NEC Versa® VX Notebook Computer

VERSA VX

USER'S GUIDE

NEC

Proprietary Notice and Liability Disclaimer

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

As an ENERGY star partner, NEC Computers Inc. (NECC) has determined that this product meets the ENERGY star guidelines for energy efficiency.

First Printing — January 2000

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1 Introducing the NEC Versa

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Using This Guide

The *NEC Versa® VX 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, "Introducing the NEC Versa," to acquaint yourself with system hardware.
- Chapter 2, "Getting Started," for instructions on how to connect, power on, and care for your system.
- Chapter 3, "Using the BIOS Setup Utility," for details about modifying system parameters and power management.
- Chapter 4, "Using the Operating System and Utilities," for an understanding of your Windows operating system. You'll also learn how to use the system utilities and CDs for loading applications, drivers, and the NEC Info Center.
- Chapter 5, "Using the System Drives and Bays," to master procedures for upgrading the internal hard disk drive and installing a memory module.
- Chapter 6, "Communicating with Your NEC Versa," for essential information about using PC cards, the mini-PCI modem, mini-PCI LAN, or mini-PCI modem/LAN, and other communication features of the system.
- Chapter 7, "Traveling Tips," for a variety of checklists to help you to prepare the notebook computer for travel, getting through customs and using your modem when you are on the road.
- Chapter 8, "Using External Devices," for procedures for connecting external devices like an external monitor, headphones, a printer, or speakers.
- Chapter 9, "Using Multimedia," for steps on integrating video and sound clips into impressive presentations.
- Chapter 10, "Solving System Problems," for simple solutions to common problems that may arise while operating your notebook.
- Chapter 11, "Getting Service and Support," for information about getting help when you need it from NEC Computers Inc. (NECC).
- 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, “Frequently Asked Questions,” (FAQs) for a look at questions that users commonly ask and the answers to those questions.

Text Conventions

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

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

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

CAUTION Cautions indicate situations that can damage the hardware or software.

Note Notes give important information, etc.

- Names of keys are printed as they appear on the keyboard, for example, **Ctrl**, **Alt**, or **Enter**.
- Text that you must type or keys that you must press are presented in bold type. For example, type **dir** and press **Enter**.

Related Documents

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

- The *NEC Versa VX Quick Setup* sheet helps get your system up and running.
- The *NEC Versa VX Quick Reference* card provides an easy-to-carry reference to LED meanings, controls, function key combinations, and NECC help numbers. (The quick reference card does not ship with some systems purchased outside of the United States and Canada.)

The *NEC Info Center* is a fully navigational, pdf document containing multimedia elements, a full search capability, and all of the information about your NEC Versa that you find in this printed user’s guide, and more.

1

Introducing the NEC Versa

- Before You Begin
- About Your NEC Versa VX Notebook
- Around the Front of the System
- Around the Back of the System
- Around the Left Side of the System
- Around the Right Side of the System
- Around the Bottom of the System
- About the Port Replicator

Before You Begin

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 VX system is ready to go! To get started, do 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.
- Read through this guide to familiarize yourself with the NEC Versa.

About Your NEC Versa VX Notebook

The NEC Versa VX notebook computer offers you a portable system filled with exciting resources for home, business or travel. Standard features include a powerful Intel® Celeron™, Pentium® II or Pentium III 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, and PC card support. Most models are equipped with a 24X CD-ROM drive, or a DVD-ROM drive. and a V.90-compliant 56 kilobits per second (Kbps) modem. As a multimedia system, your NEC Versa VX provides the tools needed to create and present impressive images using video clips and sound.

NEC Versa VX notebook computer

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

Around the Front of the System

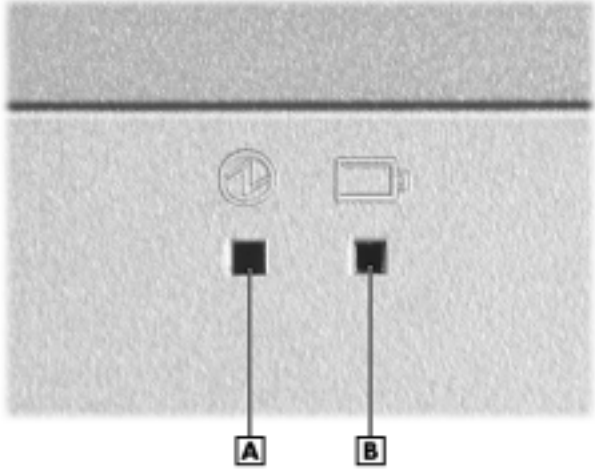
The NEC Versa is compact with features on every side. First, look at the front of the system. The following sections describe front features, beginning with the liquid crystal display (LCD) panel.

LCD Panel

The NEC Versa VX comes with a color LCD panel that you can adjust for a comfortable viewing position. The LCD panel can be a 12.1-inch Super Video Graphics Array (SVGA) color display, or a 13.3/14.1-inch Extended Graphics Array (XGA).

- Power and Battery Charging Status LEDs — (identified by icons) are located just under the front of the LCD panel. The status LEDs are duplicated on the back of the LCD panel to allow viewing when the panel is closed.

Power and Battery Charging LEDs



A – Power LED **B** – Battery Charging LED

— Power LED — lets you know that power to the system is turned on. This LED is positioned so that you see the power state whether the LCD panel is opened or closed.

  – Lights green when the system is powered on using the AC adapter, battery, or auto adapter.

  – Lights green when on and has normal battery power. Lights yellow when on and low (8% to 4%) battery power. Lights amber when in Windows 95 Suspend mode or Windows 98 Standby mode and very low (3% or less) battery power.

— Battery Charging LED — lights to indicate battery charging status.

  – Lights amber to indicate the battery is charging.

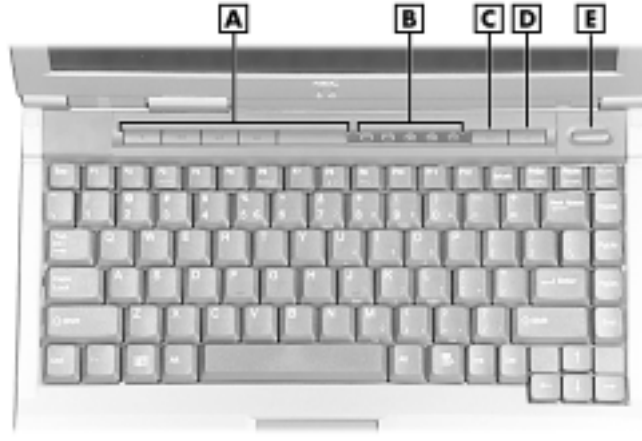
  – Blinks amber to indicate an error.

  – Lights off to indicate the battery is fully charged.

Control Panel

The NEC Versa VX Control Panel provides the features shown in the following figure. The Control Panel features are described after the figure.

Control Panel



A – CD Control Buttons or Password Buttons
B – Status LEDs
C – Email Button
D – Internet Button
E – Power Button

- CD Control Buttons — controls the CD-ROM drive (stop, reverse, play/pause, and fast forward). Available on some systems.
- Personal Code Buttons — sets a personal code for security. Available on some systems.
- Status LEDs — keeps you informed of your NEC Versa VX's current operating status. Descriptions of the status icons appear in the following section.
- Email Button — accesses your email software.
- Internet Button — accesses the Internet.
- Power Button — powers on and off the system.

Note If you are unable to power off the system, use the power override. Press the Power button and hold it in place until the system powers off.

Power Button

The Power button is a "smart" switch, meaning that it recognizes when the system is in Suspend (Windows 95) or Standby (Windows 98) mode, if the BIOS parameter "System Switch" is set to "Sleep." If in Suspend or Standby mode, you cannot power off until you press the Power button to resume operation.

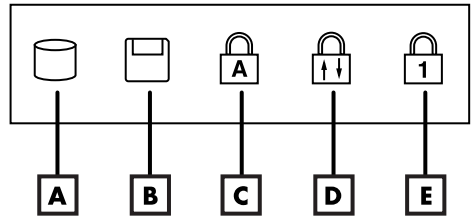
Put the unit in Suspend or Standby mode when you need to be away from your system for a short period of time and want to return to where you left off. Suspend mode in Windows 95 and Standby mode in Windows 98 shuts down all devices in the system while retaining data and system status.

- In Windows 95, press the Power button for less than 4 seconds to put your system into Suspend mode.
- In Windows 98, go to Start, Shutdown, Standby to put your system into Standby mode.
- Use the Power button in the following ways:
  - — Press the Power button to power on.
  - — Press the Power button to resume from Suspend (Windows 95) or Standby (Windows 98) mode and proceed with normal operation.
  - — Hold the Power button in place for 4 or more seconds to initiate power override (powers off the system). Only use this option if you cannot power off your system using Start, Shutdown.

Status Icons

The NEC Versa VX system uses status lights marked with icons to communicate system status. See the following figure and list for each icon's meaning.

Status LED icons



A – Hard Drive Access
B – Diskette Drive Access
C – Caps Lock
D – Scroll Lock
E – Num Lock

- Hard Drive Access — lights when the NEC Versa VX accesses the hard disk drive, CD-ROM drive, or DVD-ROM drive.
- Diskette Drive Access — lights when the NEC Versa VX writes data to or retrieves data from the diskette drive.
- Caps Lock — lights when caps lock is in effect.
- Scroll Lock — lights when scroll lock is in effect.
- Num Lock — lights when Num Lock mode is active.

Keyboard Panel and Base Unit

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

Keyboard panel

A – Keyboard

B – NEC VersaGlide

Base unit

A – Speakers
B – IR Port
C – Microphone

D – Audio Ports
E – Volume Control

- Keyboard — standard QWERTY-key layout. (Models shipped outside of the U.S. are equipped with country-specific keyboard layouts.) The keyboard is equipped with many features. These include:

  — Function keys

  — Windows keys

  — Cursor control keys

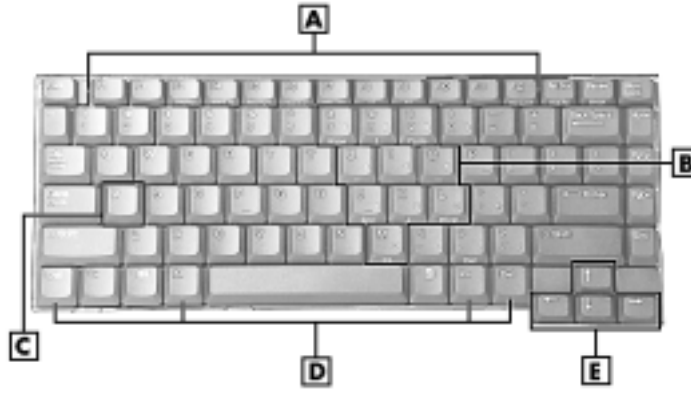
  — Typewriter keys

  — Numeric keypad

  — Control keys.

  Key features and operations are described after the figure.

Keyboard



A – Function Keys
B – Numeric Keypad
C – Typewriter Keys
D – Control Keys
E – Cursor Control Keys

- Function Keys — Twelve function keys, **F1** through **F12**, are available on the NEC Versa VX keyboard. These keys work together with the **Fn** key to activate special functions. Eight keys (printed in blue) are preprogrammed with dual functions.

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

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

Fn-Left Ctrl — Simulates pressing the right control key to support IBM 327X connections.

Fn-F3 — Toggles the video mode between LCD only, CRT only, Simultaneous mode, and TV out.

Fn-F4 — Sets standby power management mode on, in Windows 95.

— In Windows 95, press any key to resume from Standby mode.

— No function when Windows 98 configured for Advanced Configuration and Power Interface (ACPI). In Windows 98, Standby is equivalent to Windows 95 Suspend mode. To resume from Windows 98 Standby mode, press the Power button.

Fn-F6 — Toggles the system beep off and on.

Fn-F7 — Toggles between various power management levels in Windows 95. Beeps indicate the level chosen as follows:

1 beep	Off
2 beeps	Custom
3 beeps	Highest Performance
4 beeps	Longest Life

No function when Windows 98 configured for Advanced Configuration and Power Interface (ACPI).

Fn-F8 — Increases the LCD's brightness (eight settings). Applies to XGA LCD panels only.

Fn-F9 — Reduces the LCD's brightness (eight settings). Applies to XGA LCD panels only.

Fn-F10 — Provides zoom in/out control.

Fn-F12 — Toggles the scroll lock feature.

Fn-Power — Initiates a save-to-file on demand, only in Windows 95, when the BIOS Suspend option is set to "STF." Saves your working environment to a reserved area on the hard drive.

Fn-ESC — Initiates a Save-to-Ram, only in Windows 95, when the BIOS System Switch is set to "Sleep." Saves your working environment to memory.

Windows keys — Use the following two keys to facilitate your work.

— Shortcut/Application key – provides quick access to shortcut menus. (This key acts like a right mouse button.)

— Floating Window key – displays the Start menu.

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

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

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

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

- 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**. Key combinations work specific to the application you are running.

- 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 bar depending on the application. The cursor indicates where the next text typed is inserted.

- 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. See "Using the NEC VersaGlide" in Chapter 2 for information about customizing VersaGlide settings.

- Speakers — provides stereo sound for your multimedia presentations or listening pleasure.

- IR Port — allows you to transfer files between you NEC Versa and an IR-equipped desktop or notebook computer.

- Microphone — allows you to record monophonic sound directly into your notebook computer. See Chapter 9, "Using Multimedia," for details about recording.

- Audio Ports

  — Microphone — 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.

— 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.

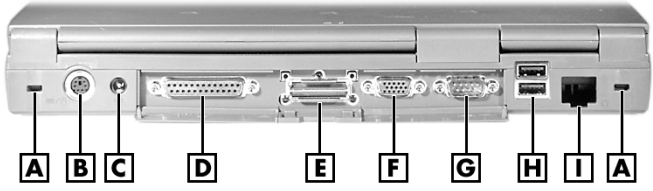
— Headphones — Lets you plug in stereo headphones or powered speakers.

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

Around the Back of the System

You'll find system ports for connecting your NEC Versa VX to optional devices (like a printer or external monitor) on the back of your NEC Versa VX. The ports are described after the figure.

Back system features



A – Port Replicator Notches
B – PS/2 Port
C – AC Power Port
D – Parallel Port
E – Expansion Port
F – VGA Port
G – Serial Port
H – USB Ports
I – Modem/LAN Port

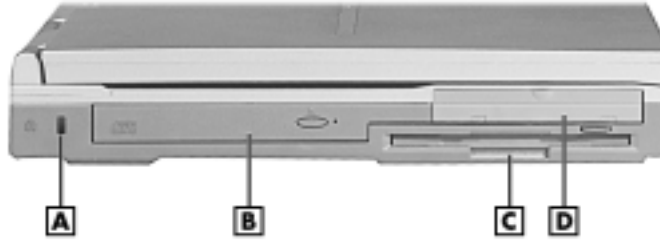
- Port Replicator Notches — Use these notches to secure the Port Replicator to the back of the system. (There are two Port Replicator notches located at the both ends of the rear side of the system.)
- PS/2 Port — Use the standard PS/2 port to connect an external PS/2-style mouse, PS/2-style keyboard, or PS/2 style Numeric Keypad to the system. With an optional Y-adapter cable, you can connect up to two of these devices at the same time.
- AC Power Port — Lets you attach the NEC Versa VX to the AC power source using the AC adapter that comes with your system. Keep the system connected to AC power whenever possible to keep the battery pack and internal CMOS battery charged.

- Parallel Port — Use this port to connect a parallel printer or other parallel device. The parallel port default supports the Enhanced Capabilities Port (ECP) standard. The port also supports bidirectional and output only protocols.
- Expansion Port — Use this port to connect the Port Replicator.
- VGA Port — Use this 15-pin port to attach an external monitor to your NEC Versa VX.
- Serial Port — Use this port to connect a serial printer or other serial device.
- USB Ports — Each Universal Serial Bus (USB) port allows you to connect up to 127 USB-equipped peripheral devices (for example, printers, monitors, scanners) to your NEC Versa VX.
- Modem/LAN Port — NEC includes a 56K fax/data modem or mini-PCI LAN. It keeps you connected to the outside world!

Around the Left Side of the System

The left side of your NEC Versa VX provides the features shown in the following figure. The left side features are described after the figure.

Left side features



A – Kensington Lock Latch
B – CD-ROM Drive
C – Diskette Drive
D – Hard Disk Drive

- Kensington Lock Latch — This latch allows you to attach a Kensington security lock or other compatible lock to secure the notebook from theft.
- CD-ROM Drive — Allows you to load and start programs from a compact disc (CD) and play audio CDs.
- Diskette Drive — A 3.5-inch, 1.44-MB diskette drive comes installed in the NEC Versa.

- Hard Disk Drive — An internal hard disk drive comes installed in the NEC Versa. The disk drive is upgradeable.

Around the Right Side of the System

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

Right side features

A – Battery Bay
B – Fan
C – PC Card Slots
D – TV Out

- Battery Bay — Depending upon the model, the battery bay contains a rechargeable Nickel-Metal-Hydride (NiMH) or Lithium-Ion (Li-Ion) battery pack.
- Fan — Allows your system to cool properly and maintain a safe operating environment.

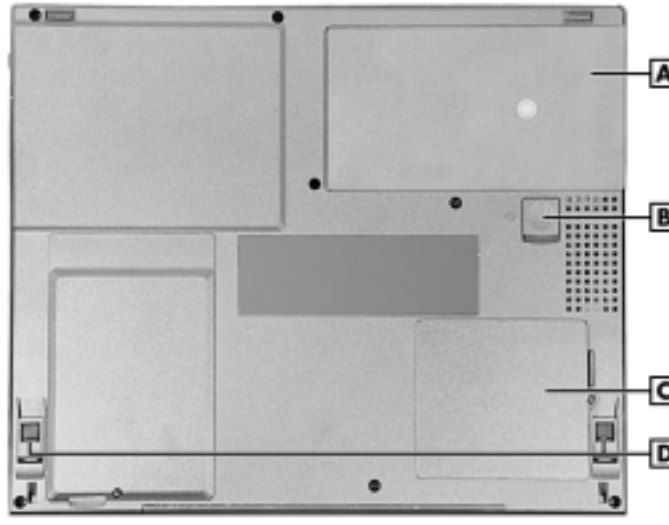
⚠ CAUTION Do not block the fan while the NEC Versa VX is in use.

