Glossary

A AC Adapter

A device that connects a Versa portable computer and an AC wall outlet to provide AC power for running the system or recharging the battery.

A/D Conversion

The process of converting an analog signal into a digital signal.

animation

The art of making things appear to move in two-dimensional (2-D) or three-dimensional (3-D) space and making events happen over time.

applications programs

Software designed to perform specific functions, like solving business or mathematical problems.

audio

The range of frequencies that humans hear.

B base RAM

Area of system memory between 0 and 640 kilobytes available to the user for operating system and application programs.

BIOS

Basic Input Output System. A collection of primitive computer routines, usually burnt into ROM, that controls the real-time clock, keyboard, disk drives, video display, and other peripheral devices.

bit

Binary digit. The smallest unit of computer data.

bits per second

(bps) A unit of transmission. Also called baud rate.

board

Printed circuit board. Board onto which computer components are soldered and thin wires are printed to connect the components.

boot

To start up a computer. See cold boot and warm boot.

bus

An electronic circuit within a computer used for transmitting data or electrical power from one device to another.

byte

Group of eight contiguous bits.

C **CD audio**

Also called digital audio, uses the same format as conventional music CDs. CD audio sounds have been digitized at a high sampling rate.

CD-ROM reader

A computer-controlled device that reads high-capacity optical discs and sends the output to the computer.

clock

Electronic timer used to synchronize computer operations.

CMOS

Complementary Metal Oxide Semiconductor. A chip that contains nonvolatile memory in the Versa. CMOS is backed up by an internal lithium battery that preserves clock/calendar data and system configuration parameters stored in CMOS.

cold boot

Process of starting up the computer by turning on the power. If power is already on, the process means to turn off the computer and turn it on again. A cold boot reinitializes all devices.

crt

Cathode-Ray Tube. A type of display screen used in desktop monitors. It forms the screen image using tiny dots called pixels. See also LCD.

cursor

A movable image on the display screen that indicates where the next entered data appears.

D **default**

A value, option, or setting that the computer automatically selects until you direct it otherwise.

diskette

A thin flexible platter coated with a magnetic material for storing information.

diskette drive

A magnetic drive that writes on and retrieves data from a diskette.

digital audio

Recorded sounds such as speech and sound effects. These are played back by the sound card's Digital-to-Analog Converter (DAC).

digital sound

A description of a sound wave that consists of binary numbers.

digitizing

The process of converting an analog signal into a digital representation.

DSTN

Double-Scan Super-Twisted Nematic. A type of technology used in some Versa LCD screen displays.

E enhanced VGA

A video interface that offers more colors or higher resolution than VGA.

extended RAM

The area of RAM above the first megabyte of memory in the system available for enhancing system performance.

F FM synthesis

A technique for synthesizing sound that uses a combination of modulated sine waves to produce different waveforms.

function key

The set of keys on the keyboard (usually F1 through F12) that let you get help and error message information or quickly select frequently used commands.

H hard disk

A rigid magnetic storage device that provides fast access to stored data.

hardware

The electrical and mechanical parts from which a computer is made.

hertz

(Hz) A unit of frequency equal to one cycle per second.

hot key

Combination of two or three keys (such as **Ctrl-Alt-D**) that you press simultaneously for a particular function.

I input/output

(I/O) The process of transferring data between the computer and external devices.

IDE

Intelligent Drive Electronics. A hard disk drive type that has controller electronics built into the drive and delivers high throughput.

interface

A connection that enables two devices to communicate.

interrupt

A special control signal from an I/O device that diverts the attention of the microprocessor from the program to a special address.

K **kilobyte**

(KB) 1024 bytes.

L **LAN**

Local Area Network.

LCD

Liquid Crystal Display. An LCD consists of a thin sandwich of two glass plates with sealed edges, containing nematic liquid-crystal material that forms the screen image. Versa displays are LCD type.

load

To copy a program into the computer's memory from a storage device.

M **megabyte**

(MB) 1,048,576 bytes.

memory

Electronic storage area in a computer that retains information and programs. A computer has two types of memory — read-only memory (ROM) and random access memory (RAM).

menu

A video display of programs or options.

microprocessor

A semiconductor central processing unit that is the principal component of a microcomputer. Usually contained on a single chip that includes an arithmetic logic unit, control logic, and control-memory unit.

MIDI

Musical Instrument Digital Interface. A standard serial bus, digital interface designed to connect electronic musical devices. MIDI has no innate sound of its own.

mode

A method of operation; for example, the Versa operates in either normal or power-saving modes.

modem

MOdulator-DEModulator. A device that links computers over a telephone line.

multimedia

Computer technology that integrates different forms of media such as sound, text, graphics, and video.

N nonvolatile memory

Storage media that retains its data when system power is turned off. Non-volatile memory in the Versa is a complementary metal oxide semiconductor (CMOS) chip which is backed up by an internal battery. The backup battery preserves the clock/calendar data and system configuration parameters stored in CMOS. See volatile memory.

O operating system

Set of programs that manage the overall operation of the computer.

overwrite

Storing information at a location where information is already stored, thus destroying the original information.

P page

A type of message transmission in which a message is sent or received via modem to a paging device from a computer (with paging communications software) or telephone.

parallel interface

Interface that communicates eight bits at a time.

parallel printer

A printer with a parallel interface.

parameter

A characteristic of a device or system.

password

A string of characters that the user must enter before the system allows access or system privileges.

PCMCIA

A credit card sized peripheral interface standard for portable devices. Types of PCMCIA cards currently offered by major vendors include fax/modems, LAN, storage cards, and wireless communications devices.

peripheral

Input or output device not under direct computer control. A printer is a peripheral device.

pixels

Picture elements. Tiny dots that make up a screen image.

port

Provides the means for an interface between the microprocessor and external devices. A cable connector is usually plugged into the port to attach the device to the computer.

processor

In a computer, a functional unit that interprets and executes instructions.

prompt

A special symbol indicating the beginning of an input line. Also a message that appears on the screen indicating that the user must take a certain action.

R RAM

Random Access Memory. A storage device into which data is entered and from which data is retrieved in a nonsequential manner.

read

To extract data from a storage device such as a diskette.

ROM

Read-Only Memory. Memory in which stored data cannot be modified by the user except under special conditions.

reset

The process of returning a device to zero or to an initial or arbitrarily selected condition.

resolution

The degree of screen image clarity. Video display resolution is determined by the number of pixels on the screen. Resolution is usually specified in pixels by scan lines, for example, 640 by 480. See pixels.

RS-232C

Standard interface for serial devices. This port is sometimes referred to as the serial port.

S scanner

An optical device that reads printed material and converts it to a computer screen image.

serial interface

An interface that communicates information one bit at a time.

serial printer

A printer with a serial interface.

software

Programs that run on a computer such as operating systems, word processors, and spreadsheets.

system board

The main printed circuit board inside the system unit into which other boards and major chip components, such as the system microprocessor, are connected.

T **TFT**

Thin Film Transistor. A type of Versa LCD color screen that supports 256 colors and provides exceptional screen display.

V **VGA**

Video Graphics Array. Graphics technology that supports up to 256 colors and a graphics resolution of 640 by 480 pixels.

volatile memory

Storage media that loses its data when system power is turned off. Standard memory and memory that you add to the Versa are volatile memory. See nonvolatile memory.

W **warm boot**

Process of resetting the computer without turning off the power through keyboard input (pressing **Ctrl**, **Alt**, and **Del** keys simultaneously) or the reset button. The system returns to an initial or arbitrarily selected condition.

waveform

A graphic representation of a sound wave as displayed on an oscilloscope, which converts sound waves into electronic signals.

write

To record or store information to a storage device.

Using this Guide

The *NEC Versa® 6000 User's Guide* gives you the information you need to maximize the use of your NEC Versa 6000 notebook computer. Read this guide to familiarize yourself with the NEC Versa 6000 and its features. For specific information see

■ Chapter 1, "Getting Started," to acquaint yourself with system hardware.

■ Chapter 2, "Introducing the Software," for a concise summary of the applications loaded on your system. We included software to let you experience the full spectrum of the system, from using the speakerphone to creating vivid presentations.

■ Chapter 3, "Using Setup," to customize your notebook's parameter and power management settings.

■ Chapter 4, "Using the NEC Versa 6000," for an understanding of NEC Versa 6000 features and functionality. You'll also master procedures for connecting external options like headphone, microphone or speakers.

■ Chapter 5, "Using Multimedia," for steps on integrating video and sound clips into impressive presentations.

■ Chapter 6, "Traveling with Your NEC Versa 6000," lists valuable tips for getting the most out of your system while on the road.

■ Chapter 7, "Solving Problems," provides simple solutions to common problems that may arise while operating your notebook.

■ Appendix A, "Setting Up a Healthy Work Environment," provides guidelines to help promote a healthy work setting.

■ Appendix B, "Specifications," to review NEC Versa 6000 system specifications.

TEXT SETUP

To make this guide as easy to use as possible, text is set up in the following ways.

■ Warnings, cautions, and notes have the following format:

⚠ **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 system hardware or software.

NOTE Notes give particularly important information about whatever is being described.

■ Names of keys are printed as they appear on the keyboard, for example, **Ctrl**, **Alt**, or **Enter**.

■ Text that you must type or keys that you must press are presented in bold type. For example, type **dir** and press **Enter**.

RELATED DOCUMENTS

See the following documents for additional information on your NEC Versa 6000 notebook computer:

■ Your *NEC Versa 6000 Quick Setup* sheet.

■ Your *NEC Versa 6000 Quick Reference* card.

■ Depending on the operating system installed, the Windows 95, or Microsoft® Windows for Workgroups, MS-DOS operating system online documentation that comes loaded on your NEC Versa 6000 computer.

Contents

2 Introducing the Software

3 Using Setup

4 Using Your NEC Versa 6000

5 Using Multimedia

6 Traveling with Your NEC Versa 6000

1 Getting Started

⚠ 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 completing the steps in the quick setup sheet that comes with your computer, your NEC Versa 6000 is ready to go! To get started, look at the following:

■ Read Appendix A, Setting Up a Healthy Work Environment, for guidelines that help you use your computer productively and safely. Information includes how to set up and use your computer to reduce your risk of developing nerve, muscle, or tendon disorders.

■ Take the online *System Tour* to get acquainted with the NEC Versa 6000. (The *System Tour* is in the Windows NEC Information group under the NEC Versa 6000 InfoCenter.)

■ View the online system *Basics*. (*Basics* is in the Windows NEC Information group under the NEC Versa 6000 InfoCenter.)

■ Read through this guide to familiarize yourself with the NEC Versa.

GETTING TO KNOW YOUR NEC VERSA 6000

The NEC Versa 6000 Series notebook computer offers you a portable system filled with exciting resources for home, business or travel. Standard features include a powerful Intel® Pentium 100 MHz or 133 MHz microprocessor that works together with the latest Peripheral Component Interconnect (PCI) architecture.

In addition, your system provides a high-performance hard disk drive, diskette drive, interchangeable 6x CD-ROM reader, Personal Computer Memory Card International Association (PCMCIA) support, and a fully operational modem (except in Asia and Europe) that supports your analog or cellular phone. As a multimedia system, your NEC Versa also provides the tools needed to create and present impressive images using video clips and sound.

To get comfortable with your notebook, read the following sections and take a tour around your system!

NEC Versa 6000 Series notebook computer

Around the System — Front

The NEC Versa 6000 is compact with features on every side. First, look at the front of the NEC Versa 6000. The following sections describe front features, beginning with the liquid crystal display (LCD).
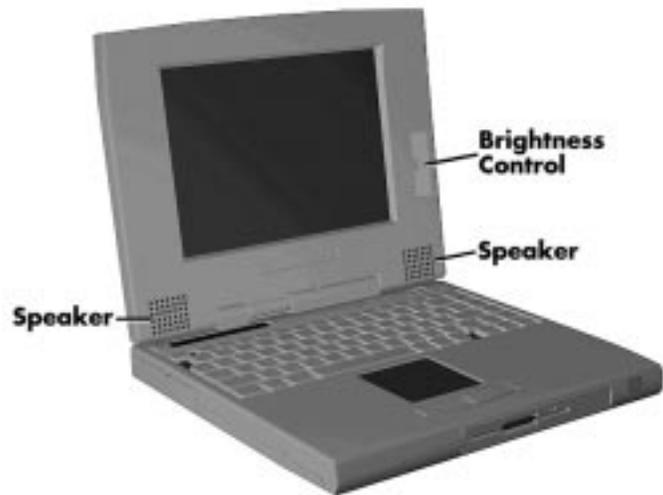
LCD features

LCD

Your NEC Versa 6000 comes with a color LCD that you can adjust for a comfortable viewing position. Depending on your model, the LCD provides an 11.3-inch Thin Film Transistor (TFT), Super Video Graphics Array (SVGA) display, a 12.1-inch SVGA display, or a 12.1-inch Extended Graphics Array (XGA). display.

Additional LCD panel features include:

■ Built-in Stereo Speakers — provide stereo sound for your multimedia presentations, or listening pleasure.

■ Brightness Control — a slide switch that adjusts screen brightness. Increasing the brightness increases screen contrast.

Controls and Microphone

NEC Versa 6000 controls and built-in microphone are shown in the following figure. These features are described after the figure.
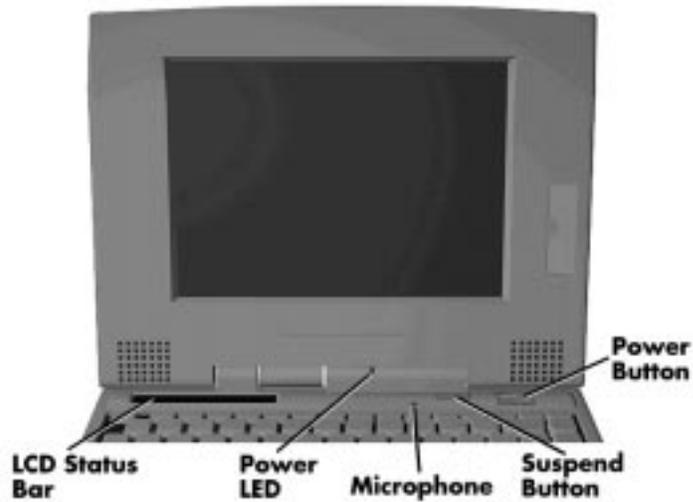
Controls and microphone

- LCD Status Bar — A liquid crystal status panel that keeps you informed of your NEC Versa's current operating status. See a description of icons in the following section.

- Power LED

  — Lights green when the system is powered on.

  — Blinks green when the system is in Suspend mode.

  — Blinks amber to indicate that battery power is low.

- Microphone — allows you to record monophonic sound directly into your notebook computer.

  Or, use as a telephone receiver. When using your Versa 6000 computer's telephony capability, you do not have to speak directly into the microphone. Feel free to speak into the microphone at a comfortable distance.

■ Suspend/Resume (S/R) Button — press the S/R button to put the unit into Suspend mode when you need to be away from your system for a short period of time and want to return to where you left off. Press the S/R button again to bring the NEC Versa 6000 out of Suspend mode.

Specifically, Suspend mode shuts down all devices in the system while retaining data and system status. You will find more detailed information on using Suspend mode in your online user's guide.

■ Power Button — slide the power button to the right to power on and power off the computer.

The power button is a "smart" switch, meaning that it recognizes when the system is in Suspend mode. If in Suspend mode, you cannot power off until you press the suspend button again to bring it out of Suspend mode.

Status Icons

The NEC Versa 6000 uses LCD icons that communicate system status. See the following figure and list for each icon's meaning.
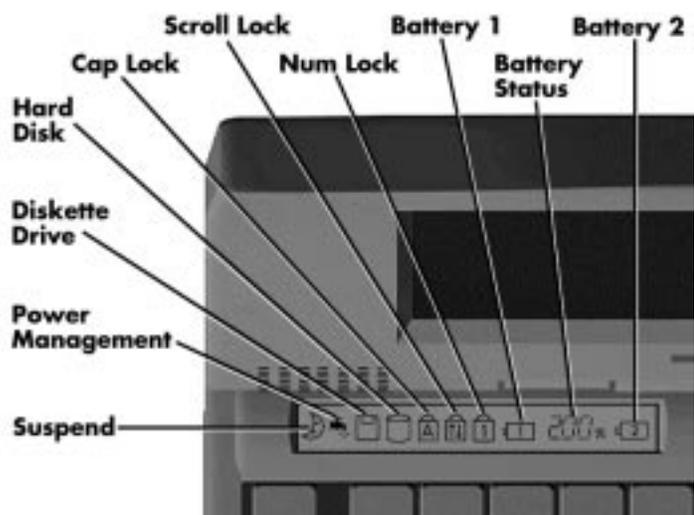
Reviewing status icons

■ Suspend — appears when the system is in Suspend mode. Suspend mode conserves system power by shutting down all devices in the system while retaining data and system status.

■ Power Management — shows the current power management mode in use, including Off, Low, High or Custom.

■ Diskette — appears when the NEC Versa writes data to or retrieves data from a diskette.

■ Hard Disk — shows when the NEC Versa writes data to or retrieves data.

■ Caps Lock — appears when caps lock is in effect.

■ Scroll Lock — shows that scroll lock is in effect.

■ Num Lock — appears when Num Lock mode is active.

■ Battery Status — displays the percentage of battery power available.

— Battery 1 appears when you have one or more batteries installed.

— Battery 2 appears when you have an optional battery installed in the VersaBay II.

Keyboard

The NEC Versa 6000 keyboard uses 83 keys (79 keys for international systems)**,** with the standard QWERTY-key layout. See Chapter 2, "Using the Keyboard" for complete details. You can also refer to the online information in the NEC Versa 6000 InfoCenter.

NEC VersaGlide

The NEC VersaGlide works like a standard computer mouse. Simply move your fingertip over the VersaGlide to control the position of the cursor. Use the selection buttons below the VersaGlide to select menu items.

Diskette Drive, CD-ROM Reader and the NEC VersaBay II™

A 1.44-MB diskette drive comes installed in the NEC VersaBay II on the front of your system. You can use this diskette drive, or remove it from the VersaBay II and replace it with the 6x CD-ROM reader that also ships with your system. It's your choice!

The VersaBay II lets you add options, including an optional second Li-Ion battery, or an additional hard disk drive, see "Customizing Your System with the VersaBay II", in Chapter 4.

⚠ WARNING

Remember to power off your system before installing an option. Hot swapping is not supported.

Keyboard area
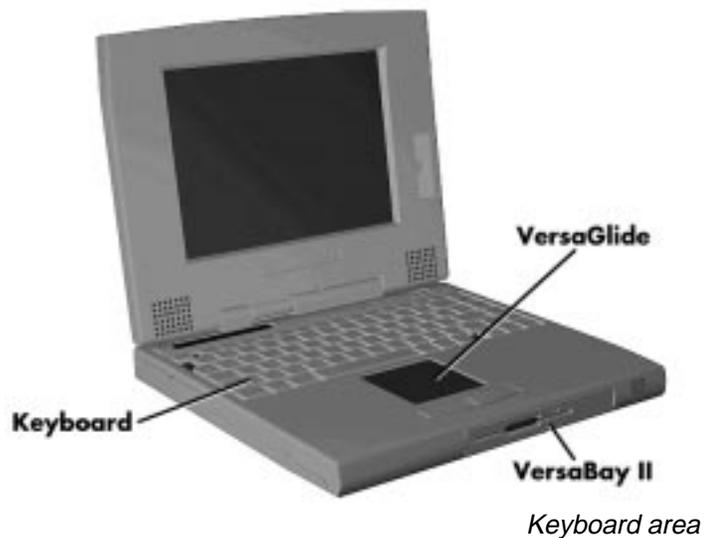
AROUND THE SYSTEM — BACK

You'll find system ports for connecting your NEC Versa 6000 to optional devices (like a printer, docking station, or external monitor) on the back of your NEC Versa. For an understanding of each feature, see the descriptions that follow the figure.
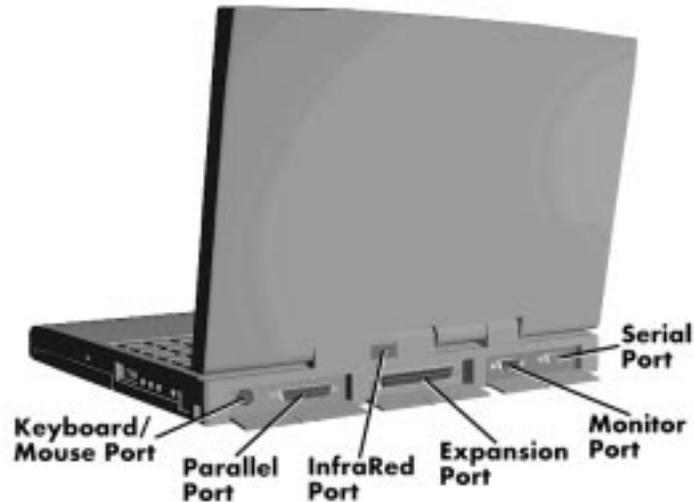
Back system features

■ Keyboard/Mouse Port — Use the standard PS/2 port to connect an external PS/2-style mouse or a PS/2-style keyboard to the system. With an optional Y-cable adapter, you can connect both a mouse and a keyboard at the same time.

