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**NEC V6220/6230/6260**

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# Using this Guide

The *NEC Versa® 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 the 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. We included software to let you experience the full spectrum of the system, from transferring files without cables to creating vivid presentations.
- Chapter 3, “Using BIOS Setup,” to customize your notebook’s parameter and power management settings.
- Chapter 4, “Using Your NEC Versa,” for an understanding of NEC Versa features and functionality. You’ll also master procedures for connecting external options like an external monitor, headphones, a printer, or speakers.
- Chapter 5, “Using Multimedia,” for steps on integrating video and sound clips into impressive presentations.
- Chapter 6, “Traveling with Your NEC Versa,” for valuable tips for getting the most out of your system while on the road.
- Chapter 7, “Solving Problems,” for simple solutions to common problems that may arise while operating your notebook.
- Appendix A, “Setting Up a Healthy Work Environment,” for guidelines that help promote a healthy work setting.
- Appendix B, “Specifications,” to review NEC Versa system specifications.
- Appendix C, “Questions and Answers,” for a look at questions that users commonly ask and the answers to those questions.

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## TEXT SETUP

To make this guide as easy to use as possible, text is set up as follows.

- 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**.

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## RELATED DOCUMENTS

See the following documents for additional information on your NEC Versa 6200 Series notebook computer:

- The *NEC Versa Quick Setup* sheet helps get your system up and running.
- The *NEC Versa Quick Reference* card provides an easy-to-carry reference to LED meanings, controls, function key combinations, and NECCSD help numbers. (The quick reference card does not ship with some systems purchased outside of the United States.)
- The *NEC Versa Help Center* comes installed on your system. The Help Center is an online HTML document containing all of the information about your NEC Versa that you find in this printed user's guide, and more.

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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, “Setting Up a Healthy Work Environment.”

After completing the steps in the quick setup sheet that comes with your computer, your NEC Versa 6200 Series notebook computer is ready to go! To get started, look at the following:

- Read Appendix A, “Setting Up a Healthy Work Environment,” for guidelines that help you use your computer productively and safely. Information includes how to set up and use your computer to reduce your risk of developing nerve, muscle, or tendon disorders.
- Take the online *System Tour* to get acquainted with the NEC Versa. The *System Tour* is part of the NEC Versa Help Center.
- View the online system *Basics*. *Basics* is part of the NEC Versa Help Center.
- Read through this guide to familiarize yourself with the NEC Versa.

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## GETTING TO KNOW YOUR NEC VERSA

The NEC Versa 6200 Series notebook computer offers you a portable system filled with exciting resources for home, business or travel. Standard features include a powerful Intel® Pentium 200-MHz, 233-MHz, or 266-MHz microprocessor that works together with the latest Peripheral Component Interconnect (PCI) architecture.

In addition, your system provides a high-performance hard disk drive, diskette drive or SuperDisk LS-120 drive, interchangeable 20X CD-ROM reader, and 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. See the online *Versa Tools: Accessories and Solutions* for more information.

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



*NEC Versa 6200 Series notebook computer*

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## Around the Front of the System

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

### ***LCD Panel***

The LCD panel on your system offers the features shown in the following figure. Features are described after the figure.



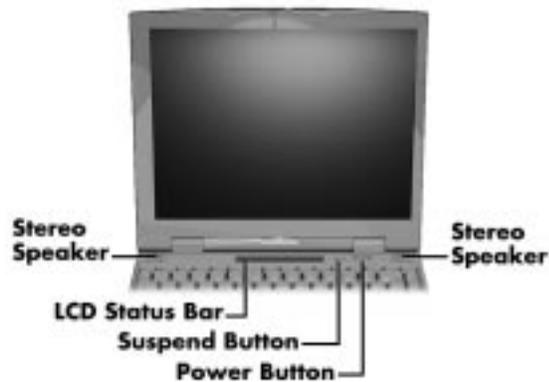
*LCD panel features*

- LCD — a 13.3-inch color Thin Film Transistor (TFT) Extended Graphics Array (XGA) display that you can easily adjust for comfortable viewing.
- Power LED — a light that is visible with the LCD panel opened or closed. The Power LED indicates the following:
  - Lights green when the system is powered on.
  - Blinks green when the system is in Suspend mode.
  - Slowly blinks amber to indicate that battery power is at 8% capacity or less.
  - Rapidly blinks green to indicate that battery power is at 4% capacity or less.
- Brightness Control — a slide switch that adjusts screen brightness.

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## Control Panel

The NEC Versa control panel provides the features shown in the following figure. These features are described after the figure.



*Control panel*

- Stereo Speakers — provide stereo sound for your multimedia presentations or listening pleasure. The built-in sound system also supports 3D sound, which simulates the latest surround-sound technology.
- LCD Status Bar — keeps you informed of your NEC Versa's current operating status. Description of icons appear in the following section.
- Suspend/Resume (S/R) Button — press the S/R button to put the unit in Suspend mode when you need to be away from your system for a short period of time and want to return to where you left off. Press the S/R button again to bring the NEC Versa out of Suspend mode.

Suspend mode shuts down all devices in the system while retaining data and system status. Use the **Fn Suspend** key combination to initiate a manual save-to-file. Use the Smart power Switch (power button) to resume from a save-to-file. You can find more detailed information on using Suspend mode in Chapter 3, "Using Setup."

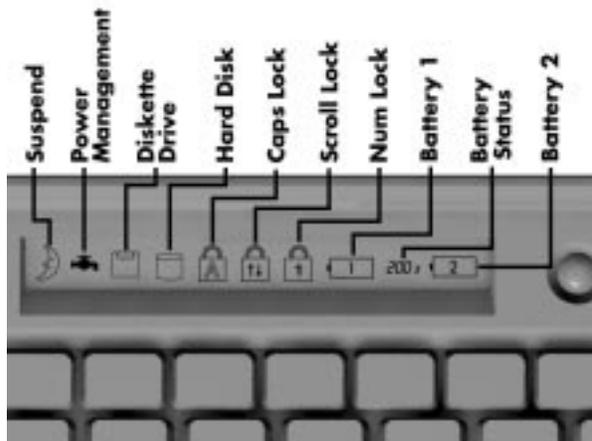
- 
- Power Button — slide the power button to the right to power on and power off the computer.

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

In addition, the Smart Power Switch invokes an orderly shutdown in the Windows 95 and Windows NT environments. If you use the Power button to turn off your system while applications are running, the Smart Power Switch alerts the operating system. The operating system prompts you to save all data and invokes an orderly shutdown procedure.

### *Status Icons*

The NEC Versa 6200 Series uses LCD icons that communicate system status. See the following figure and list for each icon’s meaning.



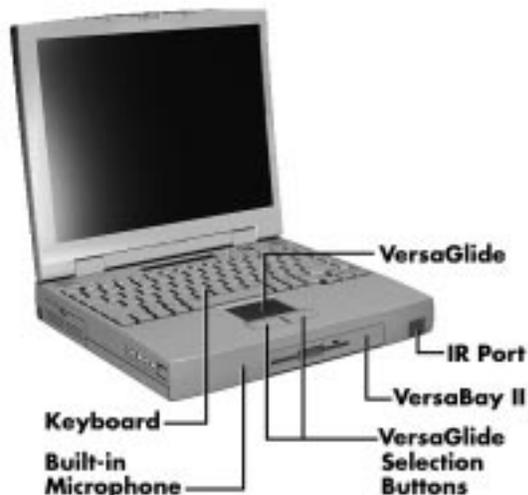
*Reviewing status icons*

- Suspend — appears when the system is in Suspend mode. Suspend mode conserves system power by shutting down all devices in the system while retaining data and system status.
- Power Management — shows the current power management mode in use, including Off, Custom, Low, or High.

- 
- Diskette Drive — appears when the NEC Versa writes data to or retrieves data from a diskette.
  - Hard Disk — appears when the NEC Versa accesses either the hard disk drive or the CD-ROM reader.
  - Caps Lock — appears when Caps Lock is in effect.
  - Scroll Lock — shows that Scroll Lock is in effect.
  - Num Lock — appears when Num Lock mode is active.
  - Battery Status — displays the percentage of battery power available.
    - Battery 1 appears when you have one or more batteries installed.
    - Battery 2 appears when you have an optional battery installed in the VersaBay II.
    - A number between the battery icons indicates the percentage of total battery power remaining. Before the battery is charged, dashes appear instead of a percentage.

### ***Keyboard Panel and Base Unit***

The NEC Versa keyboard panel and base unit contain the following features, which are described after the figure.



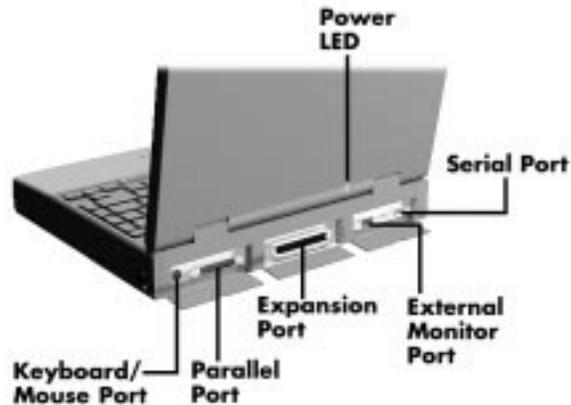
*Keyboard and base unit*

- 
- **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. VersaGlide settings and features are described in detail in Chapter 4.
  - **IR Port** — The infrared (IR) port on the NEC Versa lets you send and receive information from other IR-equipped devices such as printers or desktop computers. Using the LapLink<sup>®</sup> software, you can transmit, receive, and gain access to files on a remote system. See “LapLink” in Chapter 2.
  - **NEC VersaBay II™** — A 1.44-MB diskette drive or SuperDisk LS-120 drive comes installed in the NEC VersaBay II on the front of your system. You can use the diskette or LS-120 drive, 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 an optional second Li-Ion battery, or an additional hard disk drive. See “Customizing Your System with the VersaBay II” in Chapter 4.
  - **Microphone** — A strategically positioned built-in microphone allows you to record monophonic sound directly into your notebook computer. See Chapter 5, “Using Multimedia,” for details about recording.
  - **Keyboard** — 85 keys with the standard QWERTY-key layout. See Chapter 4 for complete details. (Models purchased outside of the U.S. ship with country-specific keyboard layouts.)

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## Around the Back of the System

You'll find system ports for connecting optional devices (like printers, docking station, or external monitor) on the back of your NEC Versa. These ports are described following the figure.



*Ports on the back of the system*

- **Keyboard/Mouse Port** — Use the standard PS/2 port to connect an external PS/2-style mouse or a PS/2-style keyboard to the system. With an optional Y-cable adapter, you can connect both a mouse and a keyboard at the same time.
- **Parallel Port** — Use this port to connect a parallel printer or other parallel device. The port is an Enhanced Capabilities Port (ECP). The ECP standard provides you with a greater processing speed than the conventional parallel port. It also supports Enhanced Parallel Port (EPP) bi-directional and uni-directional protocols.
- **Expansion Port** — This port (also called the Docking port) provides a connection for NEC Versa 6200 Series options including the NEC Docking Station 6000 Plus, the NEC PortBar 6000, the NEC MiniDock 6000, and the NEC Floppy Disk Drive (FDD) Connector.



## CAUTION

Only dock the NEC Versa 6220, 6230, or 6260 on the NEC Docking Station 6000 Plus or the NEC MiniDock 6000. The cover of the docking station is specially designed to allow for proper system cooling.

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

### Around the Left Side of the System

The left side of your NEC Versa offers the following features, which are described after the figure.



*Left side features*

- PC card slots — provides two slots for inserting two Type II PC cards or one Type III PC card.
- Battery bay and battery bay cover release latch. — Contains an eight-cell Lithium Ion (Li-Ion) battery that lets you run your system on DC power.

- 
- Audio ports and a volume control knob.
    - Volume Control — Allows you to control the speaker volume.
    - Headphones — Lets you connect external headphones or speakers to your NEC Versa. Plugging in headphones disables the built-in system speakers.
    - Line-Out — Lets the NEC Versa act as an input source for another audio system. Connect this port to a Line-In port on another audio system to play or record.
    - Line-In — Lets you use another audio system, like a home stereo, as an input source. Use a cable to connect to the Line-Out port on the other audio system to record or play.
    - Microphone (MIC) — Allows you to connect an external microphone for monophonic recording or amplification through the unit. Plugging in an external microphone disables the built-in microphone.

---

## Around the Right Side of the System

The right-side of the NEC Versa offers the features shown in the following figure. Features are described after the figure.



*Right side features*

- 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.
- TV Out Port — Lets you use your television set as an external monitor. This port supports both NTSC and PAL signals.



The TV Out port does not support the SECAM signal used in some countries. For proper display, video mode must be set to 640 x 480.

- USB Port — The Universal Serial Bus (USB) port allows you to connect up to 127 USB equipped peripheral devices (printers, monitors, scanners, etc.) to your NEC Versa.
- Fan Vents — Allow your system to cool properly and maintain a safe operating temperature.

---

 **CAUTION**

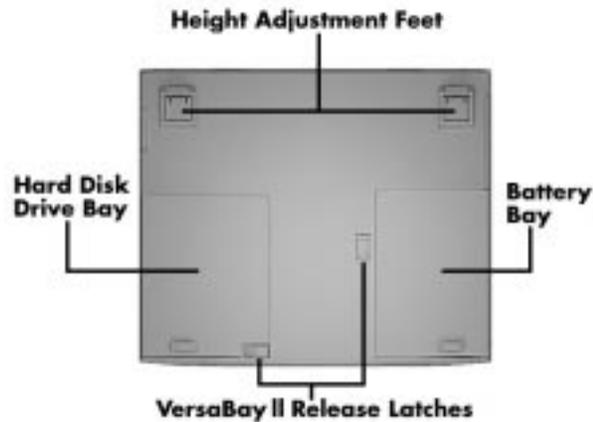
Always keep the fan vents clear to allow proper system cooling.

- Kensington Lock — Lets you provide added security by installing an optional Kensington Lock.
- Hard Disk Drive Bay and Cover Release Latch — The hard disk drive bay contains the removable hard disk drive. Your NEC Versa typically ships with either a 3.2 gigabyte (GB) or a 5.1 gigabyte (GB) hard disk drive (other capacities drives may be installed depending on your initial purchase configuration).

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

### **Around the Bottom of the System**

The bottom of the NEC Versa offers the features shown next. Descriptions of the features follow the figure.



*Bottom features*

- 
- Adjustable Feet — Allow you to modify the angle of the NEC Versa for easier viewing and typing.
  - Hard Disk Drive Bay — Contains the system's hard disk drive.
  - NEC VersaBay II Release Latches — Lets you remove the option currently installed in the bay.
  - Battery Bay — Contains the system's main battery. It is an eight-cell, Lithium-Ion (Li-Ion) battery.

## **POWER SOURCES FOR YOUR NEC VERSA**

The NEC Versa can be powered using three different sources, making it a truly portable system. Operate your NEC Versa 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
- the optional PowerXtender™ Airplane and Auto adapter.

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

### **Using the AC Adapter**

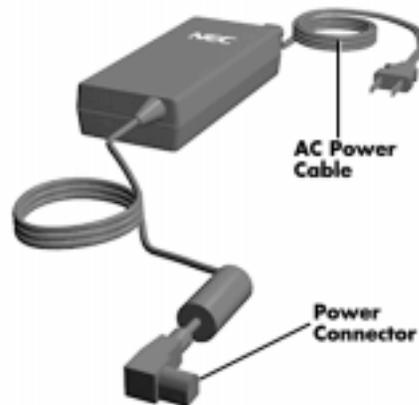
Use the AC adapter and power cable that came with your NEC Versa to run your computer on alternating current (AC) power, or to recharge the battery pack. Use the AC adapter whenever a wall outlet is nearby.

Keep the adapter connected whenever possible. The AC adapter charges the battery whether or not you are using the NEC Versa or have the system powered on.

---

**⚠ WARNING**

Do not attempt to disassemble the AC adapter. The AC adapter has no user-replaceable or serviceable parts inside. Dangerous voltage in the AC adapter can cause serious personal injury or death. The AC adapter is intended for use with a computer. Both must meet EN609050 standards.



*AC adapter*



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

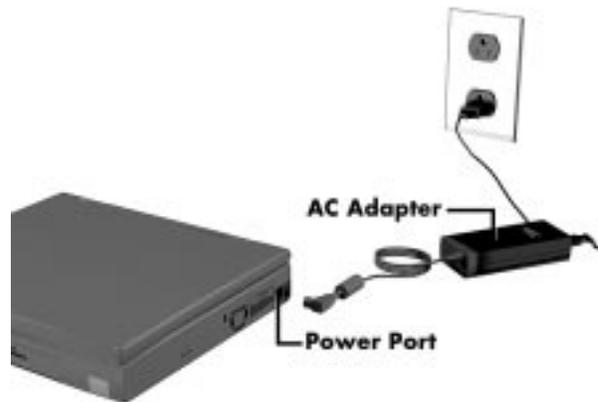
Connect the AC adapter as follows:

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

- 
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 where you are using it. Contact the local dealer to purchase the correct power cable.



*Connecting the AC adapter*



## **CAUTION**

Do not cover or place objects on the AC adapter. Keeping the adapter clear of objects lets the adapter cool properly during use.

### ***Powering On***

Power on the system as follows.

1. Locate the latch on the front of the LCD panel, slide it to the right, and raise the panel.
2. Locate the Power button and slide it to the right to turn on system power.



*Powering on the system*

## **Using the Main Battery Pack**

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

Your NEC Versa system provides two tools to help you keep track of the main (or an optional) battery's power level. These include the battery percentage status described earlier in this chapter under "Status Icons" and the Power Gauge utility. Both let you know how much battery power remains.

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

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

- Press the Suspend button to put your system in Suspend mode, remove the battery pack, and replace it with a fully charged Li-Ion battery.
- Leave the battery pack in the system and connect your NEC Versa to the AC adapter and a wall outlet. If you connect the system to AC power and keep the system within standard operating temperatures, the battery recharges in approximately 2 hours whether or not you use your system.