- PC Card Slots — Two PC card slots allow you to insert two Type II PC cards or one Type III PC card in the bottom slot. Card BUS cards are supported and Zoom Video is supported in the top slot.
- TV Out — Allows you to connect to a television.

Around the Bottom of the System

The bottom of the NEC Versa VX offers the following features. The features are described after the figure.

Bottom of the system



A – Battery Bay
B – Battery Release Latch
C – Memory Module Bay Cover
D – Tilt Foot

- Battery Bay — Equipped with a rechargeable Nickel-Metal-Hydride (NiMH) or (depending on the model) Lithium-Ion (Li-Ion) battery.
- Battery Release Latch — Slide the latch to the other end and hold it. While holding the latch, slide the battery bay outwards to remove the battery.
- Memory Module Bay Cover — Remove the screw to find two SO-DIMM slots. One is inserted with SDRAM memory board configured by the factory. The other is empty for upgrade use.
- Tilt Foot — Adjust to provide flexible keyboard angle.

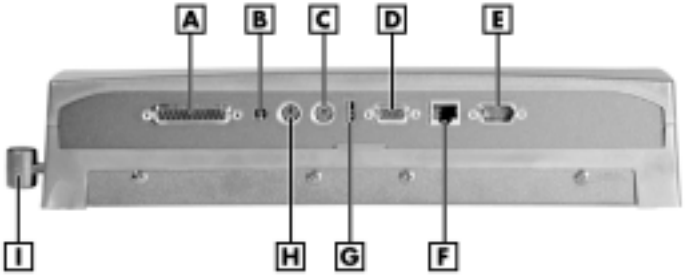
About the Port Replicator

The NEC Port Replicator is an accessory that duplicates some of the ports found on the back of your NEC Versa VX system. It also has a LAN port for a network connection and a Kensington lock. The lock secures the NEC Versa VX to the Port Replicator and secures the Port Replicator to the desk. Keep the NEC Port Replicator in your office connected to peripherals while you take your NEC Versa VX on the road.

The ports on the Port Replicator are as follows.

- Parallel Port — Connects to a printer. You can change the LPT Mode in the Setup program.
- AC Power Port — Connects to an AC adapter.
- PS/2 Mouse Port — Connects to a PS/2 mouse.
- PS/2 Keyboard Port — Connects to a 6-pin standard PS/2-style keyboard.
- USB Port — Connects up to 127 peripheral devices to your notebook computer.
- VGA Port — Connects to an external VGA/SVGA monitor.
- LAN Port — Connects via an RJ45 connector to the system's built-in LAN or modem/LAN card.
- Serial Port — Connects to a serial device, such as an external modem.

Port Replicator



A – Parallel Device Port
B – AC Power Port
C – External Keyboard Port
D – VGA Port
E – Serial Device Port
F – Ethernet LAN Port
G – USB Port
H – Mouse Port
I – Docking Lever

2

Getting Started

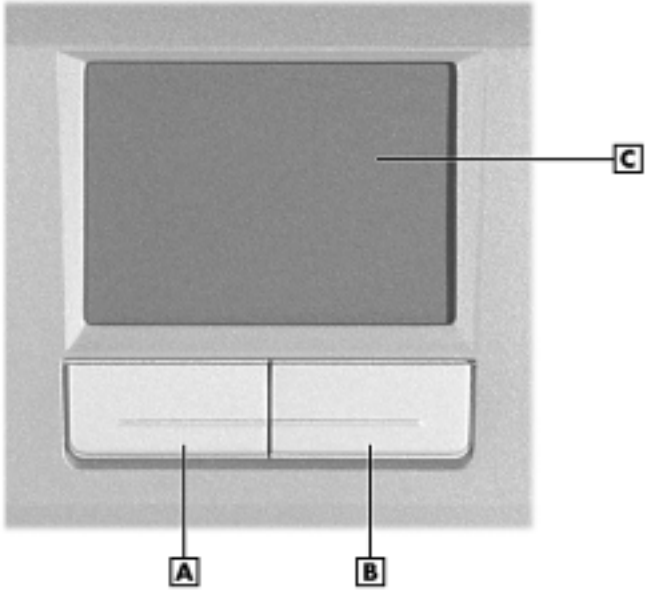
- NEC VersaGlide
- Power Sources
- System Care

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. To use the VersaGlide, you can

- **Single tap to the touchpad**, equivalent to a single click of the primary mouse button.
- **Double tap to the touchpad**, equivalent to a double click of the primary mouse button.
- **Click** and **hold,** then **drag** your finger across the VersaGlide touchpad, equivalent to a click and drag of the primary mouse button.
- **Slide** your finger along the right side of the touchpad to scroll your document or screen.

VersaGlide features



A – Left Button
B – Right Button
C – NEC VersaGlide

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

Note If you install another mouse driver over the shipping default, the double-tap capability 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, cursor speed, the accepted double-click speed, and selection button orientation.

VersaGlide Tips

Follow these basic ergonomic tips while working:

- Use a light touch on the VersaGlide surface.
- Set up the NEC Versa VX 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.

Power Sources

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
- the optional auto adapter (For details about its use, refer to the accessory sheet that ships with the option.)

Read the following sections for specific information about using the NEC power sources.

Using the AC Adapter

Use the AC adapter and power cable that came with your NEC Versa VX 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.

When connected, the AC adapter charges the battery whether or not the NEC Versa VX is 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 EN60950 standards.

AC adapter

Note The AC outlet voltage should be 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:

⚠ CAUTION Use only the AC adapter that comes with your NEC Versa VX system. Although other AC adapters may look similar, using them can damage the system.

1. Connect the AC adapter cable to the power port on the back of your NEC Versa VX system.

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

Connecting the AC adapter

WARNING Do not cover or place objects on the AC adapter. Doing so can cause the adapter to overheat.

Powering the System On and Off

To power on, locate the Power button on the upper right hand side of the notebook above the keyboard and press it. To power off the system, press the Power button. In Windows, the computer automatically shuts down, when "Shut Down" is selected from the Start menu. That is, you do not need to press the Power button to switch off the computer.

Depending on the operating system, the "smart" switch may be enabled to allow you to power down using the Power button instead of the Windows Start menu.

Using the Battery

The NEC Versa VX system comes with a rechargeable Nickel Metal-Hydride (NiMH) or Lithium-Ion (Li-Ion) battery. Battery packs are easy to install and remove.

Note Although the battery is fully charged at the factory, transit and shelf time may reduce the initial battery charge. We recommend that the first time you use your system, connect it to AC power using the AC adapter. This also recharges your battery.

When battery power drops to the level where the Battery Warning is activated, the power LED lights yellow.

When battery power reaches 8%, the power LED lights amber and the system beeps a warning and the system goes into Suspend or Save to File mode.

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.

Replacing the Battery

Install the battery in your system as follows:

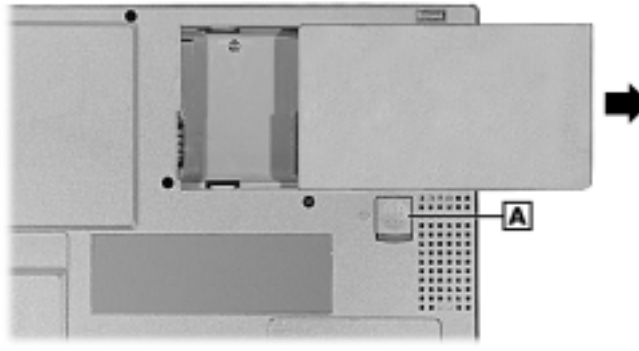
CAUTION Be sure to save your data before replacing the battery pack or connecting the AC adapter. Failure to do so can result in data loss.

1. Save your files, exit Windows, and turn off system power.
2. Close the LCD panel and turn over the system.

3. Remove the battery as follows:

   - Locate the battery release latch.
   - Slide the battery release latch towards the back of the system and hold firmly.
   - Continue to hold the battery release latch as you slide the battery out of the system.

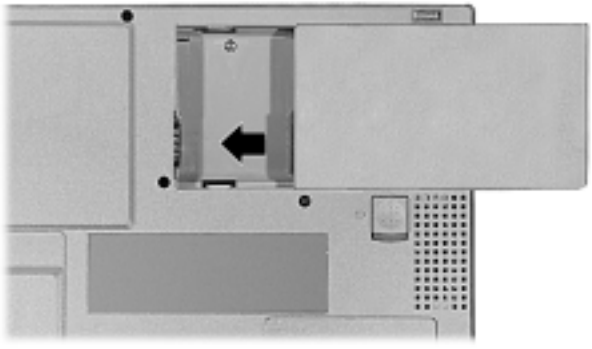
Removing the battery



A – Battery Release Latch

4. Insert the new battery as follows:
   - Locate the alignment groove on the edge of the battery.
   - Locate the alignment groove inside the battery bay.
   - Align the grooves on the battery with the grooves in the bay.
   - Slide the battery into the bay until securely locked into place.

Installing the battery



5. Turn over the system.

Low Battery Power

When battery power gets low, connect your system to the AC adapter. If an AC adapter is not available, change the battery using the battery replacement procedure. See the section, “Replacing the Battery.”

Returning the Battery to its Normal State

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%).

Handling the Battery

Review the following before handling the system battery.

⚠ CAUTION Use the NiMH or Li-Ion batteries only in the NEC Versa VX computer for which they are designed. Mixing other NEC Versa VX batteries, 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.
- Clean the battery terminals with a dry cloth if they get dirty.
- When not in use, store the battery in a cool dry area.

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

- shorter work times
- discoloration, warping
- hot to the touch
- strange odor.

Extending Battery Life

The NEC Versa VX NiMH or Li-Ion battery life is effected by the following conditions:

- When it is new and fully charged.
- When no peripherals are connected to your NEC Versa VX.
- When you have no options installed.

Enabling power management features increases 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. Turning down the screen brightness (**Fn + F9**) extends battery life.

Charging the Battery

Charge time depends on whether or not you are using the system. There are two ways to charge your battery while it is installed in the NEC Versa VX:

- When the system is off or in Suspend mode and the AC adapter is connected, charge time is approximately 3 hours.
- When the system is powered on and the AC adapter is connected, charge time is approximately 4 hours.

For maximum battery performance, fully discharge the battery before recharging it. To do so, unplug the AC adapter, turn off power management features (through BIOS Setup and Windows power management), and turn on the system. Once the battery is fully discharged, plug in the AC adapter and recharge the battery.

The warning beep that sounds when battery power becomes critically low is always a true indicator that battery power is low. Be sure to save your data when you hear the beep and take proper steps to provide power to your system.

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.

- Keep the battery away from heat sources including direct sunlight, open fires, microwave ovens, and high-voltage containers. Temperatures over 60ºC (140ºF) 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 onto skin or clothing, wash the area immediately. Battery fluid can cause a skin rash and damage fabric.
- If battery fluid gets in eyes, DO NOT rub; rinse with clear water immediately and see a doctor.

Precautions for Recharging the Battery

Adhere to the following precautions when recharging the 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 41°F and 95°F (5°C to 35°C).
- Read the instructions that came with the battery charger before charging the battery.

Disposing of the Battery

Before disposing of the battery, put adhesive tape on the terminals. Depending upon the NEC Versa VX model, the main battery is made of Nickel Metal-Hydride (NiMH) or Lithium-Ion (Li-Ion).

Contact your local waste management officials for information regarding environmentally sound collection, recycling, and disposal of batteries.

Internal Batteries

The Nickel Metal-Hydride or Lithium-Ion battery is the main power source in your NEC Versa VX computer. Appendix B lists battery specifications. In addition to the main battery, the CMOS battery provides power to maintain system configuration settings.

CMOS Battery

This 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.

⚠ CAUTION This equipment uses an ungrounded power cable. Replace the cord if it becomes damaged. U.S. and Canadian replacement cords must be UL-approved (CSA certified in Canada) type SPT-2, 18 AWG, 2-conductor cord with a permanently attached NEMA type 5-15P plug at one end, and a permanently attached connector body on the other. Cord length may not exceed 15 feet.

Outside the U.S. and Canada the cord must be rated for at least 250VAC at 10 amps, and must indicate international safety agency approval. The plug must be a type appropriate for the country where it is used. Check with your local dealer for HAR type 18 AWG, 2 conductor cord, or better. (Reference the booklet, "Getting Service and Support for Asia, Australia, and Europe" to find out how to contact the local office in your country.)

Obtain replacement cords at an authorized service center. The replacement must be of the same type and voltage rating as the original cord.

Disconnect all supply lines before the hinged front cover is removed. Replace the hinged cover before the unit is restarted.

System Care

The NEC Versa VX is a durable, dependable system built for extensive use and travel. Follow these guidelines to maintain the condition, performance and safety of your computer. Please read these safety instructions carefully and keep this user's guide for reference.

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

- The power cord is damaged or frayed.
- Liquid spills on or into the NEC Versa VX.
- System is dropped or casing is damaged.

Precautions

Follow these precautions when using your NEC Versa VX and AC adapter. Always follow all cautions and warnings.

- 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.
- Do not place items near the NEC Versa VX that could block air vents and cause overheating.

- Use the NEC Versa VX on a level surface and avoid moving the NEC Versa VX during system operation, especially while the hard disk, diskette drive, or CD-ROM 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.
- Disconnect the notebook from the electrical outlet if it is not going to be used for a long time. This will avoid damage by transient over-voltage.
- Do not attempt to disassemble the computer. For safety the computer should be disassembled only by a qualified service person.
- Do not push any foreign objects into the NEC Versa VX 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.
- Keep liquids and food away from the system.
- Turn computer power off before cleaning it.
- If the AC adapter becomes extremely hot, unplug the adapter and let it cool.
- The electrical outlet and any extension cords should be rated to support the total current load of all connected devices.
- Be sure to follow these power cord safety tips:
  - — Unplug by the plug only; do not pull on the cable.
  - — Place the power cord so that it can not be tripped on, stepped on, nor have items placed directly on the power cord.
  - — Use an electrical outlet that is as close as possible to the computer.
- Do not use the IR port directly under fluorescent lighting, or near flashing incandescent light.
- If one of the following situations arises, have the notebook checked by service personnel:
  - — The power cord or plug is damaged.
  - — Liquid has penetrated into the notebook.
  - — The notebook has been exposed to moisture.

— The notebook has not worked well or you can not get it to work according to the user's guide.

— The notebook has been dropped and damaged.

— If the notebook has an obvious sign of damage.

- An approved power cord has to be used for the notebook's power supply. For a rated current up to 6A and an equipment weight more than 3 kg, a power cord not lighter than H05VV-F, 2G, 0.75mm^2, has to be used.
- The sound pressure level at the operator's position according to IEC 704-1: 1982 is equal or less than 70dB(A).

Storage Requirements

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

⚠ CAUTION If the temperature of the NEC Versa suddenly rises or falls (for example, when you move the system from a cold place to a warm 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.

- Maintain storage temperatures between -4°F and 104°F (-20°C and 40°C).
- 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 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 — NECC recommends that you carefully wipe the case with a slightly damp, almost dry cloth.

3

Using the BIOS Setup Utility

- Introducing BIOS Setup
- Entering BIOS Setup
- Checking/Setting System Parameters
- Managing System Power
- Updating the BIOS
- Identifying the Switch Settings

Introducing BIOS Setup

Your NEC Versa VX 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.

Entering BIOS Setup

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

```
Press <F2> to enter Setup.
```

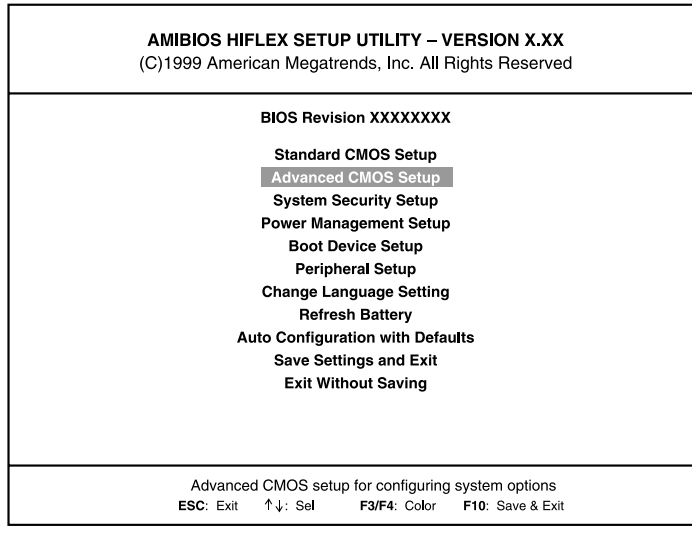
When you press **F2** to enter BIOS Setup, the system interrupts the Power-On Self-Test (POST) and displays the current CMOS RAM settings.

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**. You will see this message if your CMOS battery becomes fully discharged.

BIOS Setup Main Menu

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

BIOS Setup Main Menu

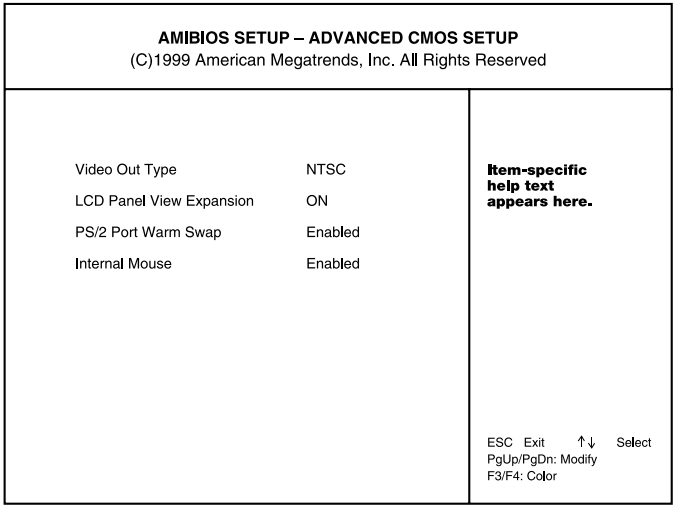


Use the up and down arrow keys (located on the lower right corner of the keyboard) to toggle through the BIOS Setup menu items.

Looking at Screens

BIOS setup screens have three areas as shown next.

Advanced CMOS Setup



- Parameters — The left side of the screen. This area lists parameters and their current settings.
- Available Options and Help — The right side of the screen. This area lists alternate settings and Help text for each parameter.
- 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 the BIOS Setup keys and their functions.

BIOS Setup Key Functions

Key	Function
↑ ↓	Moves the cursor between the displayed parameters.
PgUp/PgDn	Toggles through 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.
F10	Saves and exits the BIOS Setup utility.

