

PROPRIETARY NOTICE AND LIABILITY DISCLAIMER

The information disclosed in this document, including all designs and related materials, is the valuable property of NEC Corporation (NEC) and/or its licensors. NEC and/or its licensors, as appropriate, reserve all patent, copyright and other proprietary rights to this document, including all design, manufacturing, reproduction, use, and sales rights thereto, except to the extent said rights are expressly granted to others.

The NEC product(s) discussed in this document are warranted in accordance with the terms of the Warranty Statement accompanying each product. However, actual performance of each such product is dependent upon factors such as system configuration, customer data, and operator control. Since implementation by customers of each product may vary, the suitability of specific product configurations and applications must be determined by the customer and is not warranted by NEC.

To allow for design and specification improvements, the information in this document is subject to change at any time, without notice. Reproduction of this document or portions thereof without prior written approval of NEC is prohibited.

MultiSync and PowerMate are registered trademarks of NEC Technologies, Inc.

FastFacts is a trademark of NEC Technologies, Inc.

All other product, brand, or trade names used in this publication are the trademarks or registered trademarks of their respective trademark owners.

First Printing — February 1996

Copyright 1996
NEC Technologies, Inc.
1414 Massachusetts Avenue
Boxborough, MA 01719
All Rights Reserved

Copyright 1996
NEC Corporation
7-1 Shiba 5-Chome, Minato-Ku
Tokyo 108-01, Japan
All Rights Reserved

Contents

Using This Guide

Text Conventions	viii
Related Documents.....	ix

1 Introducing Your Computer

Front Features.....	1-1
System Controls and Lamps	1-4
IR Window	1-5
Diskette Drive A	1-6
CD-ROM Reader	1-7
Back Features	1-8
External Connectors	1-11
Power Supply Features.....	1-12
Network Interface Board	1-13
Speakers	1-14
Microphone.....	1-15

2 Getting Started

Using a Mouse	2-1
Using Online Documentation	2-2
Where to Go from Here	2-4

3 Using Voyetra Sound Software

AudioStation	3-2
Power Bar.....	3-2
Mixer Module	3-4
CD Module	3-4
Digital Audio Transport (DAT) Module	3-5
MIDI Module.....	3-5
MIDI Orchestrator	3-6
Playing a MIDI Song File.....	3-7
Editing a MIDI Song File	3-7

WinDAT.....	3-9
Recording .WAV Files	3-9
Loading and Playing .WAV Files.....	3-10
Editing .WAV Files.....	3-11

4 Setting System Parameters

The Setup Utility	4-2
How to Start Setup.....	4-3
How to Use Setup	4-4
The Menu Bar.....	4-5
The Legend Bar.....	4-6
Selecting a Menu Item	4-7
Displaying a Submenu.....	4-7
Getting Help.....	4-7
Main Menu Options	4-7
IDE Adapters	4-9
Memory Cache.....	4-11
Memory Shadow	4-12
Boot Options.....	4-12
NumLock.....	4-13
The Advanced Menu	4-14
Integrated Peripherals Menu	4-15
The Security Menu.....	4-17
The Power Menu.....	4-20
The Exit Menu	4-22
Save Changes & Exit	4-22
Discard Changes & Exit.....	4-23
Get Default Values.....	4-23
Load Previous Values.....	4-23
Save Changes.....	4-24

5 Setting System Board Jumpers

Changing Processor Jumper Settings.....	5-2
Clearing CMOS	5-5
Clearing Your Password.....	5-7

6	24-Hour Information Services	
	NEC's Fastfacts Service	6-2
	NEC Bulletin Board Service	6-4
	America Online Service	6-7
	CompuServe Online Service	6-8
	AT & T Interchange	6-9
	E-Mail/Fax Technical Support Service	6-10
	Internet	6-11
	NEC Technical Support Services.....	6-12
7	If You Have a Problem	
	Problem Checklist	7-2
	Solutions to Common Problems	7-3
	System Problems.....	7-3
	Diskette Drive Problems.....	7-5
	Monitor Problems.....	7-6
	Keyboard/Mouse Problems.....	7-7
	CD-ROM Problems.....	7-7
	Speaker Problems.....	7-8
	Microphone Problems.....	7-8
	Diagnostic Diskette	7-8
	Getting Help.....	7-9
	Getting Help from Your Company	7-9
	Getting Help from Your NEC Dealer	7-10
	Getting Help from NEC's Technical Support Center	7-10
	NEC Warranty/Non-Warranty Repair Service	7-10
A	Setting Up a Healthy Work Environment	
	Making Your Computer Work for You	A-1
	Arrange Your Equipment.....	A-3
	Adjust Your Chair.....	A-4
	Adjust Your Input Devices	A-6
	Adjust Your Monitor	A-8
	Vary Your Workday.....	A-10
	Pre-Existing Conditions and Psychosocial Factors.....	A-11

Checking Your Comfort: How Do You Measure Up?	A-12
Checking Your Chair.....	A-12
Checking Your Keyboard	A-12
Checking Your Mouse.....	A-12
Checking Your Monitor.....	A-12
Checking You	A-13

Index

List of Tables

Quick Reference to Information About Your	
Computer	2-6
Setup Key Functions	4-6
Main Menu Parameters	4-8
IDE Hard Disk Parameters	4-11
Memory Cache Parameters	4-12
Boot Parameters	4-13
Keyboard Parameters	4-14
Advanced Menu Parameters	4-15
Integrated Peripherals Parameters	4-16
System Security Options.....	4-19
Power Management Parameters	4-21

Using This Guide

The *PowerMate V Series User's Guide* provides a quick reference to information about your computer.

The guide contains the following information:

- Chapter 1, *Introducing Your Computer*, provides a look at system components. See this chapter to familiarize yourself with your system.

- Chapter 2, *Getting Started*, gives you information about using a mouse, using online documentation, and what you should do after your system is up and running.

The chapter includes a quick-reference chart for finding information about a variety of topics.

- Chapter 3, *Using Voyetra Sound Software*, explains how to use Voyetra's Multimedia Sound Software to play music CDs, record, play and edit audio files, and play and edit MIDI files.

- Chapter 4, *Setting System Parameters*, describes the Setup utility and explains how to use it to configure your system.

- Chapter 5, *Setting System Board Jumpers*, provides information on changing jumper settings when reconfiguring your system.

- Chapter 6, *24-Hour Information Services*, lists the services available to you for information and help and describes how to access the services.

-
- Chapter 7, Solving System Problems, contains troubleshooting tips for solving simple problems and provides information where you can find help when you cannot solve a problem yourself.
 - Appendix A, Setting Up a Healthy Work Environment, contains guidelines to help you use your computer productively and safely. This appendix also instructs you on how to set up and use your computer to reduce your risk of developing nerve, muscle, or tendon disorders.

 **WARNING**

Prolonged or improper use of a computer workstation may pose a risk of serious injury. To reduce your risk of injury, set up and use your computer in the manner described in Appendix A, Setting Up a Healthy Work Environment.

TEXT CONVENTIONS

This guide uses the following text conventions.

- Warnings, cautions, and notes have the following meanings:

 **WARNING**

Warnings alert you to situations that could result in serious personal injury or loss of life.



CAUTION

Cautions indicate situations that can damage the hardware or software.



Notes give important information about the material being described.

- Names of keyboard keys are printed as they appear on the keyboard, for example, **Ctrl**, **Alt**, or **Enter**.
- Text or keystrokes that you enter appear in boldface type. For example, type **return** and press **Enter**.
- File names are printed in uppercase letters.

RELATED DOCUMENTS

In addition to this guide, the following printed documentation ships with your PowerMate[®] V Series system.

- *NEC PowerMate V Series Quick Setup/Quick-Reference Roadmap*
Quick Setup contains information for quickly getting your system up and running. Read this information to set up the system for the first time.

The Quick-Reference Roadmap gives you a look at the documentation, NEC tools, software applications, and services available to you.

- *How Does Your Workplace Measure Up?*

This brochure provides information for setting up and using your computer productively and safely. Information includes guidelines to reduce the risk of injury associated with using a computer.

- *TabWorks User's Guide*

This guide describes how to use TabWorks™ for organizing your work and launching your applications from a notebook-like location.

- *TranXit Quick Reference Guide*

This guide describes wireless data transfers between your computer and a laptop using the TranXit™ software.

- *Windows 95 User's Guide*

This guide is a quick reference to information about using Windows® 95.

The following printed documents are available by filling out a fulfillment coupon (included in the system carton) and mailing it to the address provided.

- *MS-DOS Quick-Start Guide*

Use with MS-DOS®/Windows® for WorkGroups systems. Provides information for using MS-DOS.

- *Windows Quick-Start Guide*

Use with MS-DOS/Windows for WorkGroups systems. Provides information for using Windows for WorkGroups™.

Your system comes with the following online documentation on the hard disk:

- *PowerMate V Series System Documentation*
This online documentation is your comprehensive source of information about your system. It contains a System Tour, User's Guide, Product Information Center, Option Installation Center, and Support Center.
- *Ergonomics*
This is an online version of the "How Does Your Workplace Measure Up?" brochure.
- *Using Windows 95*
Comes with Windows 95 systems. Contains information for using Windows 95.

Most of your application programs provide extensive online help. Some programs provide separate online user's guides for specific applications.

Windows 95 provides extensive online help and "wizards" to guide you through procedures.

In addition to the documentation that ships with the system, the following documentation is available from NEC:

- *PowerMate V Series Service and Reference Manual* (part number 819-181328-001) which provides information for maintaining, troubleshooting, and repairing the PowerMate V Series system. This guide also includes hardware and interface information for programmers, engineers, and others who need to know how the system is designed.

To purchase the service and reference manual, call NEC at 1-800-632-4525, select spare part sales at the prompt, and provide the document name and part number.

■ **NEC FastFacts™**

NEC FastFacts is an automated service that sends the latest information about NEC and its products directly to a fax machine. The service is available 24 hours a day, 7 days a week.

With FastFacts, you can obtain product literature and technical information bulletins. By using FastFacts, you can be kept up-to-date on the latest technical information for your system.

See “NEC’s FastFacts Service” in Chapter 6 for information about using FastFacts.

1 Introducing Your Computer

WARNING

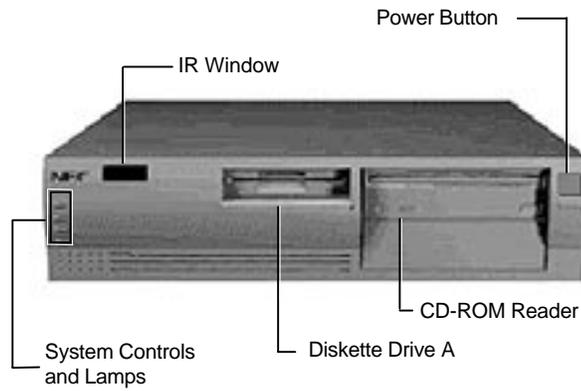
Prolonged or improper use of a computer workstation may pose a risk of serious injury. To reduce your risk of injury, set up and use your computer in the manner described in Appendix A, *Setting Up a Healthy Work Environment*.

After unpacking your computer, familiarize yourself with your system. The following information provides a brief overview of the front and back features of your system.

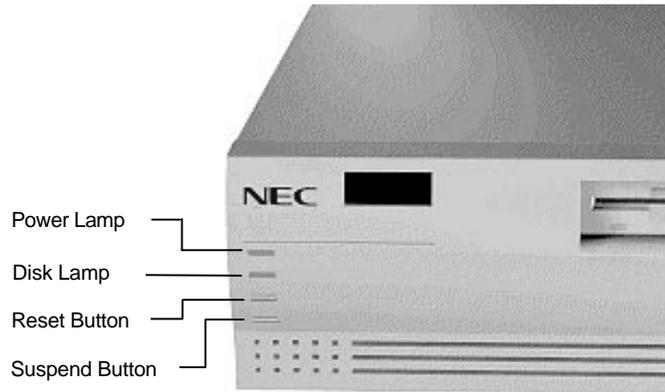
For a comprehensive source of information about your computer, see the online *NEC PowerMate V Series System Documentation* in the Windows[®] NEC Information group.

FRONT FEATURES

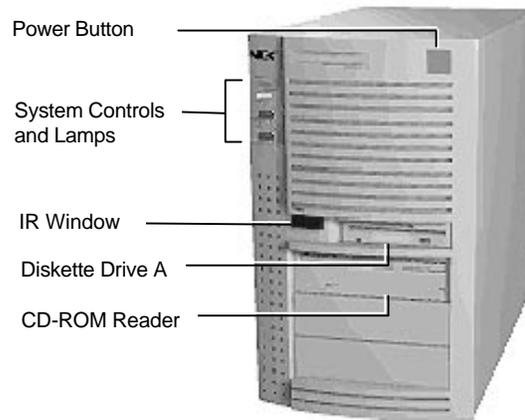
The following figures show the features on the front of the desktop and minitower systems. A brief description of front features follows the figures.



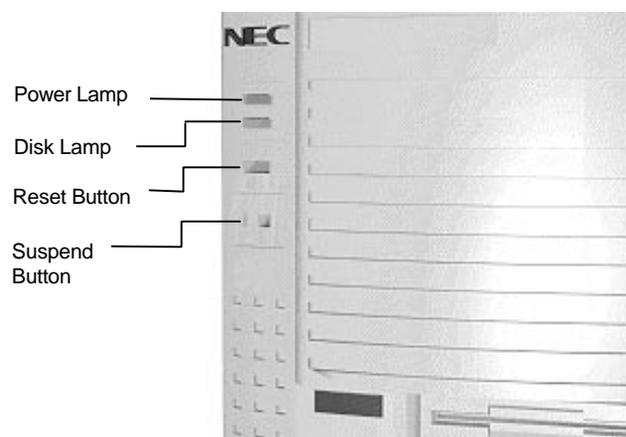
Front features — desktop models



System controls and lamps — desktop models



Front features — minitower models



System controls and lamps — minitower models

System Controls and Lamps

System controls let you select specific system operations. Lamps let you know the status of system operation. Your computer has the following controls and lamps:

- **Power button**

Press this button to turn on system power. Press it again to turn off the power.

