NEC Versa® SXi Series of Notebook Computers

VERSA SXi

USER'S GUIDE

NEC

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Contents

Using This Guide

The *NEC Versa® SXi 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 Your 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 swapping VersaBay III devices, upgrading the hard disk drive and installing memory modules.
- Chapter 6, “Communicating with Your NEC Versa,” for essential information about using PC cards, optional mini-PCI modems or LANs, and other communication features of the system.
- Chapter 7, “Traveling Tips,” for a variety of checklists to help you to prepare your notebook computer for travel, getting through customs and using your modem when you are on the road.
- Chapter 8, “Using Peripheral Devices,” to master 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 Setup

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

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

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

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

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

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

Related Documents

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

- The *NEC Versa SXi Quick Setup* sheet helps get your system up and running.
- The *NEC Versa SXi 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 feature and specification information about your NEC Versa system.

1

Introducing Your NEC Versa

- Before You Begin
- About Your NEC Versa SXi 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 SXi notebook computer 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.
- Take the online Tour to get acquainted with the NEC Versa's information resources. The Tour is part of the NEC Info Center. Use the Application and Driver CD that ships with your NEC Versa SXi system to install the NEC Info Center.

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

About Your NEC Versa SXi Notebook

The NEC Versa SXi notebook computer offers you a portable system filled with exciting resources for home, business or travel. Standard features include a powerful Intel® Pentium III 650-MHz, 700-MHz, or 750-MHz microprocessor, all with SpeedStep™. Intel's SpeedStep technology allows you to customize high-performance computing on your notebook system to optimize performance speed and conserve battery life. The 14.1-inch TFT XGA LCD panel provides high-resolution display for sharp, effective visuals.

In addition, your system provides a high-performance hard disk drive, a diskette drive or SuperDisk™ drive, PC card support, and a 24X CD-ROM drive, a CD Read/Write drive or a 8X DVD-ROM drive. To optimize your connectivity options, some models ship with an internal mini-PCI modem or combination internal mini-PCI LAN/modem. As a multimedia system, your NEC Versa also provides the tools needed to create and present impressive images using video clips and sound.

NEC Versa SXi 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 NEC Versa. The following sections describe front features, beginning with the liquid crystal display (LCD) panel.

LCD Panel

Your NEC Versa SXi comes with a 1024x768, 16 million color LCD panel that you can adjust for a comfortable viewing position. To adjust the viewing angle, gently tilt the LCD panel into position. Your system is equipped with a 14.1-inch color Thin Film Transistor (TFT) Extended Graphics Array (XGA) panel.

To adjust the LCD panel brightness press the **Fn-F8** and **Fn-F9** functions keys. For more details about using the system's function keys, see the section, "Keyboard," later in this chapter.

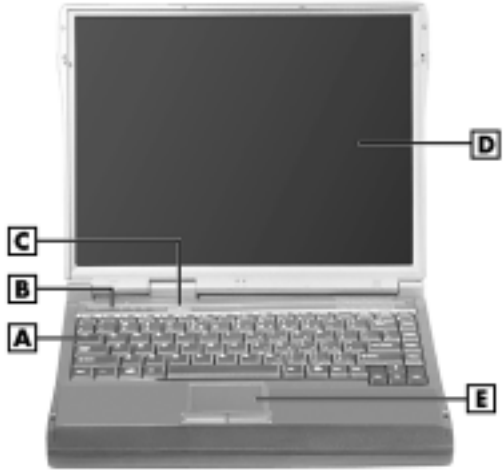
The LCD panel provides the following status LEDs.

- Power Status LED — lights green when the system is under AC power. When the system is under battery power, this LED lights to indicate the following:
  - — Lights green when the system power is on.
  - — Blinks green when the system is in Standby (Windows 98/2000) or Suspend (Windows NT) mode.
  - — Lights yellow (blinks when in Windows 98/2000 Standby mode or Windows NT Suspend mode) to indicate that battery power is at 8% capacity or less.
  - — Lights amber (blinks when in Windows 98/2000 Standby mode or Windows NT Suspend mode) to indicate that battery power is at 3% capacity or less.
- Battery Charging LED — lights to indicate battery charging activity. Lights amber when the battery is charging.