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

---

 **WARNING**

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

- Keep the battery away from extreme heat.
- Keep metal objects away from the battery terminals to prevent a short circuit.
- Make sure the battery is properly installed in the battery bay.
- Read the precautions printed on the battery and in the online *Basics*.

### ***Determining Battery Status***

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

A blinking battery icon indicates that the battery is charging. Two dashes in place of the percentage number appear in the following cases:

- when installing a new battery
- when battery status is unknown
- 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 when battery power is low.

---

### ***When to Change the Battery***

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

- Shorter work times.
- Discoloration, warping.
- Hot to the touch.
- Strange odor.

### ***Battery Handling***

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

- Use Li-Ion batteries only in the NEC Versa computer for which they are designed.
- Use only the Li-Ion battery designed for your system in the NEC Versa. Mixing other manufacturer's batteries, or using a combination of very old and new batteries can deteriorate battery and equipment performance.
- Turn off power to the system after use. Keeping system power on can degrade battery performance and shorten battery life.
- Clean the battery terminals with a dry cloth when they get dirty.
- Keep the battery out of the reach of children.

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

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



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

- 
1. Save your files, exit Windows, and press the suspend button or turn off system power.
  2. Close the LCD and turn the system over.
  3. Release the battery cover latch and slide the battery bay cover away from the system.

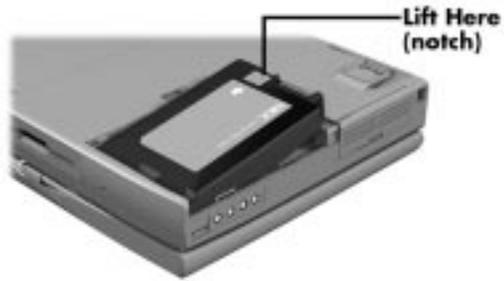


*Removing the cover*

4. Place a finger in the notch on the battery and lift the battery out of the system. (The notch has an arrow next to it.)

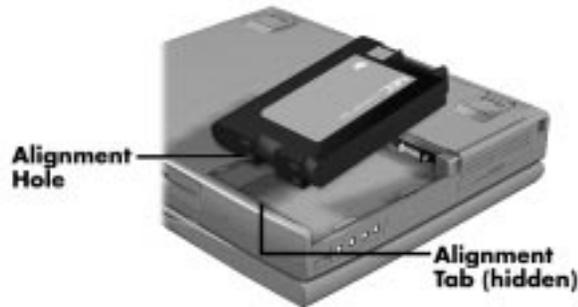
 **CAUTION**

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 alignment groove on the end of the battery opposite the terminals.
  - Locate the alignment tab inside the battery bay at the end opposite the terminals.
  - Fit the battery alignment groove over the tab inside the bay.
  - Lower the battery into the battery compartment, pressing gently to secure the terminal connections.



*Inserting the battery pack*

6. Replace the battery bay cover as follows:
- Align the tabs on the bay cover with the grooves on the system chassis.

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



*Replacing the cover*

7. Turn the system over.

---

## **Battery Precautions**

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

### **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.

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.

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## **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.

## **Extending Battery Life**

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

You will find an extensive explanation of how best to apply the power management tools that your system offers in *Advanced Topics* in the online Help Center (in some countries, the system ships with an online user's guide instead of the Help Center). Other important topics to view in the online document include *Maximizing Battery Life*, *Battery Charging* and *Disposal*.

## **NEC VersaBay II Battery and Adapter Kit**

The NEC VersaBay II Battery and Adapter Kit provides a second Lithium-Ion (Li-Ion) battery and adapter to use in your NEC Versa 6200 Series computer. Inserting a second fully charged battery increases battery life to approximately 4 to 5 hours.

See the online *Versa Tools: Accessories and Solutions Catalog* in the NEC Versa Help Center, or your authorized NECCSD dealer for details about the NEC VersaBay II Battery and Adapter Kit.

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## Using the DC Car Adapter

Another way to power your NEC Versa 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. Plug the DC car adapter into a car cigarette lighter.



*Connecting the car DC adapter*

## Internal Batteries

The eight-cell Lithium-Ion (Li-Ion) battery provides the main power source in your NEC Versa 6200 Series 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 NECCSD service technician can replace the CMOS battery for you.

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### **Bridge Battery**

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

Only an authorized NECCSD dealer can change a bridge battery.



### **CAUTION**

Connect your NEC Versa system to AC power for a full 24 hours before using it on battery power for the first time. Doing so insures that the bridge battery is fully charged and that no data is lost during a battery change.

### **SYSTEM CARE**

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



### **CAUTION**

Immediately turn off and unplug the NEC Versa under the following conditions:

- The power cord is damaged or frayed.
- Liquid spills on or into the NEC Versa.
- Someone drops the system or damages the casing.

### **Precautions**

Follow these precautions when using your NEC Versa 6200 Series computer, AC adapter, and VersaBay II.

- Always plug the AC adapter cord into an easily accessible outlet. It is important to be able to easily shut off power to the computer by unplugging the AC adapter.

- 
- Avoid dropping or bumping the computer or the AC adapter.
  - Do not stack heavy objects on the computer, the AC adapter, or the battery packs.
  - Avoid moving the NEC Versa during system operation, especially while the hard disk or diskette drive is being accessed.
  - When using the AC adapter, make sure the power source falls within the system's compatible range of 100–240 volts AC. Never use the AC adapter if the voltage falls outside of this range. (Watch for this when traveling to other countries.)
  - Turn computer power off before attaching or removing non-plug and play devices.
  - Do not push any foreign objects into the NEC Versa option bays, connectors, and slots.
  - Avoid using the computer or AC adapter for extended periods in direct sunlight.
  - Do not use the system in humid or dusty environments.
  - Turn computer power off before cleaning it.
  - Avoid exposing the NEC Versa or AC adapter to extreme changes in temperature or humidity. If it is unavoidable, allow your NEC Versa to adjust to room temperature before use.
  - 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.
  - Keep the AC adapter away from the IR ports.

### **Storage Requirements**

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

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



## CAUTION

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

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

- Keep the storage area free from vibration and magnetic fields.
- Keep the system and its components away from organic solvents or corrosive gases.
- Avoid leaving the system and its components in direct sunlight or near heat sources.

### Routine Cleaning

Clean or dust your system as follows.



## CAUTION

*Never* use harsh solutions, household cleaners, or spray cleaners that contain caustic materials on the NEC Versa Series 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 — NEC recommends that you carefully wipe the case with a slightly damp, almost dry cloth.

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# 2

## Introducing the Software

This chapter introduces you to the software\* that comes with the NEC Versa 6200 Series computer. The software\* installed on your NEC Versa varies according to your operating system environment.

The software selections include:

- the Windows 95, Windows NT<sup>®</sup>, or Windows for Workgroups operating system
- Online Help
- NEC Utilities
  - BIOS Setup Utility
  - NEC Customize Utility
  - Power Gauge Utility
  - HDPREPEZ Utility
- Other Software
  - LapLink<sup>®</sup> File Transfer Software
  - McAfee VirusScan and WebScan
  - MediaMatics Arcade<sup>™</sup> MPEG Player
  - XingMPEG Player<sup>™</sup>
  - Intel's LANdesk Client Manager
  - MindPath<sup>™</sup> Presentation FX
  - CompuTrace<sup>™</sup> Security Software
  - America Online<sup>®</sup>
  - CompuServe<sup>®</sup>

- 
- AT&T WorldNet
  - Prodigy Internet Service Sampler
  - Microsoft Internet Explorer
  - Adobe Acrobat Reader
  - Official Airline Guide (OAG™)

\*The software listed here is current as of January 1998. The list is subject to change without notice.

## **WINDOWS INTRODUCTION**

Your NEC Versa comes pre-installed with either Windows 95, Windows NT or the Windows for Workgroups 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 through an easy-to-use graphical interface.

### **Windows 95**

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

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

- **My Computer** — Provides access to drives, printers, the control panel, and network features.
- **Inbox** — Lets you access the Microsoft fax and mail software as well as Microsoft network services.
- **Recycle Bin** — Gives you a trash container in which to put unwanted files.
- **The Internet** — Provides the Internet Connection wizard that allows you to automatically setup a new connection to the Internet or manually configure a new account for your NEC Versa.

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- The Microsoft Network —Provides a setup program that allows you to sign-up for the Microsoft Network. If you already have an account, use this interface to sign-on to the Microsoft Network.
  - 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 and another system.
  - Online Services —Includes setup icons for the America Online, AT&T Worldnet, and CompuServe online services.
  - NEC Customize — 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.
  - MindPath FX —Launches the MindPath Presentation FX application.
  - NEC Versa Help Center — Includes online topics specific to the NEC Versa, NEC customer support, and Windows. (In some countries, the system ships with an online user's guide instead of the Help Center.)
  - 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 help for detailed instructions on using Windows 95.

## **Windows NT**

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

Windows NT gives you the newest features offered by Microsoft, including a desktop to maneuver, a taskbar for quick navigation between open windows, and more. The following icons/buttons 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 mail software as well as Microsoft 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.
  - NEC Versa Help Center — Includes online topics specific to the NEC Versa, NEC customer support, and Windows. (In some countries, the system ships with an online user's guide instead of the Help Center.)
  - NEC Utilities — Includes small programs written by NECCSD to help you manage your NEC Versa computer.

## **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.
- Network — Includes network programs for configuring the network, sending email, and scheduling appointments.
- Microsoft Tools — Provides Microsoft's backup utility to ensure data security.

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- Applications — Includes a variety of program groups for some of the pre-installed applications on your NEC Versa.
  - NEC Utilities — Includes small programs written by NEC to help you manage your NEC Versa computer.

## 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.

## GUIDE TO ONLINE HELP

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

## NEC Versa Help Center

The NEC Versa Help Center contains several specific areas of information to help you. 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.

- *The Basics*

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

- *Advanced Topics*

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

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- *Questions and Answers*

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

- *Versa Tools: Accessories and Solutions Catalog*

The *Versa Tools: Accessories and Solutions Catalog* lists tools such as memory cards, hard drives, carrying cases, and PC cards that you can purchase for use with the NEC Versa notebook computer.

- *Service and Support*

*Service and Support* includes the *NEC Customer Support Guide* and the *NEC UltraCare 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.

— 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 NECCSD office or dealer for the warranty program in your area.



If you purchased your system outside of the U.S. or Canada, refer to the booklet, "Getting Service and Support in Asia, Australia, and Europe," to find out how to contact the local office in your country.

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## GUIDE TO NECCSD UTILITIES

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

### BIOS Setup Utility

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

Press <F2> to enter SETUP

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

### NEC Customize Utility

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

### Power Gauge Utility

The Power Gauge utility communicates the percentage of total battery power remaining for one or two batteries.

In Windows 95, double click the battery icon that appears on the right side of the taskbar to call up the power gauge. (If you are using AC power, the icon appears as a plug.) If you simply move your cursor over the icon, it indicates battery power percentage as balloon help.

- Click on the VersaGlide or mouse button to open the battery meter dialog box that displays current power source, battery power remaining and options for status indicators.
- Click on the right VersaGlide or mouse button and select Adjust Power Properties to customize the advanced power properties.

In Windows NT systems, double click the Power Profiler icon on the taskbar.

- Click on the left VersaGlide or mouse button to open the battery page that displays current status and alarm settings.

- 
- Click on the right VersaGlide or mouse button and select Battery Page to customize the PowerProfiler.

In Windows for Workgroups systems, select the PowerProfiler program group under Program Manager. Select the Power Profiler icon and select Battery Page to customize the PowerProfiler.

## **HDPREPEZ Utility**

NEC provides the HDPREPEZ utility to automatically configure your NEC Versa system hard disk space when you increase system memory. You only need to access this utility when your system memory total is greater than 96 MB.



For more details about the HDPREPEZ utility, see the HDPREPEZ.TXT file in the NECUTILS/HDPREP directory.

### ***Using HDPREPEZ in Windows 95***

In Windows 95, use these steps to run the HDPREPEZ utility.

1. Power off and restart your NEC Versa.
2. At the statement “Starting Windows 95,” press **F8**.
3. From the Startup menu, select Option 6, “Safe Mode Command Prompt Only.”
4. Enter MS-DOS. At the c: prompt, type **cd \necutils\hdprep** and press **Enter** to change to the \necutils\hdprep directory.
5. Type **HDPREPEZ** and press **Enter**. The utility automatically prepares your NEC Versa for the newly installed memory.
6. Power off your system and then power on. The newly installed system memory is now reallocated to the appropriate resources.

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## ***Using HDPREPEZ in Windows for Workgroups***

In Windows for Workgroups, use these steps to run the HDPREPEZ utility.

1. Exit Windows.
2. At the c: prompt, type **cd \necutils\hdprep** and press **Enter** to change to the \necutils\hdprep directory.
3. Type **HDPREPEZ** and press **Enter**. The utility automatically prepares your NEC Versa for the newly installed memory.

## **OTHER SOFTWARE**

Your NEC Versa 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.

### **LapLink file Transfer Software**

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 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.

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## ***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.

Start the LapLink Traveling software as follows:

1. In Windows 95 or Windows NT, press **Start**, slide the cursor over to Programs, and locate the LapLink 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**

When you run the NEC Customize utility, the McAfee VirusScan software is set up to scan your system daily. You can change these settings through the VShield Configuration Manager. Access the configuration manager as follows.

1. From the McAfee VirusScan program group, highlight the VShield Configuration Manager, and open the configuration manager, or double click the Vshield icon on the right side of the taskbar and select Properties.
2. The configuration manager 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.

### **MediaMatics Arcade MPEG Player**

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

### **XingMPEG Player**

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

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## Intel's LANDesk Client Manager

Intel's LANDesk Client Manager provides the capability for managing a variety of components within a PC system. These components include network interface cards, memory modules, printers, and software applications. LANDesk Client Manager uses the Desktop Management Interface (DMI) standard established by the Desktop Management Task Force (DMTF).

Set up the LANDesk Client Manager software on your NEC Versa using the easy-to-follow setup program. To find out more about Intel's LANDesk Client Manager capabilities and uses, refer to the online help that is available when you open Client Manager.



Intel's LANDesk Client Manager continuously monitors your system for optimal system performance. This monitoring function interrupts the auto suspend feature that invokes after 30 minutes of inactivity.

If you install Intel's LANDesk Client Manager the NEC Versa auto suspend feature is disabled.

## MindPath Presentation FX

MindPath™ Presentation FX uses a remote control device and infrared technology that allows you to control your presentations from across the room. Add special effects and move through any presentation with the push of a button. (The remote control unit is available from MindPath™ Technologies; phone: 214-233-9296, fax: 214-233-9308.)

## CompuTrace™

CompuTrace is designed to assist in the recovery of stolen computers. CompuTrace resides on your system's hard disk using stealth technology to avoid detection. With CompuTrace you can register an electronic serial number with the CompuTrace Monitoring Center™. Once the number is registered, the system periodically dials into the Monitoring Center to reports it's dialing location. If your system is reported stolen, the CompuTrace Monitoring Center notes the new location of the system and forwards the information to the proper authorities.

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## Online Services

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



Before using online services, you must connect an optional modem to your system. Your modem must also be connected to a working telephone line.

If you are using this product outside of the United States, some on-line services may require a long-distance or international call.

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

Before choosing and registering for an online service, make sure your modem is connected to a working phone. The line must be an analog line. If you are unsure what type of line you have, call your local telephone company.

Access online services preloaded on your system as follows:

1. Connect an optional modem to your system and to a phone line.
2. Continue as follows:
  - In Windows 95 and Windows NT, press **Start**, slide to the Programs group, slide to Online Services, and slide to the online service group that you want to open. In the group, highlight the service and release the mouse button.
  - From the Program Manager in Windows for Workgroups, locate and double click on the program group for the service you want to investigate. Double click on the program icon to open the program.
3. Follow the on-screen instructions to log onto the service.

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## **America Online**

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



If you are using your NEC Versa computer outside North America, there may not be any local access points for this online service. It may require a long distance or international call.

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

1. Log onto America Online.
2. At the opening screen, click on Go To in the Main Menu.
3. At the Go To menu, click Keyword.
4. At the prompt, type NEC, then either press **Enter** or click on Go.
5. At the NEC menu, double-click on the topic of your choice and follow the prompts.
6. Exit anytime by double-clicking on the rectangle in the upper left corner of the screen.

## **CompuServe**

An installation program for CompuServe is part of your software.

If you subscribe to CompuServe, you can use the service to obtain information about NECCSD and its products. Use CompuServe to email technical questions to NECCSD's Technical Support staff, post technical questions and messages on the Bulletin Board, and access NECCSD's Bulletin Board.



You cannot download information from the NECCSD Bulletin Board via CompuServe. You must call the NECCSD Bulletin Board directly to download information.

If you are using your NEC Versa computer outside North America, there may not be any local access points for this online service. It may require a long distance or international call.

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

1. Log onto CompuServe.
2. At the opening screen, click on Service, type in **GO NECTECH** at the prompt, and click OK.
3. At the NEC menu, double-click on the topic of your choice.
4. Exit anytime by double-clicking on the rectangle in the upper left corner of the screen.

### ***AT&T WorldNet***

One of the world's largest telephone service providers now offers internet access. Click on AT&T WorldNet Signup in the Online Services group to install this software, learn more about it, and sign up with this service.

### ***Prodigy Internet Service Sampler***

Prodigy Internet provides access to everything that the Internet has to offer – the World Wide Web, email, chat, newsgroups, and more. Click on the Prodigy Internet group to install this software, learn more about it, and sign up with this service.

### **Browsers/Viewers**

Your NEC Versa comes preinstalled with software that allows you to view files from your local network and the Internet.

- Microsoft Internet Explorer allows you to view HTML files.
- Adobe Acrobat Reader allows you to view PDF files.

---

## Official Airline Guide (OAG)

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

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

Access OAG as follows.