■ Parallel Port — Use this port to connect a parallel printer or other parallel device. The port is an Enhanced Parallel Port (EPP). The EPP standard provides you with a greater processing speed than the conventional parallel port. It also supports bi-directional and uni-directional protocols.

■ Infrared Port — This port lets you transfer files between your NEC Versa and an IR-equipped desktop or notebook computer. You can also print to an IR-equipped printer without using cables.

■ Expansion Port — This port provides a connection for NEC Versa 6000 options including the NEC PortBar 6000, the NEC Versa 6000 External Diskette Drive and NEC Versa Docking Station 6000.

■ Monitor (Video) Port — Use this 15-pin port to attach an external monitor to your NEC Versa. You can run the LCD display and the external monitor simultaneously or run either alone.

■ Serial Port — Use this port to connect an external modem or other serial device.

AROUND THE SYSTEM — LEFT SIDE

The left side of your NEC Versa 6000 has two slots for inserting two Type I or Type II PC cards (formerly called PCMCIA cards). You can also insert one Type III PC card.

The battery bay is also located on the left side of the unit. The battery bay contains an eight-cell Lithium Ion (Li-Ion) battery that lets you run your system on DC power.

**PC Card Slots   Battery Bay
                    Cover Release**

Left side features

AROUND THE SYSTEM — RIGHT SIDE

The internal modem, hard disk drive, Kensington lock socket, audio ports and AC power port are located on the right-side of the NEC Versa 6000. For an understanding of each feature, see the descriptions that follow the figure.
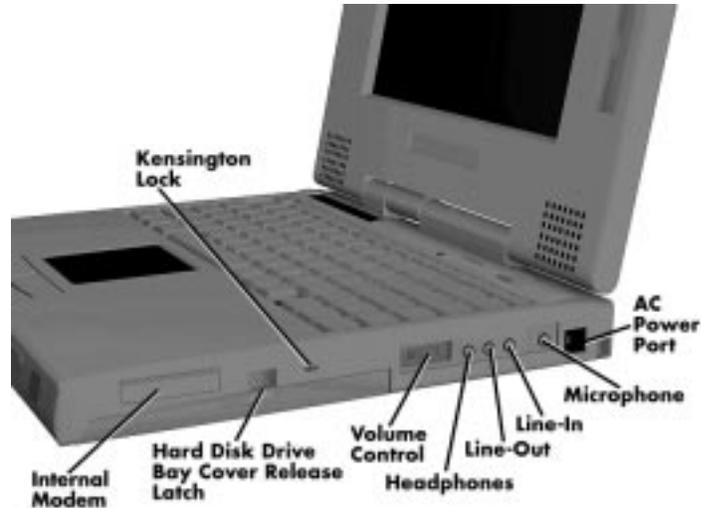
Right side features

- Internal Modem (except in Asia and Europe) — NEC includes a 28.8 Kbps fax/voice/data modem with speakerphone and answering machine support. It keeps you connected to the outside world!

- Hard Disk Drive Bay and Cover Release Latch — The hard disk drive bay contains the removable hard disk drive. Depending on your NEC Versa's configuration, it contains a 1-gigabyte (GB), 1.3-GB or 1.44-GB hard disk drive.

  To access the hard disk drive, simply turn the system over and lift up the hard disk drive bay cover release latch while pushing the cover away from the system.

- Kensington Lock — Lets you provide added security by installing an optional Kensington Lock.

- Volume Control — Allows you to control the speaker volume.

- Headphones — Lets you connect external headphones or speakers to your NEC Versa 6000. Plugging in headphones disables the built-in system speakers.

- Line-Out — Lets the NEC Versa 6000 act as an input source for another audio system. Connect this port to a Line-In port on another audio system to play or record.

- Line-In — Lets you use another audio system, like a home stereo, as an input source. Use a cable to connect to the Line-Out port on the other audio system to record or play.

- Microphone (MIC) — Allows you to connect an external microphone for monophonic recording or amplification through the unit. Plugging in an external microphone disables the built-in microphone.

- AC Power Port — Use the power jack to attach the NEC Versa to a DC power source, such as the AC adapter or the optional DC car adapter.

AROUND THE SYSTEM — BOTTOM

The bottom of the NEC Versa 6000 contains the features shown. For an understanding of each feature, see the descriptions that follow the figure.
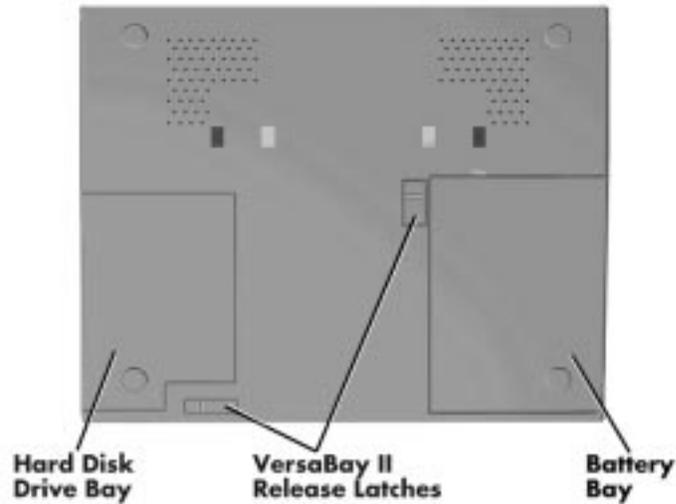
Bottom features

■ Hard Disk Drive Bay — Contains the system's standard hard disk drive. If you remove the hard disk drive, you'll see two memory module connectors for expanding system memory. You'll also see four dip switch settings. These are explained in Chapter 4, "Using Your NEC Versa 6000."

■ NEC VersaBay II Release Latches — These latches let you remove the option currently installed in the bay.

■ Battery Bay — Contains the system's main battery. It is an eight-cell, Lithium Ion (Li-Ion) battery.

POWER SOURCES FOR YOUR NEC VERSA

The NEC Versa 6000 can be powered using three different sources, making it a truly portable system. Operate your NEC Versa 6000 just about anywhere using one of the following power sources:

■ the AC adapter connected to an electrical wall outlet (using AC power)

■ the battery pack or an optional second battery pack

■ the optional DC adapter connected to a car cigarette lighter.

Read the following sections for specific steps on powering on the system.

Using the AC Adapter

Use the AC adapter and power cable that came with your NEC Versa to run your computer on alternating current (AC) power, or to recharge the battery pack. Use the AC adapter whenever a wall outlet is nearby.

Keep the adapter connected whenever possible. The AC adapter charges the battery whether or not you are using the NEC Versa.
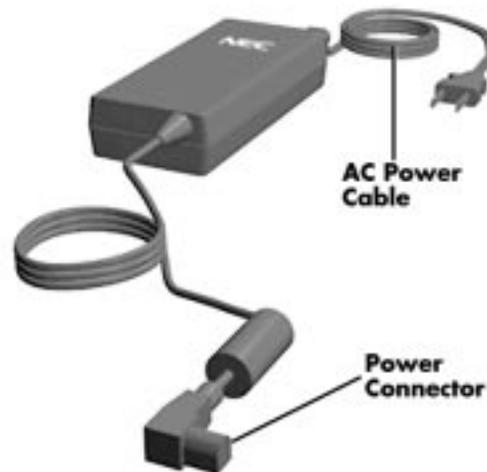
NEC Versa 6000 AC adapter

Check that the AC outlet voltage falls in the range of 100–240 Volts AC. Verify that the cord and plug are appropriate for your AC source.

Connect the AC adapter as follows:

1. Connect the AC adapter cable to the power port on right side of your NEC Versa 6000.

2. Plug one end of the AC power cable into the AC adapter and the other end into a properly grounded 120- or 240-volt wall outlet.

The AC power cable type that your system uses depends on the country your using it in. Contact the local dealer to purchase the correct power cable.

AC Adapter

Power Port

Connecting the AC adapter

⚠ WARNING

Do not cover or place objects on the AC adapter. This will allow heat to dissipate properly.

Powering on

Power on the system as follows.

1. Locate the latch on the front of the LCD panel, press the latch up, and raise the panel.

2. Locate the power button and slide it to the right to turn on system power.

Powering on the system

Using the Main Battery Pack

The NEC Versa 6000 comes with a rechargeable Lithium Ion (Li-Ion) battery pack. You can run your system on battery power for approximately two to four hours with power management features enabled. It's easy to install and remove.

Your NEC Versa 6000 system provides two tools to help you keep track of the main (or an optional) battery's power level. These include the status bar icons described earlier in this chapter, and the battery gauge in PowerPanel. Both let you know how much battery power remains. See Chapter 3, "Using Setup", for more details on using PowerPanel.

When battery power is very low, the power LED flashes amber.

When battery power gets low, do either of the following:

■ Press the suspend button to put your system in Suspend mode, remove the battery pack, and replace it with a fully charged Li-Ion battery.

■ Leave the battery pack in the system and connect your NEC Versa to the AC adapter and a wall outlet. If you connect the system to AC power and continue to use it, the battery recharges in approximately 2.5 to 7 hours. If you connect the system to AC power and do not use it, the battery recharges in about 2 hours.

You can also buy an optional NEC Versa 6000 battery charger to quickly charge your battery. See the online *Options Catalog*.

⚠ WARNING

To prevent accidental battery ignition or explosion, adhere to the following:

■ Keep the battery away from extreme heat.

■ Keep metal objects away from the battery terminals to prevent causing a short circuit.

■ Make sure the battery is properly installed in the battery bay.

■ Read the precautions printed on the battery and in the online *Basics*.

Determining Battery Status

You can determine battery status via the battery icon in the status bar discussed earlier in this chapter. If you have one battery pack installed, one battery icon appears. If you have two battery icons, two battery packs appear.

A blinking battery icon indicates that the battery is charging. A fast blinking battery icon occurs:

■ when installing a new battery

■ during unknown battery status

■ when there is a problem with the battery.

To return the battery to its normal state, try the following:

■ remove and then reinstall the battery

■ reinstall the battery in your NEC Versa and fully recharge the battery (to 100%).

■ if the you are using a battery that has been in storage for an extended period of time.

The battery percentage icon blinks under the following conditions.

■ When battery power is low, the number icon blinks.

■ If battery power is extremely low, the number icon blinks rapidly.

When to Change the Battery

The following symptoms indicate that battery life is nearing an end. Replace batteries that display these symptoms.

■ Shorter work times.

■ Discoloration, warping.

■ Hot to the touch.

■ Strange odor.

Battery Handling

Keep the following in mind when removing or replacing a battery.

■ Use Li-Ion batteries only in the NEC Versa computer for which they are designed.

■ Use only the Li-Ion battery designed for your system in the NEC Versa. Mixing other manufacturer's batteries, or using a combination of very old and new batteries can deteriorate battery and equipment performance.

■ Turn off power to the system after use. Keeping system power on can degrade battery performance and shorten battery life.

■ Clean the battery terminals with a dry cloth when they get dirty.

■ Keep the battery out of the reach of children.

Replacing the Battery Pack

Replace the battery pack installed in your NEC Versa system as follows.

> **NOTE** Use Li-Ion batteries in the NEC Versa computer for which they are designed. Also, installing another manufacturer's battery, or using a combination of very old and new batteries can deteriorate battery and equipment performance.

1. Save your files, exit Windows, and press the Suspend button or turn off system power.

2. Close the LCD and turn the system over.

3. Release the battery cover latch and slide the battery bay cover away from the system.
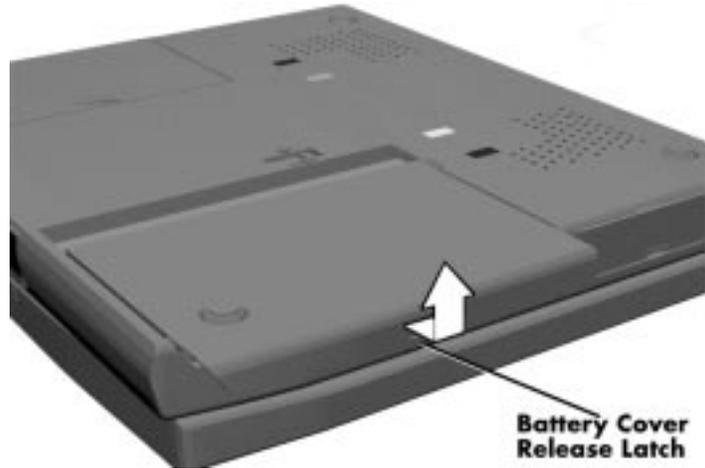
Removing the cover

4. Place a finger in the notch on the battery and lift the battery out of the system.

⚠ **WARNING**

Always lift the battery out of the system by the notch. Failure to do so can damage the battery terminals.

Lift Here (Notch)
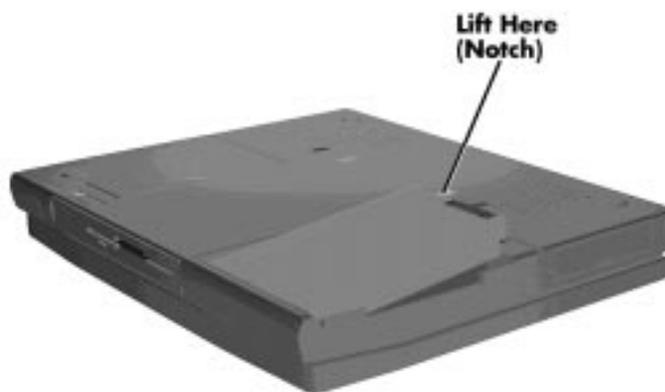
Removing the battery

5. Insert the new battery as follows:

■ Locate the grooves on the end of the battery opposite the terminals.

■ Align the grooves with the projections inside the battery bay.

■ Lower the notched end of the battery into the battery compartment.
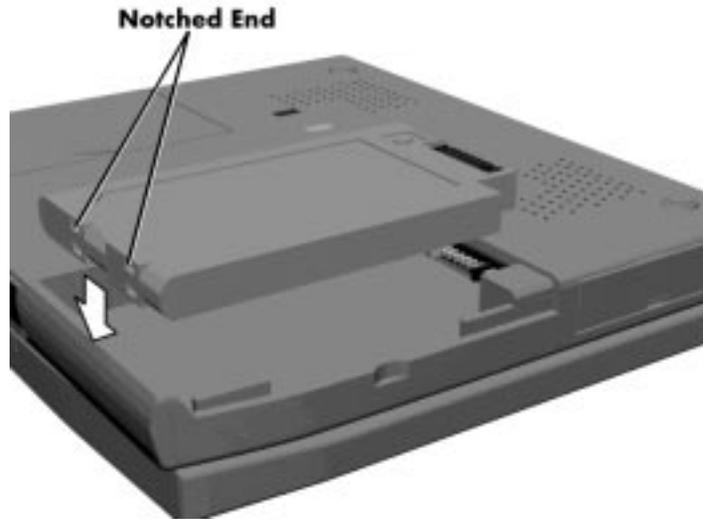
Inserting the battery pack

6. Replace the battery bay cover as follows:

■ Align the tabs on the bay cover with the grooves on the system chassis.

■ Lower the cover onto the bay and slide it into place.

Replacing the cover

7. Turn the system over.

Battery Precautions

To prevent accidental battery ignition, rupture, or explosion, adhere to the following:

⚠ **WARNING**

To avoid personal injury and property damage, read these battery precautions on handling, charging, and disposing Li-Ion batteries.

■ Keep the battery away from heat sources including direct sunlight, open fires, microwave ovens, and high-voltage containers. Temperatures over 140º F (60ºC) may cause damage.

■ Do not drop or impact the battery.

■ Do not disassemble the battery.

■ Do not solder the battery.

■ Do not puncture the battery.

■ Do not use a battery that appears damaged or deformed, has any rust on its casing, is discolored, overheats, or emits a foul odor.

■ Keep the battery dry and away from water.

■ Keep metal objects away from battery terminals. Metal objects in contact with the terminals can cause a short circuit and damage.

If the battery leaks:

■ If the battery leaks onto skin or clothing, wash the area immediately with clean water. Battery fluid can cause a skin rash and damage fabric.

■ If battery fluid gets into eyes, DO NOT rub; rinse with clear water immediately and consult a doctor.

■ Take extra precautions to keep a leaking battery away from fire. There is a danger of ignition or explosion.

Recharging Battery Precautions

Adhere to the following precautions when recharging the Li-Ion battery.

■ Use only the NEC battery charger designed for your NEC Versa battery type. Different NEC Versa models require different batteries and battery chargers.

■ Charge the battery for the specified charge time only.

■ During charging, keep the environmental temperature between 32°F and 104°F (0°C to 40°C).

■ Read the instructions that came with the battery charger before charging the battery.

NEC VersaBay II Battery and Adapter Kit

The NEC VersaBay II Battery and Adapter Kit provides a second lithium ion (Li-ION) battery and adapter to use in your NEC Versa 6000 computer. Inserting a second fully charged battery increases battery life to approximately 4 to 8 hours.

See the online *Options Catalog* in the NEC Versa 6000 InfoCenter, or your authorized NEC dealer for details about the NEC VersaBay II Battery and Adapter Kit.

Extending Battery Life

While on the road, it is important to be aware of the simple things you can do to extend the life of the system's main battery. One way is to keep the LCD backlight setting to Standard instead of Full. You can toggle between these two settings by pressing the function keys, (**Fn**+**F5**). Or, slide the backlight control to a dimmer level.

You will find an extensive explanation of how best to apply the power management tools that your system offers in *Advanced Topics* in the online user's guide under the NEC Information group. Other important topics to view in the online document include *Maximizing Battery Life*, *Battery Charging* and *Disposal*.

Using the DC Car Adapter

Another way to power your NEC Versa 6000 is via car battery power using the optional DC car adapter. Connect your system to the optional DC car adapter as follows.

1. Disconnect the AC adapter from the system if connected.

2. Plug the appropriate end of the car DC adapter into the power port on the system.

3. Connect the plug of the DC car adapter to a car cigarette lighter.

Connecting the car DC adapter

INTERNAL BATTERIES

As you have seen, an eight-cell Lithium Ion (Li-Ion) battery provides the main power source in your NEC Versa 6000 computer. See Appendix B for a list of Li-Ion battery specifications. In addition to this battery, the CMOS battery and bridge battery also provide system power.

CMOS Battery

This lithium battery provides battery backup and prevents data loss in the system's complementary metal oxide semiconductor (CMOS) RAM. This memory area contains information on the system's configuration, for example date, time, drives, and memory. The CMOS battery lasts approximately two years. An authorized NEC service technician can replace the CMOS battery for you.

Bridge Battery

The bridge battery saves your system status in Suspend mode for up to five minutes. This gives you time to install a fully charged battery or plug in AC power when your battery charge becomes low.

Only an authorized NEC dealer can change a bridge battery.

SYSTEM CARE

The NEC Versa 6000 is a durable, dependable system built for extensive use and travel. Follow these guidelines to maintain the condition and performance of your computer.

Precautions

Follow these precautions when using your NEC Versa 6000, AC adapter, and VersaBay II.

■ Avoid dropping or bumping the computer or the AC adapter.

■ Do not stack heavy objects on the computer.

■ Avoid moving the NEC Versa 6000 during system operation, especially while the hard disk or diskette drive is being accessed.

