set:

- For low battery alarm:
  - Make sure **Set off low battery alarm when power level reaches 10%** is checked.
  - Power level gauge is set to 10%.

  Alarm action = **Notification**: Text **Action**: No Action

- For critical battery alarm:
  - Make sure **Set off low battery alarm when power level reaches 0%** is checked.
  - Power level gauge is set to 0%.

  Alarm action = **Notification**: Text **Action**: No Action

Turning Off Sleep Mode

To turn off Sleep mode, complete the following steps:

1. Click the **Start** button from the Windows Taskbar.
2. Point to **Settings**.
3. Click **Control Panel**.
4. Double-click the **Power Management** 🔋 icon.
5. Click the **Power Schemes** tab.
6. From the **Power Scheme** dropdown menu, select **Portable/Laptop**.
7. From the **System Standby** dropdown menu, select **Never**.
8. Click the **OK** button to apply the changes.

📝 **NOTE:** If you change these settings, the computer display will turn off but your computer will not enter Sleep mode.

Changing Your Power Management Settings in DOS

If you are working in DOS mode, your Windows power management settings will not be in effect. However, there are preset power management settings while you are working in DOS. To change these settings, complete the following steps.

1. When you start your computer, the Compaq logo appears on your display. For a few seconds, there will be a cursor flashing in the upper right hand corner. When this cursor appears, press the **F10** key.

CAUTION: F10 setup is for experienced users only. If you change any other settings, your computer may not restart. Pressing the F9 key at any point within the setup returns your computer to the default settings.

NOTE: After you have entered the F10 setup mode, you will not be able to use your mouse or touchpad to move around the screen. You must use the arrow keys or the + and – keys.

2. Using your arrow keys, select the **DOS Power** option from the menubar.

3. Move to **Power Savings**. Use the + or – key to change the setting to **Customized** or press **Enter** to see the available options. Use the arrow keys to choose your selection.

4. Move to **Sleep Timeout** and press **Enter** to display your choices. Use the arrow keys to make a selection and press **Enter**.

5. Move to **Hard Disk Timeout** and press **Enter** to display your choices. Use the arrow keys to make a selection and press **Enter**.

6. Using your arrow keys, select **Exit** from the menubar.

7. Make sure that **Exit Saving Changes** is selected. Press the **Enter** key.

8. Select **Yes** to save your changes and exit.

NOTE: These settings only apply when you are working in DOS mode. If you are working in Windows, the Windows power management settings will apply.

Recovering from a Loss of Electrical Power

Loss of electrical power will cause your Internet PC to automatically turn off. This may cause loss of data because the Microsoft Windows operating system is not able to properly close all files and programs. To protect your data, learn to save your work frequently.

Loss of power may be caused by one of the following:

- Electrical power service is interrupted.
- Power cord is accidentally disconnected.

Power Surges and Sags

If power surges or sags, the display and status lights may flicker and the computer may automatically restart. If an improper shutdown occurs, ScanDisk, a Microsoft Windows utility program, will automatically run once power is restored to the computer. ScanDisk will determine if the improper shutdown caused any errors on the hard disk. These errors may occur if the Microsoft Windows operating system was not able to properly close all files before the shutdown. If no errors are found, the restart process will continue. If ScanDisk does detect errors, follow the instructions shown to continue the restart process. Work that was not saved prior to the lockup may be lost.

Using a Surge Suppressor

Use of a surge suppressor, line conditioner, or uninterruptible power supply (UPS), may help to protect your computer from damage that may be caused by power surges or sags.

Restarting Your Computer After a Power Failure

If a power failure occurs or you accidentally disconnect the power cord while the computer is turned on, turn off the computer until you are sure normal service has been restored. The next time you turn on the computer, ScanDisk may run to check the hard disk for errors that may have been caused by the improper shutdown.

Electrical Storms

If you are expecting an electrical storm to pass through your area, it is a good idea to ensure that your Internet PC is turned off. You should disconnect the modem line from the telephone wall jack and remove all the computer power cords from electrical outlets.

Creating a Personal Power Scheme

If you find that the preset power management schemes do not fit your work habits, you can create a personal power scheme.

To create your own personal power scheme, complete the following steps:

1. From the Windows Taskbar, click **Start**, point to **Settings**, and then click **Control Panel**.

2. Click the **Power Management** icon.

3. Complete the following steps in the Power Management Properties window:

    a. Ensure the **Portables/Laptop** power scheme is selected.

    b. Click the down arrow next to **System standby** and select the amount of time that passes before the computer goes into Sleep mode.

    c. Click the down arrow next to **Turn off monitor** and select the amount of time that passes before the monitor goes into Sleep mode.

    d. Click the **down arrow** next to **Turn off hard disks** and select the amount of time that passes before the hard drive goes into Sleep mode.

4. Click **Save As** and type in a name for your personal power scheme.

5. Click **OK**. Your personal power scheme is now activated.

Chapter 9

Maintaining Your Internet PC

Battery Overview

The following is information on the features of the battery for your Internet PC, as well as instructions for storing and disposing of the battery.

Battery Power

To determine the amount of remaining battery power, double-click the **Battery Charge** ⬚ icon located on the Windows Taskbar. You can also check the lights on your battery or the status panel gauge, depending on what series computer you have. For the features that apply to your computer, see the table below.

Battery Gauges			
Series Number	**Taskbar Icon**	**Battery Lights**	**Display Gauge**
1200	Yes	Yes	No
1600	Yes	Yes	No
1800	Yes	Yes	Yes
1900	Yes	No	No

Battery Operating Time

The battery operating time depends on your power management settings. The system components, the options, and the applications you use also affect operating time.

NOTE: For safety reasons, when operating under AC power, Compaq recommends that you keep a battery installed. This will also ensure that you have a charged battery when you need it.

Storing the Battery

Refer to the following battery storage requirements:

NiMH Battery – If your computer uses a NiMH (nickel-metal-hydride) battery and you will not be using your computer for a long period of time (more than two weeks), use your computer until the battery is *drained completely*, then remove it from your computer and store it separately.

Li-Ion Battery – If your computer uses a Li-Ion (lithium-ion) battery and you will not be using your computer for a long period of time (more than two weeks), use your computer until the battery is *drained to 50 percent*, then remove it from your computer and store it separately.

You may store the battery at the following temperature range: 32° Fahrenheit to 113° Fahrenheit (0° Celsius to 45° Celsius). To extend its operating life, store it in a cool, dry place.

Temperature plays an important role when recharging your battery. To gain maximum capacity, allow both the battery and your computer to cool to 68° Fahrenheit (20° Celsius), which is room temperature, before recharging.

Recycling the Battery

Refer to Safety in the Government Approvals section of this guide for information on recycling your used batteries.

Calibrating the Battery

All batteries lose their charge if they have not been used for a long period of time. You may notice the battery gauge does not correctly display the battery charge level when you first receive your computer or if you have not used your computer for a long period of time. If the battery gauge becomes inaccurate, you must recalibrate the battery. To do this, fully charge the battery, then drain it to 0 percent (your computer will enter Hibernation mode automatically).

NOTE: Fully drain and recharge the battery at least every 60 days.

HINT: You can check the battery gauge (battery meter) by double-clicking the **Battery** icon located on the Windows Taskbar.

To recalibrate the battery, complete the following steps:

1. Plug in the AC adapter. Allow the battery to charge until the battery charge light or icon turns off, showing that the battery is fully charged.
2. After the battery charge light or icon turns off, unplug the AC adapter.
3. Turn on or restart your computer.

Steps 4 through 9 prevent your computer from entering Sleep mode. These steps allow the battery to drain faster.

4. Click **Start**.
5. Point to **Settings**.
6. Click **Control Panel**.
7. Click the **Power Management** icon on the **Control Panel**.
8. Click the **Power Schemes** tab.

9. From the **Running on Batteries** column:

NOTE: Please make note of the System Standby, Turn off Monitor and Turn off Hard Disks settings so that you can change them back after you have calibrated your battery.

   a. In the **System Standby** drop down menu, select **Never**.

   b. In the **Turn off Monitor** dropdown menu, select **Never**.

   c. In the **Turn off Hard Disks** dropdown menu, select **Never**.

10. Let the battery drain until your computer reaches Hibernation and turns off. Do not plug in the AC adapter during this process or you will need to start over with Step 1. See the Saving Energy with Sleep and Power Management section for more information on Hibernation.

NOTE: You may use your computer while the battery is draining.

11. Plug in the AC adapter. Restart your computer.

12. Return to the Power Management window under **Control Panel** and re-enter your Power Savings settings to the desired levels.

The battery is now calibrated.

Over time, all batteries will reduce their maximum capacity and at some point, you will have to replace the battery. To purchase a new battery, contact your Compaq-authorized dealer, reseller, or service provider.

Maximizing Battery Operating Time

The display, the processor, the CD or DVD drive, and the hard drive components use the most battery power. The battery operating time changes depending on your power management settings, the system components, the options, and the applications you use.

You can increase battery operating time by changing computer energy requirements. To learn about computer power management features, refer to the Saving Energy with Sleep and Power Management section of this guide for more information.

To maximize the battery operating time, perform one or more of the following actions:

- Reduce display brightness and select a short wait setting for your screen saver.
- Select a screen saver that does not generate a lot of graphics or motion.
- Reduce audio volume or use headphones.
- Exit modem programs whenever you are not using them.
- Remove PC Cards when you are not using them.
- Remove CDs or DVDs when you are not using them.
- Use Sleep or Hibernation mode or turn off your computer when you are not using it.

HINT: To change your screen saver settings, click **Start**, point to **Settings**, then click **Control Panel**. Double-click **Display**, then click the **Screen Saver** tab. Choose from a variety of screen savers for your computer. For additional information about screen savers, look in your *Microsoft Windows 98 Getting Started* guide and Microsoft Help.

Correcting a Low Battery Condition

A low battery condition exists when the battery has less than 10 percent of its power remaining. You should resolve the low battery condition before your computer loses all battery power.

When your computer loses all battery power, it begins Hibernation, a process that cannot be interrupted. If Hibernation has begun, you must wait for your computer to finish saving your information and turning off automatically before trying to correct the low battery condition. Once your computer has entered Hibernation mode it cannot be used; however, you can only use it again by plugging it into an AC adapter or replacing the drained battery with a charged one.

Your situation (such as availability of an AC wall outlet) will determine which solution to use to correct a low battery condition. Use one of the following options:

- **Connect the AC adapter** – This solution allows you to continue working without being interrupted and simultaneously charges the drained battery. You do not have to turn off your computer before connecting the AC adapter. Your computer automatically switches to AC power once you connect the AC adapter.

- **Replace the drained battery with a charged one** – If you cannot connect the AC adapter but you have a charged battery, you can change the battery and continue working.

  a. Save your work.

  b. Turn off your computer (or initiate Hibernation).

  c. Replace the drained battery with the charged one.

  d. Press the **Power** button to turn on your computer.

  e. Resume your work.

  When AC power becomes available, repeat these same steps but insert the drained battery and charge it by plugging in the AC adapter.

- **Suspend your work** – If you cannot plug in the AC adapter and you do not have a charged replacement battery, start Hibernation by pressing the **Power** button. When a power source (AC or battery) becomes available, press the **Power** button to turn on your computer and resume your work.

Refer to the Saving Energy with Sleep and Power Management section in this guide for more information about Hibernation.

Cleaning Your Internet PC

To clean the computer exterior surfaces wipe the surfaces with a slightly damp cloth. Wipe the surface until clean.

⚠ **CAUTION:** To avoid causing damage to your computer, turn off the power before wiping it with a damp cloth.

For recommendations on how to clean the display, keyboard, and TouchPad, refer to the following table.

Cleaning Your Internet PC

Surface	How to…
Display	To clean the display, moisten a soft, clean cloth with water and wipe your display until clean. Do not use benzene, thinner, ammonia, or any volatile substance to clean the display or bezel. These chemicals may damage the display. If the display requires any additional cleaning, use any antistatic screen cleaner.
Keyboard	To clean your computer keyboard, gently wipe the surfaces with a soft, clean cloth. Wipe the surface until clean.
TouchPad	Grease and dirt on the TouchPad can cause your cursor to jump around on the display. Clean the computer TouchPad with a damp cloth.

Using System Maintenance Features

Optimize your system by using the System Maintenance features offered in Microsoft Windows. You can use the Maintenance Wizard to check your hard drive for problems, manage your hard drive space, and delete unnecessary files. The Maintenance Wizard is a one-step feature that combines ScanDisk, Disk Defragmenter, Disk Cleanup, Compression Agent, and many other tools. Setting up a regular maintenance schedule will ensure your programs run faster, you utilize more hard drive space, and your system performs at its best.

To run the Maintenance Wizard, complete the following steps:

1. From the **Start** menu, click **Programs**, then choose **Accessories**.
2. Click **System Tools**, then choose **Maintenance Wizard**.

When the Maintenance Wizard window is displayed, complete the instructions provided.

Backing Up Your System Using SystemSave

SystemSave is a Compaq-unique feature that allows you to back up your personal files and data. SystemSave is already installed on your hard drive. SystemSave allows you to back up all information and files on your hard drive, and store it to a separate partition on your drive for later use. This feature will allow you to restore all the drivers, applications, and data saved on your computer.

You should perform a SystemSave at least once a month. For instructions on how to back up your Internet PC using SystemSave, refer to the Understanding Your Service and Support Options section of this guide.

Chapter 10

Understanding Your Service and Support Options

Your Internet PC has many tools to make computing easier. If you have a computer problem or question, check the following resources for answers:

- Review the Troubleshooting section in this guide for suggestions on how to fix the problem.
- Review the tools in this section to find answers.
- Look in the *Compaq Warranty Statement* (included with your computer) or *Service and Support Card* to find your regional Compaq Service telephone number.

Compaq Support

Double-clicking the **Compaq Support** *q* icon located on the Windows desktop provides access to the following tools:

Compaq Support Tools

Tool	Description
Compaq Remote Support (not available in all locations)	Allows most of your computer problems to be remotely diagnosed and cured by a Compaq technician. With this tool, technicians can talk to you at the same time they are resolving your computer issue.
Compaq Diagnostics	Diagnoses problems with your Internet PC. This software provides an easy way to check attributes of your Internet PC.
System Record	Reports all of the devices that came with your Internet PC and all of the devices you have added or changed since you purchased your Internet PC.
Compaq Service Connection	Provides automated software updates and general information on using your Internet PC.
Internet Support	Allows you to access the Compaq Service and Support Web page for your country. Compaq's Service and Support Web page provides you with software updates, maintenance tips, and tools to help make using your Internet PC easier.

Compaq Support Tools

Tool	Description
QuickRestore	Allows you to perform a Full, Selective, or System Restore. These options allow you to either restore your Internet PC to its original factory condition, to your last System Save, or selectively restore certain drivers and applications.
SystemSave	Provides you with a quick and easy method of backing up your personal files and data.
McAfee Anti-Virus	Provides anti-virus scanning and free software updates for one year through the Internet. For more information on computer viruses and how to run McAfee Anti-Virus software, refer to the Identifying and Removing Computer Viruses section of this guide.
Recovery Boot Diskette	When created, this tool allows System Saved files and last saved personal files to be restored should Windows not start.

Compaq Remote Support (available in select regions)

If you ever need answers to your computing problems, Compaq Remote Support allows you to connect directly to a support technician using your computer modem. These technicians can remotely diagnose and cure most of your computer problems. You can watch your monitor and talk directly to the service technician on the telephone while they are resolving your issue.

To use Compaq Remote Support, complete the following steps:

1. When you experience a problem not addressed in this guide, call the Compaq Customer Support number for your region. The number is listed in the *Compaq Warranty Statement* or the *Service and Support Card* that came with your computer.

2. The service representative will ask you to double-click the **Compaq Support** icon from the Windows desktop.

3. Click the **Compaq Remote Support** icon. A Compaq/Carbon Copy banner will display explaining the Compaq Remote Support application.

4. Click the **OK** button. The message, *"Compaq Remote Support is waiting for a call,"* displays and explains that the Compaq Support technician is dialing into your computer.

5. Do not answer the telephone when it rings. Compaq Remote Support will connect with your computer on the second ring. If for any reason you need to exit the application, click **Cancel**.

6. Once a connection has been established, the Compaq Legal Disclaimer window will display. After reading the terms and conditions, click **Agree** to allow the support technician to remotely diagnose your computer.

NOTE: If for any reason the support technician cannot connect to your computer, you will receive an error message notifying you of the failed connection. If this happens, the technician will call you back. Make sure you answer your telephone.

Using Compaq Diagnostics

Compaq Diagnostics provides an easy way to perform system checks and diagnose problems. When you double-click the **Compaq Diagnostics** 🖥 icon located in the **Compaq Support** *q* folder on the Windows desktop, a progress bar is displayed while the application analyzes your Internet PC for information about its components. After approximately one minute, a Summary window with the component information is displayed.

A row of icons is located at the top of the window. Clicking these icons displays information about the components being tested. Refer to the following table for descriptions of the tabs.

Compaq Diagnostics

Tab	Description
Overview	Contains information about your computer
Test	Selects the devices you want tested
Status	Shows progress of tests and faults detected
Log	Shows a record of all device tests and detailed results
Error	Reports details of errors detected

Testing Equipment

You may conduct a Quick, Complete, or Custom test. If you choose the Quick test, it can be run in either the Interactive or Unattended mode.

Complete or Custom tests are completed only in the interactive mode, since they test the audio and video components of your Internet PC. You must be present to confirm the test results. Complete testing takes about 10 minutes.

The Test tab has the following main regions: Type of Test, Test Mode, an Information Window, and a Component List (under the Type of Test box). The Component List resembles Windows Explorer: Click the + to open a component folder, then the component to get information about it. The information window may show further tests that can be performed on certain components. You can request any or all of these subtests.

To run a test, complete the following steps:

1. Click the **Test** tab.

2. Choose the type of test: **Quick**, **Complete**, or **Custom**. In Custom, you will need to check the boxes in the Component List for each test you want.

