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***NEC V6060 Series***

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First Printing — July 1997

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# Using this Guide

The *NEC Versa® 6060 User's Guide* gives you the information you need to maximize the use of your NEC Versa notebook computer. Read this guide to familiarize yourself with your NEC Versa 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.
- Chapter 3, “Using Setup,” to customize your notebook’s parameter and power management settings.
- Chapter 4, “Using Your NEC Versa,” for an understanding of system 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,” 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 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.



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 6060 notebook computer:

- Your *NEC Versa 6060 Quick Setup* sheet.
- Your *NEC Versa 6060 Quick Reference* card.

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# Contents

## Using this Guide

Text Setup.....	ix
Related Documents .....	x

## 1 Getting Started

Getting to Know Your NEC Versa System .....	1-2
Around the System — Front.....	1-3
LCD.....	1-3
Controls.....	1-4
Status Icons .....	1-5
Keyboard.....	1-6
NEC VersaGlide.....	1-6
Diskette Drive, CD-ROM Reader and the NEC VersaBay II™.....	1-7
IR Port and Microphone.....	1-8
Around the System — Back.....	1-10
Around the System — Left Side.....	1-11
Around the System — Right Side.....	1-12
Around the System — Bottom.....	1-14
Power Sources for Your NEC Versa .....	1-15
Using the AC Adapter.....	1-15
Powering On.....	1-17
Using the Main Battery Pack.....	1-17
Determining Battery Status .....	1-18
When to Replace the Battery .....	1-19
Battery Handling.....	1-19
Replacing the Battery Pack .....	1-20
Battery Precautions.....	1-23
Recharging Battery Precautions .....	1-24
Optional Second Battery .....	1-24
Extending Battery Life.....	1-25
Using the DC Car Adapter .....	1-25
Internal Batteries .....	1-26
CMOS Battery .....	1-26
Bridge Battery .....	1-26
System Care .....	1-26

---

Precautions .....	1-26
Storage Requirements .....	1-27
Routine Cleaning .....	1-28

## 2 Introducing the Software

Windows Introduction.....	2-2
Windows 95 .....	2-2
Windows NT .....	2-3
Windows for Workgroups .....	2-4
DOS Introduction .....	2-5
NEC Versa Help Center .....	2-5
Additional Online Topics .....	2-6
Guide to NEC Utilities .....	2-7
Setup Utility .....	2-7
NEC Customize Utility .....	2-7
HDPREPEZ Utility .....	2-7
Other Software .....	2-7
Client Manager .....	2-8
LapLink.....	2-8
How to Use LapLink.....	2-9
McAfee VirusScan.....	2-10
McAfee WebScan.....	2-10
MediaMatics Arcade MPEG Player .....	2-11
Xing MPEG Player.....	2-11

## 3 Using Setup

Setup Utility .....	3-1
How to Enter Setup.....	3-1
Setup Utility Main Menu .....	3-2
How to Use Setup.....	3-2
Looking at Screens.....	3-3
Using Keys .....	3-4
Checking/Setting System Parameters.....	3-4
Setup Menus.....	3-8
Using Setup to Set Power Management .....	3-12
Using the Save to File (STF) Feature.....	3-12
STF Benefits .....	3-13

---

## 4 Using Your NEC Versa

LCD.....	4-1
Keyboard.....	4-2
NEC VersaGlide.....	4-4
Making VersaGlide Adjustments .....	4-5
VersaGlide Tips.....	4-6
NEC VersaBay II .....	4-6
Removing a Device from the VersaBay II.....	4-7
Installing a Device in the VersaBay II.....	4-9
Customizing Your System with the VersaBay II .....	4-11
20X CD-ROM Reader .....	4-12
CD Loading.....	4-13
Card Bus/PC Card Slots .....	4-14
Inserting a PC Card .....	4-14
Removing a PC Card from Windows for Workgroups .....	4-15
Removing a PC Card from Windows 95.....	4-16
Removing a PC Card from Windows NT.....	4-16
IR Port .....	4-17
Increasing System Storage and Memory .....	4-18
Hard Disk Drive .....	4-18
Installing a Memory Module .....	4-21
Installing Options.....	4-25
External Monitor .....	4-26
Printer .....	4-28
Parallel Devices .....	4-28
Serial Devices.....	4-29
External Keyboard/Mouse.....	4-31
External Bar Code Scanner .....	4-32
External Audio Options.....	4-33
NEC Versa Docking Station 6000 Plus .....	4-34
NEC Versa MiniDock 6000 .....	4-34
NEC Versa PortBar 6000 .....	4-35
Floppy Disk Drive (FDD) Connector Kit.....	4-35
Setting Switches .....	4-36
Updating the System BIOS .....	4-37

---

<b>5 Using Multimedia</b>	
Audio.....	5-1
Recording.....	5-1
Line-In .....	5-4
CD-ROM Input .....	5-4
Microphone .....	5-4
Mixing.....	5-5
Playing Back .....	5-5
Using the Built-in Speakers.....	5-6
Using Headphones .....	5-6
Using External Stereo Speakers .....	5-6
MIDI Files.....	5-7
Video.....	5-7
Using Digital Video Files .....	5-7
Using Animation Files.....	5-8
Multimedia Applications .....	5-8
VideoSaver .....	5-8
<b>6 Traveling with Your NEC Versa</b>	
Power Connections .....	6-1
Checklists.....	6-2
What to Take.....	6-2
Preparing Your NEC Versa for Travel.....	6-3
<b>7 Solving Problems</b>	
Problem Checklist.....	7-1
Start-Up Problems .....	7-3
POST Error Messages .....	7-4
Using the Restore CD .....	7-6
Supplemental CD for Windows NT.....	7-7
If You Need Assistance.....	7-8
Getting Help .....	7-8
NEC Warranty/Non-Warranty Repair Service.....	7-9

---

**A Setting Up a Healthy Work Environment**

Making Your Computer Work For You..... A-1  
Arrange Your Equipment ..... A-2  
Adjust Your Chair ..... A-2  
Adjust Your Input Devices ..... A-3  
Adjust Your Screen or Monitor ..... A-4  
Vary Your Workday ..... A-5  
Pre-Existing Conditions and Psychosocial Factors ..... A-5

**B Specifications**

**Glossary**

**Index**

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# 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.

After completing the steps in the quick setup sheet that comes with your computer, your NEC Versa 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 your NEC Versa. (The *System Tour* is in the Windows NEC Information group under the NEC Versa 6060 Help Center.)
- View the online system *The Basics*. (*The Basics* is in the Windows NEC Information group under the NEC Versa 6060 Help Center).
- Read this guide to familiarize yourself with the NEC Versa.

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## GETTING TO KNOW YOUR NEC VERSA SYSTEM

The NEC Versa 6060 Series notebook computer offers you a portable system filled with exciting resources for home, business or travel. Standard features include a powerful Intel® Pentium 166 MMX™ microprocessor that works together with the latest Peripheral Component Interconnect (PCI) architecture.

Your NEC Versa 6060 model integrates Intel's MultiMedia Extensions (MMX) technology. MMX speeds audio, video, and 3D graphics processing, ultimately providing more distinct sound and visuals for your presentations. More advantages include increased floating-point performance, and a more efficient bus.

In addition, your system provides a high-performance hard disk drive, diskette drive or VersaBay II SuperDisk LS-120 drive, interchangeable 20X CD-ROM reader and Personal Computer Memory Card International Association (PCMCIA also known as PC card) support. 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!

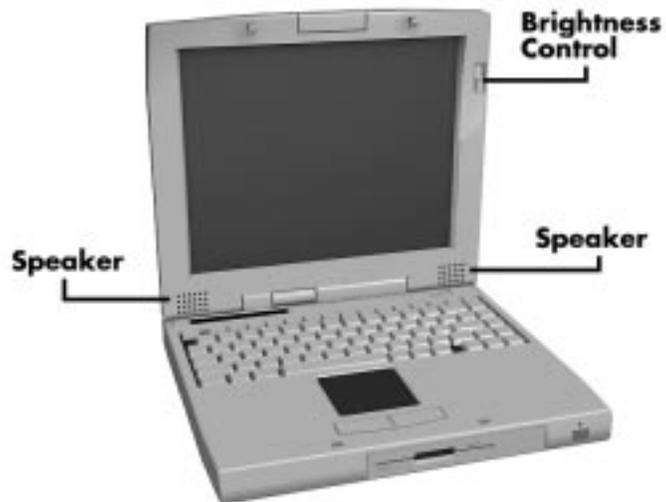


*NEC Versa 6060 notebook computer*

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## Around the System — Front

The NEC Versa is compact with features on every side. First, look at the front of your NEC Versa system. The following sections describe front features, beginning with the Liquid Crystal Display (LCD) panel (the screen area).



*LCD features*

## LCD

Your NEC Versa system comes with a color LCD that you can adjust for a comfortable viewing position. The LCD is a 12.1-inch Thin Film Transistor (TFT), Super Video Graphics Array (SVGA) display.

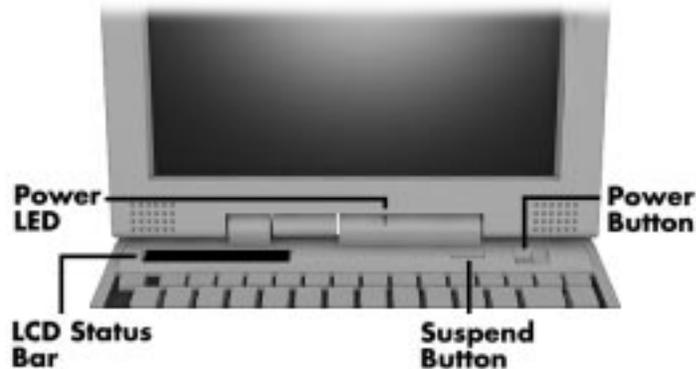
Additional LCD panel features include:

- Built-in Stereo Speakers — provide stereo sound for your multimedia presentations, or listening pleasure.
- Brightness Control — a slide switch that adjusts screen brightness. Moving the switch up increases the screen contrast.

---

## Controls

NEC Versa system controls are shown in the following figure. These features are described after the figure.



*Controls*

- **LCD Status Bar** — A liquid crystal status bar 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.
- **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 your NEC Versa system out of Suspend mode and back to where you were before entering Suspend.

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 NEC Versa 6060 Help Center.

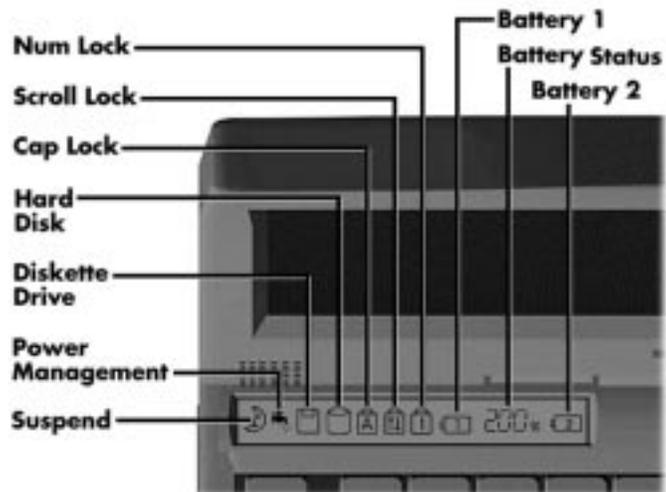
- **Power Button** — slide the power button to the right to power on and power off the computer.

---

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 the system until you press the suspend button again to bring it out of Suspend mode.

### **Status Icons**

Your NEC Versa system uses an LCD status bar for communicating operating status via ten status icons. 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, Custom, High Performance, or Longest Life.
- Diskette Drive — appears when your NEC Versa writes data to or retrieves data from a diskette drive or VersaBay II SuperDisk LS-120 drive.

- 
- **Hard Disk** — shows when your NEC Versa writes data to or retrieves data from the hard disk.
  - **Caps Lock** — appears when Caps Lock is in effect.
  - **Scroll Lock** — shows that Scroll Lock is in effect.
  - **Num Lock** — appears when Number 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. See “Optional Second Battery,” later in this chapter for more information.

## **Keyboard**

The NEC Versa keyboard uses 83 keys (79 keys for international systems), with the standard QWERTY-key layout. See Chapter 4, “Using the Keyboard” for complete details. You can also refer to the online information in the NEC Versa 6060 Help Center.

## **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, or use the advanced tapping features. More detailed VersaGlide information appears in Chapter 4, “Using Your NEC Versa.”



*NEC VersaGlide*

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

A diskette drive or NEC Versa SuperDisk LS-120 drive comes installed in the NEC VersaBay II on the front of your system, depending on the NEC Versa model purchased. You can use this device, or remove it from the VersaBay II and replace it with the 20X CD-ROM reader that also ships with your system. It's your choice!