■ When using the AC adapter, make sure the power source falls within the system's compatible range of 100–240 volts AC. Never use the AC adapter if the voltage falls outside of this range. (Watch for this when traveling to other countries.)

■ Turn computer power off before attaching or removing non-plug and play devices.

■ Avoid using the computer or AC adapter for extended periods in direct sunlight.

■ Do not use the system in humid or dusty environments.

■ Turn computer power off before cleaning it.

■ Avoid exposing the NEC Versa 6000 or AC adapter to extreme changes in temperature or humidity. If it is unavoidable, allow your NEC Versa to adjust to room temperature before using.

■ When cleaning the system, use a soft, clean, dry cloth. Avoid wiping the display surface with abrasive material, including rough fabric. Do not use a cleaning solution, this may damage the notebook's plastic.

■ If the AC adapter becomes extremely hot, unplug the adapter and let it cool.

■ Do not direct an IR port towards the LCD panel.

■ Keep the AC adapter away from the IR ports.

Storage Requirements

Store the computer and AC adapter in an environment that meets the following conditions:

■ Maintain storage temperatures between –4°F and 104°F (–20°C and 40°C).

⚠ **CAUTION**

If the temperature of the NEC Versa suddenly rises or falls (for example, when you move the system from a warm place to a cold place), vapor condenses inside the system. Turning on the system under this condition can damage the internal system components.

Before turning on the system, wait until the system's internal temperature equalizes with the new environment and any internal moisture can evaporate.

■ Keep the storage area free from vibration and magnetic fields.

■ Keep the system and its components away from organic solvents or corrosive gases.

■ Avoid leaving the system and its components in direct sunlight or near heat sources.

Routine Cleaning

Clean or dust your system as follows.

⚠ CAUTION

Never use harsh solutions, household cleaners, or spray cleaners that contain caustic materials on the NEC Versa 6000.

These cleaners are usually high in alkalinity which is measured in pH. Using these cleaners can cause the plastic surface to crack or discolor.

■ LCD screen — Carefully wipe the LCD screen with a soft cloth or a screen wipe designed for that purpose. Special screen wipes are available through your local computer dealer.

■ System case — NEC recommends that you carefully wipe the case with a slightly damp, almost dry cloth.

2 Introducing the Software

This chapter introduces you to the software that comes with the NEC Versa 6000, including:

■ the Windows 95 operating system, or the Windows for Workgroups operating system with MS-DOS®

■ Online Help

■ NEC Utilities

— Setup

— Battery Gauge Utility

— Backup Utility

— Phoenix® PowerPanel™

■ Other Software

— CardWizard™

— Official Airline Guide (OAG™)

— LapLink®

— Netscape Navigator

— CompuServe

— America Online

— McAfee Anti-Virus

— VideoSaver

— Faxworks™ with Voice and Data Communications

— MediaMatics Arcade™ MPEG Player

— XingMPEG Player™

WINDOWS INTRODUCTION

Your NEC Versa 6000 gives you the option of loading either Windows 95 or Windows for Workgroups to use on your system. During the initial system start-up, selecting one operating system deletes the other. Both Microsoft operating systems provide a means of running applications, navigating through your file structure, and using your notebook computer. Each operating system offers its own look and tools.

Both Windows 95 and Windows for Workgroups employ a graphical interface to make the operating systems easy to use.

Windows 95

Windows 95 gives you the newest features offered by Microsoft, including a Desktop with room to maneuver, a Taskbar for quick navigation between open windows, plug and play features, online networking functions, and more.

When you choose to install Windows 95, the following icons are loaded on your desktop:

■ My Computer — provides access to drives, printers, the control panel, and network features.

■ Inbox — lets you access the Microsoft fax and mail software as well as Microsoft network services.

■ Recycle Bin — gives you a trash container in which to put unwanted files.

■ Network Neighborhood— shows you the network, integrated LANs, and WANs (if your system is connected to a network).

■ Briefcase — allows easy transfer of files bewteen the NEC Versa 6000 and another system.

■ Start — displays a pop-up menu with which to start programs and applications, open documents, access system settings, look at online help, and shut down your system.

Windows for Workgroups

Windows for Workgroups offers the well-established Windows interface. Application icons are placed in groups, which are represented by group icons. To start an application, highlight and double click or double tap the application icon.

The Program Manager contains the following groups.

■ Main — Includes programs and tools to help you control printing; set up printers, plotters, and modems; customize the desktop; and manage files.

■ Accessories — Includes desktop programs that come with Windows, such as a simple word processing program, a drawing program, a calendar, and a calculator.

■ Startup — Lets you add programs to start automatically when you enter Windows.

■ Games — Gives you a way to practice your VersaGlide skills or just relax.

■ Applications — Includes any applications that Windows detects on your hard disk during installation.

■ NEC Information — Includes online topics specific to the NEC Versa, NEC customer support, and Windows and DOS.

■ NEC Utilities — Includes small programs written by NEC to help you manage your NEC Versa computer.

See the online *Windows QuickStart* in the NEC Information program group for detailed instructions on using Windows.

DOS INTRODUCTION

MS-DOS is the Microsoft disk operating system that runs the computer. DOS uses commands that every personal computer user needs to know at least a little about. The Windows environment makes it possible for you to manage your system and application programs without knowing DOS commands, but as you become more comfortable with computers you may want to begin learning DOS.

For detailed instructions on how to use MS-DOS, refer to the online book *MS-DOS 6.22 QuickStart* in the NEC Information program group, if you selected the Windows for Workgroups operating system..

GUIDE TO ONLINE HELP

The NEC Versa 6000 has plenty of information for you online. The NEC Information group contains information about your NEC Versa 6000, warranty coverage, and customer services.

NEC Versa 6000 InfoCenter

The NEC Versa 6000 InfoCenter contains several specific areas of information to help you.

■ *System Tour*

The NEC Versa *System Tour* gives you a complete tour of the system, pointing out components, switches, software and utilities, Take the tour to become comfortable with your new NEC Versa 6000.

■ *Basics*

Basics describes the NEC Versa 6000 main features, how to travel with the system, use power management, and care for the system. *Basics* also includes a glossary.

■ *Advanced Topics*

Advanced Topics covers specific areas such as adding options, changing setup settings, and solving problems. *Advanced Topics* also includes a glossary.

■ *Questions and Answers*

Questions and Answers provides frequently asked questions and answers about portable computers to help you solve common problems yourself.

■ *Options Catalog*

The *Options Catalog* lists options such as memory cards, hard drives, carrying cases, and PC cards that you can purchase for use with the NEC Versa 6000.

> **NOTE** The price information in the *Options Catalog* is only applicable for North America.

Additional Online Topics

■ Customer Service Guide

The *NEC Customer Service Guide* discusses the various levels of support NEC offers you, our customer. We provide lots of information to help you become self-sufficient with your NEC Versa, but if you need help, we're there for you.

■ UltraCare Guide

The *NEC UltraCare Guide* describes NEC's three-year warranty program to help you protect your investment in an NEC Versa Series computer. If you purchased the computer outside the U.S., please contact a local NEC office or dealer for the warranty program in your area.

■ The Windows QuickStart 3.11 Guide

This online "book" provides lessons on using Microsoft Windows, which runs on the NEC Versa 6000. (This file is available only when you choose the Windows for Workgroups 3.11 operating system.)

■ The MS-DOS 6.2.2 QuickStart Guide

This online "book" offers lessons on using MS-DOS, which also runs on the NEC Versa 6000. (This file is available only when you choose the Windows for Workgroups 3.11 operating system.)

■ Using Windows 95

This online help file lets you explore Windows 95 and learn about navigating through the new interface. (This file is available only when Windows 95 is the operating system loaded.)

GUIDE TO NEC UTILITIES

NEC provides several programs and routines designed to make your NEC Versa 6000 run more efficiently. These programs are known as utilities.

Setup

The Setup utility automatically configures your NEC Versa each time you start it up. This utility is not accessible from Windows. To change settings, press **F2** to access Setup when the screen displays the following prompt at boot-up:

Press <F2> to enter SETUP

See Chapter 3, "Using Setup", and *Advanced Topics* for a discussion of the Setup utility. In addition, online help assists you in making appropriate settings.

Battery Gauge Utility

Communicates battery power remaining.

PowerPanel

PowerPanel lets you view and control a variety of system settings related to power use and conservation. Access PowerPanel from the NEC Utilities group.

See Chapter 3, "Using Setup", for a discussion of PowerPanel. In addition, PowerPanel has an extensive online help, accessible by pressing the Power-Panel menu button, the rightmost button on the toolbar.

OTHER SOFTWARE

Your NEC Versa 6000 comes with other programs that let you take full advantage of your system resources. The rest of this chapter discusses each program, including what it can do for you, how to get started, and how to use the program help.

CardWizard®

CardWizard lets you manage your PC Cards and slots. Through CardWizard you can

- view card slot activity and availability

- be alerted to missing or improperly installed card drivers

- receive help to address resource conflicts and memory window allocation problems.

Once CardWizard identifies and resolves configuration issues, it automatically configures PC cards each time they are installed.

CardWizard is only available when the Windows for Workgroups operating system is selected.

Official Airline Guide (OAG)

The Official Airline Guide is an online service that gives you access to flight details for all commercial airlines worldwide. NEC provides a sample of the monthly data that OAG provides. (You can call for the software company for a free copy of the most current information.) OAG offers NEC Versa owners a special rate when they subscribe to OAG for monthly updates.

OAG is an invaluable service for anyone who travels on a regular basis. All you have to do is enter your departure city, destination city, and date. If you have a preferred airline, you can also enter its name. The service then lists all the flights available from the departure city, the times, and the flight numbers. You can also check on seat availability and prices.

Access OAG as follows.

1. Connect your modem (in Asia, you will need to install an optional modem) to a phone line.

2. Start OAG as follows:

- From the Program Manager in Windows for Workgroups, locate and double click on the OAG program icon.

- In Windows 95, press **Start**, slide to the Programs group, slide to Travel Services, and open the Official Airline Guide group. In the group, highlight "FlightDisk Worldwide Edition" and release the mouse button.

3. The first time you open OAG, an agreement screen appears. Follow the on-screen instructions.

4. In the Trip Plan screen, fill in the fields with the trip information requested. Press **Enter** after making selections from the available drop-down lists.

5. To retrieve seat availability and price information, press the appropriate button and follow the on-screen instructions to register for a free trial of the OAG travel service.

LapLink

LapLink helps you stay in touch with your home office system or get in touch with other systems through infrared port, modem, network, or cable. Use LapLink to transfer files, gain access to files on a remote system, or exchange written information with another user on a remote system. LapLink even bridges the communication gap between Windows 3.11 and Windows 95 systems.

LapLink offers the following features:

■ File Transfer — lets you move or copy files between computers. To speed file transfer, LapLink compares files being updated and transfers only the changed information.

■ Remote Control — gives you access and control over a remote computer. Activity you perform on a local system, such as keystrokes, file access and change, and program execution, actually occurs on the remote system.

■ Chat — provides a way for you to exchange information, instructions, or other messages with a user at a remote computer.

LapLink software must be loaded on both the sending (local) and receiving (remote) system for communication between them to work properly.

How to Use LapLink

Follow these steps to get started using LapLink. Once you have LapLink up and running, refer to LapLink's online help for more information.

1. Start the LapLink Traveling software as follows:

■ In Windows for Workgroups, locate and double click the LapLink group icon. Select LapLink for Windows.

■ In Windows 95, press Start, slide the cursor over to Programs, and locate the LapLink for Windows 95 folder. In the folder, highlight the LapLink line and press the VersaGlide selection button or tap the VersaGlide pad once.

If you do not have a port enabled, LapLink prompts you to enable one. Press **Yes** to do so and follow the on-screen instructions to configure the port. Otherwise, press **No**.

2. Once your ports are configured, select your communication method by pressing the appropriate button. The buttons give you the following connection options. (Balloon help displays each button's function.)

■ Connect over cable

■ Connect over wireless

■ Connect over modem

■ Connect over network

■ Connect over dial-up network

Once communication is established between systems, the LapLink window is displayed.

3. Select the procedure you want to use by pressing one of the last three buttons in the LapLink toolbar at the top of the screen. (Balloon help displays each button's function.)

■ Press the file transfer button to transfer files between systems.

■ Press the Remote Control button to exercise control over a remote system.

■ Press the Chat button to converse with another user at the remote system.

4. When you finish, press the disconnect button to break the link between the local and remote systems. Press **OK**.

The other system is notified of the break in communications.

To find out more about LapLink capabilities and uses, refer to the online help that is available when you open LapLink.

McAfee Anti-Virus

The McAfee AntiVirus software is set up to scan your system daily. You can change these settings through the VShield Configuration Manager. Access the configuration manager as follows.

1. From the McAfee VirusScan95 program group, highlight the VShield Configuration Manager.

2. Open the configuration manager. It contains a set of four tabs with various configuration features. The Detection tabs give you control over what is scanned and when scanning occurs.

WebSCAN

Scans data and files that you import from Web sites before loading the files onto your system. If the data or files contain viruses, WebSCAN warns you and lets you cancel the action.

VideoSaver

The VideoSaver software package that comes preloaded on your system gives a variety of full-screen video clips that you can use as screen savers. Simply select VidSaver from the list of screen savers in your Windows list. Modify how the screen saver runs as follows:

1. Double click the Display icon in the Control Panel.

2. Go to the Screen Saver tab and select Videos.

3. Press the Preview button to see the current video clip selected. To modify the video settings, press the Settings button.

The settings screen shows the available video clips and gives you options to:

- ■ Rearrange the order in which the clips appear.

- ■ Mute the sound.

- ■ Preview the videos available.

FaxWorks with Voice and Data Communications

Provides fax/modem capabilities. See the online help for instructions on using FaxWorks.

MediaMatics Arcade™ MPEG Player

Provides MPEG Playback software for Windows 95. See Chapter 5, "Using Multimedia" for instructions on using this application.

XingMPEG Player™

Provides MPEG Playback software for Windows for Workgroups. See Chapter 5, "Using Multimedia" for instructions on using this application.

Online Services

Your NEC Versa comes with all you need to get started on any one of the most popular online services available today.

For a fee, online services give you access to the Internet, e-mail, the World Wide Web, travel information, news reports, and more, depending on the service selected. Some online services give you a free trial period.

Before choosing and registering for an online service, make sure your modem is connected to a working phone line (in Asia and Europe, the system does not ship with a built-in modem). The line must be an analog line. If you are unsure what type of line you have, call your local telephone company.

Access online services preloaded on your system as follows:

1. Connect your modem to a phone line.

2. Continue as follows:

   ■ From the Program Manager in Windows for Workgroups, locate and double click on the Online Services program group. Double click on the icon for the service you want to open.

   ■ In Windows 95, press Start, slide to the Programs group, slide to Online Services, and slide to the online service group that you want to open. In the group, highlight the service and release the mouse button.

3. Follow the on-screen instructions to log onto the service.

America Online

To find out about America Online features, highlight "America Online" in the America Online program group. Double click in Windows for Workgroups or simply release the mouse button in Windows 95. From the Help drop-down menu, select "Contents."

CompuServe

To find out about CompuServe features, highlight "Compuserve Directory" in the CompuServe program group. Double click in Windows for Workgroups or simply release the mouse button in Windows 95.

Netscape Navigator

Netscape lets you access all that the Internet has to offer. If you are running the Windows for Workgroups operating system, start Netscape with the Netscape icon in Windows.

If you are running the Windows 95 operating system, you will need to use the Netscape Navigator Install program in the Windows 95 Programs menu to install Netscape Navigator.

The Install program includes the Internet Wizard and Netscape Navigator Setup. Choose the Internet Wizard first to establish dial-up networking services within Windows 95. When you complete the required information the system reloads Windows 95. Then continue the installation by running the Netscape Navigator Setup.

The completion of Netscape Navigator Setup generates a Netscape Navigator group and a shortcut icon on your desktop.

3 Using Setup

SETUP UTILITY

Your NEC Versa 6000 comes with a hardware program called Setup that allows you to view and set system parameters. Setup also includes security features that protect your system from unauthorized use.

Use Setup to

- set the current time and date

- customize your operating system to reflect your computer hardware

- secure your system with a password

- balance your performance needs with power conservation.

How to Enter Setup

Access Setup at power-on. Just press **F2** when the following prompt appears.

> Wait for startup or press <ESC> to view POST or
> press <F2> for BIOS SETUP

The Setup Main screen appears, displaying current parameter settings.

When you press **F2** to enter Setup, the system automatically detects current parameter settings with the Power-On Self-Test (POST).

If the system detects an error during POST, it prompts you with a double beep and a message: "Press <F1> to resume, <F2> for Setup." If you press **F1**, POST continues. If you want to fix the error, carefully read the error message that appears above the prompt (taking notes if you want), and press **F2**.

After you press **F2**, the system displays the Setup Main screen.

How to Use Setup

The following sections describe how to use Setup, including these topics:

■ Looking at screens

■ Using keys

■ Checking and setting system parameters.

Looking at Screens

Setup screens have four areas as shown next.

```
                                                       Item-Specific Help
                                                      ┌──────────────
Menu Bar ┌─ Main    Peripherals   Security   Power Savings   Exit
         └─ ────────────────────────────────────────┬───────────────
                                                     │ Item-Specific Help
           ┌─  System Time:              [09:24:07]  ├───────────────
           │   System Date:              [07/07/1996]│ Configure the IDE adapter
           │   Diskette A:               [1.44 MB, 3 1/2"]
           │   Diskette B:               [Not Installed]
           │
           │   Internal Hard Drives:     [Enabled]
Parameters │   ▶  Master   (C:1 GB)
           │   ▶  Slave    (None)
           │
           │   Docking Station Hard Drives:  [Disable]
           │   ▶  Master   (None)
           │   ▶  Slave    (None)
           │   Boot Docking Station IDE:     [No]
           └─ ────────────────────────────────────────┴───────────────
Key Status ┌─ F1 Help   ↑↓ Select Item   −/+ Change Values      F9  Defaults for Page
Bar        └─ ESC Exit  ←→ Select Menu  Enter Select ▶ Sub-Menu  F10 Previous Values
```

■ Menu Bar
The top line of the screen. Each of the five selections displays its own screen.

■ Parameters
The left part of the screen. This area lists parameters and their current settings

■ Item-Specific Help
The right part of the screen. This area describes each parameter and its available settings.

■ Key Status Bar
The bottom part of the screen. These lines display the keys available to move the cursor, select a particular function, and so forth.

Using Keys

The following table lists Setup keys and their functions.

Setup Key Functions

KEY	WHAT IT DOES
← →	Chooses a selection from the menu bar.
Home/End	Moves to the first/last parameter on the current screen.
PgUp/PgDn	Displays the previous/next page of the current screen if scrollable.
↑ ↓	Moves the cursor between the displayed parameters.
Enter	Displays additional fields for parameters marked with a ▶.
Tab	For some parameter settings, moves the cursor between the subfields. For example, for System Time, Tab moves the cursor from hour to minute to second.
–/+	Selects the next lower/higher setting. (Same as F5/F6.)
F5/F6	Selects the next lower/higher setting. (Same as –/+.)
F9	Selects the default settings for the displayed parameters only.
F10	Selects the settings of the displayed parameters as they were upon entering the screen.
Esc	Displays the Exit screen.
F1	Displays the General Help screen.

Checking/Setting System Parameters

See the following table for a list of parameters, their factory default settings, and alternate settings. As you set each parameter, its available settings are explained in the Item-Specific Help area in the right part of the screen.

Reset the parameters on the displayed screen to their factory default settings by pressing **F9**. Or, reset all parameters by selecting Set Default Values on the Exit screen. Also, read "PowerPanel" near the end of this chapter for information on using a customized toolbar to change system settings with the click of an icon.

> (NOTE) The internal modem is not available in Asia and Europe. The modem settings listed below do not apply to Asia and Europe.