- **Suspend button**

Lets you initiate a power-saving mode of operating your computer. Press this button to suspend system operation when you plan to be away from your computer for a short time. Press any key or move your mouse to resume system operation to where you stopped it.

A blinking system unit power lamp lets you know that the system is in a power-saving mode.

- **Reset button**

The reset button lets you manually restart your system when it does not respond to keyboard commands.



CAUTION

Resetting your system can result in the loss of data. Press the reset button only when all other methods of restarting your computer fails.

- **Power lamp**

The power lamp indicates whether system power is on or off. It also lets you know if the system is operating in a power-saving mode.

A steady green lamp indicates that the power is on to all system components. A blinking green lamp indicates that the system is in Suspend mode with full power reduction.

■ **Disk lamp**

Indicates if your hard disk is doing anything. A green lamp tells you that the hard disk is reading or writing data.



CAUTION

Do not turn off the system, unless absolutely necessary, while the disk lamp is lit. To do so can damage your hard disk or data.

IR Window

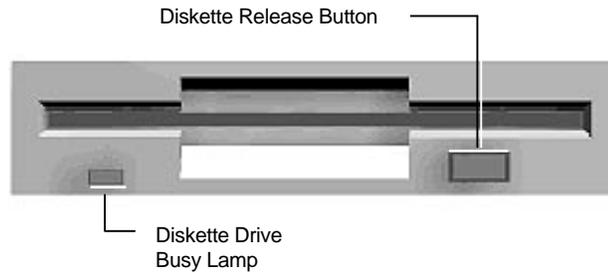
The IR (infrared) window is the system's IR port. The IR port supports two-way wireless communications. The interface uses infrared as the transmission medium instead of a traditional cable.

The IR port lets you transfer files to or from portable devices such as laptops and personal digital assistance (PDA) products using application software supporting IrDA data transfer. Your system comes with Puma TranXit™ software for wireless data transfer.

With IrDA software, you can transfer data at speeds of up to 115 kilobytes per second and at distances up to 3 feet from the IR window.

Diskette Drive A

Diskette drive A loads and starts programs from a diskette. Diskette drive A is your primary “bootable” drive.



Diskette drive A features

Your diskette drive has the following features:

- Diskette drive busy lamp
Lights when your diskette drive is reading to or writing from a diskette.



CAUTION

To prevent damage to your diskette drive and data, do not turn off the system or remove a diskette while the diskette drive busy lamp is lit.

- Diskette release button
Press this button to release a diskette from the diskette drive.

CD-ROM Reader

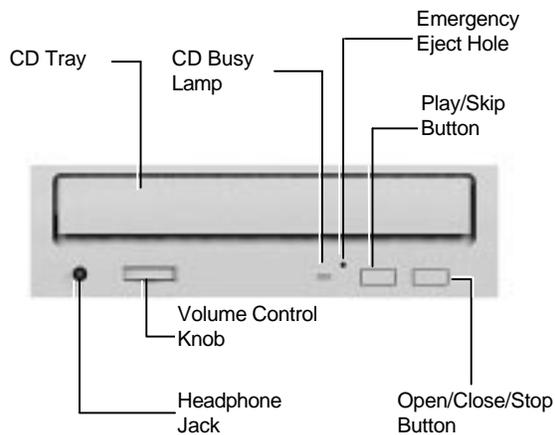
A six-speed CD-ROM reader is a standard feature in multimedia models. The CD-ROM reader is assigned as drive E.

Use the CD-ROM reader to load and start programs from a compact disc (CD). You can also use the CD-ROM reader to play your audio CDs. The CD-ROM reader is fully compatible with Kodak Multisession Photo CDs™ and standard audio CDs.

The CD-ROM reader operates at different speeds depending on whether the CD you are using contains data or music. This allows you to get your data faster and to see smoother animation and video.



The CD-ROM reader in your system might look different from the one shown here.



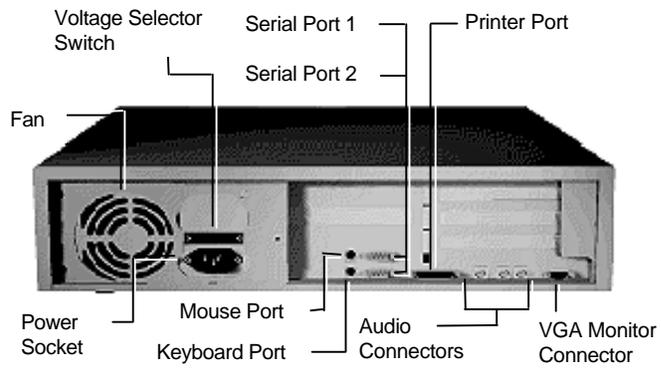
CD-ROM reader features

The CD-ROM reader has the following features:

- **CD tray**
Provides a surface for loading a CD into the reader. Press the open/close/stop button to open or close the CD tray.
- **CD busy lamp**
Lights when the reader is retrieving data, music, or graphics/audio from a CD. Do not eject the CD or turn off the system unit when the lamp is on.
- **Emergency eject hole**
Allows the manual ejection of a CD if the eject function is disabled by software or if a power failure occurs.
- **Play/skip button**
Press once to play a loaded CD. Press again to skip a selection.
- **Open/close/stop button**
Opens or closes the reader's loading tray. Press this button when the computer power is on to insert a CD into the reader. If you are playing a CD, press the open/close/stop button to stop the CD. Press again to open the reader's loading tray to remove the CD.
- **Volume control knob**
Lets you adjust the volume of an optional set of headphones.
- **Headphone jack**
Allows the connection of an optional set of headphones with a stereo mini-jack plug.

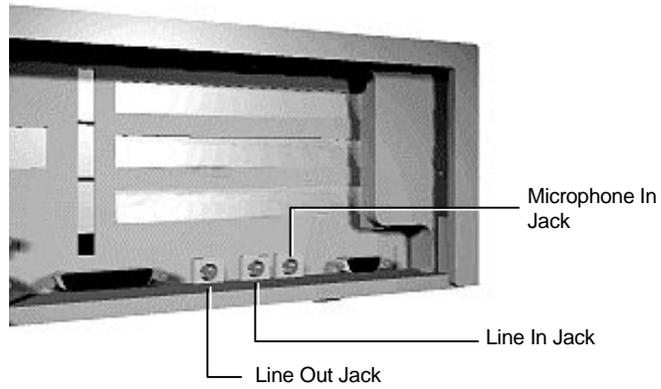
BACK FEATURES

On the back of your computer, you'll find external connectors, power supply features, and expansion board slots. The following figures show these features.

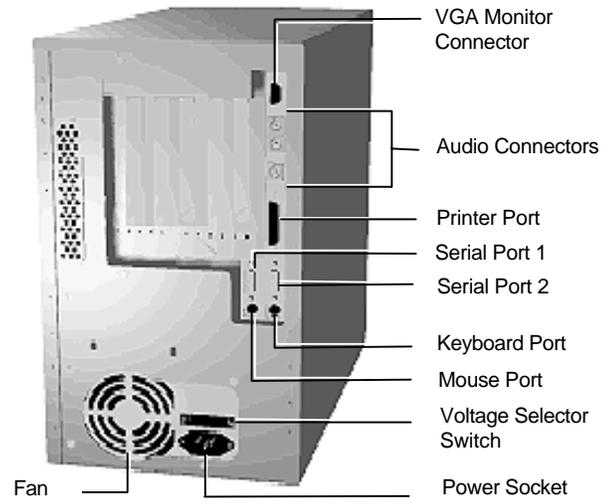


Rear features — desktop models

The following figure identifies the audio connectors called out in the previous figure.

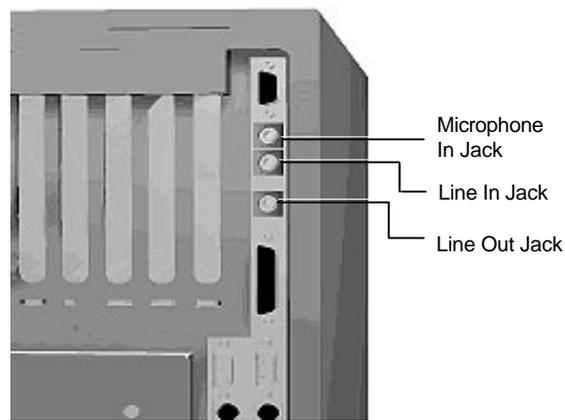


Audio connectors — desktop models



Rear features — minitower models

The following figure identifies the audio connectors that were called out in the previous figure.



Audio connectors — minitower models

External Connectors

External connectors let you attach peripheral devices, such as a monitor, keyboard, mouse, and printer to your system. Your system has the following external connectors:

- **VGA monitor connector**

Attach the signal cable from your monitor to this connector. Supports an NEC MultiSync[®] monitor or other video graphics array (VGA)-compatible monitor with a 15-pin connector.

- **Audio connectors**

These connectors come integrated on multimedia models. The connectors include microphone in, line in, and line out jacks.

- The microphone in jack lets you connect a microphone for recording audio information in your data system files.

- The line in jack lets you connect a stereo audio device such as a stereo amplifier or a cassette or minidisc player for playback or recording.

- The line out jack allows you to connect an *amplified* output device such as powered speakers, stereo tape recorder, or an external amplifier for audio output. Use this jack to connect the stereo speakers that come with your system.

- **Printer Port**

Use this port to connect a parallel printer with a 25-pin connector to the system.

- **Serial Ports**

Attach a serial device with a 9-pin connector to each serial port. Serial devices include a pointing device, serial printer, or modem.

- **Keyboard port**

Attach the keyboard that comes with your computer to this connector.

The keyboard port supports a personal system (PS)/2®-compatible, 101-key or 104-key keyboard (in the U.S. and Canada) or a 102-key keyboard (in the United Kingdom and Germany) with a 6-pin mini DIN connector.

- **Mouse port**

Attach the mouse that comes with your computer to this port. The mouse port supports a PS/2-compatible mouse.

Power Supply Features

Your system has the following power supply features:

- **Power supply fan**

Keep this area clear for proper ventilation. The power supply fan cools system components and prevents them from overheating.

- **Voltage selector switch**

Sets the voltage for your system to 115 volts or 230 volts.



CAUTION

Set the switch correctly for the voltage in your area. Most wall outlets in the United States and Canada are 115 volts. Outlets in Europe, Australia, and Asia (except Taiwan) are 230 volts. Taiwan uses 115-volt outlets.

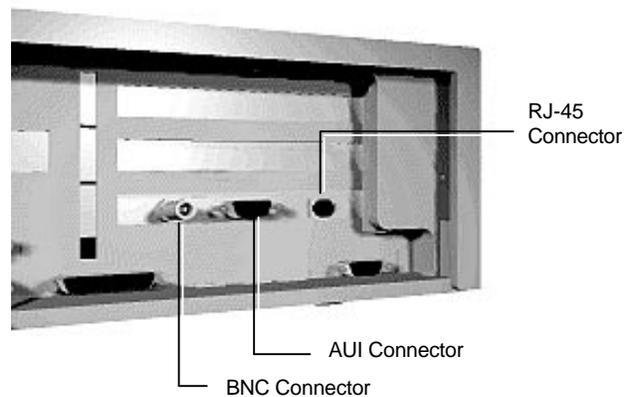
- **Power socket**

Connect your power cable to this socket.

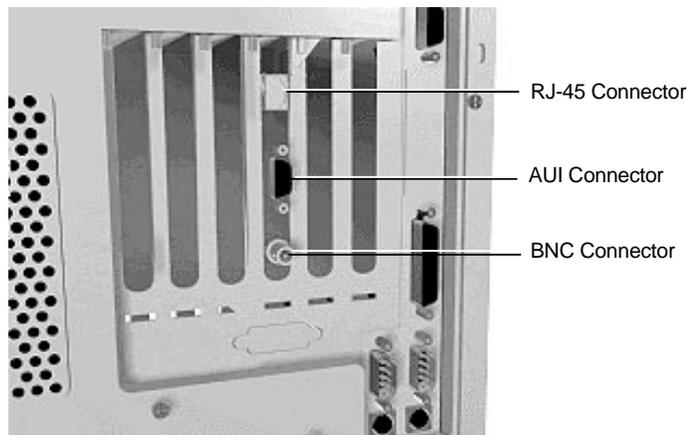
Network Interface Board

Network-ready models come with an Ethernet network interface board. The board allows you to connect the system to an Ethernet network and communicate with other computers. The network interface board, also referred to as a network interface card (NIC), provides three connectors for coaxial and twisted-pair network cabling:

- BNC — supports thin coaxial cables.
- AUI connector — supports thick coaxial cables.
- RJ-45 connector — supports twisted-pair 10BASE-T cables.



Network interface board connectors — desktop models



Network interface board connectors — minitower models

If you have a network-ready model, see “Network Setup Utility” in your online Product Information Center to set up a network-ready system.

SPEAKERS

Multimedia models come with a pair of high-quality stereo speakers that you can arrange to suit your work environment.

An AC adapter comes with the system. Set up the speakers with the AC adapter. The speakers connect to the line out jack on the back of the system unit.

The speaker set features a power button, power lamp, volume knob, and headphone jack.

Adjust the speaker volume by using the volume control on the front of the right speaker or by using the preinstalled sound system software. Use the sound software to balance the speakers.

The sound software is Voyetra Multimedia Sound Software. See Chapter 3 for information on using the Multimedia Sound Software.

MICROPHONE

The microphone allows you to record voice and sound into your computer data files. See Chapter 3 for information on recording sound using the Multimedia Sound Software.