The VersaBay II lets you add options, including a 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 or suspend your system before installing an option. Hot swapping is not supported, although warm swapping (Windows 95) is supported and when swapping the CD-ROM reader, diskette drive or Super Disk LS-120 drive.



### **IR Port and Microphone**

You will find an IR port for connecting your NEC Versa system to external devices (like printers, other computers and any device that supports IR technology) and a built in microphone for recording with your NEC Versa. For an understanding of each feature, see the descriptions that follow the figure.

- **Built-in Microphone** — allows you to record monophonic sound directly into your notebook computer. You do not have to speak directly into the microphone. Feel free to speak into the microphone at a comfortable distance.

- 
- **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. Your NEC Versa will support either FIR (Windows 95 only), MIR or SIR transfer rates.

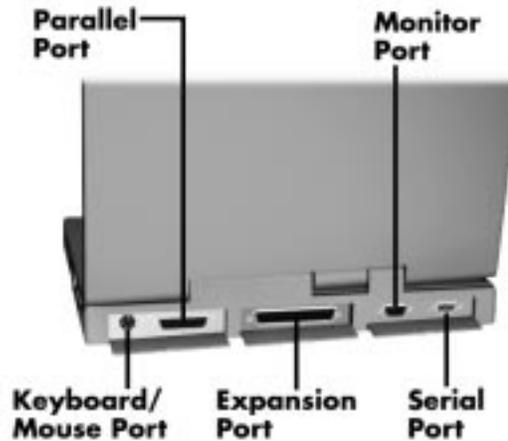


*IR Port and Built-in Microphone*

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## AROUND THE SYSTEM — BACK

You'll find system ports for connecting your NEC Versa system to optional devices (like a printer, docking station, or external monitor) on to 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-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 Extended Capabilities Port (ECP). The ECP standard provides you with a greater processing speed than the conventional parallel port. It also supports bi-directional and unidirectional and Enhanced Parallel Port (EPP).
- **Expansion Port** — This port provides a connection for NEC Versa options including the NEC PortBar 6000, NEC Versa Docking Station 6000 Plus, NEC Versa MiniDock 6000 and floppy adapter.

- 
- **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. This port does not support serial pointing devices.

### **AROUND THE SYSTEM — LEFT SIDE**

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

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

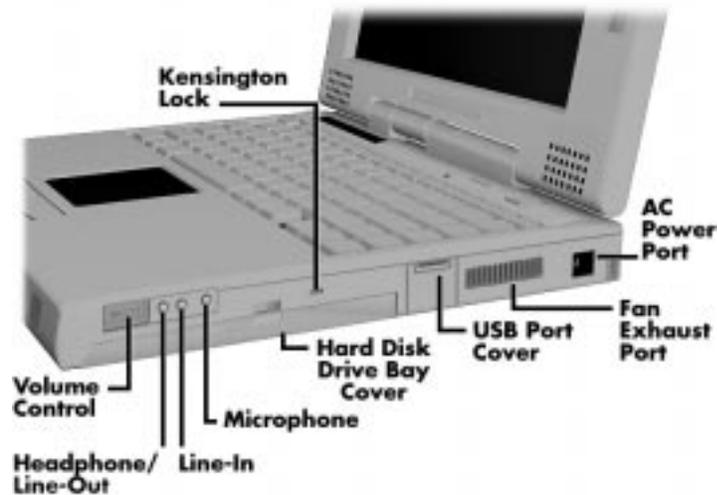


*Left side features*

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## AROUND THE SYSTEM — RIGHT SIDE

The hard disk drive cover release, Kensington lock socket, audio ports, USB port, fan exhaust port and AC power port are located on the right-side of your NEC Versa system. For an understanding of each feature, see the descriptions that follow the figure.



*Right side features*

- Volume Control — Allows you to control the speaker volume.
- Headphones/Line-Out — Lets you connect external headphones, speakers or audio system to your NEC Versa system. Using this port disables the built-in system speakers.
- Line-In — Lets you use another audio system, like a home stereo, as an input source. Use a the 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.
- Hard Disk Drive Bay Cover — The hard disk drive bay contains the removable hard disk drive. Depending on your NEC Versa's configuration, it contains a 2.1-GB hard disk drive or 3.2-GB hard disk drive.

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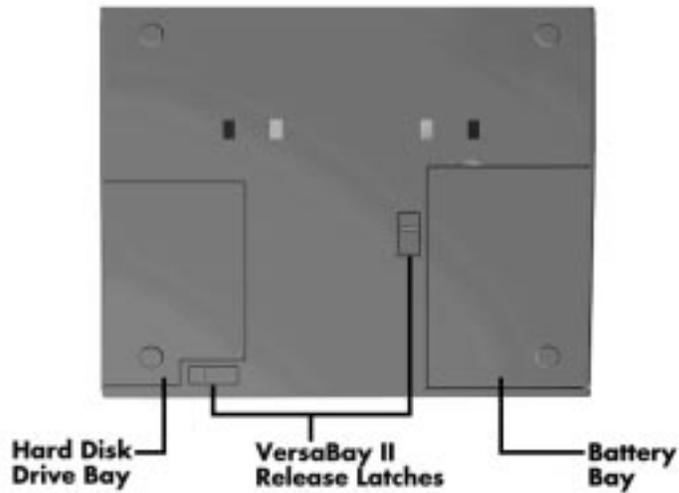
Refer to the “Hard Disk” section in Chapter 4 for installation and removal instructions.

- **Kensington Lock** — Lets you provide added security by installing an optional Kensington Lock.
- **USB Port** — The Universal Serial Bus (USB) allows the connection of up to 127 peripheral devices (printers, monitors, scanners, etc.) to your NEC Versa.
- **Fan Exhaust Port** — This port provides air flow from the interior of the computer to assist in keeping the system running at optimal performance.
- **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 system 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. Also, if you remove the hard disk drive, you'll see two connectors for installing one additional memory module. The hard disk drive bay also contains six dip switch settings. These are explained in Chapter 4, "Using Your NEC Versa."
- **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 a removable Lithium Ion (Li-Ion) battery.

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## POWER SOURCES FOR YOUR NEC VERSA

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

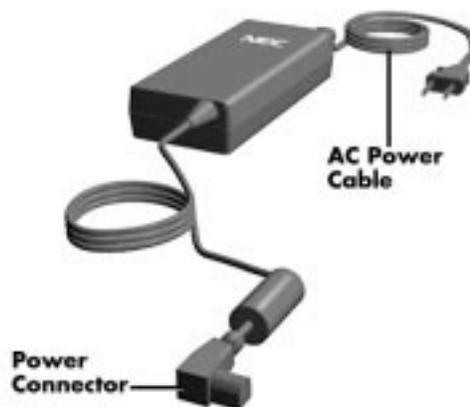
- the AC adapter connected to an electrical wall outlet (using AC power)
- the battery pack or an optional second battery pack
- the optional DC adapter connected to a car cigarette lighter.

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 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 your NEC Versa.



*NEC Versa 6060 AC adapter*



### **CAUTION**

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



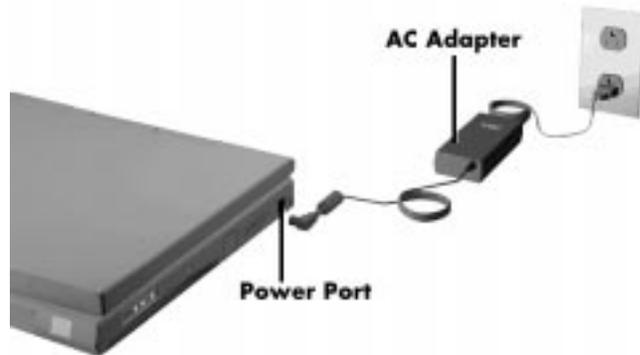
Check that the AC outlet voltage falls in the range of 100–240 Volts AC. Verify that the cord and plug are appropriate for your AC source.

Connect the AC adapter as follows:

1. Connect the AC adapter cable to the power port on the right side of your NEC Versa system.
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 you're using it in. Contact the local dealer to purchase the correct power cable.



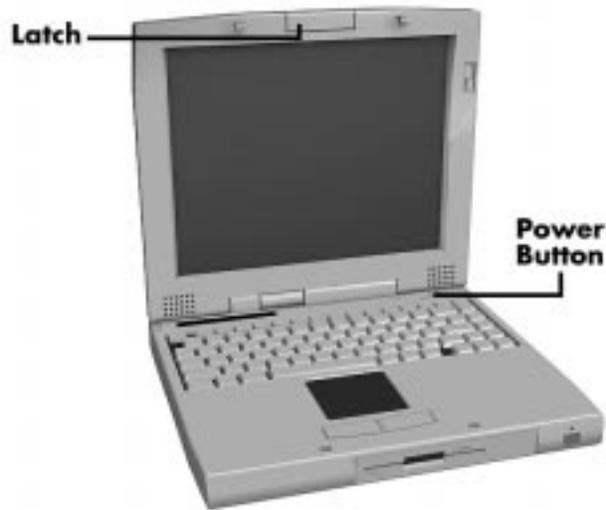
*Connecting the AC adapter*

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## **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**

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

Your NEC Versa system integrates status icons in the LCD Status Bar that appear in the window panel located above your keyboard. Two battery icons display to help you keep track of the main battery (or second battery if installed) power level. See the "Status Icons" section earlier in this chapter for a description of the battery icons. Both let you know how much battery power remains.

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. The battery recharges in approximately 2 hours.

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



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

### **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 *The 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 batteries installed, two battery icons 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%).

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 Replace 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.

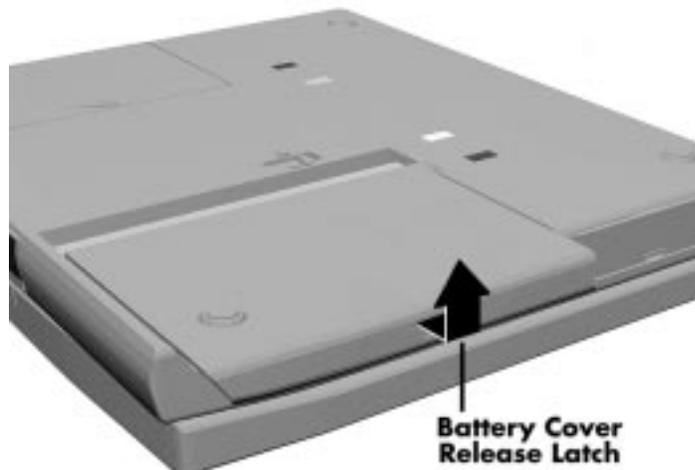
### ***Replacing the Battery Pack***

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



Use Li-Ion batteries in the NEC Versa computer for which they are designed. 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 Panel and turn the system over.
3. Release the battery cover latch and slide the battery bay cover away from the system.

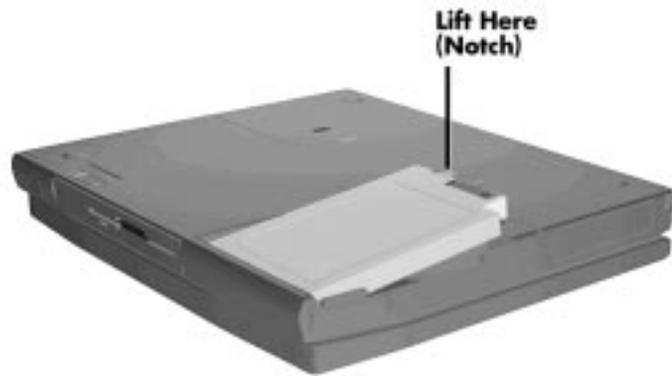


*Removing the cover*

- 
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.

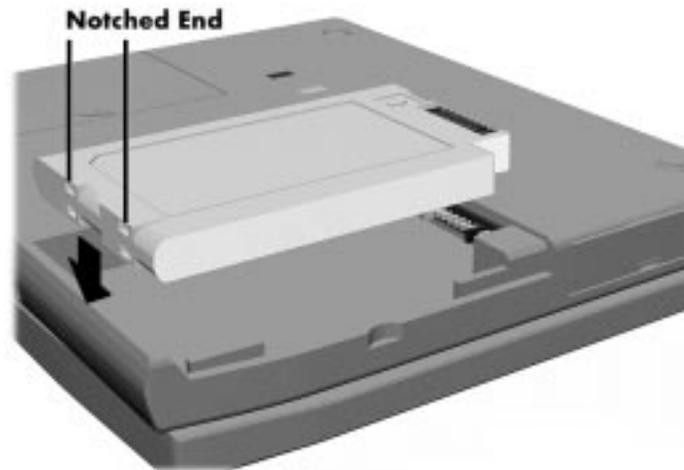


*Removing the battery*

---

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 until the release latches lock.