Checking/Setting System Parameters

The BIOS Setup utility consists of a number of screens, each representing a specific area of the BIOS. The following tables list the BIOS parameters, their factory default settings, alternate settings, and a description of each setting. See the item-specific help that appears on each Setup screen for more details.

The BIOS Setup Utility is broken down as follows:

- Standard CMOS Setup
- Advanced CMOS Setup
- System Security Setup
- Power Management Setup
- Boot Device Setup
- Peripheral Setup

Resetting System Parameters

To reset all parameters to the default settings, select Auto Configuration with Defaults from the BIOS Setup Main Menu, press the arrow keys to select **Yes** and press **Enter**.

Standard CMOS Setup

Use the Standard CMOS Setup screen to view the System Time, System Date and to modify drive parameters and related settings.

Standard CMOS Setup

Parameter	Default Setting	Alternate Setting(s)
Date	mm/dd/yyyy	
System Memory		(automatically detected)
Time	hh:/mm:/ss	
Diskette Drive A	1.44 MB, 3 1/2	Not installed, 1.44 MB 3 1/2
Internal	Auto	User Defined, CDROM, Not installed
Internal Slave	Auto	User Defined, CD/DVD, Not installed
Boot Sector Virus Protection	Disabled	Enabled

- Date — Sets 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.

- System Memory — Displays the amount of system memory currently installed in your system.

- Time — Sets 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 Drive — Designates the drive type for your diskette drive.

- Internal Drives — Assigns devices to the internal drives in your system.
- Boot Sector Virus Protection — Write protects the boot sector of the hard disk drive to avoid infection by some virus types.

Advanced CMOS Setup

Use the Advanced CMOS Setup to set the following functions.

Advanced CMOS Setup

Parameter	Default Setting	Alternate Setting(s)
Video Out Type	NTSC	PAL
LCD Panel View Expansion	On	Off
PS/2 Port Warm Swap	Enabled	Disabled
Internal Mouse	Enabled	Disabled

- Video Out Type — Specifies the signal type used by the video device connected to the TV Out Port.
- LCD Panel View Expansion — Specifies whether the panel view is reduced/off or expanded/on.
- PS/2 Port Warm 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.

System Security Setup

Use the System Security Setup to establish system passwords.

System Security Setup

Parameter	Default Setting	Alternate Setting(s)
Assign Supervisor Password	Press Enter	
Assign User Password	Press Enter	
Boot Password Required[1]	No	Yes
Resume Password Required[2]	No	Yes
Assign HDD Password	Press Enter	
Internal HDD password	Disabled	Enabled

[1] Option is not available until supervisor password is set up.
[2] Only active when Boot Password is set to Yes.

- Assign Supervisor Password — Establishes password protection for entering the BIOS Setup utility, booting the system, and resuming from suspend.
- Assign User Password — Establishes a user password once a supervisor password is set. The user password allows the system to boot and resume from Suspend and Save-to-File.
- Boot Password Required — Indicates whether or not a password is required to boot the system.
- Resume Password required — Indicates whether or not a password is required to resume the system. Boot Password must be defined to activate this parameter.
- Assign HDD Password — Allows you to assign a password to allow or restrict access to the hard disk drive contents.
- Internal HDD Password — Enables or disables the HDD password.

Password Protection

Your NEC Versa supports a password for system security on several levels. Keep in mind that you must set the supervisor password before the BIOS Setup utility allows you to set a user password.

Once you set a supervisor password, you must enter it before you can enter BIOS Setup, access the system at startup, or resume from Suspend or Save-to-File, depending on your configuration selection.

Establishing Passwords

To establish password protection for entering the BIOS Setup utility or accessing the system at startup, you must set the supervisor password before setting a user password.

- To enter a password simply select Assign Supervisor Password, enter the password, re-enter the password to confirm, and press any key to continue. Repeat the procedure to set the user password.
- To initiate password protection while you step away from your system, simply press **Ctrl**, **Alt, Backspace** or Suspend/Save-to-File the system. The Caps lock and Scroll lock LEDs alternately flash indicating that you must enter a password to resume operation.

In Windows 98, the supervisor and user passwords are only valid when resuming from Save-to-File. To establish password protection for resuming from Standby or Hibernation modes you must do the following:

- Set a Windows password in Control Panel, Password Properties, Change Passwords.
- Enable the option “Prompt for password when the computer goes off standby,” in Control Panel, Power Management Properties, Advanced.

Hard Disk Drive Passwords

Your NEC Versa allows you to establish password protection for the internal hard disk drive. Hard disk drive (HDD) password protection restricts access to the drive, only if the drive is removed from your NEC Versa and installed in another system. You are not prompted to enter your hard disk drive passwords while the drive remains in your current system.

The HDD passwords are written to the system BIOS and to the hard disk drive to ensure that the password protection travels with the drive when moved from system to system.

Establishing Hard Disk Drive Passwords

To establish password protection for your system's hard disk drive you must establish a master password, establish a user password, and enable the established passwords for the internal HDD. Follow these steps to establish HDD passwords and to enable HDD password protection.

1. Enter the BIOS setup, highlight and select the System Security Setup.
2. Highlight Assign HDD Password and press **Enter**.

   The system prompts you to enter a master password.
3. Enter a master HDD password and press **Enter**.

   The system prompts you to enter the password again to verify.
4. Enter the master password and press **Enter**.

   The system confirms the creation of the master password and prompts you to enter a user password.
5. Enter a user password and press **Enter**.

   The system prompts you to enter the password again to verify.
6. Enter the user password and press **Enter**.
7. Highlight and select Internal HDD Password and use the **PgUp/PgDn** keys to enable the selection. (This enables password protection for the internal HDD.)

Changing Hard Disk Drive Passwords

To change hard disk drive passwords, enter the System Security Setup, highlight Internal HDD Password and enter the current password that you wish to change. If you enter the current master password, you are prompted to enter a new master password. If you enter the current user password, you are prompted to enter the new user password. If you do not wish to establish a new master or user password, press **Esc** instead of entering a new password.

Using Hard Disk Drive Password Protection

To facilitate the transfer of one or more HDDs between system, establish a single master password (and document the password in a secure place). Establish different user passwords to limit access to specific systems.

Moving the Hard Disk Drive

When a password protected HDD is moved from its original system and installed in another system, error messages appear indicating that the drive is locked. Next, the Security Setup screen appears requiring the user to enter the master password to unlock the drive. Highlight the HDD password line and enter the master password, when prompted.

If you wish to move an HDD from one system to another, follow steps 1 through 6 in the section, "Establishing Hard Disk Drive Passwords," before installing the HDD in a different system. Install the HDD in the desired system then follow step 7 to establish HDD protection.

To take advantage of HDD password protection in another system, the system must be equipped with the same HDD password protection feature. To determine if the system has HDD password, check the System Security Setup in the BIOS setup to see if there are provisions for establishing HDD passwords.

Power Management Setup

Use the Power Management Setup to balance high performance and energy conservation.

Power Management Setup

Parameter	Default Setting	Alternate Setting(s)
System Switch	Power Button	Sleep Button
Power Management under AC	Off	On
Power Savings Level	Longest Life	High Perform/Custom/Off
CPU Speed Control	100%	12.5, 25, 50%
Hard Disk Timeout[1]	2 minutes	5/30/45 sec; 1/4/6/8/10/15 min. Off
Video Timeout[1]	2 minutes	30/45 sec.; 1/4/6/8/10/15 min. Off
Peripheral Timeout[1]	On	Off
Audio Device Timeout[1]	On	Off
Standby Timeout[1]	4 minutes	Off/1/2/6/8/10/15 min.
Auto Suspend Timeout[1]	10 minutes	Off/5/15/20/25/30 min.
LCD Suspend	Disabled	Enabled

Power Management Setup

Parameter	Default Setting	Alternate Setting(s)
Suspend Option	Suspend	STF
Auto Save-to-File	Enabled	Disabled
Panel Brightness	Auto	User Defined
Suspend Warning Tone	Enabled	Disabled
Remote Power On	Disabled	Enabled
Wake Up Alarm	Disabled	Enabled
Resume Alarm Time[2]	Off	Set time in 5 min. increments when Wake Up Alarm is set.

[1] Available when power savings is set to Custom.
[2] Resume alarm time is selectable when wake up from suspend alarm is set.

- System Switch — Sets the Power button as a power switch or a sleep button.
- 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 — Specifies one of four levels of power management.
  - — High Performance — provides good battery life and best performance with only minimal power conservation Use while on the road or traveling short distances.
  - — Longest Life — provides best battery life, the maximum amount of power savings, and good performance. Use while traveling long distances.
  - — Off — disables power management and all device timeouts. Works well in an office environment while powering your NEC Versa with AC power.
  - — Custom — lets you define power management levels and specific device timeouts according to your own needs and present environment. Custom lets you set the following timeouts.

Custom Timeout Options

Option	Definition
CPU Speed Control	Sets CPU performance at one of four levels.
Hard Disk Timeout	Sets the time delay before your hard disk powers down.
Video Timeout	Sets whether to timeout the video or not.
Peripheral Timeout	Sets whether to timeout the peripheral or not.
Audio Device Timeout	Sets the time delay before your audio device powers off.
Standby Timeout	Selects the system standby timeout period.
Auto Suspend Timeout	Defines how much time elapses from the time the system enters Standby mode to the time the system automatically enters Suspend Mode.

- LCD Suspend — Allows you to suspend the system when the LCD panel is closed.
- Suspend Option — Specifies either Suspend or Save to File (STF) as the default power management mode. For details about using this parameter, see the section, "Managing System Power," later in this chapter.
- Automatic STF — Enables the system, after 30 minutes in Suspend mode, to save the current working environment to a special file on the hard disk and to power down the system.

  If Auto Save to File is set to Off and the save-to-file area is present on your hard drive, pressing the **Fn-Power/Sleep** key combination puts the system into Save to File mode. For details about using this parameter, see the section, "Managing System Power," later in this chapter. For details about creating the save-to-file area, see the section, "HDPREPEZ Utility," in Chapter 4.
- Panel Brightness — Selects the LCD screen brightness.
- Suspend Warning Tone — Specifies whether the system warning tone sounds when Suspend mode starts. It is best to keep this option enabled.
- Wake Up from Suspend Alarm/Resume Alarm Time — Allows the alarm to wake up the system from Suspend. Designates the time parameter in five minutes increments.

Boot Device Setup

Boot Device Setup allows you to define the following functions.

Boot Device Setup

Parameter	Default Setting	Alternate Setting(s)
Quick Boot	Enabled	Disabled
Silent Boot	Enabled	Disabled, Black
Boot Display Device	Simul. Mode	CRT only, LCD only
BootUp NumLock	Auto	On, Off
1st Boot Device[1]	CD/DVD	Disabled,1st Fnd IDE,Floppy CD/DVD,SCSI,Network
2nd Boot Device[1]	Floppy	Disabled,1st Fnd IDE,CDROM
3rd Boot Device[1]	1st Fnd IDE	Disabled,Floppy,CD/DVD
4th Boot Device[1]	Disabled	Floppy,CD/DVD,1st Fnd IDE
Try Other Boot Devices	Yes	No

[1] Bootable device when set to IDE hard drive. Only one IDE device is bootable.

- Quick Boot — Specifies whether or not the system performs all tests during system boot.
- Silent Boot — Specifies whether or not to display the NEC logo during the system boot.
- Boot Display Device — Specifies the display device(s) for system boot messages.
- BootUp NumLock — Specifies whether NumLock is On or Off at system startup.
- Boot Devices — Specifies the sequence of boot devices and whether or not the system attempts to boot from a device other than those specified.
- Other Boot Devices — Allows you to specify IDE devices as bootable devices.

Peripheral Setup

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

Peripheral Setup

Parameter	Default Setting	Alternate Setting(s)
USB Controller	Disabled	Enabled
AC'97 Audio	Enabled	Disabled
Internal Hard Drive	Enabled	Disabled
Serial Port	Auto	Disabled/(PnP OS Setup[1]) COM1,IRQ4/COM2,IRQ3 COM3,IRQ4/COM4,IRQ3
Parallel Port	Auto	Disabled/LPT1/LPT2 (PnP OS Setup[1])
Parallel Mode	Bi-Directional	Uni-Directional/ECP/EPP
IR Serial Port	Disabled	Auto/(PnP OS Setup[1]) COM2,IRQ3/COM3,IRQ4/ COM4,IRQ3

[1] Appears only when configured by the Windows 98 or Windows 95 device manager.

Peripheral Setup allows you to define the following functions.

- USB Controller — Enables or disables the USB controller.
- AC'97 Audio — Enables or disables the internal sound.
- Internal Hard Drive — Enables or disables the internal hard drive.
- Serial Port — Disables the port or changes its address assignment.
- Parallel Port/Parallel Mode — Disables or reassigns the parallel port and select a parallel port mode.
- IR Serial Port — Enables, disables, or reassigns the IR serial port.

Other BIOS Setup Options

BIOS Setup offers other options, including the following:

- Change Language Setting — Controls the BIOS setup language display. English and Japanese are the available options.
- Refresh Battery — Launches the Refresh Battery utility. Once launched, the utility fully discharges your battery to eliminate any residual memory effect. Once refreshed, your battery is conditioned to recharge to its full capacity. To recharge the battery, connect your NEC Versa to AC power. This process may take up to four hours to complete.
- 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.

Managing System Power

In the Windows 98 environment, your NEC Versa manages its power resources using the Advanced Configuration and Power Interface (ACPI) while the system is powered on using AC or battery (DC) power. ACPI enables the operating system to manage the power given to each attached device and to turn off a device when not in use.

In the Windows 95 environment, your NEC Versa uses the Advanced Power Management (APM) utility to manage and conserve power while the system is powered on using AC or battery power.

Take advantage of the opportunity to manage power on your system to:

- Minimize battery drain.
- Preserve the life of your NEC Versa.
- Save time. When you return from that urgent call or meeting, you don't have to reboot, just press the Power button to resume system operation.

Windows 98 Power Management Properties

In Windows 98, most ACPI power management settings are controlled through Windows Power Management Properties, not through the BIOS Setup utility, unless otherwise noted. To access Windows Power Management Properties, go to Start, Settings, Control Panel, and double click Power Management.

The Power Management Properties features are broken down as follows:

- Power Schemes
- Alarms
- Power Meter
- Advanced
- Hibernate

Windows 98 Power Schemes

Use the Power Schemes options to define the appropriate Power scheme for your system, and to set timeouts for standby, LCD panel, and hard disk. Define parameters for your system when running under AC (plugged in) or DC (running on batteries) power.

Power Schemes

Parameter	Default Setting	Alternate Setting(s)
Power Schemes	Portable/Laptop	Home/Office Desk, Always On
System Standby (Plugged In)	After 20 Minutes	1, 2, 3, 5, 10, 15, 20, 25, 30, 45 minutes; 1, 2, 3, 4, 5 hours; Never
System Standby (Running on batteries)	After 5 Minutes	1, 2, 3, 5, 10, 15, 20, 25, 30, 45 minutes; 1, 2, 3, 4, 5 hours; Never
Turn off monitor (Plugged In)	After 15 Minutes	1, 2, 3, 5, 10, 15, 20, 25, 30, 45 minutes; 1, 2, 3, 4, 5 hours; Never
Turn off monitor (Running on batteries)	After 2 Minutes	1, 2, 3, 5, 10, 15, 20, 25, 30, 45 minutes; 1, 2, 3, 4, 5 hours; Never
Turn off hard disks (Plugged In)	After 30 Minutes	3, 5, 10, 15, 20, 25, 30, 45 minutes; 1, 2, 3, 4, 5 hours; Never
Turn off hard disks (Running on batteries)	After 3 Minutes	3, 5, 10, 15, 20, 25, 30, 45 minutes; 1, 2, 3, 4, 5 hours; Never

- Power Schemes — Defines the most appropriate power scheme for your computer.
- System standby — Selects the system standby timeout period for your system when running under AC or DC power.
- Turn off monitor — Selects the time delay before your LCD panel turns off.
- Turn off hard disks — Selects the time delay before your hard disk(s) power down.

Windows 98 Alarms

Use the Alarms screen to define the point at which the battery alarm activates. Define the alarm to either sound, display a warning message, or invoke Standby, Hibernate or Shutdown.

Alarms

Parameter	Default Setting	Alternate Setting(s)
Low battery alarm	10%	0-100%
Alarm Action Notification	Display message	Sound alarm
Alarm Action Power level	none	Standby, Hibernate, Shutdown
Critical battery alarm	3%	0-100%
Alarm Action Notification	Display message	Sound alarm
Alarm Action Power level	Standby	Hibernate, Shutdown, none

- Low battery alarm — Allows you to define a low battery alarm percentage, notification, and system action.
- Critical battery alarm — Allows you to define a critical battery alarm percentage, notification, and system action.

Windows 98 Power Meter

The Power Meter screen displays the remaining battery power and charging status for the primary and secondary batteries. Choose to display either a percentage progress bar or a battery icon with percentage indicator for your battery status information.

Windows 98 Advanced

The Advanced window allows you to select behaviors for the taskbar icon, standby password, LCD panel, when closed, and the Power button.

Advanced

Parameter	Default Setting	Alternate Setting(s)
Always show icon on taskbar	checked	unchecked
Prompt for password when computer goes off standby	unchecked	checked
When I close the lid on my computer	Standby	Hibernate, Shutdown, None[1]
When I press the Power button on my computer	Shutdown	Standby, Hibernate

[1] When None selected, LCD panel turns off when closed.

- Always show icon on the taskbar — determines whether or not the Power Meter icon displays on the taskbar.
- Prompt for password when computer goes off standby — Determines whether or not the system prompts for your Windows password when resuming from Standby.
- When I close the lid of my computer — Defines the system action when the LCD panel is closed.
- When I press the Power button on my computer — Defines the system action when the Power button is used.

Windows 98 Hibernate

Use the Hibernate window to enable hibernate support. When your system hibernates it performs a save-to-disk or save-to-file (STF). Your current working environment is saved to the hard disk. Use the Power button to resume from hibernation and your system returns to its previous state.

Windows 98 Power Management States

ACPI uses different levels or states of power management. The power management states occur automatically, based on the system's default settings, or manually, when invoked. Settings are configurable to occur while on battery power or AC power.