Setup Parameters

PARAMETER	DEFAULT SETTING	ALTERNATE SETTINGS
Main		
System Time	HR:MIN:SEC	
System Date	MO/DAY/YEAR	
Diskette Drive A	1.44MB, 3.5"	1.2MB, 5.25"/Not Installed
Diskette Drive B	Not Installed	1.44MB, 3.5"/1.2MB, 5.25"
Internal Hard Drives	Enable	Disable
Master	Auto	BIOS Defined/None/CD/ User
Slave	None	BIOS Defined/Auto/CD/ User
Docking Station Hard Drives*	Disable	Enable
Docking Station Master*	None	BIOS Defined/Auto/CD/ User
Docking Station Slave*	None	BIOS Defined/Auto/CD/ User
Boot Docking Station IDE* +	No	Yes
System Memory	640K	
Extended Memory	15360KB	19456KB (w/4MB card)
		23552KB (w/8MB card)
		39936KB (w/16MB card)
		47004KB (+32MB card)

PARAMETER	DEFAULT SETTING	ALTERNATE SETTINGS
Peripherals		
IR Location	Front	Front (Defaults to front when docked, rear when mobile.)
IR Serial Port	COM3 IRQ9**	Reconfigurable/Disabled
IR Serial Mode	FIR	MIR/SIR
Serial Port	COM1**	Reconfigurable/Disabled
Parallel Port	LPT1**	Reconfigurable/LPT1/LPT2/Disabled
Parallel Mode	Unidirectional	Unidirectional/Enhanced (EPP) Bi-directional
Modem Port	COM2**	Reconfigurable/ Disabled
Docking Station SCSI*	Enabled	Disabled
NumLock	Off	On
Keyboard auto-repeat rate	30 per sec	2/6/10/13/19/22/27 per sec
Keyboard auto-repeat delay	½ sec	¼, ¾, 1 sec
Sound	Enabled**	Reconfigurable/User-Specified/Disabled − Advanced Sound Setup is only available when User-Specified is selected. − When Disabled is selected, Sound Power is Off.
Sound IRQ	5	7/10
Low 8-bit DMA	1	3
High 16-bit DMA	5	7
Docking Station MPU-401*	Reconfigurable (Disabled when mobile.)	Disabled I/O address 300 I/O address 330
Docking Station Joy Stick*	Enabled (Disabled when mobile.)	Disabled
Security		
User Password	Disabled	Enabled
Set Password	Press **Enter**.	
Password on boot	Disabled	Enabled
Password on resume	Disabled	Enabled

PARAMETER	DEFAULT SETTING	ALTERNATE SETTINGS
Power Savings		
Power Management under AC	Off	On
Power Savings	Longest Battery Life	Highest Performance Custom /Off
Hard Disk Timeout	30 sec.	1/2/4/6/8/10/15 min/Off 15/30/45 sec
Panel Backlight	Standard	Full
Video Highlight	Standard	Full
Video Timeout	2 min.	1/2/4/6/8/10/15 min/Off 15/30/45 sec
Serial Timeout	On	Off
Standby Timeout	4 min.	1/2/4/6/8/12/15 min/Off
Suspend Mode	Suspend	Save to File/Suspend Only
Auto Suspend Timeout	10 min.	5/10/15/20/25/30/34 min/Off
Auto Save to File	On	Off
Suspend Warning Tone	On	Off
PCMCIA Power	On	Off
Video Highlight	Standard	Full
Modem Ring Resume	Off	On
Wake from Suspend at:	0:00:00	

∗ Visible only when notebook is docked.

∗∗ For Windows 95, the initial setting is "Reconfigurable." Selecting "Select Default Values" in the Exit menu sets these settings to the defaults listed here. Do not use "Reconfigurable" with non-plug and play systems, (such as Windows for Workgroups or DOS). Doing so disables the device.

⁺ Can be in the docking station or VersaBay II.

Main

The Setup Main screen displays the System Time and System Date parameters as well as drive parameters.

■ Time/Date

Use System Time and System Date to set the current time and date. The settings remain in memory even after you turn off system power.

To set the time, enter the current hour, minute, and second in *hr*::*min*:*sec*, 24-hour format. Use the Tab key to move from field to field. For example, type **13:30:00**, tabbing from field to field for 1:30 p.m.

■ To set the date, enter the current day, month, and year in *mo/day/year* format.

Drives

The drive parameters let you check and change settings for your drives, including internal hard drives, diskette drives, the CD-ROM reader and docking station hard drives.

"Yes" for Boot Docking Station IDE boots from the docking station. "No" boots from either the internal hard drive or from the internal CD-ROM drive, if installed.

Peripherals

The Peripherals screen displays the connection location between the system and the Input/Output (I/O) ports.

Power Savings

The Power Savings screen lets you balance high performance and energy conservation using parameters including the following.

> **NOTE** Some operating systems such as Windows for Workgroups and Windows 95 have their own power management software which overrides CMOS settings. In this case, be sure to set your desired power management settings accordingly.

■ **Power Management Under AC** Normally, whenever AC power is connected to the NEC Versa 6000, power management is disabled. If you enable this parameter, the system automatically activates the power management profile you set.

■ **Power Savings** A Highest Performance setting provides the greatest system performance. Longest Battery Life provides maximum power saving, and Off disables all device timeouts. You can also customize power management by selecting Custom Settings and entering values for device timeouts.

■ **Suspend Mode** Suspend mode includes a method of operation called Suspend/Resume that stores information in RAM and maintains RAM contents after shutting down all local devices. You also select Save to Disk, which saves all your open data files to a special file on the hard disk whenever the system goes into Suspend mode. All your data is automatically recovered from where you left off when you Resume.

■ **Suspend Warning Tone** This parameter lets you enable or disable a warning tone when Suspend mode starts. It is best to keep this option enabled.

■ **PCMCIA Power** This parameter lets you turn off power to the PC Card slots in order to conserve power. Slot power cannot be turned off if a card is installed in the slot.

(NOTE) Another way to toggle between the power settings described above is using function key FnF7. Press **FnF7** to toggle through the various Power Management settings. The faucet icon on the status bar changes to reflect the new setting.

Any selection you make by pressing FnF7 overrides the settings you made on the Power Savings screen of Setup. The Setup power settings are not in effect until the next power-on.

Security

Your NEC Versa 6000 supports a password for system security on several levels. Using the Security screen, you can require that a password be entered

■ to use Setup

■ at each startup or boot

■ each time the system resumes from Suspend mode.

You are not prompted to enter a password until you set an initial password. Your system is not protected until you set a password.

Once you set a password, you must enter it before you can enter Setup; this feature allows only an authorized user to change system parameters. In addition, you can choose to require the password be entered each time you start the system and each time the system resumes from Suspend mode.

A Keyboard Lock feature lets you lock your keyboard when you are away from your NEC Versa 6000. This feature works only if you set a password in Setup.

Setting an Initial System Password

Set an initial password as follows.

1. Select Security from the menu bar.

2. Select "Set Password" by pressing **Enter**.

3. At the prompt, enter a password up to seven characters long. Then, as prompted, reenter your password for verification. Write your password down and keep it in a secure place in case you forget it.

4. Press **Enter** to return to the Security screen.

5. If you want to require the password each time you start your system, move the cursor to "Password on boot" and select "Enabled."

6. If you want to require the password each time the system resumes from Suspend mode, move the cursor to "Password on Resume" and select "Enabled."

7. Press **ESC** to display the Exit screen. Here you can select "Save Changes and Exit" to save your password and reboot your system.

    You will have three attempts to enter the password correctly. After the third attempt, the system will be disabled. Reboot the system and try to reenter the password. If you forget your password, see "Setting Switches", for password override information.

Removing a Password

To remove a password, press **Enter** at "Enter new password" and again at "Re-enter new password." Your password clears and you are no longer prompted to enter one.

You can also use the "Enter new password" and "Re-enter new password" prompts to change to a new password.

Keyboard Lock

The Keyboard Lock feature is available only after you have enabled a password.

To enable Keyboard Lock press **Ctrl + Alt + Back Space**. To unlock the keyboard, enter your password. Please note you are not prompted for this password. If you remove your password, you can no longer lock the keyboard.

POWERPANEL

Your NEC Versa 6000 system gives you a tool that simplifies changing the system configuration settings discussed previously in this chapter, including power management.

Use the VersaGlide to move the cursor over the desired icon, and select the icon with a touch of the left selection button. The purpose of PowerPanel is to provide a quick and easy way to change from one setting to the next, as your location varies. And isn't that what mobile computing is all about?

The first five icons in the PowerPanel that NEC designed for you let you toggle between power management settings. The next six icons let you toggle between system settings. The last icon, represented by the atom, is a permanent icon. Selecting the atom icon opens the PowerPanel menu. Use the PowerPanel menu to edit or create your own version of PowerPanel, according to your own needs.

Reviewing PowerPanel Default Power Settings

The following table describes power management icons and settings in the PowerPanel provided by NEC.

PowerPanel Default Power Settings

ICON	SETTING	WHEN TO USE
	Power management off	Office environment, using AC power
	Presentation mode	Video presentation, keeps video on all the time while conserving power.
	Maximum battery life	Airplane use, provides best battery life and good performance.
	Maximum performance	On the road, provides best perform-ance and good battery life.

Reviewing PowerPanel Default Command Settings

The following table describes additional command icons in the PowerPanel provided by NEC.

PowerPanel Default Command Settings

ICON	SETTING	WHEN TO USE
	IR back	Work requires enabling the rear IR port
	Volume high	During a presentation
	Video/LCD off	Using an external monitor instead of the NEC Versa 6000 LCD
	Save to file	You need to leave your system for a short period of time
	Suspend	When trying to conserve battery power. Power management enabled while your away from your system

PowerPanel Menu

Click on the PowerPanel menu button represented by the atom icon to:

■ display a menu of selections you can use to customize PowerPanel

■ access online help, with detailed instructions for PowerPanel use.

The PowerPanel menu items are described next. These include Preferences, Customize, Profile Manager, Minimize and Online Help.

Preferences

PowerPanel lets you specify a profile for use when the system is on AC power. You can use any available profile, or create one for this purpose. For information on creating profiles, see the section "Profiles" or see the online help.

To specify an AC profile, select Preferences from the PowerPanel menu. Click on the AC Profile tab, and then select a profile.

If you wish, when you switch from battery to AC power, you can continue to use the profile that was previously active. Simply press the Disable Profile switch.

Customize

Use the Customize menu to change PowerPanel settings and icons according to your needs. You can view the current toolbar image to help you decide if changes need to be made. Use Customize to change the power profile or command assigned to the button. Also use Customize to add, delete or move a button.

Profile Manager

The Profile Manager describes all existing profiles in detail.

To access the Profile Manager, click on the PowerPanel menu button, and then click on Profile Manager. The Profile Manager screen that appears lists all the existing profiles. Select a profile, and read the description below it. If you select View, you can see the specific settings that make up the selected profile.

You can use the Profile Manager to create your own profiles. Select "Create" from the Profile Manager screen, and then enter the requested information.

While you are working, the current profile is the one with the button that appears pressed down.

For more information on creating profiles, see the online PowerPanel help.

Minimize

Select minimize to change the PowerPanel toolbar into a single icon, named PowerPanel Custom Settings.

Help

The last four PowerPanel menu items provide online help. Review the online help for more complete information on using PowerPanel, customizing the toolbar and learning more about profiles and commands.

Setup Utility and PowerPanel

When you start your system, the parameter settings you entered on the Power Savings screen in Setup are in effect.

> [NOTE] If you set the Power Savings parameter in Setup to Power Management Off, no power management is in effect at start-up. For example, even if you set the Video Timeout parameter to 10 minutes (the length of time both the keyboard and the mouse remain inactive before the screen is turned off) the screen is not turned off after 10 minutes if the Power Savings parameter is set to Power Management Off.

Setup parameter settings remain in effect unless you change the setting via PowerPanel. Also, if you are using more than one toolbar from PowerPanel, the toolbar last selected using Preferences is in effect at power on. The rightmost profile on this toolbar is the active profile until you select another.

The Setup utility settings are not in effect again until the next power-on.

4 Using Your NEC Versa 6000

The more you use your NEC Versa 6000 system, the more proficient you will become at everything from using function keys, to setting up a presentation to accessing the speakerphone.

This chapter gives concise information on these and other important tasks, including how to use:

■ the LCD panel

■ the keyboard

■ the NEC VersaGlide

■ the NEC VersaBay II

■ the 6x CD-ROM reader

■ the PC card slots

■ the modem (not available in Asia and Europe)

■ IR ports.

In addition, this chapter focuses on installing options, expanding hard disk space and memory, and (if appropriate) updating the system Basic Input/Output System (BIOS).

LCD

When you open your NEC Versa 6000 notebook LCD, you'll notice the brightness control and speakers. Slide the brightness control up to make your screen brighter. Slide the brightness control down to make your screen darker.

The two system speakers work automatically with your audio application software. However, if you plan on using external speakers, see "External Audio Options."

KEYBOARD

The NEC Versa 6000 keyboard is equipped with many features. These include:

■ Function keys

■ Cursor control keys

■ Typewriter keys

■ Numeric keypad

■ Control keys.

Feature keys are located as shown in the following figure. Key operations are described after the figure.

Keyboard

Function keys — Twelve function keys, **F1** through **F12,** are available on the NEC Versa 6000 keyboard. These keys work together with the **Fn** key to activate special functions. Six keys are preprogrammed with dual functions, which are printed in blue on the key.

Function keys are application-driven. See the specific application's user guide for information about how each function key works within the application you are using.

The following function key combinations are pre-programmed for the NEC Versa 6000.

Fn + **F2** / **Highlight**   **Highlight**

Fn + **F3** / **LCD/CRT**   **LCD/CRT**

Fn + **F5** / **Backlight**   **Backlight**
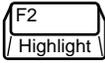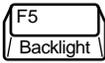
Fn + **F6** / **Speaker**   **System Speaker Volume**
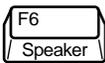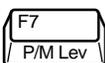
Fn + **F7** / **P/M Lev**   **Power Management (P/M)**
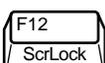
Fn + **F12** / **ScrLock**   **Scroll Lock On/Off**

■ Windows 95 keys — If you have Windows 95, you can use the following two key combinations to facilitate your work.

— **Fn** + **x** – Quick access to shortcut menus

— **Fn** + **z** – Display the Start menu

■ Cursor Control keys — Cursor control keys let you position the cursor on the screen where you want. On the screen, the cursor is a blinking underline, block, or vertical line depending on the application. The cursor indicates where the next text typed is inserted.

■ Typewriter keys — The typewriter keys (also called alphanumeric keys) are used to enter text and characters. Those keys that have blue printing on them behave differently when combined with control keys or the Fn key.

■ Numeric Keypad — Pressing Num Lock on the keyboard activates the numeric keypad numbers and functions printed in blue on the keys.

The keypad lets you type numbers and mathematical operands (+, –) as you would on a calculator. The keypad is ideal for entering long lists of numbers.

When you press Num Lock again, the keys revert to their normal functions as typewriter keys.

■ Control keys — **Ctrl**, **Alt**, **Fn**, and **Shift** are controls used in conjunction with other keys to change their functions. To use control keys, press and hold the control key while pressing another key. For example, "press **Ctrl c**" means to hold down the **Ctrl** key and type the letter **c**. How the key combination works depends on the applications you are running.

NEC VERSAGLIDE

The NEC VersaGlide is an easy way to control the cursor with your finger. Lightly glide your finger across the NEC VersaGlide and the cursor follows. You can select items in one of two ways:

■ Double tap your finger on the VersaGlide.

■ Double click the left button (this is the primary button).
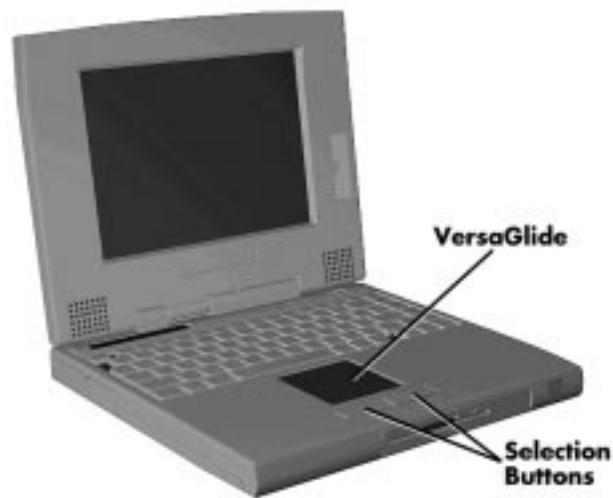
VersaGlide features

Try both ways and decide which you prefer. If you find the double tap difficult to use, go to the next section for general directions about adjusting the touchpad properties.

> **NOTE** If you install another mouse driver over the shipping default, the double-tap capability is lost.

Making VersaGlide Adjustments

The NEC VersaGlide offers a number of options that let you customize how it functions with the cursor. To access these options, locate the Control Panel and double click on the VersaGlide icon. (In Windows 3.11, look in the Main program group; in Windows 95, look in the Settings group.)

The options let you control the size and color of the cursor, the cursor speed, the accepted double-click speed, and selection button orientation. You can also disable the touchpad tap and drag feature.

The NEC VersaGlide also offers an autocentering feature that makes finding the cursor on your screen quick and easy. If you are away from your system and then return, the cursor is always located where you specified on the screen.

Use the NEC VersaGlide online help button for details about configuring your VersaGlide.

VersaGlide Tips

Follow these basic ergonomic tips while working:

■ Use a light touch on the VersaGlide surface.

■ Set up the NEC Versa with your keyboard and VersaGlide at a comfortable height. Keep your forearms parallel to the floor. Your wrists should be relaxed and straight.

■ While using the keyboard and VersaGlide, keep your shoulders and arms as relaxed as possible.

■ Take regular breaks from the computer to rest your eyes. Perform stretching exercises to relax your fingers, hands, wrists, forearms, and shoulders.

See Appendix A, "Setting Up a Healthy Work Environment," for more information.

NEC VERSABAY II

The NEC VersaBay II is the drive bay located below the VersaGlide. Your NEC Versa 6000 ships with a standard 3.5 inch, 1.44-MB diskette drive installed in the bay. However, if you choose, you can remove the diskette drive and install the 6x CD-ROM reader pack that also ships with your system.

Locating the VersaBay II

In addition to the CD-ROM reader, the VersaBay II accepts the following options:

■ a second battery pack

■ a second hard disk drive.

See the *Options Catalog* or your authorized NEC dealer for details about these VersaBay II options.

Removing a Device from the VersaBay II

Use the following steps to remove the standard diskette drive (or other device) from the VersaBay II, and replace it with the 6x CD-ROM reader that ships with the system.

> (NOTE) A CD-ROM reader installed in the VersaBay II must be specified as a slave device in the Setup utility. Also, check that the switch on the back of the reader is set to the right (positioned next to the S for Slave).
>
> If you install a hard disk drive from a Versa model E, V, M, or P in the VersaBay II, it becomes the master drive from which the system boots.

1. Make sure the NEC Versa 6000 is powered off, all options are disconnected, and the LCD panel is closed.

2. Turn the system upside down with the front facing you.

3. Locate the VersaBay II release latches on the bottom of the unit.
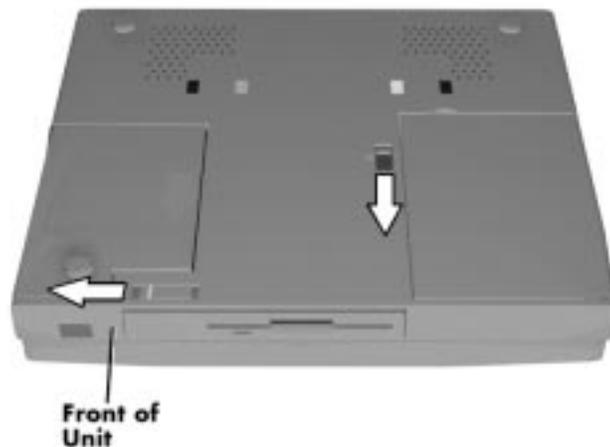
Front of Unit

VersaBay II release latches

4. Slide the front latch towards the hard disk drive side of the system, and hold it.

5. Push the middle latch towards you until the drive pops part way out of the unit.

6. Continue to hold the latch near the front of the system to the left, and pull the device the rest of the way out of the system.