*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 140° F (60°C) 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.

### **Optional Second Battery**

You can add a second battery to boost the system's power level. You'll need to purchase the NEC VersaBay II Battery and Adapter Kit. See the online *Versa Tools Catalog* in the NEC Versa 6060 Help Center, or your authorized NEC dealer for details about the NEC VersaBay II Battery and Adapter Kit.

---

The kit provides a Lithium-Ion (Li-Ion) battery and plastic adapter that installs in the VersaBay II. See “Installing a Device in the VersaBay II,” in Chapter 4, for battery adapter installation instructions. Inserting a second fully charged battery increases battery life approximately 3 to 6 hours.

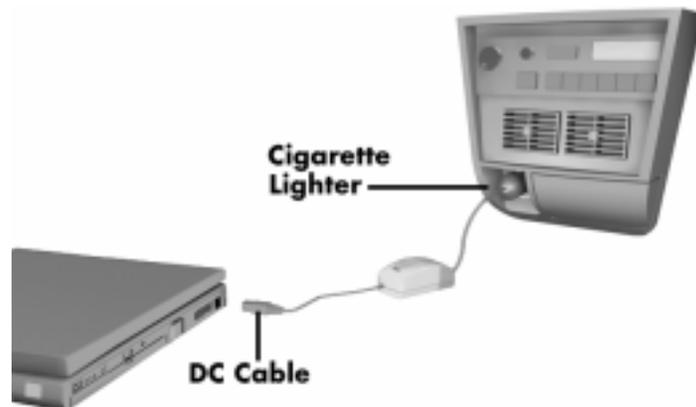
### Extending Battery Life

You will find an extensive explanation of how best to apply the power management tools that your system offers within *Advanced Topics* in the NEC Versa 6060 Help Center. 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 system 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, a Lithium Ion (Li-Ion) battery provides the main power source in your NEC Versa 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 should replace the CMOS battery for you.

Have your NEC Versa serviced by an NEC authorized service center. Call Customer Service at (800) 632-4525 for the dealer nearest you.

### ***Bridge Battery***

The internal 7.2 volt bridge battery saves your system status in Suspend mode for up to five minutes. Suspend mode is a feature that halts all system operations temporarily when you need to be away from your NEC Versa for a short period. This gives you time to install a fully charged battery or plug in AC power when your battery charge becomes low. An authorized NEC service technician should replace the bridge battery for you.

Have your NEC Versa serviced by an NEC authorized service center. Call Customer Service at (800) 632-4525 for the dealer nearest you.

## SYSTEM CARE

Your NEC Versa system 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 computer, AC adapter, and VersaBay II.

- Avoid dropping or bumping the computer or the AC adapter.
- Do not stack any objects on the computer.

- 
- Avoid moving your NEC Versa computer 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.) Use of a surge suppressor while traveling is highly recommended.
  - 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.
  - Avoid using the system in humid or dusty environments.
  - Turn computer power off before cleaning it.
  - Avoid exposing the NEC Versa computer 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.

### **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 your NEC Versa computer.

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 — 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 6060, including:

- the Windows 95 operating system, the Windows NT 4.0 operating system or the Windows for Workgroups operating system with MS-DOS<sup>®</sup>
- Online Help
- NEC Utilities
  - Setup
  - NEC Customize Utility
  - HDPREPEZ Utility
- Other Software
  - Intel LANDesk Client Manager
  - LapLink<sup>®</sup>
  - McAfee VirusScan<sup>™</sup>
  - McAfee WebScan<sup>™</sup>
  - MediaMatics Arcade<sup>™</sup> MPEG Player
  - XingMPEG Player<sup>™</sup>

\* The software listed here is current as of July 1997. The list is subject to change without notice. The software on your system is predicated by the operating system that shipped on your notebook computer.

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## WINDOWS INTRODUCTION

Your NEC Versa 6060 was purchased with Windows 95, Windows NT or Windows for Workgroups as your operating system. These 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.

All these Microsoft Windows operating systems 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.

With 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.
- Internet Explorer — provides an Internet browser for those systems with Internet access via an optional modem or network PC card.
- 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).
- My Briefcase — allows easy transfer of files between the NEC Versa 6060 and another system.
- Install Intel Client — helps your manage your NEC Versa.
- NEC Customize — installs NEC-designed desktop features, including custom wallpaper, the latest VersaGlide software controls, warn swap utility and the automatic running of McAfee AntiVirus software each time you boot.

- 
- NEC Versa Online Help — provides quick access to a variety of online topics. (In some countries, the system ships with an online user's guide instead of the NEC Versa Online Help.)
  - 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.

See the online *Using Windows 95* in the NEC Versa 6060 InfoCenter group for detailed instructions on using Windows 95.

## Windows NT

Windows NT 4.0 is the high-end member of the Windows operating system family. Windows NT provides all the benefits of the other Windows operating systems including a means of running your applications and navigating through your file structure in an easy-to-use graphical interface. In addition, Windows NT extends these benefits with additional performance, security, and fault protection in a powerful platform of client-server computing.

Windows NT allows you to run applications created specifically for Windows NT and Windows 95. You can also run applications created for other versions of Windows, MS-DOS®, and character-based MS® OS/2® 1.x as well as POSIX-compliant applications.

Windows NT gives you the newest features offered by Microsoft, including a desktop with room to maneuver, a taskbar for quick navigation between open windows, and more. The following icons appear on the desktop.

- My Computer — provides access to drives, printers, the Control Panel, and network features.
- Network Neighborhood — shows you the network, integrated LANs, and WANs.
- Inbox — lets you access the Microsoft fax and mail software as well as Microsoft network services.
- Internet Explorer — lets you browse Web pages on your local network and on the Internet.
- Recycle Bin — gives you a trash container in which to put unwanted files.

- 
- Install Intel Client — helps you manage your NEC Versa.
  - My Briefcase — allows easy transfer of files and data synchronization between your NEC Versa and another system.

In addition, the Start button at the bottom left of the desktop 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.

For complete information on Windows NT, including features and step-by-step procedures for using tools, see the Microsoft Windows NT documentation provided with your notebook.



If you are using Windows NT 4.0 Workstation and change the system configuration, you may need to run the Microsoft Windows NT 4.0 Workstation Service Pack. From the Windows NT 4.0 Workstation desktop, press **Start**, select **Run...**, and type **C:\sp3\update.exe**, click on **OK**. Follow the on screen instructions to complete the update.

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

See the online *Windows QuickStart 3.11* for detailed instructions on using Windows for Workgroups.

## DOS INTRODUCTION

MS-DOS is the Microsoft disk operating system that runs the computer when Windows for Workgroups is loaded. 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 Versa InfoCenter program group. [Guide to Online Help](#)

The NEC Versa 6060 has plenty of information for you online. The NEC Versa 6060 InfoCenter group contains information about your NEC Versa 6060, warranty coverage, and customer services. For Windows for Workgroups see the printed documentation provided with your system.

## NEC VERSA HELP CENTER

The NEC Versa Help Center contains several specific areas of information to help you. Audio tracks and animated examples make this an exciting learning experience. (In some countries, the system ships with an online user's guide instead of the *Help Center*.)

- *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 6060.

- *The Basics*

*The Basics* describes the NEC Versa 6060 main features, how to travel with the system, use power management, and care for the system.

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- *Advanced Topics*

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

- *Questions and Answers*

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

- *Versa Tools Catalog*

The *Versa Tools Catalog* lists options such as memory cards, hard drives, carrying cases, and PC cards that you can purchase for use with the NEC Versa 6060.

- *Service and Support*

*Service and Support* provides information on the extensive post sale support provided for your NEC Versa 6060.



The price information in the *Versa Tools Catalog* is only applicable for North America.

## Additional Online Topics

In addition to the Help Center, your NEC Versa also contains the following online help.

- Customer Support Guide

The *NEC Customer Support 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. If you purchased the computer outside the U.S., please contact a local NEC office or dealer for the warranty program in your area.

- 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.

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- Using Windows 95

This online help file lets you explore Windows 95 (if Windows 95 is installed) and learn about navigating through the new interface.

## GUIDE TO NEC UTILITIES

NEC provides several programs and routines designed to make your NEC Versa 6060 run more efficiently. These programs are called *utilities*.

### Setup Utility

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

Press <Esc> for Boot Messages, F2 for 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.

### NEC Customize Utility

In Windows 95 systems, the NEC Customize utility installs NEC-designed desktop features, including custom wallpaper, the latest VersaGlide software controls, and the automatic running of McAfee AntiVirus software each time you boot.

### HDPREPEZ Utility

NEC provides the HDPREPEZ utility to automatically configure your NEC Versa system hard disk space when you increase system memory.

## OTHER SOFTWARE

Your NEC Versa 6060 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.

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## Client Manager

Client Manager provides the capability for managing components in your NEC Versa computer. These components include network interface cards, memory, printers, software applications etc. Client Manager provides you with self-help diagnostics, including a PC health meter, local alerting of potential problems and hardware and software inventory. (Windows 95 and Windows NT)

Install Client by double clicking on the Install Intel Client icon on the Desktop screen. On screen instructions will guide you through the installation procedure.

Explore the features of LANDesk as follows:

1. Press **Start**, slide the cursor over to Programs, and locate LANDesk Client Manager folder. In the folder, highlight the LANDesk Client Manager line and press the VersaGlide selection button or tap the VersaGlide pad once.
2. Highlight **HELP**, press the VersaGlide selection button or tap the VersaGlide pad once.
3. Highlight Contents, press the VersaGlide selection button or tap the VersaGlide pad once.
4. This section introduces and guides you through the capabilities, features and instructions on using LANDesk Client Manager.

## 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 for Workgroups 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) systems 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 VirusScan**

The McAfee VirusScan software is set up to scan your system daily. You can change these settings through the VShield Configuration Manager for Windows 95 and Windows for Workgroups. If your operating system is Windows NT, access the McAfee VirusScan NT Console.

1. From the McAfee VirusScan95 in Windows 95 or McAfee VirusScan in Windows for Workgroups program group, highlight the VShield Configuration Manager; and from Windows NT highlight McAfee VirusScan Console.
2. Open the configuration manager or console. 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.

### **McAfee 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.

WebScan is ready to install once you have installed a Web browser (Windows for Workgroups and Windows 95 only).

---

**MediaMatics Arcade MPEG Player**

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

**Xing MPEG Player**

Provides MPEG Playback software for Windows for Workgroups and Windows NT. See Chapter 5, “Using Multimedia,” for instructions on using this application.

---

# 3 Using Setup

## SETUP UTILITY

Your NEC Versa system comes with a hardware program called Setup that allows you to view and set system parameters. Setup also allows you to set password 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.

Press <Esc> for Boot Messages, **F2** for Setup

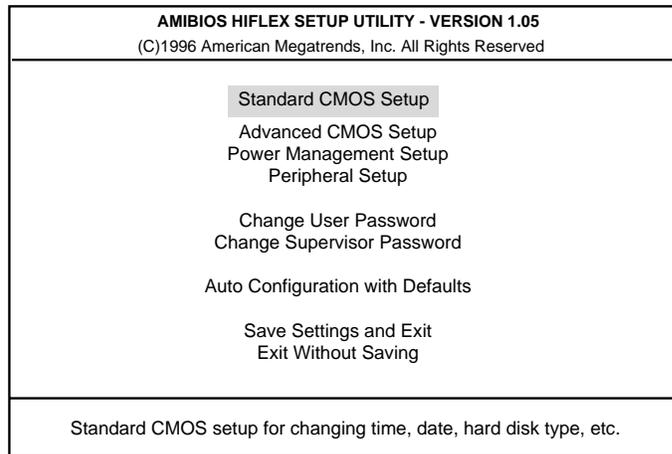
When you press **F2** to enter Setup, the system automatically detects current parameter settings with the Power-On Self-Test (POST).

If the system detects an error during POST, it prompts you with a double beep and a message: "Press <F1> to resume." If you press **F1**, the system enters Setup automatically. 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**.

---

## Setup Utility Main Menu

After you press **F2**, the system displays the Setup Main Menu screen, similar to the following.



*Setup Main Menu*

Use the up and down arrow keys (located on the lower right corner of the keyboard) to toggle through the Setup menu items.

## How to Use Setup

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

- Looking at screens
- Using keys
- Checking/setting system parameters.

---

## Looking at Screens

Setup screens have three areas as shown next.