2 Getting Started

This chapter provides the information you need to start using your system. Information includes:

- **Using a Mouse**
If you are already familiar with using a mouse, skip this section.
- **Using Online Documentation**
Read this section to use the comprehensive online system documentation about your system.
- **Where to Go from Here**
Look at this section for a quick reference to what you can do and where you can go for information.

USING A MOUSE

Use the mouse to quickly move around on the screen, to select menu items, and to choose functions specific to your software.

Here are the basic ways to use the mouse:

- **Click**
Clicking selects an object on your screen. To “click,” point to the object and press and release the left mouse button.
- **Double click**
Some actions require a double click to execute them. To “double click” an object, point to the object and press and release the left mouse button twice.

- **Press**

Pressing the mouse button holds an action until you release the mouse button.

- **Drag**

Dragging your mouse attaches your pointer to an object on the screen and allows you to highlight text or move an object. To drag an object, point to the object, press the left mouse button, and move the mouse to the new location.

Typical screen objects that you click or double click are icons, buttons, and menu options.



If your mouse pointer disappears, move your mouse in wide circles to bring it back into the screen.

For more information about your mouse, see your online User's Guide and your application documentation. Also included in the online documentation is information on cleaning your mouse.

USING ONLINE DOCUMENTATION

Your system comes with documentation conveniently available at your fingertips. No more looking for printed documents. Information about your system is available right from Windows.

To access the system documentation, locate the NEC Information group in Windows. Double click the NEC Online Guide icon. A welcome screen appears with the information you need to use the online documentation.

The *NEC PowerMate V Series System Documentation* is a comprehensive source of information about your system. To help you find the information you need, the documentation is organized by topic and the following modules:

- System Tour
- User's Guide
- Product Information Center
- Option Installation Center
- Support Center.



Run the online NEC PowerMate V Series System Documentation at the shipping default video resolution — 800 by 600 with 256 colors with small fonts.

Other online documents include:

- *Ergonomics*
- *Using Windows 95*

Most of your application programs provide extensive online help at the touch of a button (usually the Help button).

Some programs provide separate online user's guides for specific applications.

Windows 95 provides extensive online help and "wizards" to guide you through procedures.

WHERE TO GO FROM HERE

Once you have your system up and running, we suggest that you do the following:

- Read Appendix A, “Setting Up a Healthy Work Environment.”
- Take the System Tour in your online *NEC PowerMate V Series System Documentation*.
- See the online User’s Guide in your online *NEC PowerMate V Series System Documentation*.
- Install any applications. See the documentation that comes with the application.

See the following quick reference chart to find information about some of the things you might want to do:

Quick Reference to Information About Your Computer

WHAT YOU WANT TO FIND	WHERE TO FIND IT
Basic information about my computer	Online User's Guide in the <i>NEC PowerMate V Series System Documentation</i>
Setting up a network-ready system	"Network Setup" in the online Product Information Center (<i>NEC PowerMate V Series System Documentation</i>)
Setting a password	"Setting a Password" in the online User's Guide (<i>NEC PowerMate V Series System Documentation</i>)
Using Windows	Online <i>Using Windows 95</i> Printed <i>Windows 95 User's Guide</i> Order from fulfillment coupon <i>MS-DOS 6.2 Quick Start Guide</i> <i>Windows 3.11 Quick Start Guide</i>
Loading a CD	"Loading a CD" in the online User's Guide (<i>NEC PowerMate V Series System Documentation</i>)
Playing a music CD	Multimedia models: AudioStation online help Chapter 3 in this guide
Using the suspend button	"Saving Power" and "Managing Power" in the online User's Guide (<i>NEC PowerMate V Series System Documentation</i>)
Adding options	"Adding Internal Options" or "Adding External Options," in the online Option Installation Center (<i>NEC PowerMate V Series System Documentation</i>)

Note: AudioStation comes with multimedia models.

Quick Reference to Information About Your Computer

WHAT YOU WANT TO FIND	WHERE TO FIND IT
Understanding power management	"Saving Power" and "Managing Power" in the online User's Guide (<i>NEC PowerMate V Series System Documentation</i>)
Using online services, like America Online®, Prodigy® and CompuServe®	Online Services Help group
Transferring files from my laptop to my computer via the IR window	Printed <i>TranXit Quick Reference Guide</i> , online help in the Puma TranXit™ software, and "Using the IR Port" in the online User's Guide (<i>NEC PowerMate V Series System Documentation</i>)
Changing video drivers	Depending on your operating system, "Changing Video Drivers in Windows for Workgroups" or "Changing Video Drivers in Windows 95" in the online User's Guide (<i>NEC PowerMate V Series System Documentation</i>)
Using Desktop Management Interface	"Desktop Management Interface" in the online Product Information Center (<i>NEC PowerMate V Series System Documentation</i>)
Using support services	"24-Hour Information Services" in the online Support Center (<i>NEC PowerMate V Series System Documentation</i>) Chapter 6 in this guide
Taking care of my system	"Taking Care of Your System" in the online User's Guide (<i>NEC PowerMate V Series System Documentation</i>)

3

Using Voyetra Sound Software

Your PowerMate multimedia configuration ships with Voyetra's Multimedia Sound Software. Use this software to adjust the volume of your speakers, record sound using a microphone, play, edit, and record .WAV files, play music on your CD-ROM, and record, play or edit Musical Instrument Digital Interface (MIDI) sequences and save them as .MID files.

This chapter explains how to use these Multimedia Sound Software features. In addition, you can access the online help files.

The following components comprise the Multimedia Sound Software package.

- AudioStation™
- MIDI Orchestrator™
- WinDAT™

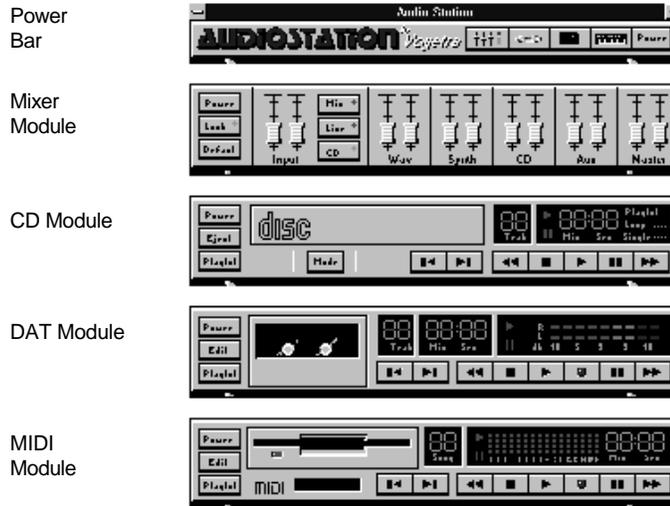
To access these components from Windows for Workgroups, double click on the program group, then select each of the components listed previously.

If you have Windows 95, click on the Start button and select Programs. From Programs, select Voyetra and a menu appears with the list of components.

The Voyetra Multimedia Sound Software components are explained in the following sections.

AudioStation

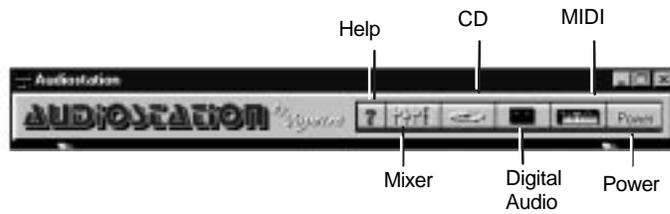
The AudioStation screen resembles a component stereo system. Each module controls a function of your sound system. An explanation of each module follows the figure.



AudioStation main screen layout

Power Bar

The Power Bar is the most important module because it controls the other modules. It rearranges, opens and closes each module, which are then removed from the screen. It quits AudioStation and activates Help. See the following figure.



Power bar layout

To activate a module, click on the appropriate button. If the module is open, it closes and disappears from the stack. If the module is closed, it opens and appears at the bottom of the stack. To quit AudioStation, click on the Power button.

The Power Bar buttons are explained as follows.



Launches AudioStation Help.



Launches or closes the Mixer module.



Launches or closes the CD Player module.



Launches or closes the Digital Audio Transport module.



Launches or closes the MIDI module.



Closes the AudioStation application.



The online help gives detailed information on each module.

Mixer Module

Use the Mixer module to adjust the volume and tone levels for your speakers and other AudioStation functions. The levels are adjusted by placing your pointer on the appropriate slider and dragging it up or down.

CD Module

The CD module lets you play audio CDs. To play a CD, use the following procedure.

1. Insert the CD into your CD tray.
2. Click on the Mode button to select one of the following playback modes.
 - Playlist – Plays all the playlist tracks sequentially and stops after the last track.
 - Shuffle – Plays the playlist tracks in random order until you click the stop button, close the CD module, or close AudioStation.
 - Loop – Plays the playlist tracks sequentially and repeats the list from the top until you click the Stop button (square symbol), close the CD module, or close AudioStation.
 - Single – Plays the tracks on the CD sequentially and stops after the last track.
3. To start the CD, press the Play (single triangle symbol) button.

Digital Audio Transport (DAT) Module

The DAT module records sound by turning incoming electrical signals into numbers using a circuit called an Analog to Digital Converter (ADC) and saves it in computer memory. To play back the sound, a Digital to Analog Converter (DAC) changes the data back into electrical signals that the audio equipment amplifies and directs to the speakers or headphones. The data format created by the DAT module is called .WAV files which is compatible with Windows. To edit .WAV files, follow these procedures.

1. Click on the Playlist button to open the playlist window. Select the file or files you want to edit. Click on Add to add the files to the playlist and select OK.
2. Click on the Next or Previous File buttons to access the appropriate file.
3. Click on the Edit button to activate WinDAT.
4. Use the menus at the top of the screen to edit the file as desired, then save the changed file.

MIDI Module

The MIDI module plays, edits and records MIDI sequences and saves them as .MID files. MIDI sequences are organized series of MIDI commands. To edit MIDI files, follow these procedures.

1. Click on the Playlist button to open the playlist window. Select the file or files you want to edit.
2. Click on the Next or Previous File buttons to access the appropriate file.

3. Click on the Edit button to activate MIDI Orchestrator.
4. Use the slides and buttons to edit the file as desired, then save the changed file.

MIDI ORCHESTRATOR

The MIDI Orchestrator component allows you to play, record, and edit MIDI files. When you select MIDI Orchestrator from the Voyetra Program Group, the MIDI Mapper screen appears as shown in the following figure.



MIDI Mapper layout



To record MIDI files, a MIDI connector and a MIDI keyboard are required.

The following sections explain how to use the Orchestrator to play and edit MIDI files.

Playing a MIDI Song File

To load and play a MIDI song file, use the following procedure.

1. Select Open from the Files menu and locate your MIDI files in the directory.
2. Select the file by double clicking on the file name.

The file loads into MIDI Orchestrator and the sliders automatically adjust to the correct volume for each channel.

3. Click on the Play button to play the song.

As the song plays, the MIDI Density Meters indicate the activity on each channel and the Song Position slide advances from left to right to indicate your position in the song file.

Editing a MIDI Song File

To edit a MIDI song file, use the following procedure.

1. Load the song file that you want to edit.
2. Move the Song Position slide left or right to any position within the song with your mouse.
3. Use the Status area at the bottom of the screen to verify your song position. Playback begins at that point.

Now you have several editing options to choose from as follows.

- To set or change tempo, click on the Tempo numerical and drag it up or down to set the initial tempo for the song.
 - To adjust all the tempos, click on the Tempo Offset to set the tempo up or down.
 - To adjust channel volumes, drag the sliders up or down.
 - To silence channels, select the Mute button.
 - To hear a single channel, activate its Solo button.
 - To make more than one channel solo, hold down the Ctrl key as you click each Solo button you require.
 - To dub in different instruments, assign a new patch number (instrument sound) to a channel.
4. Once you have edited the file as you require, select File Save to keep your changes.

WinDAT

The WinDAT component allows you to play, record, and edit .WAV files. When you select WinDAT from the Voyetra Program Group, the following screen appears.



WinDAT screen layout

The following sections explain how to use WinDAT to record, play, and edit .WAV files.

Recording .WAV Files

To record .WAV files, use the following procedures.

1. Connect your audio source (microphone, CD player, tape deck) to the input jack at the back of the system.
2. From the Mixer module, select your input source and set the recording volume.
3. From the WinDAT main window, select the Windows menu and choose Setup. The Setup screen appears.
4. Select the desired File Format (.WAV or .VOC) field.

-
5. In the Data Format field select the desired format.
 6. Choose the sample rate at the Sample Rate field.
 7. Select mono or stereo. If stereo is being used, the green light is lit.
 8. Check the entries in the Work Directory and Temp Directory fields. Make sure they are valid directories and that they have enough space to accommodate your recording.
 9. Select OK and return to the WinDAT's main window.
 10. Click on the red light to put the system in Record Standby mode (the red light blinks).
 11. Click on the Play button to start recording. The blinking red light becomes a steady red light indicating that WinDAT is recording.
 12. Speak into the microphone or play the input source to record.
 13. When you finish recording, click the Stop button to stop recording.
 14. Click the Play button to hear what you just recorded. If it is satisfactory, choose Save from the File menu.
 15. Type a new file name in the dialog box and choose OK.

Loading and Playing .WAV Files

Use the following procedure to load and play digital audio files.

1. Select Open from the WinDAT File menu and locate your digital audio files.
2. Select the file by double clicking on the file name.

3. To hear the file, press the Audition button. If Auto Audition is enabled, you automatically hear each file as you select it.

4. To open a file, double-click on its file name and choose OK.

After the file loads, a graphic display of the audio file fills the Graphic File Display.

5. Click the Play button in the Transport Controls area.

The digital audio file plays and stops when it reaches the end.

Editing .WAV Files

To edit digital audio files, use the following procedure.