NOTE If you release the front latch before completely removing the device, the device casing catches on the inside of the latch.
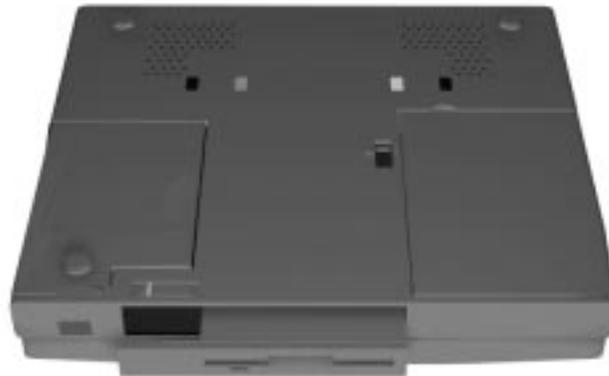
Releasing the device

Installing a Device in the VersaBay II

Use the following steps to install a device in the VersaBay II. Specifically, these steps show how to install the 6x CD-ROM reader that ships standard with the system.

Your system must be powered off before removing or inserting devices in the VersaBay II.

> (NOTE) To use a hard disk drive in the VersaBay II, the drive must be connected to the appropriate adapter. See the *Options Catalog* or your authorized NEC dealer for details about the Hard Disk Drive Adapter Kit.

1. Align the CD-ROM reader in the VersaBay II and push it in until it locks into place.
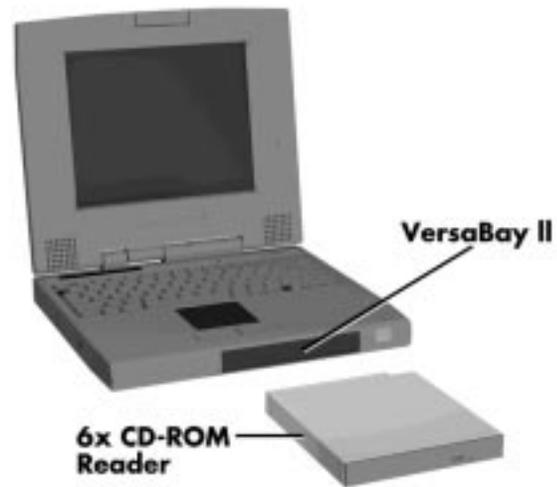
Inserting the CD-ROM reader

2. Power on the system.

Customizing Your System with the VersaBay II

It's easy to customize your NEC Versa using the VersaBay II. If you find you require additional hard disk space or increased battery longevity, simply remove the standard device and plug in an optional hard disk drive or battery.

> (NOTE) If you install a second hard disk drive in the VersaBay II, it can be set to either master or slave.
>
> However, if you use a hard disk drive from a previous NEC Versa model, the drive is set to master. (The Master drive is the drive from which the system boots.)

Add another hard disk drive, or second Li-Ion battery pack as follows.

1. Remove the standard diskette drive or CD-ROM reader from the Versa-Bay II as described in the previous section, steps 1 through 6.

2. Prepare your option for installation as follows:

   ■ To install a battery pack, first connect it to the bay adapter that came with the battery. (Follow the instructions that came with the battery pack.)

   ■ To install a hard disk drive, first connect it to the appropriate bay adapter. (Follow the instructions that come with the adapter.)

3. Align the option and its carrier in the VersaBay II and push it in until the option clicks into place.

4. Turn the system over and power on. The system automatically recognizes the newly installed option.

6X CD-ROM READER

Your NEC Versa 6000 comes with a 6x-CD-ROM reader that features the latest in CD-ROM technology. The CD-ROM reader is assigned the next available drive letter.

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 (see "Audio CDs" in this chapter). The 6x 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.

CD-ROM reader features are shown in the following figure. Descriptions of these features follow.
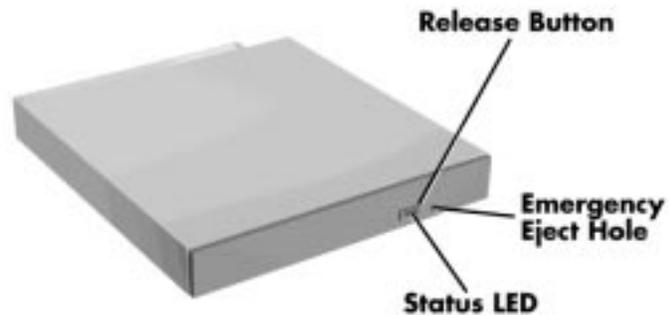
6x CD-ROM reader

■ Release Button — ejects the CD tray. Press this button when power is on to insert a CD into or remove a CD from the reader.

■ Emergency Eject Hole — allows you to manually remove a disc from the CD-ROM reader if the eject function is disabled by software or a power failure occurs.

To remove a disc, insert the end of a paper clip into the eject hole, and push in until you hear a click. Now you can manually open the drawer.

■ Status LED — lights during data read operations. Do not eject the CD or turn off the NEC Versa 6000 when the indicator is lit.

CD Loading

To insert a CD into the CD-ROM reader, follow these steps

1. Press the release button. The CD tray emerges from the reader door.

2. Put your CD, printed side up, into the circular impression in the tray.

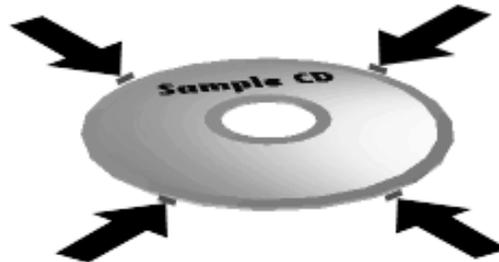**3.** Push the CD tray in until it clicks shut.

> **NOTE** Some CDs vibrate when playing. This does not effect the CD-ROM reader.

CD Care

When handling CDs, keep the following guidelines in mind.

■ Always pick up the disc by its edges.

Holding a CD

- Avoid scratching or soiling the side of the disc that has no printing or writing on it. This is the data side of the disc.

- Do not write on or apply labels to either side of the disc.

- Keep the disc away from direct sunlight or high temperatures.

- Clean fingerprints or dust from the disc by wiping it with a soft cloth. Gently brush the cloth from the center of the disc toward the edge.

⚠ **CAUTION**

Avoid using benzene, paint thinner, record cleaner, static repellent, or any other chemical on the disc. Chemicals and cleaners can damage the disc.

Card Bus/PC Card Slots

Your NEC Versa 6000 notebook integrates two card bus slots for inserting two Type I, or Type II PC cards. You can also insert one Type III PC card.

NOTE This 32-bit CardBus structure is backward compatible, but also accepts new CardBus cards.

Using the system's card bus slots, you can add optional PC cards and connect external devices to your NEC Versa 6000. These devices include peripheral devices, such as modems, LAN cards, and storage cards. For details on how to obtain these options, see the online *Options Catalog*. Also for more information on PC card technology, see the online *Advanced Topics* in the NEC Versa 6000 InfoCenter.

Inserting a PC Card

To insert a PC card, open the slot cover and follow these steps.

> **NOTE** We recommend that you keep the PC card slot cover open when using PC cards, especially if using the card in a warm environment or over an extended period of time. Failure to do so may cause some cards to overheat and damage the card or the system.

1. Align the card so that the 68-pin connector points towards the slot.

2. Slide the card into either slot. A low tone followed by a high tone lets you know that the card is fully inserted and recognized. (If you turn off the sound through Setup or the PowerPanel, no sound is emitted.)

Other two-tone sequences such as high, then low tones indicate that the card is inserted, but the card type is unknown.
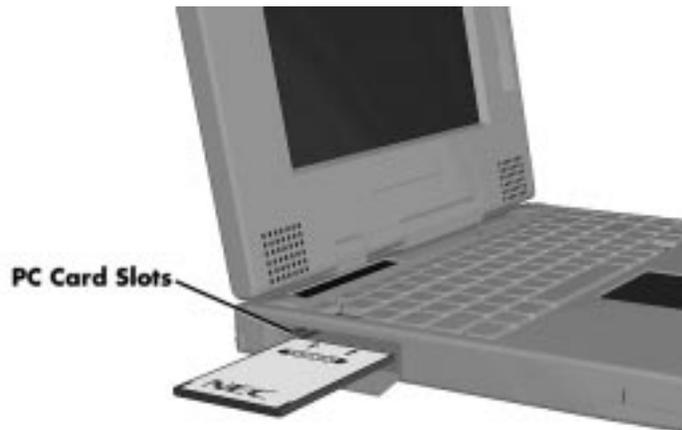
Inserting a card

3. You can use the CardBus™ software preinstalled on your system to check PC card slot availability. For example, look for the CardBus icon on the Windows Program Manager or the PC Card icon in the Control Panel on Windows '95. It shows which slot contains a PC card and which is empty.

Removing a Card

Remove PC cards from Windows for Workgroups (Windows 3.11) systems as follows. Go to step 3 for Windows 95 systems.

1. To remove the card, press the button on the side of the slot. A double tone sounds.

2. Pull the card firmly out of the slot.

> (NOTE) PC cards draw power even when not in use. To save energy, press the button to disconnect the card when it is not in use. You can leave the card in the slot while it is disconnected for easy storage.

Or, remove PC cards from Windows 95 system as follows.

3. From the screen, select "My Computer", then "Control Panel".

4. Select the PCMCIA icon.

5. Select the PCMCIA card to remove, and select "Stop." Windows 95 will alert you if any applications are still using the card. If all applications using that card are closed, then services for that card will be shut down, and you will get a message telling you it is safe to remove the card.

6. Press the button on the side of the PC Card in the slot.

7. Pull the card firmly out of the slot.

Connecting the Built-In Modem

In addition to sending and receiving faxes, the built-in modem (except in Asia) provides one standard phone connector, and one cellular phone connector for transforming your notebook into a speakerphone. NEC provides two analog phone cables (one is a spare) for your convenience.

The built-in modem is also cellular-capable. To use the computer's cellular phone connector, you need to purchase a cellular phone cable from a computer store.

> **NOTE** The NEC Versa 6000 is not a cellular phone. If you want to take advanatge of your system's cellular connector, you will need to use your own cellular phone.

Use the following steps to connect the standard phone cable to your analog phone.

> **NOTE** The Australian version of the NEC Versa 6000 does not have cellular phone support.

1. Locate the analog phone cable in the accessories bag in the NEC Versa 6000 computer shipping carton. One end of the cable is a standard telephone cable connector, and the other end is a flat, two-pin connector.

2. Connect the telephone connector end into a standard wall outlet.

3. Connect the flat-connector end into the computer's telephone line modem port.
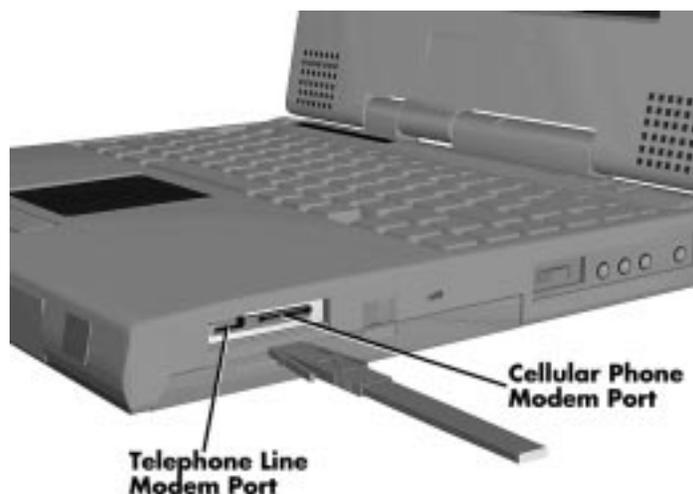
Connecting the telephone cable

Read the following sections for information on using the FaxWorks software loaded on your system to download a file, send and receive faxes, and make a phone call.

> **NOTE** System not equipped with a built-in modem in Asia and Europe.

Downloading a File

To receive data from an outside source, such as the NEC Bulletin Board System (BBS), complete these steps.

1. Double-click the FaxWorks icon in the program group.

2. Double-click the "Call Center" icon.

3. Click "Terminal" to start data mode.

4. Dial **atd** and the phone number of the file's location. For example, if you are downloading a file from the NEC BBS, dial

atd 1-508-635-4706

5. Once connected, follow the on-screen instructions provided to download the file.

Sending a Facsimile

Send facsimiles via your NEC Versa 6000 modem with the FaxWorks software loaded on your system using the following steps.

1. First, change your current printer driver to the FX-WORKS driver on COM-2 as follows:

   ■ Open the document you want to fax in a .doc application, like MS-Word.

   ■ Execute the print command. When in the Print menu, go into Printer Setup, (for example in MS-Word select "Printer.")

   ■ Change the current printer selected to FX-WORKS on COM-2.

2. Select "OK."

3. The FaxWorks Send Fax menu appears. Create the facsimile cover sheet as follows.

   ■ Type in the company or person's name, telephone number and address.

   ■ Choose the cover sheet type. Select "Basic."

   ■ Select "Note." Type in a brief cover sheet message.

   ■ Under Schedule, select "ASAP", or type in the time you would like to send the facsimile. The default setting is the current time.

   ■ Select the type of transmission, "High" or "Standard." High is the default setting and provides a clearer transmission. The "Standard" setting transmits at a faster rate, but may lack clarity.

4. Select "Send." FaxWorks converts the cover sheet, dials the number entered earlier and sends the facsimile.

Receiving a Facsimile

To receive faxes, keep the Call Center menu open and minimized. When you are receiving a facsimile, you will see the following message at the bottom of your screen:

Waiting for Call.

A statement appears asking if you want to answer the call. If a fax machine is calling, the system automatically receives the fax.

In Call Center, select "New Faxes" to view the fax.

Connecting a Cellular Phone

Follow these instructions to connect your cellular phone to your NEC Versa 6000 cellular phone connector. This procedure requires an optional cellular phone cable.

> (NOTE) Cellular phone support does not come standard with models sold in Australia.

1. Connect one end of the cable to your cellular phone.

Connecting a cellular phone

2. Connect the other end to the internal modem.

Making a Call

Use the following steps to make a phone call. The procedure is the same for an anlaog or cellular phone.

1. Dial the number as follows.

■ Click the phone icon in the left-most corner of the FaxWorks Call Center menu.

■ Select speakerphone from the menu.

■ Use your mouse to select the phone number on the telephone keypad. As you select a number, it appears in the keypad box to the left.

■ Select "Dial."

NOTE The built-in microphone located near the suspend button picks up your voice at a comfortable distance. You do not have to speak directly into it.

---

2. Use the on-screen speaker volume setting to adjust the speaker volume.

3. To receive a call,

■ Keep the Call Center menu open and minimized, so that the speakephone icon shows in the upper left corner of the status bar. When you are receiving a call, you will see the following message window appear near the center of your screen:

Answer Call.

■ The FaxWorks speakerphone menu appears. To end the call, select "Hang Up."

4. To check for messages using your notebook's answering machine feature,

■ Open the Call Center in FaxWorks. The top two boxes tells you how many messages you have.

■ To listen to new messages select "Play New."

■ To listen to old messages select "Play Old."

IR Ports

The IR ports on the front (and back) of your system let your NEC Versa communicate with other devices that also use infrared technology. The IR ports are Fast-Infrared (F-IR), Infrared Data Association (IrDA) compatible. You can easily transfer files between your NEC Versa and an IR-equipped desktop, or print to an IR-equipped printer without using cables.

When your NEC Versa 6000 ships, the front port is disabled and the back port is enabled. However, if you dock your system to the optional Docking Station 6000, the back IR port is automatically disabled and the front IR port is enabled.

For the infrared technology to work, you need to follow these guidelines:

■ position the NEC Versa 6000 no more than three feet way from the IR peripheral device you are using, also

■ make sure there is no greater than a 30° angle between the computer and the device.
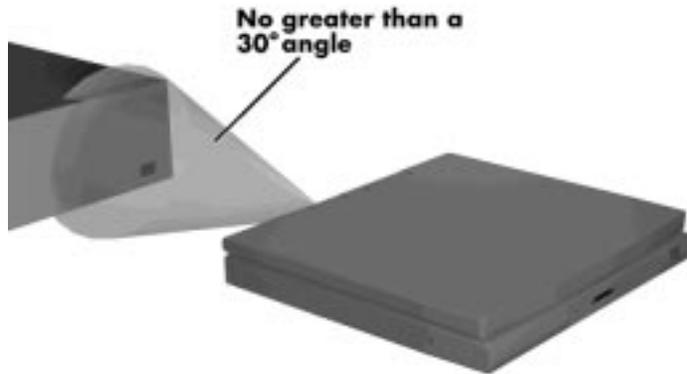
Using an IR port

The LapLink software that ships with your NEC Versa 6000 system provides ways for you to use the IR port. Read the instructions in Chapter 2, "How to Use LapLink," for steps on using the software with the IR port.

INCREASING SYSTEM STORAGE AND MEMORY

As your needs grow and change, you may need to add an optional hard disk drive with a greater capacity, or additional memory. Read the following sections to learn how to install an optional hard disk drive, or a memory module.

Hard Disk

You can increase the system's storage capacity by replacing the standard hard disk drive or adding a second hard disk drive in the VersaBay II. (Adding a second hard disk drive is described in the section "Customizing Your System with the VersaBay II.")

> **NOTE** NEC Versa 6000 hard disk drives can be used in other NEC notebook computers such as the NEC Versa 2000 and 4000 Series systems. However, hard disk drives from earlier models can only be used in the VersaBay II. Check the top of the hard drive for a blue dot. If the the drive case has the blue dot on it, you can use the drive in either the drive bay or the VersaBay II.

Replace the hard disk drive as follows.

1. Check that the NEC Versa power is off.

2. Turn the NEC Versa 6000 upside down with the front of the unit facing you.

3. Remove the drive cover as follows:

■ Locate the drive cover release latch. Push the drive cover release latch up while using some pressure to slide the cover to the left.

■ Lift the cover up and off the system.

Removing the drive bay cover

4. Remove the hard disk drive as follows:

■ Using your fingers, press down on the hard disk drive at the end closest to the connector.

■ While maintaining pressure, slide the drive towards the front of the system.

⚠ CAUTION

Do not lift the drive out of the system before releasing it from the system connector. Doing so can damage the connectors.

■ Once the drive is disconnected, lift the drive up and out of the system.

Press Here
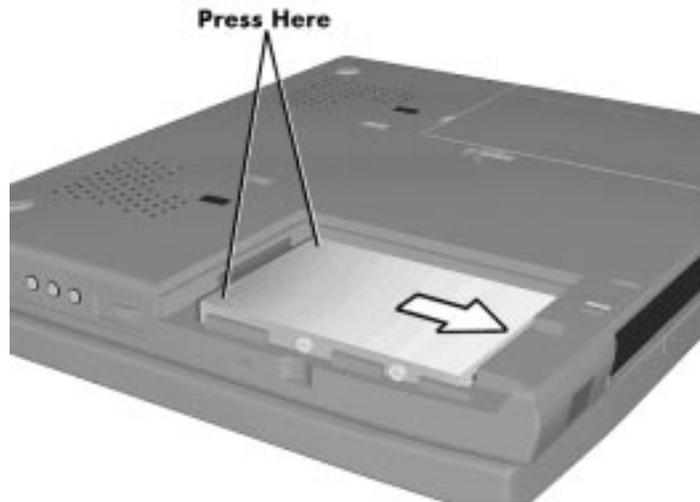
Removing the hard disk drive

5. Lower the new drive into the drive bay and align its connector with the hard disk drive connector in the system.

Hard Disk Drive Connector
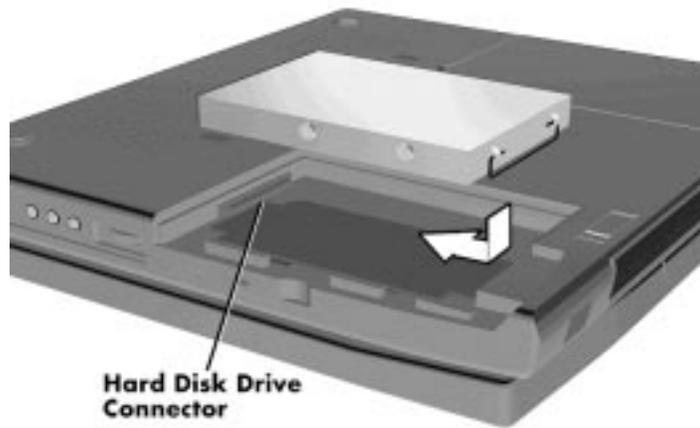
Inserting the hard disk drive

6. Slide the hard disk drive back and push firmly to secure the connection.

7. Replace the cover as follows:

- Align the three tabs on the drive cover with the three notches on the system chassis.