The Windows 98 ACPI power management states include:

- LCD timeout — manages power at the lowest level by shutting down the LCD.
- Standby — also known as Save-to-RAM (STR), Standby manages power by saving your current working environment to memory and shutting down most system devices. Conserves more power than an LCD timeout.
- Hibernate — also known as save-to-disk, or save-to-file (STF) manages power by saving the current working environment to an area on your hard disk, then powering off your system. Conserves the most battery power.

Recognizing the Windows 98 Power Management States

It is important to recognize your system's behavior when in each of these power management states. The following table describes the system behavior for each power management state.

Windows 98 Power Management Behavior

	LCD Timeout	Standby (STR)	Hibernate (STF)
Default Setting	2 Minutes, DC power 15 Minutes, AC power	5 Minutes, DC power 20 minutes, AC power	30 minutes after Standby.[1,2]
Manually Invoke	Close LCD panel.	Go to Start, Shutdown, Standby.	Close LCD panel.[3] Press Power button.[3]
System behavior	LCD panel is blank. Status LED lights green.	LCD panel is blank. Status LED blinks green.	LCD panel is blank. Status LED turns off. Progress bar indicates that current working environment saved to hard disk.
Resume	Press any key.	Press Power button.	Press Power button. Progress bar appears during process.

[1] Only when BIOS "Suspend Option" set to STF and BIOS "Auto Save to File" set to enabled.
[2] Also when 3% battery power remaining, if BIOS set as in number 1.
[3] Only when set in Advanced Windows Power Management Properties.

Windows 95 Power Management States

APM uses different levels or states of power management. These power management states occur automatically, based on your system's default settings, or manually, when invoked. Settings are configured to occur while on battery power or on AC power.

The Windows 95 APM power management states include:

- Standby — manages power at the lowest level by shutting down the LCD, hard disk drive, and CPU.
- Suspend — also known as Save-to-RAM (STR), Suspend mode manages power by saving your current working environment to memory and shutting down most system devices. Conserves more power than Standby mode.
- Save-to-file (STF) — also known as save-to-disk, STF mode manages power by saving the current working environment to an area on your hard disk, then powering off your system. Conserves the most battery power.

Recognizing the Windows 95 Power Management States

It is important to recognize your system's behavior when in each of these power management states. The following table describes the system behavior for each power management state.

Windows 95 Power Management Behavior

	Standby	Suspend (STR)	Save-to-File (STF)
Default Setting	4 Minutes	10 minutes after Standby	30 minutes after Suspend[1,3]
Manually invoke	**Fn-F4**	Press Power button for less than 4 seconds[2] or Click Start, Suspend	**Fn-Power**[1,2]
System behavior	LCD panel is blank.	LCD panel is blank.	LCD panel is blank.
	Status LED lights green.	Status LED blinks green.	Status LED turns off.
		Progress bar indicates that current working environment saved to memory.	Progress bar indicates that current working environment saved to hard disk.
Resume	Press any key	Press Power button.	Press Power button.
		Progress bar appears during process.	Progress bar appears during process.

[1] Must configure Suspend Option in BIOS as STF.
[2.] Must configure System Switch in BIOS as Sleep button.
[3] Standby when there is only 3% power remaining in the system.

Updating the BIOS

The BIOS is code transmitted onto your system's microprocessor, or central processing unit (CPU). As indicated in this chapter, you use the BIOS Setup utility to configure your system's software and hardware features. Use the BIOS Update Diskette, for your specific model, only, to update your NEC Versa system BIOS.

Note You only need to update the BIOS if NECC makes significant improvements or fixes to the current system BIOS. Your authorized NECC dealer or NECC Support Services representative can help you determine this.

To update the system BIOS you must:

- Obtain the BIOS Update
- Prepare the BIOS Update Diskette
- Perform the BIOS Update

Obtaining the BIOS Update

If you are informed that the default BIOS needs an update contact the NECC Support Services at (800) 632-4525, Fax (801) 981-3133, or access the web site, www.nec-computers.com to obtain a copy of the BIOS update.

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

Preparing the BIOS Update Diskette

Before using the BIOS update diskette you must make the diskette BIOS flash ready. Refer to the **readme.txt** file on the diskette before using the diskette.

Follow these instructions to prepare the BIOS Update Diskette.

1. Scan your hard drive for any computer viruses.
2. Enable the diskette for write access.
3. Insert the diskette into the diskette drive.
4. Type **a:install** at the DOS prompt and follow the on-screen instructions.

   Install.bat copies the DOS system files from your hard drive onto the BIOS Update Diskette to make it BIOS flash ready.

   The system prompts you when the process is complete.
5. Scan the BIOS Update Diskette for computer viruses.

   The diskette is ready for use.

Performing the BIOS Update

Follow these steps to perform the 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 the diskette drive.
2. Power on the computer with the diskette in the drive. 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 from the drive.

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 VX computer BIOS revision level.

8. Enter Setup to restore the default parameter settings.

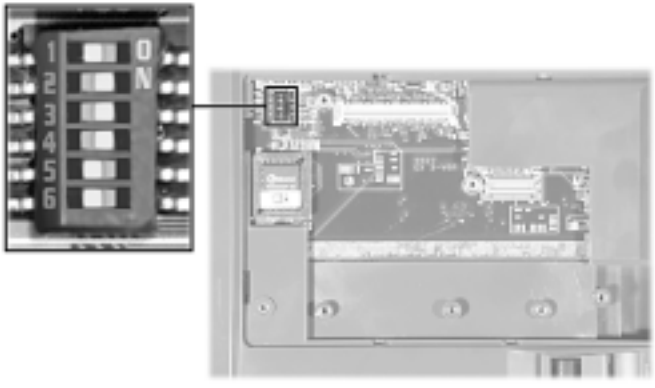
9. Be sure to modify any custom settings that you may have configured.

Identifying the Switch Settings

A six-position dip switch is located on the bottom of the system. The switch is accessible by removing the access panel beneath the CD-ROM drive. The following list identifies each switch setting and its function.

- Switch 1, Password override — The default setting is "OFF." If you forget your password and cannot access the data on your NEC Versa, change the setting to "ON" and your current password is erased.
- Switch 2 — Keyboard select; Default is "ON" for U.S. 85 key keyboard.
- Switch 3 — Reserved for factory use; Default is "ON."
- Switch 4 — Keyboard select; Default is "ON" for U.S. 85 key keyboard.
- Switch 5 — Password enable; Default is "OFF" (Personal Code Setting utility).
- Switch 6 — Logo select; Default is "OFF" for U.S.

Default switch settings



4

Using the Operating System and Utilities

- Windows Introduction
- NEC Customize Utility
- HDPREPEZ Utility
- Application and Driver CD
- Personal Code Setting Utility
- DVD Player
- NEC Info Center
- Partition Magic
- Product Recovery CD

Windows Introduction

Your NEC Versa comes pre-installed with either the Windows 98 Second Edition (SE), Windows 95, Windows NT, or Windows 2000 (when available) 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 employs its own tools through an easy-to-use graphical interface.

Windows 98 Second Edition

Windows 98 gives you the newest features offered by Microsoft, including a Desktop with room to maneuver, a taskbar for quick access to a variety of system functions, state-of-the-art plug and play support, powerful system utilities, enhanced entertainment features, and a fully integrated Internet experience.

Desktop Icons

With Windows 98, the following icons are installed on your desktop:

- My Computer — Provides access to drives, printers, the control panel, network features, and scheduled tasks.
- Recycle Bin — Gives you a trash container in which to put and discard unwanted files or allows you to restore those same files back to their original location.
- Setup MSN Internet Access — 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 — Appears when your computer is connected to a network. Use the network neighborhood to browse through the computers in your workgroup and the computers in the entire network.
- My Briefcase — Provides a mechanism for file synchronization between the NEC Versa and another system.
- My Documents — Provides you with a convenient place to store documents, graphics, and other files for quick access.
- Connect to the Internet — Runs the Internet Connection wizard that helps you to set up your computer to access the Internet.

Note Before connecting to the Internet, you must either connect an optional modem and a working phone line to your system or install a LAN card for network access.

- Online Services — Includes setup icons for a variety of online services.

Your NEC Versa comes with all the software you need to get started on the most popular services available today. For a fee, online services give you access to the Internet, email, the world wide web, travel information, news reports, and more.

Note Before choosing and registering for an online service, you must connect an optional modem to your system and to a working phone line. The phone line must be analog. If you are unsure what type of line you have, call your local phone company.

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

- NEC Customize — Gives you the option to launch the Application and Driver CD.
- Outlook Express — Provides your default email program with secure and personalized features for email and newsgroup communication. Also access Outlook Express under Start, Programs, Outlook Express.
- Internet Explorer — Provides your default internet program. Also access Internet Explorer under Start, Programs, Internet Explorer.

Taskbar Icons

With Windows 98, a number of icons appear on the taskbar. Use the cursor to hover over the icon and display its function, right click the icon to display its menu options, or double click the icon to launch it.

The following icons normally appear on the left side of the Windows 98 taskbar.

- Internet Explorer — Allows you to browse the internet or view local HTML files. Also access Internet Explorer under Start, Programs, Internet Explorer.
- Outlook Express — Provides your default email program with secure and personalized features for email and newsgroup communication. Also access Outlook Express under Start, Programs, Outlook Express.
- Show Desktop — Minimizes all active screens to display your desktop.

The following icons normally appear on the right side of the Windows 98 taskbar.

- Task Scheduler — Enables you to schedule tasks, such as Disk Defragmenter, to run regularly. Also access Task Scheduler under Start, Programs, Accessories, System Tools, Scheduled Tasks.
- Power Management Properties — Displays your current power source and total remaining battery power. Access Power Management Properties under Start, Settings, Control Panel, Power Management.
- Infrared Monitor — Allows you to enable, disable, and control the infrared communication on your notebook computer.

- NEC VersaGlide — Allows you to adjust your VersaGlide (mouse) properties. Also access NEC VersaGlide under Start, Settings, Control Panel, Mouse.
- Volume Control — Adjusts the volume and speaker balance when you play audio files. Also access Volume Control under Start, Programs, Accessories, Entertainment, Volume Control.
- Time Clock — Allows you to adjust the time and date, rearrange active windows on your desktop, create a new toolbar or customize your existing toolbar.

For more information about the desktop and taskbar icons, refer to the Windows 98 online help.

Windows 95

Windows 95 gives you 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 install Windows 95, the following icons are loaded on your desktop:

- My Computer — Provides access to drives, printers, the control panel, and network features.
- Inbox — Lets you access the Microsoft fax and mail software as well as Microsoft network services.
- Recycle Bin — Gives you a trash container in which to put unwanted files.
- Network Neighborhood — Appears when your computer is connected to a network. Use the network neighborhood to browse through the computers in your computers in your workgroup and the computers in the entire network.
- My Briefcase — Allows easy transfer of files between the NEC Versa and another system.
- Online Services — Includes setup icons for a variety of online services.
- The Microsoft Network — Allows you to use the Microsoft Network to access the outside world.

Your NEC Versa comes with all the software you need to get started on the most popular services available today. For a fee, online services give you access to the Internet, email, the world wide web, travel information, news reports, and more.

Note Before choosing and registering for an online service, you must connect an optional modem to your system and to a working phone line. The phone line must be analog. If you are unsure what type of line you have, call your local phone company.

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

- NEC Customize — Gives you the option to launch the Application and Driver CD.

See the Windows 95 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®.

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

- My Computer — Provides access to drives, printers, the Control Panel, and network features.
- Network Neighborhood — Appears when your computer is connected to a network. Use the network neighborhood to browse through the computers in your computers in your workgroup and the computers in the entire network.
- Inbox — Lets you access the Microsoft mail software and services.
- Internet Explorer — Allows you to browse the internet or view local HTML files. Also access Internet Explorer under Start, Programs, Internet Explorer.
- NEC Customize — Gives you the option to launch the Application and Driver CD.
- My Briefcase — Allows easy transfer of files between the NEC Versa and another system.
- Recycle Bin — Gives you a container in which to put unwanted files.

NEC Customize Utility

In Windows 98 systems, Windows 95 systems, and Windows NT systems, the NEC Customize utility gives you the option to launch:

- NEC custom wallpaper (Windows 95 or Windows 98, only)— Installs wallpaper displaying the NEC logo.
- Application and Driver CD — Installs software applications, drivers, etc.
- NEC-supplied mouse driver — Takes advantage of the VersaGlide features.

The NEC Customize utility screen consists of the following.

- A window at the top half of the screen lists the available options.
- The window below the options list displays a description of each option when the option is highlighted.
- The Launch button initiates a selected option when clicked.
- The More Info button provides an overview of the NEC Customize utility.
- The Exit button closes the NEC Customize utility.

Using the NEC Customize Utility

Follow these steps to use the NEC Customize utility.

1. Double click the NEC Customize icon.
2. From the display window, select the desired option.
3. Click Launch to initiate the selected option.
4. Follow the on-screen instructions to process the selected option.

   For some of the selected options you are prompted to reboot your system.
5. If necessary, click Exit to close the NEC Customize dialog box.

HDPREPEZ Utility

Using the HDPREPEZ utility automatically configures your NEC Versa's system's save-to-file (STF) area on the hard disk drive.

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

Using HDPREPEZ in Windows 98 or 95

In Windows 98 or 95, run the HDPREPEZ utility if you increase the memory capacity in your NEC Versa beyond the factory installed base memory.

Follow these steps to run the HDPREPEZ utility.

1. Power off and restart your NEC Versa.
2. At the statement "Starting Windows 98 (or 95)," press **F8**.

3. From the Startup menu, select the "Safe Mode Command Prompt Only" option.
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. A file, large enough to accommodate your system's memory is created on the hard disk drive.

Application and Driver CD

A variety of third-party software applications, drivers, utilities, internet browsers, and the NEC Info Center are provided on the Application and Driver (A&D) CD that ships with your NEC Versa VX system. Some of the drivers are already installed as part of your operating system environment. The additional software on the Application and Driver CD lets you take full advantage of your system resources.

Use the Application and Driver CD to install the software of your choice. Some software applications install their own desktop icon allowing quick access to the application. You can also access an application through the Start, Programs menu.

Launching the Application and Driver CD with Windows 98/95

Follow this procedure to launch the Application and Driver CD using NEC Customize with Windows 98 and Windows 95.

1. Insert the Application and Driver CD into the CD-ROM or DVD-ROM drive.
2. Double click the NEC Customize icon, if necessary.
3. Highlight Application and Driver CD.
4. Click launch.

   The Application and Driver CD dialog box appears.

Launching the Application and Driver CD with Windows NT

Follow this procedure to launch the Application and Driver CD using NEC Customize with Windows NT.

1. Insert the Application and Driver CD into the CD-ROM or DVD-ROM drive.
2. Double click the NEC Customize icon.
3. Select Application and Driver CD.

4. Click Install to launch the CD.

   The Application and Driver CD dialog box appears.

Application and Driver CD Dialog Box

The Application and Driver CD dialog box consists of the following components.

- Selection Tabs — Located just below the title bar, each tab represents a software category. The selection tabs include applications, drivers, utilities, internet browsers, and the NEC Info Center.
- Description — Located in the bottom portion of the dialog box, the text describes the selected or highlighted software category or application, driver, etc.
- Install — Clicking the Install button installs the selected software.
- Exit — Clicking the Exit button closes the Application and Driver CD dialog box.

Installing the A&D Software

Once the Application and Driver CD dialog box appears, follow these steps to install the desired software.

1. Click the selection tab of your choice.
2. Click the desired application, driver, or utility.
3. Click the Install button to install your selection.

   Follow the on-screen instructions to install your selection.
4. Click Exit to close the Application and Driver CD dialog box.
5. Remove the CD from the CD-ROM drive when the installation is complete.

Personal Code Setting Utility

Use the Personal Code Setting utility along with the personal code buttons on the NEC Versa VX (available on some systems) to set a personal code and secure the system. Once the personal code is set, the system will not boot until you enter the personal code. Use the following procedures to install the utility and set up your personal code.

Installing the Personal Code Setting Utility

Use the following steps to install the Personal Code Setting utility.

1. Double click the Personal Code Setting utility icon on the desktop.

   The Personal Code Setting Utility Setup screen appears.

2. Click Next to start setup. The Target Folder dialog box appears.
3. Click Next to select the default target folder.

   A prompt to create the default target folder appears. Click Yes.

4. Click Finish to exit Setup.

Setting a Personal Code

Use the following procedure to set a personal code.

1. From the Windows Start menu, select Programs, Personal Code, and then Personal Code Setting Utility.

   The Personal Code Setting utility screen appears. This screen allows you to set your personal code. The personal code can be up to 5 digits.

2. Click on one number from each row for each digit of your personal code. Press **Enter** when done.
3. A dialog box appears asking if you want to enter the personal code. Click Yes.
4. A dialog box appears stating the new personal code has been entered. Click OK.
5. Click Exit to exit the Personal Code Setting utility.

To test your personal code, fully shutdown the system. (Do not select Shutdown and Restart.) Power on the system using the Power button. A green LED next to the personal code buttons lights and the screen remains black. Enter your personal code using the personal code buttons and press the personal code Enter key. The system boots when the correct code is entered.

The utility also lets you erase your current personal code and enter a new personal code. There is an Options button that allows you to set system sounds, siren and beeps, to alert you that a correct or an incorrect personal code has been entered.

DVD Player

DVD Player allows you to play DVD movies in your DVD-ROM drive. Use the following procedure to install DVD Player.

Note Disable power management when using DVD Player.

1. Insert the ATI Soft DVD CD into the CD-ROM drive. If the CD does not load automatically, do the following:
   - From the Windows taskbar, select Start and Run.
   - Click Browse to access the files on the CD. Select setup.exe on the CD and click Run.
2. Click Next at the Welcome screen.
3. Click Yes to accept the license agreement.
4. Click Next to accept the default destination directory.
5. Highlight your geographical region and click Next.
6. The installation completes. Click Finish to restart the system.

To run DVD Player, select Start, Programs, Multimedia, and DVD Player.

NEC Info Center

The Application and Driver CD contains the NEC Info Center, a fully navigational online document that provides information for the traveling professional and an online version of this printed user's guide.

Installing the NEC Info Center

To install the NEC Info Center simply follow the instructions, presented earlier in this chapter, for launching the A&D CD and installing the software. For the most current version of the *NEC Versa VX User's Guide*, periodically check our web site at http://www.nec-computers.com/.

Uninstalling the NEC Info Center

Use one of the following methods to uninstall the NEC Info Center.

- Use this method to uninstall the NEC Info Center using the Windows Add/Remove Programs feature.