1. Select the range that you want to manipulate by holding the mouse button down as the passage plays.
2. Release the button at the end of the desired section.
3. Click the Stop button.
4. You can then manipulate this section as you require.
5. To cut the section, select Cut from the Edit menu.
6. To paste the section you just cut to a different part of the .WAV file, click on where you want to paste the portion and select Paste from the Edit menu. The portion that you previously cut is pasted in the new position.
7. Play the file to check your results.

4 Setting System Parameters

This chapter describes the Setup utility program that allows you to enter system configuration information and control special features of the system.



Your system ships from the factory with the correct system parameters for your configuration. Unless you add optional hardware, you do not need to run Setup to operate your system.

However, you might wish to run the Setup utility to set features that customize your system, such as security features.

System configuration information is stored in a complementary metal-oxide semiconductor (CMOS) chip backed up by a battery in the real-time clock (RTC) chip on the system board.

THE SETUP UTILITY

The Setup utility lets you view and set system parameters. Use the Setup utility program to

- set the time and date.
- update or check system parameters when you add or remove expansion options.
- change or set power management features.
- correct a hardware discrepancy when the Power-On Self-Test (POST) displays an error message and prompts you to run Setup.
- check the installation of optional memory by comparing the amount of memory installed with the amount of memory displayed by Setup.
- change certain system operating parameters, such as boot device sequence and keyboard parameters.
- configure system connections for peripherals such as your diskette drive, hard disks, and devices connected to the printer port and serial ports.
- customize your system with security features such as passwords, diskette drive restriction, virus check reminder and system backup reminder.
- set system parameters in the event that your system board was replaced.

HOW TO START SETUP

To start the Setup utility, follow these steps:

1. Turn on or reboot your system. Setup displays the following message:

Press <F2> to enter SETUP

2. Press **F2**. Setup's Main Menu window appears similar to the following screen.



The screen shown is typical of your system. The actual items on the Main Menu depend upon the hardware installed in your system.

PhoenixBIOS Setup — Copyright 1992-96 Phoenix Technologies Ltd.

Main Advanced Security Power Boot Exit

System Time	[10]:19:20]	Item Specific Help
System Date	[02/12/1996]	
Diskette A	[1.44 MB, 3 ½"]	<Tab>, <Shift-Tab>, or
Diskette B	[Not Installed]	<Enter> selects field.
> IDE Adapter 0 Master	C: 1629 Mb	
> IDE Adapter 0 Slave	None	
> IDE Adapter 1 Master	None	
> IDE Adapter 1 Slave	None	
Video System	[EGA/VGA]	
> Memory Cache		
> Memory Shadow	[Enabled]	
> Boot Options		
> Numlock	[Auto]	
System Memory	640 KB	
Extended Memory	15 MB	

F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ←→ Select Menu Enter Select > Sub-Menu F10 Previous Values

Main Menu

HOW TO USE SETUP

The Setup utility has a Main Menu window and five top-level menus with submenus.

The Main Menu window contains the following areas:

- A title line — the top line of the Main Menu. This line displays the Setup utility name and copyright message.
- The menu bar — the line under the Setup title line. The menu bar contains five top-level menus that you can choose to set system parameters.
- A Main Menu summary window — the center area on the left side of the screen. This area provides a summary of Main Menu Setup parameters. You can set some Main Menu parameters directly from this window or you can set them from the Main menu option in the legend bar.
- The Field Help window or Item Specific Help — the area on the right side of the screen. This help area provides help information for the Setup option currently selected.
- The legend bar — the area at the bottom of the screen. The legend bar provides a summary of command keys for using Setup.
- The General Help window — a window that appears any time during Setup when you press **F1** or **Alt H**. This help window provides two pages of general information about using Setup.

The following sections describe how to use the Main Menu window to set system parameters.

The Menu Bar

The menu bar at the top of the Main Menu window lists these menus:

- **Main** — Use this menu for basic system configuration. For example, select “Main” to set the system time, system date, diskette drives, and video parameters. Use this menu to check memory parameters.
- **Advanced** — Use this menu to set serial port and printer port addresses and interrupts, and to enable/disable the system’s diskette drive controller and dual-IDE controllers.

The Advanced menu also provides menu items for setting parity and for setting parameters for large disks (for example, to use large disks with Windows NT™).

Some of the Advanced features are accessible only with a Supervisor password when the Supervisor password is set.

- **Security** — Use this menu to set User and Supervisor Passwords and the Backup and Virus-check reminders.
- **Power** — Use this menu to configure Power Management features.
- **Exit** — Use this menu to exit the current menu.

To select an option from the menu bar, use the left and right ← → arrow keys.

See “Exiting Setup” in this chapter for a description on exiting the Main Menu.

The Legend Bar

Use the keys listed in the legend bar on the bottom of the Setup menu to make your selections or exit the current menu. The following table describes the legend keys and their alternates.

Setup Key Functions

KEY	FUNCTION
F1 or Alt-H	Displays the General Help window (described later in this chapter).
Esc	Exits the menu.
← or → arrow keys	Selects a different menu.
↑ or ↓ arrow keys	Moves the cursor up and down for item selection.
Tab or Shift-Tab	Cycles the cursor up and down for item selection.
Home or End	Moves the cursor to the top or bottom of the window.
Page Up or Page Down	Moves the cursor to the next or previous page.
F5 or -	Selects the Previous Value for the field.
F6 or + or Space	Selects the Next Value for the field.
F9	Loads the Default Configuration values for this menu.
F10	Loads the Previous Configuration values for this menu.
Enter	Executes a command or selects a submenu.
Alt-R	Refreshes the screen.

Selecting a Menu Item

To select a menu item, use the arrow keys to move the cursor to the field you want. Then use the value keys (F5, -, F6, +, or space bar) to cycle through the value for that field. The Save Values command in the Exit Menu saves the values currently displayed in all the menus.

Displaying a Submenu

To display a submenu, use the arrow keys to move the cursor to the submenu you want. Then press **Enter**. A pointer (a right-pointing triangle) marks all selectable submenus.

Getting Help

A Field Help window or Item Specific Help window on the right side of each menu displays the help text for the currently selected Setup option. It updates as you move the cursor to each new field.

Pressing **F1** or **Alt H** on any menu brings up the General Help window that describes the legend keys and their alternates.

The scroll bar on the right of any window indicates that there is more than one page of information in the window. Use **Page Up** and **Page Down** to display all the pages. Pressing **Home** and **End** displays the first and last page.

Press **Esc** to exit the current window.

MAIN MENU OPTIONS

The following table lists and describes the available parameters when you select the Main Menu in the legend bar. Other Main Menu parameters are available by selecting submenus.

Parameters available directly from the Main Menu summary window have a right-pointing triangle next to the parameter. Use the arrow keys to move the cursor to the parameter and press **Enter** to select a submenu.

See the sections following the table for a description of Main Menu parameters from the summary window.

Main Menu Parameters

PARAMETER	OPTIONS	DESCRIPTION
System Time	HH:MM:SS	Sets the system time.
System Date	MM/DD/YYYY	Sets the system date.
Diskette A: Diskette B:	360KB, 5 1/4" 1.2MB, 5 1/4" 720KB, 3 1/2" 1.44MB, 3 1/2" (default A) 2.88MB, 3 1/2" Not Installed (default B)	Selects the type of diskette drive in your system.
IDE Adapter	User (default)	Described in the following sections.
Video System	Monochrome EGA/VGA (default) CGA 80x25	Selects the default video device.
Memory Cache		Described in the following sections
Memory Shadow	Enabled (default)	Described in the following sections.
Boot Options		Described in the following sections.
NumLock	Auto (default)	Described in the following sections.
System Memory	Automatically detected by the system	Displays the amount of conventional memory detected at power-on.
Extended Memory	Automatically detected by the system	Displays the amount of extended memory detected at power-on.

IDE Adapters

IDE adapters control the IDE devices, such as IDE hard disk drives and IDE CD-ROM readers, in your system. Your system uses two IDE controllers integrated on the system board.

Setup supports up to four IDE devices, with an IDE adapter for each of the following configurations:

- 1 Master
- 1 Master, 1 Slave
- 2 Masters
- 2 Masters, 1 Slave
- 2 Masters, 2 Slaves

The master/slave combination for a standard hard disk configuration is “1 Master.” If you add a hard disk to the fast IDE port (IDE1 connector), the combination becomes “1 Master, 1 Slave.” Change the jumper setting on the IDE device to set the device to master or slave (see the documentation that comes with the device).

For multimedia systems, the IDE hard disk and CD-ROM reader are both “Masters.” The hard disk drive is the “Master” on the primary connector and the CD-ROM reader is the “Master” on the secondary connector. If you add an IDE hard disk to the system, the combination becomes “2 Masters, 1 Slave.”



If you change the CD-ROM reader setting in the multimedia configuration, the CONFIG.SYS and AUTOEXEC.BAT require changes as well.

Select the IDE Adapter option configuration directly from the Main Menu summary window. Available options include:

- IDE Adapter 0 Master
- IDE Adapter 0 Slave
- IDE Adapter 1 Master
- IDE Adapter 1 Slave.

IDE Adapter 0 configures the fast IDE port (IDE1 connector), and IDE Adapter 1 configures the standard IDE port (IDE2 connector).

Each IDE Adapter parameter has a right-pointing arrow to the left of it. Selecting the option displays IDE hard disk parameters. Select an IDE Adapter option and set parameters for each hard disk separately.

Use the following table to configure the hard disk. If your IDE hard disk features auto IDE type detection, you need only to select the Autotype Fixed Disk parameter. The system then automatically detects the hard disk type and sets the remaining parameters.



If your IDE hard disk features auto IDE type detection, you need only to select the Autotype Fixed Disk parameter. The system then automatically detects the hard disk type and sets the remaining parameters.

IDE Hard Disk Parameters

PARAMETER	OPTIONS	DESCRIPTION
Type	1 to 39 User Auto	Selecting 1 to 39 fills in all remaining fields with values for predefined disk type. "User" prompts the user to fill in remaining fields. When "Auto" is selected the BIOS automatically sets the drive type.
Cylinders	1 to 16,384	Specifies the number of cylinders.
Heads	1 to 16	Specifies the number of read/write heads.
Sectors/Track	1 to 63	Specifies the number of sectors per track.
Write Precomp	0 to 65534 None	Specifies the number of the cylinder at which to change the write timing.
Multi-Sector Transfers	2, 4, 8, 16, Sectors Disabled	Specifies the number of sectors in multi-sector transfers.
LBA Mode Control	Enabled Disabled (default)	Sets LBA Mode Control on or off.
32 Bit I/O	Enabled (default) Disabled	Sets 32 bit I/O to on or off.
Transfer Mode	Standard, Fast PIO1, PIO2, PIO3	Specifies the transfer mode.

Memory Cache

For memory caching parameters, select Memory Cache directly from the Main Menu summary window. See the following table for a description of memory cache parameters.



CAUTION

Incorrect settings can cause the system to malfunction.

Memory Cache Parameters

PARAMETER	OPTIONS	DESCRIPTION
External Cache	Enabled (default) Disabled	Sets the state of external cache.
Cache Video BIOS area	Enabled (default) Disabled	Controls caching of the video BIOS area.
Caching Memory Regions	Enabled Disabled (default)	Default is disabled. Cache shadows optional memory. ROM located in specified segments of memory and can improve performance. CAUTION: Some add-in cards, particularly with on-board firmware, do not work properly when shadowed.

Memory Shadow

Memory Shadow is always enabled. This parameter is not user-selectable.

Boot Options

Your system might require a Supervisor password to set Boot parameters. Select “Boot Options” directly from the Main Menu summary window to display the “Boot Options” menu.

Use the legend keys to make your selections and exit to the Main Menu. Use the following table to select your boot options.

Boot Parameters

PARAMETERS	OPTIONS	DESCRIPTION
Summary Screen	Enabled (default) Disable	Displays system configuration at the end of boot-up.
Floppy Check	Enabled (default) Disabled	Verifies diskette type during bootup. Disabling speeds boot time.
Last Boot Fail	3 (default) User-selectable settings Disabled	Sets the number of times you can attempt to boot the system. If the system fails to boot on the set number of tries, the "Previous Boot Incomplete" message appears and the system boots with default settings. The default setting, 3, gives you three tries to boot the system before the "Previous Boot Incomplete" message appears.

NumLock

Select "NumLock" directly from the Main Menu summary window to display the Keyboard Features menu.

Use the legend keys to make your selections and exit to the Main Menu. Use the following table to configure the keyboard parameters.

Keyboard Parameters

PARAMETERS	OPTIONS	DESCRIPTION
NumLock	Auto (default) On Off	On or Off turns NumLock on or off at bootup. Auto turns NumLock on if it finds a numeric key pad.
Keyboard Auto-Repeat Rate	Fast (default) Medium Slow	Sets the delay time after the key is held down and before it begins to repeat the keystroke.
Keyboard Auto-Repeat Delay	1/4 sec 1/2 sec (default) 3/4 sec 1 sec	
Key Click	Enabled Disabled (default)	Turns audible key click on or off.

THE ADVANCED MENU

Accessing the Advanced menu might require a Supervisor password. From the Advanced menu, you can select the Integrated Peripherals menu.

See the following table for information on the Advanced menu parameters.



CAUTION

Setting menu items in the Advanced menu to incorrect values can cause your system to malfunction.

Advanced Menu Parameters

PARAMETER	OPTIONS	DESCRIPTION
Plug & Play OS	No Yes (default)	Select "Yes" if you are using a Plug & Play capable operating system such as Windows 95. Otherwise, set to "No."
Reset Configuration Data	No (default) Yes	If Windows 95 or the ICU has difficulty configuring the system, try setting this parameter to "Yes" to clear all of the configuration data. This parameter resets automatically to "No" to reboot.
ISA graphics device installed	No (default) Yes	Set to "Yes" if other system devices need to know you have an ISA graphics device installed.
Big Memory Mode	Normal Alternate	Selects the method the BIOS uses to report memory sizes over 64 MB to the operating system. Select "Normal" for MS-DOS and Windows. Select "Alternate" for OS/2® and Windows NT™.
Large Disk Access Mode	DOS (default) Other	Select DOS if you have DOS. Select Other if you have another operating system such as Windows 95 or UNIX. A large disk is one that has more than 1024 cylinders, more than 16 heads, or more than 63 tracks per sector.