3. Select **Interactive Mode** or **Unattended Mode**.

> **HINT:** You can select **Quick** or **Complete** as a starting point for a Custom test. If you select **Interactive Mode**, stay with your computer for the interactive test portions.

4. Click the **Begin Test** button at the bottom of the window. The Status tab will automatically replace the Test tab on your window. You can follow the progress of individual tests on this window.

When the tests are complete, the progress bar in the Status window will be green if the test was successful and red if the test failed. The lower part of this tab gives details of the tests that have been completed.

The Log tab lists all the tests and also gives information about the number of times each test was run, the time taken for the test, and the number of errors detected. You can save this information by clicking the **Save** button at the bottom of the window.

The Error tab provides details about the errors detected, including error codes. This code is useful information for a Compaq technician, who can advise you on how to fix your computer.

System Record

System Record reports all of the devices that came with your computer and all of the devices you have added or changed since you purchased your computer. System Record highlights these changes in red. This allows you to isolate and diagnose possible problems with your computer.

To access System Record, complete the following steps:

1. From the Windows desktop, double-click the **Compaq Support** *a* icon.

2. Double-click the **System Record** 🖳 icon.

The System Record tab displays the Base.log, all of the devices that came with your computer, and the Now.log, which displays all of the devices you have added or changed. The changes you have made to your computer are highlighted in red. For example, if your computer came with 64 megabytes (MB) of memory and you upgrade it to 96 MB of memory, your Base.log displays 64 MB of memory and the Now.log displays 96 MB. The memory line in the Base.log and the memory line in the Now.log are noted in red lettering, which indicates a change has been made to your computer's original amount of memory.

Compaq Service Connection

Overview

The Compaq Service Connection software installed on your computer is an innovative way of correcting problems before they begin. The service automatically sends you free software updates that will keep your computer in peak operating condition. You decide when to install the updates.

A small notice, displayed as a rotating *a*, will appear on the bottom-right corner of the Windows desktop when an update is available.

Turning Compaq Service Connection On and Off

If you wish to manually turn on Compaq Service Connection, complete the following steps:

1. Double-click the **Compaq Support** *a* icon on the Windows desktop.
2. Double-click the **Service Connection** *a* icon.

NOTE: If the **Service Connection** *a* icon is visible in the Windows Taskbar, the service is already active.

The Compaq Service Connection will remain active and will be ready to perform updates when you log on the Internet.

To turn off Compaq Service Connection, complete the following steps:

1. Right-click the **Service Connection** *a* icon on the Windows Taskbar.
2. Select **Shutdown Compaq Service Connection**.

How it Works

The Compaq Service Connection software operates in the background while you are performing other tasks on your computer. You will only be aware that it is working when a Notice is displayed.

If you are actively using your modem when the Compaq Service Connection software initiates an update, it waits until the modem is idle before downloading any information. You will not be interrupted while using your Web browser or e-mail programs.

When a Notice is displayed, complete the following steps to obtain the update:

1. Double-click the Notice, usually displayed as a rotating *Q*, to reveal the update identification.

2. Install, postpone, or delete the download by clicking the appropriate button.

   - If you ignore the Notice, it will disappear after a minute or two. However, the update will still be available for you to download at any time during the next 10 days.

   - If you have not downloaded the update within 10 days, it will automatically be cancelled.

To view the updates you have downloaded and the updates that are still available, double-click the **Compaq Support** *Q* icon on the Windows desktop, then double-click the **Service Connection** *Q* icon. The window displays a list of updates and highlights in bold the updates that have not yet been accepted.

Compaq Service Connection Privacy and Data Security Statement

Compaq Service Connection is committed to providing you with beneficial software updates and information. To provide you with these updates and information, non-personal information limited to your computer model number, serial number, and software ID files is communicated to the Compaq server. Files sent to your PC are protected by a personalized security number, similar to a Personal Identification Number (PIN), to ensure that you receive the correct information. Compaq Service Connection does not access, share, or send any personal information, files, or data on your system over the Internet.

If you no longer wish to receive updates from Compaq Service Connection, you can turn it off at any time.

Internet Support

The **Internet Support** icon allows you to access the Compaq Service and Support Web page for your country. The Compaq Service and Support Web page provides you with tools and information to help make using your Internet PC easier than ever.

To access the Service and Support Web page, complete the following steps:

1. Make sure your computer is connected to the Internet.

2. From the Windows desktop, double-click the **Compaq Support** *a* icon.

3. Double-click the **Internet Support** icon. A window will display icons representing flags of various countries.

> **NOTE:** In the United States, double-clicking this icon will connect you directly to the Service and Support Web page.

4. Click on the icon that represents your country's flag. You will be connected to your country's specific Service and Support web page.

> **HINT:** You can also access Internet Support through the **Instant Answer** button (available on select models) on your keyboard.
>
> **HINT:** We recommend that you access the Service and Support Web page regularly, to find the latest updated information for support for your Internet PC.

QuickRestore

Compaq provides you with the ability to restore your system at any time with QuickRestore. QuickRestore has three types of restore options: **Full Restore**, **Selective Restore**, or **System Restore**. The following table describes each type of QuickRestore.

QuickRestore	
Restore	**Description**
Full Restore	Reformats your hard drive and returns your computer to its original factory-installed software state.
System Restore	Restores your hard drive from your last SystemSave.
Selective Restore	Allows you to select certain Compaq drivers or applications you want to re-install without reformatting your hard drive.

NOTE: Do not leave your computer unattended while QuickRestore is running, because you are periodically required to enter information. If you do not enter the required information, your computer may not complete the QuickRestore process.

Full Restore

Full Restore returns your computer to its original factory-installed software state. It reformats your hard drive and removes all data from your computer.

CAUTION: Full Restore deletes all the information and data stored on your computer's hard drive. If you have added personal files, software, or data since you purchased your computer, copy this data to diskettes, back up the data by either performing a SystemSave, or save the data to an external device before proceeding.

To perform a Full Restore on your computer, complete the following steps:

1. From the Windows desktop, double-click the **Compaq Support** $\boldsymbol{a}$ icon.

2. Click the **QuickRestore** icon. The QuickRestore main menu is displayed.

3. Click the **Full Restore** button. The Full Restore menu is displayed.

CAUTION: If you have not copied or backed up your personal files, software, or other data onto diskettes, they will be permanently deleted when you click Start!

4. Click the **Start** button to begin the Full Restore. Your computer automatically restarts. Once your computer restarts in DOS mode, a Progress window is displayed. During the Full Restore process, a progress bar shows the percentage of the software restored to the hard drive.

5. After the system is finished the Full Restore process, press **Ctrl+Alt+Del** to restart the computer.

Once the Full Restore is complete, you will need to provide the startup information again to re-install Windows. This information includes the Product Key number from the cover of the *Microsoft Windows 98 Getting Started* guide, your time zone, and the time and date.

System Restore

System Restore allows you to restore your system using your last SystemSave.

You will not need to perform a System Restore if you have never performed a System Save. To perform a SystemSave, refer to SystemSave in this guide.

To perform a System Restore, complete the following steps:

1. From the Windows desktop, double-click the **Compaq Support** *a* icon.

2. Double-click the **QuickRestore** icon. The QuickRestore main menu is displayed.

3. Click the **System Restore** button. The System Restore menu is displayed.

4. Click the **Start** button to begin the System Restore. A progress window is displayed. During the System Restore process, a progress bar shows the percentage of software loaded on the hard drive.

5. Once the System Restore is finished, press **Ctrl+Alt+Del** to restart your computer.

Selective Restore

Selective Restore allows you to select certain Compaq drivers or applications you want to re-install without reformatting your hard drive. To perform a Selective Restore on your computer, complete the following steps:

1. From the Windows desktop, double-click the **Compaq Support** *Q* icon.

2. Double-click the **QuickRestore** icon. The QuickRestore main menu is displayed.

3. Click the **Selective Restore** button. The Selective Restore menu is displayed. From the Selective Restore menu, you can choose from several drivers or applications.

4. Click the icon representing the application or driver you want to reinstall. A progress bar indicates that the software is installing.

5. A Restart window is displayed. Click the **OK** button.

6. Repeat this procedure to re-install as many drivers or applications as you need.

7. Once you have installed all the drivers or applications you need, restart your computer by pressing **Ctrl+Alt+Del**.

SystemSave

SystemSave allows you to back up all information and files on your hard drive, and store it to a separate partition on your drive for later use. For more information on SystemSave, refer to the Maintaining Your Internet PC section of this guide.

To backup your files by performing a SystemSave, complete the following steps:

1. From the Windows desktop, double-click the **Compaq Support** icon.

2. Double-click the **QuickRestore** icon. The QuickRestore main menu is displayed.

3. Click the **SystemSave** button.

4. Click the **Continue** button .The computer will begin backing up the files to the SystemSave partition.

5. Once the SystemSave is complete, press **Ctrl+Alt+Del** to restart your computer.

> **NOTE:** If you begin a SystemSave and the following message displays, the SystemSave partition size is not large enough to complete a SystemSave:
>
> QuickRestore has detected that drive D: may not have enough space for the SystemSave image file. Choose one of the options below to save your system or press Cancel to return to the QuickRestore Menu.
>
> If the partition size is not large enough, you are able to increase the partition size unless your hard drive is completely full.

Increasing the Size of the SystemSave Partition

To increase the size of the partition, click the **OK** button when asked if you would like to resize your SystemSave partition. The **Resize SystemSave** option is the default option. The computer will automatically begin resizing the SystemSave partition and will complete the SystemSave. Once SystemSave is complete, the computer will automatically restart.

> **CAUTION:** Increasing the size of your SystemSave partition may take some time. Do not press any keys or turn off your computer while increasing the size of the partition. If you restart your computer while resizing your partition, you can or lose damage important files.

Creating a QuickRestore Emergency Recovery Boot Diskette

QuickRestore is installed on your hard drive. However, you will need to create a QuickRestore emergency diskette in case you are ever unable to start your computer properly.

To create a QuickRestore emergency recovery boot diskette, complete the following steps:

1. From the Windows desktop, double-click the **Compaq Support** *Q* icon.

2. Double-click the **QuickRestore** icon in this folder. The QuickRestore main menu is displayed.

3. Click the **System Utilities** button. The Utilities menu is displayed.

4. Click the **Recovery Boot** button. You are prompted to insert a diskette into the diskette drive.

5. Insert a 3.5-inch, high-density formatted diskette into the diskette drive and click **OK**. QuickRestore will begin creating the emergency diskette for you.

6. When QuickRestore has finished creating the emergency diskette, store the QuickRestore emergency diskette in a safe place for emergency use.

Using the QuickRestore Emergency Recovery Boot Diskette

The QuickRestore emergency diskette is used if you are unable to start your computer. The diskette will help your computer get up and running again.

To run the QuickRestore emergency diskette, complete the following steps:

1. Make sure your computer is turned off. Insert the QuickRestore emergency diskette you previously created into the diskette drive.

2. Turn on your computer. A Caution window is displayed.

3. Press **Enter**. The QuickRestore Recovery menu is displayed. Select one of the following QuickRestore options:

   - **Full restore** – Reformats your hard drive and returns your computer to its original factory-installed software state.

   - **Typical restore** – Restores your hard drive from your last SystemSave.

   - **Exit to DOS** – Allows you to exit the QuickRestore menu and return to a DOS command prompt.

4. Press **Enter**. If possible, the system will restore itself according to the type of QuickRestore you selected.

5. After the restore finishes, a window is displayed notifying you that your computer has been restored.

6. Remove the diskette from the diskette drive and restart your computer by pressing **Ctrl+Alt+Del**.

Drivers

Installing Drivers for New Hardware

If you add new hardware such as a printer or a gamepad to your computer, you may be prompted to insert the *Windows Installation* CD or diskettes. If this occurs, complete the following steps:

1. At the Add New Hardware Wizard, click **Next** to begin installing the drivers and files necessary to make the new hardware work.

2. Select the **Search for the best driver for your device (Recommended)** option and click **Next**.

3. Select the **Specify a location** option. If **C:\WINDOWS\OPTIONS\CABS** is not displayed in the drop-down box, either select it from the drop-down menu or type it in the box and click **Next**. The Add New Hardware Wizard will begin installing the necessary files and drivers for the new hardware.

4. When the Add New Hardware Wizard completes installing the files and drivers, click the **Finish** button.

You may need to restart your computer for the new hardware to be recognized by your computer.

Reinstalling Deleted Drivers

If a driver is accidentally deleted or the operating system is reinstalled, the driver subdirectory allows you to restore individual drivers rather than restoring all the original software. The drivers you can restore are **Audio**, **Video**, **TouchPad**, **Display**, **Modem**, and **CD-ROM**.

To reinstall a driver, complete the following steps:

1. From the Windows Taskbar, click **Start**, point to **Programs**, and click **Windows Explorer**.

2. Navigate to the **CPQDRV** folder on the hard drive and double-click it.

3. Find the folder of the device you wish to reinstall and double-click it.

4. Double-click the setup program for the driver you wish to reinstall.

5. Follow the on-screen instructions.

Drivers may also be reinstalled by selecting the **Selective Restore** option from QuickRestore. Refer to QuickRestore for more information on how to reinstall drivers using the Selective Restore option.

Chapter 11

Troubleshooting Guide

This guide provides useful information on how to identify and correct common problems that may occur with your Internet PC.

Helpful Hints

If you encounter minor problems with your Internet PC, monitor, or software, refer to the following list of general suggestions before taking further action:

- Check that the computer is plugged into the AC adapter and that the adapter is plugged into a working electrical outlet.

- Check to see that the computer is turned on and the green power light or **Power** ⟳ icon is lit.

- Turn up the brightness and contrast controls of the display. Note that contrast controls are functional only with HPA displays.

- Remove the diskette from the diskette drive before turning on your Internet PC.

Understanding This Guide

This guide has been divided into three columns: Symptom, Problem, and Solution. The Symptom column describes the symptom or warning that made you realize you had a problem. The Problem column identifies one or more reasons why the symptom has occurred, and the Solution column describes what you should do to try to fix the problem.

If a solution does not fix your problem, try all solutions for the symptom or try the solution a second time.

If a problem persists and you are unable to resolve it yourself, please review Understanding Your Service and Support Options in the Reference Guide or contact a Compaq Authorized Service Provider. Refer to your *Warranty Statement* for details.

Audio		
Symptom	**Problem**	**Solution**
No sound.	Volume has been muted.	On the Taskbar, click the **Volume** 🔊 icon and clear the **Mute** check box.
	Internet PC is in Sleep mode. This is identified when the Power light is flashing (on some models the **Sleep** ☾ icon is lit instead of the flashing Power light).	Press the spacebar to wake your Internet PC.
Sound is too low.	Volume has been set too low.	Click the **Volume** 🔊 icon on the Taskbar, and click the **Volume** slider bar and then drag it up, or press the **Volume Up** button.
Sound is distorted.	Volume is too high.	Click the **Volume** 🔊 icon on the Taskbar, and click the **Volume** slider bar and drag it down, or press the **Volume Down** button.
Audio CD or DVD does not play.	See CD or DVD in this section.	
Volume 🔊 icon is missing from Windows Taskbar.	The Show Volume Control on Taskbar option has not been selected.	1. On the Taskbar, click the **Start** button, and point to **Settings**. 2. Click **Control Panel**. 3. Double-click **Multimedia**. 4. Select the **Show volume control on taskbar** option, and click **OK**.

Battery		
Symptom	**Problem**	**Solution**
Battery gauge is not accurate.	Battery needs calibrating.	Calibrate the battery. Refer to Calibrating the Battery in the Reference Guide for details.
Battery charging indicator does not appear and battery does not charge.	Battery was exposed to temperature extremes.	Allow time for the battery to return to room temperature.
	Battery is at the end of its life.	Replace the battery. Refer to Recycling the Battery in the Reference Guide for battery recycling information.
Battery charge does not last as long as expected.	Battery is not fully draining.	Calibrate the battery. Refer to Calibrating the Battery in the Reference Guide.
	Battery is being exposed to extreme temperatures.	Keep the battery within the recommended temperature ranges. Refer to Maintaining the Battery in the Reference Guide.
	Battery has partially self-discharged.	Recharge the battery.
	Power Management is disabled.	Set a power management level. Refer to Saving Energy with Sleep and Power Management in the Reference Guide.
	Battery is at the end of its life.	Replace the battery. Refer to Recycling the Battery in the Reference Guide for battery recycling information.
Internet PC has entered Low Battery, but it did not beep.	Volume is set too low to hear the warning beep, or a CD is playing and the computer will not interrupt play to issue a warning beep.	Adjust volume if necessary.

Battery

Symptom	Problem	Solution
Internet PC is beeping and the Low Battery warning appears or the battery gauge is below 10%.	Computer has entered a Low Battery stage.	If possible, immediately connect your computer to AC power. If connecting to AC power is not possible, you have the following choices: • Save your files, perform a normal Windows shut down. • Initiate Hibernation by pressing the power button. • Let the computer go into Hibernation automatically (if enabled).

CD or DVD

Symptom	Problem	Solution
CD or DVD drive cannot read a disc or takes too long to start.	CD has been inserted improperly.	Reinsert the CD with the label facing up and verify the disc is securely snapped down on the spindle.
	The DVD drive will take longer to start because it must determine the type of media being played before it can start.	Wait at least 30 seconds to let the DVD drive determine the type of media being played. If disc still does not start, refer to the solution for related problems.
	CD or DVD is dirty.	Clean CD or DVD with a CD cleaning kit available in most computer stores.
DVD performance is poor when running other programs simultaneously.	DVD playback requires large amounts of processing power; therefore, the system cannot process other tasks simultaneously at maximum performance.	To provide maximum performance, close all other programs while playing DVD media. It may also be necessary to restart Windows to free all resources.
Cannot eject CD or DVD.	Power is not on.	Manually eject the disc (see Using Your CD or DVD in the Reference Guide) or turn on your Internet PC.
Display is corrupted when playing some DVD movies.	Copyright material at beginning of movie causes momentary corruption.	Wait a few seconds for video corruption to clear up. If it does not clear up, then stop and restart the DVD movie.