  1. Go to Start, Settings, Control Panel, and double click Add/Remove Programs.
  2. Use the scroll bar, if necessary, to display the NEC Info Center item.
  3. Highlight NEC Info Center and click the Add/Remove button.
  4. Select Automatic as the uninstall method and click Next.
  5. Click Finish to complete the uninstall.
  6. When the uninstall is complete, click OK and close the Control Panel window.

- Use this method to uninstall the NEC Info Center using the Wise uninstall feature.

  1. Access the C:\NEC INFO directory on your hard disk drive.
  2. Double click the **unwise.exe** file or icon to remove all files and directories associated with the NEC Info Center.

Partition Magic

Dividing the hard disk drive into several partitions lets you efficiently organize operating systems, programs, and data. Partition Magic, included on the A&D CD that ships with your system, allows you to optimize hard disk drive space with an easy click of the mouse. Visually create, format, shrink, expand, and move hard disk partitions in minutes.

Your NEC Versa ships with an internal hard disk drive consisting of a single FAT 32 partition, drive C:. Use Partition Magic if you want to create multiple partitions and convert your hard disk drive to FAT 16 partitions.

⚠ CAUTION Before using Partition Magic, refer to the associated cautionary notes on the Application and Driver CD. The cautionary notes contain important information about designating the partitions on the hard disk drive.

The partitions must be properly designated before using the Product Recovery CD to reinstall your operating system. If the partitions on the hard disk drive are not properly designated, it will appear as though data loss has occurred after using the Product Recovery CD.

Product Recovery CD

The Product Recovery CD includes the following software and diagnostics.

- The NEC Product Recovery utility
- The Laptop Assurance Test

If you determine that you need to restore your system to its initial installation state, or you want to run system diagnostics to ensure that components are fully operational, follow the instructions given here.

Note Only use the Product Recovery utility to restore your system to its initial installation state as a last resort. Check the problem checklist in Chapter 10 for information about solving problems before using the CD. The Product Recovery utility provides options that either remove or replace existing files, a process that may result in data loss.

⚠ **CAUTION** Before using the Product Recovery CD, enter the BIOS Setup utility and restore the BIOS default settings. Save the default settings before exiting the BIOS Setup utility.

Guidelines for Using the Product Recovery CD

Follow these guidelines when using the Product Recovery CD.

- Use AC power.
- Remove all optional hardware such as PC cards, USB devices, printers, and monitors.

Product Recovery CD Options

The Product Recovery CD utility provides you with a number of choices. Move the cursor over each selection on the NEC Product Recovery utility screen to display a description of the selection in the window on the right side of the screen.

- Restore System — Select this option to restore your hard disk drive to its initial installation state. Restore System allows you to restore your system in one of the following ways.

  — Full Disk Drive — Completely rebuilds your hard disk drive, destroying all existing data in the process. Once you choose this option, you are prompted to confirm your choice. When your choice is confirmed, the recovery proceeds without requiring any intervention or responses on your part. Simply walk away and return in about half an hour.

Note Use the Full Disk Drive restore option if your hard disk consists of one partition (drive).

  — Partition Only — Lets you preserve your existing hard disk drive partition structure and format only the primary partition without affecting the extended partition(s). Partition Only formats drive C: (of a multiple partitioned drive) and restores drive C: to its initial installation state. Additional partitions, e.g., drives D:, E:, etc., remain intact. For important information about partitioning your hard disk drive, see the section, “Partition Magic,” earlier in this chapter.

Note Use the Partition Only restore option if your hard disk is partitioned into two or more partitions (drives).

- System Diagnostics — Launches the Laptop Assurance Test that tests the hardware components and boot records on your hard disk drive.

- Exit — Exits the NEC Product Recovery utility.

Full Disk Drive Restore

If your preinstalled software becomes unusable and you cannot boot from the hard disk, use the Product Recovery utility to restore your system to its initial shipping configuration. The Full Disk Drive restore option *erases* the hard disk *completely* before reinstalling the files.

⚠ CAUTION The Full Disk Drive restore option deletes *all* files on the hard drive and replaces them with the original factory installed files.

Only use the Full Disk Drive restore option if the preinstalled software is unusable.

Use the Product Recovery utility to perform a Full Disk Drive restore as follows:

1. Check the Product Recovery CD title and make sure that it is the correct CD for your NEC Versa computer and operating system.
2. Put the CD into the CD-ROM drive tray, close the drive door, and power on your system.
3. Read the License Agreement screen that appears. Use the VersaGlide touchpad to position the cursor on the Accept button. Left click to accept the agreement.

   You have the option of accepting or declining the agreement. If you decline the agreement, the recovery utility exits.
4. In the NEC Product Recovery utility screen, use the VersaGlide touchpad to choose Full Disk Drive to restore your hard disk drive to its original factory installed state.

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

5. Read the Warning screen.

   A warning displays indicating that your hard disk is about to be erased.
6. Select Continue to perform a Full Disk Drive restore.

   If you select Back, the recovery utility returns to the prior screen which has an exit option.

   If you select Continue, a screen with progress bars displays and lets you know the progress of the recovery.

⚠ CAUTION Do not turn off or disturb the system during the recovery process.

7. When the recovery process is complete, you are prompted to remove the CD from the CD-ROM drive and reboot your system.

8. Press **Enter**, click Reboot, or press **Alt-R** to reboot your system.

   A series of hardware detection screens display, the system reboots and the Windows Setup screen appears. Follow the on-screen instructions to set up Windows.

   You are required to reenter your Microsoft license number.

Partition Only Restore

If your preinstalled software on drive C: on your multiple partitioned drive becomes unusable and you cannot boot from the hard disk, use the Product Recovery utility to restore your primary partition to its initial shipping configuration.

⚠ CAUTION Use the Partition Only restore option only if your hard disk drive consists of multiple partitions *and* if drive C: contains the operating system and related drivers. Move all other data and applications to other partitions (drives) or the Partition Only restore process will erase them completely.

The Partition Only restore option deletes *all* files on drive C: and replaces them with the original factory installed files. Only use the Partition Only restore option if the preinstalled software on drive C: is unusable.

For important information about partitioning your hard disk drive, see the section, "Partition Magic," earlier in this chapter.

Use the Product Recovery utility to perform a Partition Only restore as follows:

1. Check the Product Recovery CD title and make sure that it is the correct CD for your NEC Versa computer and operating system.

2. Put the CD into the CD-ROM drive tray, close the drive door, and reboot your computer.

3. Read the License Agreement screen that appears. Use the VersaGlide touchpad to position the cursor on the Accept button. Left click to accept the agreement.

   You have the option of accepting or declining the agreement. If you decline the agreement, the recovery utility exits.

4. In the NEC Product Recovery utility screen, use the VersaGlide touchpad to choose Partition Only to restore drive C: of a multiple partitioned drive to its original factory installed state.

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

If the hard disk is configured with multiple or extended partitions you may have to reinstall some software to restore configuration settings and shared files.

5. Read the Warning screen.

   A warning displays indicating that drive C: (the primary drive/partition) is about to be erased and formatted. It may be necessary to reinstall software to the other drives (partitions) to reestablish Start Menu links and other configuration requirements stored on drive C:.

6. Select Continue to proceed, to perform a Partition Only restore.

   If you select Back, the recovery utility returns to the prior screen which has an exit option.

   If you select Continue, a screen with progress bars displays and lets you know the progress of the recovery.

⚠ CAUTION Do not turn off or disturb the system during the recovery process.

7. When the recovery process is complete, you are prompted to remove the CD from the CD-ROM drive and reboot your system.

8. Press **Enter**, click Reboot, or press **Alt-R** to reboot your system.

   A series of hardware detection screens display, the system reboots, and the Windows Setup screen appears. Follow the on-screen instructions to set up Windows.

   You are required to reenter your Microsoft license number.

System Diagnostics

Use the System Diagnostics option to launch the Laptop Assurance Test (LAT). The LAT tests all system components and boot records to ensure that your system is fully operational.

Use the Product Recovery utility to launch the LAT as follows.

1. Check the Product Recovery CD title and make sure that it is the correct CD for your NEC Versa computer and operating system.

2. Put the CD into the CD-ROM drive tray, close the drive door, and reboot your computer.

3. Read the License Agreement screen that appears. Use the VersaGlide touchpad to position the cursor on the Accept button. Left click to accept the agreement.

   You have the option of accepting or declining the agreement. If you decline the agreement, the recovery utility exits.

4. In the NEC Product Recovery utility screen, use the VersaGlide touchpad to choose System Diagnostics to launch the Laptop Assurance Test (LAT).

   A warning displays indicating that you are about to exit the Product Recovery Utility.

5. Click Continue to launch the Laptop Assurance Test.

   The LAT setup takes a few minutes to complete.

6. Press **Enter** to initiate the LAT.

   The LAT runs and tests the components and boot records of your system. When the LAT completes, a test summary displays on the LCD screen.

7. Press any key to continue.

   The LAT window displays with a variety of menu selections. Use the arrow keys to highlight your selection and to display the detailed help text. The LAT menu selections include the following.

   - Main — Choose Automatic Test, Interactive Test, or Exit.
   - Level 2, 3, and 4 — Choose by individual component test.
   - System Information — Choose from Auto Detection or Year 2000 Compliance.
   - About — Displays the LAT version number.

8. Once the LAT completes its system diagnostics, choose **Exit** from the Main menu.

9. At the DOS prompt either:

   - Press **Ctrl**, **Alt**, **Del** to reboot your system to the Product Recovery CD utility, or
   - Remove the Product Recovery CD and press **Ctrl**, **Alt**, **Del** to reboot your system to the Windows operating system.

5

Using the System Drives and Bays

- 24X CD-ROM Drive
- DVD-ROM Drive
- Hard Disk Drive
- Memory Modules

24X CD-ROM Drive

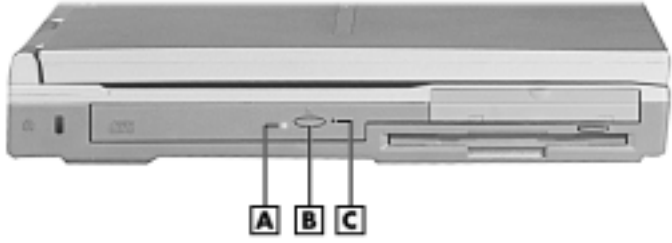
Your NEC Versa may ship with a 24X CD-ROM drive that features the latest in CD-ROM technology. The CD-ROM drive is assigned an available drive letter.

Use the CD-ROM drive to load and start programs from a compact disc (CD). You can also use the CD-ROM drive to play your audio CDs. The 24X CD-ROM drive is fully compatible with Kodak Multisession Photo CDs™ and standard audio CDs.

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

24X CD-ROM drive



A – Status LED
B – Release Button
C – Emergency Eject Hole

- Status LED — lights during data read operations. Do not eject the CD or turn off the NEC Versa when the indicator is lit.
- Release Button — ejects the CD tray. Press this button when power is on to insert a CD into or remove a CD from the drive.
- Emergency Eject Hole — allows you to manually remove a disc from the CD-ROM drive 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.

CD Loading

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

1. Press the Release button. The CD tray emerges a short way out of the drive 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.

Note Some CDs vibrate when playing. This does not affect the CD-ROM drive.

CD Care

When handling CDs, keep the following guidelines in mind.

- Always pick up the disc by its edges.
- 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 may not be configured to allow a CD to automatically play upon insertion. Although this feature makes using your CDs very convenient, it may interfere with the system's power management function.

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

1. From the Windows 98 or 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 appropriate CD-ROM 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.

DVD-ROM Drive

The DVD-ROM drive offers many improvements over the standard CD-ROM technology including superior video and audio playback, faster data access, and greater storage capacities. The drive uses the latest DVD technology which reads from specially designed DVD discs as well as standard audio and video CDs.

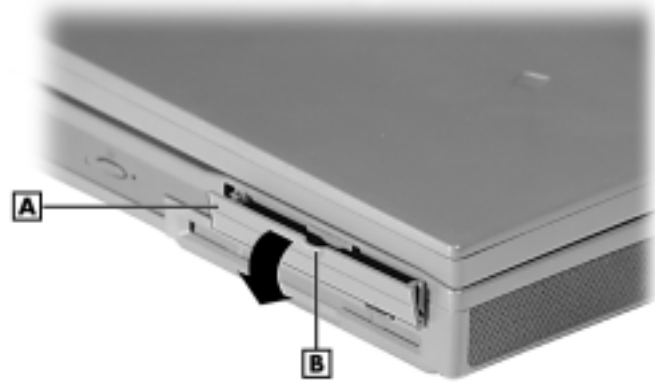
Hard Disk Drive

The hard disk drive can be upgraded to a larger capacity drive.

To upgrade the hard disk drive, follow these steps.

1. Locate the drive access panel on the left side of the system. Open the panel using the notch.

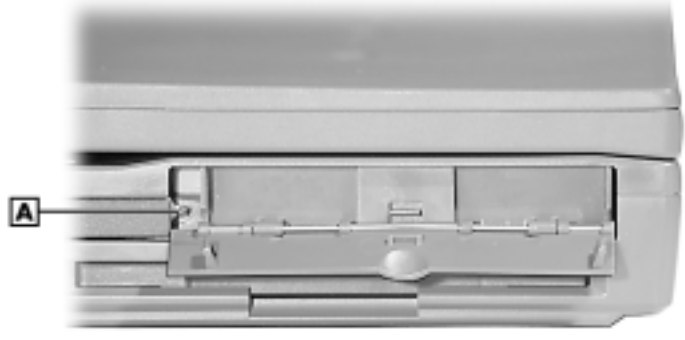
Opening the panel



A – Drive Access Panel **B** – Notch

2. Remove the screw that secures the hard disk in the system.

Removing the screw



A – Screw

3. Slide the hard disk drive out of the system.

Removing the disk drive

4. Insert the new hard disk drive into the disk drive slot.
5. Secure the disk drive with the screw removed in step 2.

Memory Modules

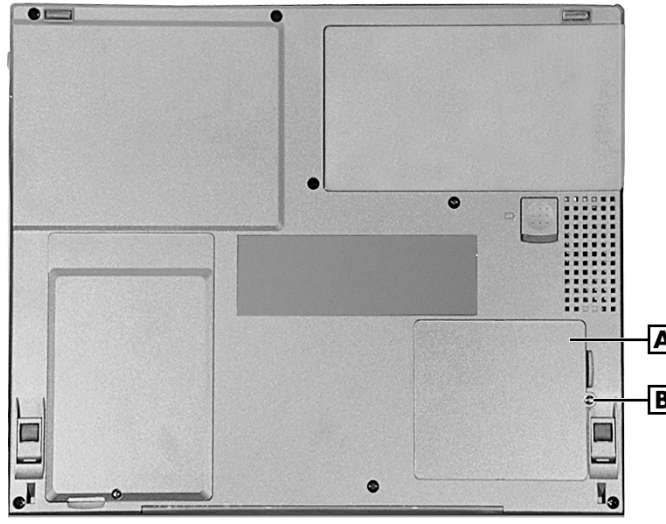
The notebook computer offers two 64-bit memory slots using 144-pin SO-DIMM (Small Outline Dual Inline Memory Module) at 32 MB, 64 MB, and 128 MB SDRAM. This configuration supports single SO-DIMM module insertion in the memory slot. The memory slots are located on the underside of your computer inside the memory bay.

Follow these steps to upgrade the system memory.

1. Power off the system and disconnect any peripheral devices.

2. Turn the system over and locate the screw on the memory bay.

Memory bay cover and screw

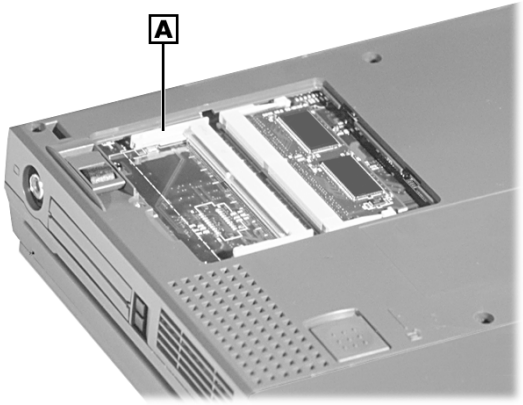


A – Memory Bay Cover **B** – Screw

3. Remove the screw and lift off the memory bay cover.
4. Locate the alignment notch on the module.

5. Locate the memory module slot.

Memory module slot

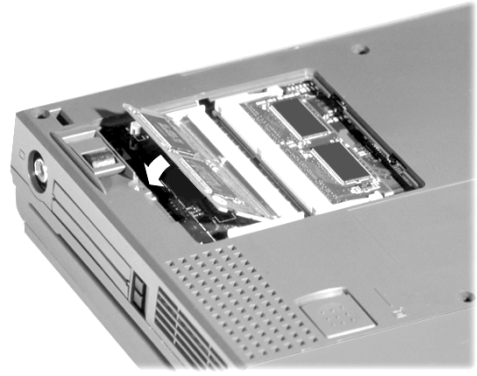


A – Memory Module Slot

6. Align the notch with the notch in the slot connector and install the module as follows:

   - Hold the SO-DIMM at a 60-degree angle and align the SO-DIMM connector with the slot in the system. Push the connector into the slot.
   - Press down on the edge of the SO-DIMM until the locking tabs on the sides snap into place, securing the module.

Installing the memory module



7. To remove a SO-DIMM, press the locking tabs away from the sides of the module until the module pops up. Then, remove the SO-DIMM.

Removing the memory module

8. Reassemble the NEC Versa VX components as follows.
    - Replace the memory bay cover.
    - Replace the screw.
    - Turn the system over.

6

Communicating with Your NEC Versa

- Mini-PCI Modem
- Mini-PCI LAN
- Mini-PCI Modem/LAN
- PC Cards
- Internet Connections
- IR Port

Mini-PCI Modem

The NEC Versa VX comes equipped with a 56K capable fax/data modem that allows you to communicate with others via fax, email, or connect to an online service or bulletin board. (The modem is only available on some models.)

Note Due to FCC regulations in effect at the time that this document was printed, the 56K modem transmits at a maximum speed of 52K.

The speed of data transmission is dependent on the quality of telephone lines. Digitally terminated lines improve the speed of data transmission. Contact your service provider for more information.

Connecting the Modem

The fax/data modem provides one standard phone connector. NEC provides one analog cable for your convenience.

⚠ **CAUTION** Use only 26AWG phone line when connecting the modem.

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

Note When using a modem outside the U.S. and Canada, you might need an international telephone adapter, available at most electronics supply stores.