Integrated Peripherals Menu

Select the "Integrated Peripherals" menu on the Advanced Menu to configure the connections between the system processor and the I/O ports (serial port 1, serial port 2, and the printer port), the diskette drives, and hard disk controllers.



A Supervisor password might be required to select parameters from the Integrated Peripherals menu.

Use the legend keys to make your selections and exit to the Main Menu. Use the table that follows to configure your peripherals.

Integrated Peripherals Parameters

FEATURE	OPTIONS	DESCRIPTION
COM A Port COM B Port	Disabled User-selectable settings Auto	Selects a unique address and interrupt request for the listed COM ports. Auto selects the next available combination. Factory settings: COM A default: 3F8, IRQ4 COM B default: 2F8, IRQ3
COM B Mode	Serial Port IrDA (default)	Serial Port enables COM B port as a serial port. IrDA enables COM B port for IrDA transfers and IR remote control signals.
LPT Port	Disabled 378, IRQ 7 (default) User-selectable settings Auto	Selects a unique address and interrupt request for the LPT port. Auto selects the next available combination.
LPT Mode ECP	Output only (default)	Enables parallel port to function normally (Output only), bidirectionally, or in an enhanced capabilities port (ECP) mode. Check your printer documentation to set the correct LPT mode for your printer.
ECP Channel	DMA 0 DMA 1 DMA 3	Available when ECP is selected for the LPT mode.

Integrated Peripherals Parameters

FEATURE	OPTIONS	DESCRIPTION
Diskette Controller	Enabled (default) Disabled	Enables the on-board diskette drive controller.
Local Bus IDE Adapter	Both (default) Disabled Primary	Enables the on-board IDE controllers. "Both" enables the primary (fast) channel and secondary (standard) channel. "Primary" enables only the primary (fast) channel.
PS/2 Mouse	Enabled (default) Disabled	Enables/disables PS/2-style mouse.
On-board Stereo Sound	Enabled (default) Disabled	Enables/disables integrated audio.
On-board Surround Sound	Enabled (default) Disabled	Enables/disables surround sound.

THE SECURITY MENU

Selecting "Security" from the Main Menu displays a menu with system security options.



You can enter the Setup program with either a User or Supervisor password. However, more Setup choices are available with a Supervisor password.

 **CAUTION**

The features that you set in the Security menu affect the features that appear on the Security menu as well as on other Setup menus.

Enabling “Supervisor Password” requires a password for entering Setup. Passwords are not case sensitive.

Pressing **Enter** at either Set Supervisor Password or Set User Password on the menu displays a Set Password dialog box with the following prompts:

Enter new password: []
Re-enter new password: []

To set a password, type the password and press **Enter**.
Reenter your password and press **Enter**.



If you forget your password, see “Clearing Your Password” in Chapter 5.

See the following table for a description of the security features you can select. Use the legend keys to make your selections and exit to the Main Menu.

System Security Options

FEATURE	OPTIONS	DESCRIPTION
Supervisor Password is Enabled	Disabled (default) Enabled	Must set to Enabled to set a Supervisor password.
Set Supervisor Password	Up to seven alphanumeric characters	Pressing Enter displays a dialog box for entering the supervisor password. This password gives FULL access to Setup menus.
User Password	Disabled (default) Enabled	Must set to Enabled to set a User password.
Set User Password	Up to seven alphanumeric characters	Pressing Enter displays the dialog box for entering the user password. This password gives RESTRICTED access to Setup menus. Requires the prior setting of a Supervisor password.
Password on Boot	Disabled (default) Enabled	<p>Enabled requires a password on boot (cold boot only — no password required for warm boot). Requires the prior setting of a Supervisor and/or User password.</p> <p>If disabled, password(s) are required for entering Setup but are not required for booting.</p> <p>If a Supervisor password is set and this option is disabled, the BIOS boots without asking for a password.</p>
Diskette Access	User (default) Supervisor	Supervisor setting restricts the use of diskette drives to a supervisor. Requires setting the Supervisor password.
Fixed Disk Boot Sector	Normal (default) Write Protected	Write protected helps prevent viruses. When write protected, operating systems (and viruses and application programs) which attempt to modify the boot sector will not be able to do so.

System Security Options

FEATURE	OPTIONS	DESCRIPTION
System Backup Reminder	Disabled (default) Daily Weekly	When a schedule is specified, displays a message during bootup asking (Y/N) if you have backed up the system or scanned it for viruses.
Virus Check Reminder	Monthly	Message returns on each boot until you respond with "Y". Daily displays the message on the first boot of the day, weekly on the first boot after Sunday, and monthly on the first boot of the month.

THE POWER MENU

Selecting "Power" from the menu bar displays a screen with the power management parameters described in the following table.

A power management system reduces the amount of energy used after specified periods of inactivity. The Power menu supports a Full-On state, a Standby state with partial power reduction, and a Suspend state with full power reduction. See "Power Management" in the online User's Guide for additional information about managing power.

Use the Power menu to specify your settings for Power Management. Use the following table to make your selections.



To disable all power management features, set advanced power management (APM) to Disabled. See the following table to set power management parameters.

Power Management Parameters

FEATURE	OPTIONS	DESCRIPTION
APM	Enabled (default) Disabled	Advanced power management (APM) allows APM-aware software to better manage power savings.
Keyboard Wakeup	Enabled (default) Disabled	Allows keyboard activity to wake up system.
Mouse Wakeup	Enabled (default) Disabled	Allows mouse activity to wake up system.
Power Management Mode	Customize (default) Disabled Maximum Medium Minimum	Maximum, Medium, and Minimum set power-management options with predefined values. Select Customize to select your own level of power management.
Sleep Timeout	15 min (default) Disabled User selectable	Inactivity period required before partial power shutdown (Standby User selectable mode).
Deep Sleep Timeout	15 min (default) Disabled	Inactivity period required after Sleep timeout to maximum power User selectable shutdown (Suspend mode).
Video in Sleep Mode	Off (default) On	Off turns monitor off in Sleep mode.

THE EXIT MENU

Selecting “Exit” from the menu bar displays the following exit options. Note that **Esc** does not exit this menu. You must select one of the items from the menu or menu bar to exit.

- Save Changes & Exit
- Discard Changes & Exit
- Get Default Values
- Load Previous Values
- Save Changes.

Save Changes & Exit

After making your selections on the Setup menus, always select Save Changes to Non-Volatile RAM (NVRAM) to make them operative.

Unlike standard RAM memory, NVRAM is sustained by a real-time clock chip and stays on after you turn your system off.

After you save your selections, the program displays this message:

```
Values have been saved to CMOS!  
Press <space> to continue
```

If you attempt to exit without saving, the program asks if you want to save before exiting.

During bootup, Setup attempts to load the values you saved in NVRAM. If the values saved in NVRAM cause the system boot to fail, reboot and press **F2** to enter Setup. In Setup, you can load the ROM default values (as described in “Get Default Values”) or try to change the values that caused the boot to fail.

Discard Changes & Exit

Use this option to exit Setup without recording any changes you may have made.

Get Default Values

To load all the default Setup values in the Setup menus, select Load ROM Default Values from the Main Menu. The program displays this message:

```
ROM Default values have been loaded!  
Press <space> to continue
```

If, during bootup, the BIOS program detects a problem in the integrity of values stored in NVRAM, it displays these messages:

```
System CMOS checksum bad - run SETUP  
Press <F1> to resume, <F2> to Setup
```

The CMOS values have been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS.

Press **F1** to resume the boot or **F2** to run Setup with the ROM default values already loaded into the menus. You can make other changes before saving the values to NVRAM.

Load Previous Values

If, during a Setup session, you change your mind about your selections and have not yet saved the values to NVRAM, you can restore the values you previously saved to NVRAM.

Selecting Load Previous Values on the Exit menu updates all the selections and displays this message:

```
CMOS values have been loaded!  
Press <space> to continue
```

Save Changes

Save Changes saves all the selections without exiting Setup. You can return to the other menus if you want to review and change your selections.

5 Setting System Board Jumpers

This chapter provides jumper setting information for configuring your system for a particular system requirement. Situations that require changing the jumper settings include the following:

- You are upgrading your processor
- You are clearing the system board CMOS
- You are resetting your password.



CAUTION

Jumpers are set correctly at the factory for your configuration.

If your system requires a jumper change, change only the setting for that condition. Otherwise, keep the settings at their factory settings.

CHANGING PROCESSOR JUMPER SETTINGS

The following procedure explains how to locate and change the jumper setting when you upgrade your processor.

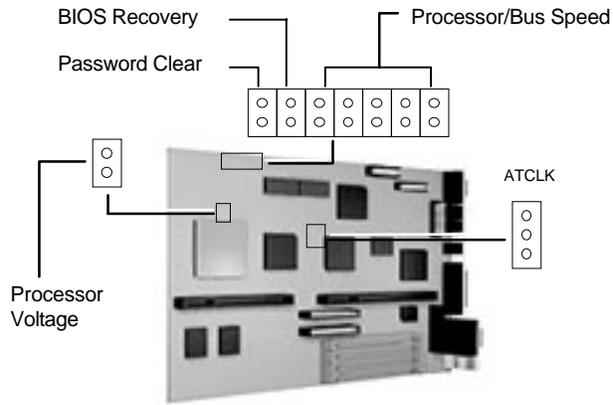


WARNING:

The system power must be off before changing a jumper setting.

1. Power off and unplug the system and any peripherals.
2. Remove the system unit cover (see the Option Installation Center in your online documentation).
3. Locate these jumpers on the system board (see the following figure).
 - Processor/Bus Speed jumpers
 - Processor Voltage jumpers

You may have to remove any installed expansion boards to access the jumpers (see the Option Installation Center in your online documentation).



Locating system configuration jumpers

4. Set the Processor/Bus Speed jumpers for your processor upgrade. Change the jumper setting by lifting the plastic block and placing it on the appropriate pins as shown in the following figure. NEC recommends using needle-nose pliers to move a jumper.

Processor/Bus Speed	90 MHz	100 MHz	75 MHz	BF1	BF0	ATCLK
75-MHz Processor/ 50-MHz Bus Speed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
90-MHz Processor/ 60-MHz Bus Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
100-MHz Processor/ 66-MHz Bus Speed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
120-MHz Processor/ 60-MHz Bus Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
133-MHz Processor/ 66-MHz Bus Speed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
150-MHz Processor/ 60-MHz Bus Speed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
166-MHz Processor/ 66-MHz Bus Speed	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>



System configuration jumper settings

-
5. Reinstall any removed expansion boards (see the Option Installation Center in your online documentation).
 6. Replace the system unit cover (see the Option Installation Center in your online documentation).
 7. Power on the system.

CLEARING CMOS

If an interruption occurs during the BIOS upgrade that prevents continuation of the process, it is possible that the BIOS may be left in an unstable state. Or, you may want to return your system to the factory default settings. Use the following procedure to recover your BIOS and to clear CMOS to the default factory settings.



CAUTION:

Clearing CMOS changes your setup configuration including hard disk settings.

1. Power off the system and unplug any peripherals.



WARNING

The system power must be off before removing the cover and changing a jumper setting.

2. Remove the system unit cover (see the Option Installation Center in your online documentation).

-
3. Locate the BIOS Recovery jumper on the system board (see the figure “Locating system configuration jumpers” earlier in this chapter).
 4. You may have to remove any installed expansion boards to access the jumpers (see the Option Installation Center in your online documentation).
 5. Set a jumper on the BIOS Recovery pins.
 6. Replace the system unit cover (see the Option Installation Center in your online documentation).
 7. Connect system power cables and monitor.
 8. Power on the system. The system displays a system configuration error message.
 9. Power off, unplug the system and monitor, and remove the cover.
 10. Remove the jumper block from the BIOS Recovery pins.
 11. If you removed any expansion boards, replace them (see the Option Installation Center in your online documentation).
 12. Replace the system unit cover. Reconnect system power cables and peripheral devices.
 13. Power on the system.
 14. Run Setup (see Chapter 4, Setting System Parameters).

CLEARING YOUR PASSWORD

If you forgot your password, use the following procedure to clear your current password and to set a new one.

1. Power off and unplug the system and any peripherals.

 **WARNING**

The system power must be off before removing the cover and changing a jumper setting.

2. Remove the system unit cover (see the Option Installation Center in your online documentation).
3. Locate the Password Clear jumper pins on the system board (see the figure “Locating system configuration jumpers” earlier in this chapter).

You may have to remove any installed expansion boards to access the jumpers (see the Option Installation Center in your online documentation).

4. Set a jumper on the Password Clear jumper pins.
5. Replace the system unit cover (see the Option Installation Center in your online documentation).
6. Connect system power cables and monitor.
7. Power on the system. The system lets you boot your computer.
8. Power off, unplug the system and monitor, and remove the cover.
9. Remove the jumper block from the Password Clear jumper pins.

-
10. If you removed any expansion boards, replace them (see the Option Installation Center in your online documentation).
 11. Replace the system unit cover.
 12. Power on the system.
 13. Run Setup to set a new password (see Chapter 4, Setting System Parameters).

6 24-Hour Information Services

NEC has made it easy for you to get information and help when you need it. We offer 24-hour information services via:

- NEC's FastFacts™ Service
- NEC's Bulletin Board Service
- America Online® Service
- CompuServe® Online Service
- AT & T Interchange™ Online Service
- E-mail to NEC's Technical Support Services through a commercial online service or Internet
- Fax Service to NEC's Technical Support Services
- Internet World Wide Web and NEC's FTP Site
- NEC's Technical Support Services.