Diskette Drive and SuperDisk (available on select models) Drive

Symptom	Problem	Solution
Not reading drive: "Abort, Retry, Fail?" message appears.	A non-formatted diskette has been inserted.	Format the diskette using the following steps: 1. Double-click the **My Computer** 🖥 icon on the desktop. 2. Select the **3 1/2 Floppy (A:)** drive. 3. Click **File** and point to **Format**. 4. Select desired options, and click **Start** to begin formatting the diskette.
	Diskette is damaged.	Replace the diskette with a new one.
Diskette drive is continually active.	Diskette has been improperly inserted.	Remove the diskette and reinsert the diskette as follows: 1. Insert the edge with the sliding cover into the drive and facing up. 2. Push the diskette all the way into the drive until the diskette stops.
	Diskette is damaged.	Replace the diskette with a new one.
Diskette drive cannot read a diskette.	Diskette is not formatted.	Format the diskette by following these steps: 1. From the desktop, double-click the **My Computer** 🖥 icon. 2. Select the **3 1/2 Floppy (A:)** drive. 3. Click **File**, and point to **Format**. 4. Select desired options, and click **Start** to begin formatting the diskette.
	The wrong diskette type is being used.	Check the type of drive you have and use the correct diskette type.

Diskette Drive and SuperDisk (available on select models) Drive

Symptom	Problem	Solution
Diskette drive cannot save information to diskette.	Diskette is not formatted.	Format the diskette by following these steps: 1. From the desktop, double-click the **My Computer** 🖥 icon. 2. Select the **3 1/2 Floppy (A:)** drive. 3. Click **File** and point to **Format**. 4. Select desired options, and click **Start** to begin formatting the diskette. 5. Once the format is complete, you should be able to save your information.
	Diskette is write-protected.	Slide the write-protection tab to the unlocked position on the diskette.
	Diskette is full or file is too big.	Use another diskette or compress the file to reduce the file size.
	File save command was not properly executed.	When saving information to the diskette drive, verify you are using the correct drive. Refer to Storing Your Data in the Reference Guide.
	Diskette is damaged.	Replace the damaged diskette.
SuperDisk drive (available on select models) cannot read or write to a diskette.	Wrong diskette is being used.	Verify that the disk is a SuperDisk, 720K, or 1.44 MB diskette.
Cannot copy SuperDisk (available on select models) diskette using Disk Copy.	Disk Copy command does not support 120MB disks.	Use the SuperDisk Copy Disk program included on the SuperDisk Tools Kit to copy the SuperDisk.

Diskette Drive and SuperDisk (available on select models) Drive

Symptom	Problem	Solution
SuperDisk (available on select models) performance is slow.	SuperDisk Accelerator and Staging Enabled are not enabled.	Enable the SuperDisk Accelerator and the Staging Enabled. Refer to SuperDisk Accelerator in the Feature Guide for details.
Cannot eject the SuperDisk (available on select models).	Power is not on.	Manually eject the disk (see SuperDisk in the Reference Guide for details) or turn the power on.
	After copying files to the SuperDisk, the Performance Accelerator (PA) is enabled. The PA locks the drive until the copy process is complete.	Wait for the copy process to complete, and then try to eject the SuperDisk.
"Disk Full" message is displayed when copying files to SuperDisk (available on select models).	SuperDisk capacity of 120MB has been reached.	Copy files to a new SuperDisk, or verify information on SuperDisk is not critical and consider deleting files to create space on SuperDisk for new files.
	Root directory of SuperDisk is full.	Create new folders on the disk, and copy the files into the folders.

Display

Symptom	Problem	Solution
Screen is blank.	Screen saver is enabled.	Press the spacebar or click the TouchPad.
	Internet PC is in Sleep mode. This is identified when the Power light is flashing (on some models the **Sleep** ☾ icon is lit instead of the flashing Power light).	Press the spacebar to wake your Internet PC.
	The external monitor display is selected.	Press the **Fn+F3** keys to switch between the LCD display, external monitor, TV Out (available on select models), or simultaneous display.
Display is too faint.	Brightness and contrast controls, functional on HPA displays only, are not set properly.	Turn up the brightness or contrast controls on your display. Note that contrast controls are functional only with HPA displays. Refer to Using Your Mobile Internet PC for details.
Display only fills part of the screen.	Your resolution settings are not set properly.	1. On the Taskbar, click the **Start** button and point to **Settings**. 2. Click Control Panel. 3. Double-click **Display**. 4. Click the **Settings** tab. 5. In the **Screen** area, click **the resolution slider** and drag it to the desired resolution. 6. Click **OK** to accept the new settings, then close the Control Panel window.
Garbled characters display or the display flashes when the computer is connected to an external monitor.	The external monitor's resolution is set too high for your Internet PC.	Restart your Internet PC and reset the Display settings for a lower resolution. Refer to the solution for "Display only fills part of the screen" for more details.

Fax Modem		
Symptom	**Problem**	**Solution**
Cannot send or receive faxes.	Telephone connections are not connected properly.	Reconnect the fax modem, verifying the following connections: Telephone Line to Telephone (for external phone sets) and Telephone Line to Wall Jack (from Internet PC to wall outlet).
	Fax modem line is not connected properly.	Reconnect the fax modem, verifying the wall jack connection. Refer to the *Compaq Hardware and Software Setup* poster.
	Fax software is not active.	Start your fax modem software.
Fax starts to send but quits before the transmission is complete.	Line fails to connect.	Redial the fax number to send fax again.
	Call waiting enabled on line.	Refer to third-party software for instructions on how to disable call waiting, or contact your local telephone company.
Connection has failed.	Third-party fax software is conflicting with another program.	Close all programs, except the fax software, and redial the fax number.
	Ten-digit phone number is not properly entered or number being dialed is not a fax number.	Verify whether mandatory area code is included in number being dialed or correct fax number is being dialed.
	Internet PC is turned off or third-party program is closed.	Some third-party fax software can only be used to receive faxes when the program is open.

Games		
Symptom	**Problem**	**Solution**
Game crashes frequently.	Minimum hardware or software requirements set by manufacturer have not been met.	Review the game packaging or call the game's manufacturer to verify the minimum hardware and software requirements.
	Game was not set up properly when installed.	Reinstall the program, noting any settings and default selections that pertain to your Internet PC, and restart the game.

Hard Drive

Symptom	Problem	Solution
Hard drive error message is displayed.	Part of hard drive has failed.	Attempt to repair the drive with the ScanDisk utility. You must be using AC power to run ScanDisk. 1. Click the **Start** button. 2. Point to Programs, then Accessories, then System Tools, and click ScanDisk. 3. In the ScanDisk window, select the drive letter for your hard drive and other options. 4. Click the **Start** button to begin repairing your drive. Refer to Maintaining Your Internet PC in the Reference Guide for details.
"Non-system disk or disk error" message is displayed.	A diskette that does not contain system files needed to start your Internet PC has been inserted in drive.	When drive activity stops, remove the diskette and press the spacebar. The system will start up.
	System files have been damaged.	Insert a startup disk that has been created for your operating system in the diskette drive. For more details refer to Understanding Your Service and Support Options in the Reference Guide. 1. Restart your Internet PC. 2. At the A:\ prompt, type **SYS C:** and press the **Enter** key. The following message will be displayed: 'SYSTEM TRANSFERRED'. This task will restore the system files to your hard drive. 3. Restart your Internet PC.

Internet		
Symptom	**Problem**	**Solution**
Cannot connect to the Internet.	Internet service provider (ISP) account is not set up properly.	Verify Internet settings, or contact your Internet service provider (ISP) for assistance.
	Modem is not set up properly.	Reconnect the modem, verifying the Telephone Line to Wall Jack connection. Refer to the *Compaq Hardware and Software Setup* poster.
	Web browser is not set up properly.	Verify your Web browser is installed and set up to work with your ISP.
	If no dial tone is found, another telephone handset on the same line is not on the receiver.	Verify all telephone handsets on the same line are on the receiver.
	Messages have not been cleared from answering service.	If you use an answering service that modifies your telephone's dial tone to inform you of messages, clear all messages and try your call again.
Instant Internet Zone buttons do not respond.	ISP connection has not been established.	Connect to your ISP and retry the Instant Internet Zone buttons.

Keyboard or TouchPad

Symptom	Problem	Solution
Keyboard commands or keystrokes are not recognized by your Internet PC.	Program in use has stopped responding to commands.	Turn off your Internet PC using your TouchPad. 1. On the Taskbar, click the Start button. 2. Click Shut Down... 3. Select the Shut down option, and click OK. 4. After the shutdown is complete, restart your Internet PC. If your computer does not shut down, press the **Power** button for 4 or more seconds to shut down your Internet PC.
Fn+Num Lock or Shift+Num Lock will not turn the internal NumLock on.	The internal keyboard Num Lock is disabled when an external PS/2 keyboard or keypad is present.	Use keypad on the external keyboard, or unplug the external keyboard to use internal keypad feature.
When typing, some of the letter keys return numbers to the screen.	The Num Lock feature is turned on.	Press the **Fn** or **Shift** key while pressing the **Num Lock** key to turn Num Lock off.

NOTE: 1200 and 1600 series computers use Shift+Num Lock, while 1800 and 1900 series use Fn+Num Lock

Keyboard or TouchPad

Symptom	Problem	Solution
Cursor jumps to a different location while typing.	TouchPad needs to be cleaned.	Wipe the TouchPad with a damp cloth and wipe it dry. Refer to Cleaning Your Internet PC for details.
Cursor does not respond.	TouchPad needs to be cleaned.	Wipe the TouchPad with a damp cloth and wipe it dry. Refer to Cleaning Your Internet PC for details.
	Program in use has stopped responding to commands.	Turn off your Internet PC using your keyboard. 1. Press the **Ctrl** and **Esc** keys simultaneously. 2. From the Windows **Start** menu, use the arrow keys to select **Shut Down...**, and press the **Enter** key. 3. Select the **Shut down** option (you may need to use the arrow keys to select it), and press the **Enter** key. 4. After the shutdown is complete, restart your Internet PC. If your computer does not shut down, press the **Power** button for 4 or more seconds to shut down your Internet PC.
Cursor movement is erratic or hard to control.	TouchPad needs to be cleaned.	Wipe the TouchPad with a damp cloth and wipe it dry. Refer to Cleaning Your Internet PC for details.
	The TouchPad sensitivity settings may need adjustment.	Restore default TouchPad settings. 1. On the Taskbar, click the **Start** button and point to **Settings**. 2. Click **Control Panel** and double-click **Mouse**. 3. Click the **Touch** tab and select the **Defaults** option. 4. Click **OK**, and close the Control Panel window.

Keyboard or TouchPad

Symptom	Problem	Solution
	TouchPad has been set up to interpret TouchPad taps as clicks, and this setting may need adjustment.	Adjust the TouchPad settings. 1. On the Taskbar, click the **Start** button and point to **Settings**. 2. Click **Control Panel**, and double-click **Mouse**. 3. Click the **Touch** tab, and clear the **Tap to click** option. 4. To adjust the PalmCheck Settings, click the **slider** and drag it to the right until the **Maximum** setting is reached. 5. Click **OK**, and close the Control Panel window.
	The **PageUp**, **PageDown**, **Home**, or **End** keys were accidentally pressed while typing.	Avoid pressing these keys when pressing the **Backspace** or **Enter** keys.

Memory

Symptom	Problem	Solution
Insufficient memory message is displayed.	All memory in your Internet PC is being used by open programs and memory is needed for desired task.	Close one or more programs and retry. It may also be necessary to restart Windows to recover memory should this fail.

PC Cards

Symptom	Problem	Solution
Internet PC does not recognize the PC Card.	PC Card is not fully inserted in the slot or is upside down.	Remove the card and gently reinsert it. Refer to the manufacturer's documentation for details.
	The PC Card device driver is not installed.	Install the device driver. Refer to the documentation that came with your PC Card or contact the PC Card manufacturer.
	PC Card may not be supported by Windows.	Review the PC card packaging to verify the PC Card is compatible or contact the manufacturer directly.

Power

Symptom	Problem	Solution
You forgot your power-on password.	Internet PC will not start without entering the power-on password.	Take your computer to your local Compaq Authorized Service Provider. See *Warranty Statement* for details.
Momentarily pressing the Power button to Hibernate has no effect.	The file needed for Hibernation is damaged, missing, or the wrong size.	1. Turn your Internet PC on. 2. When you see COMPAQ displayed, press the **F8** key. 3. Select the Safe Mode command prompt option. 4. Type **CD \HIBERNAT** 5. Type **PHDISK /CREATE /FILE** (don't forget to type the spaces) to correct the problem. You will be prompted to restart the computer.

Power

Symptom	Problem	Solution
Internet PC will not turn on.	Power button on your Internet PC has not been pressed.	Press the **Power** button on your Internet PC.
	Power plug is not properly connected to AC adapter or wall outlet.	Reconnect the power plug to AC adapter and wall outlet.
	AC adapter is not properly connected to back of your Internet PC.	Reconnect the AC adapter to the back of your Internet PC.
	Battery is fully discharged or not installed. Keyboard controller needs to be reset.	Connect AC adapter to the back of your Internet PC and a wall outlet or install a charged battery. 1. Unplug AC adapter from back of Internet PC. 2. Remove the battery and wait 30 seconds. 3. Reinstall AC adapter and battery.
	Wall outlet is bad.	Test the outlet by connecting a different electrical device to outlet.
	Wrong memory modules were used in upgrade, or memory modules were installed in the wrong location.	Review Adding Memory in the Features Guide to verify the type of memory modules to use and where to install them.
Internet PC appears to have locked up.	Internet PC has locked up.	Restart computer by pressing **CTRL+ALT+DEL** keys simultaneously.
	Program being used is not certified for Windows by Microsoft.	Verify program is certified by Microsoft (see program packaging for this information). If program is Microsoft certified then see next problem.

Power		
Symptom	**Problem**	**Solution**
Internet PC displays one of the following messages "Operating System Not Found," or "Non-system disk or disk error."	A diskette that does not contain system files needed to start your Internet PC has been inserted in drive.	When drive activity stops, remove the diskette, and press the spacebar. The system will start up.
	System files may have been damaged. You will need to insert a startup disk or Windows Startup disk to restart your Internet PC.	Insert a startup disk that has been created for your operating system in the diskette drive. For more details refer to Understanding Your Service and Support Options in the Reference Guide. 1. Restart your Internet PC. 2. At the A:\ prompt, type **SYS C:** and press the **Enter** key. The following message will be displayed: 'SYSTEM TRANSFERRED'. This task will restore the system files to your hard drive. 3. Restart your Internet PC.
"Illegal Operation has Occurred" error message is displayed.	Configuration file may be corrupt.	If possible, save all data, close all programs, and restart your Internet PC.

Contacting a Compaq Authorized Service Provider

If you were unable to fix your Internet PC using this troubleshooting guide, refer the *Warranty Statement* that came with your computer for the technical support telephone numbers

Chapter 12
Safety and Comfort

⚠ **WARNING:** There may be a risk of **serious physical injuries** from working at your computer workstation. Read and follow the recommendations in this section to minimize the risk of injury and to increase your comfort.

Some studies have suggested that long periods of typing, improper workstation setup, incorrect work habits, stressful work conditions and relationships, or problems in your personal health may be linked to injuries. These injuries could include carpal tunnel syndrome, tendinitis, tenosynovitis, and other musculoskeletal disorders.

The warning signs of these disorders can occur in the hands, wrists, arms, shoulders, neck, or back, and can include:

- Numbness, burning, or tingling
- Soreness, aching, or tenderness
- Pain, throbbing, or swelling
- Tightness or stiffness
- Weakness or coldness

Symptoms may be felt during typing, while using a mouse, or at other times when no work with the hands is being performed, including during the night when these symptoms might awaken you. If you experience these symptoms, or any other persistent or recurring pain or discomfort that you think may be related to using a computer, you should promptly consult a qualified physician and, if available, your company's health and safety department. The earlier a problem is properly diagnosed and treated, the less chance there is that it will progress to a disabling condition.

The following pages describe proper workstation setup, posture, and health and work habits for computer users. In addition, this Guide contains product safety information applicable to all Compaq products.

Promoting a Safe and Comfortable Work Environment

Posture, lighting, furniture, work organization, and other work conditions and habits may affect the way you feel and how well you work. By adjusting your work environment and personal practices, you may be able to minimize fatigue and discomfort, and reduce the risk of resulting strains that some scientists believe can lead to injury.

Important Choices

If you share a computer with others, readjust the work environment to your needs. Each time you sit down to work, adjust into your comfort zone.

Whenever you use a computer, you make choices that can affect your comfort and potentially your safety. This is true whether you use a full-size keyboard and monitor on a desk, a notebook computer, or a wireless keyboard on your lap. In every case, you choose your working posture and your body's position relative to your keyboard, pointing device, monitor, remote control, phone, and any reference books and papers. You may also have some control over lighting and other factors.

Take Action for Safety and Comfort

Many factors in our work environment determine whether we work efficiently and in a manner that promotes good health and safety.

By considering, acting on, and periodically reevaluating the recommendations in this Section, it is possible to create a safer, more comfortable, healthful, and efficient work environment.

NOTE: Some scientists believe that working intensely, or for a long time in uncomfortable or unnatural positions, may pose risks, such as those mentioned in the warning. The information included in this Section is designed to help you work more safely by recommending ways to work more comfortably and effectively.

SELF-CHECK: After reviewing the information in this chapter, double-check your postures and habits using the section, "Self-Check."

Key Principles

To promote safety and comfort, follow these principles whenever you use your computer.

Adjust

Adjust your body position and your work equipment. There is no one "right" position. Find your comfort zone, as described in this Section, and when working at your computer, frequently adjust within this zone.

Move

Vary your tasks so that you can move around; avoid sitting in one posture all day. Perform tasks that require walking.

Relax

Build positive relationships at work and home. Relax and strive to reduce sources of stress. Stay aware of physical tension such as clenching your muscles and shrugging your shoulders. Continually release tension. Take frequent short breaks.