AMIBIOS SETUP - ADVANCED CMOS SETUP	
(C)1996 American Megatrends, Inc. All Rights Reserved	
BootUp Sequence	A:,C:
Plug and Play Aware O/S	Auto
NumLock (at BOOT)	Off
Keyboard Auto-repeat Rate	30/sec
Keyboard Auto-repeat Delay	1/2 sec
Password Check	Setup
Available Options: C:,A: A:,C:	
ESC:Exit    ↑↓:Sel PgUp/PgDn:Modify F3/F4:Color	

*Advanced CMOS Setup menu*

- **Parameters**  
The left part of the screen. This area lists parameters and their current settings.
- **Available Options**  
The right part of the screen. This area lists alternate settings.
- **Key Legend**  
The bottom right corner of the screen. These lines display the keys that move the cursor and select parameters.

---

## **Using Keys**

The following table lists Setup keys and their functions.

### **Setup Key Functions**

<b>KEY</b>	<b>WHAT IT DOES</b>
Esc	Displays the "Quit without saving" prompt in the Main Menu screen or exits out of current Menu.
↑ ↓	Moves the cursor between the displayed parameters.
PgUp/PgDn	Modifies the current parameter settings.
F3/F4	Changes the screen color.
F10	Save changes and exit (works only from main menu).

### **Checking/Setting System Parameters**

See the following table for a list of parameters, their factory default settings, and alternate settings. A description of each setting follows the table.

To reset all parameters to the default settings, select "Auto Configuration with Defaults" from the Setup Main Menu and press **Y**.

---

### **Setup Parameters**

<b>PARAMETER</b>	<b>DEFAULT SETTING</b>	<b>ALTERNATE SETTING(S)</b>
<b>Standard CMOS Setup</b>		
System Date	mm/dd/yyyy	
System Time	hh:mm:ss	
Diskette Drive A: **	1.44MB, 3 1/2"	Not Installed 1.2 MB, 5 1/4" 1.44 MB, 3 1/2"
Diskette Drive B: *	Not Installed	1.2 MB, 5 1/4" 1.44MB, 3 1/2" Not Installed
Internal Hard Disk Drive	Enabled	Disabled Enabled
Int Master	Auto	Not Installed BIOS Defined User Defined Auto CD-ROM LS-120
Int Slave	Auto	Not Installed BIOS Defined User Defined Auto CD-ROM LS-120
Docking Station Hard Drives*	Enabled	Disabled Enabled
Ds Master *	Auto	Not Installed BIOS Defined User Defined Auto CD-ROM LS-120
DS Slave *	Auto	Not Installed BIOS Defined User Defined Auto CD-ROM LS-120
Boot Docking Station IDE *	No	Yes No
System Memory	16MB	(Auto detect)

---

### **Setup Parameters (cont'd.)**

#### **Advanced CMOS Setup**

Plug and Play Aware O/S	No	No Yes Auto
Bootup Sequence	A:, C:	C:, A: A:, C:
Docking Station Video	Dock Stn.	Portable Dock Stn
BootUp NumLock	Off	On Off
Graphic/Text Panel View Expansion	Off	Off On
Password Check	Setup	Setup Always

#### **Power Management Setup**

Power Management Under AC	Off	On Off
Power Savings Level	Longest Life	Off Custom High Perform Longest Life
Hard Disk Timeout ***	2 min	Off 5, 30 or 45 sec, 1, 2,4, 6, 8, 10, 15 min
Video Timeout ***	2 min	Off 30 or 45 sec, 1, 2, 4, 6, 8, 10, or 15 min
Peripheral Timeout ***	ON	Off On
Audio Device Timeout ***	On	Off On
Standby Timeout ***	4 min	Off 1, 2, 4, 6, 8,10 or 15 min
Auto Suspend Timeout ***	10 min	Off 5, 10, 15, 20, 25 or 30 min
Suspend Option	Suspend	STF (Save-To-File) Suspend
Auto Save To File	Enable	Disable Enable
Panel Backlight	Auto	Full Standard Auto
Suspend Warning Tone	On	Off On
Modem Ring Resume	On	Off On

---

Wake Up Alarm	Off	On Off
Resume Alarm Time	8:00 AM	12:00 AM to 11:55 PM, 5 min. increments
<b>Peripheral Setup</b>		
Serial Port	Auto	Disabled COM1, IRQ4 COM2, IRQ3 COM3, IRQ4 COM4, IRQ3 Auto (PnP OS Setup)
Parallel Port	Auto	Disabled LPT1 LPT2 Auto (PnP OS Setup)
Parallel Mode	ECP	Uni-Directional Bi-Directional EPP ECP
IR Serial Port	Auto	Disabled COM2, IRQ3 COM3, IRQ9 COM4, IRQ3 Auto PnP OS Setup
IR Serial Mode	FIR	SIR MIR FIR
Sound	Auto	Disabled IO address 220h, 240h, 260h, 280h Auto (PnP OS Setup)
Sound IRQ	N/A	5, 7, 9, 10, 11
SB-Compatible DMA	N/A	DMA #0, DMA #1, DMA #3
Full Duplex Mode DMA	N/A	DMA #0, DMA #1, DMA #3
Docking Station Midi (MPU-401) ****	N/A	Disabled 300h, 310h, 320h, 330h
Docking Station Joystick ****	Auto	Disabled Auto PnP OS Setup

\* Only visible when cold docked.

\*\* When the portable diskette drive is present, the portable diskette drive is the bootable diskette drive.

\*\*\* Only changeable when power saving is set to Custom.

\*\*\*\* Only assessable when docked.

---

## Setup Menus

Read the following descriptions for an explanation of each item that appears in the Setup menus, as listed in the preceding table.

### Standard CMOS Setup

When you select the Standard CMOS Setup screen you will see System Time and System Date parameters as well as drive parameters.

- **Date/Time**

Lets you set your NEC Versa's calendar month/year and system clock. The calendar clock is year 2000 compliant. These settings remain in memory even after you turn off system power.

To set the date use the Tab key to move from field to field. Use the Pg Up or Pg Dn key to change the numbers within each field.

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. Use the Pg Up or Pg Dn key to change the numbers within each field.

- **Drives**

The drives parameter let you check and change settings for your drives, including internal hard drives, diskette drives, and CD-ROM reader. This parameter also lets you check the docking station's hard drives, diskette drives, and CD-ROM reader.

### Advanced CMOS Setup

Sets CMOS settings for the following functions.

- **Plug and Play Operating System**

Allows the selection of a Plug and Play aware system to operate at bootup.

- **BootUp Sequence**

Sets the order that the drives (A:, C:) initialize, or sets the order to search for the boot disk.

- **Docking Station Video**

Sets the video controller when the notebook is docked.

- 
- **BootUp NumLock**  
Selects NumLock On or Off at system startup.
  - **Graphic/Test Panel View Expansion**  
Expands or compresses the on screen viewing area. When in expand mode the graphic/text quality maybe adversely affected.
  - **Password Check**  
When the system prompts you to enter a password, the password is verified. If Always is selected, pressing Ctrl-Alt-Backspace will lock up the keyboard until the password is entered. The Num Lock, Cap Lock and Scroll Lock LED's will flash in sequence until you enter the password.

### **Power Management Setup**

The Power Management Setup menu lets you balance high performance and energy conservation using parameters including the following.



Some operating systems such as Windows for Workgroups, Windows 95 and Windows NT 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 your NEC Versa system, power management is disabled. If you enable this parameter, the system automatically activates the power management profile you set.
- **Power Savings Level**  
A High Perform setting provides the greatest system performance. Longest 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.
- **Hard Disk Timeout**  
Allows you to select the amount of time before your hard disk shuts down when Power Management is set to custom.

- 
- **Video Timeout**  
Allows you to select the amount of time before your video shuts down when Power Management is set to Custom.
  - **Peripheral Timeout**  
If this feature is On, onboard serial, parallel, diskette or SuperDisk LS-120 devices are power managed after 2 seconds of inactivity.
  - **Audio Device Timeout**  
If this feature is On, the audio device turns off when no sound device activity occurs for 30 seconds.
  - **Standby Timeout**  
You can specify when the system enters Standby mode after total system inactivity.
  - **Auto Suspend Timeout**  
You can select the system suspend timeout period. If no system activity has occurred for the specified timeout, the system will enter the selected Suspend Option.
  - **Suspend Option**  
Suspend mode is the default power management mode. When you select Suspend, after a specified amount of inactivity, your NEC Versa shuts down all devices as specified by the user in Setup (or applies default timeouts). All your data is automatically recovered from where you left off when you Resume.
  - **Auto Save to File (STF)**  
The system enters STF after 30 minutes in Suspend mode.
  - **Panel Backlight**  
Lets you choose the backlight intensity.
  - **Suspend Warning Tone**  
This parameter lets you enable or disable a warning tone when Suspend mode starts. It is best to keep this option On.
  - **Modem Ring Resume**  
Lets you choose whether the system resumes automatically when the external serial port modem receives a transmission.

- 
- **Wake Up Alarm/Resume Alarm Time**  
Lets you set a resume time from Suspend mode.

## **Peripherals Setup**

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

- **Serial Port**  
Disables or reassigns the serial port.
- **Parallel Port/Parallel Mode**  
Disables or reassigns the parallel port, and/or select a parallel port mode.
- **IR Serial Port**  
Allows you to disable or reassign the IR Serial port.
- **IR Serial Mode**  
Allows you to select the IR transfer rate.
- **Sound/Sound IRQ/SB-compatible DMA/Full duplex Mode  
DMA/Docking Station Midi (MPU-401)**  
Select the sound parameter to user defined, disabled or Auto. Change additional sound related items as needed.
- **Docking Station Joystick**  
Select the parameter to Disabled, Auto, or Plug and Play Operating System as needed.

## **Change User Password**

You must set the Supervisor password first. Then you can set the user password. You can have a supervisor password without having a user password. This gives the system a second level of password security.

## **Change Supervisor Password**

Sets a Supervisor password at system startup.

## **Auto Configuration with Defaults**

Loads or cancels default settings.

---

## Save Settings and Exit

Accepts changes made to current, or default settings and exits Setup.

## Exit Without Saving

Reverts to the previously selected settings and exits Setup.

## USING SETUP TO SET POWER MANAGEMENT

As you have seen in this chapter, Setup allows you to use the factory set power savings level (Longest Life), or choose between High Perform, Custom, or Off. Each provides a special value to your current work effort. These power management levels have been designed with you in mind. For example, you can use them under the following circumstances:

- Longest Life — Provides best battery life and good performance. Use while traveling long distances.
- High Perform — Provides best performance and good battery life. Use while on the road, traveling short distances.
- Custom — You decide! Set power management levels according to your own needs and present environment.
- Off — Office environment, using AC power.

See the online documentation in the Windows NEC Information group under the NEC Versa 6060 Help Center for a lengthier discussion of Power Management. See the following section for information on how using the special Save to File (STF) feature can benefit you.

## Using the Save to File (STF) Feature

STF is a feature that protects the integrity of your working files. For example, if you get urgently called away from your system without saving the current data, it automatically goes into Suspend mode. After 30 minutes pass, and you don't return, your working environment is saved to a special file on your hard disk.

---

There are two ways to set your NEC Versa's STF feature. One method is via the Setup utility. Select Power Management from the Setup Main Menu. Move the cursor down and highlight Suspend Mode. Press the **PgUp** key and select STF. Save the settings and exit Setup.

The second method is to press the **Fn Suspend** buttons simultaneously, before you leave your NEC Versa. This function initiates STF on demand.



When the status bar reads that there is only 3% power remaining in the system, the NEC Versa automatically performs a STF.

### **STF Benefits**

Using STF can benefit you in the following ways.

- When in STF, there is minimum battery drain.
- Preserves the life of your NEC Versa.
- Saves you time. When you return from that urgent call or meeting, you don't have to perform a full reboot. You will only have to press the Power button.

---

# 4

## Using Your NEC Versa

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

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 20X CD-ROM reader
- the PC card slots
- the IR port.

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 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

Your NEC Versa system keyboard is equipped with many features. These include:

- Function keys
- Numeric keypad
- Cursor control keys
- Control keys
- Typewriter keys.

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



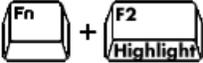
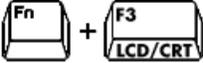
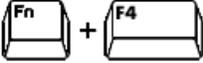
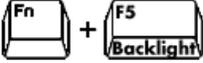
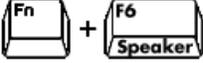
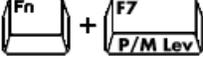
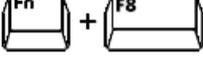
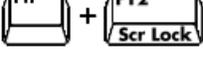
*Keyboard*

Function keys — Twelve function keys, **F1** through **F12**, are available on your NEC Versa 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 your NEC Versa system.