If you have access to a modem and/or fax machine (telephone for Technical Support), you can use the above services to obtain information about your system at any time, day or night, seven days a week.

Not only do these services provide general information about your system, they can also be used to answer your questions and help solve any problems you may have with your system, should that ever be necessary.

NEC'S FASTFACTS SERVICE

NEC's FastFacts service is a self-help, automated electronic information service for obtaining up-to-date product application notes, installation procedures, troubleshooting tips, data sheets, technical information bulletins, illustrated parts lists, part numbers, and other information about your system.

Using a fax machine, you can obtain information from FastFacts 24 hours a day, 7 days a week. You simply call the FastFacts number on your touch-tone telephone, order the information you want by following the voice prompts, and FastFacts will automatically fax the information to you.

If you are new to FastFacts, you should first order one of the following catalogs. Each catalog lists the available documents and their document numbers. Current catalogs include:

- Catalog 1, NEC Graphics Products
- Catalog 2, NEC CD-ROM, Printers, and Disk Drive Products
- Catalog 3, NEC Computer Products
- Catalog 4, NEC Products for the Macintosh
- Catalog 5, NEC Factory Refurbished Product List
- Catalog 6, NEC Select Direct Pricing
- Catalog 7, NEC Technical Support Notes, Technical Information Bulletins, Illustrated Parts Lists
- Catalog 9, NEC Product and Configuration Manual Index.

Order information from FastFacts as follows. If you would like instructions for using FastFacts, request document number 63233469 when prompted.

1. Be sure that your fax machine or fax/modem is on. Have the document number ready for the document you want.
2. At your touch-tone telephone, enter 800-366-0476 (U.S. and Canada only).

For international use, enter the international long distance access number, the U.S. country code, and the U.S. telephone number (708-238-7800).

3. Listen to the instructions provided by the voice prompts.

Press **1** if you do not want an introduction to FastFacts. Follow the automated instructions for ordering your document or catalog.

Press **2** if you want an introduction to FastFacts. Follow the automated instructions for ordering your catalog or document.

4. When prompted, enter your fax number and name.

For international use, first enter the international long distance access number (011), your country code, your area code or city code, then your fax number.

The information you requested will be automatically sent to your fax machine. Please wait for the ordered document to arrive at your fax machine before calling to order more documents. If FastFacts attempts to send the second order before the first order is completed, the order may be canceled. After three tries, FastFacts assumes that your line is busy and terminates any further processing of the order.

NEC BULLETIN BOARD SERVICE

If you have access to a modem, the NEC Bulletin Board Service (BBS) can be used to provide you with the latest information on hardware and software. The BBS allows you to download files (video drivers, printer drivers, BIOS updates, etc.) for system enhancements and upgrades.

The BBS can also be accessed through the CompuServe online service.

Log onto the BBS as follows.

1. From the Windows for Workgroups Program Manager, select Accessories and double click on Terminal.



If you have Windows 95, see the online help or your Windows 95 documentation to set the NEC BBS parameters and dial the BBS phone number.

2. From the Settings menu, click on Communications, check that the settings match the following BBS parameters, and click OK when done.
 - Baud rate: select the highest baud rate that matches your modem
 - Parity: none
 - Data bits: 8
 - Stop bits: 1
 - Flow control: Xon/Xoff (select Hardware if using 14.4 bps or higher).

-
3. From the Phone menu, click on Dial, enter the BBS phone number (508-635-4706), and click OK. Your business phone system and/or location might require a 9 1 or 1 prefix.



The first time that you use the BBS, you will be requested to provide information for a new user.

4. Press **Enter** twice
5. Enter your first name, last name, and password. Press **Enter** after each.
6. Follow the screen prompts until the NECTECH Main Menu is displayed.
7. At the Main Menu, select **J** to join a conference. Select **Conference 1** for the desktop conference.
8. From the Main Menu, press **F** and **Enter** for the File menu.
9. At the File menu, select **F** for a list of downloadable files. Follow the prompts to select a file for downloading.



CAUTION

Executable files automatically format your diskette when you download files from the BBS. Formatting destroys any data on the diskette. Before you download files from the BBS, check that you do not have information on the diskette that you need.

After you complete downloading your file, log off the BBS as follows.

1. Press **Enter** (to continue)
2. Press **G** (command for Goodbye/Hangup).
3. Press **Enter**.

AMERICA ONLINE SERVICE

If you subscribe to America Online, you can use the service to obtain information about NEC and its products. You can use America Online to E-mail technical questions to NEC's Technical Support staff, post technical questions and messages on the Message Board, and access the NEC Software Library to download files.

Use the following steps to access America Online and NEC's online information services.

1. Log onto America Online.
2. At the opening screen, click on Go To in the Main Menu.
3. At the Go To menu, click Keyword.
4. At the prompt, type either NECTECH or NEC, then either press **Enter** or click on Go.
5. At the NEC menu, double-click on one of the following topics, then follow the prompts:
 - About NEC
 - Terms and Conditions
 - News
 - Product Information
 - Questions and Answers
 - NEC Promotions
 - Message Board
 - Software Library.
6. Exit anytime by double-clicking on the rectangle in the upper left corner of the screen.

COMPUSERVE ONLINE SERVICE

If you subscribe to CompuServe, you can use the service to obtain information about NEC and its products. You can use CompuServe to E-mail technical questions to NEC's Technical Support staff, post technical questions and messages on the Bulletin Board, and access NEC's BBS.



You cannot download information from the NEC Bulletin Board from CompuServe. You must call the NEC Bulletin Board directly using the procedure explained earlier in this chapter.

Use the following steps to access CompuServe and NEC's online information services.

1. Log onto CompuServe.
2. At the opening screen, click on Service, type in NEC TECH at the prompt, and click OK.
3. At the NEC menu, double-click on one of the following topics, then follow the prompts:
 - NEC Bulletin Board
 - Information About This Service
 - Access NEC BBS
 - Access CompuServe Information Services
 - Exit.
4. Exit anytime by double-clicking on the rectangle in the upper left corner of the screen.

AT & T INTERCHANGE

If you subscribe to the AT&T Interchange online service, you can use the service to obtain information about NEC and its products. You can use the AT&T Interchange to obtain NEC corporate and product information, and participate in online discussions pertaining to NEC products.

Use the following steps to access the AT&T Interchange and NEC's online information services.

1. Log onto the AT&T Interchange.
2. At the opening screen, click on Interchange, enter your password at the prompt, and click on Connect.
3. At the Main Menu, click on Companies on Line.
4. At the Companies on Line menu, scroll down to and double-click on NEC Technologies.
5. At the NEC Technologies menu, double-click on one of the following topics, and follow the prompts:
 - Corporate Information
 - Latest News
 - Product Information
 - Discussions
 - Download Library.
6. Exit anytime by double-clicking on the rectangle in the upper left corner of the screen.

E-MAIL/FAX TECHNICAL SUPPORT SERVICE

The NEC Technical Support Center offers technical support by E-mail over the Internet network if you have a modem. The Internet address is:

tech-support@nectech.com

You can also fax technical questions to the NEC Technical Support Center if you have access to a fax machine or fax/modem. The fax number is:

(508) 635-4666

When using the E-mail or fax support service, you should include the following words in the subject field for prompt response from the appropriate technical person:

- Desktop (desktop or minitower systems)
- Monitor
- CD-ROM
- Printer
- Notebook.

You should provide as much specific information about your questions as possible. Also, if you are sending a fax, please include your voice telephone number and your fax number with the question. You will receive a response to your questions within one business day.

INTERNET

If you have a modem, you can access NEC's Home Page on the Internet World Wide Web. You can do this through a commercial online service or through your Internet account. NEC's Home Page contains general information about NEC products.

You can also use the Internet to access NEC's ftp (file transfer protocol) Site to download various files (video drivers, printer drivers, BIOS updates). The files are essentially the same files as on NEC's Bulletin Board Service.

To access the World-Wide-Web NEC Home Page, enter the following Internet Uniform Resource Locator (URL) through your service:

<http://www.nec.com/>

To access NEC's ftp Site, enter the following Internet ftp address through your service:

<ftp.nectech.com>

Once in the file menu, follow the prompts to choose and download the file(s) you want.

NEC TECHNICAL SUPPORT SERVICES

NEC also offers direct technical support through its Technical Support Center.

Direct assistance is available 24 hours a day, seven days a week. Call the NEC Technical Support Center, toll free, at 1-800-632-4525.

Please have available your system's name, model number, serial number, and as much information as possible about your system's problem before calling.

7

Solving System Problems

Your system has a built-in checking program that automatically tests its components when you turn the system unit power on. If there is a problem, the system displays an error message. If this happens, follow any instructions on the screen.

If screen messages do not help or an error message does not appear, use the information in this chapter to determine and solve the problem. The problem is often one that you can solve yourself.

See the following sections in this chapter for help:

- “Problem Checklist”
See this section first to determine the cause of your problem.
- “Solutions to Common Problems”
Refer to this section to solve common minor problems.
- “Diagnostic Diskette”
If your system boots, use the diagnostic diskette to determine and resolve the problem.
- “Getting Help”
See this section for the help available to you for information about your computer and for help when you cannot solve a problem yourself. Select a topic for help on solving problems that you may have with your system.

PROBLEM CHECKLIST

If you have problems, go through the following checklist for possible solutions.

■ **Is the power switch on for the computer and any connected peripherals (monitor, printer)?**

Check that all power switches are on.

■ **Is the computer and its peripherals connected to a working AC power outlet or surge protector?**

Check the outlet or surge protector by plugging a lamp into the outlet or surge protector.

■ **Are all cables and power cords connected securely?**

Check that all cables and power cords are securely connected.

■ **Is the monitor screen blank or is the display hard to read?**

Check that the monitor is on. Adjust the brightness and contrast controls on the monitor.

■ **Was a Non-System Disk error message displayed when you started the system?**

You have a diskette in the diskette drive. Remove the diskette from drive A and restart the system.

■ **Is your mouse or keyboard not responding?**

You may have connected the mouse and keyboard after turning on your system. Turn the system off, make sure the mouse and keyboard are connected, and turn the system back on.

■ **Does your system fail to recognize the CD-ROM?**

Your drive designation may be incorrect. The reader is assigned as drive E.

SOLUTIONS TO COMMON PROBLEMS

See the following sections to match your problem area and view the possible causes and solutions.

When trying to solve problems, you should note what the system was doing when the problem occurred and what you attempted to do to correct the problem. This information is useful if you request assistance.

System Problems

Check the following list to match your problem and see the possible cause and solution.

■ **No power and power lamp not lit**

Check that the power cable is plugged into the system power socket. Check that the other end of the cable is plugged into a live, properly grounded AC power outlet.

■ **System does not boot and error message displayed on screen**

Run the Setup Utility. Check that the parameters are set correctly, particularly if you just installed an option.

■ **System sounds continuous beeps**

Turn the system off, wait at least five seconds, and turn the system on. If the beeps continue, call your NEC dealer or the NEC Technical Support Center.

■ **System does not maintain date, time, system configuration information**

Call your NEC dealer or the NEC Technical Support Center.

■ **System does not boot from hard disk**

The system tries to start from the diskette drive before it starts from the hard drive. Remove the diskette from the diskette drive.

Run the Setup Utility and check the Boot parameter settings to verify that the initial boot parameter is set for hard drive C and not for a diskette drive.

■ **System performance appears sluggish**

Check that your system is set for optimal operation. See your operating system documentation.

Check the memory requirements of your software applications. If required, install additional SIMM memory.

If you added optional memory, check that you correctly installed the SIMM memory.

■ **System did not recognize additional SIMM memory**

You added only one SIMM stick. SIMMs must be added in pairs. Add a second SIMM of the same type.

■ **System password forgotten**

Clear the password and reset it. See “Clearing Your Password” in Chapter 5.

Diskette Drive Problems

Check the following problems to see the possible cause and solution.

■ Diskette won't load

Check that the diskette is being loaded correctly.

Check that the system and monitor power lamps are on and the power-on screen appears.

Check that the diskette is formatted. If not, format it. See your operating system documentation.

Check that the diskette size is 1.44 MB.

If the diskette drive busy lamp does not light when you load the diskette, try a different diskette. If this loads, the problem is in the software.

■ Non-System Disk or Disk Error message displayed

If you are booting from the diskette drive, insert a diskette with system files into drive A.

If a bootable diskette does not boot, use the Setup Utility to verify that the initial boot parameter is set to diskette drive A and not a hard disk.

Monitor Problems

Check the following problems to see the possible cause and solution.

■ Monitor screen is dark

Check that the monitor power cable is connected to the monitor and a power outlet, the monitor signal cable is connected to the system, and the brightness and contrast controls are adjusted.

Press the space bar or move the mouse to take the system out of the power management mode.

■ Distorted image appears on your monitor screen

Adjust the monitor's video controls. If this does not help, turn the monitor off for several seconds, then back on.

■ There is constant movement on the screen.

A magnetic field is affecting your monitor. Move any devices (fan, motor, another monitor) that generate magnetic fields away from your monitor.

■ The screen display is fuzzy or flickering, graphics characters or garbage appears on the screen.

Check that your monitor is set up correctly and that all connections have been made.

Check that the video refresh rate and video driver are correct by using the ProMotion video utility. In Windows for Workgroups, open the utility by double clicking the ProMotion icon in the Windows Control Panel.

In Windows 95, click the right mouse button anywhere on the desktop and a menu appears. Click on Properties and the Display Properties window appears.

Keyboard/Mouse Problems

Check the following problem to see the possible cause and solution.

- **Image appears on screen but nothing happens when you use the mouse or keyboard**

Tighten the keyboard or mouse cable connection.

If this does not help, turn off the system, wait five or more seconds, and turn on the system.

CD-ROM Problems

Check the following problems to see the possible cause and solution.

- **The system does not see the CD-ROM reader**

The drive designation is wrong and should be changed. The CD-ROM reader is assigned as drive E.