1. Connect an optional modem to your system and to a phone line.
2. In Windows 95 and Windows NT, press **Start**, slide to the Programs group, and open the OAG FlightDisk group. In the group, highlight “OAG FlightDisk Worldwide Edition” and release the mouse button.
3. The first time you open OAG, an agreement screen appears. Read the agreement and press Continue to accept the agreement. Press Continue again to access the trip plan screen.
4. In the Trip Plan screen, fill in the fields with the trip information requested. Press **Enter** after making selections from the available drop-down lists.
5. To retrieve seat availability and price information, press the appropriate button and follow the on-screen instructions to register for a free trial of the OAG travel service.

---

# 3

## Using BIOS Setup

Your NEC Versa 6200 Series computer comes with a hardware program called BIOS Setup that allows you to view and set system parameters. BIOS Setup also allows you to set password features that protect your system from unauthorized use.

Use BIOS 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 BIOS SETUP

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

Press <F2> to enter Setup

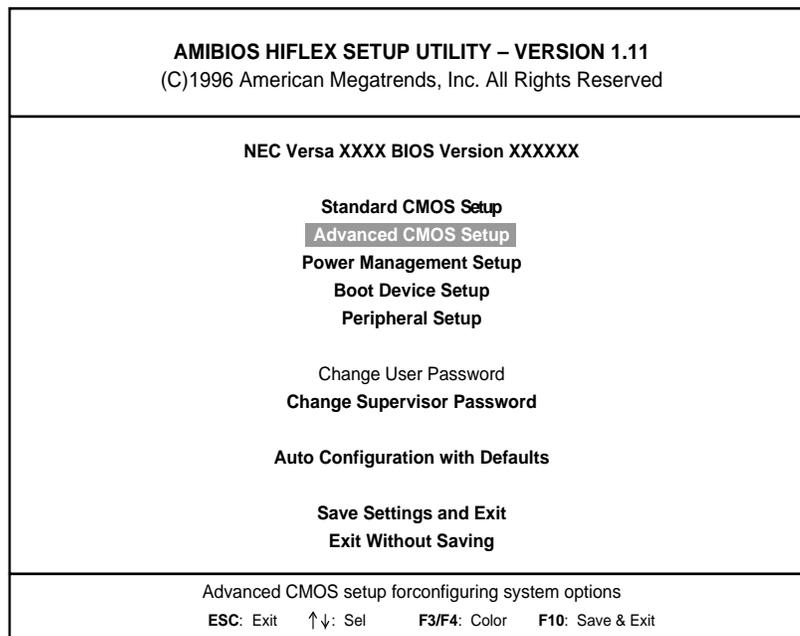
When you press **F2** to enter BIOS Setup, the system interrupts the Power-On Self-Test (POST) and displays the current CMOS RAM settings.

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 BIOS 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**.

---

## BIOS Setup Utility Main Menu

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



*BIOS Setup Main Menu*

Use the up and down arrow keys (located on the lower right corner of the keyboard) to toggle through the BIOS Setup menu items. (The Change User Password option is only available if a Supervisor Password is defined.)

## HOW TO USE BIOS SETUP

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

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

---

## Looking at Screens

BIOS Setup screens have three areas as shown next.

AMIBIOS SETUP – ADVANCED CMOS SETUP		
(C)1996 American Megatrends, Inc. All Rights Reserved		
<b>Plug and Play Aware O/S</b>	<b>Auto</b>	Select the boot configuration of AMIBIOS. Yes indicates the system will boot to a Plug and Play aware Operating System such as Windows 95(tm). When set to Auto, the system will detect Plug and Play OS's.
BootUp USB Configuration	Disabled	
Docking Station Video	Dock Strn.	
BootUp Num-Lock	Auto	
LCD Panel View Expansion	Off	
Password Check	Setup	
PS/2 Port HotSwap	Enabled	
Internal Mouse	Enabled	
		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.

Options that are grayed out are not available for the current selection.

---

## Using Keys

The following table lists BIOS Setup keys and their functions.

### *BIOS Setup Key Functions*

KEY	WHAT IT DOES
↑ ↓	Moves the cursor between the displayed parameters.
PgUp/PgDn	Modifies the current parameter settings.
Tab	For some parameter settings, moves the cursor between the subfields. Also moves the cursor to the next line or selection. For example, for System Time, Tab moves the cursor from hour to minute to second.
Esc	Exits the current screen and returns to the Main Menu screen. From the Main Menu screen, displays the prompt "Quit without saving."
F3/F4	Changes the screen color.

## 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 BIOS Setup Main Menu and press **Y** and **Enter**.

---

## BIOS Setup Parameters

PARAMETER	DEFAULT SETTING	ALTERNATE SETTING(S)
<b>Standard CMOS Setup</b>		
System Date	mm/dd/yy	
System Time	hh/mm/ss	
Diskette Drive A	1.44 MB, 3.5	Not installed/1.2 MB, 5.25
Diskette Drive B*	1.44 MB, 3.5	Not installed/1.2 MB, 5.25
Internal Hard Disk Drive	Enabled	Disabled
Internal Master	Auto	User Defined/CD-ROM/LS-120/ Pre-defined types
32-bit Mode	On	Off
Internal Slave	Auto	User Defined/CD-ROM/LS-120 Pre-defined types
32-bit Mode	On	Off
Docking Station Hard Drives*	Enabled	Disabled
DS Master*	Auto	Not installed/User Defined CD-ROM/LS-120
DS Slave*	Auto	Not installed/User Defined CD-ROM/LS-120
System Memory	32 MB	(automatically detected)
<b>Advanced CMOS Setup</b>		
Plug and Play Aware O/S	Auto	No, Yes
Bootup Num-Lock	Off	On
LCD Panel View Expansion	Off	On
Password Check	Setup	Always
PS/2 Port Hot Swap	Enabled	Disabled
Internal Mouse	Enabled	Disabled
<b>Power Management Setup</b>		
Power Management under AC	Off	On
Power Savings Level	Longest Life	High Perform/Custom /Off
Hard Disk Timeout**	2 min.	5/30/45 sec; 1/4/6/8/10/15 min.; Off
Video Timeout**	2 min.	30/45 sec.; 1/4/6/8/10/15 min.; Off
Peripheral Timeout**	On	Off
Audio Device Timeout**	On	Off
Standby Timeout**	4 min.	Off/1/2/6/8/10/15 min.
Auto Suspend Timeout**	10 min.	Off/5/15/20/25/30 min.

## BIOS Setup Parameters

PARAMETER	DEFAULT SETTING	ALTERNATE SETTING(S)
<b>Power Management Setup (Cont'd)</b>		
Suspend Option	Suspend	STF
Auto Save to File	Enabled	Disabled
Panel Backlight	Auto	Full/Standard
Suspend Warning Tone	On	Off
Modem Ring Resume	On	Off
Wake Up Alarm	Off	On
Resume Alarm Time		Set time in 5 min. increments when wake up is set to On.
<b>Boot Device Setup</b>		
Boot DS IDE*	No	Yes
1st Boot Device	LS-120	Floppy/CD-ROM/SCSI/Network Disabled/IDE-0/1/2/3
2nd Boot Device	CD-ROM	Floppy/LS-120/Disabled/IDE-0
3rd boot Device	Floppy	LS-120/CD-ROM/Disabled/IDE-0
4th Boot Device	IDE-0	Floppy/CD-ROM/LS-120/Disabled
Try Other Boot Devices	Yes	No
Docking Station Video*	Dock Stn.	Portable
<b>Peripheral Setup</b>		
Serial Port	Auto	Disabled/(PnP OS Setup) COM1,IRQ4/COM2,IRQ3 COM3,IRQ4/COM4,IRQ3
Parallel Port	Auto	Disabled/(PnP OS Setup) LPT1/LPT2
Parallel Mode	ECP	Uni-Directional/Bi-Directional/EPP
IR Serial Port	Auto (PnP OS Setup)	Disabled COM3 IRQ9 COM2/IRQ3,COM4/IRQ3
TV Mode	NTSC	PAL
Sound	Auto	Disabled/220h/240/260/280
Sound IRQ	N/A	IRQ5***/7/9/10/11
SB-compatible DMA	N/A	DMA #0/DMA #1***
Full Duplex Mode DMA	N/A	DMA #0/DMA #3***
Docking Station MIDI (MPU-401)*	Disabled	300h/310h/320h/330h/Auto ****
Docking Station Joystick*	Disabled	Auto

\* Visible or available only when notebook is docked.

\*\* Can only be modified when power management is set to Custom.

\*\*\* Default options when sound setup is set to User Defined.

\*\*\*\* If the docking station joystick is set to Auto, use I/O Address 201.

---

## BIOS Setup Menus

Read the following descriptions for explanations of items that appear in the BIOS Setup menus, as listed in the preceding table. See the item-specific help that appears on the Setup screen for more details.

### **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** — Set your NEC Versa's calendar month, day and year. 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** or arrow keys to move from field to field. Use the **PgUp** or **PgDn** key to change the numbers within each field.

- **Time** — Set the time, enter the current hour, minute, and second in *hr/min/sec*, 24-hour format.

To set the time use the **Tab** or arrow keys to move from field to field. Use the **PgUp** or **PgDn** key to change the numbers within each field.

- **Diskette Drives** — Lets you designate the drive type for your diskette drives.
- **Internal Hard Disk Drive** — Allows you to enable or disable the internal hard drive in your system. You can also define internal master and slave drives.
- **Docking Station Drives** — Enable and disable the hard drives installed in a docking station. (These options are only available when the NEC Versa is docked.)
- **System Memory** — Displays the amount of system memory.

### **Advanced CMOS Setup**

Advanced CMOS settings let you define the following functions.

- **Plug and Play Aware O/S** — Selects whether or not the system boots to a Plug and Play operating system.
- **Bootup NumLock** — Specifies whether NumLock is On or Off at system startup.

- 
- **LCD Panel View Expansion** — Specifies whether the panel view is reduced/off or expanded/on.
  - **Password Check** — Specifies whether the system prompts you to enter a password when entering BIOS setup, booting the system, and resuming from suspend.
  - **PS/2 Port Hot Swap** — Specifies whether or not you can swap a PS/2 device during system operation.
  - **Internal Mouse** — Specifies whether or not you can use both the internal and the external mouse.

### ***Power Management Setup***

Your NEC Versa uses the Advanced Configuration and Power Interface (ACPI) which enables the operating system to manage the power given to each attached device and to turn off a device when not in use. In addition, ACPI enables manufacturers to develop computers that automatically power up with a touch to the keyboard.

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

- **Power Management Under AC** — Specifies whether to enable power management features when AC power is in use. When AC power is connected to your NEC Versa system, power management is usually disabled. If you enable this parameter, the system automatically activates the power management profile you set, even when AC power is used.
- **Power Savings Level** — Lets you choose one of four levels of power management.
  - High Perform provides the greatest system performance with only minimal power conservation.
  - Longest Life provides the maximum amount of power savings.
  - Off disables power management and all device timeouts.
  - Custom lets you define your own power management configuration by selecting values for specific device timeouts. Custom lets you set the following timeouts.

- 
- Hard Disk Timeout — Allows you to select the amount of time before your hard disk shuts down.
  - Video Timeout — Allows you to select the amount of time before your video shuts down.
  - Peripheral Timeout — Lets you choose the amount of time before your peripherals are controlled by power management.
  - Audio Device Timeout — Selects the amount of time before your audio device shuts down.
  - Standby Timeout — Allows you to select the system standby timeout period.
  - Auto Suspend Timeout — Defines how much time elapses before the system automatically enters Suspend Mode.
- Suspend Option — Allows you to specify either Suspend or Save to File (STF) as the default power management mode. In Suspend, after a specified amount of inactivity, your NEC Versa shuts down all devices as you specified in Power Management Setup or applies default timeouts. All your data is automatically recovered from where you left off when you Resume.
  - Automatic STF — After 30 minutes in Suspend mode the current file is automatically saved to a special file on the hard disk and the system shuts down. To resume, you must press the power button. The system reads the saved file and sets up your system accordingly.

If Auto Save to File is set to Off and HDPREPEZ is present, pressing the **Fn-Suspend** key combination puts the system into Save to File mode.

- Panel Backlight — Lets you select the LCD screen backlight intensity.
- Suspend Warning Tone — Specifies whether the system warning tone sounds when Suspend mode starts. It is best to keep this option enabled.
- Modem Ring Resume — Lets you choose whether the system resumes automatically when an external modem receives a ring signal.
- Wake Up from Suspend Alarm/Resume Alarm Time — Lets you set a resume time from Suspend mode.

---

### **Boot Device Setup**

- **Boot Docking Station IDE** — Specifies the docking station hard drive as the boot drive.
- **Boot Devices** — Specifies the sequence of boot devices and whether or not the system attempts to boot from a device other than those specified.
- **Docking Station Video** — Selects whether or not the Docking Station video card is enabled at system boot.

### **Peripherals Setup**

The Peripherals Setup menu displays the connection locations between the system and the Input/Output (I/O) ports. This menu also lets you specify different port assignments as needed.



If you disable a device in Peripheral Setup, you cannot enable or assign it using the Windows 95 device manager. The device is not listed in the Windows 95 device list. To control the device using the Windows 95 device manager, select any setting other than "Disable" in Peripheral Setup.

- **Serial Port** — Allows you to disable the port or change its address assignment.
- **Parallel Port/Parallel Mode** — Lets you disable or reassign the parallel port and select a parallel port mode.
- **IR Serial Port** — Allows you to disable or reassign the IR Serial port.
- **TV Mode** — Specifies the signal type used by the TV being connected to the TV Out port.
- **Sound/Sound IRQ/Sound SB-Compatible DMA/Full-Duplex Mode DMA/Docking Station MIDI** — Allows the system BIOS to assign a conflict free resource to the sound devices.
- **Docking Station Joystick** — Enables or disables the docking station joystick.

---

## Other BIOS Setup Options

BIOS Setup offers other options, including the following:

- Change User Password — Allows you establish a user password once a Supervisor password is set.
- Change Supervisor Password — Allows you to establish password protection for entering the BIOS setup utility, booting the system, and resuming from suspend.
- Auto Configuration with Defaults — Loads default settings.
- Save Settings and Exit — Accepts changes made to current settings, saves to CMOS, and exits BIOS Setup.
- Exit Without Saving — Reverts to previously selected settings and exits Setup.

## Password Protection

Your NEC Versa supports a password for system security on several levels. Once you set a password, you must enter it before you can enter BIOS Setup, access the system at startup, or resume from suspend, depending on your configuration selection.

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



You must set the supervisor password before the BIOS Setup utility allows you to set a user password.

## USING BIOS SETUP TO SET POWER MANAGEMENT

Power Management Setup allows you to use the factory-defined 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 were 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 or traveling short distances.
  - **Custom** — Lets you decide! Set power management levels according to your own needs and present environment.
  - **Off** — Works well in an office environment while powering your NEC Versa with AC power.

## Using the Save to File (STF) Feature

STF protects the integrity of your working files. For example, if you are called away from your NEC Versa and Suspend mode is selected with auto Save to File active, your system automatically goes into Suspend mode. After 30 minutes, if you don't return, your working environment is saved to a special file on your hard disk.

To configure your NEC Versa's STF feature:

1. Access the BIOS setup utility.
2. Select Power Management from the Setup Main Menu.
3. Move the cursor down and highlight Suspend Mode.
4. Press the **PgUp** key and select STF.
5. Save the settings and exit BIOS Setup.

There are two ways to invoke the NEC Versa's STF feature, one automatic and one manual.

- After 30 minutes of inactivity, your NEC Versa automatically invokes STF, provided you have configured STF in the BIOS Setup utility.
- You can manually invoke STF by pressing **Fn Suspend** simultaneously, before you leave your NEC Versa.



When the status bar reads that there is only 4% power remaining in the system, the NEC Versa automatically performs a Save to File.

---

### ***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 reboot, just press the S/R button to resume system operation.

---

# 4

## Using Your NEC Versa

The more you use your NEC Versa 6200 Series computer, the more proficient you will become at everything from using function keys, to setting up a presentation to accessing the speakerphone.

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

- LCD panel
- Keyboard
- NEC VersaGlide
- NEC VersaBay II
- 20X CD-ROM reader
- PC card slots
- IR port
- USB 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 PANEL

When you open your NEC Versa notebook LCD panel, you'll notice the brightness control. Slide the brightness control right to make your screen brighter. Slide the brightness control left to make your screen darker and conserve energy.

---

## KEYBOARD

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

- Function keys
- Window 95 keys
- Cursor control keys
- Typewriter keys
- Numeric keypad
- Control keys.

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



*Keyboard*

- Function keys — Twelve function keys, **F1** through **F12**, are available on the NEC Versa keyboard. These keys work together with the **Fn** key to activate special functions. Seven keys are preprogrammed with dual functions, six of which are printed in blue on the key. (**Fn-F4** is unmarked; it immediately puts the system into Standby mode.)

---

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 preprogrammed for the NEC Versa 6200 Series computer.



Two additional preprogrammed function keys include:

- **Fn-Left Cntl** — Simulates pressing the right control key for support of IBM 327x connections.
- **Fn-F8** — Expands 640 x 480 applications to fill the panel.
- Windows 95 keys — If you have Windows 95, you can use the following two keys to facilitate your work.
  -  Quick access to shortcut menus
  -  Display the Start menu
- Cursor Control keys — Cursor control keys let you position the cursor on the screen where you want. On the screen, the cursor is a blinking underline, block, or vertical line depending on the application. The cursor indicates where the next text typed is inserted.

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

- Numeric keypad — Pressing NumLock 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 NumLock again, the keys revert to their normal functions as typewriter keys.

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

## NEC VersaGlide

The NEC VersaGlide is an easy way to control the cursor with your finger. Lightly glide your finger across the NEC VersaGlide and the cursor follows. The NEC VersaGlide provides standard mouse functionality, plus more. VersaGlide features include a:

- Single tap to the touchpad, equivalent to a click of the left mouse button.
- Double tap to the touchpad, a single tap with two fingers, or a double click of the left VersaGlide selection button, equivalent to a double click of the left mouse button.
- Single tap with three fingers, equivalent to a click of the right mouse button.
- Two finger drag or a click and hold of the left VersaGlide button, equivalent to a click and hold of the left mouse button.