	<b>Highlight</b>
	<b>LCD/CRT/Simultaneous</b>
	<b>Standby</b>
	<b>Backlight</b>
	<b>System Speaker Volume</b>
	<b>Power Management (P/M)</b>
	<b>LCD Panel View Expansion</b>
	<b>Scroll Lock On/Off</b>
	<b>Save to File on Demand</b>

- 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 + y** – Display the Start menu

- 
- **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.

- **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.
- **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.
- **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. Double tap your finger on the VersaGlide.

## 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.



If you install another mouse driver over the shipped default driver, the double-tap capability may be lost. You will have to reinstall the VersaGlide driver located on your Restore CD to get double tap back.

### ***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 for Workgroups, look in the Main program group; in Windows 95 and Windows NT, 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. 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 system ships with a standard 3.5 inch, 1.44-MB diskette drive or SuperDisk LS-120 drive installed in the bay. However, if you choose, you can remove the drive and install the 20X CD-ROM reader that also ships with your system.

Your NEC VersaBay II will support warm swapping of the diskette drive, SuperDisk LS-120 drive and CD-ROM reader. Warm Swapping allows you to replace devices while your system is in Suspend mode. You do not have to reboot your system to reconfigure for the new device. To warm swap place the system in Suspend mode, by pressing the Suspend/Resume (S/R) button. Then follow the instructions to replace either the diskette drive or CD-ROM reader.



*Locating the VersaBay II*

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

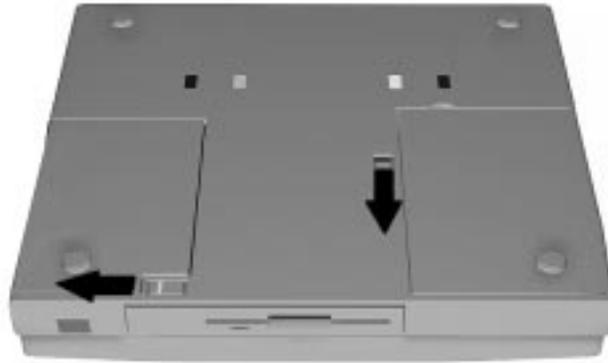
- a second battery pack
- a second hard disk drive.

See the *NEC Versa Tools 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.

1. Make sure the NEC Versa is powered off or in Suspend mode, 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.



*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.



If you release the front latch before completely removing the device, the device casing may catch 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 20X CD-ROM reader that ships standard with the system.

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 will boot.

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



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

1. Locate the switch labeled S (slave) and M (master) on your CD-ROM pack.

- 
2. The slave/master switch default setting is S. Keep this default setting even if you are booting to a bootable CD-ROM.
  3. Align the CD-ROM reader in the VersaBay II and push it in until it locks into place.



*Inserting the CD-ROM reader*

4. Power on the system or return from Suspend mode.

---

## 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.



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 19mm hard disk drive from a previous NEC Versa model, the drive is automatically 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 VersaBay II as described earlier, steps 1 through 4.
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 hard disk drive.)
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 or return from Suspend mode. The system automatically recognizes the newly installed option.



If a diskette drive is installed in the VersaBay II, it automatically defaults to the A: drive when docked. You cannot change this default.

When an optional hard disk drive, battery, or CD-ROM reader is installed in the VersaBay II, then the docking station diskette drive defaults to drive A:.

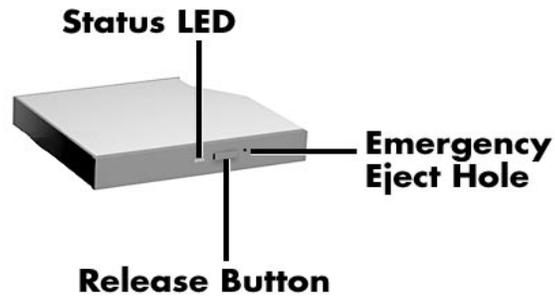
## **20X CD-ROM READER**

Your NEC Versa system comes with a 20X 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 “CD-ROM Input” in Chapter 5). The CD-ROM readers are fully compatible with Kodak Multisession Photo CDs™ and standard audio CDs.

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

The 20X CD-ROM reader features are shown in the following figures. Descriptions of the features follow.



*20X 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 when this 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.



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

## Card Bus/PC Card Slots

Your NEC Versa notebook integrates two card bus slots for inserting two Type II PC cards. You can also insert one Type III PC card. The 32 bit card bus also has zoomed video support in the bottom slot only.



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

Using the system's CardBus slots, you can add optional PC cards and connect external devices to your NEC Versa. These devices include peripheral devices, such as modems, LAN cards, and storage cards. For details on how to obtain these options, see the online *NEC Versa Tools Catalog*. Also, for more information on PC card technology, see the online *Advanced Topics* in the NEC Versa 6060 Help Center.

## Inserting a PC Card

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



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 decide to turn off the sound through Setup, 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 SystemSoft icon on the Windows Program Manager or the PC Card icon in the Control Panel on Windows 95 and Windows NT operating systems. It shows which slot contains a PC card and which is empty.

### ***Removing a PC card from Windows for Workgroups***

To remove a PC card follow these steps.

1. To remove a PC card, press the button on the side of the slot. A double tone sounds.
2. Pull the card firmly out of the slot.



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.

### ***Removing a PC card from Windows 95***

To remove a PC card follow these steps.

1. From the screen, select “My Computer,” then “Control Panel.”
2. Select the PC Card (PCMCIA) icon.
3. Select the PC 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.
4. Press the button on the side of the PC Card in the slot.
5. Pull the card firmly out of the slot.

### ***Removing a PC card from Windows NT***

1. From the screen, select “My Computer,” then “Control Panel.”
2. Select the PC Card (PCMCIA) icon.
3. Select the PC card to remove, and select “Stop.” Windows NT 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.
4. Press the button on the side of the PC Card in the slot.
5. Pull the card firmly out of the slot.

---

## IR Port

The IR port on the front of your system lets 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 computer, or print to an IR-equipped printer without using cables.

There are three transfer rates for the IR port on your NEC Versa FIR (Fast Infrared - 4.0 Mbit/sec), MIR (Medium Infrared - 1.152 Mbit/sec) and SIR (Serial Infrared Standard - 2.4 Kbit/sec). Windows 95 supports FIR.

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

- position the NEC Versa no more than three feet away from the infrared device you are using.
- 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 system (Windows 95 or Windows for Workgroups operating systems) 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 Drive**

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.”)



NEC Versa 6060 model 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 drive case has the blue dot on it, you can use the drive in either the internal 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 system upside down with the front of the unit (VersaBay II) 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 hard disk drive bay cover*

4. Remove the hard disk drive as follows:

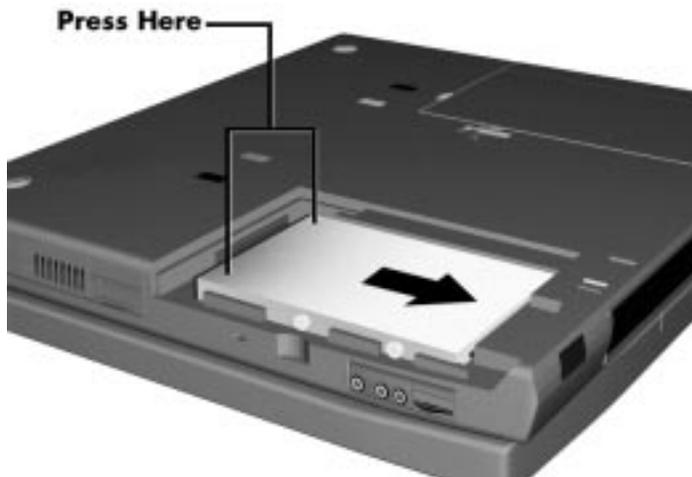
- Using your fingers, press down on the hard disk drive at the end closest to the connector.
- While maintaining pressure, slide the drive towards the front of the system.



**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.



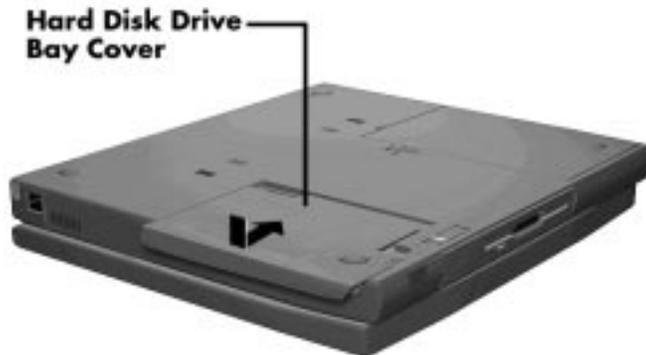
*Removing the hard disk drive*

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



*Inserting the hard disk drive*

- 
6. Slide the hard disk drive towards the connector, and push firmly to secure the connection.
  7. Replace the cover as follows:
    - Align the tabs on the drive cover with the 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**

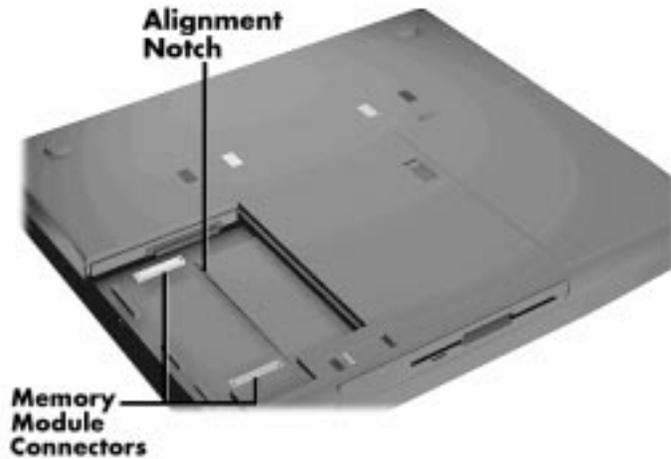
Your NEC Versa system comes standard with 16 megabytes (MB) of random access memory (RAM). You can increase system memory to a maximum of 80 MB by installing one of the following memory modules in the system.

- 8-MB memory module
- 16-MB memory module

- 
- 32-MB memory module
  - 64-MB memory module

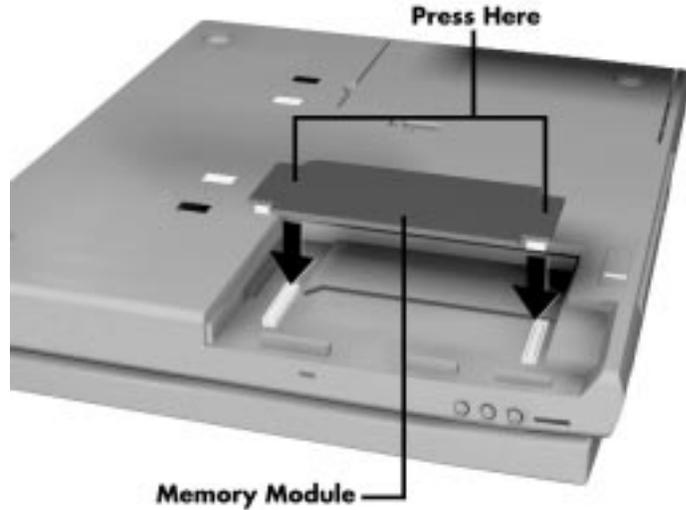
Use the following steps to install a memory module.

1. Follow steps 1 through 4 in the preceding section, “Hard Disk,” to remove 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.



*Inserting the memory module*

4. Press the module into the connectors.

**⚠ CAUTION**

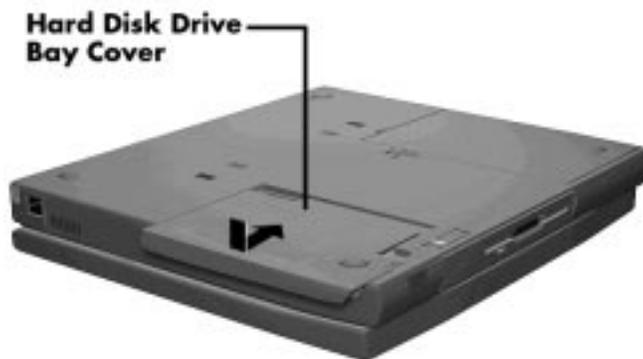
Only press the module directly over the connectors. Pressing elsewhere can damage the module.

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.



*Inserting the hard drive*

6. Replace the cover as follows:
  - Align the tabs on the drive cover with the slots on the system chassis.
  - Slide the cover towards the center of the unit.
  - Gently push the cover until it snaps into place.



*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**

Your NEC Versa 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 with your NEC Versa.