Listen

Listen to your body. Pay attention to any tension, discomfort, or pain you may feel, and take immediate action to relieve it.

Remember

Remember to exercise regularly and maintain general fitness. Doing this will help your body withstand the rigors of sedentary work. Respect any medical conditions you may have or other health factors you may know of. Adjust your work habits accordingly.

Finding Your Comfort Zone

A Range of Positions

Rather than working in a single posture, find your **comfort zone.** Your comfort zone is a *range* of positions that is generally appropriate and comfortable for your given work situation.

Vary Your Posture

Depending on your tasks, you may find a range of seated and standing postures that are comfortable. Within your comfort zone, change postures often throughout the day.

Move

Sitting still for long periods can cause discomfort and muscle fatigue. Changing postures is good for many parts of your body, including your spine, joints, muscles, and circulatory system.

Within your comfort zone, change postures often throughout the day. Take frequent short breaks: stand up, carefully stretch, or walk around. Frequently switch to brief tasks that require getting up, such as retrieving output from a printer, filing paperwork, or consulting a colleague down the hall.

If your furniture offers a wide range of adjustments, you might find it comfortable to switch back and forth between sitting and standing positions.

Different Tasks, Different Postures

Your choice of posture within your comfort zone may vary with your task. For example, you may find a reclined posture most comfortable for computer tasks, and a more upright posture more comfortable for tasks requiring frequent reference to papers or books.

Organizing Your Adjustments

The order in which you make various adjustments to your body position and work area may vary depending on the adjustability of your furniture. For tips on how to order your adjustments see the section, "Organizing Your Adjustments."

THAT AFTERNOON SLUMP: Pay particular attention to adjusting your posture in the afternoon when you may tend to get fatigued.

EVERYTHING IS CONNECTED: When you reposition any one part of your body, you may need to adjust other parts as well.

AVOID!

- Don't sit in one fixed posture all day.
- Avoid slouching forward.
- Be sure not to lean back too far.

Feet, Knees, and Legs

Make sure your feet can rest solidly and comfortably on the floor while sitting. Use an adjustable work surface and chair that allow your feet to rest firmly on the floor, or use a footrest. If you use a footrest, be sure it is wide enough to accommodate different leg positions within your comfort zone.

Providing Enough Leg Room

Be sure you have sufficient space under your work surface for your knees and legs. Avoid concentrated pressure points along the underside of your thigh near the knee and the back side of your lower leg. Stretch your legs and vary your leg posture throughout the day.

RIGHT!

Rest your feet firmly on the floor or a footrest.

WRONG!

Don't dangle your feet and compress your thighs.

WALK: Get up from your desk frequently and take brief walks.
LEG COMFORT: Vary your leg positions throughout the day.

AVOID!   **WARNING:** Avoid placing boxes or other items under your desk that limit your leg room. You should be able to pull yourself all the way up to your desk without interference.

Back

Use your chair to fully support your body. Distribute your weight evenly and use the entire seat and backrest to support your body. If your chair has adjustable low back support, match the contours of the chair's backrest to the natural curve of your lower spine.

Getting comfortable

Always make sure your lower back is well-supported. Make sure it feels comfortable in the position in which you are working.

RIGHT!

Distribute your weight evenly and use the entire seat and backrest to support your body.

WRONG!

Don't slouch forward.

ADJUST OFTEN: If your chair is adjustable, experiment with the adjustments to find numerous comfortable positions, then adjust the chair frequently.

AVOID! If you get a new adjustable chair, or if you share a chair with someone else, don't assume the settings are properly set for you.

Forearms, Wrists, and Hands

Keep your forearms, wrists, and hands aligned in a straight, neutral position, whether you are working at a desk or table, or sitting on a couch or bed. Avoid bending or angling your wrists while typing or using a pointing device.

Don't Anchor Your Wrists

When typing, do not anchor or rest your wrists on your work surface, your thighs, or a palm rest (sometimes called a wrist rest). Resting your palms while typing may be harmful because it can cause you to bend your wrists back and can apply pressure to the undersides of your wrists. A palm rest is designed to provide support during pauses, when you are not typing.
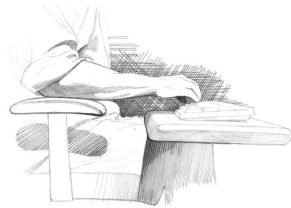
RIGHT!

Hold a straight, neutral wrist position while typing.

WRONG!

Don't rest your palms on a work surface while typing.

RIGHT!

Hold a straight, neutral wrist position while typing.

WRONG!

Don't angle your wrists; this may cause unnecessary strain.

Split Keyboards

If you find it difficult to type with a straight, neutral wrist position, you may want to try a split keyboard. Be aware, however, that improper setup or posture while using a split keyboard can increase bending in your wrists. So if you try one, set it up properly to align your forearms, wrists, and hands

AVOID!   Be sure not to rest your wrists on sharp edges

Shoulders and Elbows

Adjust your chair height or keyboard height so that your shoulders are relaxed and your elbows hang comfortably at your sides. Adjust your keyboard slope so that your wrists are straight.

Checking Elbow Height

Position your elbows in a zone that is near the height of your keyboard's home row (the row that includes the letters G and H). This position allows you to relax your shoulders. If you have long upper arms, you may find you need to position your elbows a bit below the height of home row in order to provide enough space under the work surface for your knees and legs.

RIGHT!

Turn your chair to the side to help determine if your elbow height is near the height of your keyboard's home row.

RELAX: Remember to relax, particularly in areas where muscle tension often builds, such as your shoulders.

Eyes

Working at your computer for long periods can be a visually demanding task and may cause your eyes to become irritated and fatigued. Therefore, you should give special attention to vision care, including the following recommendations:

Resting Your Eyes

Give your eyes frequent breaks. Periodically look away from the monitor and focus at a distant point. This may also be a good time to stretch, breathe deeply, and relax.

Cleaning Your Monitor and Glasses

Keep your display screen and your glasses or contact lenses clean. If you use a glare-reduction filter, clean it according to the manufacturer's directions.

Having Your Eyes Examined

To be sure that your vision is adequately corrected, have your eyes examined regularly by a vision care specialist. Consider having glasses made that are specifically suited for working with a computer monitor. If you wear bifocals or trifocals, you may find these special monofocal glasses more comfortable for computer use. For more information, see "Adjusting Monitor Height for Bifocal and Trifocal Users" in this section.

Eye Comfort

While looking at your monitor and also while resting your eyes, remember to blink. This helps keep your eyes naturally protected and lubricated and helps prevent dryness, a common source of discomfort.

Eye Break

Give your eyes frequent rests by focusing them on a distant point.

Arranging Your Work Area

You may find a range of monitor heights that allows your head to be balanced comfortably over your shoulders.

Monitor

You will reduce eye strain and muscle fatigue in your neck, shoulders, and upper back by properly positioning your monitor and adjusting its angle.

Positioning the Monitor

Place the monitor directly in front of you. To determine a comfortable viewing distance, stretch your arm toward the monitor and notice the location of your knuckles. Place your monitor near that location. You should be able to clearly see the text on your monitor.
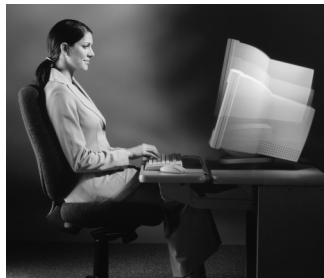
Adjusting the Monitor Height

Your monitor position should allow your head to be balanced comfortably over your shoulders. It should not cause your neck to bend forward uncomfortably or backward to any degree. You may find it more comfortable to position the monitor so that the top line of text is just below your eye height. Your eyes should look slightly downward when viewing the middle of the screen.

Many computer designs allow you to place the monitor on top of the system unit. If this places the monitor too high, you may want to move the monitor to the desktop. On the other hand, if the monitor sits on your work surface and you feel any discomfort in your neck or upper back, the monitor may be too low. In that case, try using a thick book or a monitor stand to raise the monitor.

Tilting the Monitor

Tilt the monitor so that it faces your eyes. In general, the monitor screen and your face should be parallel to each other. To check for correct monitor tilt, have someone hold a small mirror in the center of the viewing area. When sitting in your normal work posture, you should be able to see your eyes in the mirror.

Eye Height

Your eye height will change considerably whether you use a reclining or upright posture, or some posture in between. Remember to adjust your monitor's height and tilt each time your eye height changes as you move through your comfort zone.

AVOID!   If you look at the monitor more than you look at paper documents, avoid placing your monitor to the side.

Adjusting Monitor Height for Bifocal and Trifocal Users

If you wear bifocals or trifocals, it's especially important to properly adjust your monitor height. Avoid tilting your head back to view the screen through the lower portion of your glasses; this could lead to muscle fatigue in your neck and back. Instead, try lowering your monitor. You may want to consider using monofocal glasses that are specially made for computer use.

WRONG!

If you wear bifocals or trifocals, don't position your monitor so high that you have to tilt your head back to view the screen.

Notebook Viewing

Whenever using a notebook computer for long periods, you may find it more comfortable to connect a full-size monitor. A separate monitor gives you a wider range of viewing distance and height options.

Adjusting Brightness and Contrast

Reduce the potential for eye discomfort by using brightness and contrast controls on your monitor to improve the quality of text and graphics.

Eliminating Glare and Reflections on Your Monitor

Take the time to eliminate glare and reflections. To control daylight, use blinds, shades, or drapes, or try other glare-reducing measures. Use indirect or reduced lighting to avoid bright spots on your display screen.

If glare is a problem, consider these actions:

- Move your monitor to a place where glare and bright reflections are eliminated.
- Turn off or reduce ceiling lights and use task lighting (one or more adjustable lamps) to illuminate your work.
- If you cannot control the ceiling lights, try positioning your monitor between rows of lights instead of directly beneath a row of lights.
- Attach a glare-reduction filter to your monitor.
- Place a visor on your monitor. This device may be as simple as a piece of cardboard extending out over the monitor's top front edge.
- Avoid tilting or swiveling your display in a way that leads to an uncomfortable head or upper back posture.

Eliminating Glare

Try positioning your monitor so that its side faces the windows.

AVOID!

- Avoid compromising your posture to compensate for glare or reflections.
- Try to avoid bright light sources in your field of vision. For example, don't face an uncovered window during daylight hours.

Keyboard and Pointing Device

Place your keyboard, mouse, and other input devices, so that you can use them with your body in a relaxed, comfortable position. In this way, you don't have to reach or shrug your shoulders while working.

Positioning the Keyboard

Position the keyboard directly in front of you to avoid twisting your neck and torso. This makes it possible to type with your shoulders relaxed and your upper arms hanging freely at your sides.

Adjusting the Keyboard Height and Slope

Your elbow height should be near the height of your keyboard's home row (see illustration under "Shoulders and Elbows"). Adjust your keyboard slope so that your wrists are straight.

Aligning the Mouse and Keyboard

When using a mouse or detached trackball, position the device immediately to the right or left of your keyboard.

Using a Keyboard Tray Comfortably

If you use a keyboard tray, make sure it is wide enough to accommodate your pointing device, such as a mouse or trackball. Otherwise, you will probably place the mouse on your desktop, higher and farther away than the keyboard. This will lead you to stretch forward repeatedly, and uncomfortably, to reach the mouse.

RIGHT!

Position your pointing device immediately to the right or left of your keyboard.

WRONG!

Don't position your keyboard and pointing device at different levels and distances.

Arm Supports and a Palm Rest

You may find that supports for your forearms or hands allow you to be more relaxed and comfortable.

Using Arm Supports

Some chairs and desks provide padded areas for resting your arms. You may find it comfortable to rest the middle of your forearms on these supports while typing, pointing, or pausing. Arm supports are properly adjusted when your shoulders are in a comfortable position and your wrists are straight.

Using a Palm Rest

A palm rest is designed to provide support during pauses, not during typing or pointing. While typing or using a pointing device, keep wrists free to move, not anchored or resting on a palm rest, the desk, or your thighs.

RIGHT!

You may find that arm supports help you relax your shoulders and keep your wrists free to move while typing.

For Pauses Only

Palm rests should only be used during pauses, when you are not typing or using your pointing device.

Armrests should not cause you to:

AVOID!
- Shrug or drop your shoulders.
- Put excessive pressure on your elbows.
- "Wing" your arms (extend elbows out to the sides).

Papers and Books

Select a work surface or surfaces that are large enough to hold the computer equipment and any additional items required for your work. To help minimize eye fatigue, position any materials to which you frequently refer at about the same viewing distance.

Minimizing Your Reach

Arrange your frequently used papers, books, or other items to minimize the distance you reach for them. If you frequently refer to books, papers, and writing materials, and if you use a keyboard tray, make sure the tray, when extended, doesn't cause you to lean forward or reach excessively. This can stress your shoulders and back. If you find that such stress occurs, you may want to consider a different type of work setup.

Using a Document Holder

If you use a document holder, position it near the monitor at the same distance, height, and angle as the monitor. Positioning the holder in this way can increase your neck comfort as you refer back and forth between your papers and the display screen, by helping you keep your head balanced over your shoulders.

If your primary task is typing from paper documents, you may find it more comfortable to place your document holder directly in front of you and your monitor slightly to one side, or on a slant board between your monitor and keyboard. Consider this option only if you spend more time looking at the paper than at your monitor.

WRONG!

Don't arrange your work area in a way that causes you to repeatedly strain forward to see and reach frequently used items such as books, papers, or a phone.

Phone

Cradling your phone between your ear and shoulder may lead to neck, shoulder, and back discomfort. If you use your phone a lot, try using a headset or positioning your phone so you pick it up with your non-dominant hand. This frees your dominant hand for note-taking. When not in use, place the phone within easy reach.

RIGHT!

Use a headset to free your hands and help you avoid uncomfortable positions.

WRONG!

Don't cradle your phone between your ear and shoulder.

Working in Comfort

Using a Notebook Computer

Maintaining a high level of comfort when using a notebook computer may be more challenging than when using a desktop computer. Therefore, you should be especially alert to your body's signals, such as any feeling of discomfort. Also, be sure to adhere to the key principles presented earlier in this Section.

The following strategies are intended to help you maintain comfort when using a notebook computer:

On the Road

In a hotel, use a blanket for padding your chair and a rolled towel as an inventive way to support your lower back area.

Seeking Comfort

When working with a notebook computer, keep your shoulders and neck relaxed and your head balanced over your shoulders. You may find it comfortable to periodically use a support surface (your briefcase, a bed table, firm blanket, pillow, or large book) between your lap and your notebook computer.

Being Inventive

Use pillows, blankets, towels, and books to:

- Raise the height of your seat.

- Create a footrest, if needed.

- Support your back.

- Raise your computer to elevate the keyboard and display.

- Provide arm supports, if you are working on a couch or bed.

- Provide padding wherever needed.

Transporting the Computer

If you load up your carrying case with accessories and papers, avoid shoulder strain by using a cart or a carrying case with built-in wheels.

Notebook Comfort

When you must work where proper seating or support may not be available, such as on airplanes or in wilderness areas, change your position often while working and take brief breaks more frequently.

Long Hours of Use

You may find it more comfortable to use a full-size keyboard, monitor, and detached mouse or trackball with your notebook computer. This is especially important when working on your notebook computer for long hours.

Typing Style

Observe your typing style and notice how you use your fingers and hands. Avoid keeping any unnecessary tension in your thumbs and fingers. Observe whether you have a heavy touch or a light touch while typing. Use the minimum amount of force needed to depress the keys.

Reaching for Keys and Key Combinations

To reach keys that are not near your keyboard's home row, move your whole arm; avoid stretching your fingers and angling your wrists. When pressing two keys simultaneously, such as **Ctrl+C** or **Alt+F,** use two hands instead of contorting one hand to reach both keys.

RIGHT!

Relax your thumbs and fingers while typing
and pointing; notice and release excess tension.

WRONG!

Don't type or point with unnecessary tension in
your thumbs and fingers.

Keep it Light

If your typing is on the heavy side, teach yourself to lighten up. Press the keys more
gently.

"Hunt-and-Peck" Typing

Non-touch-typing causes the neck to bend forward repeatedly. To minimize this
repetitive movement, learn how to touch-type so you don't need to look down at the
keyboard as often.

AVOID!   Avoid banging on the keys. Don't use more force than needed to press the keys.

Pointing Style

Use your whole arm and shoulder to move the mouse, not just your wrist. Don't rest or anchor your wrist while using your pointing device; keep your wrist, arm, and shoulder free to move.

Adjusting Software Controls

You can use the software control panel to adjust the properties of your pointing device. For example, to reduce or eliminate mouse-lifting, try increasing the acceleration setting. If you use a pointing device with your left hand, the software control panel will allow you to switch the button assignments for maximum comfort.

Clean Frequently

Dirt can make pointing more difficult. Remember to clean your mouse or trackball frequently.

RIGHT!

Keep your wrist in a straight, neutral position when using your pointing device.
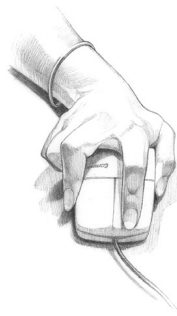
WRONG!

Don't angle your wrist when using your pointing device.

Pointing Comfort

When using a mouse or trackball, hold it loosely. Keep your hand relaxed, and click the buttons using a light touch. When you are not using your pointing device, don't hold onto it; let it go.

Switch Hands

To give your hand a break, you may choose to control your mouse or trackball with the opposite hand for a while.

AVOID!   Avoid gripping or pinching your mouse tightly.

Using a Keyboard on a Sofa

Even if you use your keyboard in a seemingly comfortable place such as a sofa, bed, or your favorite lounge chair, you can still cause discomfort by sitting in an awkward position or in one position for long periods. Remember to frequently make changes to your position, within your comfort zone, and to take short breaks.

Aligning Forearms, Wrists, and Hands

When working on a keyboard on your lap, keep your forearms, wrists, and hands comfortably aligned with each other in a straight, neutral line. Avoid bending or angling your wrists. If your keyboard has palm rests, use them during pauses, not while typing or using a pointing device.

RIGHT!