In addition, the VersaGlide is equipped with edge detection technology. When your finger reaches the border of the VersaGlide pad, the cursor continues in the direction your finger was traveling. To stop the cursor, gently move your finger away from the border, or simply lift your finger from the pad surface.



*VersaGlide features*

Try all of the features and decide which you prefer. If you find the double tap or any of the other features difficult to use, go to the next section for general directions about adjusting the touchpad properties.



If you install another mouse driver over the shipping default, some of the VersaGlide features such as double-tap may be lost.

### **Making VersaGlide Adjustments**

The NEC VersaGlide offers a number of options that let you customize how it functions. To access these options, locate the Control Panel and double click on the mouse icon.

The options let you control the size and color of the cursor, the cursor speed, the accepted double-click speed, and selection button orientation.

For more details, see the help files that you can access through the mouse icon on the Control Panel.

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## 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 ships with a standard 3.5 inch, 1.44-MB diskette drive or a SuperDisk LS-120 drive installed in the bay. However, if you choose, you can remove the diskette drive or LS-120 drive and install the 20X CD-ROM reader that also ships with your system.



*Locating the VersaBay II*

---

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

- a second battery pack
- a second hard disk drive
- the LS-120 SuperDisk drive.

See the *Versa Tools: Accessories and Solutions Catalog* or your authorized NECCSD 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, SuperDisk LS-120 drive, or other device from the VersaBay II.

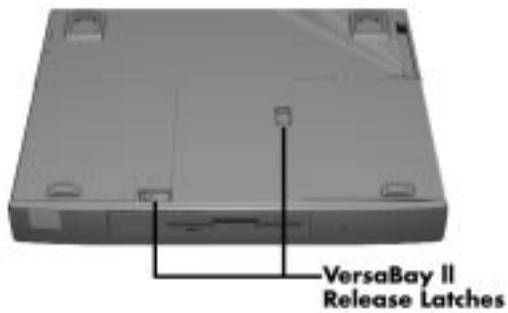
1. Make sure the NEC Versa is powered off, all options are disconnected, and the LCD panel is closed.



#### **CAUTION**

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

2. Turn the system upside down.
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 the front of the system until the drive pops part way out of the unit.
6. Continue to hold the latch near the front of the system 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 catches on the inside of the latch.



*Releasing the device*

---

## Installing a Device in the VersaBay II

Use the following steps to install a device in the VersaBay II. These steps show how to install the 20X CD-ROM reader that ships standard with the system. Use these steps to install other devices as well.



A CD-ROM reader installed in the VersaBay II must be specified as a slave device in the BIOS Setup utility. Check that the switch on the back of the reader is set to S for Slave.

If you install a hard disk drive from a Versa model E, V, M, or P in the VersaBay II, it becomes the master drive from which the system boots.

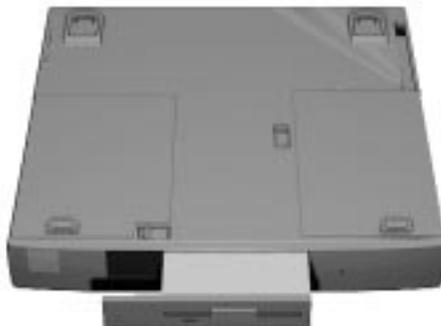
Your system *must* be powered off before removing or inserting devices in the VersaBay II.



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

1. Make sure the NEC Versa is powered off, all options are disconnected, and the LCD panel is closed.
2. Turn the system upside down.
3. Locate the VersaBay II release latches on the bottom of the unit.
4. Slide the front latch towards the hard disk drive side of the system and hold it.

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



*Inserting the CD-ROM reader*

6. Turn the system over and open the LCD panel.
7. Power on the system.

### **Customizing Your System with the VersaBay II**

Customizing your NEC Versa is easy 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 install a hard disk drive from a Versa model E, V, M, or P in the VersaBay II, it becomes the master drive from which the system boots.

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

1. Remove the standard diskette drive, LS-120 drive, or CD-ROM reader from the VersaBay II as described in “Removing a Device from the VersaBay II.”
2. Prepare your option for installation as follows:
  - To install a battery pack, first connect it to the VersaBay adapter that came with the battery. (Follow the instructions that come with the battery pack.)
  - To install a hard disk drive, first connect it to the appropriate Cradle Pak. (Follow the instructions that come with the adapter.)
3. Holding the front VersaBay II release latch towards the hard disk drive bay, align the option and its carrier in the VersaBay II.
4. Push in the option until it clicks into place.
5. Turn the system over, open the LCD panel, and power on. The system automatically recognizes the newly installed option.

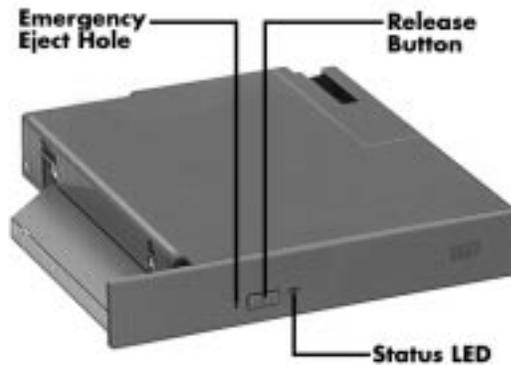
## **20X CD-ROM READER**

Your NEC Versa comes with a 20X CD-ROM reader that features the latest in CD-ROM technology. The CD-ROM reader is assigned an available drive letter.

Use the CD-ROM reader to load and start programs from a compact disc (CD). You can also use the CD-ROM reader to play your audio CDs (see “Audio CDs” in this chapter). The 20X CD-ROM reader is fully compatible with Kodak Multisession Photo CDs™ and standard audio CDs.

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

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



*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. Manually open the drawer.

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

## **CD Loading**

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

1. Press the Release button. The CD tray emerges a short way out of the reader door.
2. Gently pull the tray out until you can easily position a disc in the tray.
3. Put your CD, printed side up, into the circular impression in the tray.
4. Push the CD tray in until it clicks shut.

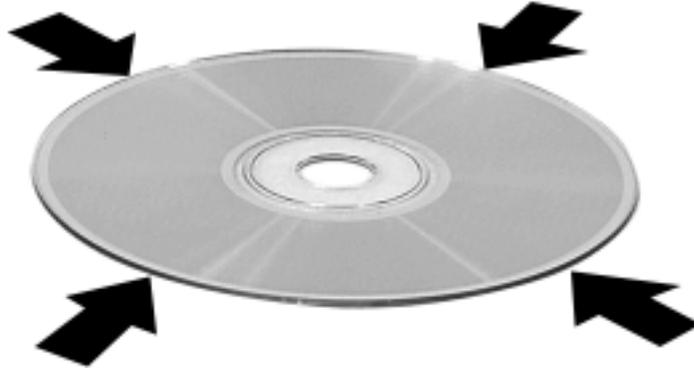


Some CDs vibrate when playing. This does not effect the CD-ROM reader.

## CD Care

When handling CDs, keep the following guidelines in mind.

- Always pick up the disc by its edges.



*Holding a CD*

- Avoid scratching or soiling the side of the disc that has no printing or writing on it. This is the data side of the disc.
- Do not write on or apply labels to either side of the disc.
- Keep the disc away from direct sunlight or high temperatures.
- Clean fingerprints or dust from the disc by wiping it with a soft cloth. Gently brush the cloth from the center of the disc toward the edge.

---

 **CAUTION**

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

### **Changing the Auto Play Setting**

Your system is not configured so that a CD inserted into the reader will automatically start playing. Although this feature makes using your CDs very convenient, it interferes with the system's power management function.

Follow these instructions to enable or disable the Auto play feature.

1. From the Windows 95 Start menu, select Settings and Control Panel.
2. In the Control Panel, highlight and double-click on the System icon.
3. Select the Device Manager tab.
4. Locate and open the CD-ROM folder.
5. Highlight the Toshiba CD-ROM XM 1602B line.
6. Press the properties button at the bottom of the window and select the Settings tab.
7. Proceed as follows:
  - To enable Auto Play, click to add a check mark next to the line "Auto insert notification."
  - To disable Auto Play, click to remove the check mark next to the line "Auto insert notification."
8. Select OK twice to accept the settings in the Settings tab and exit the Properties window.
9. To activate the new setting, reboot the system when prompted.

---

## CARD BUS/PC CARD SLOTS

Your NEC Versa 6200 Series notebook integrates two card bus slots for inserting two Type II PC cards or one Type III PC card. The 32-bit card bus also has zoomed video support in the bottom slot only.



The 32-bit Card Bus structure is backward compatible, but also accepts new Card Bus cards.

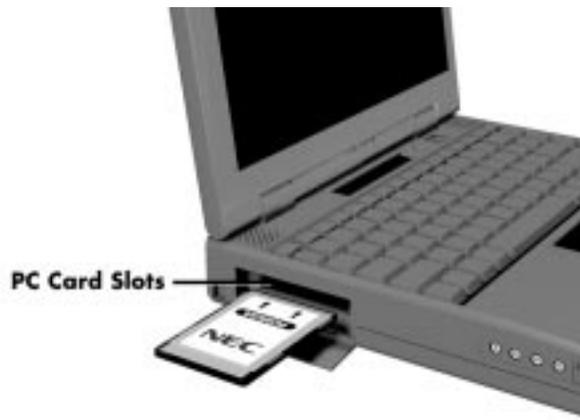
Using the system's card bus slots, you can add optional PC cards and connect external devices to your NEC Versa. These devices include peripheral devices, such as modems, LAN cards, and storage cards. For details on how to obtain these options, see the online *Versa Tools Catalog*. Also, for more information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

### Inserting a PC Card

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

1. Align the card so that the 68-pin connector points towards the slot and the arrow shows on the top face of the card.
2. Slide the card into either slot. A low tone followed by a high tone lets you know that the card is fully inserted and recognized. (If you turn off the sound through the function keys or volume control, no sound is emitted.)

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



*Inserting a card*

3. Use the software preinstalled on your system to check PC card slot availability. To do so, look for the CardWizard™ SystemSoft icon on the Windows NT desktop or the Windows for Workgroups Program Manager. In Windows 95, look for the PC Card icon in the control panel or on the right side of the taskbar. It shows which slot contains a PC card (PCMCIA) and which is empty.

## **Removing a Card**

Procedures for removing cards from Windows 95 and Windows NT are different from those procedures for Windows for Workgroups. See the instructions appropriate for your system.

### ***Windows 95 and Windows NT***

Remove PC cards from Windows 95 and Windows NT systems as follows.

1. From the screen, select “My Computer” and “Control Panel.” (Or, you can also select the Taskbar PC card icon.)
2. Select the PC card icon.

- 
3. Select the PC card to remove, and select “Stop.”

Windows 95 alerts you if any applications are still using the card. If all applications using the card are closed, services for that card are shut down. You receive a message saying that it is safe to remove the card.

4. Press the button on the side of the PC card in the slot.

### ***Windows for Workgroups***

Remove PC cards from Windows for Workgroups (Windows 3.11) systems as follows.

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



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.

### **PC Card Drivers and Enablers**

Your NEC notebook computer is configured to support a variety of PC cards. In Windows for Workgroups, the AUTOEXEC.BAT and CONFIG.SYS files contain and load the PC card drivers. You can modify these files using a text editor to remove drivers in order to free needed memory.

Some PC cards come with software called Enablers to be used instead of Card Services. Before installing Enablers, try your PC card with the pre-loaded drivers. The NEC Versa Card and Socket Services works with many PC cards.

### ***PC Card Drivers and Utilities***

The following are the CardSoft drivers (for Windows for Workgroups systems only) and utilities used on your NEC Versa. Some of these drivers may be disabled in the system files to conserve memory.

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- **Card Socket Services (SSCBT1.SYS)**

This driver manages the card socket services on your system.

- **Card Services (CS.SYS)**

This driver manages competition for system resources and manages adapter and card resources and configuration.

- **Resource Allocation Utility (CSALLOC.EXE)**

CSALLOC is a DOS utility that scans the system for available memory, I/O port, and IRQ resources, updates the file CSALLOC.INI with this information, and then displays the list of available resources that Card Services can use. In addition, keywords can be added to CSALLOC.INI to force CSALLOC to exclude resources from being scanned or include resources that are not detectable (due to security features or hardware design). Other keywords let you reserve resources that may be needed by a particular PC card or other system component.

- **IDE/ATA Support (ATADRV.EXE)**

ATADRV.EXE is a block device driver that supports ATA Type II Flash Disk or ATA Type III Hard Disk PC cards. The ATAINIT.EXE utility places a hard disk partition table onto a blank ATA drive.

- **SRAM Driver (MTSRAM.EXE)**

MTSRAM is a driver that supports SRAM cards. This file is remarked out to save memory.

- **Memory Technology driver (MTDDRV.EXE)**

This component must be installed to support Flash Memory cards. It works in conjunction with card-specific MTDs to support a wide variety of Flash Memory cards. It also supports SRAM cards (providing MTSRAM.EXE is also installed) and allows sharing of drive letters between the different types of memory cards (Flash, SRAM, and ATA).

- **Card Identification (CARDID.SYS)**

This client device driver detects the insertion and removal of PC cards, automatically determines the card type upon insertion, and then configures the card/slot adapter.

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- Card Services Power Management Enabler (CS\_APM.EXE)

CS\_APM.EXE is a DOS-based background task that enables Card Services to process system power management Suspend/Resume requests. When system power management software initiates a Suspend request, CS\_APM notifies Card Services, which then verifies that the PC card slots are idle and can be powered down. Card Services passes this information back to CS\_APM, which then notifies the power management software that the sockets can be powered off.

When CS\_APM receives a Resume request, it informs Card Services, which powers on the sockets again.

### ***Enablers***

Some PC cards have custom software written by the card manufacturer, known as Enablers, instead of Card and Socket Services. This custom software works well if only one or two PC cards are used on a particular system.

Although many of these were considered compliant with PCMCIA Release 2.0 specifications, they did not provide a truly compatible environment for exchanging and sharing PCMCIA operations. The following are some guidelines for using PC cards with Enablers.

Do not use more than one Enabler at once unless you know what system resources are used by each Enabler. One Enabler may crash another if there is a conflict.

- Hot insert may not work with some Enablers.
- An Enabler may only work in Windows Standard Mode.
- Enablers have minimal memory requirements. For example, they require as little as 4 KB for a modem, 16 KB for Ethernet, and 24 KB for Token Ring.

Know your system resources (see the CONFIG.SYS file) — command line arguments cannot use resources being used by other devices.



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CardWizard provides Socket Services, a Basic Input Output System (BIOS) software interface that isolates driver software from the hardware. It provides a variety of system-specific functions, such as system slot and card detection while the system is operating.

### ***Reinstalling PC Card Software***

You can reinstall PC card software in one of two ways:

- by downloading the latest version from the NECCSD Bulletin Board at (978) 635-4706.
- by installing an NEC PC card utility from diskette.



If you are using this unit outside of the United States, contact a local NECCSD dealer for the latest version of the PC card software.

### **Available PC Cards**

A variety of PC cards are available on the market today. Some are used for communications and others for data storage.

### ***Communications Cards***

You can use both fax/modem and network PC cards with your NEC Versa. Here are some suggestions to help you get the best system performance.



If you are using this unit outside of the United States, contact a local NECCSD dealer for availability information.

- Network Cards — You can use a network card with your system to gain access to a local area network (LAN).

You can insert a network card into either slot.

- 
- **Fax/Modem Cards** — You can use a PC card modem with your system to communicate with others via fax, e-mail, or connect to an online service or bulletin board.



Outside the U.S. and Canada, you might need a modem and telephone adapter approved for the local telephone system. Check with your local dealer for details about purchasing this equipment.

You can insert a fax/modem in either slot.

Always insert the fax/modem card before using your fax/modem software application. If you start the application before inserting the fax/modem card, the application typically does not find the card.



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.

### ***Storage Cards***

When you insert a memory or storage card in an NEC notebook computer, it appears as a unique drive depending on the type of card and the slot you are using.

The following table provides sample drive designations.

#### ***Sample PCMCIA Drive Designations***

<b>DRIVE LETTER</b>	<b>LOCATION/DEVICE</b>
C:	Internal hard disk
D:	Internal hard disk, 2nd partition
E:	Slot 0, IDE/ATA memory card
F:	Slot 1, IDE/ATA memory card
G:	Slot 0, high-speed memory card
H:	Slot 1, high-speed memory card

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### **Other Cards**

Many other kinds of PC cards are available for notebook computers. They include the following cards:

- Global Positioning System (GPS) — enables the tracking of remote units (for example, delivery trucks)
- Serial — adds an extra serial communications port
- Multimedia — combines animation and sound
- Audio — enables the use of sound (for example, in voice mail)

### **IR PORT**

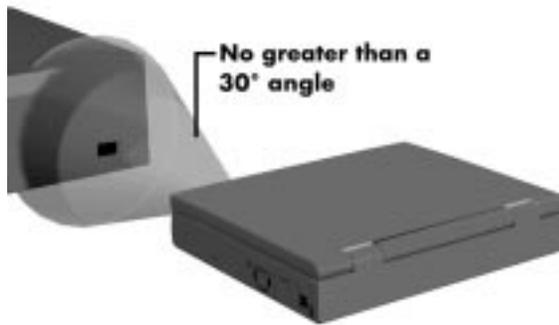
The IR port on the front of your system lets your NEC Versa 6200 Series computer communicate with other devices that also use infrared technology. The IR port is Infrared Data Association (IrDA) compatible. You can easily transfer files between your NEC Versa and an IR-equipped desktop, or print to an IR-equipped printer without using cables.

IR transfer speed ranges from 2.4 Kbit/sec to 4.0 Mbit/sec. You can limit the IR transfer speed through the Infrared icon in the Windows 95 control panel. Double click the icon and select the options to access the speed parameter.

Your NEC Versa transfers data at the speed compatible with the receiving device.