- NEC Versa Docking Station 6000 Plus

- 
- NEC MiniDock 6000
  - NEC Versa PortBar 6000
  - NEC Versa 6000 DC Car Adapter (see Chapter 1 for car adapter information).
  - Floppy Disk Drive (FDD) Connector Kit.

See the following sections for steps on installing the optional equipment.

## External Monitor

You can add a standard external monitor to your NEC Versa system. 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.

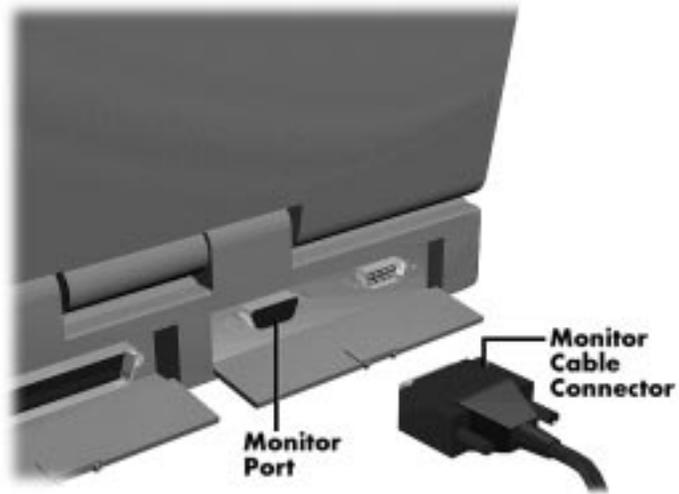
Follow these steps to connect an external monitor to your NEC Versa system.

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



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 your NEC Versa system.

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 or 25 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<sup>®</sup>-compatible 36-pin connector.



When you connect a printer, be sure to install the appropriate printer driver through the Windows Control Panel, the Windows 95 Start menu or via the Windows NT Start menu.

Connect a parallel device to your NEC Versa system 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 device*

5. Connect the power cable to the device and a properly grounded wall outlet.
6. Turn on power to the system and the device.



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**

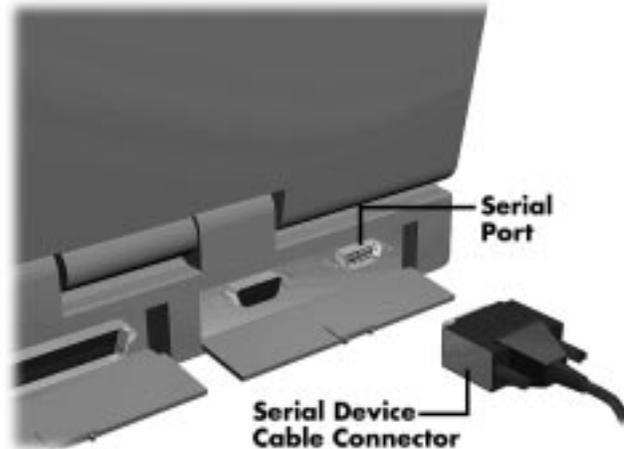
To install a serial device, such as a printer or an external modem, you need a cable with a female 9-pin connector.



When you connect a printer, be sure to install the appropriate printer driver through the Windows for Workgroups Control Panel, the Windows 95 Start menu or via the Windows NT Start menu.

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

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



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 system. You can continue to use the system keyboard while an external keyboard is connected.

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

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

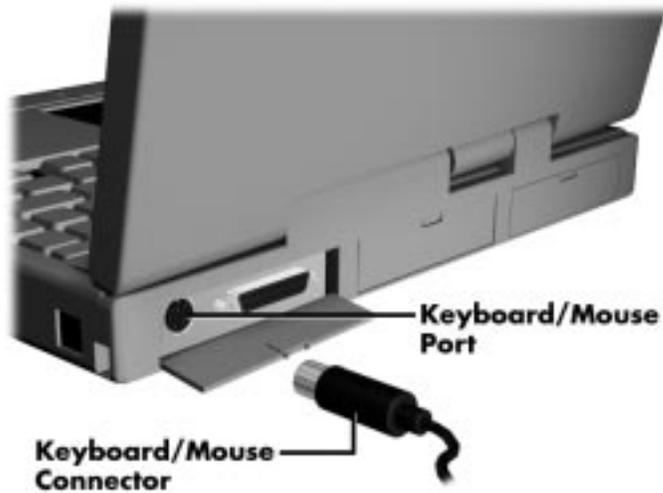
1. Press the Suspend button on the NEC Versa. Check that the system is in Suspend mode.



### **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 Active mode can damage the keyboard controller chip.

2. Connect either 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. (The numeric keypad on the internal keyboard will not work in this configuration.)



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 system'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/Mouse."

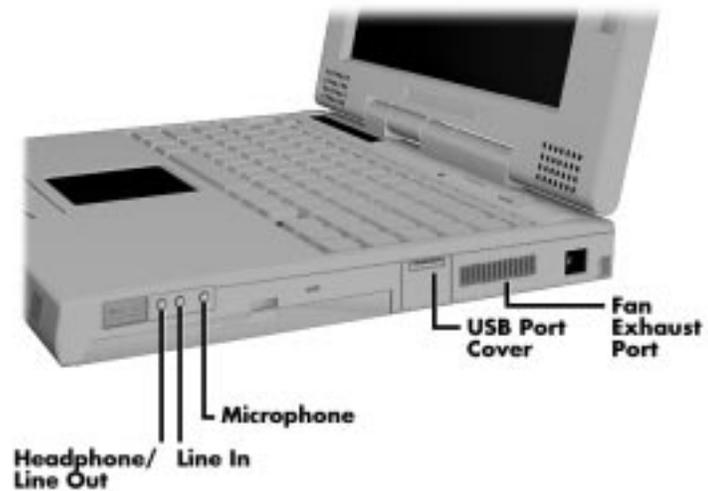
---

## External Audio Options

The NEC Versa system 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 right side of the NEC Versa.



*Audio ports*



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 Docking Station 6000 Plus

The optional NEC Versa Docking Station™ 6000 Plus 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 or two external bays for a 5.25-inch device
- high-quality speakers.

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



Follow the instructions for installing the NEC Versa Docking Station Software Setup Utility provided with your docking station. See the user's guide that came with your docking station for detailed installation instructions.

## NEC Versa MiniDock 6000

The NEC Versa MiniDock™ 6000 provides the following ports or slots.

- VersaBay II
- Monitor Port
- Audio Ports
- Parallel Port
- Serial Port
- Keyboard Port
- Mouse Port
- CardBus Slots (two) (Zoomed Video not supported)
- USB Port
- Floppy Disk Drive Connector

- 
- Midi Port
  - DC In Port.

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

See the instruction sheet that comes with the MiniDock™ 6000 or the online *Advanced Topics* for details about installing and using the MiniDock™ 6000.

### **NEC Versa PortBar 6000**

The NEC Versa PortBar™ 6000 duplicates the ports found on the back of your NEC Versa 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 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.

### **Floppy Disk Drive (FDD) Connector Kit**

The NEC Versa 6000 Series FDD Connector Kit lets you use an external diskette drive with your NEC Versa system and the optional PortBar 6000. The kit includes an external diskette drive connector with cable, plus an adapter that lets you use the option with your NEC Versa system only.

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## SETTING SWITCHES

A six-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.



Switch settings 3, 4 and 6 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 need to update your system’s basic input/output system (or BIOS) flash memory. See “Updating the System BIOS”, 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” to erase this password and requires you to enter a new one.

To enter a new password, reset the switch to “OFF,” and follow the instructions in Chapter 3, “Using Setup,” to set up a new password. You may want to keep this new 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.
- Switch 5 — Not used.
- Switch 6 — Reserved for factory use.

---

## Updating the System BIOS

Use the following steps to update your NEC Versa 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).



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 Service representative can help you determine this.

If you are informed that the default BIOS needs an upgrade, you can receive a copy of the BUD by contacting the NEC Versa Diskette Fulfillment Center at (800) 842-6446, or NEC Customer Service and Support (800) 632-4525, Fax (508) 635-4666. You can also download from NEC's BBS at (508) 635-4706.

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



If you purchased and are using this computer outside the U.S., please contact a local NEC office or dealer in your country. They will provide you with BIOS upgrades.

1. Check that computer power is off. Turn your NEC Versa system upside down with the front of the unit (VersaBay II) 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 six-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 connected to AC power, and that the power is off. Insert the BIOS Update diskette into diskette drive A.
7. Power on the computer with the BUD diskette in drive A. The computer boots and automatically loads the utility. A message similar to the following appears:

The NEC BIOS Update Utility should not be used to modify the BIOS in a Versa system which is docked. If your Versa is docked, please exit the BIOS Update Utility, power down, and undock your Versa before running the utility. Plug in your AC cable before re-starting the flash utility.

8. Press any key 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. You will see a message indicating that the update is now in progress.

Next, you will see the following message,

Your system has been updated.  
To complete the flashing procedure you should  
power off your system, this insures proper  
application operation on the next power cycle.

13. After reading this message, power off your computer. The next time you power on, you will see the following message during the Power On Self Test (POST).

CMOS Checksum Bad  
RUN SETUP  
Press F1 to Resume.

This message simply means the previous CMOS RAM value is different from the current CMOS RAM value.

14. Press the **F1** key to enter the Setup utility.
15. Use the arrow keys to highlight “Auto Configuration with Defaults.”
16. Press **Enter**.
17. Press **Y**, then press **Enter**.
18. Highlight “Save Settings and Exit” and press **Enter**.
19. Press **Enter**.

The system reboots automatically. You now have the latest NEC Versa BIOS revision level for your NEC Versa 6060 Series computer.

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# 5

## Using Multimedia

With its fast Pentium™ processor with MMX technology and enhanced audio and video capabilities, you can perform fantastic multimedia feats with your NEC Versa 6060! This section describes the NEC Versa 6060'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 6060 provides entertainment-level sound quality through stereo speakers. It handles MIDI files, digital audio files, and analog audio sources. This means the NEC Versa 6060 recognizes .WAV, .MID, and .AVI files. The system is 3D-stereo, Sound Blaster PRO™ 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.



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

---

The following procedure describes how to use the AudioRack or AudioRack 32 software to record sound into a file on the NEC Versa. (You can also use the Microsoft Sound Recorder. Look in Accessories for the Multimedia group and select “Sound Recorder.”)

1. To record from an external device such as a portable tape player, you need a cable with audio jacks on both ends. Set up your hardware as follows:
  - Connect one end of the audio cable to the Line Out jack on the external device. (On some devices, you can record from the headphones port.)
  - Connect the other end of the cable to the Line In port on the NEC Versa. (You can also use the microphone port to record monaural sound.)

To record from the internal CD-ROM or from file, start with step 2.

2. From Window for Workgroups, open the AudioRack program group and start the AudioRack program (in Windows 95 and Windows NT, this is called AudioRack32). The AudioRack control panel (similar to the following) appears on your screen.

The control panel provides six different panels for Windows 95 and Windows NT. Windows for Workgroups provides five panels. (If your control panel offers fewer, simply press the device buttons next to the power button. The missing panels will appear.) These panels include the following:

- The top three (Windows for Workgroups) or top four control power (power panel), stereo mixing (3D-Stereo panel) (Windows 95 and Windows NT), volume control (Mixer panel), and recording (DAT panel).
  - The lower two panels control your input sources, including:
    - MIDI panel for recording from existing MIDI or RMI files.
    - CD panel for recording from the CD-ROM reader.
3. Prepare for your recording as follows:

- 
- From the Power panel, press the button that specifies your recording source. For example, press CD to pick CD input and display the CD control panel if it is not shown.
  - In the 3D-Stereo panel, specify the spatial attributes to use for 3D-stereo recording. (See the online help that comes with AudioRack 32 for details.)
  - In the Mixer panel, press the Record button to indicate that you are planning to make a recording. Specify which recording device you plan to use by pressing the appropriate button on the right-hand side of the Mixer panel.

If needed, adjust the volume of the input device by moving the slide bars directly above the device button. Adjust the volume here if your recording is distorted. Usually lowering the volume corrects the distortion. (See the online help that comes with AudioRack for details.)

- To change the sampling rates or other recording attributes, go to the DAT panel and press the New button. Enter recording options from the dialog box that appears.
4. Go to the control panel for the device from which you plan to record. For example, go to the CD panel to record from CD. Press the Play button.

If you are recording from an external device, press its Play button to start the sound.

5. Go to the DAT panel and press the Record button (it has a red dot in the middle).
6. When you finish recording, press the Stop button (it has a square in the middle) on the DAT panel to end the session. Press the Stop button on the device panel to stop the player.

If you are recording from an external device, press its Stop button.