Experiment with positioning pillows under your forearms; they may help keep your shoulders relaxed and your wrists straight.

Even on a sofa

Remember to properly support your lower back.

AVOID!

- Avoid slouching.
- Be sure not to recline too much; this may fatigue your neck and upper back.
- Don't bend or angle your wrists.
- Avoid sitting completely still and working without breaks for long periods.

Taking Breaks and Varying Your Tasks

As noted earlier in this Section, your furniture placement, office equipment, and lighting are only a few of the factors that determine comfort. Your work habits are also very important. Remember the following:

Take Breaks

When you work at your computer for long periods, take short breaks at least once per hour and preferably more often. You may find that frequent, short breaks will benefit you more than fewer, longer breaks.

If you find that you forget to take breaks, use a timer or specialized software. Several software tools are available that remind you to take breaks at intervals you specify.

During your breaks, stand up and stretch, especially any muscles and joints you may have held in an extended static posture while using the computer.

Vary Your Tasks

Examine your work habits and the types of tasks you perform. Break up the routine and try to vary your tasks during the day. By doing so, you may avoid sitting in one position or performing the same activities continuously for several hours using your hands, arms, shoulders, neck, or back. For example, you could print out your work to proofread rather than proofing from your monitor.

Reduce Sources of Stress

Take an inventory of things at work that are stressful to you. If you perceive that your physical or psychological health is being affected, take time to evaluate what changes you can make to reduce or eliminate the sources of stress.

Try it and see

Contrary to what some may believe, several studies have found that productivity does NOT decline when frequent short breaks are added to the day.

Breathe deeply

Breathe fresh air deeply and regularly. The intense mental concentration that may accompany computer use may tend to cause breath-holding or shallow breathing.

Monitoring Your Health Habits and Exercise

The comfort and safety of working at your computer can be affected by your general state of health. Studies have shown that a variety of health conditions may increase the risk of discomfort, muscle and joint disorders, or injuries.

These preexisting conditions include:

- Hereditary factors
- Arthritis and other connective tissue disorders
- Diabetes and other endocrine disorders
- Thyroid conditions
- Vascular disorders
- Generally poor physical condition and dietary habits
- Prior injuries, traumas, and musculoskeletal disorders
- Excessive weight
- Stress
- Smoking
- Pregnancy, menopause, and other conditions affecting hormone levels and water retention
- Advancing age

Monitoring Personal Tolerance Levels and Limits

Different users of computers have different levels of tolerance for intensive work over a long period. Monitor your personal tolerance levels and avoid regularly exceeding them.

If any of the listed health conditions apply to you, it is particularly important to know and monitor your personal limits.

Cultivating Health and Fitness

Additionally, your overall health and tolerance for the rigors of work typically can be improved by avoiding adverse health conditions and by exercising regularly to improve and maintain your physical fitness.

Organizing Your Adjustments

The order in which you follow the advice in the proceeding chapters depends on the adjustability of your work surface.

If your work surface height adjusts, then systematically adjust yourself and your computer "from the ground up."

If you have a fixed desk or table, systematically adjust yourself and your computer "from the top down."

From the Ground Up

1. Seat height: you should be able to plant your feet firmly on the floor.

2. Chair back angles and lower back support: your back should be well supported.

3. Keyboard height: home row should be near your elbow height.

4. Keyboard slope: wrists should be straight.

5. Pointing device: should be placed to the immediate left or right of your keyboard.

6. Optional forearm supports: shoulder should not be elevated or dropped.

7. Monitor distance, height, and angle: should allow your head to be balanced comfortably over your shoulders.

8. Document holder, phone, and reference materials: frequently used items should be within easy reach.

From the Top Down

1. Seat height: elbow height should be near your keyboard's home row.

2. Footrest, if you need one.

3. Follow steps 2 through 8 above.

Be Inventive

Adjustable furniture designed for computer use may not always be available. However, you can use towels, pillows, blankets, and books in many ways, such as to:

- Raise the height of your chair.
- Create a footrest.
- Support your back.
- Elevate the keyboard or display.
- Provide arm supports if you are working on a sofa or bed.
- Provide padding wherever needed.

Self-Check

To increase your comfort and reduce potential safety risks, use this checklist to help you evaluate your work posture and habits.

Seated Position

- Have you found a range of seated postures that are most comfortable for you?
- Are you changing postures within your "comfort zone" throughout the day, especially in the afternoon?
- Are your feet firmly planted?
- Are the undersides of your thighs near your knees free of pressure?
- Are the backs of your lower legs free of pressure?
- Is there sufficient space under your work surface for your knees and legs?
- Is your lower back supported?

Shoulders, Arms, Wrists, and Hands

- Are your shoulders relaxed?
- Are your hands, wrists, and forearms aligned in a straight, neutral position?
- If you use arm supports, are they adjusted so that your shoulders are relaxed and your wrists are straight?
- Are your elbows in a relaxed position near your body?
- Do you avoid resting your hands and wrists while typing or pointing?
- Do you avoid resting your hands and wrists on sharp edges?
- Do you avoid cradling the phone between your ear and shoulder?
- Are items you use frequently, such as your phone and reference materials, easy to reach?

Eyes

- Do you rest your eyes frequently by focusing on a distant point ?

- Do you get your eyes examined regularly by a vision care specialist?

- Do you blink enough?

- If you wear bifocals or trifocals, do you avoid tilting your head back to see the monitor?

Typing Style

- Are you training yourself to lighten up when you find you are pounding on the keys?

- If you are not a touch typist, have you been taking typing lessons?

- Are you training your fingers to relax when they become tense?

- Do you use your whole arm to reach for keys not located near the home row?

Keyboard and Pointing Device

- Is your keyboard positioned directly in front of you?

- Are your keyboard height and slope adjusted so that your wrists are straight and your shoulders relaxed?

- If you are typing with the keyboard on your lap, are your shoulders relaxed and your wrists straight?

- If you are using a mouse or detached trackball, is it placed to the immediate right or left of your keyboard?

- If you are using a mouse or trackball, are you holding it loosely, with a relaxed hand?

- Do you let go of your pointing device when you are not using it?

- Are you using a light touch when you click the buttons on your pointing device (mouse, trackball, touchpad, or pointing stick)?

- Are you cleaning your mouse or trackball frequently?

Monitor

- Is your monitor positioned in front of you and at a comfortable viewing distance, about arm's length? Or if you look at a paper document more than your monitor, is your document holder in front of you with your monitor to one side?

- Are the text and images on your monitor easily visible in a comfortably seated position?

- Have you eliminated glare and bright reflections on your monitor, without compromising your posture?

- Is your monitor's entire viewing area located just below your eye height?

- Is your monitor tilted so your face and the monitor are parallel?

- Have you adjusted the brightness and contrast controls to improve the quality of text and graphics?

- Is your document holder positioned near the monitor, at the same distance, height, and angle as the monitor?

Notebook Computing

- Do you change postures frequently?

- Do you avoid resting your wrists on your thighs while typing?

- To avoid neck fatigue when using the computer on a sofa or bed, do you avoid reclining too far?

- Where possible, have you tried using a full-size keyboard and detached pointing device, such as a mouse or trackball, with your notebook computer?

- Similarly, have you tried using a full-size monitor?

General Prevention

- Do you take breaks and walk around briefly, at least once per hour?

- Do you exercise regularly?

- Periodically, do you take inventory of the stress in your life and change what is within your control to change?

- If you experience any symptoms that you think may relate to your using a computer, whether you experience them during work or at other times, have you consulted a doctor and, if available, your company's health and safety department?

Double-Check

- Review your postures and habits using this checklist.

- Periodically reread this section.

- Listen to your body.

Anytime you make changes to your tasks, work area, or posture, "listen" to your body. Its signals of comfort or discomfort will help you know whether your adjustments are right.

Electrical and Mechanical Safety Information

Introduction

Compaq products are designed to operate safely when installed and used according to general safety practices. The guidelines included in this section explain the potential risks associated with computer operation and provide important safety practices designed to minimize these risks. By carefully following the information contained in this section, you can protect yourself from hazards and create a safer computer work environment.

This section provides information on the following topics:

- Product safety policy
- Product installation requirements
- General safety precautions for all Compaq products

If you have a serious concern regarding the safe use of the equipment that your Compaq authorized service provider cannot address, call Compaq Customer Support for your area.

Product Safety Policy and General Practice

Compaq products are designed and tested to meet IEC 950, the Standard for the Safety of Information Technology Equipment. This is the International Electrotechnical Commission's safety standard covering the type of equipment that Compaq manufactures. Testing may include evaluation according to other criteria such as many of the international, national, and regional standards based on deviations to IEC 950.

Safety Standards

The IEC 950 standards provide general safety design requirements that reduce the risk of personal injury to both the computer user and the service provider. These standards protect against the following hazards:

- **Electric shock**

  Hazardous voltage levels contained in parts of the product

- **Fire**

  Overloads, temperature, material flammability

- **Mechanical**

  Sharp edges, moving parts, instability

- **Energy**

  Circuits with high energy levels (240 volt amperes) or potential as burn hazards

- **Heat**

  Accessible parts of the product at high temperatures

- **Chemical**

  Chemical fumes and vapors

- **Radiation**

  Noise, ionizing, laser, ultrasonic wav

Installation Requirements

Compaq products operate safely when used according to their marked electrical ratings and product usage instructions. Use facilities that comply with the following electrical codes to ensure the safe operation of Compaq products:

- In the United States, operate the product in commercial or residential structures that have electrical installation in compliance with American National Standards Institute/National Fire Protection Association (ANSI/NFPA) 70, United States National Electric Code, or ANSI/NFPA 75, Protection of Electronic Computer/Data Processing Equipment, with branch circuit current protection of up to 20 amperes.

- In Canada, operate the product in commercial or residential structures that have electrical installation in compliance with the Canadian Standards Association (CAN/CSA) C22.1, Canadian Electrical Code.

- In all other countries, operate the product in commercial or residential structures that have electrical installation in compliance with local and regional office and residential electrical wiring codes such as International Electrotechnical Commission (IEC) 364 parts 1 through 7.

> **NOTE:** Do not use Compaq products in areas classified as hazardous locations. Such areas include patient care areas of medical and dental facilities, oxygen-laden environments, or industrial facilities. Contact your local electrical authority governing building construction, maintenance, or safety for more information regarding the installation of any product.

For more information, please consult the information, manuals, and literature provided with your product or contact your local sales representative.

General Precautions for Compaq Products

Retain the product's safety and operating instructions for future reference. Follow all operating and usage instructions. Observe all warnings on the product and in the operating instructions.

To reduce the risk of fire, bodily injury, and damage to the equipment, observe the following precautions.

Damage Requiring Service

Unplug the product from the electrical outlet and take the product to a Compaq authorized service provider under the following conditions:

- The power cord, extension cord, or plug is damaged.
- Liquid has been spilled or an object has fallen into the product.
- The product has been exposed to water.
- The product has been dropped or damaged in any way.
- There are noticeable signs of overheating.
- The product does not operate normally when you follow the operating instructions.

Servicing

Except as explained elsewhere in the Compaq documentation, do not service any Compaq product yourself. Opening or removing covers that are marked may expose you to electric shock. Service needed on components inside these compartments should be done by a Compaq authorized service provider.

Mounting Accessories

Do not use the product on an unstable table, cart, stand, tripod, or bracket. The product may fall, causing serious bodily injury and serious damage to the product. Use only with a table, cart, stand, tripod, or bracket recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

Ventilation

Slots and openings in the product are provided for ventilation and should never be blocked or covered, since these ensure reliable operation of the product and protect it from overheating. The openings should never be blocked by placing the product on a bed, sofa, carpet, or other similar, flexible surface. The product should not be placed in a built-in apparatus such as a bookcase or rack unless the apparatus has been specifically designed to accommodate the product, proper ventilation is provided for the product, and the manufacturer's instructions have been followed.

Water and Moisture

Do not use the product in a wet location.

Grounded (Earthed) Products

Some products are equipped with a three-wire electrical grounding-type plug that has a third pin for grounding. This plug only fits into a grounded electrical outlet. This is a safety feature. Do not defeat the safety purpose of the grounding-type plug by trying to insert it into a non-grounded outlet. If you cannot insert the plug into the outlet, contact your electrician to replace the obsolete outlet.

Power Sources

The product should be operated only from the type of power source indicated on the product's electrical ratings label. If you have questions about the type of power source to use, contact your Compaq authorized service provider or local power company. For a product that operates from battery power or other power sources, refer to the operating instructions included with the product.

Accessibility

Be sure that the power outlet you plug the power cord into is easily accessible and located as close to the equipment operator as possible. When you need to disconnect power to the equipment, be sure to unplug the power cord from the electrical outlet.

Voltage Select Switch

Ensure that the voltage select switch is in the correct position for the type of voltage you use (115 VAC or 230 VAC).

Internal Battery

Your computer may contain an internal battery-powered real-time clock circuit. Do not attempt to recharge the battery, disassemble it, immerse it in water, or dispose of it in fire. Replacement should be done by a Compaq authorized service provider using the Compaq spare part for the computer.

Power Cords

If you have not been provided with a power cord for your computer or for any AC-powered option intended for use with your computer, you should purchase a power cord that is approved for use in your country.

The power cord must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product. In addition, the diameter of the wire must be a minimum of 0.75 mm^2/18AWG and the cord should be between 5 and 6.5 feet (1.5 and 2 meters) long. If you have questions about the type of power cord to use, contact your Compaq authorized service provider.

Route the power cord so that it will not be walked on, tripped over, or pinched by items placed upon or against it. Pay particular attention to the plug, electrical outlet, and the point where the cord exits the product.

Protective Attachment Plug

In some countries, the product cord set may be equipped with a wall plug having overload protection. This is a safety feature. If the plug needs to be replaced, be sure the Compaq authorized service provider uses a replacement plug specified by the manufacturer as having the same overload protection as the original plug.

Extension Cord

If an extension cord or power strip is used, make sure that the cord or strip is rated for the product and that the total ampere ratings of all products plugged into the extension cord or power strip do not exceed 80% of the extension cord or strip ampere ratings limit.

Overloading

Do not overload an electrical outlet, power strip, or convenience receptacle. The overall system load must not exceed 80% of the branch circuit rating. If power strips are used, the load should not exceed 80% of the power strip input rating.

Cleaning

Unplug the product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

Heat

The product should be placed away from radiators, heat registers, stoves, or other pieces of equipment (including amplifiers) that produce heat.

Replacement Parts

When replacement parts are required, be sure the service provider uses replacement parts specified by Compaq.

Safety Check

Upon completion of any service or repairs to the product, have your Compaq authorized service provider perform safety checks to determine that the product is in proper operating condition.

Options and Upgrades

Use only the options and upgrades recommended by Compaq.

Hot Surfaces

Allow the equipment's internal components and hot-pluggable drives to cool before touching them.

Object Entry

Never push a foreign object through an opening in the product.

Precautions for Portable Computer Products

In addition to the general precautions described earlier in this section, be sure to observe the following precautions when operating a portable computer product. Failure to observe these precautions could result in fire, bodily injury, and damage to the equipment.

- **Monitor Support Cover**

  Do not place a monitor with an unstable base or a monitor heavier than 55 pounds (25 kilograms) on top of a monitor support cover. Instead, place the monitor on a work surface next to the docking base.

- **Rechargeable Battery Pack**

  Do not crush, puncture, or incinerate the battery pack or short the metal contacts. In addition, do not attempt to open or service the battery pack.

- **Docking Base**

  To avoid pinching your fingers, do not touch the rear of the computer when docking it into a base.

Precautions for Server and Network Products

In addition to the general precautions described earlier in this section, be sure to observe the following precautions when operating server and network products. Failure to observe these precautions could result in fire, bodily injury, and damage to the equipment.

Safety Interlocks and Enclosures

To prevent access to areas containing hazardous energy levels, some servers are provided with enclosures and safety interlocks. Many Compaq servers are interlocked so that the power supply is disabled when the enclosure cover is removed. For servers provided with safety interlocks, observe the following precautions:

- Do not remove enclosure covers or attempt to defeat the safety interlocks.

- Do not repair accessories and options inside enclosed or interlocked areas of the system. Repair should be performed only by individuals who are qualified in servicing computer equipment and trained to deal with products capable of producing hazardous energy levels.

Accessories and Options

Installation of accessories and options in safety interlocked areas should performed only by individuals who are qualified in servicing computer equipment and trained to deal with products capable of producing hazardous energy levels.

Products with Casters

Products provided with casters should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product to overturn.

Hot-Pluggable Power Supplies

Observe the following guidelines when connecting and disconnecting power to the power supplies:

* Install the power supply before connecting the power cord to the power supply.
* Unplug the power cord before removing the power supply from the server.
* If the system has multiple sources of power, disconnect power from the system by unplugging all power cords from the power supplies.

Floor Standing Products

Be sure the bottom stabilizers on the equipment are installed and fully extended. Ensure that the equipment is properly stabilized and supported before installing options and cards.

Rack-Mountable Products

Because the rack allows you to stack computer components vertically, you must take precautions to provide for rack stability and safety:

* Do not move large racks by yourself. Due to the height and weight of the rack, Compaq recommends a minimum of two people to accomplish this task.
* Before working on the rack, be sure the leveling jacks (feet) extend to the floor and that the full weight of the rack rests on the floor. Also install stabilizing feet on a single rack or join multiple racks together before starting work.
* Always load the rack from the bottom up, and load the heaviest item in the rack first. This makes the rack bottom-heavy and helps prevent the rack from becoming unstable.

- Ensure that the rack is level and stable before extending a component from the rack.

- Extend only one component at a time. The rack may become unstable if more than one component is extended.

- Use caution when pressing the component rail release latches and sliding a component into the rack. The slide rails could pinch your fingers.

- Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80% of the branch circuit rating.

Precautions for Products with External Television Antenna Connectors

In addition to the general precautions described earlier in this section, be sure to observe the following precautions when using external television antennas with your product. Failure to observe these precautins could result in fire, bodily injury, and damage to the equipment.