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

- Position the NEC Versa no more than three feet way from the IR peripheral device you are using.
- Make sure there is no greater than a 30° angle between the computer and the device.



### *Using the IR port*

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

The MindPath™ software that ships with your NEC Versa system uses infrared technology and a remote control device that allows you to control your presentations from across the room. Launch the MindPath™ application and read the “Getting Started” information in the online help topic for steps on using the software with the IR port.

## **Installing IR Printer Drivers**

To use the NEC Versa’s IR Port for printing, you must first install the printer drivers for your IR-enabled printer. Use the installation CD provided with the printer to install the necessary drivers.

1. Insert the CD into the CD-ROM reader.
2. Double click on SETUP.EXE and follow the on-screen instructions.
3. Select Custom Installation when the Method of Installation dialog box appears.
4. Select LPT3 when the Select Port dialog box appears, then press Continue.
5. Press the Skip button when the next dialog box appears. The printer driver installation program may not allow you to configure LPT3 to be an Infrared Printing Port.

- 
6. Select the name of your printer from the list of printers in the Select Printer dialog box and press Continue. Your printer driver software will be installed.
  7. Press OK to restart Windows 95 and to complete the driver installation.

### Configuring an IR-enabled Printer

Once your printer drivers are installed and your IR-enabled printer is listed in the Printer Control Panel, follow these steps to configure your printer.



To configure your printer, set the default printer port to LPT3.

1. Click Start, highlight Settings, and click Control Panel.
2. Double click Printers and highlight your printer icon with a single click. Use the right mouse button to click on the Infrared printer icon. A drop-down menu box appears.
3. Click Properties, then select the Details tab. Change the value in the Print to the Following Port drop-down box from LPT1 (ECP printer Port) to LPT3 (Infrared Printing {LPT} Port).
4. Press Apply, then press OK to complete the configuration of your IR-enabled printer.

You are now ready to use your NEC Versa's infrared technology for printing!

### USB PORT

The USB port on the right side of your system allows you to connect up to 127 USB equipped peripheral devices to your NEC Versa notebook computer. These peripherals may include digital cameras, scanners, printers, CD-ROM drives, modems, keyboards, telephones, and game devices.

USB devices called USB hubs can serve as connection ports for other USB peripherals. Only one device needs to be plugged into your NEC Versa. Additional peripherals can be connected in a daisy chain configuration where one device is connected to another in a series. Up to 127 devices can be connected together in this way.

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## INCREASING SYSTEM STORAGE AND MEMORY

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

### Hard Disk

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



NEC Versa 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 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 upside down.
3. Remove the drive cover as follows:
  - Remove the Phillips-head screw that secures the drive cover.



*Removing the screw that secures the cover*

- Locate and push up on the drive cover release latch while using some pressure to slide the cover away from the system.
- Lift the cover up and off the system.



*Removing the drive bay cover*

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

---

 **CAUTION**

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

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



*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 back and push firmly to secure the connection.

---

7. Replace the cover as follows:

- Align the three tabs on the drive cover with the three notches on the system chassis.
- Slide the cover towards the center of the unit.
- Gently push the cover until it snaps into place.



*Replacing the drive bay cover*

- Replace the screw that secures the bay cover.



*Replacing the screw that secures the cover*

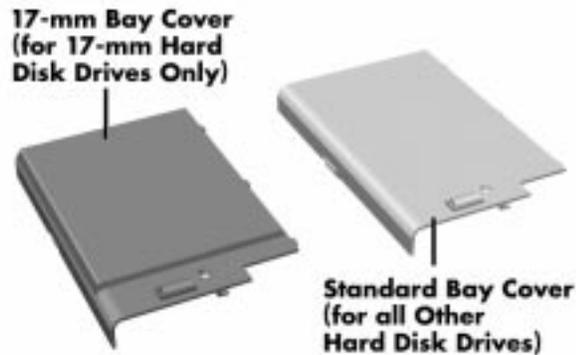
8. Turn the system over, power on, and run Setup to check the new configuration.

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## **Hard Disk Drive Bay Covers**

Your NEC Versa 6200 Series computer ships with two hard disk drive bay covers to accommodate different hard disk drive heights..

- **Standard Bay Cover** — This cover is already installed on your NEC Versa system protecting the 12.7-mm hard disk drive installed (that may be 2.1 GB, 3.2 GB or another capacity). The 3.2-GB drive, for example is 12.7 mm in height and requires this bay cover. Use the standard bay cover with all 12.7-mm hard disk drives. If your hard disk drive does not have a label stating its size, use the standard bay cover.
- **17-mm Bay Cover** — This cover is already installed on your NEC Versa system protecting the 5.1-gigabyte (GB) 17-mm hard disk drive installed. The 5.1-GB drive is 17 mm in height and therefore requires this bay cover. Other drives may also be 17 mm. Check the label on the drive to determine if it is a 17-mm drive. Only use the 17-mm bay cover when you install a 17-mm hard disk drive in the drive bay.



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 **CAUTION**

Only use the 17-mm cover when installing a 17-mm hard disk drive. Check the drive for a label stating its size. If the drive does not have a label, use the smaller standard hard disk drive bay cover. Using the 17-mm cover with a smaller drive can result in damage to the drive.

***Formatting the Hard Disk Drive***

Your NEC Versa ships with a hard disk drive that is formatted into multiple partitions using the FAT 16 (File Allocation Table) file system.

- The 3.2 GB drive is formatted into two partitions.
- The 5.1 GB drive is formatted into three partitions.

If you want to reformat the hard disk drive into only one partition, follow the instructions below for “Using the Product Recovery CD.” The Product Recovery CD provides the option to format your hard disk drive into a single partition (drive) using the FAT 32 (File Allocation Table) file system in the Windows 95 environment only.

 **CAUTION**

If you choose to reformat the hard disk drive into only one partition, use the Product Recovery CD to setup your NEC Versa system. Do not follow the software setup instructions on the Quick Setup Sheet.

 **WARNING**

Some disk compression and defragmentation programs may not work with a hard disk drive formatted using FAT 32. Some older DOS applications and utilities may also be incompatible with FAT 32.

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If you encounter any of these incompatibilities when using your NEC Versa computer, you can use the Product Recovery CD to reformat your hard disk to the FAT 16 format.

### ***Using the Product Recovery CD***

The Product Recovery CD allows you reformat your hard drive into a single or into multiple partitions using the FAT 16 or FAT 32 file format.

The procedure for reformatting your hard disk involves:

- Inserting the Product Recovery CD
- Selecting parameters to reformat the hard drive
- Removing the Product Recovery CD and setting up your Windows environment

### ***Inserting the Product Recovery CD***

Follow these instructions to insert the Product Recovery CD.

1. Power on your NEC Versa, open the CD-ROM reader and insert the Product Recovery CD.
2. Wait until the “Welcome to Windows Setup” screen appears, click Cancel, click Yes, then reboot your system when prompted to do so.

### ***Selecting Parameters to Reformat the Hard Drive***

Follow these instructions to select parameters to reformat the hard drive.

1. Select Full when the “Full System Restore Utility” screen appears.
2. Select Accept when the license agreement screen appears.
3. Select Custom when the “Restore Mode” screen appears.
4. Select Continue when the first warning screen appears.
5. The second warning screen provides options for formatting your hard disk drive.
  - Select FAT 32 to format the hard disk drive into a single partition.
  - Select FAT 16 to format the hard disk drive into multiple partitions.

- 
6. Select Continue when the last warning screen appears. The hard disk drive is reformatted according to your choice. This process may take several minutes.
  7. Click OK when the reformatting is complete.  
Your NEC Versa software is installed to your notebook computer. This process may take several minutes.
  8. Click OK when the installation is complete.

#### *Removing the Product Recovery CD*

Follow these instructions to remove the Product Recovery CD.

1. Remove the Product Recovery CD from the CD-ROM reader and reboot your system.
2. Follow the on-screen registration and setup instructions.
3. Reboot your system when prompted to do so.

 **WARNING**

Reformatting the hard disk drive erases all pre-existing data.

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## Memory Module Installation

Your NEC Versa 6200 Series computer comes standard with 32 megabytes (MB) of random access memory (RAM). You can increase system memory to a maximum of 128 MB. The RAM combinations possible are 32, 48, 64, 80, 96 and 128 MB depending on which two of the listed dual inline memory modules (DIMM) are used.

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

The following table shows the memory expansion possibilities.

### *System RAM Expansion*

<b>BASE MEMORY</b>	<b>EXPANSION MEMORY</b>	<b>TOTAL MEMORY</b>
32 MB	0 MB	32 MB
32 MB	16 MB	48 MB
32 MB	32 MB	64 MB
32 MB	64 MB	96 MB
64 MB	0 MB	64 MB
64 MB	16 MB	80 MB
64 MB	32 MB	96 MB
64 MB*	64 MB	128 MB

\*Replacing the provided 32-MB DIMM with a 64-MB DIMM provides optimum memory expansion.

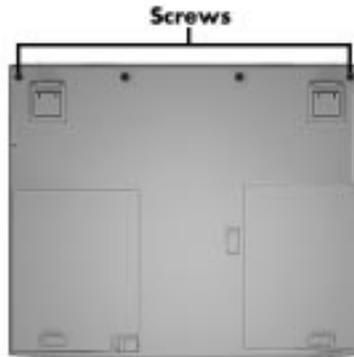
Installing a memory module involves the following procedures:

- removing the speaker caps
- lifting and moving the keyboard out of the way
- installing the DIMM
- reassembling the unit.

Use the following steps to install a memory module.

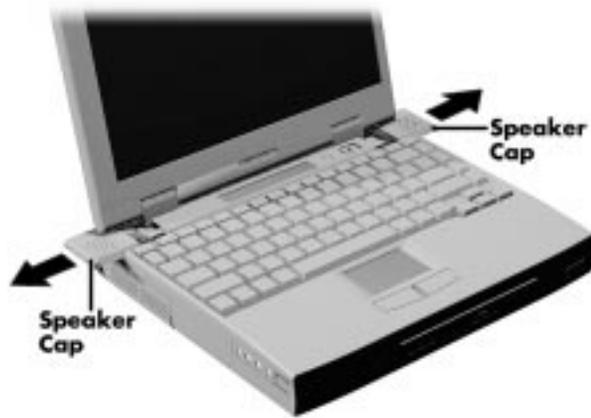
- 
1. Make sure the system is powered off and that no peripheral devices are attached.
  2. Locate and remove the two Phillips-head screws on the bottom of the NEC Versa that secure the speaker caps.

Put the screws in a safe place for reassembly.



*Locating the speaker cap screws*

3. Turn the NEC Versa over and open the LCD panel.
4. Locate the two speaker caps, slide each one toward the outside edge of the system, and remove.



*Removing the speaker caps*

5. Gently lift up the edge of the keyboard nearest the LCD and slide the keyboard toward the LCD screen to release the tabs that secure it.

**⚠ WARNING**

Be careful not to disconnect the keyboard or keyboard cable entirely from the system.



*Lifting up the keyboard*

6. Carefully turn over the keyboard and place it face down on the Versa-Glide. Be careful not to twist or disconnect the keyboard cable.

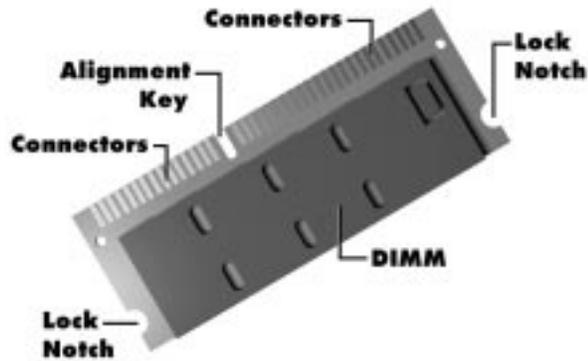


*Positioning the keyboard*

7. Locate the lock notches and alignment key on the DIMM.

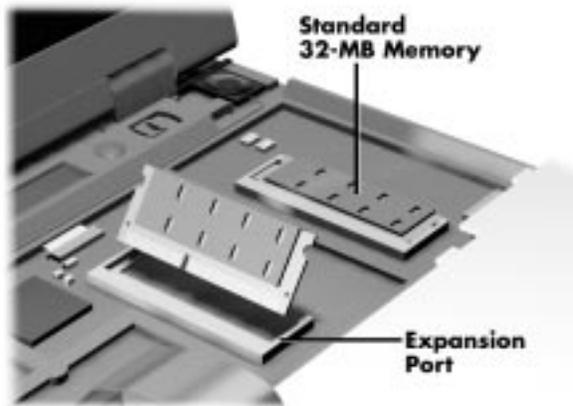


Depending on the model, the DIMMs and DIMM expansion port in your NEC Versa system may look different from the illustration. DIMMs are designed with the memory chips in either a single or a double line. A DIMM with a double line of memory chips is larger than a DIMM with a single line of memory chips.



*DIMM features*

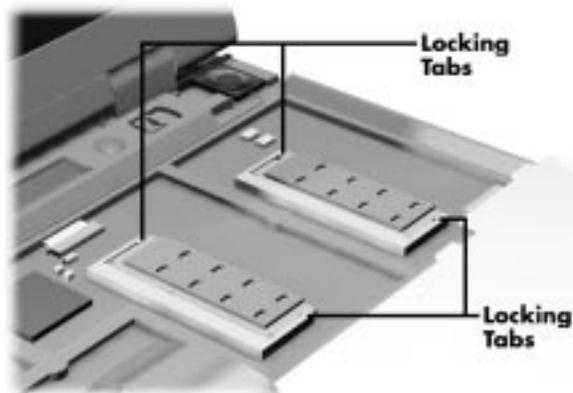
8. Locate the DIMM expansion port and proceed as follows:
  - Hold the DIMM at a 45 degree angle and align the DIMM contacts with the socket in the system. Push the connector into the socket.
  - Press down on the edge of the DIMM opposite the contacts until the lock tabs on the sides snap into place, securing the module.



*Installing the DIMM*

If you are replacing a DIMM and need to remove one that is already installed, do so as follows:

- Press the locking tabs away from the sides of the DIMM and hold while gently lifting on the edge of the DIMM.
- When the edge of the DIMM pops up and is at approximately a 60 degree angle, pull the DIMM from the socket.



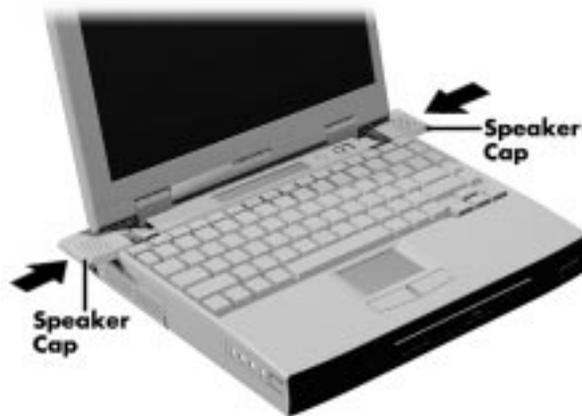
*Removing an installed DIMM*



The system switches are also located underneath the keyboard. Therefore, if you need to set any system switches, you might want to do so while the system is already disassembled.

**9.** Reassemble the system as follows:

- Lift up the keyboard and align the tabs on the front of it with the grooves in the system.
- Reseat the keyboard in its original position.
- Slide the speaker caps back onto the system.



*Reassembling the system*

- Close the LCD panel and turn the system upside down.
- Replace the speaker cap screws.

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## USING EXTERNAL OPTIONS

The back and sides of your NEC Versa 6200 Series notebook provide 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 television connection
- External audio options.

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

- NEC Docking Station 6000 Plus
- NEC Versa PortBar 6000
- NEC Versa MiniDock 6000
- NEC Versa 6000 DC car adapter
- PowerXtender Airplane and Auto adapter.

See the online *Versa Tools: Accessories and Solutions Catalog* for more information about optional equipment available for your NEC Versa notebook computer.

See the following sections for steps on connecting the options.

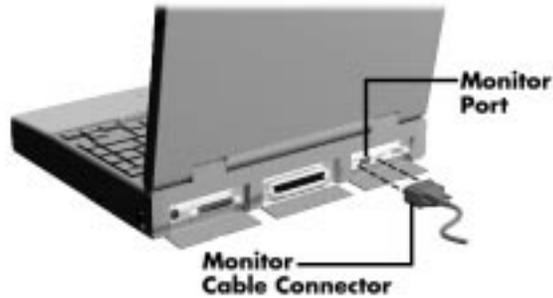
### External Monitor

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

1. Check that the NEC Versa is powered off and the monitor power switch is turned off.

- 
2. Open the right-most port cover on the back of the system.
  3. Attach the 15-pin cable connector to the monitor port on the system. Secure the cable connection with the screws provided.



*Connecting a monitor*

4. Connect the monitor power cable and plug it into a properly grounded wall outlet.
5. Follow any setup instructions in the monitor's user's guide.
6. Turn on power to the monitor.
7. Press the Suspend button to resume Active mode or power on the NEC Versa.

Press **Fn-F3** to toggle between the LCD, CRT, simultaneous CRT/LCD display, and TV Out.

---

## Printer

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

### **Parallel Devices**

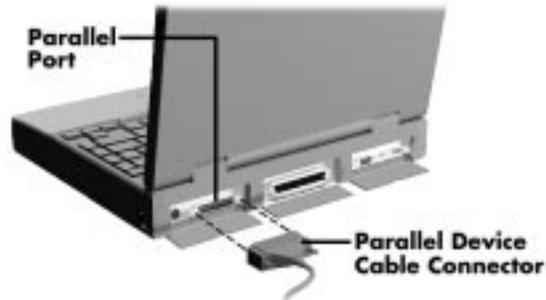
To install a parallel device such as a printer, you need a cable with a male 25-pin connector for the system and, for most parallel printers, a Centronics<sup>®</sup>-compatible 36-pin connector.



When you connect a printer, be sure to install the appropriate printer driver through the Windows control panel.

Connect a parallel device to your NEC Versa as follows.