- **The CD-ROM reader is not reading a disc**

Check that the disc is inserted in the CD tray with the label printed side up.

Check that the disc is a data disc, not a music disc.

Try a different disc to see if the problem is limited to one disc.

- **The CD-ROM disc does not eject due to a power failure or software error**

Turn off the system and use the CD-ROM emergency eject feature.

- **The CD-ROM does not play music CDs**

See “CD Module” in Chapter 3, for further information on playing music CDs.

Speaker Problems

Check the following problems to see the possible cause and solution.

■ No sound from the speakers

Check that the speaker power is on.

■ Speaker volume is too low

Adjust the volume control on the speaker. If the volume is still too low, adjust the volume through the system software. See “Mixer Module” in Chapter 3.

■ Sound is only coming from one speaker

Balance the speaker output by adjusting the balance in the sound software. See “Mixer Module” in Chapter 3.

Microphone Problems

Check the following problem to see the possible cause and solution.

■ You get no response from the microphone

Check that the microphone is connected to the microphone in connector on the back of your system.

Adjust the microphone (MIC) level through sound software.

DIAGNOSTIC DISKETTE

If you are unable to resolve your system's problem using the Problem/Solutions topics in this chapter, NEC suggests that you run the diagnostic diskette.

The diagnostic diskette permits quick testing of all major system components, individual testing of different system components, and access to various testing options.

To run diagnostics, insert the diagnostic diskette into drive A: with the system unit off. Power on the system. The system boots from the diskette and provides you with the test options.

GETTING HELP

If you tried correcting problems yourself and weren't successful, you may want to try one or more of the following 24-hour services for answers to your questions. (Some services require a modem or fax machine.)

- NEC's FastFacts Service
- NEC's Bulletin Board Service
- America Online Service
- CompuServe Online Service
- AT & T Interchange Online Service
- E-mail to NEC's Technical Support Services through a commercial online service or Internet
- Fax Service to NEC's Technical Support Services
- Internet
- NEC's Technical Support Services.

If you still need help, continue with the suggestions that follow.

Getting Help From Your Company

If you are in a company, the best source of help may be internal. Your company may have designated central support personnel to whom you can go when you have problems.

Getting Help From Your NEC Dealer

The NEC dealer from whom you purchased your system is a good source of help and should be contacted. The dealer is backed by complete support resources and programs within NEC.

Getting Help From NEC's Technical Support Center

Help is available to you through the NEC Technical Support Center. Direct assistance is available 24 hours a day, 7 days a week. You can call the Support Center, toll free, at 1-800-632-4525.

Before calling, please have ready your system name, model number, serial number, and purchase date. Also have ready as much information as possible about the problem you are having, including any error messages that occurred.

NEC Warranty/Non-Warranty Repair Service

NEC's repair service is designed to support your warranty and non-warranty service activity.

Before you call for repair service, see the previous sections in this chapter to determine if you can solve the problem yourself, within your company, through your dealer, or with the help of a technician from the NEC Technical Support Center.

If your system requires repair service from NEC, call the appropriate repair service:

- To request repair service in the United States, call 1-800-632-4525 or fax to 1-800-695-3044.
- To request repair service in Canada, call 1-800-268-4191 (English Response) or 1-800-268-4115 (French Response).

A Setting Up a Healthy Work Environment



WARNING

Prolonged or improper use of a computer workstation may pose a risk of serious injury. To reduce your risk of injury, set up and use your computer in the manner described in this appendix.

Contact a doctor if you experience pain, tenderness, swelling, burning, cramping, stiffness, throbbing, weakness, soreness, tingling and/or numbness in the hands, wrists, arms, shoulders, neck, back, and/or legs.

MAKING YOUR COMPUTER WORK FOR YOU

Computers are everywhere. More and more people sit at computers for longer periods of time. This appendix explains how to set up your computer to fit your physical needs. This information is based on ergonomics — the science of making the workplace fit the needs of the worker.

Some nerve, tendon, and muscle disorders (*musculoskeletal disorders*) may be associated with repetitive activities, improper work environments, and incorrect work habits. Examples of musculoskeletal disorders that may be associated with certain forms of repetitive activities include: carpal tunnel syndrome, tendinitis, tenosynovitis, de Quervain's tenosynovitis, and trigger finger, as well as other nerve, tendon, and muscle disorders.

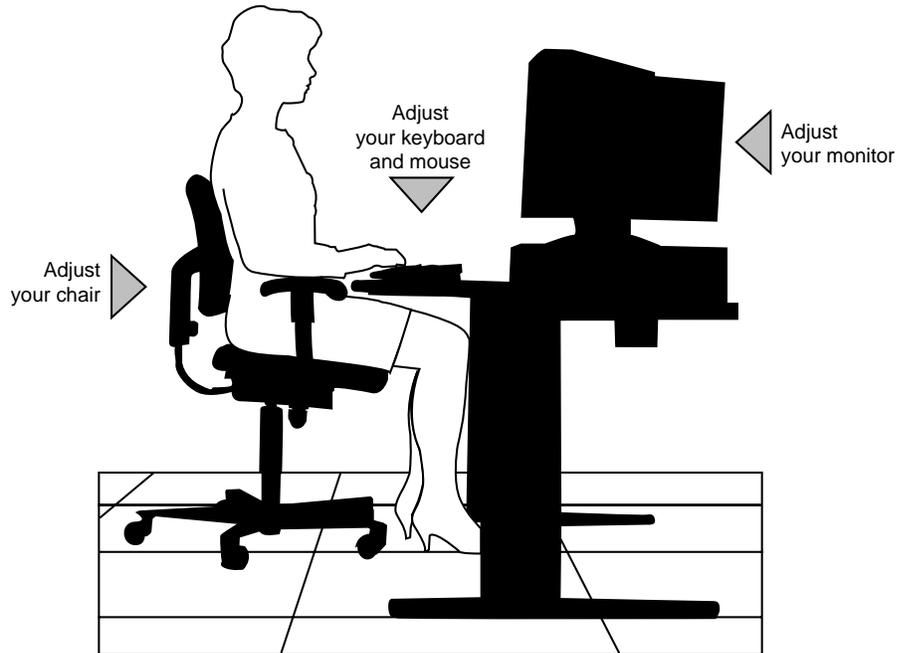
Although some studies have shown an association between increasing hours of keyboard use and the development of some musculoskeletal disorders, it is still unclear whether working at a computer causes such disorders. Some doctors believe that using the keyboard and mouse may aggravate existing musculoskeletal disorders.

Some people are more susceptible to developing these disorders due to pre-existing conditions or psychosocial factors (see “Pre-existing Conditions and Psychosocial Factors” later in the appendix).

To reduce your risk of developing these disorders, follow the instructions in this appendix. If you experience discomfort while working at your computer or afterwards, even at night, contact a doctor as soon as possible. Signs of discomfort might include pain, tenderness, swelling, burning, cramping, stiffness, throbbing, weakness, soreness, tingling and/or numbness in the hands, wrists, arms, shoulders, neck, back, and/or legs.

ARRANGE YOUR EQUIPMENT

Arrange your equipment so that you can work in a natural and relaxed position. Place items that you use frequently within easy reach. Adjust your workstation setup to the proper height (as described in this appendix) by lowering the table or stand that holds your computer equipment or raising the seat height of your chair. To create more desk space, you can put your computer base on the floor.



ADJUST YOUR CHAIR

Your chair should be adjustable and stable. Vary your posture throughout the day.

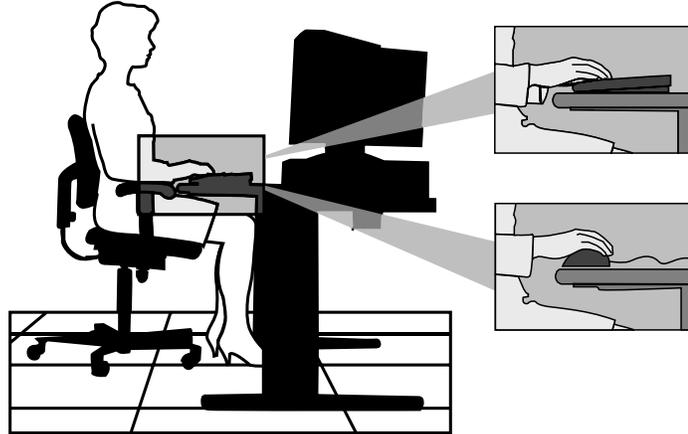


Check the following:

- Keep your body in a relaxed yet upright position. The backrest of your chair should support the inward curve of your back.
- Use the entire seat and backrest to support your body. Tilt the backrest slightly backwards. The angle formed by your thighs and back should be 90° or more.

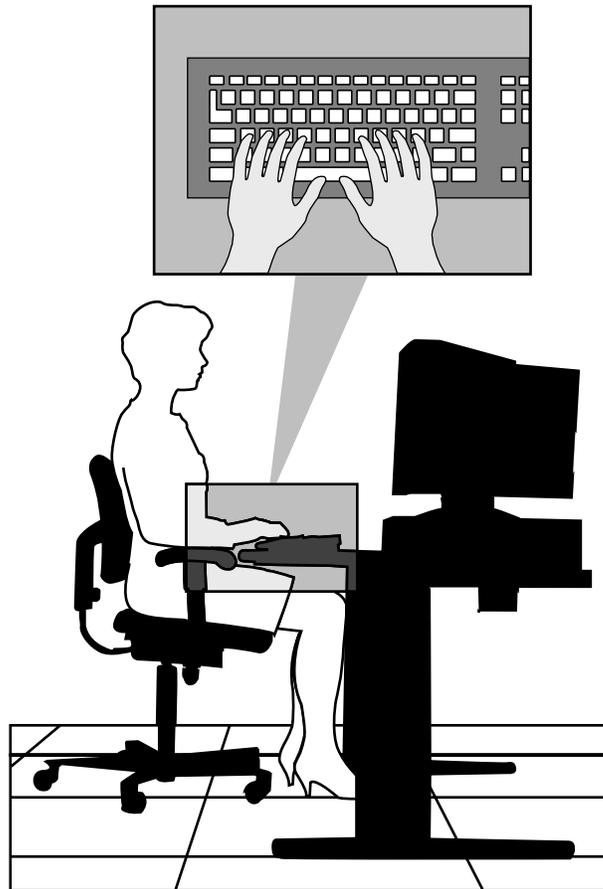
-
- Your seat depth should allow your lower back to comfortably contact the backrest. Make sure that the backs of your lower legs do not press against the front of the chair.
 - Extend your lower legs slightly so that the angle between your thighs and lower legs is 90° or more.
 - Place your feet flat on the floor. Only use a footrest when attempts to adjust your chair and workstation fail to keep your feet flat.
 - Be sure that you have adequate clearance between the top of your thighs and the underside of your workstation.
 - Use armrests or forearm supports to support your forearms. If adjustable, the armrests or forearm supports should initially be lowered while all the other adjustments discussed in this appendix are made. Once all these adjustments are completed, raise the armrests or adjust the forearm supports until they touch the forearms and allow the shoulder muscles to relax.

ADJUST YOUR INPUT DEVICES



Follow these points in positioning your keyboard and mouse.

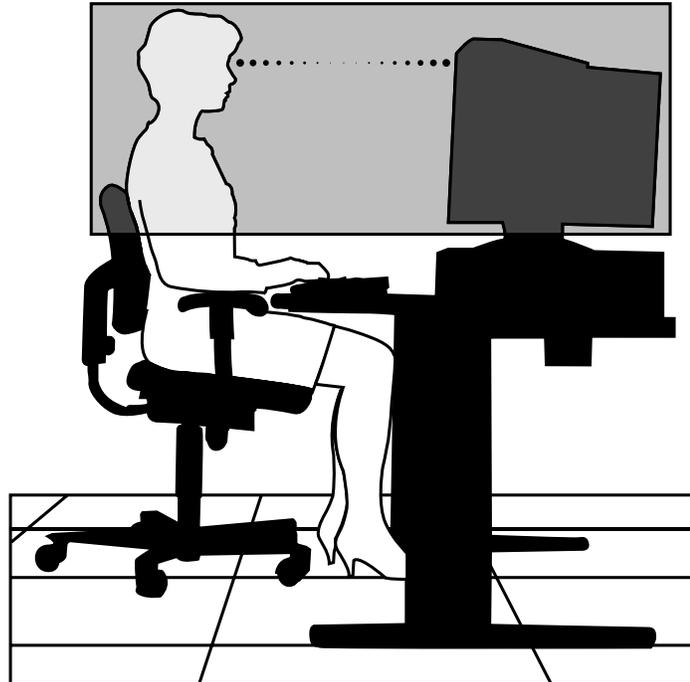
- Position your keyboard directly in front of you. Avoid reaching when using your keyboard or mouse.
- If you use a mouse, position it at the same height as the keyboard and next to the keyboard. Keep your wrists straight and use your entire arm when moving a mouse. Do not grasp the mouse tightly. Grasp the mouse lightly and loosely.
- Adjust the keyboard height so that your elbows are near your body and your forearms are parallel to the floor, with your forearms resting on either armrests or forearm supports, in the manner described previously. If you do not have armrests or forearm supports, your upper arms should hang comfortably at your sides.
- Adjust your keyboard slope so that your wrists are straight while you are typing.



- Type with your hands and wrists floating above the keyboard. Use a wrist pad only to rest your wrists between typing. Avoid resting your wrists on sharp edges.
- Type with your wrists straight. Instead of twisting your wrists sideways to press hard-to-reach keys, move your whole arm. Keep from bending your wrists, hands, or fingers sideways.
- Press the keys gently; do not bang them. Keep your shoulders, arms, hands, and fingers relaxed.

ADJUST YOUR MONITOR

Correct placement and adjustment of the monitor can reduce eye, shoulder, and neck fatigue. Check the following when you position the monitor.