1. Locate the analog phone cable that ships with the NEC Versa VX. Each end of the cable has a RJ-11 connector that plugs into a standard wall outlet.
2. Connect one end of the cable into a standard telephone wall outlet.
3. Connect the other end of the cable into the computer's modem port at the rear of the system.

Note Depending on your operational requirements, you may need to disable the modem in order to enable the IR port for wireless data transfer.

Mini-PCI LAN

Your NEC Versa VX system may ship with mini-PCI LAN that allows you to connect your system to a local area network. The mini-PCI LAN is a 10/100Base-TX interface that supports both Wake-on-LAN and Network Boot functions.

To take advantage of the LAN, simply connect an RJ-45 cable to the LAN port on the rear of the system.

Mini-PCI Modem/LAN

Your NEC Versa VX system may ship with an internal combination modem/LAN card that allows you to connect your system to a telephone line or a local area network. The internal modem/LAN card is a 56K V.90-compliant modem and a 10/100 Ethernet LAN connection that supports Wake-on-LAN and network boot functions.

To use the modem, simply connect an analog phone cable to the modem port on the rear of the system. To take advantage of the internal LAN, you must attach the optional NEC Port Replicator to the NEC Versa VX system. Simply connect an RJ-45 cable to the LAN port on the rear of the Port Replicator.

Installing the Online Modem/LAN Guides

For additional information about LAN features or your modem's AT commands and s-registers, use the Application and Driver CD to install the online LAN or modem guides for your system. To determine the guide that is appropriate for your system, go to Start, Settings, Control Panel, System, and select the Device Manager tab. Double click Modem (if your system is equipped with an optional modem or an optional combination modem/LAN) to identify the name of your system's modem. Double click Network adapters (if your system is equipped with an optional LAN or an optional combination modem/LAN) to identify the name of your system's LAN. Use the Application and Driver CD to install the online guide of the same name to your NEC Versa hard drive.

PC Cards

PC cards are all approximately the same size and vary only in thickness. All have a standard 68-pin connector. Your NEC Versa supports the installation of the PC cards described next.

Type II Cards

Type II cards have a thickness of 5.0 millimeters (mm). Type II cards are often storage or communications devices such as battery backed Static Random Access Memory (SRAM), Read Only Memory (ROM), Flash Memory, LAN, and Small Computer System Interface (SCSI). Typical Type II cards include input/output (I/O) features such as modems and LANs.

Type II Extended Cards

Many PC cards are Type II extended cards. The extended card has an additional physical component that protrudes beyond the traditional card size. The extension can be as large as 40 mm deep by 9.65 mm high. This extension provides room for additional electronics as well as a location for external connectors.

Type III Cards

Type III cards are thicker (10.5 mm) than Type II cards and allow no extensions. Type III card uses include advanced function I/O cards with additional features such as wireless modems, multimode cards (cards with more than one function such as a combined modem and LAN card), and small hard drive storage.

Communication 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.

Note If you are using this unit outside of the United States or Canada, contact a local NECC 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 in either slot.

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

You can insert a fax/modem card in either slot.

Note 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.

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.

Storage Cards

When you insert a memory or storage card in an NEC notebook computer, it appears as a unique drive as long as the system has an available interrupt for the card.

Interface Cards

You can connect most Standard Small Computer System Interface (SCSI) devices using the optional NEC PC card-SCSI card.

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)

PC Card Slots

Your NEC Versa VX has two Cardbus slots for inserting two PC or Cardbus cards. The slots support two Type II cards or one Type III PC card.

Using the system's PC card slots, you can add optional PC cards and connect external devices to your NEC Versa VX. These devices include peripheral devices, such as modems, LAN cards, and storage cards.

Inserting a PC Card

Follow these steps to insert a PC card in your system.

⚠ CAUTION Some PC cards require additional system resources. Before inserting a PC card you may have to disable either the IR port, USB port, or the 56K internal modem. Check the Windows device manager to ensure that one of these devices is disabled before inserting a PC card.

For information about enabling and disabling devices on your NEC Versa VX, see "Enabling and Disabling Devices," later in this chapter.

1. Align the card so that the 68-pin connector points towards the slot and the arrow on the PC card faces up.
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, no sound is emitted.)

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

Inserting a PC card

3. You can use the PC card software preinstalled on your system to check PC card slot availability. For example, look for the PC Card icon in the Windows Control panel. It shows which slot contains a PC card and which is empty.

Removing a Card

Follow these steps to remove a PC card in Windows 98.

1. Double click My Computer, double click Control Panel, and double click the PC card icon or simply double click the PC card icon from the taskbar.
2. Select the PC card to remove, and select Stop.

   The Windows operating system 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.
3. Press the button on the side of the PC card in the slot twice.

Internet Connections

Your NEC Versa VX system is equipped with the Windows operating system to provide a fully-integrated internet experience. Use the Internet Connection Wizard on your desktop to configure your system for email and internet access. Sign up for a new account or configure your system to use an existing account.

Before using the Internet Connection wizard, to transfer an existing account for email and internet access, you need an internet service provider (ISP) account and some or all of the following configuration information:

- the dial-up telephone number
- TCP/IP settings
- port settings
- a user name/logon and password
- your email address
- the name of a POP3, IMAP, or HTTP server (for incoming mail)
- the name of an SMTP server (for outgoing mail)

Internet Connection Wizard in Windows 98

Access the Internet Connection Wizard in Windows 98 through its desktop icon. The Windows 98 Internet Connection Wizard offers the following choices:

- Sign-up for a new internet account. Take advantage of the Microsoft Internet Referral Service.
- Transfer an existing internet account.

- Manually configure an internet account or connect through a local area network (LAN).

Launch the connection wizard and follow the on-screen prompts to configure your system for internet access.

Internet Connection Wizard in Windows 95

To access the Internet Connection Wizard in Windows 95, go to Start, Programs, Accessories, Internet Tools, Get on the Internet. The Windows 95 Internet Connection Wizard offers the following choices:

- Take advantage of the Microsoft Internet Referral Service by allowing the wizard to automatically configure your account.
- Manually configure an internet account or connect through a local area network.
- Use your current account information to establish an internet connection.

Launch the connection wizard and follow the on-screen prompts to configure your system for internet access.

Accessing the Internet

Your NEC Versa VX system is equipped with an Internet shortcut key, located just above the keyboard. The first time that you press the Internet shortcut key, the Internet Connection Wizard launches, allowing you to configure your system for internet access. Once your internet connection is configured, pressing the Internet shortcut key launches your associated dial-up network connection, allowing you to enter your logon name and password. In addition, Microsoft Internet Explorer launches, providing quick access to your favorite internet sites.

Sending and Receiving Email

Your NEC Versa VX system is equipped with an Email shortcut key, located just above the keyboard. The first time that you press the Email shortcut key, the Internet Connection Wizard launches, allowing you to configure your system for email access. Once your internet connection is configured, pressing the Email shortcut key launches your associated dial-up network connection, allowing you to enter your logon name and password. In addition, Outlook Express launches, providing quick access to your email functions.

Modifying the Internet and Email Shortcut Keys

The Internet and Email shortcut keys are configured (default setting) to launch your Internet browser and email applications, respectively. To modify the default application settings, you must edit the NECMFK.INI file on your hard drive.

Follow these instructions to modify the NECMFK.INI file.

1. Use Windows Explorer to locate the file, C:\Windows\NECMFK.INI.
2. Double click the NECMFK.INI file to open it.
3. Use the scroll bar to locate the sections at the end of the file designated as Btn6 and Btn7.
4. To modify the application to launch when pressing the Email shortcut key, change the variable Btn6_AP1=msimn.exe to the *.exe of your choice. Be sure to use the full path name, for example, C:\Program Files\Netscape\Netscape.exe.

   In addition, modify the variable Btn6_Name=Mail to an appropriate and corresponding identifier.
5. To modify the application to launch when pressing the Internet shortcut key, change the variable Btn7_AP1=iexplore.exe to the *.exe of your choice. Be sure to use the full path name, for example, C:\Program Files\Netscape\Netscape.exe.

   In addition, modify the variable Btn7_Name=Internet to an appropriate and corresponding identifier.
6. Click File, Save, then File, Exit to save your changes.

   You are now ready to use your shortcut keys to launch the applications of your choice.

IR Port

The IR port on the front of your system lets your NEC Versa VX 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 Note 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 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.

⚠ CAUTION Your NEC Versa ships with the IR port disabled. Before using the IR port for the first time, you must enable the device. See the following section to enable the IR port.

Enabling the IR Port

Follow these steps to enable the IR port.

1. Access the BIOS Setup utility at power-on. Just press **F2** when the prompt, "Press <F2> to enter Setup," appears.

   The BIOS Setup main menu appears.

2. Select the Peripheral Setup Menu.
3. Set the IR Serial Port to "Auto."
4. Exit the Peripheral Setup menu.
5. Save the settings and exit the BIOS Setup utility.

Using the IR Port

Follow these guidelines when using the IR port to communicate with another infrared device.

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

Note To use the IR port to communicate with an external device when a PC card is installed, use the Windows 95/98/NT device manager to disable either the USB port or the 56K internal modem (available on some models). Ensure that the IR port has been enabled through the Setup utility.

To take advantage of the FIR transfer rate, disable the 56K internal modem.

7

Traveling Tips

- Preparing for Travel
- Packing for Travel
- Using Power Connections
- Getting Through Customs
- Using Your Modem

Preparing for Travel

The NEC Versa VX computer makes a natural traveling companion. With a little preparation you can use the computer anywhere you go, to prepare your business documents, confirm your travel plans, surf the internet, or simply stay in touch with those back home!

Here is what you should do before you leave home:

Note Speed the trip through airport security by carrying a charged system. Inspectors want to see the screen display a message. The boot message is usually sufficient.

If your system is fully charged, the inspection only takes a minute or so. Otherwise, be prepared to attach the AC adapter and power cable. And if you don't have these, the inspection might include a disassembly of the system.

- Back up your NEC Versa's hard disk.
- 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.
- If you run your system with battery power, maximize battery life by using power-saving features whenever possible.
- Take along any application or data files on diskette that you might need.
- Check that you have everything you need before you leave on a trip.
- AT&T's Worldwide Calling Guide. (For more information, see the section later in this chapter, "Using Your Modem."

Packing for Travel

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

- Extra fully charged batteries
- Single-outlet surge protector
- Appropriate AC plug adapter for international voltage requirements
- Extra phone cord to access hard to reach wall jacks

- Copy of proof of purchase for your computer and other equipment or customs registration form for customs check
- Customer support phone numbers for your software
- *NEC Versa Quick Reference* card
- AC extension cord.

Using 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 several different plugs available worldwide. You can buy these at an electronics supply store.

Getting Through Customs

With so many countries in the world, you can be sure that there are a variety of customs regulations. Plan wisely to get your NEC Versa notebook computer through customs by carrying the appropriate documentation to assure the customs agent that your system is not a recent purchase.

Travelers are often asked, when returning to their home country, whether or not they purchased the computer while outside of the country. Sometimes, the proof of purchase such as a bill of sale, insurance policy, or purchase receipt is sufficient. Taking along the purchase receipt for your laptop may sound practical, but may not always suffice, particularly when the purchaser of the computer is your company and the original receipt is not available to you.

Another alternative to a proof of purchase document is a Certificate of Registration, a document that is issued when you register your laptop with the Customs Service prior to departure. The certificate of registration contains a brief description of your computer and lists appropriate serial numbers for identification. The document is available from the customs web site at http://www.customs.ustreas.gov/.

To avoid hassle when moving your system through customs, you may want to obtain a certificate of registration and carry it, and your Versa notebook computer, wherever you may travel!

Using Your Modem

Whether you are on a business trip or vacation, connecting to the Internet while you travel can be expensive and frustrating unless you are prepared. Here are some tips on how to avoid frustration and expense while on the road.

1. Before leaving home, check with your Internet Service Provider to see if it has:
   - a local access number at your point of destination.
   - a toll-free number that can also save you money.
   - In the absence of a local ISP access number or toll-free number, charging the call to your home phone can be less expensive than charging the call to your hotel room.

2. Prepare your system for phone line access in another country.
   - Line access outside of a hotel may require the addition of a "9" preceding the phone number string.
   - To circumvent unusual dial tone sounds sometimes encountered in hotels, you may have to modify a system configuration setting to "ignore the dial tone."

3. Always check the phone line to determine whether or not it is digital vs. analog. *NEVER* use your modem with a digital phone line. Doing so can destroy your modem!

4. Use AT&T's Worldwide Calling Guide, a resource that provides instructions for dealing with unfamiliar phone systems. For more information about the calling guide, access the web site at http:/www.att.com/traveler/ or call 1-800-435-0812.

8

Using External Devices

- Monitor
- Parallel Devices
- Serial Devices
- Keyboard/Mouse
- Television Connection
- USB Device
- Audio Options
- Port Replicator

Monitor

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

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

Note The NEC Versa VX must be powered off or suspended while the monitor is being connected.

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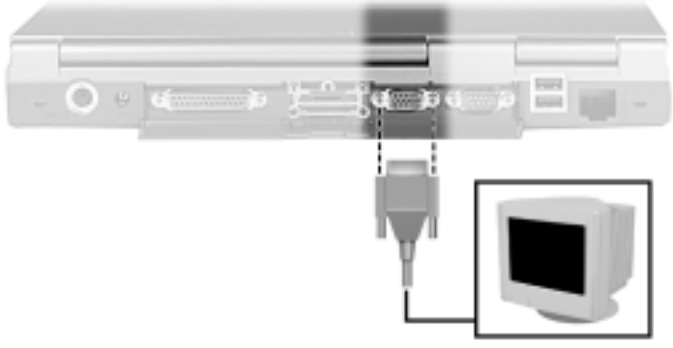
2. Attach the 15-pin cable connector to the monitor port on the system. Secure the cable connection with the screws provided.

Connecting a monitor



3. Connect the monitor power cable and plug it into a properly grounded wall outlet.
4. Follow any setup instructions in the monitor user's guide.
5. Turn on power to the system and device.
6. Press **Fn-F3** to toggle through the video modes.

Parallel Devices

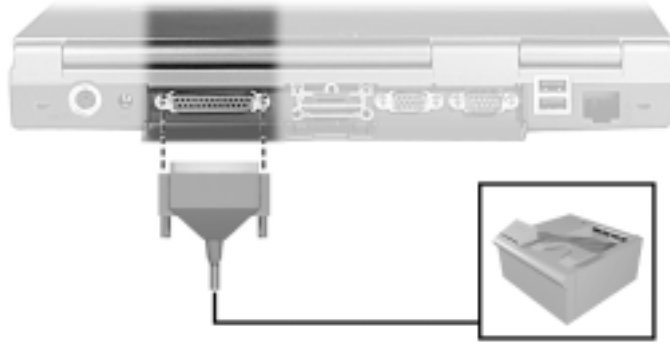
To install a parallel device such as a printer, you need a cable with a male 25-pin connector for the system and, for most parallel printers, a Centronics®-compatible 36-pin connector.

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

Connect a parallel device to your NEC Versa as follows.

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

Connecting a parallel printer



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

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

Serial Devices

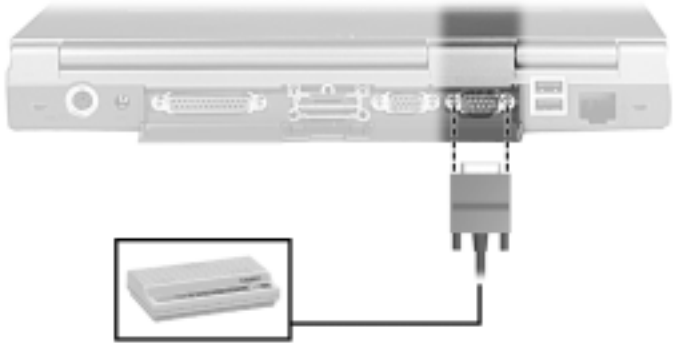
To install a serial device such as a printer or an external modem, you need a cable with a female 9-pin connector.

Note When you connect a printer or modem, be sure to install the appropriate 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. Align and connect the 9-pin connector with the serial port on the system. Secure the connection with the screws provided.
3. 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



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

Note Make sure your device is online before trying to print. See the device specific guide for instructions.

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 warm 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.

Note For information about disabling the VersaGlide while an external mouse is connected, refer to, "How to Use BIOS Setup," in Chapter 3. The PS/2 Mouse parameter in the Advanced CMOS Setup section of the BIOS Setup parameters allows you to enable or disable the VersaGlide touchpad.

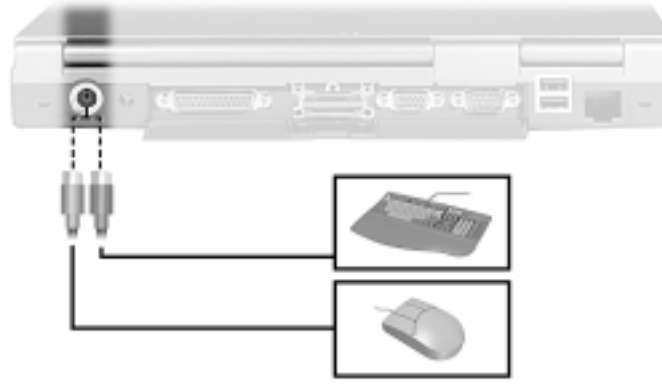
To attach both an external keyboard and an external mouse at the same time, use the optional NEC Y-adapter. For ordering information, contact your NECC dealer.

Note If you purchased this product outside the U.S. or Canada, contact the local NECC office or their dealers for ordering information.

Reference the booklet, “Getting Services 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 put the system into a suspended state, connect the device to the keyboard/mouse port, then resume the system when the connection is secure. You are now ready to use your external keyboard or mouse.

Connecting an external keyboard/mouse



Television Connection

Your NEC Versa VX is equipped with a RCA TV out port that allows you to use a television as an external display device in the Windows environment. The RCA TV out port requires an RCA-to-RCA cable and a television equipped with a standard RCA input jack.