1. Check that power to both the NEC Versa and the device is off.
2. Open the port cover on the back of the system and locate the parallel port.
3. Align and connect the 25-pin parallel cable connector to the parallel port on the system. Secure the cable with the screws provided.
4. Align and connect the other end of the cable to the parallel port on the device. Lock the connector clips.



*Connecting a parallel printer*

- 
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***

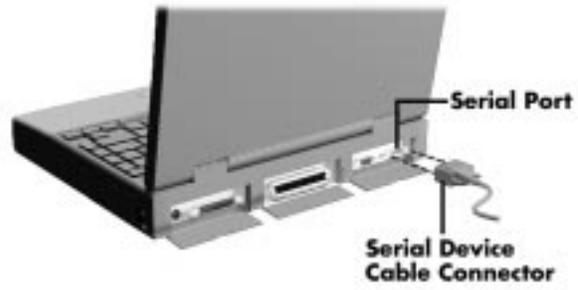
To install a serial device such as a printer or an external modem, you need a cable with a female 9-pin connector.



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

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

1. Check that power to both the NEC Versa and the device is 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 using the Plug and Play feature. The PS/2 style keyboard and the PS/2 style mouse are hot insertable allowing you to connect the devices while the NEC Versa is powered on. You can continue to use the system keyboard and VersaGlide touchpad while an external keyboard or mouse is connected.



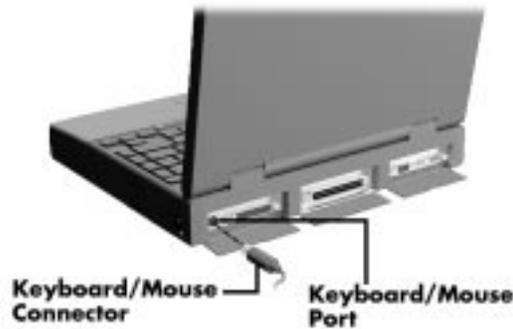
For information about disabling the VersaGlide while an external mouse is connected, refer to Chapter 3, "Using BIOS Setup." The Internal Mouse parameter in the Advanced CMOS Setup section of the BIOS Setup allows you to enable or disable the VersaGlide touchpad.

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



If you purchased this product outside the U.S. or Canada, contact the local NECCSD office or their dealers for ordering information. Reference the booklet, "Getting Service and Support in Asia, Australia, and Europe," to find out how to contact the local office in your country.

To connect an external keyboard or mouse simply open the keyboard/mouse port cover and connect the device to the keyboard/mouse port. You are now ready to use your external keyboard or mouse.



*Connecting an external keyboard/mouse*



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'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 Television Connection**

You can use a television as an external display device. Do so as follows:

1. In the Windows control panel, change the system display setting to 640 x 480. (Display settings are found under Display Properties on the Settings tab.)
2. Attach one end of an RCA-to-RCA cable to the NEC Versa TV Out port and to the Line In port on the TV.
3. Use **Fn+F3** to toggle to TV Out display mode.



The default TV Out setting is for NTSC transmission. The U.S. and Japan use the default NTSC signal; Hong Kong and most European countries use the PAL signal. If you require the PAL setting, go into Setup to change the setting.

The NEC Versa does not support the SECAM signals used in some countries.

## External Audio Options

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

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

1. Locate the audio port that you want to use.
2. Plug the jack into the port on the side of the NEC Versa.



*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 PortBar 6000**

The NEC Versa PortBar™ 6000 duplicates the ports found on the back of your NEC Versa 6200 Series 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.

---

## NEC Docking Station 6000 Plus

The optional NEC 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
- two external bays for a 5.25-inch device
- high-quality speakers.

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



### CAUTION

Only dock the NEC Versa 6200 Series computer on an NEC Docking Station 6000 Plus. The cover is specially designed to allow for proper cooling during system operation.

## NEC MiniDock 6000

The NEC Versa MiniDock™ 6000 docking station lets you maximize your NEC Versa capabilities without minimizing its portability. Connect an external monitor and keyboard to the ports on the back of the MiniDock, install your CD-ROM reader in the MiniDock VersaBay II, attach your joystick to the MIDI/Game port, and you're ready to work hard or play. Undock the NEC Versa from the MiniDock and you're ready for the road.

MiniDock replicates most of the ports on the NEC Versa and adds even more.

This docking station offers the expansion possibilities of a desktop and provides the following features:

- PC card slots
- MIDI/Game port
- Serial port
- External FDD connector

- 
- Audio ports
  - VersaBay II expansion port
  - Keyboard port
  - Mouse port
  - USB port
  - External Monitor port
  - Parallel port

See the *NEC MiniDock 6000 User's Guide* for instructions on connecting and using this docking station.



Before docking the NEC Versa, disconnect the AC power adapter from the notebook computer and power on the MiniDock 6000 docking station.

## SETTING SWITCHES

A six-position dip switch is located underneath the keyboard. (Instructions for accessing the switches follow the section that explains updating the BIOS.) The following lists identifies each switch setting and its function.

- Switch 1, BIOS Flash Protection Switch — The default setting is “ON.” Change the setting to “OFF” when you update your system’s basic input/output system (or BIOS) flash memory. See “Updating the 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” and your current password dissolves.

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 password in a special place so that you don’t forget it again!

- 
- Switch 3 — Keyboard type; Default is “ON” for 86 key US.
  - Switch 4 — LCD indicator for factory diagnostics; Default is “ON.”
  - Switch 5 — Reserved for factory use.
  - Switch 6 — HDD search wait inhibit mode; Default is “OFF.”

## 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 NECCSD makes significant improvements or fixes to the current system BIOS. Your authorized NECCSD dealer or Technical Support Center representative can help you determine this.

If you are informed that the default BIOS needs an upgrade, to receive a copy of the BUD contact the NECCSD Versa Diskette Fulfillment Center at (800) 842-6446, or NECCSD Technical Support Center at (800) 632-4525, Fax (978) 635-4100.

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



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

Reference the booklet, “Getting Service and Support in Asia, Australia, and Europe,” to find out how to contact the local office in your country.

Updating the BIOS involves the following procedures:

- removing the speaker caps
- lifting and moving the keyboard out of the way

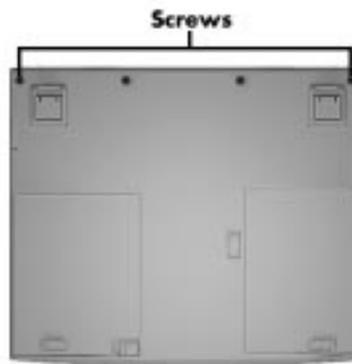
- 
- setting the switch
  - reassembling the unit and updating the BIOS
  - resetting the switch.

### ***Changing Switch Settings***

Use the following steps to change switch settings.

1. Make sure the system is powered off and that no peripheral devices are attached.
2. Locate and remove the two Phillips-head screws on the bottom of the Versa that secure the speaker caps.

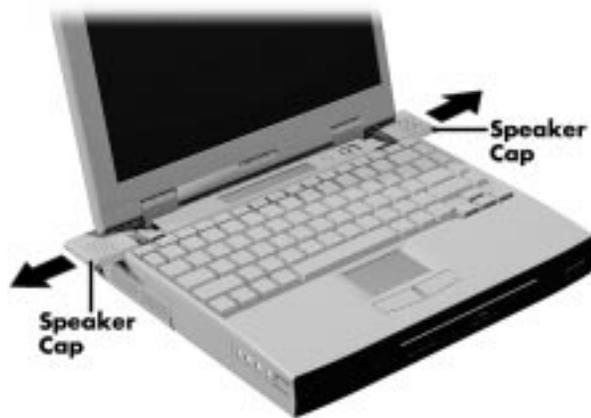
Put the screws in a safe place for reassembly.



*Locating the speaker cap screws*

3. Turn the NEC Versa over and open the LCD panel.

- 
4. Locate the two speaker caps, slide each one towards the outside edge of the system, and remove them.



*Removing the speaker caps*

5. Gently lift up the edge of the keyboard nearest the LCD and slide the keyboard towards the LCD screen to release the tabs that secure it.

 **CAUTION**

Be careful not to disconnect the keyboard or keyboard cable entirely from the system.



*Lifting the Keyboard*

6. Carefully turn over the keyboard and place it face down on the VersaGlide. Be careful not to twist or disconnect the keyboard cable.



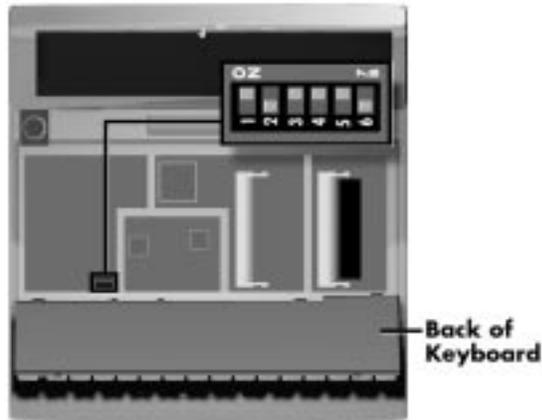
*Positioning the keyboard*

7. Locate the dip switch block. Using a fine tipped object, change the Dip Switch 1 setting to Off. (For other functions, set the appropriate switch to the required setting. See "Setting Switches" for switch functions and settings.)

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 **CAUTION**

Never use a pencil tip to change switch settings. Residue from the pencil can damage the system.

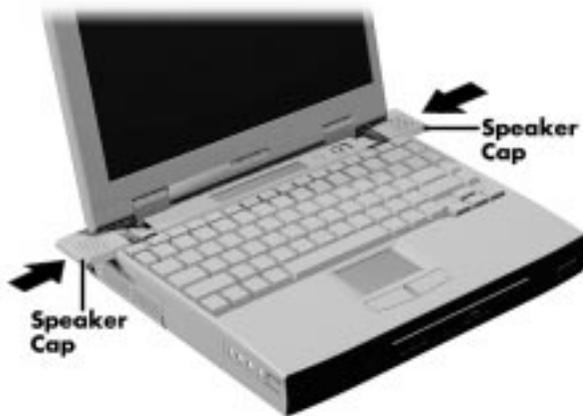


*Setting the Dip Switch*



The system memory expansion slots are also located underneath the keyboard. Therefore, if you need install DIMM modules, you might want to do so while the system is already disassembled.

8. Reassemble the system as follows:
  - Lift up the keyboard and align the tabs on the front of it with the grooves in the system.
  - Reseat the keyboard in its original position.
  - Slide the speaker caps back onto the system.



*Reassembling the system*

- Close the LCD panel and turn the system upside down.
  - Replace the speaker cap screws.
9. Your system is now ready for the BIOS update. Continue to the next section to update the BIOS.

### ***Performing the BIOS Update***

Use the following procedure to perform the actual BIOS update.

1. Make sure that the computer is operating under AC power, and that the power is off. Insert the BIOS Update diskette into diskette drive A.
2. Power on the computer with the diskette in drive A. The computer boots and automatically loads the utility. A message similar to the following appears:

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 restarting the flash utility.

3. Press **Enter** to continue.

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

- 
4. 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.

5. Highlight the “Install New BIOS” option and press **Enter**.
6. Press **Y** and then press **Enter**. After a brief pause, a message appears telling you to remove the diskette in drive A.
7. Remove the diskette and press any key to continue. The utility updates the BIOS.

Power off your computer. The next time you power on your computer, you will have the latest NEC Versa 6200 Series computer BIOS revision level.

8. When the update is complete, follow the instructions in the previous section and reset dip switch 1 back to the ON position.
9. Enter Setup to restore the default parameter settings.

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# 5 Using Multimedia

Your NEC Versa is equipped with Intel's MMX microprocessor designed to ensure expert-quality 3D graphics, high-quality motion video, and stereo sound. This section describes the NEC Versa'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 provides entertainment-level sound quality through stereo speakers. It handles MIDI files, digital audio files, and analog audio sources. This means the NEC Versa 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 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, go to step 2.

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

The control panel provides six different 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 four control power (power panel), stereo mixing (3D-Stereo panel), 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 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.

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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” button on the far right side of the DAT panel and enter a file name.

To listen to the sounds you’ve recorded, 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’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.

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*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 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. 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 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 software on your NEC Versa, you can mix data from two separate wave files to create a new sound file. You can also mix the microphone volume to create soft background sounds to accompany a 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.

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

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## Playing Back

You can play back your recorded soundtrack through stereo headphones, the internal NEC Versa 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 Multimedia and select the Media Player option.
2. Select your audio source as follows:
  - If playing a file, use the File menu to specify the file name.
  - If playing from a device, use the Device menu to select your audio source.
3. Once your file is open or your source specified, press the play button.
4. Press the square Stop button to stop playing the audio.

## Using Headphones

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

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

## Using the Built-In Speakers

The NEC Versa has built-in stereo speakers that are always available. Adjust the volume through the software or with the volume control knob located on the left side of the NEC Versa.



The internal speakers are disabled when the system is docked.

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

For full stereo sound impact, you can plug a pair of stereo speakers into the line-out jack located on the 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 6200 Series computer features a dazzling TFT 256-K color high-resolution display for sharp effective visuals right on the NEC Versa or on an external CRT monitor. The NEC Versa super XGA TFT display has high resolution of 1024 x 768 pixels.

The NEC Versa has hardware assisted MPEG which supports full motion, full-screen MPEG video. In Windows 95, the Mediamatics Arcade player gives you MPEG capabilities. In Windows NT, the Xing player gives you MPEG capabilities.

In Windows 95, access the Mediamatics Arcade player as follows:

1. Press Start, slide to Programs, and highlight Mediamatics Software MPEG.
2. Select Video CD Player.
3. Double-click on the appropriate drive to display its contents.
4. 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.)

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## 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 and record motion graphics to your hard drive.

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

## Using Animation Files

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

## MULTIMEDIA APPLICATIONS

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

- Animation software allows you to create 3-D effects and 3-D titles and add interest to an otherwise static presentation.
- Authoring packages let you pull all the elements of your design into an exciting, interactive multimedia presentation.

---

# 6

## Traveling with Your NEC Versa

The NEC Versa 6200 Series computer 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 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 an electronics supply store.

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## CHECKLISTS

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



When using an optional modem outside of the U.S. and Canada, you might need a modem and telephone adapter approved for the local telephone system. Contact the local NECCSD dealer or representative for information.

### 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.
  - Insert a fully charged battery to make sure your system is ready to 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 6200 Series computer. The Online Information program group has *Questions and Answers* that might be helpful to you.

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

## PROBLEM CHECKLIST

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

- Power is on to the computer.
- The electrical outlet to which your AC adapter is connected is working. Test the outlet by plugging in a lamp or other electrical device.
- All cables are tightly connected.
- The display setting is configured correctly.
- The display brightness control is adjusted properly.
- If using battery power, check that the battery pack is properly inserted and fully charged.

---

## Troubleshooting

### PROBLEM

### WHAT TO DO

The system does not power on.

If you are operating the system with battery power, check that the battery pack is correctly inserted. Attach the AC adapter to recharge the battery.

If you have the AC adapter attached, check that the electrical outlet you are using works.

LCD screen is dark and blank.

Power-saving mode has shut off the backlight. Press a keyboard key or the Suspend button.

The built-in LCD may not be selected. Press **Fn F3** once or twice.

Screen brightness needs adjustment. Adjust the control.

The system entered Suspend mode due to low battery power. (Check the Status bar for a half-moon icon.) Plug in the AC adapter or replace the battery pack, and then press the Suspend button to resume operation.

Battery power does not last long.

Use power-saving modes.

Fully charge and discharge the battery several times to recondition it.

Replace the battery.

Information on the LCD screen is difficult to see.

Adjust the brightness control.

An optional component does not work.

Make sure the component is securely installed or connected. Verify that the system parameter for the I/O port configuration is set correctly in Setup.

The Suspend/Resume button does not work.

A disk drive might be busy. Wait until the disk drive stops and try again.

If system does not resume, it may have auto suspended on a low battery. Attach the AC Adapter and try again.

If the system does not resume, check that Auto Play is disabled. See "Changing the Auto Play Setting" in Chapter 4 for details.

The NEC Versa may be connected to a docking station. Some power management functions do not work when the NEC Versa is docked.

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## 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.

## POST Error Messages

The NEC Versa 6200 Series computer 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 or emits a series of beep signals. If this happens, follow the instructions in the POST Error Messages table or the Beep Code table, as appropriate.

---

## POST Error Messages

MESSAGE	WHAT TO DO
Address Line Short	Error in the address decoding circuitry on the system board. Contact your NECCSD service representative for service work.
C: Drive Error	Hard disk drive C: does not respond. Check that C: hard disk type in Setup is correct.
C: Drive Failure	Hard disk drive C: does not respond. You may need to replace the hard disk drive.
Cache Memory Bad, Do Not Enable Cache	Cache memory is defective. It must be replaced. Contact your NECCSD service representative for service work.
CH-2 Timer Error	Most ISA computers include two timers. There is an error in timer 2. Contact your NECCSD service representative for service work.
CMOS Battery State Low	CMOS RAM is powered by a battery. The battery power is low. Contact your NECCSD service representative to replace the CMOS battery.
CMOS Checksum Failure	After CMOS RAM values are saved, a checksum value is generated for error checking. The previous value is different from the current value. Run Setup to reset the value.
CMOS System Options Not Set	The values stored in CMOS RAM are either corrupt or nonexistent. Run Setup to reset the value.
CMOS Display Type Mismatch	The amount of memory on the system board is different than the amount in CMOS RAM. Run Setup to reset the value.
CMOS Time and Date Not Set	Run Setup to set the time and date.
Diskette Boot Failure	The boot diskette in floppy drive A: is corrupt. It cannot be used to boot the computer. Use another boot disk and follow the on-screen instructions.
DMA error	Error in the DMA controller. Contact your NECCSD service representative to replace the CMOS battery.
DMA#1 Error	Error in the first DMA channel. Contact your NECCSD service representative for service.