- Slide the cover towards the center of the unit.

- Gently push the cover until it snaps into place.

Replacing the drive bay cover

8. Turn the system over, power on, and run Setup to check the new configuration.

Installing a Memory Module

Your NEC Versa 6000 comes standard with 16 megabytes (MB) of random access memory (RAM). You can increase system memory to a maximum of 80 MB by installing one of the following memory modules in the system.

■ 8-MB memory module

■ 16-MB memory module

■ 32-MB or 64-MB memory module

Use the following steps to install a memory module.

1. Follow steps 1 through 4 in the preceding section, "Hard Disk," to re-move the hard disk drive.

2. Locate the two memory module connectors in the drive bay.

Locating the connector

3. Lower the module into the drive bay. Align the module with the system connectors and corner tab.
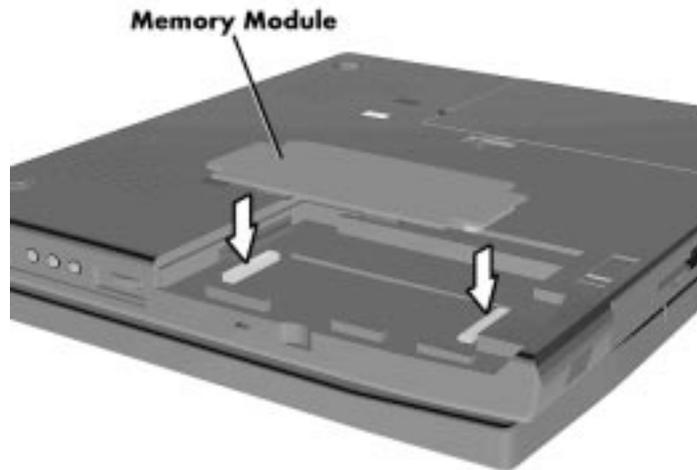
Memory Module

Inserting the memory module

4. Press the module into the connectors.

⚠ CAUTION

Only press the module directly over the connectors. Pressing else-where can damage the module.

---

5. Replace the hard disk drive in the bay as follows:

■ Lower the hard disk drive into the drive bay and align its connector with the connector in the system.

■ Push the hard disk drive firmly to secure the connection.
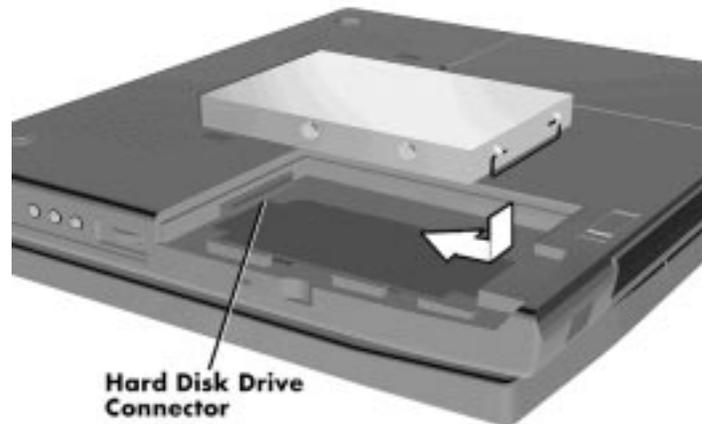
Replacing the drive

6. Replace the cover as follows:

■ Align the tabs on the drive cover with the slots on the system chassis.

■ Slide the cover to the right.

■ Push the cover until it snaps into place.

Tabs (not shown)

Tab

Notch

Notch
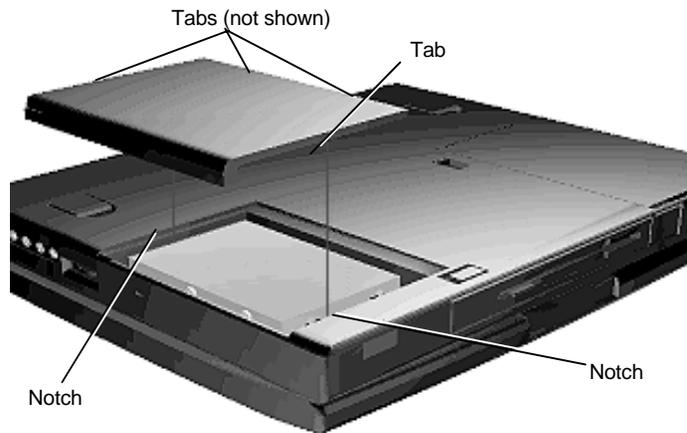
Replacing the cover

7. Turn the system over and power on. The system automatically configures the new memory. The Setup summary screen displays the total memory installed.

INSTALLING OPTIONS

The back of your NEC Versa 6000 notebook provides industry-standard connectors so that you can integrate the following.

■ External monitor

■ Printers (parallel and serial)

■ External keyboard

■ External mouse

■ External bar code scanner

■ External audio options.

In addition, NEC offers the following optional equipment developed to work specifically with your NEC Versa 6000.

■ NEC Versa 6000 Series docking station

■ NEC Versa PortBar 6000

■ NEC Versa 6000 DC car adapter.

See the following sections for steps on using the options.

External Monitor

You can add a standard external monitor to your NEC Versa 6000. You need a display signal cable (usually provided with the monitor). One end of the cable must have a 15-pin connector for the system.

Follow these steps to connect an external monitor to your NEC Versa 6000.

1. Check that the NEC Versa is in Suspend mode or powered off and the monitor power switch is turned off.

> (NOTE) The NEC Versa must be in Suspend mode or powered off while the monitor is being connected.

2. Open the port cover on the back of the system.

3. Attach the 15-pin cable connector to the monitor port on the system. Secure the cable connection with the screws provided.
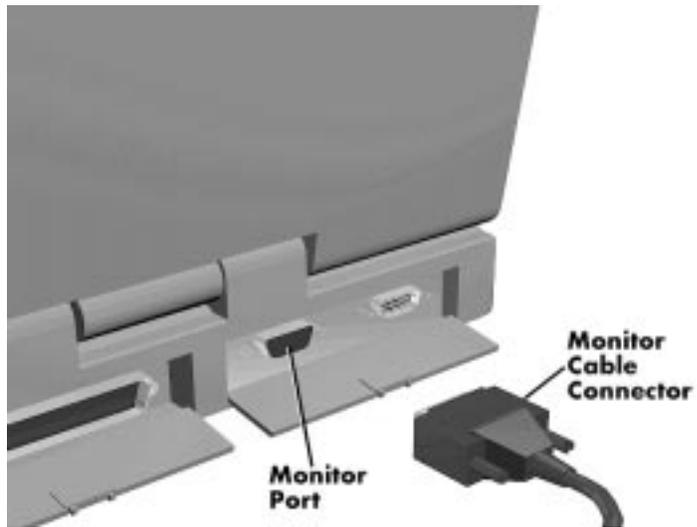
Connecting a monitor

4. Connect the monitor power cable and plug it into a properly grounded wall outlet.

5. Follow any setup instructions in the monitor's user's guide.

6. Turn on power to the monitor.

7. Press the Suspend button to resume Active mode or power on the NEC Versa 6000.

Press the **Fn + F3** function key combination to toggle between the LCD, CRT, or simultaneous display on both.

Printer

You can attach a printer with either a parallel or a serial connector. A parallel printer connector has 25 pins; a serial connector has 9 pins. Some printers come with both types of connectors.

Parallel Devices

To install a parallel device, such as a printer, you need a cable with a male 25-pin connector for the system and, for most parallel printers, a Centronics®-compatible 36-pin connector.

> **NOTE** When you connect a printer, be sure to install the appropriate printer driver through the Windows Control Panel.

Connect a parallel device to your NEC Versa 6000 as follows.

1. Check that both the NEC Versa and parallel device power are off.

2. Open the port cover on the back of the system and locate the parallel port.

3. Align and connect the 25-pin parallel cable connector to the parallel port on the system. Secure the cable with the screws provided.

4. Align and connect the other end of the cable to the parallel port on the device. Lock the connector clips.

Connecting a parallel printer

4. Connect the power cable to the device and a properly grounded wall outlet.

5. Turn on power to the system and the device.

> (NOTE) Check that the device is online before you try to use it. See the instructions that came with the device for more information.

Serial Devices

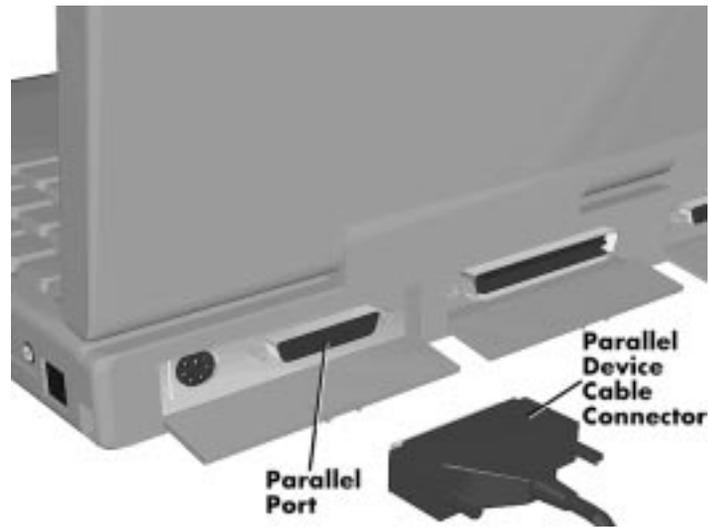To install a serial device such as a printer or an external modem, you need a cable with a female 9-pin connector.

> **NOTE** When you connect a printer, be sure to install the appropriate printer driver through the Windows Control Panel.

Follow these steps to connect a serial device to your NEC Versa 6000.

1. Check that both the NEC Versa and the device power are off.

2. Open the port cover on the back of the system and locate the serial port.

3. Align and connect the 9-pin connector with the serial port on the system. Secure the connection with the screws provided.

4. Align and connect the other end of the cable to the appropriate port on the device. Secure the connections with the screws provided.
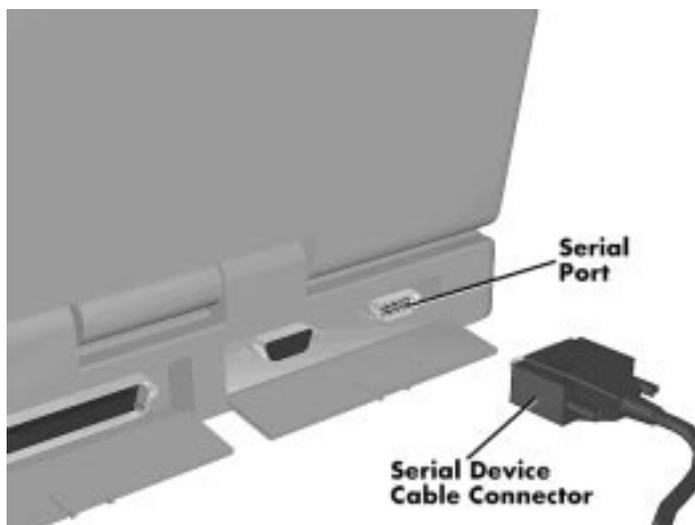
Connecting a serial device

5. Connect the power cable to the device and a properly grounded wall out-
let.

6. Turn on power to the system and the device.

> [NOTE] Make sure your printer is online before trying to print. See the
> printer guide for instructions.

External Keyboard/Mouse

You can add a full-size PS/2-style keyboard or PS/2-style mouse to your
NEC Versa 6000. You can continue to use the system keyboard while an
external keyboard is connected.

If you want to attach both an external keyboard and a external mouse at the
same time, use the optional NEC Y-adapter. For ordering information see
the online *Options Catalog*.

Follow these steps to connect an external keyboard/mouse to your system.

1. Press the Suspend button on the NEC Versa. Check that the system is in
Suspend mode.

⚠ **CAUTION**

Make sure the NEC Versa is in Suspend mode (look for the moon
icon on the Status Bar) or powered off whenever you add or remove
the keyboard. Connecting an external keyboard to the system in Ac-
tive mode can damage the keyboard controller chip.

2. Connect the keyboard/mouse cable connector to the keyboard/mouse port on the system.
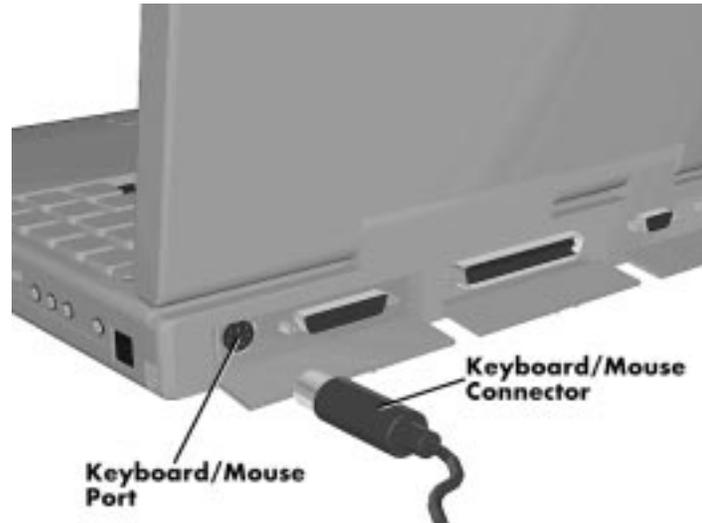
Connecting an external keyboard/mouse

3. Press the Suspend button again to resume Active mode.

The system immediately recognizes the keyboard/mouse.

After you connect an external keyboard, you can use both the built-in keyboard and external keyboard simultaneously. (Only the numeric keypad on the external keyboard works in this case.)

> **NOTE** For instructions on connecting an external keyboard or external mouse to a docking station, see the user's guide that came with your docking station.

External Bar Code Scanner

You can use an external bar code scanner using a PS/2-style connector with your NEC Versa 6000's Plug and Play feature. You can still use the system keyboard while a scanner is connected.

To connect a bar code scanner, follow the instructions under "External Keyboard."

External Audio Options

The NEC Versa 6000 comes equipped with built-in audio ports that let you record and play sound.

Connect audio jacks, like a microphone, headphones, or external speakers to the audio ports as follows.

1. Locate the audio port that you want to use.

2. Plug the jack into the port on the side of the NEC Versa 6000.
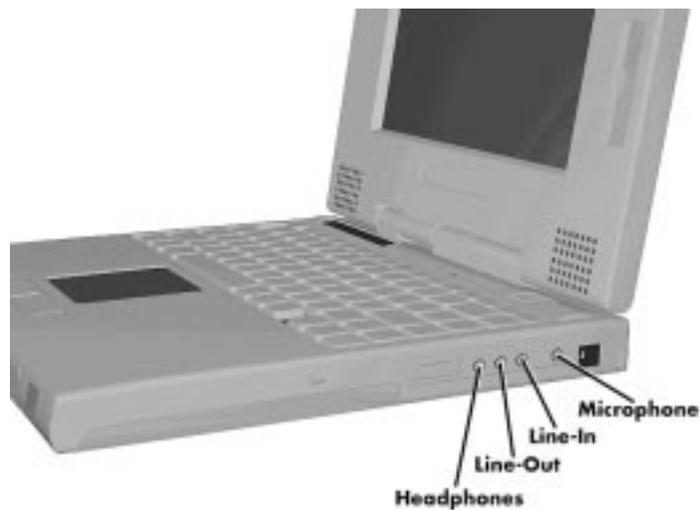
Audio ports

> (NOTE) If you are using external speakers or an external microphone and experience sound distortion or feedback, lower the volume.
>
> Some feedback is caused by having the microphone and speakers too close to each other, so moving the external audio option away from the unit may also help.

NEC Versa PortBar 6000

The NEC Versa PortBar™ 6000 duplicates the ports found on the back of your NEC Versa 6000 system providing the following,

■ Monitor Port

■ External Diskette Drive Port

■ Parallel Port

■ Serial Port

■ Keyboard Port

■ Mouse Port

■ Line Out Port

■ DC In Port.

Keep the PortBar 6000 in your office connected to peripherals while you take your NEC Versa 6000 on the road.

See the instruction sheet that comes with the PortBar or the online *Advanced Topics* for details about installing and using the PortBar.

NEC Versa Docking Station 6000

The optional NEC Versa Docking Station™ 6000 lets you turn your portable computer into a desktop or a full-blown multimedia workstation, providing:

■ three internal expansion slots

■ one internal bay for a hard disk drive

■ two external bays for a 5.25-inch device

■ high-quality speakers.

See the *NEC Versa Docking Station 6000 User's Guide* for instructions on connecting and using the docking station.

NOTE Whenever you dock the NEC Versa 6000, the back IR port is automatically disabled and the front IR port is enabled.

SETTING SWITCHES

A four-position dip switch is located next to the hard disk drive connector in the hard disk drive bay. The following lists each switch setting and its special function.

NOTE Switch settings 3 and 4 are reserved for NEC factory use only.

■ Switch 1, BIOS Flash Protection Switch — The default setting is "ON." Change the setting to "OFF" when you update your system's basic input/output system (or BIOS) flash memory. See "Updating the BIOS" next, to complete this procedure.

■ Switch 2, Password Override Switch — The default setting is "OFF." For example, if you forget your password and cannot access the data on your NEC Versa, change the setting to "ON" and your current password dissolves.

To enter a new password, reset the switch to "OFF," and follow the instructions in Chapter 3, "Using Setup and PowerPanel," to set up a new password. You may want to keep this password in a special place so that you don't forget it again!

■ Switch 3 — Reserved for factory use.

■ Switch 4 — Reserved for factory use.

Updating the System BIOS

Use the following steps to update your NEC Versa 6000 system BIOS with the BIOS Update diskette (BUD). Specifically, the BIOS is the code transmitted onto your system's microprocessor, or central processing unit (CPU).

> **NOTE** You only need to update the BIOS if NEC makes significant improvements or fixes to the current system BIOS. Your authorized NEC dealer, or Technical Support Services representative can help you determine this.

If you are informed that the default BIOS needs an upgrade, to receive a copy of the BUD contact the NEC Versa Diskette Fulfillment Center at (800) 842-6446, or NEC Customer Service and Support (800) 632-4525, Fax (508) 635-4666.

You should only use the BIOS upgrade diskette for your specific model.

> **NOTE** If you purchased and are using this computer outside the U.S., please contact a local NEC office or dealer in your country.

1. Check that computer power is off. Turn you NEC Versa 6000 upside down with the front of the unit facing you.

2. Follow the hard disk drive removal procedures listed previously in the "Hard Disk Drive" section and remove the hard disk drive.

3. Locate switch 1 on the four-position dip switch in the hard disk drive bay.

Locating the switch settings

4. Set the switch to "off" to enable BIOS reprogramming.

5. Replace the hard disk drive and the compartment cover.

Now you are ready to begin the actual update procedure using the following steps.

6. Make sure that the computer is operating under AC power, and that the power is off. Insert the BIOS Update diskette into diskette drive A.

7. Power on the computer with the diskette in drive A. The computer boots and automatically loads the utility. A message similar to the following appears:

```
FLASH ROM EQUIPPED

WARNING: The BIOS Update Procedure
is about to begin, press ENTER to continue.
To abort, remove the diskette and reset the unit.
```

8. Press **Enter** to continue.

The utility checks the currently installed BIOS version and the diskette's BIOS version. The Main Menu appears.

9. Use the arrow keys to highlight the "Display BIOS Version" option on the Main Menu. Use this option to check the currently installed BIOS version and the version of the new replacement BIOS.

   Press any key to return to the Main Menu.

10. Highlight the "Install New BIOS" option and press **Enter**.

11. Press **Y**, then press **Enter**. After a brief pause, a message appears telling you to remove the diskette in drive A.

12. Remove the diskette and press any key to continue. The utility updates the BIOS.

   Power off your computer. The next time you power on your computer, you will have the latest NEC Versa 6000 computer BIOS revision level.

13. When the update is complete, reset the dip switch to the "on" position, and enter Setup to restore the default parameter settings.