7. To save your file, press the “Save As” button on the far right side of the DAT panel and enter a file name.

To listen to the sounds you’ve recorded, use the press the Playback button in the Mixer panel and the Play button on the DAT panel.

To close the AudioRack control panel, press the Power button.

---

## Line-In

Analog signals come in through the NEC Versa 6060'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 6060 through Line-In.

## 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 the CD-ROM reader connects directly to your NEC Versa 6060. Simply follow the instructions in "Recording" to record sound from your CD player.

## Microphone

You can capture and record sounds through the internal microphone on the NEC Versa 6060 or through an external microphone that connects to the system through the microphone port. You can record voice-overs for narration, reminders, or special instructions.

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 AudioRack or AudioRack 32 software on your NEC Versa 6060, you can mix data from two separate .WAV files to create a new sound file. You can also mix the microphone volume to create soft background sounds to accompany a voice-over or another more prominent sound. Mixing lets you blend digital and MIDI audio files to get the final, high-quality soundtrack you want.

This example shows how to mix a music soundtrack with a voice-over in Windows for Workgroups.

1. Open AudioRack Sound Recorder and activate the file from which you want to copy sound.
2. Using the VersaGlide and the left selection button, go into the soundwave display and 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.

See the online help that is available with AudioRack or AudioRack 32 for more information.

## Playing Back

You can play back your recorded soundtrack through stereo headphones, the internal NEC Versa 6060 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 left side of the system.

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 AudioRack. See the AudioRack 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 the Built-In Speakers***

The NEC Versa 6060 has built-in stereo speakers. Adjust the volume through the software or with the volume control knob located on the right side of the NEC Versa 6060.



Docking disables the internal speakers, as does connecting external speakers.

### ***Using Headphones***

The NEC Versa 6060 headphone port delivers sound at half a watt. The stereo headphones plug in through the headphone/line-out jack located on the right side of the NEC Versa 6060. Adjust the volume using the audio software contained on the NEC Versa 6060.

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 headphones disables the internal speakers.

### ***Using External Stereo Speakers***

For full stereo sound impact, you can plug a pair of stereo speakers into the headphone/line-out jack located on the left side of the system. Adjust the volume through software, with the volume control knob located on the left 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 6060 features a dazzling TFT 64,000 color high-resolution display for sharp effective visuals right on the NEC Versa or on an external CRT monitor.

The NEC Versa 6060 comes with the Microsoft Video for Windows player (Windows for Workgroups). Your system has hardware assisted MPEG which supports full motion, full-screen MPEG video. In Windows for Workgroups and Windows NT, 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 6060 and record motion graphics to your hard drive.

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

---

## 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.

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# 6 Traveling with Your NEC Versa

Your NEC Versa system 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 system 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 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 a specialty computer supply store.

---

## CHECKLISTS

The following checklists can help you prepare for your trip with your NEC Versa system. 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 6060 Quick Reference* card
- AC extension cord.



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:



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 system. The NEC Versa 6060 Help Center 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.

- the computer is powered on.
- 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.	<p>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.</p> <p>If you have the AC adapter attached, check that the electrical outlet you are using works.</p>
LCD screen is dark and blank.	<p>Power-saving mode has shut off the backlight. Press a keyboard key or the Suspend button.</p> <p>The built-in LCD may not be selected. Press <b>Fn F3</b> once or twice.</p> <p>Brightness control needs adjustment. Adjust the control.</p> <p>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.</p>
Battery power does not last long.	<p>Change to a power-saving mode (<b>Fn F7</b>).</p>
Information on the LCD screen is difficult to see.	<p>Adjust the brightness control.</p>
An optional component does not work.	<p>Make sure the component is securely installed or connected. Verify that the system parameter for the I/O port configuration is set correctly in BIOS Setup.</p>
The Suspend/Resume button does not work.	<p>A disk drive might be busy. Wait until the disk drive stops and try again.</p> <p>The NEC Versa may be connected to a docking station. Some power management functions do not work when the NEC Versa is docked (when docked only the Stand By mode works).</p>

---

## 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.



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.

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## POST Error Messages

Your NEC Versa system 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.

MESSAGE	POST Error Messages WHAT TO DO
Diskette drive A or B failure or No Floppy Drive	Drive A does not work or is not properly connected. Drive A is the diskette drive.  Check that drive A is securely connected and power is on.  Press <b>F2</b> to start Setup to check the diskette drive parameters.  If there's still a problem, the drive might need repair.
Invalid system disk	Replace the disk and then press any key.
Diskette boot failure	Insert a bootable disk in drive A and press any other key.
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 C: drive failure	Press <b>F2</b> 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.
CMOS date and time not set	Set the time and date using Setup. Exit and save Setup changes to update the parameters.

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## POST Error Messages

MESSAGE	WHAT TO DO
System CMOS Checksum failure – run Setup Press (F1) to resume.	Press <b>F2</b> to enter Setup. Select Auto Configuration with Defaults. Under Main, set the date and time. Save your changes and exit.
Fixed disk configuration error	Enter BIOS 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.
C: drive error or failure	Press <b>F2</b> to enter BIOS 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.
Hard Disk controller failure	Press <b>F2</b> to start Setup. Exit and save to update the parameters.  Check to see if the hard disk connector is seated properly.  The hard disk controller does not work and might need repair.
Keyboard controller failure	Unplug external keyboard if attached and reboot the system. If it still fails, have the system repaired.   Repeated keystrokes during boot may produce an error message.
Keyboard Error	A timing problem exists with the keyboard. If the error message remains, the keyboard may have to be repaired.
KB\interface error	Error exists in keyboard connector. If the error message remains, the keyboard may have to be repaired.

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## USING THE RESTORE CD

If you determine that you need to restore your system to its initial installation state, follow the instructions given here.



### CAUTION

Only use the Restore CD as a last resort. Check your user's manual for information about solving problems before using the CD. The restore CD provides two options that either remove or replace existing system files. This will result in data loss.

Use the Restore CD ( Windows 95 and Windows for Workgroups) as follows:

1. Check the Restore CD title and make sure that it is the correct CD for your operating system and NEC Versa computer.
2. Put the *Restore CD* into the CD-ROM reader tray and close the reader door.
3. Reboot your computer.
4. Press the cursor arrows to select the restore procedure that you need to use.



### CAUTION

Choose your restore option carefully to prevent losing data and applications installed on your system.

The choices are as follows:

- *Selective Restore* — does not format your hard drive, but DOES replace files that you specify.
- *Full Restore* — formats your hard drive and then performs the file restore procedure. This option REMOVES all your applications and file data from your system.

- 
5. In the End User License Agreement screen, press the letter **i** on the keyboard to accept the agreement; press the letter **d** to decline. To read the entire agreement, use the cursor arrows to move through the text.

The restore process takes a few minutes to complete.

Access Selective Restore for Windows NT through the Supplemental CD for specific driver utilities or applications that shipped with the NEC Versa 6060.

## **SUPPLEMENTAL CD FOR WINDOWS NT**

Occasionally a user may need to restore his or her system to its original factory-installed state. For example, if it is necessary to reformat the hard drive, then after reformatting, the following must be reinstalled.

- First, the Windows NT operating system from Microsoft, using the supplied Windows NT documentation and software.
- Second, NEC-supplied software (any utilities, drivers, and applications supplied by NEC), using the NEC Supplemental CD that came with your notebook.

The supplemental CD includes directories that contain the installation software for drivers and utilities that were factory-installed on your NEC Versa. Each subdirectory contains the installation software for a different driver or utility.

The file README.TXT, located in the root of the CD, contains an outline of the CD's contents as well as complete instructions on the correct procedure for running the installation software directly from the Supplemental CD.

To view the README.TXT file, follow these steps.

1. Click on **Start**.
2. Click on **Run**.

- 
3. Type **D:\README.TXT** as the file to open, where D:\ is the drive letter for the CD-ROM drive. Then click on **OK**.

The file is displayed by the Notepad application and can be printed from there.

## 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 (800) 632-4525. Direct technical assistance is available 24 hours a day, seven days a week.



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.



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.

**NECCSD 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.

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**NECCSD Customer Service Center:** (800) 632-4525

For assistance in resolving problems that arise while using your NEC Versa notebook computer.

**Fax:** (508) 635-4100

Spare parts ordering, warranty claims, repair services, and service authorizations.

**NEC FaxFlash Service (U.S. and Canada):** (888) 329-0088

**International:** (508) 635-6090

Automated fax service that offers product brochures, installation procedures, quick reference guides, promotional forms, troubleshooting information, and more.

**NECCSD 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.

**Internet Address:** tech-support@neccsd.com

**Worldwide Web Address:** www.neccsd.com

**CompuServe Keyword:** "GO NECTECH"

**America Online Keyword:** NEC

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 (800) 632-4525 for the following support:

- Preinstalled software — toll-free phone support for 90 days from your first phone call.

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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 a 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.



Free technical specifications, troubleshooting tips and other helpful information for out-of-warranty products are available through NEC FaxFlash at (888) 329-0088 and requesting catalog number seven.

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# A Setting Up a Healthy Work Environment

## WARNING

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

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

### MAKING YOUR COMPUTER WORK FOR YOU

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

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

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

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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.



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

## **ADJUST YOUR INPUT DEVICES**

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.

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- Position whatever you are looking at most of the time (the screen or reference material) directly in front of you to minimize turning your head while you are typing.
  - Get regular eye check-ups.

## **VARY YOUR WORKDAY**

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

- Vary your tasks throughout the day.
- Take frequent short breaks that involve walking, standing, and stretching. During these breaks, stretch muscles and joints that were in one position for an extended period of time. Relax muscles and joints that were active.
- Use a timer or reminder software to remind you to take breaks.
- To enhance blood circulation, alter your sitting posture periodically and keep your hands and wrists warm.



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

## **PRE-EXISTING CONDITIONS AND PSYCHOSOCIAL FACTORS**

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

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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.*

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# B Specifications

The following specifications are standard except where noted.

## **System Processor**

NEC Versa 6060 — P55CLM/166 MMX (Intel Pentium-166 MHz)

## **Architecture**

64-bit Peripheral Component Interconnect (PCI)

## **Random Access Memory (RAM)**

Standard System Memory — 16-MB EDO 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 — 2MB included in video chip

Cache RAM — L1: same for all models, 32KB

L2: same for all models, 256KB write back

## **Read-Only Memory (ROM)**

256KB 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 — 1 on front of system, IrDA-1 compatible
- VGA CRT — 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 Plus, optional PortBar 6000, optional MiniDock 6000 or optional Floppy Disk Drive Connector Kit.
  - USB — 1 port, 4 pin
  - Mono MIC IN — 1 port, 3-pin, Mini Pin Jack
  - Stereo Headphones/Line-Out — 1 port, 3-pin, Mini Pin Jack, .5 watts per channel
  - Stereo Line-In — 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 1-3 hours depending on configuration, with power management features enabled.

Recharging Time — Approximately 2 hours.

### **Speakers**

2 built-in, 1.5 watts (W) each with a maximum 3W output

- 16-bit stereo, 44.1 Khz
- Sound Blaster PRO-16 compatible
- MIDI Roland: MPU401, UART Mode compatible

### **Card Slots**

Two 32-bit card slots for two Type II PC cards or one Type III PC card, 5 V or 3.3 V interface

Bottom slot compatible with Zoomed Video.

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## LCD Display

12.1-inch active matrix Thin Film Transistor (TFT) CCFT Super VGA (SVGA) single-backlit color

Resolution — 800 x 600 pixels

Dot Pitch — 0.306 mm

Colors — 256,000/16 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

## Internal, 2.5-inch, removable IDE Hard Disk Drives

- 2.1-GB Hard Disk Drive Specifications

Size — 12.7 mm height

Formatted — 2.16-GB

Track-to-track seek rate — 3 ms

Average seek time — 13 ms (read), 14 ms (write)

Revolutions per minute — 4200

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Data transfer rate — 16.6 MB/sec

Media data rates — 38.6 – 69.8 Mbit/sec

■ **3.2-GB Hard Disk Drive Specifications**

Size — 12.7 mm height

Formatted — 3.2-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 — 38.6 – 69.8 Mbit/sec

**Versa Bay II SuperDisk™ LS-120 Drive**

External 3.5-inch Pack

■ Data Transfer Rate — 4MB/sec

■ Track to Track Seek Time — 6 ms

■ Formatted Capacity

Optical diskette — 120 MB

High Density floppy diskette — 1.44 MB

Double Density floppy diskette — 720 KB

**20X-speed CD-ROM Reader**

External 5-inch CD-ROM Pack

■ Data Transfer Rate — 1200 kilobytes (KB)/second (TYP)

■ Burst Transfer Rate — 16.7 MB Maximum

■ Access Time — 200 ms (TYP)

■ Memory Buffer — 128 KB

■ Interface — IDE (ATAPI)

- 
- 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.