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## POST Error Messages

MESSAGE	WHAT TO DO
DMA #2 Error	Error in the second DMA channel. Contact your NECCSD service representative for service.
FDD Controller Failure	The BIOS cannot communicate with the floppy disk controller. Contact your NECCSD service representative to check all appropriate connections.
HDD Controller Failure	The BIOS cannot communicate with the hard disk drive controller. Contact your NECCSD service representative to check all appropriate connections.
INTR #1 Error	Interrupt channel 1 failed POST. Contact your NECCSD service representative for service.
INTR #2 Error	Interrupt channel 2 failed POST. Contact your NECCSD service representative for service.
Invalid Boot Diskette	The BIOS can read the diskette in drive A:, but cannot boot the computer. Use another boot diskette.
Keyboard is Locked Unlock It	The keyboard lock on the computer is engaged. The computer must be unlocked to continue.
Keyboard Error	There is a timing problem with the keyboard. Set the <i>Keyboard</i> option in Setup to <i>Not Installed</i> to skip the keyboard POST routines.
KB\interface error	There is an error in the keyboard connector. Contact your NECCSD service representative for service.
Off Board parity Error	Parity error installed in an expansion slot. Contact your NECCSD service representative to be sure that the memory module is installed correctly.  The error format is: OFF BOARD PARITY ERROR ADDR(HEX) = (XXXX) XXXX is the hex address where the error occurred.
On Board Parity Error	Parity error in system board memory. Contact your NECCSD service representative for service.
Parity Error ????	Parity error in system memory at an unknown address. Contact your NECCSD service representative for service.

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Fatal errors that occur during POST are communicated through a series of beeps. All beep code errors, except beep code 8, are fatal errors and do not allow the system to continue to boot.

If beep codes occur during POST, check the items in the Problem Checklist (at the start of this chapter), verify that all the hardware is set up properly and securely connected, and try rebooting. If you still get a beep code, go to the section “If You Need Assistance” at the end of this chapter.

Beep Codes are listed in the table that follows.

### Beep Codes

NUMBER OF BEEPS	ERROR	DESCRIPTION
1	Refresh Failure	The memory refresh circuitry on the motherboard is faulty.
2	Parity Error	Parity error in the first 64 KB of memory.
3	Base 64 KB Memory Failure	Memory failure in the first 64 KB.
4	Timer Not Operational	Memory failure in the first 64 KB of memory or Timer 1 on the motherboard is not functioning.
5	Processor Error	The CPU on the motherboard generated an error.
6	Gate A20 Failure	The keyboard controller may be bad. The BIOS cannot switch to protected mode.
7	Processor Exception Interrupt Error	The CPU generated an exception interrupt.
8	Display Memory Read/Write Error	The system video adapter is either missing or its memory is faulty. (This is not a fatal error.)
9	ROM Checksum Error	The ROM checksum value does not match the value encoded in the BIOS.
10	CMOS Shutdown Register Read/Write Error	The shutdown register for CMOS RAM failed.
11	Cache Error/External Cache Bad	The external cache is faulty.

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## USING THE PRODUCT RECOVERY CD

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



Only use the Product Recovery CD as a last resort or to intentionally reformat your hard disk drive. (See "Formatting the Hard Disk Drive" in Chapter 4 for details.) Check the problem checklist at the beginning of this chapter for information about solving problems before using the CD. The Product Recovery CD provides two options for replacing system files.

You can use the Product Recovery CD to do the following.

- Full Restore — Formats your hard drive and then performs a full restore procedure. This option REMOVES all data and applications from your system.
- Selective Installation — Allows you to selectively install drivers, applications, and utilities.

### Full Restore

If your preinstalled software becomes unusable and you cannot boot from the hard disk, use the Product Recovery CD to restore your system to its initial shipping configuration.

Full Restore *erases* the hard disk *completely* before reinstalling the files.



### CAUTION

A Full restore deletes *all* files on the hard drive and replaces them with the original factory installed files.

Only use a Full Restore if the preinstalled software is unusable.

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Follow these steps to restore your NEC Versa to its initial shipping configuration.

1. Insert the Product Recovery CD into the system's CD-ROM reader.
2. Reboot your computer.
3. Select Full Restore to restore your system to its original system state.
4. Follow the on-screen prompts to complete the restoration procedure.



For further information, see "Formatting the Hard Disk" and "Using the Product Recovery CD", in Chapter 4 of this user's guide.

### Selective Installation

If a driver, application, or utility becomes unusable, use the Product Recovery CD to restore the selected file(s).

Use the Selective Installation Utility when your operating system environment is fully operational and you need to reinstall specific file(s).

Follow these steps to install selected files to your NEC Versa.

1. Insert the Product Recovery CD into the system's CD-ROM reader.
2. Open Windows Explorer and locate the CD-ROM drive.
3. Double click the CD-ROM icon.
4. Double click to open the readme file and follow the instructions for using the Selective Installation Utility.

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## 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, see Appendix C, “NECCSD Information Services,” for details about contacting NECCSD.



If you purchased and are using this product outside the U.S., please contact the local NECCSD office or their dealers for the support and service available in your country.

Reference the booklet, “Getting Service and Support in Asia, Australia, and Europe” to find out how to contact the local office in your country.

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# B Specifications

The following specifications are standard except where noted.

## **System Processor**

- NEC Versa 6220 — Intel Pentium 200-MHz
- NEC Versa 6230 — Intel Pentium 233-Mhz
- NEC Versa 6260 — Intel Pentium 266-MHz

## **Architecture**

64-bit Peripheral Component Interconnect (PCI)

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

- Standard Main Memory — 32-MB EDO high-speed interleaved access
- Optional Expansion — 1 slot. Expandable in 16-MB, 32-MB or 64-MB increments. Maximum 128 MB total.
- Video RAM — 2 MB EDO DRAM
- Cache RAM
  - Level 1: 512 KB
  - Level 2: 32 KB

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

256 KB x 8 bit, Flash ROM

## **Calendar Clock**

Year/month/day/hour/minute/second maintained by internal back-up battery

## **Input/Output (I/O) Facilities**

Integrated industry-standard interfaces

- Parallel — 1 port, 25-pin D-sub

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- Serial — 1 port, 9-pin D-sub
  - Infrared — 1 port on the front of system; IrDA-1 compatible
  - VGA — 1 port, 15-pin high-density D-sub
  - External Keyboard/External Mouse — 1 port, PS/2, 6-pin MiniDin; exclusionary use or both supported with optional Y-adapter
  - Expansion — 1 port, for optional NEC Docking Station 6000 Plus, optional PortBar 6000, optional MiniDock 6000, or optional FDD Connector Kit.
  - Microphone — 1 port, 3-pin, Mini Pin Jack
  - Stereo Headphones — 1 port, 3-pin, Mini Pin Jack, .5 watts per channel
  - Stereo Line-In — 1 port, 3-pin, Mini Pin Jack
  - Stereo Line-Out — 1 port, 3-pin, Mini Pin Jack
  - TV Out — 1 port; RCA Jack (PAL and NTSC support)
  - DC In — 1 port, for AC adapter cable
  - USB port — 1 port, 4 pin

#### **Main Battery**

- Type — Lithium Ion (Li-Ion), eight-cell
- Output Voltage — 14.4 V
- Capacity — 2,600 mAh
- Battery Life — Approximately 2-4 hours depending on model, with power management features enabled.
- Recharging Time — Approximately 2 hours when the system is on or off.

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## Speakers

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

- 16-bit stereo, 44.1 KHz
- Sound BlasterPRO compatible
- MIDI Roland: MPU401, UART Mode compatible
- Sound Controller — ESS 1869

## PC 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
- 32-bit Card Bus support

## LCD Panel

- Panel — 13.3-inch high resolution active matrix Thin Film Transistor (TFT), Extended Graphics Array (XGA) color display
- Resolution — 1024 x 768
- Dot Pitch — 0.264 mm x 0.264 mm
- Colors — 256K

## Keyboard

Membrane 85 keys (both U.S. and International) with standard QWERTY-key layout (International keyboards are country-specific)

- 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

- Size — 3.5-inch
- Capacity — 1.44 MB (formatted), 2 MB (unformatted)
- Access Time (average) — 94 ms

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- Transfer Rate — 250 to 500 K/bps
  - Interleave 1:1
  - Controller — NS PC87338VJG

### **VersaBay II SuperDisk™ LS-120 Drive**

External 3.5 inch Pack

- Data Transfer Rate — 4 MB/sec
- Track to track seek rate — 3 ms
- Formatted Capacity:
  - Optical diskette — 120 MB
  - High Density floppy diskette — 1.44 MB
  - Double Density floppy diskette — 720 MB

### **Hard Disk Drive**

- Capacity — Internal 2.1 GB or 3.2 GB, 12.7 mm, or 5.1 GB, 17 mm, removable IDE hard disk drive
- 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 — 69.8 Mbit/sec(Max)
- Mean Time Between Errors (MTBF) — 300,000 hours

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

- Type — 5-inch CD-ROM Pack
- Average Data Transfer Rates — 1500 KB/second (mode 1), 1710 KB/second (mode2)
- Read Rate — 1650 KB/sec max, 1500 KB/sec avg
- Burst Transfer Rate — 11.1 MB/sec (PIO mode 2); 13.3 MB/sec DMA mode; PIO Mode 3 compatible (with IORDY)

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- Average Access Time — 150 milliseconds (ms)
  - Memory Buffer — 128 KB
  - Interface — IDE (ATAPI)
  - Photo CD Compatibility — Multisession Photo CD, Video CD (CD-1, CD-I Ready, CD-G, CD-Plus, CD-DA, CD-EXTRN, and CD-ROM XA)

## Power

### AC Adapter

- Input Voltage — 100 to 240 volts (V) AC, 50 or 60 Hz, 1.0 A
- Output Voltage — 18.5 V DC, 2.45 A (45.5W)
- Australia, Europe and Asia use an AC power cable specific to each country's standards.

### Battery Pack

- Type — eight-cell Lithium Ion (Li-Ion)
- Output Voltage — 14.4 V
- Capacity — 2,600 mAH
- Battery Life — Approximately 2–4 hours, under typical operating conditions.
- Recharging Time — Approximately 2 hours when the system is on or off.

### Bridge Battery

- When fully charged, backs up memory contents and system status for up to 30 minutes under Suspend mode; battery change time is under 5 minutes.

## Dimensions

### System

- Width — 11.58 in. (297 mm)
- Depth — 9.78 in. (251 mm)
- Height — 2.28 in. (58.5 mm)

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Battery Pack

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

**Weight**

NEC Versa — 7.49 lb (3.42 kg)

Battery Pack — .85 lb (.38 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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## MEMORY MAP

The system supports system and video shadowing, both controlled through complementary metal oxide semiconductor (CMOS). The system supports BIOS as a cacheable area with write protection. The following table shows the system's memory map.

<b>Memory Space</b>	<b>Size</b>	<b>Function</b>
000000-0002FFh	768 bytes	BIOS Interrupt Vector Table
000300-0003FFh	256 bytes	BIOS Stack Area
000400-0004FFh	256 bytes	BIOS Data Area
000500-09FFFFh	639 KB	Applications Memory (used by the OS, device drivers, TSRs, and all DOS applications)
0A0000-0AFFFFh	64 KB	Video Buffer (EGA and VGA)
0B0000-0B7FFFh	32 KB	Video Buffer (monochrome, CGA color, VGA monochrome)
0B8000-0BFFFFh	32 KB	Video Buffer (CGA, EGA color, and VGA color)
0C0000-0CBFFFh	48 KB	Video ROM (EGA and VGA)
0CC000-0CFFFFh	16 KB	Unused. (Reserved for Adapter ROMs and other devices requiring ROMs)
0D0000-0DFFFFh	64 KB	Used by Adapter ROMs (i.e., network controllers, hard disk controllers, SCSI host adapters)
0E0000-0EFFFFh	64 KB	Used by System ROM adapters (i.e., network controllers with boot capability)
0F0000h-0FFFFFFh	64 KB	System AMIBIOS (includes Setup and hard disk drive utilities)
100000h-1FFFFFFF	32 MB	Built-in Extended Memory
2000000-5FFFFFFF	64 MB	Extended Memory

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## INTERRUPT CONTROLLERS

Using interrupts, hardware can request software services. If non-Plug and Play software is being used, the interrupt may need to be moved for software application or driver compatibility. *Some interrupts cannot be moved.* Fifteen interrupts can be used with a cascade connection of 8259INTC x 2. The table shows default interrupt level assignments 0 through 15, in order of decreasing priority.

<b>Controller</b>			
<b>Master/Slave</b>	<b>Priority</b>	<b>Name</b>	<b>Device</b>
Master	0	IRQ00	SystemTimer 1
Master	1	IRQ01	Keyboard
Master	2	IRQ02	Programmable 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 (built into CPU)
Slave	9	IRQ14	Hard Disk Controller 1
Slave	10	IRQ15	IDE DS/MD6000 or PC Card in MD 6000
Master	11	IRQ03	Not used, available
Master	12	IRQ04	Serial Port
Master	13	IRQ05	Sound
Master	14	IRQ06	Diskette Drive Controller
Master	15	IRQ07	Parallel Port

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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.

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- Use the entire seat and backrest to support your body. Tilt the backrest slightly ( $90^{\circ}$  to  $105^{\circ}$ ). The angle formed by your thighs and back should be  $90^{\circ}$  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  $90^{\circ}$  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.

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- 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.

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.

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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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# C NECCSD Information Services

NEC Computer Systems Division (NECCSD) makes it easy for you to get information and help when you need it. We offer a variety of services, including a 24-hour technical support line. This appendix describes these services, including:

- NECCSD Diskette Fulfillment Center
- NECCSD Technical Support Center (U.S. and Canada customers only)
- NECCSD Customer Assistance Center
- NECCSD FaxFlash<sup>SM</sup> Service
- NECCSD Bulletin Board Service
- NECCSD on America Online<sup>®</sup> Service
- NECCSD on CompuServe<sup>®</sup> Online Service
- E-mail to NECCSD Technical Support Center through a commercial on-line service or Internet
- Fax Service to NECCSD Technical Support Center
- NECCSD Web and FTP sites.



If you purchased your computer outside of the U.S. or Canada, please contact the local NEC office or their dealers for the support and service available in your country.

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

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

## HOW TO REACH US

Check the descriptions that follow for service hours and any special instructions you might need to reach us.

### NECCSD Diskette Fulfillment Center

(800) 842-6446

NECCSD 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. Call the fulfillment center from 8:30 AM to 6:00 PM (EST), Monday through Friday.

### NECCSD Technical Support Center

(800) 632-4525

Fax: (978) 635-4100

NECCSD also offers Technical Support services on all products including Versa notebooks, PowerMate Desktop computers, Servers, and MobilePro Handheld computers. Call the NECCSD Technical Support Center, toll free, at **1-800-632-4525** (U.S. and Canada only). International customers should contact the local NEC office or their dealers.

The Technical Support Center is available 24 hours a day, 7 days a week. for the following support.

- System hardware — toll-free phone support is limited to the length of the standard warranty.
- Preinstalled software — toll-free phone support for 90 days from the time of your first call to the NECCSD Technical Support Center.

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For software support *after* the initial 90 days or hardware support after the warranty period, the charges are per incident. You can charge these fees to either a MasterCard or VISA credit card.

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

Outside the U.S. or Canada, please contact your local NEC office or their dealers.

### **NECCSD Customer Assistance Center**

NECCSD offers Customer Service for extended warranty and contract information, spare parts ordering, warranty claims, repair services, and service authorizations.

Direct assistance is available Monday through Friday from 8:30 a.m. to 8:00 p.m. Call the NECCSD Customer Assistance Center, toll free, at **1-888-632-9128** (U.S. and Canada only).

### **NECCSD FaxFlash Service**

U.S. and Canada: (888) 329-0088

International: (978) 635-6090

This automated fax service offers product brochures, installation procedures, quick reference guides, promotional forms, troubleshooting information and more. Automated fax service is not toll free for overseas customers.

### ***Using FaxFlash***

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

Using a fax machine, you can obtain information from FaxFlash 24 hours a day, 7 days a week. Simply call the FaxFlash number on your touch-tone telephone and follow the voice prompts to order the information you want. FaxFlash automatically faxes the information to you.

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

- Catalog 1, Telephone Directory and information about Online Services.
- Catalog 3, Product specifications, warranty policy, UltraCare guidelines, and sales information.
- Catalog 5, Pro Serva and Express 5800 Server Systems technical support information.
- Catalog 6, NEC Ready Systems technical support information.
- Catalog 7, PowerMate Systems technical support information.
- Catalog 8, NEC Portable Systems (including Versa Notebooks and MobilePro Handheld Personal Computers) technical support information.

Technical support information includes BBS and FTP file listings, Illustrated Parts Breakdowns (IPB), part numbers, Frequently Asked Questions (FAQ) lists, and other documents specific to each product.

### ***Ordering Information***

Order information from FaxFlash as follows:

1. Be sure that your fax machine or fax/modem is on. Have the document number ready for the document you want, if you already know the number.
2. From your touch-tone telephone, enter 888-329-0088 (U.S. and Canada only).

For international use, enter the international long-distance access number, the U.S. country code, and the U.S. telephone number (978-635-6090).

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

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

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

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

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

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

## **NECCSD Bulletin Board System (BBS)**

(978) 635-4706

The NEC Electronic Bulletin Board System is a remote database system containing files that are dedicated to enhancing the functions of NECCSD products. It also gives general public access to drivers for NECCSD products for use with various software applications.

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

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

### ***Logging On***

Log onto the BBS as follows.

1. From the Windows desktop, click the **Start** button.
2. Point to Programs. Point to Accessories and then click **HyperTerminal**.
3. Double click the **Hypertrm.exe** icon. The HyperTerminal program appears.
4. Follow the instructions on the screen to set up your modem. Click the **HyperTerminal** help button for information about dialing the phone number.

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If you need to check communications settings, check that the settings match the following BBS parameters.

- Baud rate: select any baud rate that matches your modem
  - Parity: none
  - Data bits: 8
  - Stop bits: 1
  - Flow control: Xon/Xoff (select Hardware if using 14.4 bps or higher).
5. Following the HyperTerminal instructions, enter the BBS phone number (978-635-4706). Your business phone system and/or location might require a 9 1 or 1 prefix.