5 Using Multimedia

With its fast Pentium™ processor and enhanced audio and video capabilities, you can perform fantastic multimedia feats with your NEC Versa 6000! This section describes the NEC Versa 6000's multimedia features and how you can use them to create high-quality, powerful presentations.

Multimedia combines audio, text, animation, photo images, and video sources into one presentation.

AUDIO

The NEC Versa 6000 provides entertainment-level sound quality through stereo speakers. It handles MIDI files, digital audio files, and analog audio sources. This means the NEC Versa 6000 recognizes .WAV, .MID, and .AVI files. The system is Sound Blaster 16™ compatible.

Recording

All information on a computer must be stored in digital form. Analog audio signals from sources such as tape cassettes or music CDs must be digitized before being recorded and stored on disk.

You can make recordings from two classes of audio input: line level and microphone level. Line level accepts analog audio signals from electronic sources such as tape cassettes, VCRs, and CD players through the Line-In port. Microphone level inputs come through the microphone port.

NOTE When using the built-in microphone, make sure the speaker volume is turned down before enabling the microphone or feedback may occur.

You can use either the Microsoft Sound Recorder or the Creative Labs Wave Studio to record sound on your system. The following procedure gives an example of recording sound from a portable tape player into a file on the NEC Versa. To do this, you need a cable that has an audio jack on both ends.

1. In Windows, locate and open the Audio Station program group. (To use the Microsoft Sound Recorder, look in Accessories for the Multimedia group. Select Sound Recorder.)

2. Open the WaveStudio program.

3. Connect one end of a cable to the external microphone port on the NEC Versa and the other end to your tape player. (The microphone port only records in mono sound. To record stereo, plug the cable into the Line In port.)

4. Use the VersaGlide to press the play button on the screen. (The play button has a red circle in the middle.)

5. On the next screen, enter a file name under the "Record to File" section. If you want to change settings, this screen offers Mixer button and a Settings button. (See the online help for information about using these.)

6. Once your file name and settings are entered, press the Start button.

7. Press the play button on the tape player.

8. A gauge displays the recording information, including the time and file size. Be careful; audio files can become quite large.

9. When you finish recording, press the Stop button and turn off your tape player.

To listen to the sounds you've recorded, use the VersaGlide to press the play button at the top of the screen.

Line-In

Analog signals come in through the NEC Versa 6000's Line-In port. The analog signals are converted into digital bits and bytes (digitized) through a converter known as an ADC (analog-to-digital converter). The resulting digital sound bytes can be stored, edited, processed, and transferred. You can record ambient sound effects, specific sound effects, or music to enhance a presentation.

Ambient sound effects create a sense of place or environment and include sounds such as rain, heavy traffic, chirping birds. *Specific* sound effects accent or illustrate an action. Examples of specific sound effects include footsteps, a crash, a clock chime. There are many sources of prerecorded sound effects available on the market, or, you can record your own sounds.

Line-In accepts analog signals from external devices such as a tape deck, a stereo CD-player, a docking station, or a stereo tuner. The Line-In port has a mini-type connector. You may need an adapter to connect your input device to the NEC Versa 6000 through Line-In.

> NOTE Using Line-In does not disable the internal speakers.

CD-ROM Input

You can record music and sound effects from a CD (compact disc) and store them on your hard disk. The audio signal from a CD-ROM reader, such as the NEC MultiSpin™, CD-ROM connects directly to your NEC Versa 6000. Simply follow these instructions to record sound from your CD player.

1. In Windows, locate and open the Audio Station program group. (To use the Microsoft Sound Recorder, look in Accessories for the Multimedia group. Select Sound Recorder.)

2. Open the WaveStudio program.

3. Use the VersaGlide to press the play button on the screen. (The play button has a red circle in the middle.)

4. On the next screen, press the CD Player button. A CD player control panel appears on your screen.

5. Select the track that you want to record and press Start. Press the Stop button when you've recorded as much of the track as you want.

6. A gauge displays the recording information, including the time and file size. Be careful; audio files can become quite large.

> **NOTE** Watch your file size while making recordings. Audio tracks require a lot of disk space. The file size is noted in the bottom right-hand corner of the WaveStudio screen.

7. Use Save As to save your file to disk.

8. Press the stop button on the CD control panel to stop the CD.

To listen to the sounds you've recorded, use the VersaGlide to press the play button at the top of the screen.

Microphone

You can capture and record sounds through the internal microphone on the NEC Versa 6000 or through an external microphone that connects to the system through the microphone port. You can record voice-overs for narrations for narration, reminders, or special instructions.

> **NOTE** The internal microphone is disabled when the LCD is closed.

See "Recording", explained earlier in this chapter, for details about recording sound with the microphone. Although the example given shows how to record sound from a tape, the procedure is the same for recording with a microphone.

Mixing

With the Audio Station software on your NEC Versa 6000, you can mix data from two separate wave files to create a new sound file. You can also mix the microphone volume to create soft background sounds to accompany a voiceover or another more prominent sound. Mixing lets you to blend digital and MIDI audio files to get the final, high-quality soundtrack you want.

The following example shows how to mix a music soundtrack with a voiceover.

1. Open AudioStudio and activate the file from which you want to copy sound.

2. Using the VersaGlide and the left selection button, highlight the part of the sound that you want to copy. (Press the Play button to check the portion you've selected.)

3. From the Edit menu, select Copy.

4. Open the file where you want to add the sound clip and position your cursor where you want the clip to go.

5. From the Edit menu, select Paste Mix. A mixer dialog box appears.

6. Select the channels that you want used when copying the sound on the clipboard into the receiving file.

See the online help that is available with the WaveStudio for more information.

Playing Back

You can play back your recorded soundtrack through stereo headphones, the internal NEC Versa 6000 stereo speakers, or external stereo speakers. You can play .WAV and MIDI files as well as CD audio. Adjust the volume through the software or with the volume control knob on the right side of the system. (A volume control feature can be found in Accessories.)

Play audio from files or audio devices as follows. (This example shows how to use the Media player option in Accessories. You can also play audio through the Audio Station. See the Audio Station help files for details on its use.)

1. From the Accessories group, highlight the Multimedia Media Player option.

2. Select your audio source as follows:

   ■ If playing a file, use the File menu to specify the file name.

   ■ If playing from a device, use the Device menu to select your audio source.

3. Once your file is open or your source specified, press the play button.

4. Press the square Stop button to stop playing the audio.

Using Headphones

The NEC Versa 6000 headphone port delivers sound at half a watt. The stereo headphones plug in through the headphone jack located on the right side of the NEC Versa 6000. Adjust the volume with the audio software on the NEC Versa 6000.

If the software sets the volume to medium, the knob controls volume from low to medium. If software sets the volume to high, the knob controls volume from low to high.

Using the Built-In Speakers

The NEC Versa 6000 has built-in stereo speakers that are always available. Adjust the volume through the software or with the volume control knob located on the right side of the NEC Versa 6000. Use the **FnF6** function key combination to toggle the level of the speaker volume.

Using External Stereo Speakers

For full stereo sound impact, you can plug a pair of stereo speakers into the line-out jack located on the right side of the system. Adjust the volume through software, with the volume control knob located on the right side of the system, or through the controls on the speakers.

MIDI Files

The musical instrument digital interface (MIDI) lets you enhance a presentation by adding computer-generated music and sound effects. Using MIDI, you can record multiple tracks of performances from a master controller, such as a keyboard, and orchestrate playback on one or more instruments. You can also purchase a wide range of public domain and commercial recordings in MIDI format.

MIDI files require only a fraction of the storage space of digital audio files.

VIDEO

The NEC Versa 6000 features a dazzling TFT 64-K color high-resolution display for sharp effective visuals right on the Versa or projected onto an external CRT monitor. The NEC Versa 6000 super VGA TFT display has the industry's first high resolution of 800 x 600 pixels.

The NEC Versa 6000 comes with the Microsoft Video for Windows player. Your system has hardware assisted MPEG which supports full motion, full-screen MPEG video. In Windows for Workgroups, the Xing player gives you MPEG capabilities; in Windows 95, the Mediamatics Arcade player gives you MPEG capabilities.

Access either the Microsoft or the MPEG video player as follows:

1. Open the Media Player in accessories.

2. Under Device, select the video player you want to use.

3. Open your file and press the play button. (To play full screen MPEG video, you may need to press the Window maximize button to bring your video to full size.)

Using Digital Video Files

With commercial video capture hardware and application software, you can plug any video device, including VCRs, televisions, camcorders, and laser disc players into your NEC Versa 6000 and record motion graphics to your hard drive.

Use a video frame grabber and store a stream of grabbed stills on your hard disk.

Using Animation Files

You can create a dynamic presentation using an animation application. Animation can illustrate a concept, drive home an important point, or command attention. Graphics animation can add punch to a presentation with an animated illustration, a flashing arrow, or a flying logo.

MULTIMEDIA APPLICATIONS

A growing number of multimedia applications are available for PC users. These multimedia software packages include graphics packages, animation software, and presentation authoring systems as follows:

■ Animation software allows you to create 3-D effects and 3-D titles and add interest to an otherwise static presentation.

■ Authoring packages let you pull all the elements of your design into an exciting, interactive multimedia presentation.

For example, the VideoSaver software package that comes preloaded on your system gives a variety of full-screen video clips that you can use as screen savers. Simply select VidSaver from the list of screen savers in your Windows list.

VideoSaver

The VideoSaver software package that comes preloaded on your system gives a variety of full-screen MPEG video clips that you can view or use as screen savers. Simply select VidSaver from the list of screen savers in your Windows list. Modify how the screen saver runs as follows.

> **NOTE** When running MPEG video clips as a screen saver, power management will not occur due to the disk and panel activity.

1. Double click the Display icon in the Control Panel.

2. Go to the Screen Saver tab and select Videos.

3. Press the Preview button to see the current video clip selected. To modify the video settings, press the Settings button.

   The settings screen shows the available video clips and gives you options to:

   ■ Rearrange the order in which the clips appear.

   ■ Mute the sound.

   ■ Preview the videos available.

6 Traveling with Your NEC Versa 6000

The NEC Versa 6000 makes a natural traveling companion. Using a battery, you can use the computer anywhere you go. Here is some information you might find helpful when taking the NEC Versa on the road.

■ Carry an extra charged battery pack (and its VersaBay II adapter) for additional battery power.

■ Check that you have everything you need before you leave on a trip. Be sure you have all the necessary cables and accessories. (See the checklist at the end of this chapter.)

■ If you run your system with battery power, maximize battery life by using power-saving features whenever possible.

■ Take the AC adapter in case you have an electrical outlet handy. This saves battery power for when you really need it.

■ Take along any application or data files on diskette that you might need.

POWER CONNECTIONS

With the right accessories, you can run your NEC Versa 6000 almost anywhere! Your system self-adjusts to various power sources. The United States, Canada, and most of Central and South America use 120-volt alternating current (AC). Most other countries of the world use 240-volt AC. The NEC Versa 6000 adapts to voltages ranging from 100 to 240 volts.

There are a few countries with areas that use direct current (DC) as their main power source. You need a DC-to-AC converter in particular areas of Argentina, Brazil, India, Madeira, and South Africa.

To use your system overseas, you need an adapter plug. There are five different plugs available worldwide. You can buy these at an electronics supply store.

CHECKLISTS

The following checklists can help you prepare for your trip with your NEC Versa 6000. Look them over and use what fits your situation.

What to Take

The following are what you should take with you when you travel with your NEC Versa.

- Extra fully charged batteries (and a VersaBay II battery adapter)

- Single-outlet surge protector

- Appropriate AC plug adapter

- Copy of proof of purchase for computer and other equipment for customs check

- Customer support phone numbers for your software

- *NEC Versa 6000 Series Quick Reference*

- AC extension cord.

> **NOTE** When using a modem outside the U.S. and Canada, you might need an international telephone adapter. You can buy this at an electronics supply store.

Preparing Your NEC Versa for Travel

Here is what you should do before you leave home:

> **NOTE** Speed the trip through airport security by carrying a charged system. Inspectors want to see the screen display a message. The boot message is usually sufficient.
>
> If your system is fully charged, the inspection only takes a minute or so. Otherwise, be prepared to attach the AC adapter and power cable. And if you don't have these, the inspection might include a disassembly of the system.

- Back up your NEC Versa's hard disk.

- Put your system into Suspend or Standby mode so you can quickly boot up at the airport security check.

- Fully charge all your batteries.

Tape your business card to your NEC Versa, AC adapter, and batteries.

7 Solving Problems

Once in a while you may encounter a problem with your NEC Versa 6000. The Online Information program group has *Questions and Answers* that might be helpful to you.

If the screen is blank, the instructions don't help, or no error message appears, use the information here to determine and fix the problem. You still may be able to solve the problem yourself!

PROBLEM CHECKLIST

First check the items in the following list. If these items don't help, see the table that follows the list.

■ Power is on to the computer.

■ The electrical outlet to which your AC adapter is connected is working. Test the outlet by plugging in a lamp or other electrical device.

■ All cables are tightly connected.

■ The display setting is configured correctly.

■ The display's brightness control is adjusted properly.

■ If using battery power, check that the battery pack is properly inserted and fully charged.

Troubleshooting

PROBLEM	WHAT TO DO
The system does not power on.	If you are operating the system with battery power, check that the battery pack is correctly inserted. Attach the AC adapter to recharge the battery.
	If you have the AC adapter attached, check that the electrical outlet you are using works.

Troubleshooting

PROBLEM	WHAT TO DO
LCD screen is dark and blank.	Power-saving mode has shut off the backlight. Press a keyboard key or the Suspend button.
	The built-in LCD may not be selected. Press **Fn F3** once or twice.
	Brightness control needs adjustment. Adjust the control.
	The system entered Suspend mode due to low battery power. (Check the Status bar for a half-moon icon.) Plug in the AC adapter or replace the battery pack, then press the Suspend button to resume operation.
Battery power does not last long.	Use power-saving modes.
Information on the LCD screen is difficult to see.	Adjust the brightness control.
An optional component does not work.	Make sure the component is securely installed or connected. Verify that the system parameter for the I/O port configuration is set correctly in Setup.
The Suspend/Resume button does not work.	A disk drive might be busy. Wait until the disk drive stops and try again.
	The NEC Versa may be connected to a docking station. Some power management functions do not work when the NEC Versa is docked.

START-UP PROBLEMS

The system displays an invalid configuration error message at power on when there are the following conditions:

■ the current configuration information doesn't match configuration information stored in Auto Setup, such as when an internal option is added.

■ the system loses configuration information.

If either condition is true, the system displays an "invalid configuration information" message.

To continue start-up procedures, press **F2** and run the Setup utility to set current system parameters.

If an error message appears before the operating system starts, look up the error message in the following table. Follow the instructions. If you see other error messages, the hardware might need repair.

> **NOTE** When the NEC Versa detects an error related to display devices, it cannot display on either the LCD or a CRT. The system warns you by beeping.

POST Error Messages

The NEC Versa 6000 has a built-in checking program that automatically tests its components when you turn the system power on. This diagnostic test is called the Power-On Self-Test (POST). If the system finds a problem during the POST, the system displays an error message. If this happens, follow the instructions in the POST error message table.

POST Error Messages

MESSAGE	WHAT TO DO
Diskette drive A or B failure or	Drive A does not work or is not properly connected. Drive A is the diskette drive.
No Floppy Drive	Check that drive A is securely connected and power is on.
	Press **F2** to start Setup to check the diskette drive parameters.
	If there's still a problem, the drive might need repair.
General Failure Reading Drive A or Diskette Read Failure – press **F2** to run Setup. Press any other key to retry boot	Remove the diskette from drive A and press **F2** to start the system from the hard disk.
	Or, insert a bootable disk in drive A and press any other key.

POST Error Messages

MESSAGE	WHAT TO DO
Non-system disk or disk error; Replace and press any key when ready	Remove the diskette from drive A and press any key to start the system from the hard disk. Or, insert a bootable disk in drive A and press any key.
Operating System Not Found or Fixed Disk Failure 0	Press **F2** to start Setup. Change the hard disk type to the correct setting. Exit and save Setup changes.
Invalid configuration information – run Setup program	One or more system configuration parameters are not properly set. Start Setup, set them correctly, and exit and save to update the parameters.
Real time clock failure	Set time and date using Setup. Exit and save to update the parameters.
Time-of-day not set – run Setup	Set the time and date using Setup. Exit and save Setup changes to update the parameters.
System CMOS Checksum Bad – run Setup or Press (F1) to resume, (F2) to setup.	Press **F2** to enter Setup. Under Exit, set the default values. Under Main, set the date and time. Save your changes and exit.
Fixed disk configuration error	Start Setup. Exit and save to update the parameters. Check to see if the hard disk connector is seated properly. If there is still a problem, the hard disk might need repair.
Fixed disk failure	Press **F2** to start Setup. Exit and save to update the parameters. Check to see if the hard disk connector is seated properly. If there is still a problem, the hard disk might need repair.
Fixed disk controller failure	Press **F2** to start Setup. Exit and save to update the parameters. Check to see if the hard disk connector is seated properly.

POST Error Messages

MESSAGE	WHAT TO DO
	The hard disk controller does not work and might need repair.
Keyboard clock line failure	Unplug external keyboard if attached. Have the keyboard repaired.
Keyboard data line failure	Unplug external keyboard if attached. Have the keyboard repaired.
Keyboard controller failure	Unplug external keyboard if attached and reboot the system. If it still fails, have the system repaired.

(NOTE) Repeated keystrokes during boot may produce an error message.

xx Key Stuck Keyboard Error	A key is jammed. Remove any obstruction you find.
	You may have repeatedly pressed the **F2** key when trying to enter Setup.
	If the error message remains, the keyboard may need repair.

USING THE RESTORE CD

If you are running the Windows 95 operating system, you can use the Windows 95 Restore CD that comes with your NEC Versa 6000 to restore system software.

If you selected the Windows for Workgroups operating system and want to complete the Restore procedure, you need to exchange the Windows 95 CD that ships with your system for the appropriate Windows for Workgroups Restore CD. Call the NEC Diskette Fulfillment Center at 1-800-842-6446 for information on receiving the Windows for Workgroups Restore CD.

The Recovery CD gives you the following two options if you experience file corruption or loss of applications due to a system failure:

■ File Recovery

NEC lets you restore individual files in the DOS-based or Windows 95 environment. The DOS-based version restores all application files to their original state (excluding operating system files). The Windows 95 version gives you the option of restoring specific files only.

■ System Recovery

NEC lets you perform a system recovery in the DOS-based or Windows 95 environment. The System Recovery option provides a *full* system recovery. This option lets you restore your system to its original factory-shipped state. Full System Recovery reformats Hard drive C and erases all information on the disk. It then restores files on drive C from the System Recovery CD.

> (NOTE) Remember to complete the Restore procedure in Windows for Workgroups, you need to exchange the Windows 95 CD that ships with your system for the appropriate Windows for Workgroups Restore CD. Call the NEC Diskette Fulfillment Center at 1-800-842-6446 for information on receiving the Windows for Workgroups Restore CD.

Restoring All Application Files in DOS

Restore all application files (not the operating system) to your hard disk as follows:

1. Insert the Recovery CD into the system's CD ROM reader. Power on the NEC Versa 6000 system.

2. Select "File Recovery" , **ALT+F**, to restore all original files that were on the hard disk C from the Restore CD.

3. Read the onscreen "Restore Files" explanation and press **Alt C** to continue.

4. Press **Alt Y** if you are sure you want to continue.

5. Read the onscreen license agreement and select "I agree", **ALT+I**, to continue.

6. The System Refill screen appears. Select "Ok" to start the file recovery procedure.

7. The application files are restored. Select "Ok" to complete the procedure. Remove the Recovery CD.

Restoring Individual Files in Windows 95 and Windows for Workgroups

Restore individual files to your hard disk as follows:

1. With system power on, insert the NEC Versa Series Product Recovery CD into the CD-ROM reader.

2. On the Windows 95 desktop, double click "My Computer."

3. In WFWG, open file manager and select the CD-ROM reader drive (when the system ships this is the e: drive).

4. Double click the CD-ROM reader "(e:)" icon. The NEC System Restore screen appears.

In Windows for Workgroups, select the "Tools" directory. Next, select "Safetycd.exe".

The rest of the procedure is the same for both operating systems as described in the following steps.