The TV out port supports 640x480, 800x600, and 1024x768 display settings. However, for optimal resolution when using the TV out port, select the following settings:

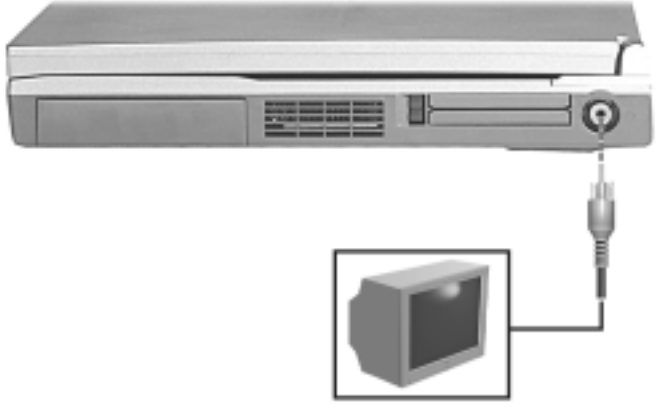
- 640x480 when the video output device is a television.
- 800x600 or 1024x768 when the video output device is an LCD panel or an external monitor (CRT).

To change display settings, access Start, Settings, Control Panel, Display, and select the Settings tab.

Follow these steps to connect your television as an external display device.

1. Connect one end of the standard composite cable into the TV Out (RCA) yellow-colored port on your NEC Versa and the other end of the cable into the standard RCA jack on your television or VCR.
2. Go to Settings, Control Panel, Display Properties, Settings, and place a check in the TV box.
3. Use **Fn-F3** to toggle to TV Out display mode.

Connecting an external display device



Note 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, use the Advanced CMOS Setup section of the BIOS setup utility to change the setting.

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

USB Device

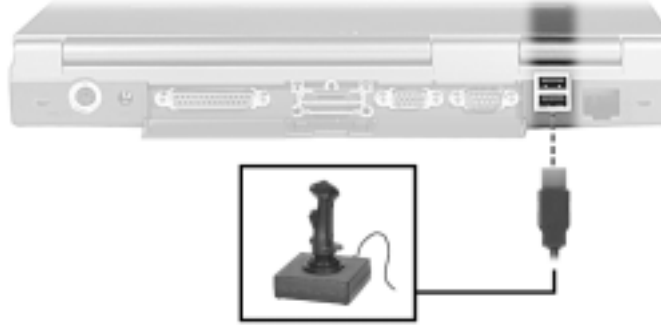
Your NEC Versa VX system is equipped with two USB ports that increase your connectivity choices. The USB ports on the back of your system allow you to connect up to 127 USB equipped peripheral devices to your NEC Versa notebook computer. These peripherals may include a digital camera, scanner, printer, CD-ROM drive, modem, mouse, keyboard, telephone, or game device.

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.

Connect an external USB device to your system as follows.

1. Locate the two USB ports on the back of your system.
2. Plug the USB device into one of the two USB ports. Another USB device can be plugged into the other port.

Connecting a USB device



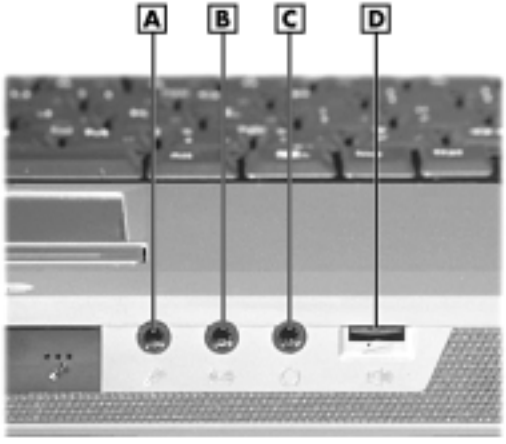
Audio Options

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 appropriate port on the front of the NEC Versa.

Audio ports



A – Microphone
B – Line In
C – Headphones
D – Volume Control

Note If you are using external speakers or an external microphone and experience sound distortion or feedback, lower the volume.

Some feedback is caused by having the microphone and speakers too close to each other, so moving the external audio option away from the unit may also help.

Port Replicator

Use the following steps to connect the NEC Versa VX to the Port Replicator.

1. Remove any devices connected to the back of the NEC Versa.

Note You can connect your system to the NEC Port Replicator with the system powered off. In Plug-and-Play operating systems such as Windows 95, you can also connect your system to the NEC Port Replicator with the system in Suspend mode.

2. Push the docking lever on the right side of the NEC Port Replicator towards the rear of the replicator.

Locating the docking lever

A – Docking Lever

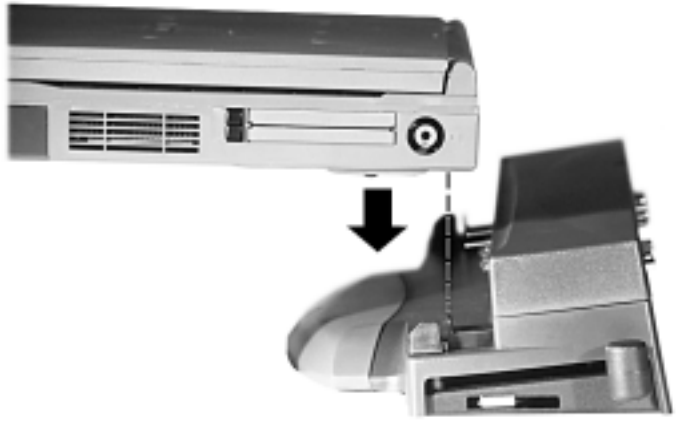
3. Open the port cover on the rear of the NEC Versa. Remove the expansion port cover by pulling it out of its slot in the port cover. Close the port cover.

Removing the expansion port cover

A – Expansion Port Cover

4. Place the NEC Versa system's rear bottom corners on the side guides of the NEC Port Replicator. Pull the docking lever of the replicator forward to securely dock the NEC Versa.

Connecting the NEC Port Replicator



9

Using Multimedia

- Audio
- Video
- Multimedia Applications

With its fast processor and enhanced audio and video capabilities, you can perform fantastic multimedia feats with your NEC Versa VX! This section describes the NEC Versa VX'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 VX provides entertainment-level sound quality through the stereo speakers. It handles musical instrument digital interface (MIDI) files, digital audio files, and analog audio sources. This means the NEC Versa VX recognizes .WAV, .MID, and .AVI files. The system also provides PC99 compliant audio.

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.

Note The built-in microphone is muted by default. Enable the microphone before attempting to use it.

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/VCD/DVD players through the Line-In port.

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

The following procedure describes how to use the Sound Recorder in the Microsoft Windows Accessories group to record sound into a file on the NEC Versa VX. (For details, see the online help that is available when you open the Sound Recorder.)

1. Locate the Sound Recorder by sliding the cursor over Start, Programs, Accessories, Entertainment (Windows 98) or Multimedia (Windows 95), and the Sound Recorder line. Release your finger from the VersaGlide to open the recorder. (You may have to press the left selector button on the VersaGlide.)
2. Use the VersaGlide to press the Record button on the screen. The Record button has a red circle in the middle.

3. Speak into the microphone to create a sound file.

4. When you finish recording, press the Stop button. Be careful when recording; audio files can become quite large.

Line-In

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

Ambient sound effects create a sense of place or environment and include sounds such as rain, heavy traffic, chirping birds. *Specific* sound effects accent or illustrate an action. Examples of specific sound effects include footsteps, a crash, and 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, 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 VX through Line-In.

Note Using Line-In does not disable the internal speakers.

CD-ROM Input

You can record music and sound effects from a CD (compact disc) and store them on your hard disk. The audio signal from the CD-ROM drive connects directly to your NEC Versa VX. 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 VX 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" earlier in this chapter, for details about recording sound with the microphone.

Playing Back

You can play back your recorded soundtrack through stereo headphones, the internal NEC Versa VX stereo speakers, or external stereo speakers. You can play .WAV and MIDI files as well as CD audio. Adjust the volume through the software (a volume control feature can be found in Accessories or on the system tray in the Toolbar) or with the volume control knob on the front 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 by opening a file through the Sound Recorder and pressing the Play button.)

1. Go to Programs, Accessories, Multimedia, and open the Media Player.
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. Once your file is open or your source specified, press the Play button.
3. Press the square Stop button to stop playing the audio.

Using Headphones

The NEC Versa VX headphone port delivers sound at half a watt. Stereo headphones plug in through the headphone jack located on the front of the NEC Versa VX. Use the audio software that comes on your system to adjust the volume.

Note Using headphones disables the internal speakers.

Using the Built-In Speakers

The NEC Versa VX has built-in stereo speakers. Adjust the volume through the software or with the volume control knob located on the front of the system.

Using External Stereo Speakers

For full stereo sound impact, you can plug a pair of stereo speakers into the headphones jack located on the front of the system. Adjust the volume through software, with the controls on the external speakers (if equipped with controls), or with the volume control knob on the NEC Versa VX. When using external speakers the internal speakers are disabled.

Video

Depending on the model, the NEC Versa VX features a TFT panel with SVGA or XGA resolution. This enables color display for sharp effective visuals right on the system or projected onto an external CRT monitor.

Use your NEC Versa VX to run full motion, full-screen MPEG video. In Windows 98, Windows 95 and Windows NT, the Active Movie Control gives you MPEG capabilities. In Windows NT, you must install Internet Explorer to use the Active Movie Control function.

Access the Active Movie Control as follows:

1. Go to Start, Programs, Accessories, Entertainment (Windows 98), or Multimedia (Windows 95 and NT), and select Active Movie Control.

   An Open dialog box displays.

2. Locate your CD-ROM drive and double click on the appropriate drive to display its contents.

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

Using Digital Video Files

With commercial video capture hardware and application software, you can plug any video device, including VCRs, televisions, camcorders, and laser disc players into your NEC Versa VX 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/notebook 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.

10

Solving System Problems

- Problem Checklist
- Startup Problems
- If You Need Assistance

Once in a while you may encounter a problem with your NEC Versa VX. If the screen is blank, the instructions don't help, or no error message appears, use the information here to determine and fix the problem. You still may be able to solve the problem yourself!

Problem Checklist

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

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

Troubleshooting

Problem	What to Do
The system does not power on.	If you are operating the system with battery power, check that the battery pack is correctly inserted. Attach the AC adapter to recharge the battery. If you have the AC adapter attached, check that the electrical outlet you are using works.
LCD screen is dark and blank.	Power-saving mode has shut off the backlight. So try to recover by pressing any keyboard key. The built-in LCD may not be selected. Press **Fn-F3** once or twice. Screen brightness needs adjustment. Adjust the control (**Fn-F8** and **Fn-F9**). The system entered Suspend mode due to low battery power. Plug in the AC adapter before resuming operation.

Problem	What to Do
Battery power does not last long.	Use power-saving modes. Fully charge and fully discharge the battery several times to recondition it. You may need to use Battery Refresh function under Setup menu.) Replace the battery.
Information on the LCD screen is difficult to see.	Adjust the brightness and contrast using the brightness and contrast controls.
The Suspend/Resume function does not work.	If the system does not Suspend 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 still does not Suspend, check that Auto Play is disabled for the CD-ROM drive.
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.

Startup 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 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.

If the system frequently loses the setup configuration data, the internal CMOS battery may need to be replaced at an authorized NEC repair center.

POST Error Messages

The NEC Versa VX 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 POST, the system displays an error message. If this happens, follow the instructions in the POST error message table.

POST Error Messages

Error Message	Explanation
Diskette drive A error	Drive A: is present but fails the BIOS POST diskette tests. Check to see that the drive is defined with the proper diskette type in Setup.
Extended RAM Failed at offset: *nnnn*	Extended memory not working or not configured properly at offset *nnnn*.
Failing Bits: *nnnn*	The hex number *nnnn* is a map of the bits at the RAM address (in System, Extended, or Shadow memory) which failed the memory test. Each 1 (one) in the map indicates a failed bit.
Fixed Disk 0/1/Disk Controller Failure	Fixed disk is not working or not configured properly. Check to see if fixed disk is attached properly. Run Setup to make sure the fixed-disk type is correctly identified.
Incorrect Drive A type – run SETUP	Type of floppy drive A: not correctly identified in Setup.
Keyboard Controller error	The keyboard controller failed test. You may have to replace keyboard or controller.
Keyboard Error – Keyboard not working	Keyboard error *nn* BIOS discovered a stuck key and displays the scan code *nn* for the stuck key.
Operating system not found	Operating system cannot be located on either drive A: or drive C:. Enter Setup and see if fixed disk and drive A: are properly identified.
Parity Check 1 – Parity error found in the system bus	BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????.
Parity Check 2 – Parity error found in the I/O bus	BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????.

POST Error Messages

Error Message	Explanation
Previous POST did not complete successfully.	POST loads default values and offers to run Setup. If the failure was caused by incorrect values and they are not corrected, the next boot will likely fail. On systems with wait states, improper Setup settings can also terminate POST and cause this error on the next boot. Run Setup and verify that the wait-state configuration is correct. This error is cleared the next time the system is booted.
Real time clock error	Real-time clock fails BIOS test. It may require board repair.
Shadow Ram Failed at offset: *nnnn*	Shadow RAM failed at offset *nnnn* of the 64k block at which the error was detected.
System battery is dead - Replace and run SETUP	The CMOS clock battery indicator shows the battery is dead. Replace the battery and run Setup to reconfigure the system.
System cache error – Cache disabled	RAM cache failed the BIOS test. BIOS disabled the cache.
System CMOS checksum bad – run SETUP	CMOS has been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS. Run Setup and reconfigure the system either using the Default Values and/or making your own selections.
System RAM Failed at offset: *nnnn*	System RAM failed at offset *nnnn* of the 64k block at which the error was detected.
System timer error	The timer test failed. Requires repair of system board.

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 Chapter 11, “Getting Service and Support,” for details about contacting NECC.

Note If you purchased and are using this product outside the U.S. or Canada, please contact the local NECC 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.

11

Getting Service and Support

- Service and Support Contact Information
- NECC Web Site
- NECC FTP Site
- NECC Support Services
- Email/Fax to Support Services

Service and Support Contact Information

Service	Contact Information
NECC Web and FTP Sites	Web address: www.nec-computers.com FTP site: ftp.neccsdeast.com
NECC Support Services (U.S. and Canada customers only).	800-632-4525 Fax: 801-981-3133
Email to NECC Support Services through a commercial online service or the Internet.	Internet email address: tech-support@neccsd.com

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

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

Not only do these services provide information about your NEC 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.

NECC Web Site

If you have a modem or are connected to a network, you can access the NECC web site. You can do this through a commercial online service or through your Internet account. The NECC web site contains general information about NECC and its products, an online store, press releases, reviews, and service and support information.

Look in the Service and Support area for the following:

- technical documentation, including Frequently Asked Questions, reference manuals, and warranty information
- BIOS updates, drivers, and Setup Disk files to download
- contact information, including telephone numbers for Technical Support and links to vendor Web sites
- Click, the NECC Customer Service newsletter
- an automated email form for your technical support questions
- a Reseller's area (password accessible).

To access NECC's Home Page, enter the following Internet Uniform Resource Locator (URL) in your browser:

http://www.nec-computers.com/

NECC FTP Site

Use the Internet to access the NECC FTP (file transfer protocol) site to download various files (video drivers, printer drivers, BIOS updates, and Setup Disk files). The files are essentially the same files as on the NECC Web site.

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

ftp.neccsdeast.com/

Once in the FTP site, select the pubs directory link and follow the links to choose and download the file(s) you want.

NECC Support Services

NECC also offers direct technical support through Support Services. (NECC Support Services is for U.S. and Canadian customers only; international customers should contact the local NEC office or dealer for the support and service available in your country.)

Direct assistance is available 24 hours a day, 7 days a week. Call the NECC Support Services, toll free, at **1-800-632-4525** (U.S. and Canada only) for the following support.

- System hardware — toll-free phone support is limited to the length of the standard warranty.

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

- Preinstalled software — toll-free phone support for 90 days from the time of your first call to the NECC Support Services.

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

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

For outside the U.S. or Canada, please contact your local NEC office or dealer for the support and service available in your country.

Email/Fax to Support Services

NECC Support Services offers technical support by email if you have internet access. The email address is:

tech-support@neccsd.com

You can also fax technical questions to NECC Support Services if you have access to a fax machine or fax/modem. The fax number is:

801-981-3133

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

- Desktop
- Monitor
- Notebook.

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

A

Setting Up a Healthy Work Environment

- Making Your Computer Work for You
- Arrange Your Equipment
- Adjust Your Input Devices
- Adjust Your Screen or Monitor
- Vary Your Workday
- Pre-existing Conditions and Psychosocial Factors

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.

Note 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.

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.

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

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

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

Note To increase your comfort and safety when using your notebook computer as your primary computer system at your home or office, note the following recommendations:

Use a separate, external keyboard attached to your notebook computer.

Use a separate, external monitor attached to your notebook computer.

Arrange Your Equipment

Arrange your equipment so that you can work in a natural and relaxed position. Place items that you use frequently within easy reach. Adjust your workstation setup to the proper height (as described in this appendix) by lowering the table or stand that holds your computer equipment or raising the seat height of your chair. Position your notebook computer directly in front of you for increased safety and comfort.

Adjust Your Chair

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

Check the following:

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

Adjust Your Input Devices

Note the following points when positioning your notebook computer or any external input devices.

- Position your keyboard directly in front of you. Avoid reaching when using your keyboard or mouse.
- If you use a mouse, position it at the same height as the keyboard and next to the keyboard. Keep your wrists straight and use your entire arm when moving a mouse. Do not grasp the mouse tightly. Grasp the mouse lightly and loosely.
- Adjust the keyboard height so that your elbows are near your body and your forearms are parallel to the floor, with your forearms resting on either armrests or forearm supports, in the manner described previously. If you do not have armrests or forearm supports, your upper arms should hang comfortably at your sides.
- Adjust the keyboard slope so that your wrists are straight while you are typing.
- Type with your hands and wrists floating above the keyboard. Use a wrist pad only to rest your wrists between typing. Avoid resting your wrists on sharp edges.
- Type with your wrists straight. Instead of twisting your wrists sideways to press hard-to-reach keys, move your whole arm. Keep from bending your wrists, hands, or fingers sideways.
- Press the keys gently; do not bang them. Keep your shoulders, arms, hands, and fingers relaxed.

Adjust Your Screen or Monitor

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

- Adjust the height of your screen or external monitor so that the top of the screen is at or slightly below eye level. Your eyes should look slightly downward when viewing the middle of the screen or external monitor.
- Position your screen or external monitor no closer than 12 inches and no further away than 28 inches from your eyes. The optimal distance is between 14 and 18 inches.
- Rest your eyes periodically by focusing on an object at least 20 feet away. Blink often.
- Position the screen or external monitor at a 90° angle to windows and other light sources to minimize glare and reflections. Adjust the monitor tilt so that ceiling lights do not reflect on your screen or external monitor.