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

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



## CAUTION

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

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## **Logging Off**

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

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

## **NECCSD on CompuServe**

**CompuServe Keyword** GO NECTECH

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



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

## **Using CompuServe**

Use the following steps to access CompuServe and NECCSD online information services.

1. Log on to CompuServe.
2. At the opening screen, click the Go button, then type **NECTECH** at the prompt, and click OK.
3. At the NEC menu, double-click one of the following topics, then follow the prompts:
  - NEC Bulletin Board
  - Information About This Service
  - Access NEC Bulletin Board
  - Access CompuServe Information Services

- 
- Exit.

4. Exit anytime by double-clicking on the rectangle in the upper left corner of the screen.

## **NECCSD on America Online**

**America Online Keyword**      NEC

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

### ***Using America Online***

Use the following steps to access America Online and NECCSD online information services.

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

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Exit anytime by double-clicking the rectangle in the upper left corner of the screen.

## **NECCSD on the Internet**

**Internet Address**            [tech-support@neccsd.com](mailto:tech-support@neccsd.com)

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

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

### ***NECCSD WWW and FTP Sites***

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

**<http://www.nec-computers.com>**

To access the NECCSD FTP site, enter the following Internet ftp address through your service:

**[ftp.neccsdeast.com](ftp://neccsdeast.com)**

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

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## NECCSD E-Mail and Fax

**Worldwide Web Address:**

**[www.nec-computers.com](http://www.nec-computers.com)**

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

**[tech-support@neccsd.com](mailto:tech-support@neccsd.com)**

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

**(978) 635-4100**

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

- Desktop
- Notebook
- Servers.

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

## WARRANTY AND NON-WARRANTY REPAIR SERVICE

Before you call for repair service, see the problem checklist in Chapter 7 to determine if you can solve the problem yourself, within your company, or through your NEC authorized dealer.

Direct assistance is available 24 hours a day, 7 days a week. Call the Technical Support Center (TSC) at 1-800-632-4525 for the following support:

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

After the initial 90 days, get preinstalled software support for a fee.

- 
- System hardware — toll-free phone support for one year after the date of purchase (standard warranty).

For hardware support after the 1 year warranty, get system hardware support for a fee.

Before calling, please have your system name, model number, serial number, and purchase date ready. Also have 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 NECCSD FaxFlash Service at 888-329-0088 by requesting catalog number three.

If you purchased your computer outside of the U.S. or Canada, please contact the local NEC office or the NEC dealers in your area for your specific warranty service.

NECCSD is a member of TSANet (Technical Support Alliance Network)

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# D Questions and Answers

## EXTERNAL MOUSE



**How can a PS/2 mouse and an external keyboard be connected to the notebook at the same time?**



The NEC Versa 6200 Series computer has only one PS/2 port that accommodates *either* a mouse or a keyboard. You can get around this by purchasing an optional Y adapter. The Y-adapter provides two PS/2-style ports.

See the online *Versa Tools Catalog* for ordering information.



**Why won't a serial mouse work when connected to the PS/2 port with the appropriate adapter?**



The NEC Versa 6200 Series computer is designed to find a mouse connected to the PS/2 port only. The system does not recognize a serial mouse with an adapter.

## DISPLAY



**What is the maximum resolution I can run in simultaneous mode?**



The maximum resolution in simultaneous mode is 1024 x 768 because this is the maximum resolution supported by the LCD panel. You can obtain higher resolutions if you connect a higher-resolution external monitor and switch to CRT-only mode.



**How can I change my video drivers?**



In Windows 95 and Windows NT, press Start, Settings, and Control Panel. In the Control Panel, double click the Display icon. Click the Settings tab. Next, click Advanced Properties and press "Change." Click show all devices from the Select Device screen. Find the video driver you need, or insert a diskette or CD into the appropriate drive. Click on "Have Disk."

## **PC CARDS**



**In which slots do my PC cards go?**



Your PC cards can go into either slot if they are NEC-approved cards. Other software may not support the use of both slots. Type III cards only fit in one slot (slot 0).



**Is there any instance when a modem or network card is only supported in one slot?**



This could be true in cases where the PC card firmware is being upgraded. Read the release notes that accompany the upgrade.



**What precautions should be taken when running NEC PC card drivers with MemMaker?**



You may experience some difficulty when running with some PC card drivers loaded in the upper memory. You may have to move these drivers back to lower memory.



**How can I determine if non-NEC PC network or modem cards will work with NEC PC card drivers?**



If the PC card was not supplied by NEC, check for the following:

- If it is a modem card, the NEC Versa beeps twice when you insert the card, letting you know that it works.
- If it's a network card (LAN, Ethernet), an NEC PC card is the only one that works directly. The CECFG.EXE file enables the beep tones. This file is on the diskette that comes with the NEC network card. Windows 95 will automatically recognize your card or prompt you for drivers.

Other cards can be made to work but require extensive PC card and network knowledge. See the user's guide that comes with the network card.

NEC cannot comment on the suitability of non-NEC PC cards. NEC portable computers are preloaded with SystemSoft's CardWizard software. Refer to the manual that came with any non-NEC PC card for information on the drivers it provides.



**Can I run two of the same type cards simultaneously?**



Yes, Windows 95 configures each card. If they are both modems, configure each for a different port and use different available interrupts under the ports icon in the Windows control panel or from Device Manager in Windows 95.



**Why do certain PC cards cause my battery life to drop noticeably?**



Certain hard disk cards and wireless radio cards consume more power than others and can impact battery life. When not using any PC card, pop it part of the way out of the slot to save power.



**If my NEC Versa 6200 Series system is docked in the Docking Station 6000 Plus and I'm using a LAN card, the card does not work.**



You probably have an address conflict between your PC LAN card and your Docking Station. Check the manual that came with your PC card for alternate addresses and use CardWizard or Windows 95 Device Manager to reset the address.



**In Setup, I disabled or reconfigured peripheral devices (like the ports or sound), yet I am unable to use the freed IRQs or I/O address resources with my PC Cards?**



One of the following may be the cause of the problem:

- The PC card controller is configured in a manner that makes IRQ lines 4 and 10 unavailable for PC card use. Choose another IRQ for use with the PC Card.
- To provide a stable platform free of conflicts, NECCSD excluded some resources from PC card use.

## DISKETTE DRIVE



**Why can't I boot from the diskette drive?**



To boot from the diskette drive, be sure that you have a diskette in drive A: containing operating system files. Be sure to check the Boot Device Setup parameters in the BIOS Setup Utility to determine the designated sequence of boot devices. See Chapter 3, "Using BIOS Setup."

See your operating system documentation for information about creating system diskettes.



### What happens if I leave a diskette in my diskette drive?



Shutting down your system with a diskette drive in the diskette drive can damage the data on your diskette and your diskette drive. You should remove the diskette before powering off.



### How do I format a diskette?



In Windows 95 or Windows NT, double click on the My Computer icon and then right click (click the right-hand mouse button) on the 3.5 Floppy (A:) icon. Select Format and select the format process that best suits your needs.

To format high density 1.44-MB diskettes — In DOS, type **format a:** and press **Enter**. If you want a bootable diskette, type **format a:/s** and press **Enter**.



### What type of diskette do I use in my diskette drive?



Some systems ship with a 1.44-megabyte (MB) diskette drive that uses 3.5-inch high density (HD) diskettes. These diskettes are also called double-sided, high-density (DSHD) diskettes. You can store 1.44 MB of information on these diskettes.

Your diskette drive can also use 3.5-inch double-sided, double-density (DSDD) diskettes. These diskettes only hold 720 kilobytes of data — about half the amount of data that 1.44-MB diskettes hold.

Some systems ship with the SuperDisk LS-120 drive that uses 100 megabyte diskettes. You can store up to 100 MB of information on these diskettes.

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## BOOTING



**What are all those messages on my screen when I start up my computer?**



At power on, the system displays configuration messages as it performs diagnostic tests. The tests check major hardware components, such as memory and interface circuits. The system compares the hardware it finds with parameters last saved by the Setup program. This process is the Power-On Self-Test (POST).



You can bypass the POST memory test by pressing the space bar.



**Why can't I boot from the diskette drive?**



To boot from the diskette drive, be sure that you have a diskette in drive A: containing operating system files. Be sure to check the Boot Device Setup parameters in the BIOS Setup Utility to determine the designated sequence of boot devices. See Chapter 3, “Using BIOS Setup.”

See your operating system documentation for information about creating system diskettes.



**What is the difference between a warm boot and a cold boot?**



A warm boot restarts the system while system power is on. A warm boot is also a software reset. A warm boot clears volatile system memory and reloads the operating system.

To use a warm boot, press and hold **Ctrl**, **Alt**, and **Del**. When all three keys are pressed, the system resets.

A cold boot is a system start with power off. A cold boot also resets the hardware. It checks the hardware and reloads the operating system.

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Press the system unit power switch to perform a cold boot. If power is on, turn the power off using the system unit power switch, wait at least five seconds, and then turn the power on.



When possible, use a warm boot to restart your notebook.

## POWER MANAGEMENT



**Does my system come with power management features enabled?**



Yes, your system comes with power management features enabled. If you do not use the keyboard, mouse, or drives for the preset length of inactive time, your screen goes blank and your system goes into a power saving mode of operation. This is known as Standby mode.

When your screen goes blank, before the system goes into Suspend mode, just press the space bar or move your mouse to reactivate your system.



**What is the purpose of the Suspend button?**



You can initiate full Suspend mode by pressing the Suspend/Resume button. This places the system in a deeper state of "sleep" and requires that you press the Suspend/Resume button again to bring it back to Active mode.

Pressing the Suspend button initiates the Suspend power-saving mode. Pressing the suspend button is a convenient way of conserving energy when you are going to be away from your system for short period of time.



### **What is the function of Suspend mode?**



Suspend mode provides the greatest power savings by putting the system in a maximum power shutdown. When the system goes into Suspend mode, it saves data and system status and then shuts off power to all possible components. Suspend mode lets you save power without first saving your work.



### **How do I bring my system out of Standby mode?**



Moving your VersaGlide pointer or using your keyboard brings the system out of Standby mode.



### **How do I bring my system out of Suspend mode?**



Pressing the Suspend/Resume button brings the system out of Suspend mode.



### **What is a time-out?**



A time-out is the amount of time your system or a particular component is inactive.



### **Can I disable my system's power management features?**



Yes. Simply press the Power Management switch (**Fn+F7**) on the system keyboard.

In Windows 95, click on Start, Settings, Control Panel. In Control Panel, double click on the Power icon. In the Power Properties screen, uncheck "Allow Windows to manage power use on this computer."

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## MISCELLANEOUS



### How do I set the time and date?



You can change the time and date in Windows 95 and Windows NT as follows.

- Double click the time in the lower right corner of the screen.
- Change the date and time as needed.

You can change the time and date in Windows for Workgroups as follows:

- At the Main program window, double click the Control panel icon.
- Double click on the Date/Time icon.
- Modify the time and date accordingly.
- Close the Control panel.



### How do I speed up my application?



If the application you are using runs really slow, close any other applications you are not using — this should speed things up.

If this doesn't help, save your work, close the application, and exit Windows. Restart Windows and the application you want to run.

If your application still runs slow, you might consider installing additional memory (see “Memory Module Installation” in Chapter 4).

Also, refer to your operating system's documentation for tips on optimizing system performance.



**Why do I get a message "Insufficient memory" when I run some games? I have 32 MB of memory.**



The "Insufficient memory" refers to the 640 kilobytes of base memory. Since there are drivers being loaded at power on, the amount of memory can be lower than the game requires.

Contact the game manufacturer and request advice to create a boot disk. This will load only the drivers necessary to run the game.



**How do I find help in a Windows application?**



If you need help in a Windows application, click on a Help button or Help menu item. Most applications provide online help. If the application doesn't provide these, try pressing **F1**.



**How do I save a file?**



You save a file by selecting **F**ile then **S**ave from the drop down menu. If the file was not previously named, you will be prompted for a file name. In Windows 3.11, use up to eight characters to name it. In Windows 95, you can use up to 255 characters to name a file.



**I'm having a problem using the IR port. What can I do?**



Check that both the sending and receiving system and device are using the same transmission software.

If you are transmitting underneath a fluorescent light, try repositioning the system and device so that they are not directly under the fluorescent light.

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# Glossary

## **A AC Adapter**

A device that connects a NEC 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.

## **APM**

(Advanced Power Management)

## **applications programs**

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

## **audio**

The range of frequencies that humans hear.

## **B base RAM**

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

## **BIOS**

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

## **bit**

Binary digit. The smallest unit of computer data.

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**bits per second**

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

**board**

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

**boot**

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

**bus**

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

**byte**

Group of eight contiguous bits.

**C Card Bus**

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 NEC Versa. CMOS is backed up by an internal lithium battery that preserves clock/calendar data and system configuration parameters stored in CMOS.

**cold boot**

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

**crt**

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

**cursor**

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

**D default**

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

**diskette**

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

**diskette drive**

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

**digital audio**

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

**digital sound**

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

---

**digitizing**

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

**DIMM**

Double Inline Memory Module. Memory module that supplies system RAM and memory upgrades. (*See also* SO DIMM.)

**DMI**

Desktop Management Interface (DMI) software collects information about a computer environment. Using DMI, a management 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 ECP**

Enhanced Capabilities Port. A port that meets the enhanced capabilities standard and provides greater processing speed than conventional ports. (*See also* EPP.)

**EDO Memory**

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

**EPP**

Enhanced Parallel Port. A port that meets the enhanced parallel port transmission standards for speed and also supports bi-directional and uni-directional transmission. (*See also* ECP.)

---

**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.

**F Fast Page Mode**

A mode that decreases cycle times by allowing the memory controller to access other data bits that 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 up to 4.0 Mbit/second ( 4million bits per second).

**FM synthesis**

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

**function key**

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

**H hard disk**

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

**hardware**

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

**hertz**

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

**hot key**

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

---

**I Infrared**

Technology that uses infrared waves to communicate data between IR-equipped devices without the use of cables. The port on the NEC Versa is Infrared Data Association (IrDA)-compatible.

**input/output**

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

**IDE**

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

**interface**

A connection that enables two devices to communicate.

**interrupt**

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

**K kilobyte**

(KB) 1024 bytes.

**L LAN**

Local Area Network.

**LCD**

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

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**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, control logic, and control-memory unit.

**MIDI**

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

**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 NEC Versa operates in either normal or power-saving modes.

**modem**

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

**MPEG**

A compression/decompression video standard developed by a professional video group called the Motion Picture Experts Group. MPEG produces full-screen, broadcast-quality digital video and allows you to play full-screen video on your system.

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**multimedia**

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

**N nonvolatile memory**

Storage media that retains its data when system power is turned off. Non-volatile memory in the NEC 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.)

**NTSC**

The type of transmission mode used in the United States, Canada, Japan, and other countries for television signals. (*See also* PAL.)

**O operating system**

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

**overwrite**

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

**P page**

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

**PAL**

The type of transmission mode used in the most European countries for television signals. (*See also* NTSC.)

**parallel interface**

Interface that communicates eight bits at a time.

**parallel printer**

A printer with a parallel interface.

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**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.

**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.

The PCI bus supports burst modes that send large chunks of data across the bus, allowing fast display of high-resolution images. The high-bandwidth PCI local bus eliminates data bottlenecks found in traditional systems, maintains maximum performance at high clock speeds, and provides a clear upgrade path to future technologies.

**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.

**plug-and-play**

Hardware and software that combines to let you connect devices directly to a system without running special configuration routines. The computer hardware and operating system and the device hardware and software must be plug-and-play compliant.

---

**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**

After 30 minutes in Suspend mode, the current system working state is automatically saved to a special file on the hard disk. the system is then powered down. When the system is powered on again, it returns to the working state that was saved.

### **scanner**

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

### **serial interface**

An interface that communicates information one bit at a time.

### **serial printer**

A printer with a serial interface.

### **software**

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

### **SVGA**

Super VGA. A standard graphics resolution of 800 pixels x 600 lines.

### **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.

### **system board**

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

## **T TFT**

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

---

## **U Universal Serial Bus**

A new external bus standard that supports data transfer rates of 12 Mbps (12 million bits per second). A single USB port allows you to connect up to 127 peripheral devices such as mice, modems, and keyboards. USB also supports Plug-and Play installation and hot plugging. USB may eventually 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 NEC Versa are volatile memory. (See nonvolatile memory.)

## **W warm boot**

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

### **waveform**

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

### **write**

To record or store information to a storage device.

## **X XGA**

A video standard that offers 1024 x 768 resolution.

## **Z Zoom Video**

A direct high-speed connection between the video, audio, and graphics subsystems within the computer. Zoom video provides the high-quality path required for smooth video playback or TV tuner transmission.

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(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.



This is a Class B Digital Device. 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.

To meet FCC standards, shielded cables and power cords are required to connect this device to a personal computer or other Class B certified device.

---

***Canadian Department of Communications Compliance Statement***

This equipment does not exceed Class B limits per radio noise emissions or digital apparatus, set out in the Radio interference Regulation of the Canadian Department of Communications.

***Avis de conformité aux normes du ministère des communications du Canada***

Cet équipement ne dépasse pas les limites de Classe B d'émission de bruits radioélectriques pour les appareils numériques, telles que prescrites par le Règlement sur le brouillage radioélectrique émis par le ministère des Communications du Canada.

***European Community Directive Conformance Statement***

This product is in conformity with the protection requirements of EC Council Directive 89/336/EEC on the approximation of laws of the Member States relating to electro-magnetic compatibility. This product satisfied the Class B limits of EN 55022.

NEC Computer Systems Division, Packard Bell NEC, Inc.  
1414 Massachusetts Avenue  
Boxboro, Massachusetts 01719  
1-800-632-4525

## BATTERY REPLACEMENT

A lithium battery in your computer maintains system configuration information. In the event that the battery fails to maintain system configuration information, NEC recommends that you replace the battery. 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 is made of Lithium Ion (Li-Ion) and the CMOS clock battery is made of Lithium. 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.