Compatibility

Compaq television tuner cards with antenna connections should be used only with Compaq personal computers that are itended for home use.

External Television Antenna Grounding

If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is electrically grounded to protect against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information about proper electrical grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

Lightning Protection

To protect a Compaq product during a lightning storm or when it will be unattended and unused for long periods of time, unplug the product from the electrical outlet and disconnect the antenna or cable system. This prevents damage to the product due to lightning and power line surges.

Power Lines

Do not place an outside antenna system in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into power lines or circuits. When installing an outside antenna system, take extreme care to avoid touching power lines or circuits, as contact with them could be fatal.

In addition to the general precautions described earlier in this section, be sure to observe the following precautions when operating telecom-munications and network equipment. Failure to observe these precautions could result in fire, bodily injury, and damage to the equipment.

- Do not connect or use a modem or telephone (other than a cordless type) during a lightning storm. There may be a remote risk of electric shock from lightning.

- Never connect or use a modem or telephone in a wet location.

- Do not plug a modem or telephone cable into the Network Interface Card (NIC) receptacle.

- Disconnect the modem cable before opening a product enclosure, touching or installing internal components, or touching an uninsulated modem cable or jack.

- Do not use a telephone line to report a gas leak while you are in the vicinity of the leak.

Antenna Grounding

This reminder is provided to call the CATV (cable television) system installer's attention to Section 820-40 of the NEC (National Electrical Code), which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

❶ Electric Service Equipment

❷ Power Service Grounding Electrode System (NEC Art 250, Part H)

❸ Ground Clamps

❹ Grounding Conductors (NEC Section 810-21)

❺ Antenna Discharge Unit (NEC Section 810-20)

❻ Ground Clamp

❼ Antenna Lead in Wire

Antenna Grounding

Precautions for Products with Modems, Telecommunications, or Local Area Network Options
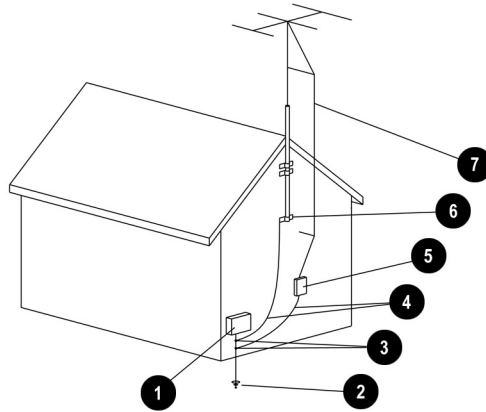
In addition to the general precautions described earlier in this section, be sure to observe the following precautions when operating telecom-munications and network equipment. Failure to observe these precautions could result in fire, bodily injury, and damage to the equipment.

- Do not connect or use a modem or telephone (other than a cordless type) during a lightning storm. There may be a remote risk of electric shock from lightning.

- Never connect or use a modem or telephone in a wet location.

- Do not plug a modem or telephone cable into the Network Interface Card (NIC) receptacle.

- Disconnect the modem cable before opening a product enclosure, touching or installing internal components, or touching an uninsulated modem cable or jack.

- Do not use a telephone line to report a gas leak while you are in the vicinity of the leak.

Precautions for Products with Laser Devices

All Compaq systems equipped with a laser device comply with safety standards, including International Electrotechnical Commission (IEC) 825. With specific regard to the laser, the equipment complies with laser product performance standards set by government agencies for a Class 1 laser product. The product does not emit hazardous light; the beam is totally enclosed during all modes of customer operation and maintenance.

- **Laser Safety Warnings**

  In addition to the general precautions described earlier in this section, be sure to observe the following warnings when operating a product equipped with a laser device. Failure to observe these warnings could result in fire, bodily injury, and damage to the equipment.

  WARNING: To reduce the risk of exposure to hazardous radiation:

  - Do not try to open the unit enclosure. There are no user-serviceable components inside.
  - Do not operate controls, make adjustments, or perform procedures to the laser device other than those specified herein.
  - Allow only Compaq Authorized Service technicians to repair the unit.

- **Compliance with CDRH Regulations**

  The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products on August 2, 1976. These regulations apply to laser products manufactured from August 1, 1976. Compliance is mandatory for products marketed in the United States.

- **Compliance with International Regulations**

  All Compaq systems equipped with a laser device comply with appropriate safety standards including IEC 825 and IEC 950.

- **Laser Product Label**

    The following label or equivalent is located on the surface of your laser device. This label indicates that the product is classified as a CLASS 1 LASER PRODUCT.

Laser Information

Laser Type	Semiconductor GaAIAs
Wave Length	780 nm + / - 35 nm
Divergence Angle	53.5 degrees + / - 0.5 degrees
Output Power	Less than 0.2 m W or 10,869W m^{-2} sr^{-1}
Polarization	Circular 0.25
Numerical Aperture	0.45 inches + / - 0.04 inches

For More Information

If you want more information about arrangement of work space and equipment or safety standards, consult the following references:

"American National Standard for Human Factors Engineering of Visual Display Terminal Workstations," ANSI/HFS Standard No. 100-1988. Human Factors Society, Inc., P.O. Box 1369, Santa Monica, CA 90406.

Working Safely with Your Computer. Washington, D.C.: National Safety Council, 1991.

Or write to:

American National Standards Institute

11 West 42nd St.
New York, NY 10036
TEL: (212) 642-4900
FAX: (212) 398-0023
http://www.ansi.org
EMAIL: info@ansi.org

National Institute for Occupational Safety and Health (NIOSH)
NIOSH Publications
4676 Columbia Pkwy, MS C-13
Cincinnati, OH 45226-1998
TEL: (800) 356-4674
FAX: (513) 533-8573
http://www.cdc.gov/niosh/homepage.html
EMAIL: pubstaft@cdc.gov

Human Factors and Ergonomics Society
ANSI/HFS 100-1988 Standard
P.O. Box 1369
Santa Monica, CA 90406-1369
TEL: (310) 394-1811
FAX: (310) 394-2410
http://hfes.org
EMAIL: hfes@compuserve.com

International Standards Organization (ISO)
Central Secretariat
International Organization for Standardization
1, rue de Varembé
Case postale 56
CH-1211 Genève 20, Switzerland
TEL: +41 22 749 01 11
FAX: +41 22 733 34 30
http://www.iso.ch
http://www.iso.ch/infoe/stbodies.html
EMAIL: central@iso.ch

National Safety Council Library
1121 Spring Lake Dr.
Itasca, IL 60143-3201
TEL: (630) 775-2199
FAX: (630) 285-0242
http://www.nsc.org
EMAIL: bob-nsc@dupagels.lib.il.us

Occupational Safety and Health Administration (OSHA)
Publications Office
U.S. Department of Labor
200 Constitution Ave. NW, Room N3101
Washington, DC 20210
http://www.osha.gov
http://www.osha-slc.gov/ergo
http://www.osha.gov/oshpubs/oshapubs

TCO Information Center
150 North Michigan Ave., Suite 1200
Chicago, IL 60601-7594
TEL: (312) 781-6223
FAX: (312) 346-0683
http://www.tco-info.com/chicago.html
EMAIL: info@tco-info.com

Chapter 13

Government Approvals

European Union Notice

Products with the CE marking complies with Telecommunication Terminal Equipment and Satellite Earth Station Equipment (TTE & SES) Directive (98/13/EC), the EMC Directive (89/336/EEC), and the Low Voltage Directive (73/23/EEC) issued by the European Community.

Compliance with these directives implies conformity to the following European Norms or Regulations (the equivalent international standards and regulations are in brackets):

- EN55022 (CISPR 22) – Electromagnetic Interference
- EN50082-1 (IEC801-2, IEC801-3, IEC801-4) – Electromagnetic Immunity
- EN60555-2 (IEC 555-2) – Power Line Harmonics
- EN60950 (IEC950) – Product Safety
- CTR21 (ETSI TBR21) – Attachment requirements for connection to the analogue PSTNs of terminal equipment *

   * Applies to modems contained in portable products only. Modems provided in desktop and mini-tower computers are approved to National standards.

The equipment has been approved in accordance with Council Decision 98/482/EC for pan-European single terminal connection to the Public Switched Telephone Network (PSTN). However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point. In the event of problems, you should contact your equipment supplier in the first instance.

The equipment is designed to work with all EU telephone networks. However, the equipment may have interworking difficulties for some connections on the EU public networks. Dialing by loop disconnect pulses is not intended to be used on the PSTN. This feature is only supported in consideration of PBX or other equipment that requires pulse dialing. Network compatibility is dependent on software switch settings that are set automatically by the country selection. The user should contact the equipment supplier in case of difficulty in network settings.

Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception (which can be determined by turning the equipment off and on), the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Compaq Computer Corporation may void the user's authority to operate the equipment.

Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods in order to maintain compliance with FCC Rules and Regulations.

Declaration of Conformity for Products Marked with the FCC Logo (United States Only)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For questions regarding your product, call 800.652.6672 (800.OK.COMPAQ) or contact:

Compaq Computer Corporation
P.O. Box 692000, Mail Stop 530113
Houston, Texas 77269-2000

For questions regarding this FCC declaration, call 281.514.3333 or contact:

Compaq Computer Corporation
P.O. Box 692000, Mail Stop 510101
Houston, Texas 77269-2000

To identify this product, refer to the Part, Series, or Model number found on the product.

Canadian Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Avis Canadien

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Japanese Notice

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準
に基づくクラスB情報技術装置です。この装置は、家庭環境で使用すること
を目的としていますが、この装置がラジオやテレビジョン受信機に近接して
使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

Telecom Network Approvals

These two icons and associated statements may be found on desktop and mini-tower computers. They are intended to communicate how to access the telecommunications regulatory approval information for your product. On notebook computers, the approval information will appear on the bottom of the computer.

Modem Statement from Product Label

As an alternative to viewing the approval information on your product, country approval information may also be found on the Compaq Web site. To view view this approval information, visit **www.compaq.com** and perform a site search for the words, "telecom network approvals." If a selection is available for your product, you may view and print the approval information.

U.S. Regulations Governing the Use of Modems

This equipment complies with Part 68 of the FCC rules. Located on the bottom of the portable computers and on the modem in desktop computers is a label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. Upon request, you must provide this information to your telephone company.

Ringer Equivalence Number (REN)

The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of the devices ring when your telephone number is called. In most areas (but not all), the sum of the RENs of all devices connected to one line should not exceed five (5.0). To be certain of the number of devices you may connect to your telephone line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area.

The REN for the modem contained in this product does not exceed 1.0.

A FCC Compliant 6-position modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible 6-position modular jack that is FCC Part 68 Compliant.

If your telephone equipment causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible, they will notify you in advance. However, if advance notice is not practical, you will be notified as soon as possible. You will also be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If you experience trouble with this telephone equipment, contact your local telephone company for information on obtaining service or repairs. Your telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.

For the Compaq Customer Support Center and your nearest Compaq-authorized reseller in North America, call 800.345.1518 or write:

Compaq Customer Support Center
P.O. Box 692000
Houston, Texas 77269-2000

Telephone Consumer Protection Act of 1991

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone facsimile machine unless such message clearly contains, in a margin at the top or bottom of each transmitted page, or on the first page of the transmission, the date and time it is sent and an identification of the business, or entity, or individual sending the message and the telephone number of the sending machine or such business, or entity, or individual.

Canadian Regulations Governing the Use of Modems

Notice: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational, and safety requirements. The department does not guarantee the equipment will operate to the user's satisfaction.

Before installing the equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single-line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

WARNING: Users should not attempt to make such connections themselves. Contact the appropriate electric inspection authority or an electrician. Power and telephone lines must always be properly grounded or physical harm may ensue.

Notice: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices, subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

The REN for the modem contained in this product does not exceed 1.0.

For the location of the authorized Canadian maintenance facility nearest you, call 800.652.6672 (800.OK.COMPAQ).

Compaq Canada, Inc.

45 Vogell Road

Richmond Hill, Ontario L4B 3P6

U.K. BABT Users Notice

(SupraExpress 56i Pro Global Modem – Desktop Products Only)

The modem is intended for only use in the Compaq Internet PC. For the purposes of BABT approval, the modem is classified as a host-independent product.

Telephone Network Connection

The modem is suitable for connection to the Public Switched Telephone Network (PSTN) direct exchange lines and relevant branch systems (PBXs).

A ringer equivalent number (REN) is a value given to all apparatus to be connected to the PSTN. Its value can be taken and used to calculate the maximum number of equipment items that can be connected in parallel without impairing the performance of the standard bell circuit.

1. REN = 3/n where n is the maximum number of units that may be used in parallel.

2. The maximum REN of a line is 4; therefore, the total REN of all apparatus connected to the line (obtained by summing the individual REN values) should not exceed 4. This value includes any BT provided instrument, each of which is assumed to have REN value of 1.0 unless otherwise stated. Exceeding the REN value of 4 may cause your telephone(s) to ring weakly or not ring at all.

3. Only one modem should be connected to a telephone line. Connecting a modem in parallel with one or more telephone instruments is not allowed.

4. The REN for this piece of equipment is 0.8.

5. The exchange should provide facilities for either loop disconnect (pulse) dialing or multifrequency (tone) dialing. The modem can be configured to operate with either system.

6. During dialing, this apparatus may tinkle the bells of other telephones using the same line. This is not a fault, and we advise you not to call the Fault Repair Service.

7. The modem specified in this guide is for the Compaq Internet PC.

8. This apparatus has been approved for the following facilities:

   • Connection to direct exchange lines providing DTMF signaling

   • Connection to compatible PBXs providing DTMF signaling

   • Operation in the absence of proceed indication, selectable by user

   • Call progress monitoring functions

   • Data modem functions

   • Auto-dialing functions

   • Auto-answering functions

Any other usage will invalidate the approval of the apparatus, if as a result, it then ceases to conform to the standards against which approval was granted.

All apparatus connected to this modem, and thereby connected directly or indirectly to the British Telecom Public Switched Telephone Network, must be approved apparatus as defined in Section 22 of the British Telecommunications Act of 1984.

Although this equipment can use either loop disconnect or DTMF signaling, only the performance of the DTMF signaling is subject to regulatory requirements for correct operation. It is therefore strongly recommended that the equipment is set to use DTMF signaling for access to public or private emergency services. DTMF signaling also provides faster call set up.

The modem may not be used on extension wiring that makes use of plug pins 1 and 6. If in doubt, advice must be obtained from a competent telecommunications engineer.

Difficulties may occasionally be experienced from other apparatus connected to the BT PSTN via the modem apparatus. Such difficulties may include the following:

- difficulty in making calls
- problems in telephone conversion being experienced by both parties to the call

Initially, normal operation will be possible. However, changes to or modernization of the network (taking place in the normal course of events) may result in the apparatus being connected to a network service with which it was not designed to be compatible. Failure of the apparatus to work under these circumstances may not be the responsibility of the network operator.

If these difficulties occur, contact your product supplier or your Compaq-authorized reseller in the United Kingdom.

This device is intended for auto-answering of incoming calls. Under normal conditions, callers will be accustomed to calls being answered within 10 seconds, and a majority of callers will abandon calls that are not answered within 45 seconds.

Several options are available for auto-answering operation. The default setting is for two incoming rings. This is the recommended setting for normal operation by most computer users.

Auto Dialing with the Modem

When entering telephone numbers, ensure that the number that appears on the screen is correct before beginning to dial.

Benutzerhinweise für besondere Bestimmungen in Österreich

Hinweis für die Benutzung in Österreich

Sofern Sie das SupraExpress 56i Pro global modem an einer Nebenstellenanlage benutzen wollen, erkundigen Sie sich bitte bei Ihrem Fachhändler nach der Möglichkeit, die Amtsholung einzustellen.

Wahlsperre

Ein Modem darf, beispielsweise im „unbeaufsichtigten Betrieb", nicht pausenlos dieselbe Rufnummer anwählen (Wahlsperre).

Nach zwölf erfolglosen Wählversuchen innerhalb einer Stunde gibt das Modem die Meldung „BLACK-LISTE" (Wahlsperre) aus. Danach ist jeder weitere Wählversuch blockiert.

Die Wahlsperre wird wieder aufgehoben, wenn eines der drei folgenden Ereignisse eintritt:

- Sie starten den Computers neu (reboot), oder
- Ablauf einer Stunde, oder
- Sie erhalten einen Anruf.

Benutzerhinweise für besondere Bestimmungen in Deutschland

Hinweis für die Benutzung in der Bundesrepublik Deutschland

Dieses Gerät ist mit einem mindestens 4-adrigen Anschlußkabel mit TAE-Stecker **mit Kodierung N** ausgestattet und verfügt über weiterführende Sprechadern. Es kann als einzige Endeinrichtung oder mit weiteren Endeinrichtungen am Netzanschluß betrieben werden.

Weitere Endeinrichtungen, die sich an dem Telefonanschluß befinden, werden beim Einstecken des Gerätes nicht von der Leitung getrennt. Der Stecker kann nur in N-kodierte Anschlußdosen gesteckt werden.

Brugerinstruktioner i overensstemmelse med danske krav

Opkaldskoder P og T

Compaq-modemet SupraExpress 56i Pro global modem understøtter ikke impulssignalering. Både opkaldskode P (impulssignalering) og T (tonesignalering) tvinger modemet til at anvende tonesignalering.

Speciale gebruiksinstructies voor Nederland

Aansluitfactor

1. Het modem is geschikt voor aansluiting op het openbare geschakelde telefoonnetwerk en op (analoge) telefooncentrales binnen bedrijven en instellingen.

2. De aansluitfactor is een waarde die wordt toegekend aan alle apparaten die op het openbare telefoonnetwerk kunnen worden aangesloten. Met deze waarde kan worden berekend hoeveel apparaten maximaal parallel kunnen worden geschakeld. De maximale aansluitfactor van een lijn is 5. De aansluitfactor van alle apparaten die zijn aangesloten op één lijn mag daarom nooit hoger zijn dan 5. U berekent de aansluitfactor door de waarden van de afzonderlijke apparaten op te tellen.