- If reflected light makes it hard for you to see your screen or external monitor, use an anti-glare filter.
- Clean your screen or external monitor regularly. Use a lint-free, non-abrasive cloth and a non-alcohol, neutral, non-abrasive cleaning solution or glass cleaner to minimize dust.
- Adjust the screen or external monitor's brightness and contrast controls to enhance readability.
- Use a document holder placed close to the screen or external monitor.
- Position whatever you are looking at most of the time (the screen or reference material) directly in front of you to minimize turning your head while you are typing.
- Get regular eye check-ups.

Vary Your Workday

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

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

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

Pre-existing Conditions and Psychosocial Factors

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

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

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

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

B

Specifications

- System Components
- Interrupt Controllers
- Memory Map

System Components

The following specifications are standard except where noted.

System Processor

Depending on the model:

- Intel Celeron — 400 MHz, 433 MHz, or 466 MHz
- Intel Pentium II — 366 MHz
- Intel Pentium III — 450 MHz or 500 MHz

Random Access Memory (RAM)

- Standard Main Memory — 64 MB high-speed interleaved access
- Optional Expansion — 1 SO-DIMM slot
  - — Expandable in 64-MB or 128-MB increments
  - — Maximum 256 MB total
- Video RAM — 4.0 MB
- Cache RAM — 128-KB L2 cache (Celeron) or 256-KB L2 cache (Pentium II and Pentium III)

Read-Only Memory (ROM)

512-KB flash ROM with boot block

Calendar Clock

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

Input/Output (I/O) Facilities

Integrated industry-standard interfaces

- Modem Port — 1 port, RJ-11 jack or LAN Port on some models
- TV Out — 1 port, 2-pin RCA jack, NTSC/PAL support
- DC In — 1 port for AC adapter cable
- PS/2 Port — 1 port, PS/2, 6-pin MiniDin
- Parallel — 1 port, 25-pin D-sub
- USB Ports — 2 ports, base connector
- Expansion — 1 port, 80-pin for optional Port Replicator

- Serial — 1 port, 9-pin D-sub
- VGA — 1 port, 15-pin high-density D-sub
- Infrared — 1 port
- Microphone — 1 port, 3-pin, Mini-Pin jack
- Line-In — 1 port, 3-pin, Mini-Pin jack
- Headphones — 1 port, 3-pin, Mini-Pin jack

Main Battery

- Types:
  - — Nickel-Metal-Hydride, (NiMH), eight cell
    - – Output Voltage – 9.6v
    - – Capacity – 3,800 mAh
  - — Lithium-Ion (Li-Ion), eight cell
    - – Output Voltage – 14.4v
    - – Capacity – 3,600 mAh
- Recharging Time
  - — Nickel-Metal-Hydride, (NiMH):

    Approximately 3 hours when system is not in use; approximately 3.5 hours when system is in use.
  - — Lithium-Ion (Li-Ion):

    Approximately 3.5 hours when system is not in use; approximately 4 hours when system is in use.

Card Slots

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

LCD Display

- Panel (depending on the model):
  - — 12.1-inch Thin Film Transistor (TFT) cold-cathode fluorescent tube (CCFT) backlit Super VGA color
  - — 13.3/14.1-inch Thin Film Transistor (TFT) Extended Graphics Array (XGA) color

- Resolution
  - — 800 x 600 pixels for SVGA
  - — 1024 x 768 pixels for XGA

Keyboard

Membrane-type, with standard QWERTY-key layout (International keyboards are country specific)

- Function keys — 12 keys
- CD Control keys or Personal Code keys
- Internet and Email keys
- Cursor Control keys — 8 keys; arrow keys arranged in inverted T layout
- Numeric keypad — embedded
- Special Windows 95 keyset
- Fn key — function key for ROM-based key functions

Diskette Drive

Standard 1.44 MB

- Size — 3.5 inch
- Capacity — 1.44 MB (formatted), 2 MB (unformatted)

Hard Disk Drives

- Internal, 2.5 inch, IDE
- Capacity (depending on the model) 6.0-GB, 12-GB, or larger hard disk drive

CD-ROM Drive

- Thin-type CD-ROM Pack
- Access Time — 24X
- Interface — IDE (ATAPI)
- Photo CD Compatibility — Multisession Photo CD, Single Session Photo CD, Video CD, CS-I, CD-I Ready, CD-G and CD-Plus

Mini-PCI Modem

- K56 Flex compatible
- V.34 extended rate protocol
- V.90 compliant
- Enhanced AT command set
- Class 1 and 2 Fax protocols
- Built-in speaker with software controllable volume

Mini-PCI LAN

- 10Base-T and 100Base-TX
- Resume-on-LAN support
- Full duplex support
- Auto-sensing
- Software support for management server

Mini-PCI Modem/LAN

Modem

- K56 Flex compatible
- V.34 protocol
- V.90 compliant
- Class 1 Fax protocol

LAN

- 10/100 Ethernet
- Full duplex support
- Wake-on-LAN support
- Auto-sensing
- Low power features

AC Adapter

- Input Voltage — 100 to 240 volts (V) AC, 50 watt (max.)
- Output Voltage — 19 volts DC, 2.6A

Dimensions

System

- Width — 12 in. (307 mm)
- Depth — 9.9 in. (252 mm)
- Height — 1.6 in. (40 mm) (max 44 mm)

Weight

- 6.6 lbs. (3.0 kg) 12.1-inch LCD
- 6.8 lbs. (3.1 kg) 13.3-inch LCD
- 7.0 lbs. (3.2 kg) 14.1-inch LCD

Recommended Environment

Operation

- Temperature — 41ºF to 95ºF (5ºC to 35ºC)
- Relative Humidity — 20% to 80% (Noncondensing)

Storage

- Temperature — –4ºF to 104ºF (–20ºC to 40ºC)
- Relative Humidity — 20% to 80% (Noncondensing)

Interrupt Controllers

The following table shows default interrupt level assignments 0 through 15.

Note These resources may change after this user's guide goes to print. Please refer the *NEC Versa VX Important Information* sheet that came with your NEC Versa VX.

Interrupts

IRQ#	Device
IRQ00	Internal Timer
IRQ01	Keyboard
IRQ02	Cascade
IRQ03	IR
IRQ04	Serial Port
IRQ05	CardBus/Mini-PCI/Sound
IRQ06	Diskette Drive
IRQ07	Parallel Port
IRQ08	Real-time Clock
IRQ09	USB
IRQ10	Video
IRQ11	Available
IRQ12	Mouse
IRQ13	Coprocessor
IRQ14	Hard Disk Controller
IRQ15	Available

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.

System Memory Map

Memory Space	Size	Function
00000000h-0009FFFFh	640 KB	System Memory
000A0000h-000BFFFFh	128 KB	Video Memory
000C0000h-000DFFFFh	128 KB	
000E0000h-000FFFFFh	128 KB	System and Video BIOS
01000000h-01FFFFFFh	32 MB	Extended Memory
02000000h-03FFFFFFh	32 MB	Extended Memory
04000000h-0FFFFFFFh	Up to 256 MB	Extended Memory

C

Frequently Asked Questions

- External Mouse
- Display
- PC Cards
- Diskette Drive
- Booting
- Power Management
- Miscellaneous

External Mouse

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

The NEC Versa VX 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 or NEC Port Replicator. Both options provide two PS/2-style ports.

Contact your NECC dealer for ordering information.

Display

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

The maximum resolution in simultaneous mode is 1024 x 768 for XGA panels. 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 98 or 95 and Windows NT, go to 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” and follow the on-screen instructions to install a new video driver.

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 the bottom 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.

Can I run two of the same type cards simultaneously?

Yes, Windows 98 or 95 configures each card. If they are both modems, configure each for a different Com port and different available interrupts under the ports icon in the Windows control panel or from Device Manager in Windows 98 or 95.

CardWizard for NT will assist in configuring PC cards in the Windows NT environment. Configure each modem for a different Com port and different available interrupts using the Modem icon (Install Modem Wizard) in the Control Panel.

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, close all applications using the card and pop it part of the way out of the slot to save power.

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?

To provide a stable platform free of conflicts, NECC 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 the drive 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 the BIOS Setup Utility.”

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 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 98, Windows 95 or Windows NT, double click on the My Computer icon and then right click (click the right-hand mouse button) on the diskette drive icon. Select Format and choose 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?

Your system ships 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.

Booting

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 the Ctrl, Alt, and Del keys. When all three keys are pressed, the system resets. In Windows 98/95, press **Ctrl**, **Alt**, and **Del** twice to restart the system or go to Start, Shut Down, Restart the computer.

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.

Press the system unit power button to perform a cold boot or go to Start, Shut Down, Shut down the computer. If power is on, turn the power off using the system unit power button, wait at least five seconds, and then turn the power on.

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 (Windows 95) or LCD timeout (Windows 98).

When your screen goes blank, just press the Space Bar or move your mouse to reactivate your system. If the power status LED blinks, the system has entered the next level of power management, Suspend mode (Windows 95) or Standby mode (Windows 98). See the following questions and answers.

What is the function of Suspend-to-RAM? (Standby in Windows 98)

You can initiate full Suspend-to-RAM in Windows 98 by accessing Start, Shut Down, Standby. This places the system in a deeper state of “sleep” and requires that you press the Power button to resume operation.

Putting your system into Standby initiates the Standby power-saving mode and is a convenient way of conserving energy when you are going to be away from your system for a short period of time.

What is the function of Suspend-to-File? (Windows 95)

In Windows 95, Suspend-to-File provides the greatest power savings by putting the system in a maximum power shutdown. When the system goes into STF mode, it saves data and system status and then shuts off power to all components. STF mode lets you save power without first saving your work. Resuming from STF mode requires less time than performing a cold boot.

Your system must be configured for STF. In the BIOS Power Management Setup, enable the “Auto save-to-file” parameter and set the “Suspend Option” to STF.

What is the function of Suspend-to-File? (Hibernation in Windows 98)

Suspend-to-File (Hibernation) provides the greatest power savings by putting the system into a maximum power shutdown. When the system goes into STF mode, it saves data and system status and then shuts off power to all components. STF mode lets you save power without first saving your work. Resuming from STF mode requires less time than performing a cold boot.

Your system must be configured for STF/Hibernation. In Windows Power Management Properties, check the box labeled “enable hibernate support,” under the Hibernate tab. In the BIOS Power Management Setup, enable the “Auto save-to-file” parameter and set the “Suspend Option” to STF.

How do I bring my system out of Standby mode (Windows 95) or LCD timeout (Windows 98)?

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

How do I bring my system out of Suspend mode (Windows 95) or Standby mode (Windows 98)?

Press the Power button to bring the system out of Suspend mode (Windows 95) or Standby mode (Windows 98).

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. In the Windows 95 environment, simply press the Power Management switch, **Fn+F7** on the system keyboard until you hear a single beep. Other Power Management settings include:

- Custom, 2 beeps
- Highest Performance, 3 beeps
- Longest Life, 4 beeps

In Windows 98 or 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.”

Miscellaneous

How do I set the time and date?

You can change the time and date in Windows 98 or 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.

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 your application still runs slow, you might consider installing additional memory (see "Memory Modules" in Chapter 5).

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 64 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 loads 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 File then Save from the drop down menu. If the file was not previously named, you will be prompted for a file name. In Windows 98, Windows 95 and Windows NT, you can use up to 255 characters to name a file.

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

Verify that the IR port is enabled. Enter the BIOS Setup Utility and access the Peripheral Setup menu.

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.

Glossary

A

AC adapter
A device that connects an NEC Versa notebook computer and an AC wall outlet to provide AC power for running the system and recharging the battery.

A/D conversion
The process of converting an analog signal into a digital signal.

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

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

audio
The range of acoustic, mechanical, or electrical frequencies that humans hear.

B

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

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

bit
Binary digit. The smallest unit of computer data.

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

board
Printed circuit board (PCB). Board on which computer components are soldered and thin wires are printed to connect the components.

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

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

byte
Group of eight contiguous bits.

C

CardBus
A 32-bit high-performance bus defined by the new PC Card Standard and released by the PCMCIA standards body and trade associations. CardBus 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
Compact disc. A polished metal platter capable of storing digital information. The most prevalent types of compact disks or those used by the music industry to store digital recordings and CDs used to store computer data. Both types are read-only, which means that once the data is recorded onto them, they can only be read or played.

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 drive
Compact Disc Read-Only Memory. A computer-controlled device that reads high-capacity optical discs and sends the output to the computer.

clock
Electronic timer used to synchronize computer operations.

CMOS
Complementary Metal Oxide Semiconductor. A chip that contains nonvolatile memory in the Versa. CMOS is backed up by an internal 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.

digital audio

Recorded sounds such as speech and sound effects. These are played back by the audio circuit'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.

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.

DSTN

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

DVD

A denser, faster CD that can hold video as well as audio and computer data. Short for *digital versatile disk* or *digital video disk*, this new type of CD-ROM holds a minimum of 4.7-GB (gigabytes), enough for a full-length movie.

E

enhanced VGA

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

extended RAM

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

F

FIR

Fast Infrared, an infrared technology that sends data at 4.0 Mbit/second (4 million 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 that you press simultaneously for a particular function.

I

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

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

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

interface
A connection that enables two devices to communicate.

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

K

kilobyte
(KB) 1024 bytes.

L

LAN
Local Area Network.

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

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

M

megabyte

(MB) 1,048,576 bytes.

memory

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

menu

A video display of programs or options.

microprocessor

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

MIDI

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

MIR

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

MMX

A set of 57 multimedia instructions built into Intel's Pentium microprocessors. MMX-enabled microprocessors handle many common multimedia operations, such as digital signal processing (DSP), that are normally handled by a separate sound or video card. However, only software especially written to call MMX instructions — MMX-enabled software — can take advantage of the MMX instruction set.

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 (1, 2, 3)

The MPEG (Moving Pictures Experts Group) standard is used to encode motion images. The MPEG player program in Windows lets you play back MPEG files.

multimedia
Integrated forms of electronic media such as sound, text, graphics, and video.

N

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

O

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

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

P

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

parallel interface
Interface that communicates multiple data bits at a time.

parallel printer
A printer with a parallel interface.

parameter
A characteristic of a device or system.

partition
Process of dividing mass storage (hard disk drive) into isolated or separate sections. Partitioning a hard drive creates additional logical drives, e.g., a 5.1-GB hard drive partitioned into three logical drives creates drives C, D, and E. Partitioning facilitates file management by allowing you to isolate the computer's operating system to drive C while storing applications and data files on separate drives D and E (also referred to as partitions).

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

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

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

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

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

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

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

Q

QWERTY
The QWERTY keyboard, designed in the 1800s for mechanical typewriters, refers to the first six keys (QWERTY) on the top row of letters on the standard keyboard.

R

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

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

ROM

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

reset

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

resolution

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

RS-232C

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

S

scanner

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

serial interface

An interface that communicates information one bit at a time.

serial printer

A printer with a serial interface.

SIR

Serial Infrared, an infrared technology that sends data at 2.4 Mbit/second (2,400,000 bits per second).

SO-DIMM

Small outline dual-inline memory module. A small circuit board that holds memory chips. A dual in-line memory module (DIMM) has a 64-bit path.

software

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

Standby (Windows 98) or Suspend (Windows 95) mode

A state of power management that puts the system to “sleep.” Standby/Suspend mode shuts down all devices in the system while retaining data and system status.

SVGA

Super Video Graphics Array. Graphics technology that supports up to 256 or more colors and a graphics resolution of 800 by 600 pixels.

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.

s-video

Short for *super-video*, a technology for transmitting video signals over a cable by dividing the video information into two separate signals: one for color, and the other for brightness. When sent to a television, s-video produces sharper images and superior color definition.

T

TFT

Thin Film Transistor. A type of NEC Versa LCD color screen that supports 256 or more colors.

U

USB

Universal Serial Bus. This new external bus standard supports the connection of up to 127 peripheral devices, such as mice, modems, and keyboards. USB supports plug-and-play installation on some systems.

V

VersaGlide

A small, touch-sensitive pad used as a pointing device on your NEC Versa notebook computer. With the VersaGlide, you can move your finger along the pad to move the cursor or simulate a mouse click by tapping the pad.

VGA

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

volatile memory

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

W

warm boot

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

warm swap

Process of swapping devices in and out of a computer system without turning off the power. The system must be in a sleep state before removing or inserting a device.

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

Extended Graphics Array. This high-resolution graphics standard supports 640 x 480 – 1024 x 768 pixel and 16 million simultaneous colors. XGA also supports non-interlaced monitors.

Z

zoomed video

A direct high-speed connection between the video, audio, and graphics subsystems within the computer that provides the high-quality path required for smooth video playback or TV tuner transmission. Zoomed video technology allows data transfer directly between a PC card and VGA controller allowing notebook computers to connect via PC card to real-time multimedia devices such as video cameras.

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Regulatory Statements

The following regulatory statements include the Federal Communications Commission (FCC) Radio Frequency Interference Statement, compliance statements for Canada and Europe, battery disposal and replacement information, and the Declaration of Conformity.

FCC Statement for United States Only

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

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

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from the one to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Canadian Department of Communications Compliance Statement

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations (pursuant to ICES-003 Issue 2, Revision 1).

Avis de conformité aux normes du ministere des communications du Canada

Cet equipment numérique de la Classe B respecte toutes les exigences du Reglement sur le matérial brouillage du Canada (en conformité avec ICES-003 Emission 2, Révision 1).

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 EN55022.

Battery Replacement

A lithium battery in some computers maintains system configuration information. In the event that the battery fails to maintain system configuration information, NECC recommends that you replace the battery. For battery replacement information, call your NECC dealer or the NECC Customer Assistance Center.

⚠ 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.

⚠ AVERTISSEMENT Il y a danger d'explosion s'il y a replacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rébut 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.

Contact your local waste management officials for other information regarding the environmentally sound collection, recycling, and disposal of the batteries.

Mini-PCI FCC Registration Numbers

If your system has a built-in mini-PCI modem, the FCC registration number of your system is H8NTAI-34309-ME-E REN 0.4. If your system has a built-in mini-PCI modem/LAN, the FCC registration number of your system is 2U6MLA-34036-M5-E REN 0.5A.

NEC Computers Inc.

DECLARATION OF CONFORMITY

We, the Responsible Party

NEC Computers Inc.
15 Business Park Way
Sacramento, CA 95828

declare that the product

NEC Versa VX

is in compliance with FCC CFR47 part 15 for Class B digital devices.