> NOTE To complete the Restore procedure in Windows for Workgroups, you need to exchange the Windows 95 CD that ships with your system for the appropriate Windows for Workgroups Restore CD. Call the NEC Diskette Fulfillment Center at 1-800-842-6446 for information on receiving the Windows for Workgroups Restore CD.

5. At the System Restore screen, click "OK" to restore individual files. A license agreement appears.

6. Read the license agreement and click "I agree" to continue. The Restore Individual Files screen appears. The screen is divided into two areas:

■ Select files to restore — This is where you select the specific files you want to restore.

■ Check list of files to be restored — This area lets you check the files you selected for restoration.

The following sections explain how to use the Restore Individual Files screen. Complete all sections to restore your files.

Selecting Files

Under "Select files to restore," select your files as follows:

1. From the left dialog box, highlight the directory that contains the files you want to restore.

2. From the right dialog box, highlight the files you want to use:

■ To restore all of the files listed, click "Select all of the above." This highlights and selects all the files listed.

■ To restore only some of the files listed, click the file or files you want. This highlights the appropriate file or files.

3. Once your files are highlighted, select the appropriate button under the list. The buttons include:

■ Add selected files to list — click this button to add the selected files to the list of files to be restored.

■ Clear all selections — click this button to deselect the files listed.

4. Repeat steps 1 through 3 to select files from other directories. Continue until all the files you want restored are selected.

Checking Selected Files

To continue the restoration process, check the files to be restored as follows.

1. Look at the list of files in the "Check list of files to be restored" area of the screen.

2. If you need to add any files to the list, go back to the preceding section and repeat those steps.

3. If you need to remove any files from the list, do so as follows.

- To remove only selected files, highlight the file name and click "Delete item in list." This method lets you remove one item at a time.

- To remove the entire list, click "Clear list."

Once the list is set, continue to the next section.

Restoring the Files

Complete the restoration process as follows.

1. In the "Restore the files listed" area of the screen, locate the two options:

- Restore the files listed — this option lets you proceed with the restoration and continue to the next step. Go the next step to complete the restoration.

- Cancel — click this option to cancel the restoration. This returns you to the NEC System Restore menu.

2. To proceed with the restoration, click "Restore the files listed." When the restoration is completed, a file restore message appears.

3. Click "OK."

4. If you replaced any Windows system files, exit Windows and reboot the system.

System Recovery

If your preinstalled software becomes unusable and you cannot reboot from the hard disk, you can restore your system to its initial shipping configuration.

System Recovery *erases* and resets the hard disk *completely* before reinstalling the files.

⚠ CAUTION: If you are doing a Full System Recovery, ALL files on the hard drive will be deleted and replaced by the factory installed files.

A Full System Recovery should only be used if the preinstalled software is unusable. If you are unsure about using this procedure, call the NEC Technical Support Center (TSC). TSC representatives will help you determine if this is your situation. See "Getting Help" at the end of this chapter for the technical support telephone number.

System Recovery in DOS

The System Recovery requires booting from the Restore CD. Use the following procedure to start the system recovery procedure. The procedure takes about 10 to 15 minutes, depending on the size of your hard disk.

NOTE To complete the Restore procedure in Windows for Workgroups, you need to exchange the Windows 95 CD that ships with your system for the appropriate Windows for Workgroups Restore CD. Call the NEC Diskette Fulfillment Center at 1-800-842-6446 for information on receiving the Windows for Workgroups Restore CD.

1. Insert the Recovery CD into the system's CD ROM reader. Power on the NEC Versa 6000 system.

2. Select "System Recovery."

3. The System Recovery screen appears. Press **Alt C** to continue.

NOTE Do not interrupt the System Recovery process. Wait until the procedure is complete before accessing your system.

4. The next screen appears confirming the start of System Recovery. Press **Alt C** to continue. A license agreement appears.

5. Select "Yes" to continue.

6. Read the license agreement and click "I agree" , **ALT+I**, to continue. The Start System recovery screen appears.

7. The Start System Recovery screen states that the procedure will automatically reformat the hard drive and reinstall all system applications. Press **Enter** to start the procedure.

The system reboots. Now wait a few minutes for the hard drive to reformat and extract all files.

8. You will see a message similar to the following.

The hard disk drive has been successfully rebuilt! Remove the CD and reboot your machine.

Select "Ok" and remove the Restore CD.

9. Power on the system. Follow the online instructions to reinstall the operating system. The operating system (Windows 95 or Windows for Workgroups) remains the same as the one installed prior to performing the System Recovery.

For example, if you chose Windows 95 as your initial operating system, complete the installation procedures for Windows 95.

Restoring System Files in Windows 95 or Windows for Workgroups

Restore application and operating system files to your hard disk as follows:

1. With system power on, insert the NEC Versa Series Product Recovery CD into the CD-ROM reader.

2. On the Windows 95 desktop, double click "My Computer."

NOTE To complete the Restore procedure in Windows for Workgroups, you need to exchange the Windows 95 CD that ships with your system for the appropriate Windows for Workgroups Restore CD. Call the NEC Diskette Fulfillment Center at 1-800-842-6446 for information on receiving the Windows for Workgroups Restore CD.

---

3. In Windows for Workgroups, open file manager and select the CD-ROM reader drive (when the system ships this is the e: drive).

4. Double click the CD-ROM reader "(e:)" icon. The NEC System Restore screen appears.

   In Windows for Workgroups, select the "Tools" directory. Next, select "Safetycd.exe."

   The rest of the procedure is the same for both operating systems as described in the following steps.

5. Select "Refill Hard Drive."

6. Select Alt I to agree to the license agreement.

7. Select "Refill from System Restore CD."

8. When the process completes, press **Enter** and remove the Restore CD. Reboot your system and reset system parameters.

IF YOU NEED ASSISTANCE

If you have a problem with your computer, first review the checklist and troubleshooting table in the previous section.

If you still have a problem, call the NEC Technical Support Center (TSC), toll free, at 1-800-632-4525. Direct technical assistance is available 24 hours a day, seven days a week.

NOTE: If you purchased and are using this product outside the U.S., please contact the local NEC office or their dealers for the support and service available in your country.

GETTING HELP

NEC is ready and willing to help you with our products. Here's how to reach us.

> **NOTE** If you purchased and are using this product outside the U.S., please contact the local NEC office or their dealers for the support and service available in your country.

NEC Versa Diskette Fulfillment Center: (800)842-6446

NEC provides driver files and BIOS updates free of charge through our Bulletin Board System (BBS). Also, diskettes containing these updates can be mailed at a rate of $15/per disk for duplication, shipping and handling.

NEC Customer Technical Support Center: (800) 632-4525

For assistance in resolving problems that arise while using your NEC Versa 6000 notebook computer.

NEC Customer Service: (800) 632-4525

Fax: (508) 635-4666

Spare parts ordering, warranty claims, repair services, and service authorizations.

NEC FastFacts (U.S. and Canada): (800) 366-0476

International: (708) 860-9500, x2621

Automated fax service that offers product brochures, installation procedures, quick reference guides, promotional forms, troubleshooting information, and more.

NEC Electronic Bulletin Board: (508) 635-4706

Remote database system containing files that are dedicated to enhancing the functions of NEC products. It also gives general public access to drivers for NEC products to be used with various software applications.

CompuServe Password:	"GO NECTECH"
Internet Address:	tech-support@NECTECH.com
America Online:	nectech@aol.com
Worldwide Web Address:	www.nec.com

NEC is a member of TSANet (Technical Support Alliance Network).

NEC WARRANTY/NON-WARRANTY REPAIR SERVICE

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, or through your NEC authorized dealer.

Direct assistance is available 24 hours a day, 7 days a week. Call the Technical Support Center (TSC) at 1-800-632-4525 for the following support:

■ Preinstalled software — toll-free phone support for 90 days from your first phone call.

   After the initial 90 days, get preinstalled software support for a fee.

■ System hardware — toll-free phone support for three years after the date of purchase (standard warranty).

   For hardware support after the 3 year warranty, get system hardware support for s fee.

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 message errors that occurred.

> NOTE Free technical specifications, troubleshooting tips and other helpful information for out-of-warranty products are available through NEC FastFacts at 1-800-366-0476 and requesting catalog number seven.

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.

NOTE 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.

> (NOTE) To increase your comfort and safety when using your note-book computer as your primary computer system at your home or office, note the following recommendations:
>
> ■ use a separate, external keyboard attached to your notebook computer
>
> ■ use a separate, external monitor attached to your notebook computer.

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. Position your notebook computer directly in front of you for increased safety and comfort.

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 (90° to 105°). 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

Note the following points when positioning your notebook computer or any external input devices.

■ 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 the 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 SCREEN OR MONITOR

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

- Adjust the height of your screen or external monitor 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 or external monitor.

- Position your screen or external 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 screen or external 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 or external monitor.

- If reflected light makes it hard for you to see your screen or external monitor, use an anti-glare filter.

- Clean your screen or external 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 screen or external monitor's brightness and contrast controls to enhance readability.

- Use a document holder placed close to the screen or external monitor.

- 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.

NOTE 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.

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.

B Specifications

The following specifications are standard except where noted.

System Processor

■ NEC Versa 6000 — P54LM/100 (Intel Pentium-100)

■ NEC Versa 6030 — P54CSLM/133 (Intel Pentium-133)

Architecture

64-bit Peripheral Component Interconnect (PCI)

Random Access Memory (RAM)

Standard Main Memory — 16-MB high-speed interleaved access

Optional Expansion — 1 slot. Expandable in 8-MB, 16-MB, 32-MB, or 64-MB increments. Maximum 80 MB total.

Video RAM — 2 MB

Cache RAM — L1: 8 KB for code, 8 KB for data; L2: 256 KB

Read-Only Memory (ROM)

256 KB x 8 bit, Flash ROM

Calendar Clock

Year/month/day/hour/minute/second maintained by internal back-up battery

Input/Output (I/O) Facilities

Integrated industry-standard interfaces

■ Parallel — 1 port, 25-pin D-sub

■ Serial — 1 port, 9-pin D-sub

■ Infrared — 2 ports, 1 on front of system; 1 on back, IrDA-1 compatible

■ VGA — 1 port, 15-pin high-density D-sub

- External Keyboard/External Mouse — 1 port, PS/2, 6-pin MiniDin; exclusionary use or both supported with optional Y-adapter

- Expansion — 1 port, for optional NEC Docking Station 6000, optional PortBar 6000, or optional External Diskette Drive.

- Modem (except in Asia and Europe) — 2-pin tip/ring connector, 9-pin cellular phone connector

- Mono MIC IN — 1 port, 3-pin, Mini Pin Jack

- Stereo Headphones — 1 port, 3-pin, Mini Pin Jack, .5 watts per channel

- Stereo Line-In — 1 port, 3-pin, Mini Pin Jack

- Stereo Line-Out — 1 port, 3-pin, Mini Pin Jack

- DC In — 1 port, for AC adapter cable

Main Battery

Type — Lithium Ion (Li-ION), eight-cell

Output Voltage — 14.4 V

Capacity — 2,600 mAh

Battery Life — Approximately 2-4 hours depending on model, with power management features enabled.

Recharging Time — Approximately 2.5 hours when the system is on or off.

Speakers

2 built-in, 1.5 watts (W) each with a maximum 3W output

- 16-bit stereo, 44.1 Khz

- Sound Blaster-16 compatible

- MIDI Roland: MPU401,UART Mode compatible

Modem (except in Asia and Europe)

28.8 Kbps V.34; Data/Fax/Voice Modem; speaker phone and answering machine features

Card Slots

Two 32-bit card slots for two Type I/Type II PCMCIA cards or one Type III PCMCIA card, 5 V or 3.3 V interface

LCD Display

■ 11.3-inch active matrix Thin Film Transistor (TFT) CCFT Super VGA (SVGA) single-backlit color

Resolution — 800 x 600 pixels

Dot Pitch — 0.29 mm

Colors — 256,000/18 bits

■ 12.1-inch high resolution active matrix Thin Film Transistor (TFT) CCFT Super VGA (SVGA) single-backlit color

Resolution — 800 x 600 pixels

Dot Pitch — 0.306 mm

Colors — 256,000/18 bits

■ 12.1-inch high resolution active matrix Extended Graphics Array (XGA) color display

Resolution — 1024 x 768

Dot Pitch — 0.24 mm

Colors — 256,000/18 bits

Keyboard

Membrane 83 keys with standard QWERTY-key layout, (79 keys for International)

■ Function keys — 12 keys

■ Cursor Control keys — 8 keys; arrow keys arranged in inverted T layout

■ Numeric keypad — embedded

■ Fn key — function key for ROM-based key functions

■ Stroke — 3 mm

Diskette Drive

Standard 1.44-MB drive

■ Size — 3.5 inch

■ Capacity — 1.44 MB (formatted), 2 MB (unformatted)

■ Access Time (average) — 94 ms

- Transfer Rate — 250 to 500 K/bps

- Interleave 1:1

- Controller— NS PC87338VJG

Hard Disk Drive
Internal 2.5-inch, removable IDE hard disk drive

1.08-GB Hard Disk Drive Specifications

Unformatted — 1.08-GB

Formatted — 1-GB

Track-to-track seek rate — 4 ms

Average seek time — 13 ms (read), 14 ms (write)

Revolutions per minute — 4000

Data transfer rate — 16.6 MB/sec

Media data rates — 53.9 − 33.6 Mbps

1.35-GB Hard Disk Drive Specifications

Unformatted — 1.35-GB

Formatted — 1.3-GB

Track-to-track seek rate — 3 ms

Average seek time — 13 ms (read), 14 ms (write)

Revolutions per minute — 4200

Data transfer rate — 16.6 MB/sec

Media data rates — 44.9 − 24.7 Mbps

1.44-GB Hard Disk Drive Specifications

Formatted — 1.44-GB

Track-to-track seek rate — 4 ms

Average seek time — 13 ms (read), 14 ms (write)

Revolutions per minute — 4009

Data transfer rate — 16.6 MB/sec

Media data rates — 61.8 − 39.6 Mbit/sec

6x-speed CD-ROM Reader

External 5-inch CD-ROM Pack

Data Capacity — 2,048 bytes/block mode 2,336 bytes/block mode 2

Data Transfer Rate — 900 kilobytes (KB)/second (mode 1), 1026 KB/second (mode 2)

Burst Transfer Rate — PIO mode 3

Access Time — 190 milliseconds (ms)

Memory Buffer — 128 KB

Interface — IDE

Photo CD Compatibility — Multisession Photo CD, Single Session Photo CD, Video CD, CS-I, CD-I Ready, CD-G and CD-Plus)

Power

AC Adapter

- Input Voltage — 100 to 240 volts (V) AC, 50 or 60 Hz, 1.0 A

- Output Voltage — 18.5 V DC, 2.45 A (45.5W)

- Australia, Europe and Asia use an AC power cable specific to each country's standards.

Battery Pack

- Type — eight-cell Lithium Ion (Li-Ion)
- Output Voltage — 14.4 V
- Capacity — 2,600 mAH

■ Battery Life — Approximately 2–4 hours, depending on model, under typical operating conditions.

■ Recharging Time — Approximately 2 hours when the system is on or off.

■ Bridge Battery — Fully charged, backs up memory contents and system status for up to 5 minutes under Suspend mode.

Dimensions

System

■ Width — 11.69 in. (297 mm)

■ Depth — 9.49 in. (240.5 mm)

■ Height — 2.17 in. (53.5 mm)

Battery Pack

■ Width — 3.5 in. (89.5 mm)

■ Depth — 5.2 in. (134.5 mm)

■ Height — 0.81 in. (20.7mm)

Weight

NEC Versa 6000 TFT — 7.1 lb (3.22 kg)

Battery Pack — 1.16 lb (527.6 kg)

Recommended Environment

Operation

■ Temperature — 41°F to 95°F (5°C to 35°C)

■ Relative Humidity — 20% to 80% (Noncondensing)

Storage

■ Temperature — -4°F to 104°F (–20°C to 40°C)

■ Relative Humidity — 20% to 80% (Noncondensing)

Index

Peripheral Component Interconnect (PCI), 1-2
POST error messages, 7-3
Power button, 1-5
Power connections, 6-1
Power LED, 1-4
Power management and PowerPanel, 3-13
power management modes, 1-6
Power management under AC, 3-7
Power Panel menu, 3-12
Power savings
   highest performance, 3-7
   longest battery life, 3-7
   off, 3-7
Power sources, 1-13
Powering on, 1-15
Power-on self test (POST), 3-1
PowerPanel, 2-6, 3-10
   AC profile, 3-12
PowerPanel default settings, 3-11
Power-saving modes
   Local standby, 6-3
   Suspend, 6-3
Precautions, 1-26
Preparing your NEC Versa for travel, 6-2
Printer, 4-33
Problem checklist, 7-1

R

Recharging the battery, 1-16
Removing a device from the VersaBay II, 4-7
Removing a new password, 3-10
Replacing the battery pack, 1-18
Restore CD
   how to use, 7-5
   system recovery in DOS, 7-10
Restore individual files, 7-6
Restoring individual files in DOS, 7-6

Restoring individual files in Windows 95, 7-7

S

Security, 3-8
Serial port, 1-9
Setting an initial password, 3-9
Setting system parameters, 3-4
   hard disk drive, 3-7
   peripherals, 3-7
   power savings, 3-7
Setting time and date, 3-6
Setting up a healthy work environment, A-1
Setup key functions, 3-3
Setup main screen, 3-1
Setup utility, 2-6, 3-1
   main screen, 3-6
Smart switch, 1-5
Sound Blaster 16, 5-1
Speaker phone, 4-16
Speakers, 4-1
Start-up problems, 7-2
Status icons
   battery 1, 1-5
   battery 2, 1-5
   battery status, 1-5
   cap lock, 1-5
   diskette drive, 1-5
   hard disk drive, 1-5
   num lock, 1-5
   power management, 1-5
   scroll lock, 1-5
   suspend, 1-5
Stereo speakers, 1-3
Storage requirements, 1-27
Support
   phone numbers, 7-13
Suspend button, 1-5
Suspend mode, 6-3

Suspend warning tone, 3-8
Switch settings, 4-40
System care, 1-26
System date, 3-6
System features
    back, 1-8
    bottom, 1-12
    front, 1-3
    left side, 1-9
    right side, 1-10
System recovery, 7-6, 7-9
System software, 2-1
System time, 3-6

T

Technical support
    inside U.S., 7-12
    outside U.S., 7-12
Technical support center (TSC), 7-12
Traveling checklist, 6-2
Traveling with your system, 6-1

U

UltraCare guide, 2-5
Updating the BIOS, 4-41
Using keyboard lock, 3-10
Using LCD panel controls, 4-1
Using the battery pack, 1-16
Using the modem, 4-18
Using the NEC VersaGlide, 4-4
Using the setup utility
    time/date, 3-7
Using the speakerphone, 4-16
Using Windows 95, 2-5

V

VersaBay II, 4-6
    customizing your system, 4-10
VersaGlide, 1-7
    adjustments, 4-5
    tips, 4-5

VideoSaver, 5-8
Volume control, 1-10

W

Windows 95, 2-2
Windows 95 keys, 4-3
Windows for Workgroups, 2-3
Windows QuickStart 3.11 guide, 2-5

Y

Y-adapter, 4-36
Y-cable adapter, 1-8

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

This equipment is a Class B digital apparatus which complies with the Radio Interference Regulations, C.R.C., c.1374.

Cet appareil numérique de la classe B est conforme àu Règlement sur le brouillage radioélectrique, C.R.C., ch.1374.

Battery Replacement

A lithium battery in your computer maintains system configuration information. In the event that the battery fails to maintain system configuration information, NEC recommends that you replace the battery.

WARNING: There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Battery Disposal

Your bridge battery (not your main battery) is made of Nickel Metal Hybrid (NiMH). The bridge battery must be collected, recycled, or disposed of in an environmentally-approved manner.

Your main battery, made of Lithium Ion (Li-Ion), and your CMOS lithium battery are not recyclable.

The incineration, landfilling, or mixing of Li-ION and NiMH batteries with the municipal solid wasted stream is prohibited by law in most areas.

Contact your local waste management officials for other information regarding the environmentally sound collection, recycling, and disposal of the batteries.