3. De aansluitfactor voor dit apparaat is 1,0.

Wachten op kiestoon

Het modem moet altijd eerst een kiestoon ontvangen voordat wordt geprobeerd een verbinding tot stand te brengen. Deze vereiste kan niet worden uitgeschakeld met de opdracht ATX<n>.

Handenvrij bellen

Handenvrij bellen is toegestaan bij gebruik van een aparte (goedgekeurtde) telefoon set.

Användarinstruktioner i överensstämmelse med svenska krav

Uppringningskod P och T

Modemet till SupraExpress 56i Pro global modem stödjer inte pulssignalering. Både uppringningskod P (pulssignalering) och T (tonsignalering) är jämförbara och vill tvinga modemet att använda tonsignalering.

New Zealand Modem Statements

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

This equipment is not capable, under all operating conditions, of correct operation at the higher speeds for which it is designed. Telecom will accept no responsibility should difficulties arise in such circumstances.

This device is equipped with pulse dialing while the Telecom standard is DTMF tone dialing. There is no guarantee that Telecom lines will always continue to support pulse dialing.

Use of pulse dialing, when this equipment is connected to the same line as other equipment, may give rise to bell tinkle or noise and may also cause a false answer condition. Should such problems occur, the user should not contact the Telecom Faults Service.

Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. The associated equipment shall be set to operate within the following limits for compliance with Telecom's Specifications:

1. There shall be no more than 10 call attempts to the same number within any 30 minute period for any single manual call initiation, and

2. The equipment shall go on-hook for a period of not less than 30 seconds between the end of one attempt and the beginning of the next attempt.

Where automatic calls are made to different numbers, the equipment shall go on-hook for a period of not less than 5 seconds between the end of one attempt and the beginning of the attempt.

The equipment shall be set to ensure that calls are answered between 3 and 30 seconds of receipt of ringing (S0 set between 2 and 10). This ensures the following:

1. a person calling your modem will hear a short burst of ringing before the modem answers. This confirms that the call has been successfully switched through the network.

2. caller identification (which occurs between the first and second ring cadences) is not destroyed.

This equipment does not fully meet Telecom's impedance requirements. Performance limitations may occur when used in conjuction with some parts of the network. Telecom will accept no responsibility should difficulties arise in such circumstances.

This equipment should not be used under any circumstances which may constitute a nuisance to other Telecom customers.

This equipment shall not be set to make automatic calls to the Telecom 111 Emergency Service.

Safety

Safety is important when you are operating your computer. Follow the guidelines in this section to enjoy your computing experience.

Batteries

WARNING: Your computer is provided with a battery-powered, real-time clock circuit. Danger of explosion and risk of personal injury exists if the battery is incorrectly replaced or mistreated. Do not attempt to recharge the battery, disassemble it, remove it, immerse it in water, or dispose of it in fire.

For information about real-time clock battery replacement, contact your Compaq-authorized dealer, reseller, or service provider.

WARNING: This computer may contain a lithium-ion or nickel-metal-hydride battery pack. There is a risk of fire and chemical burn if the battery pack is handled improperly. Do not disassemble, crunch, puncture, or short external contacts, dispose of in water or fire, or expose to temperatures higher than 140°F (60°C).

CAUTION: Do not dispose of batteries with general household waste. To dispose of them or recycle them, use the public collection system in accordance with local regulations or return them to Compaq, an authorized Compaq Partner, or the point-of-sale. In North America, dispose of nickel-metal-hydride or lithium-ion batteries by taking advantage of the Compaq battery recycling program. You will be provided with a postage-paid battery pack mailer pre-addressed to a reclamation facility where the metals are recycled

Power Cords

If you were not provided with a power cord for your computer or for an AC power accessory intended for use with your computer, you should purchase a power cord that is approved for use in your country.

The power cord must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product. In addition, the diameter of the wire must be a minimum of 0.75 mm^2/18 AWG, and the length of the cord must be between 5 feet (1.5 m) and 6.5 feet (2 m). If you have questions about the type of power cord to use, contact your Compaq-Authorized Service Provider.

A power cord should be routed so that it is not likely to be walked on or pinched by items placed upon it or against it. Particular attention should be paid to the plug, electrical outlet, and the point where the cord exits from the product.

Laser Assemblies

All Compaq systems equipped with CD drives comply with appropriate safety standards including IEC 825. In addition, the equipment complies with laser product performance standards set by government agencies as a Class 1 laser product. The equipment does not emit hazardous radiation; the beam is totally enclosed during all modes of customer operation and maintenance.

CDRH Regulations

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products on August 2, 1976. These regulations apply to laser products manufactured since August 1, 1976. Compliance is mandatory for products marketed in the United States.

⚠ **WARNING:** Use of controls or adjustments or performance of procedures other than those specified in your Compaq documentation set may result in hazardous radiation exposure

The CD drive is classified as a Class 1 laser product. This label is located on the outside of the CD drive:

Figure A-1. Laser Label

Laser Information	
Laser Type	Semiconductor GaAlAs
Wavelength	650-780 +/- 35 nm
Divergence Angle	53.5 Degree +/- 5 Degree
Output Power	Less than 0.2 mW or 10.869 W/m^{2}sr
Polarization	Circular
Numerical Aperture	0.45 +/- 0.04

WARNING: Only authorized technicians trained by Compaq should attempt to repair this equipment. All troubleshooting and repair procedures are detailed to allow only subassembly/module-level repair. Because of the complexity of the individual boards and subassemblies, no one should attempt to make repairs at the component level or to make modifications to any printed wiring board. Improper repairs can create a safety hazard.

Using the Computer

WARNING: A very small portion of the population may experience epileptic seizures when viewing certain kinds of flashing lights or patterns that are commonly present in our daily environment. These persons may experience seizures while watching some kinds of television pictures or playing certain games, including games played on the Internet PC. Players who have not had any previous seizures may nonetheless have an undetected epileptic condition. Consult your physician if you experience any of the following symptoms while playing games: altered vision, muscle twitching, other involuntary movements, loss of awareness of your surroundings, mental confusion, or convulsions.

WARNING: Some studies have suggested that long periods of typing, improper workstation setup, incorrect work habits, or problems in your personal health may be linked to discomfort or serious injuries. Refer to your *Safety & Comfort Guide* for more information about choosing a workspace and creating a comfortable work environment.

German Ergonomics Notice

These products are not intended for continuous use in an office environment.

Mobile Products – German Ergonomics Notice

The Compaq Agency Series 2940, CM2000, CM2010, and CM2030 family of notebook computers bearing the "GS" approval mark meet the requirements of ZH1/618 (German Safety Regulations for Display Work Places in the Office Sector) when used in conjunction with port replicators, keyboards, and monitors that also bear the "GS" mark.

These notebook computers are not intended for continuous use in an office environment.

Locating the Regulatory Compliance Markings Labels

Other labels containing safety or regulatory information about your specific computer are located on the inside and outside of your computer. The following illustrations show typical Regulatory Compliance Markings labels that apply to your Compaq personal computer.
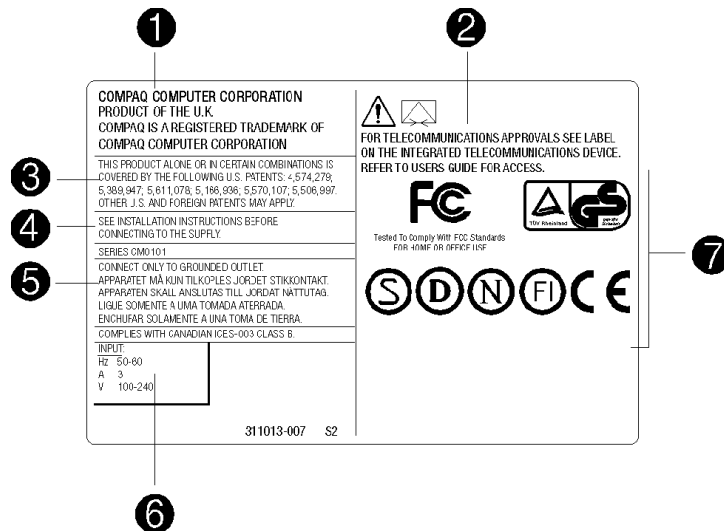
Typical Agency Label

No.	Components
❶	Manufacturing Site
❷	Modern Regulation Statement
❸	Patent Information
❹	Power Supply Caution
❺	Grounding Information
❻	Voltage Ratings
❼	Agency Approvals

COMPAQ COMPUTER CORPORATION
PRODUCT OF SINGAPORE
COMPAQ IS A REGISTERED TRADEMARK OF
COMPAQ COMPUTER CORPORATION

THIS PRODUCT ALONE OR IN CERTAIN COMBINATIONS IS
COVERED BY THE FOLLOWING U.S. PATENTS: 4,574,279;
5,611,078; 5,166,936; 5,389,947; 5,570,107; 5,125,088;
5,506,997. OTHER U.S. AND FOREIGN PATENTS MAY APPLY.

SEE INSTALLATION INSTRUCTIONS BEFORE
CONNECTING TO THE SUPPLY.

SERIES CM1000

CONNECT ONLY TO GROUNDED OUTLET.
APPARATET MÅ KUN TILKOPLES JORDET STIKKONTAKT.
APPARATEN SKALL ANSLUTAS TILL JORDAT NÄTTUTAG.
LIGUE SOMENTE A UMA TOMADA ATERRADA.
ENCHUFAR SOLAMENTE A UNA TOMA DE TIERRA.
COMPLIES WITH CANADIAN ICES-003 CLASS B.

INPUT:
Hz 50-60
A   5/2.5
V   100-120/200-240~

FC

Tested To Comply With FCC Standards
FOR HOME OR OFFICE USE

63H0

CSA ®
LR 56895C

UL ®
LISTED ITE
E77477

CE

S D N FI

TÜV
PRODUCT SERVICE

GS
geprüfte
Sicherheit

NOM

NYCE

971144-00

VCI

N119

FOR TELECOMMUNICATIONS APPROVALS SEE LABEL
ON THE INTEGRATED TELECOMMUNICATIONS DEVICE.
REFER TO USERS GUIDE FOR ACCESS.

334583-003   S3

Typical Agency Label

No.	Components
❶	Manufacturing Site
❷	Patent Information
❸	Power Supply Caution
❹	Grounding Information
❺	Voltage Ratings
❻	Agency Approvals
❼	Modem Regulation Statement

Energy Compliance

Agency labels are located on the back of the computer. For examples of typical agency labels, refer to the Safety section.

Energy Star Compliance

Compaq Internet PC products marked with the Energy Star Logo are compliant with Energy Star Computers Program 2.0 standard of the U.S. Environmental Protection Agency (EPA). The EPA Energy Star Logo does not imply endorsement by the EPA. As an Energy Star Partner, Compaq Computer Corporation has determined that products marked with the Energy Star Logo meet the Energy Star guidelines for energy efficiency.

The Energy Star Computers Program was created by the EPA to promote energy efficiency and reduce air pollution through more energy-efficient equipment in homes, offices, and factories. Compaq products achieve this standard by reducing power consumption when not being used. Instructions for using the energy saving features of your computer are located in the power management section of the documentation that came with your computer.

The power management feature of your computer is supported when used with the following operating system: Microsoft Windows Operating System.

The power management feature, when used in conjunction with an external Energy Star compliant monitor, will support the power-down features of the monitor. The power management feature allows an external monitor to go into low-power mode when the screen saver timeout occurs. To take advantage of these energy savings, the monitor's power management feature has been preset to power down the monitor after a period of system inactivity. Refer to the power management section of the documentation that came with your computer for instructions on modifying or disabling this feature.

CAUTION: Using the Energy Save Monitor feature with non-Energy Star compliant monitors may cause video distortion when the screen saver timeout occurs.

CAUTION: The power management feature is not compatible with some non-Compaq bus-mastering ISA devices. Using the power management feature with some of these devices may cause errors when the system is placed in the low power state.

Glossary

10BaseT – Unshielded twisted pair cable used to connect computers on an Ethernet network. *See* Ethernet.

American National Standards Institute (ANSI) – A private, non-profit organization that facilitates the development of national technical standards by establishing consensus among qualified public and private sector groups.

American Standard Code for Information Interchange (ASCII) – The code used to represent the conversion of keyboard characters into binary digits that can be processed by the computer. *See* American National Standards Institute.

analog – A continuous electronic current of varying frequency. Digital data from a computer must be converted to an analog signal by a modem before it can be transmitted over standard telephone lines. *Contrast* digital.

ANSI – *See* American National Standards Institute.

anti-virus utility – A program that detects and in many cases repairs the damage caused by harmful program code. *See* virus, utility.

application – A software program that facilitates the performance of useful work, such as a word processing program.

ASCII – *See* American Standard Code for Information Interchange.

backup – A copy of one or more files for safekeeping.

Basic Input Output System (BIOS) – An instruction set stored on the read-only memory chip of a computer that handles how the hardware reacts to commands from software.

binary – A number system that uses only the symbols 0 and 1. Used to represent digital data.

binary digit – A representation of the basic building block of all computer information using the symbols 0 and 1. The data represented by one binary digit is equal to one bit. *See* bit, byte.

BIOS – *See* Basic Input Output System.

bit – A unit of measurement used to describe the smallest possible piece of computer information, represented as a binary digit. Eight bits is equal to one byte. *See* byte; binary digit.

boot – To start up a computer. During the start up process, information necessary for the computer to operate is loaded into the memory.

browser – A program used to access and view information. *See* Web browser.

bug – An error in computer program code.

bulletin board – A computerized meeting and announcement system that can be accessed directly by dialing the bulletin board system telephone number using a modem or through an ISP connection and the Internet.

bus – The main communication path used by the components of a computer.

byte – A unit of measurement used to describe a quantity of data, equal to eight bits. A character is one byte in size. *See* bit.

CAB files (CABinet files) – Files in the Windows directory on your hard disk that contain the Microsoft Windows operating system distribution files. These files are automatically accessed when necessary.

cable modem – A device that provides constant access to the Internet through a cable Internet service provider.

cache – A portion of memory where frequently used information is duplicated for the purpose of instant access. *See* memory.

CardBus PC Card – A 32-bit PC Card. *See* PC Card.

CD – *See* compact disc, digital versatile disc, digital video disc.

CD-ROM – *See* compact disc.

central processing unit (CPU) – Controls the operation of a computer. Arithmetic and logic operations, as well as the decoding and execution of instructions are performed by the central processing unit. *See* chip, microprocessor.

channel – A communication path.

Channel Bar – A feature of the Microsoft Windows 98 active desktop that provides single-click access to featured Web sites.

chip – A tiny silicon wafer that contains miniature transistors and circuits. *See* central processing unit, microprocessor.

client – A computer workstation on a network that has access to the data and services of a central computer known as a server. *Contrast* server.

compact disc (CD) – A circular piece of plastic that can store a maximum of 650 MB of digital data on one side using laser technology. Types of CDs include the following:

- CD-ROM (read only memory) – Contains read-only information.
- CD-RW (rewritable) – Information can be saved to the disc using a rewritable or recordable CD drive.

CD-ROM – *See* compact disc.

configure – To set up a computer or change program settings.

connector – A receptacle designed to accept the insertion of a specific cable plug, usually located on the back of the computer or device. Some connectors are built into the front of computers for easy access. *See* parallel port connector, PS2 connector, serial port connector, Universal Serial Bus.

CPU – *See* central processing unit.

Creativity Action Center – A set of easily accessible connectors situated on the front of select models of Compaq Internet PCs.

cursor – The blinking symbol on a computer screen that shows where the next typed character will be displayed.

daisy chain – To add a device to the last one in a chain of USB or IEEE-1394 devices. *See* Universal Serial Bus, IEEE-1394 High Performance Serial Bus.

database – An organized collection of data designed to facilitate the extraction of useful information.

DCIC – *See* Digital Creativity Imaging Center.

debug – To remove errors from computer program code.

dedicated line – A leased communication path that provides constant access to the Internet.

default – An automatic setting that a program uses unless alternative instructions are entered.

desktop – *See* Windows desktop.

desktop computer – A personal computer designed to be set up on a desk, as opposed to an easily-transportable notebook computer. *Contrast* laptop computer, notebook computer.

desktop publishing – The use of a personal computer with word processing, graphics, or page-layout programs to produce professional-quality documents.

device driver – *See* driver.

dialog box – A window that is automatically displayed when information must be entered to continue.

dial-up networking – A method of accessing a network through a modem and a standard telephone line. Usually refers to accessing the Internet through an Internet service provider. *Contrast* dedicated line.

digital – Electrical signals that carry data in the form of bits. *Contrast* analog.

Digital Creativity Imaging Center (DCIC) – a set of easily accessible connectors situated on the front of select models of Compaq Internet PCs.

digital subscriber line (DSL) – A broadband communication technology that utilizes the bandwidth not used for voice communications on standard telephone lines for data communications. *See* DSL modem.

digital versatile disc (DVD) – A CD-sized disc capable of storing a maximum of 17 GB of digital audio, video, or data using both sides of the disc. Types of DVDs include the following:

- DVD-ROM (read only memory) – Contains read-only information.
- DVD-R (rewritable) – Information can be recorded to the disc only once using a rewritable DVD drive.
- DVD-RAM (random access memory) – Information can be saved to the disc using a rewritable DVD drive.
- DVD+RW (rewritable) — Information can be saved to the disc using a recordable DVD drive.

digital video disc – A CD-sized disc capable of storing a maximum of 135 minutes of video, as well as the associated audio and subtitles in 8 different languages. *Contrast* compact disc, digital versatile disc.

directory – An area on a disk where the names and locations of files are stored.

disc – *See* compact disc.

diskette –A storage device made of flexible plastic film coated with iron oxide cased in a hard plastic shell. Also known as a 3.5" or floppy diskette. *See* floppy.

diskette drive – A device that enables a computer to read data from and write data to diskettes.

Disk Operating System (DOS) – The generic name for the Microsoft Disk Operating System (MS-DOS).