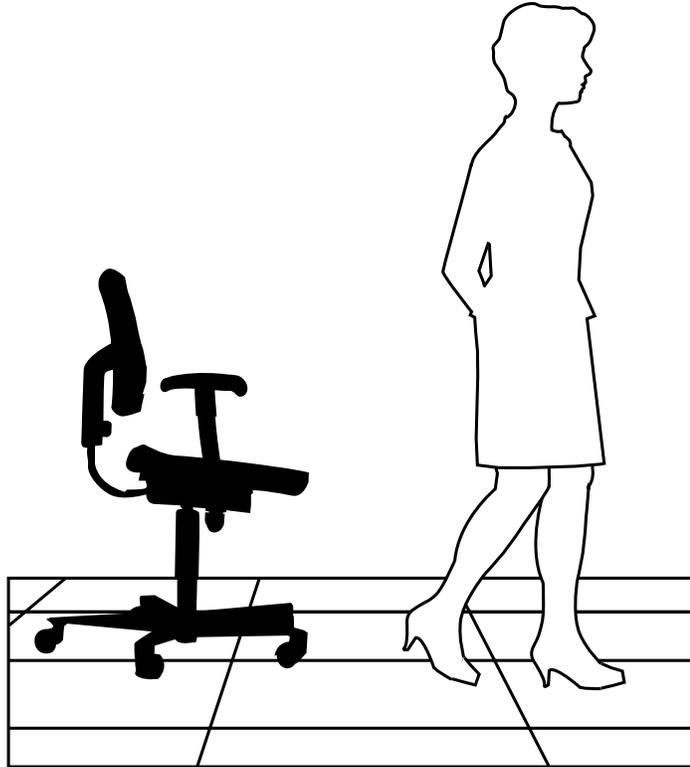
- Adjust the monitor height so that the top of the screen is at or slightly below eye level. Your eyes should look slightly downward when viewing the middle of the screen.
- Position your monitor no closer than 12 inches and no further away than 28 inches from your eyes. The optimal distance is between 14 and 18 inches.

-
- Rest your eyes periodically by focusing on an object at least 20 feet away. Blink often.
 - Position the monitor at a 90° angle to windows and other light sources to minimize glare and reflections. Adjust the monitor tilt so that ceiling lights do not reflect on your screen.
 - If reflected light makes it hard for you to see your screen, use an anti-glare filter.
 - Clean your monitor regularly. Use a lint-free, non-abrasive cloth and a non-alcohol, neutral, non-abrasive cleaning solution or glass cleaner to minimize dust.
 - Adjust the monitor's brightness and contrast controls to enhance readability.
 - Use a document holder placed close to the screen.
 - Position whatever you are looking at most of the time (the screen or reference material) directly in front of you to minimize turning your head while you are typing.
 - Get regular eye check-ups.

VARY YOUR WORKDAY

If you use your computer for prolonged periods, follow these instructions.

- Vary your tasks throughout the day.
- Take frequent short breaks that involve walking, standing, and stretching. During these breaks, stretch muscles and joints that were in one position for an extended period of time. Relax muscles and joints that were active.



-
- Use a timer or reminder software to remind you to take breaks.
 - To enhance blood circulation, alter your sitting posture periodically and keep your hands and wrists warm.



For more information on workstation setup, see the American National Standard for Human Factors Engineering of Visual Display Terminal Workstations. ANSI/HFS Standard No. 100-1988. The Human Factors Society, Inc., P.O. Box 1369, Santa Monica, California 90406

PRE-EXISTING CONDITIONS AND PSYCHOSOCIAL FACTORS

Pre-existing conditions that may cause or make some people more susceptible to musculoskeletal disorders include the following: hereditary factors, vascular disorders, obesity, nutritional deficiencies (e.g., Vitamin B deficiency), endocrine disorders (e.g., diabetes), hormonal imbalances, connective tissue disorders (e.g., arthritis), prior trauma (to the hands, wrists, arms, shoulders, neck, back, or legs), prior musculoskeletal disorders, aging, fluid retention due to pregnancy, poor physical conditioning and dietary habits, and other conditions.

Psychosocial factors associated with these disorders include: workplace stress, poor job satisfaction, lack of support by management, and/or lack of control over one's work.

Contact a doctor if you experience pain, tenderness, swelling, burning, cramping, stiffness, throbbing, weakness, soreness, tingling and/or numbness in the hands, wrists, arms, shoulders, neck, back, and/or legs.

CHECKING YOUR COMFORT: HOW DO YOU MEASURE UP?

Use this checklist to see if you are setting up your work environment to fit your physical needs.

Checking Your Chair

- Do you sit in an upright position with the backrest supporting your lower back?
- When sitting, are your feet flat on the floor?
- Do you periodically adjust your chair and your posture?

Checking Your Keyboard

- Is your keyboard angled so your wrists are straight when you type?
- Is your keyboard directly in front of you?
- Do you avoid resting your wrists on sharp edges?
- Do you press the keys gently and not bang on them?

Checking Your Mouse

- Is your mouse at the same height as the keyboard and next to the keyboard?
- Are your wrists straight and your touch light when moving the mouse?

Checking Your Monitor

- Did you adjust your monitor so that the top of the screen is at or slightly below eye level?
- Do you periodically rest your eyes by blinking often or looking away from the screen?
- Is your monitor no closer than 12 inches and no further away than 28 inches from your eyes?
- Do you use a document holder placed close to the screen?

Checking You

- Is your work area set up to promote a natural and relaxing working position with frequently used work items within close reach?
- Do you take frequent short breaks?
- Do you stretch and walk during your breaks?
- Do you vary your tasks during the day?
- Do you have regular eye checkups?
- Do you contact your doctor if you feel any sustained discomfort?

For more information on workstation setup, see the American National Standard for Human Factors Engineering of Visual Display Terminal Workstations. ANSI/HFS Standard No. 100-1988. The Human Factors Society, Inc., P.O. Box 1369, Santa Monica, California 90406

This appendix was prepared in consultation with Dr. David Rempel of the University of California/San Francisco Ergonomics Program and Mr. M.F. Schneider of HUMANTECH, Inc., Ann Arbor, Michigan.

Index

A

Accessing Voyetra
 Windows 95, 3-1
 Windows for Workgroups, 3-1
Activating an AudioStation module,
 3-3
America Online, 6-6
APM, 4-21
AT&T Interchange, 6-9
Audio connectors, 1-11
AudioStation modules
 CD, 3-4
 DAT, 3-5
 MIDI, 3-5
 Mixer, 3-4
AudioStation screen, 3-2

B

Backup, 4-20
Battery, 4-22
Boot parameters, 4-12
Bulletin board service, 6-4

C

CD-ROM reader
 drive assignment, 1-7
 eject/retract button, 1-8
 emergency eject, 1-8
 features, 1-7, 1-8
 volume control, 1-8
CMOS
 memory, 4-1
 RTC chip, 4-1

 values, 4-22, 4-23

CMOS jumper, 5-5
COM ports, 4-15, 4-16
CompuServe, 6-8
Configuration
 jumpers, 5-2
Connectors, 1-11
 keyboard, 1-12
 mouse, 1-12
 network interface board, 1-13
 printer, 1-11
 serial port, 1-11
 VGA monitor connector, 1-11

D

Default parameters, 4-23
Diagnostics,
Disk lamp, 1-5
Diskette drive, 1-6
 controller, 4-15, 4-17
Documentation, 2-2, 2-3
Dual-IDE controllers, 4-9, 4-15

E

Edit
 .WAV files, 3-5
 digital audio files, 3-11
 MIDI song file, 3-5, 3-7
Editing options
 MIDI song files, 3-8
E-mail support, 6-10
Error message, 7-1
Ethernet network, 1-13

-
- F**
FastFacts service, 6-2
Fax support, 6-10
Features
 back, 1-9-1-14
 CD-ROM reader, 1-7
 diskette drive, 1-6
 front, 1-1-1-8
 power saving, 1-4
 system controls and lamps,
 1-4-1-5
Finding information, 2-5
Full Power On mode, 1-5
- H**
Hard disk drive
 controller, 4-15
Headphones, 1-8
Help, 7-9
 From NEC's Technical Support
 Center, 7-10
 From your company, 7-9
 From your NEC dealer, 7-10
 repair service, 7-10
- I**
I/O ports, 4-15
IDE controllers, 4-9, 4-15
IDE device
 system support, 4-9
Information, 2-5
Information services, 6-1
 America Online, 6-7
 AT&T Interchange, 6-9
 CompuServe, 6-8
 E-mail support, 6-10
 fax support, 6-10
 Internet, 6-11
 NEC bulletin board service, 6-4
 NEC technical support, 6-12
 NEC's FastFacts, 6-2
 NEC's ftp site, 6-11
 NEC's World Wide Web home
 page, 6-11
 World Wide Web, 6-11
Internet, 6-11
IR window, 1-6
IrDA data transfer, 1-5
- J**
Jumpers
 CMOS, 5-5
 processor, 5-3
 system board, 5-2
- K**
Keyboard
 auto repeat rate, 4-13
 click, 4-13
 connecting, 1-12
 NumLock, 4-13
 port, 1-12
- L**
Lamps
 CD busy, 1-8
 disk, 1-5
 power, 1-4
Line in jack, 1-11
Line out jack, 1-11
Load a MIDI song file, 3-7
LPT port, 4-15, 4-16
- M**
Memory
 CMOS, 4-1

-
- Microphone, 1-15
 - features, 1-11
 - jack, 1-11
 - MIDI Mapper screen, 3-6
 - Mouse
 - clicking, 2-1
 - connecting, 1-12
 - double clicking, 2-1
 - dragging, 2-2
 - port, 1-12
 - pressing, 2-2
 - using, 2-1–2-2
 - Multimedia Sound Software package, 3-1
- N**
- NEC bulletin board service, 6-4
 - NEC Information group, 2-2
 - NEC repair service, 7-10
 - NEC technical support center, 7-10
 - NEC Technical support services, 6-12
 - NEC's FastFacts, 6-2
 - Network interface board, 1-13
 - Network-ready models, 1-13
 - NIC connectors, 1-13
 - Non-warranty repair service, 7-10
- O**
- Online documentation, 2-2, 2-3
- P**
- Parallel port, 1-11
 - password clearing, 5-7
 - Passwords, 4-17, 4-19
 - Peripheral parameters, 4-15, 4-16
 - Play
 - CD, 3-4
 - digital audio files, 3-10
 - MIDI song file, 3-7
- Port**
- IR, 1-5
 - Power Bar, 3-2
 - Power Bar buttons, 3-3
 - Power button, 1-4
 - Power lamp, 1-5
 - Power management, 4-20–4-21
 - Power saving features, 1-4
 - Power supply features, 1-12
 - Printer port, 1-11
 - connector, 1-11
 - settings, 4-15
- Problems, 7-2**
- CD-ROM, 7-7
 - Common problem solutions, 7-3
 - Diskette drive, 7-5
 - Keyboard/mouse, 7-7
 - Microphone, 7-8
 - Monitor, 7-6
 - Speakers, 7-8
 - System, 7-3
 - What to do, 7-2
- R**
- Record .WAV files, 3-9
 - Repair service, 7-10
 - Reset button, 1-4
 - Restarting your computer, 1-4
- S**
- Security, 4-17, 4-19
 - Serial port
 - settings, 4-15
 - Serial ports, 1-11
 - Services, 6-1, 7-9

-
- Setup utility, 4-1, 4-2
 - Advanced menu, 4-14
 - backup reminder, 4-20
 - boot parameters, 4-12
 - CMOS settings, 4-22, 4-23
 - configuring I/O ports, 4-15
 - diskette drive parameters, 4-7
 - displaying a submenu, 4-7
 - Exit menu, 4-22–4-24
 - help, 4-4, 4-7
 - IDE adapters, 4-9
 - IDE controller, 4-15
 - IDE devices, 4-9
 - integrated peripherals, 4-14–4-16
 - key functions, 4-6
 - keyboard parameters, 4-13
 - large disk access mode, 4-14
 - legend bar, 4-6, 4-7
 - loading default settings, 4-23
 - loading previous values, 4-23
 - Main Menu, 4-3
 - Main Menu options, 4-7
 - Main Menu summary window, 4-4, 4-8
 - memory, 4-7
 - menu bar, 4-5
 - parity, 4-14
 - passwords, 4-17
 - power management, 4-20
 - Power menu, 4-20, 4-21
 - saving changes, 4-22, 4-24
 - Security menu, 4-17
 - selecting a menu bar option, 4-5
 - selecting a menu item, 4-7
 - starting, 4-3
 - system date, 4-7
 - system time, 4-7
 - using, 4-4
 - video parameters, 4-7
 - virus check reminder, 4-20
 - Sound software, 1-15
 - Speakerphone, 1-11, 1-15
 - Speakers, 1-15
 - Supervisor password, 4-17, 4-19
 - Suspend button, 1-4
 - Suspend mode, 1-4, 1-5
 - System board
 - jumpers, 5-2
- T**
- Technical support, 6-12
 - Troubleshooting, 7-1
 - Common problems, 7-3
 - If you have a problem, 7-1
 - Minor problems, 7-2
 - NEC Technical support center, 7-10
 - Online diagnostics, 7-8
- U**
- User password, 4-17, 4-19
- V**
- VGA monitor connector, 1-11
 - Virus protection, 4-20
 - Voltage selector switch, 1-12
 - Volume, 1-8, 1-15
 - Voyetra software components, 3-1
 - AudioStation, 3-2
 - MIDI Orchestrator, 3-6
 - WinDAT, 3-9
- W**
- Warranty repair service, 7-10

(For United States Use Only)

**FEDERAL COMMUNICATIONS COMMISSION
RADIO FREQUENCY INTERFERENCE STATEMENT**

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: 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 receiver.
- Connect the equipment to an outlet on a circuit different from the one to which the receiver is connected.

Use shielded and properly grounded I/O cables and power cable to ensure compliance of this unit to the specified limits of the rules.

(For Canadian Use Only)

This Class B digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.