## Dimensions

### System

- Width — 11.69 in. (297 mm)
- Depth — 9.51 in. (241 mm)
- Height — 2.17 in. (55 mm)

### Battery Pack

- Width — 3.5 in. (89.5 mm)
- Depth — 5.2 in. (134.5 mm)
- Height — 0.81 in. (20.7 mm)

## Weight

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)

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**IRQ assignments: (For Windows 95)**

<b>Controller</b>	<b>Priority</b>	<b>Name</b>	<b>Device</b>
<b>Master/Slave</b>			
Master	0	IRQ00	System Timer
Master	1	IRQ01	Keyboard
Master	2	IRQ02	Programmable Interrupt Controller
Slave	3	IRQ08	Real Time Clock
Slave	4	IRQ09	Infrared Port
Slave	5	IRQ10	USB Port
Slave	6	IRQ11	PC Card Bus Controller
Slave	7	IRQ12	PS/2 Mouse
Slave	8	IRQ13	Math Coprocessor (in CPU)
Slave	9	IRQ14	Hard Disk Controller
Slave	10	IRQ15	IDE DS/MD6000 or PC Card in MD6000
Master	11	IRQ03	Not used, Available
Master	12	IRQ04	Serial Port
Master	13	IRQ05	Sound
Master	14	IRQ06	Floppy Disk
Master	15	IRQ07	Parallel Port

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# 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.

## **application 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 primary computer routines, stored in 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.

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**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 CardBus**

A new 32-bit high-performance bus defined by the new PC Card Standard and released by the PCMCIA standards body and trade association. Card Bus offers wider and faster 32-bit bus and bus mastering operation for improved adapter performance and can operate at speeds up to 32 MHz.

**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 unless 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.

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**DMI**

Desktop Management Interface (DMI), software to collect information about a computer environment. For example, using DMI a program can determine what software and expansion boards are installed on a computer.

**DSTN**

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

**E EDO Memory**

Extended Data-Out is the newest DRAM chip technology which improves memory performance 10 to 15% over equivalent Fast Page Mode devices. However, computer systems must be designed to take advantage of this performance increase EDO offers.

**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.

**enhanced parallel port (EPP)**

A parallel port standard that provides faster data processing. It also supports bidirectional and normal protocols.

**enhanced capabilities port (ECP)**

A parallel port standard that provides faster throughput.

**extended graphics array (XGA)**

A color bit-mapped graphics display standard, that provides a resolution of 1024 x 768 with up to 256 colors displayed simultaneously.

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## **F Fast Page Mode**

A mode that decrease cycle times by allowing the memory controller to access other data bits which are in the same row address. This saves time by not having to set up the next row address instruction. Data accessed in the same row is referred to as a "page."

### **FIR**

Fast Infrared. Using infrared technology Fast Infrared mode sends data at 4.0 Mbit/second (4 million bits per second).

### **floptical**

A type of disk drive technology that uses a combination of magnetic and optical techniques to achieve greater storage capacity than normal floppy disks without sacrificing access speeds.

### **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.

---

**hot swap**

The ability to add and remove devices to a computer while the computer is in the power on mode and have the operating system automatically recognize the change, without having to reboot the system.

**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.

**infrared technology**

A method of transmitting data from one device to another without using cables. The data is transmitted using infrared light waves.

**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.

### **MIR**

Medium Infrared. Using infrared technology Medium Infrared mode sends data at 1.152 Mbit/second (1,152,000 bits per second).

### **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.

### **MMX**

The latest design in multimedia processors for enhancing audio, video, and other multimedia applications. Intel's MMX is a set of 57 instructions added to the Pentium's original design. The internal cache of the MMX processor is doubled from 16 to 32 KB for enhanced performance. These improvements in microprocessor design ensure expert-quality 3D graphics, high-quality motion video, and stereo sound.

### **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.

**multimedia extensions (MMX)**

Intel's MultiMedia Extensions technology that speeds audio, video, and 3D graphics processing, ultimately providing more distinct sound and visuals for your presentations.

**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.

**Optical diskette**

A storage medium from which data is read and to which it is written by lasers.

**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.

**PC Card**

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

**PCI local bus**

The 32-bit industry-standard PCI bus is a highly integrated input/output (I/O) interface that offers the highest performance local bus available for the Pentium-based processor.

**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. Also called PC Card.

**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 save to file (stf)**

After 30 minutes in Suspend mode, the system memory (RAM) is automatically saved to a special file on the hard disk, and the system powers down.

### **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.

## **SIR**

Serial Infrared Standard. Using infrared technology Serial Infrared Standard mode sends data at 2.4 Kbit/second to 115.2 Kbit/second (2,400 to 115,200 bits per second).

### **software**

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

### **suspend mode**

This is a power savings mode that promotes longer battery and system life. The system pauses and shuts down operation in a sleep-like state after a specified amount of system inactivity. Press the Resume button to return to the point where you left off.

### **super video graphics array (SVGA)**

A color bit-mapped graphics display standard, that provides a resolution of 1024x 768 with up to 256 colors displayed simultaneously.

### **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.

---

**swap**

Replacing one device with another device. See hot swap and warm swap.

**T TFT**

Thin Film Transistor. A type of Versa LCD color screen that supports 64K colors and provides exceptional screen display.

**U Universal Serial Bus (USB)**

A new external bus standard that supports data transfer rates of 12 Mbps (12 million bits per second). A single USB port can be used to connect up to 126 peripheral devices, such as mice, modems, and keyboards. USB also supports Plug-and-Play installation and hot plugging. It is expected to be commonplace sometime in 1997 and to eventually completely replace serial and parallel ports.

**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.

**warm swap**

The ability to add and remove devices to a computer while the computer is in the suspend mode and have the operating system automatically recognize the change when the system returns to active mode.

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**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.

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# Index

## A

AC adapter, 1-15, 6-1, 6-2, 6-3  
AC outlet, 1-16  
AC power cable  
    types, 1-17  
AC power port, 1-13  
Audio  
    WAV files, 5-1  
    AVI files, 5-1  
    MIDI files, 5-1

## B

Battery  
    battery bay, 1-14  
    determining status, 1-18  
    handling, 1-19  
    pack, 6-1  
    recharging precautions, 1-24  
    secondary, 6-1  
    status, 1-18  
    warning, 1-18  
    when to change, 1-19  
Battery pack  
    precautions, 1-23  
Bridge battery, 1-26  
Brightness control, 1-3

## C

CD-ROM (20X), 4-12  
CD-ROM reader  
    loading a CD, 4-13  
Cleaning your NEC Versa, 1-28  
CMOS battery, 1-27  
*Customer Support Guide*, 2-6  
Customize icon, 2-3, 2-7

## D

DC car adapter, 1-25  
Docking station 6000, 4-34

## E

Entering setup, 3-1  
Expansion port, 1-10  
External audio options, 4-33  
External bar code scanner, 4-32

## F

Fan, 1-13  
FDD connector option, 4-35  
Function key combinations, 4-3

## H

Hard disk drive bay, 1-12, 1-14  
Headphones, 1-12

## I

Increasing system memory  
    adding a memory module, 4-22  
Increasing system storage  
    hard disk drive, 4-18  
Installing options  
    external monitor, 4-26  
    mouse/keyboard, 4-31  
    parallel device, 4-28  
    printer, 4-28  
    serial device, 4-29

## K

Kensington lock, 1-13  
Keyboard, 1-6, 4-2  
    control keys, 4-2  
    cursor control keys, 4-2

- 
- function keys, 4-2
  - numeric keypad, 4-2
  - port, 1-10
  - typewriter keys, 4-2
- L**
- LapLink software, 4-18
    - how to use, 2-9
  - LCD panel, 1-3
  - LCD status bar, 1-4
  - Line-In, 1-12, 5-4
  - Lithium-Ion battery (Li-Ion), 1-26
  - Local standby mode, 6-3
  - Low battery power, 1-17
- M**
- Main battery, 1-26
  - Main power source
    - DC power, 6-1
  - McAfee AntiVirus, 2-10
    - WebSCAN, 2-10
  - Microphone, 1-12
  - MIDI files, 5-7
  - Monitor port, 1-11
  - Mouse port, 1-10
  - MS-DOS, 2-5
  - Multimedia
    - digital files, 5-7
    - microphone, 5-4
    - recording, 5-1
    - using external speakers, 5-6
    - using headphones, 5-6
    - video, 5-7
  - Multimedia extensions (MMX), 1-2
- N**
- NEC Customize, 2-3, 2-7
  - NEC utilities, 2-1
  - NEC Versa PortBar 6000, 4-35
  - NEC VersaBay II, 1-7
  - NEC VersaBay II release latches, 1-14
- O**
- Online documentation, 1-1
  - Online help
    - NEC Versa 6060 Help Center, 2-5
  - Online information group
    - questions and answers, 7-1
  - Operating systems
    - MS-DOS, 2-5
    - Windows 95, 2-2
    - Windows for Workgroups, 2-4
  - Optional battery charger, 1-18
  - Options catalog, 1-18
- P**
- Parallel port, 1-10
  - PC card
    - inserting a card, 4-14
    - slots, 4-14
  - Pentium microprocessor, 1-2
  - Peripheral Component Interconnect (PCI), 1-2
  - POST error messages, 7-4
  - Power button, 1-5
  - Power connections, 6-1
  - Power LED, 1-4
  - Power management modes, 1-5
  - Power management under AC, 3-9
  - Power savings
    - highest performance, 3-9
    - longest battery life, 3-9
    - off, 3-9
  - Power sources, 1-15
  - Powering on, 1-17
  - Power-on self test (POST), 3-1
  - Power-saving modes
    - Local standby, 6-3
    - Suspend, 6-3
  - Precautions, 1-26
  - Preparing your NEC Versa for travel, 6-3
  - Printer, 4-28

---

Problem checklist, 7-1

## **R**

Recharging the battery, 1-18  
Removing a device from the VersaBay II,  
4-7  
Replacing the battery pack, 1-20

## **S**

Serial port, 1-11  
Setting system parameters, 3-4  
    hard disk drive, 3-8  
    peripherals, 3-11  
    power savings, 3-9  
Setting time and date, 3-8  
Setup key functions, 3-4  
Setup utility, 2-7, 3-1  
    main screen, 3-8  
Smart switch, 1-5  
Sound Blaster 16, 5-1  
Speakers, 4-1  
Start-up problems, 7-3  
Stereo speakers, 1-3  
Storage requirements, 1-27  
SuperDisk LS-120, 1-2  
Support  
    phone numbers, 7-8  
Suspend button, 1-4  
Suspend mode, 6-3  
Switch settings, 4-36  
System care, 1-26  
System date, 3-8  
System features  
    IR port, 1-8  
    left side, 1-11  
    microphone, 1-8  
System software, 2-1  
System time, 3-8

## **T**

Technical support  
    inside U.S., 7-8  
    outside U.S., 7-8  
Technical support center (TSC), 7-8  
Traveling checklist, 6-2  
Traveling with your system, 6-1

## **U**

*UltraCare Guide*, 2-6  
Updating the BIOS, 4-37  
Using LCD panel controls, 4-1  
Using the battery pack, 1-17  
Using the NEC VersaGlide, 4-4  
Using the setup utility  
    time/date, 3-8  
Using Windows 95, 2-7

## **V**

VersaBay II  
    customizing your system, 4-11  
VersaGlide  
    adjustments, 4-5  
    tips, 4-5  
Volume control, 1-12

## **W**

WebSCAN, 2-10  
Windows 95, 2-2  
Windows 95 keys, 4-3  
Windows for Workgroups, 2-4

## **Y**

Y-adaptor, 4-31  
Y-cable adaptor, 1-10

## BATTERY REPLACEMENT

A lithium CMOS clock 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. Have an authorized NEC service representative 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.

### **ATTENTION**

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

## BATTERY DISPOSAL

The main battery and CMOS clock battery are made of Lithium Ion (Li-Ion). Your bridge battery (not the main battery) is made of nickel-metal hydride (NiMH).

Contact your local waste management officials for other information regarding the environmentally sound collection, recycling, and disposal of the batteries. For additional information on the proper collection or disposal of rechargeable batteries, please call 1-800-8-BATTERY.

(For United States Use Only)

**FEDERAL COMMUNICATIONS COMMISSION  
RADIO FREQUENCY INTERFERENCE STATEMENT**

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

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from the one to which the receiver is connected.

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

(For Canadian Use Only)

This equipment is a Class B digital apparatus which complies with the Radio Interference Regulations, C.R.C., c.1374.

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Cet appareil numérique de la classe B est conforme au Règlement sur le brouillage radioélectrique, C.R.C., ch.1374.