DOS – *See* Disk Operating System.

double-click – To press the left mouse button twice in rapid succession.

download – To transfer a copy of a file from a remote computer. *Contrast* upload.

drive – A device that enables the reading and sometimes writing of data to a storage device. *See* CD drive, diskette drive, DVD drive, hard drive, Zip drive.

driver – A program that enables the Microsoft Windows operating system and the BIOS to recognize and operate devices installed in or attached to a computer, such as a PCI card or a printer. *See* Plug and Play.

DSL – *See* digital subscriber line.

DSL modem – A device used to connect to the Internet using digital subscriber line service through standard telephone lines. *See* digital subscriber line.

duplex – Describes a communication channel that is always open in both directions. In telecommunications, it refers to the ability of both parties to transmit and receive signals at the same time. Also known as full duplex. *Contrast* half duplex.

DVD – *See* digital versatile disc.

e-mail – *See* electronic mail.

electronic mail – A method of sending messages and files across a network or the Internet.

enabling software – An instruction set that must be installed before the associated hardware device can function.

Ethernet – A family of data link protocols that specifies how data is transferred over a network.

expansion slot – A receptacle on the system board that accepts a device that adds functionality to the computer, such as a modem.

Explorer – *See* Microsoft Internet Explorer, Microsoft Windows Explorer.

extranet – An intranet that is accessible to those not part of the organization by special permission. *See* intranet.

File Transfer Protocol (FTP) – An instruction set that specifies how files are downloaded or uploaded. *See* download, upload.

floppy – Informal term for diskette. Also known as 3.5" floppy. *See* diskette.

FTP – *See* File Transfer Protocol.

full duplex – *See* duplex.

gamepad – A device that permits more realistic game play than is possible with a mouse or touchpad.

gameport – *See* MIDI/Gameport.

GB – *See* gigabyte.

gigabyte (GB) – a unit of measurement used to describe data quantity. One GB is equal to approximately one billion bytes. *See* byte.

graphical user interface (GUI) –The collection of images and text shown on the monitor display that facilitates the entry of commands and data. The Windows desktop is a graphical user interface.

GUI – *See* graphical user interface.

half duplex – Describes a communication channel that is only open in a single direction at any given time. In telecommunications, it refers to the ability of only one party to transmit data at any given time. *Contrast* duplex.

hard disk – An internal data storage device made of hard aluminum disks coated with iron oxide.

hard drive – A device that enables a computer to read data from and write data to a hard disk.

hardware – The physical components of a computer.

hertz (Hz) – a unit of measurement used to describe frequency rate. One hertz is equal to one cycle per second. *See* megahertz, microprocessor, refresh rate.

hibernation – Applies to notebook computers only. A state of decreased power consumption. When the notebook computer enters this state, the contents of the memory are automatically written to the hard disk for safe storage. Your notebook computer automatically enters hibernation if any of the following events occur:

- The notebook computer has been in the Sleep mode for more than one hour (while connected to battery power only).
- The battery reaches the low charge state.
- The power button is pressed briefly while the computer is on.

high-performance addressing (HPA) – A liquid crystal display technology that provides high quality realism especially when viewing video or playing 3D games.

hotplug – To connect or disconnect equipment, such as a PC Card or USB device, without restarting the computer.

hover help – The information that may be displayed when the mouse pointer is placed on an icon, button, or toolbar item, such as the name of the button or an explanation of the button function.

HPA – *See* high-performance addressing.

HTML – *See* Hypertext Markup Language.

HTTP – *See* Hypertext Transport Protocol.

hub – A switching device used to connect computers to a network.

hyperlink – Colored and underlined hypertext that when clicked provides immediate access to a file, a specific location within a file, or a Web page. *See* hypertext, link.

hypertext – Specially formatted words in a document or on a Web page that serves as a link to another location. *See* hyperlink, link.

Hypertext Markup Language (HTML) – A standard language used for creating and publishing documents on the World Wide Web.

Hypertext Transport Protocol (HTTP) – An instruction set that specifies how information is published on the Internet. *See* Hypertext Markup Language.

Hz – *See* hertz.

icon – A small picture incorporated into the graphical user interface that represents a link or shortcut to a file, folder, or program.

IEEE – *See* Institute of Electrical and Electronics Engineers.

IEEE-1394 High Performance Serial Bus – A Plug-and-Play digital interface that allows up to 63 devices to be connected sequentially into a single external port. *See* daisy chain, IEEE-1394 port, Plug and Play.

IEEE-1394 port – A device that transmits data at a maximum rate of 400 Mbps. A variety of devices are supported, such as IEEE-1394 digital cameras, video cameras, and storage devices. *See* IEEE-1394 High Performance Serial Bus.

Intel VideoPhone – A software package developed by the Intel Corporation that makes it possible to place and receive video telephone calls through the Internet or through standard telephone lines using a video camera.

Institute of Electrical and Electronics Engineers (IEEE) – A non-profit group involved in the development of technology and standards in the areas of computer engineering and consumer electronics.

interactive – A term used to describe a program, such as a computer game, that immediately reacts to commands.

interface – *See* graphical user interface.

International Organization for Standardization (ISO) –A non-governmental organization established to promote the development of standards in the areas of intellectual, scientific, technical, and economic activity.

International Telecommunication Union (ITU) – An agency of the United Nations responsible for the regulation, standardization, coordination, and development of international telecommunications standards.

Internet – The largest decentralized computer network in the world. Every computer or network that is linked to the Internet uses TCP/IP. *See* network, TCP/IP.

internet – Two or more networks connected together.

Internet Explorer – *See* Microsoft Internet Explorer.

Internet keyboard – A keyboard equipped with special buttons programmed to access the Internet, a favorite program, or perform other frequently-used tasks with a touch of a button.

Internet service provider (ISP) – A business organization that provides Internet access through dial-up networking or dedicated line access. *See* dial-up networking, dedicated line.

intranet – An information site usually implemented by businesses, schools, or other large institutions designed to provide information to members of the organization. An intranet can be thought of as a smaller, private version of the World Wide Web. *See* extranet.

ISO – *See* International Organization for Standardization.

ISP – *See* Internet service provider.

ITU – *See* International Telecommunication Union.

joystick – A device that permits more realistic game play than is possible with a mouse or touchpad.

K56*flex* – A data communication protocol developed by Lucent Technologies Incorporated and Rockwell International Corporation designed to transfer data at a maximum rate of 56 Kbps over standard telephone lines using a modem. *See* modem. *See* V.90 Standard.

KB – *See* kilobyte.

Kbps – *See* kilobits per second.

keyboard – The primary device used for entering alphanumeric data.

kilobits per second (Kbps) – A unit of measurement used to describe the rate of data transfer.

kilobyte (KB) – A unit of measurement used to describe data quantity. One KB is equal to approximately one thousand bytes. *See* byte.

LAN – *See* local area network.

laptop computer – A portable computer, usually weighing approximately eight pounds. *Contrast* desktop computer, notebook computer.

LCD – *See* liquid crystal display.

LED – *See* light-emitting diode.

light-emitting diode (LED) – A device that glows when an electric current passes through it. Status lights on computers are often LEDs.

link – An item that provides direct access to a file, program, directory, or Web site. *See* hyperlink, shortcut.

liquid crystal display (LCD) – A type of display that uses chemicals, or liquid crystals, that respond to polarized light and electrical signals. A notebook computer has a liquid crystal display.

listserv – *See* mailing list.

local area network (LAN) – Two or more computers linked together for the purpose of sharing resources, such as files, programs, or printers. A local area network is usually contained within a single building. *Contrast* wide area network.

log on – To gain authorized access to a network or Internet service provider account by providing a user name and password.

mailing list – A mail forwarding service that allows subscribers to send e-mail to a single address where the message is copied and sent to all subscribers to that particular list.

maillist – *See* mailing list.

MB – *See* megabyte.

Mbps – *See* megabits per second.

megabits per second (Mbps) – A unit of measurement used to describe the rate of data transfer.

megabyte (MB) – A unit of measurement used to describe data quantity. One MB is equal to approximately one million bytes. *See* byte.

megahertz (MHz) – A unit of measurement used to describe microprocessor speed. One megahertz is equal to one million hertz, or one million cycles per second. *See* hertz.

memory – The place where data and instructions are stored for use by the processor. There are several different types of memory that include the following:

- random-access memory (RAM) – The space where programs and data are stored as they are used.

- read-only memory (ROM) – The space where data needed to run the computer is stored. The computer can access but not change this data.

- virtual memory – The use of hard disk file space to extend the capability of random-access memory.

MHz – *See* megahertz.

microprocessor – An integrated circuit on the system board that contains the entire central processing unit. May be considered the brain of the computer. The speed of a microprocessor is measured in megahertz. *See* hertz, megahertz.

Microsoft Internet Explorer – A Web browser developed by the Microsoft Corporation; used to view hypertext documents on intranet web sites as well as documents on the World Wide Web.

Microsoft Windows – The family of GUI-based computer operating systems developed by the Microsoft Corporation.

Microsoft Windows Explorer – A browser program used to access and view the contents of data storage drives available to the computer.

Microsoft Windows NT – A network operating system developed by the Microsoft Corporation.

MIDI – *See* Musical Instrument Digital Interface.

MIDI/Gameport connector – A receptacle that accepts a gamepad, joystick, or similar device to permit more realistic game play than is possible with a mouse or touchpad.

MMX – *See* multimedia extension.

modem (modulator/demodulator) – A device that converts data from a digital to analog format at the originating computer so that it can be transmitted over standard telephone lines. The modem at the receiving end of the transmission then converts the data from analog back to digital format so that the receiving computer can read it. *See* analog, digital.

motherboard – *See* system board.

Motion Picture Expert Group (MPEG) – A working group of the International Organization for Standardization (ISO), responsible for generating data compression standards for digital video and audio data.

mouse – A device used to move a pointer on the display as well as make selections by clicking the buttons. *See* double-click, left-click, right-click.

MPEG – *See* Motion Picture Expert Group.

multimedia – The presence of two or more formats, such as audio, animation, graphics, text, or video.

Multimedia Extension (MMX) – A microprocessor technology developed by the Intel Corporation that runs multimedia programs faster and more efficiently.

Musical Instrument Digital Interface (MIDI) – A computer file format used to represent musical sounds. MIDI files can be identified by the file extension *.mid*.

navigate – To move from one site or directory to another site or directory.

Netscape Navigator – A Web browser developed by the Netscape Communications Corporation; used to view hypertext documents on intranet Web sites as well as documents on the World Wide Web.

network – Two or more computers linked together for the purpose of sharing resources, such as files, programs, or printers. *See* local area network, wide area network.

network adapter – *See* network interface card.

network interface card – A device that enables a computer to be physically connected to and participate in data communications on a network.

newsgroup – A public special-interest forum on a network similar to a bulletin board. Subscribers can read and post messages to the newsgroup site.

NIC – *See* network interface card.

notebook computer – A portable computer about the size of a large notebook usually weighing about four pounds. *Contrast* desktop computer, laptop computer.

online – The state of being connected to a network, especially the Internet.

online Help – Program-specific information stored on the hard disk that can be accessed through the **Help** option on the program menu bar.

operating system (OS) – A set of system software programs that control how the computer works.

OS – *See* operating system.

parallel port – A device that transfers bits of data simultaneously through the eight separate wires in a parallel cable. Printers are often connected to a parallel port.

partition – To format a hard disk so that it behaves as if it is two or more smaller hard disks.

PC – Personal computer.

PC Card – A credit card-sized device that can be plugged into a PC Card slot on a notebook computer to expand its functionality. Formerly known as a PCMCIA Card. See Personal Computer Memory Card International Association.

PCI – *See* Peripheral Component Interconnect.

PCMCIA – *See* Personal Computer Memory Card International Association.

peripheral – A device connected to a computer, such as a monitor or a printer.

Peripheral Component Interconnect (PCI) – A local bus capable of transferring data at a maximum rate of 137 Mbps. The PCI bus was the first bus to incorporate the Plug and Play setup. *See* bus, Plug and Play.

Personal Computer Memory Card International Association – An industry group organized to promote standards for credit card-sized memory and input/output devices that fit into a notebook or laptop computer.

pixel – One of the individual dots that make up a graphical image.

playlist – Tracks chosen for play from a CD or DVD.

Plug and Play – Refers to a device that when connected to a computer is automatically recognized by the operating system and BIOS.

Point-to-Point Protocol (PPP) – An instruction set that enables a computer to gain authorized access to a network using dial-up networking, a modem, and a standard telephone line. Many Internet service providers use PPP.

pop-up menu – A list of choices that is displayed when an item on a menu bar is selected.

port – A point through which data flows between computers or between a computer and a peripheral device. *See* parallel port, serial port.

PPP – *See* Point-to-Point Protocol.

processor – *See* microprocessor.

Product Key – The Microsoft Windows operating system product identification code printed on the lower right corner of the cover of the *Microsoft Windows Getting Started* guide. You must enter this code during the Microsoft Windows Setup.

program – Software installed on a computer that facilitates the performance of useful work, such as a word processing program.

proprietary – Refers to software or hardware technology owned by a company or individual that has exclusive rights to it.

protocol – A formal standard or instruction set.

RAM – *See* memory.

random access memory (RAM) – *See* memory.

RAS – *See* remote access server, Remote Access Service.

read-only memory (ROM) – *See* memory.

real-time clock (RTC) – An battery powered clock inside your computer that keeps time even when the computer is turned off.

refresh rate – The number of times a monitor redraws the display, measured in hertz. A refresh rate of 75 Hz indicates that the monitor updates its display 75 times per second.

remote access server (RAS) – a computer configured as a server that permits authorized access to a network using specially configured dial-up networking. *See* Remote Access Service.

Remote Access Service (RAS) – A feature of Microsoft Windows NT that permits authorized access to a network using dial-up networking through a specially configured server computer. *See* remote access server.

right-click – To press the right mouse button.

ROM – *See* memory.

RTC – *See* real-time clock.

screen saver – A blank screen or a moving image that automatically is displayed after the computer has not been used for a predetermined amount of time. Screen savers were designed to prevent damage to the screen. As monitor technologies continue to improve and damage is no longer a concern, screen savers are now used to provide privacy and entertainment.

scroll mouse – A device used to move a pointer on the display as well as make selections by clicking the buttons. The scroll mouse also has a scroll wheel located between the two mouse buttons that allows automatic scrolling in documents.

serial port – A device that transfers data one bit at a time through a serial cable.

server – A specially configured computer running network software that provides access to network resources for client workstation computers.

shortcut – An icon on the Windows desktop that provides a direct link to a program, directory, or file. Shortcuts are identifiable by the small arrow located in the lower left corner of the icon image.

Sleep mode – A low power consumption state that components of the computer enter after a predetermined amount of time.

software – Programs that contain computer operation instructions. There are two types of software; application software and system software. *See* application, operating system.

Super Video Graphics Adapter (SVGA) – A video card that typically supports resolutions of 1024 x 728 pixels with over 65,000 colors. *See* pixel.

surf – To browse or navigate through the information on the Internet and the World Wide Web.

surge protector – A device that protects electrical devices from brief bursts of excessive voltage.

SVGA – *See* Super Video Graphics Array.

system board – The main circuit board inside a computer. Also known as motherboard.

taskbar –*See* Windows Taskbar.

TCP/IP – *See* Transmission Control Protocol/Internet Protocol.

touchpad – A small, touch-sensitive pad used as a pointing device on some portable computers. By tracing a finger or other object along the pad, you can move the pointer on the display screen. You select a menu option by tapping on the pad (if this feature is enabled).

Transmission Control Protocol/Internet Protocol (TCP/IP) – An industry standard instruction set that specifies how data is transmitted through a network. TCP/IP enables cross-platform communications, that is, a computer running a Microsoft Windows operating system can access data and information provided by a computer running a different operating system. Every computer and network that is connected to the Internet uses TCP/IP.

uninterruptible power supply (UPS) – A device that provides surge protection and, in the event of a power failure, short-term battery backup power.

Uniform Resource Locator (URL) – An Internet address that specifies the location of information. Also known as Universal Resource Locator.

Universal Resource Locator (URL) – *See* Uniform Resource Locator

Universal Serial Bus (USB) – A Plug-and-Play interface that allows up to 127 devices to be connected sequentially into a single external USB port. *See* daisy chain, USB port.

upload – To send a copy of a file to a remote computer. *Contrast* download.

UPS – *See* uninterruptible power supply.

URL – *See* Uniform Resource Locator.

USB – *See* Universal Serial Bus.

USB port – A device that transmits data at a rate of 12 Mbps through a USB cable. A variety of devices are supported, such as USB monitors, keyboards, and printers. *See* Universal Serial Bus.

utility – A program that assists with the operation of a computer, such as a power management program or anti-virus program.

V.90 Standard – A standard endorsed by the International Telecommunication Union that makes it possible for modems to communicate without regard to technological differences. The k56*flex* standard is incorporated into the V.90 standard, ensuring compatibility between V.90-enabled and K56*flex*-enabled modems.

Video CD – *See* digital video disc.

videophone – *See* Intel VideoPhone.

virtual memory – *See* memory.

virus – A harmful computer program that may cause damage to data or programs. *See* anti-virus utility.

WAN – *See* wide area network.

Web – *See* World Wide Web.

Web browser – A program that makes it possible to access and view hypertext documents.

wide area network – Geographically separated computers linked together for the purpose of sharing resources, such as data. The Internet is the largest wide area network in the world. *Contrast* local area network.

Windows NT – *See* Microsoft Windows NT.

Windows desktop – The work area shown on the monitor display that contains the Windows Taskbar as well as icons that represent links to programs or shortcuts to programs and files. See link, shortcut, Windows Taskbar.

Windows Taskbar – A thin band that contains the Microsoft Windows **Start** button, the current time, as well as icons that provide links to frequently used programs.

wizard – A utility program that automatically presents the steps necessary to complete a task, such as installing a printer.

World Wide Web – A universal database that provides a consistent means to access large amounts of information. Web documents facilitate the quick retrieval of information through the use hypertext links.

WWW – *See* World Wide Web.

Zip disk – A storage device with a 100 or 250 MB capacity that is compatible with a Zip drive.

Zip drive – A device that can read and write data to a Zip disk.

Index