Base Unit

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

LCD panel and base unit



A – Keyboard
B – Operating Status LEDs
C – Power Button
D – LCD Panel
E – NEC VersaGlide

- Keyboard — 85 keys with the standard QWERTY-key layout. (Models purchased outside of the U.S. and Canada ship with country-specific keyboard layouts.)
- Operating Status LEDs — Keeps you informed of your NEC Versa's current operating status. See the following section for details about the operating status LEDs.
- Power Button — Press the Power button to power on, power off, and to resume from Standby (Windows 98/2000) or Suspend (Windows NT) mode.
- LCD Panel — Provides a high-resolution display for sharp, effective visuals on your NEC Versa.
- NEC VersaGlide — The NEC VersaGlide works like a standard computer mouse. Simply move your fingertip over the VersaGlide to control the position of the mouse pointer. Use the selection buttons below the VersaGlide to select menu items. VersaGlide settings and features are described in detail in Chapter 2.

Operating Status LEDs and Microphone

Operating status LEDs and microphone

A – IDE Device
B – VBIII Device
C – Microphone
D – Caps Lock
E – Scroll Lock
F – Num Lock

- IDE Device — lights when the NEC Versa writes data to or retrieves data from the internal hard disk drive
- VBIII Device — lights when the NEC Versa writes data to or retrieves data from a device in the VersaBay III.
- Microphone — A strategically positioned built-in microphone allows you to record monophonic sound directly into your notebook computer. See Chapter 9, “Using Multimedia,” for details about recording.
- 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.

Power Button

The Power button is a “smart” switch, meaning that it recognizes when the system is in Standby mode in Windows 98/2000* or in Suspend mode in Windows NT**. If in Suspend or Standby mode, you cannot power off until you press the Power button to resume operation.

* The Advanced Power Management setting, “When I press the power button on my computer,” must be set to Standby.

** The BIOS parameter “System Switch” must be set to “Sleep.”

Put the unit in Standby or Suspend mode when you need to be away from your system for a short period of time and want to return to where you left off. Standby mode in Windows 98/2000 and Suspend mode in Windows NT shuts down all devices in the system while retaining data and system status.

- In Windows 98/2000, go to Start, Shutdown, Standby, to put your system into Standby mode.
- In Windows NT, press the Power button for less than 4 seconds to put your system into Suspend mode. The BIOS parameter “System Switch” must be set to “Sleep.”
- Use the Power button in the following ways:
  - — Press the Power button to power on.
  - — Press the Power button to resume from Standby (Windows 98/2000) or Suspend (Windows NT) 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.

Keyboard

The NEC Versa keyboard offers the following features, which are described after the figure.

Keyboard

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

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

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

  The following function key combinations are preprogrammed for the NEC Versa SXi computer.

  Fn-F3 — Toggles between three video modes; LCD, CRT, or both (LCD and CRT).

  Fn-F4 — Sets Standby power management mode on, in Windows NT.

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

  — No function when Windows 98/2000 configured for Advanced Configuration and Power Interface (ACPI). In Windows 98/2000, Standby is equivalent to Windows 95 Suspend mode. To resume from Windows 98/2000 Standby mode, press the Power button.

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

Fn-F7 — Toggles between various power management levels in Windows NT. 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 98/2000 configured for Advanced Configuration and Power Interface (ACPI).

Fn-F8 — Increases the LCD panel brightness.

Fn-F9 — Decreases the LCD panel brightness.

Fn-F10 — Toggles LCD expansion mode (DOS only).

Fn-ESC — Initiates a Save-to-RAM, in Windows NT. Saves your working environment to memory.

An additional preprogrammed function key, **Fn-Left Ctrl**, simulates pressing the right control key for support of IBM 327x connections.

- Numeric keypad — Pressing NumLock on the keyboard activates the numeric keypad numbers and functions printed in blue on the keys.

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

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

- Cursor Control keys — Cursor control keys let you position the cursor on the screen where you want. On the screen, the cursor is a blinking underline, block, or vertical line depending on the application. The cursor indicates where the next text typed is inserted.
- Control keys — **Ctrl, Alt, Fn**, and **Shift** are controls used in conjunction with other keys to change their functions. To use control keys, press and hold the control key while pressing another key. For example, "press **Ctrl c**" means to hold down the **Ctrl** key and type the letter c. How the key combination works depends on the application you are running.

- Windows keys — In Windows, you can use the following two keys to facilitate your work.

Quick access to shortcut menus

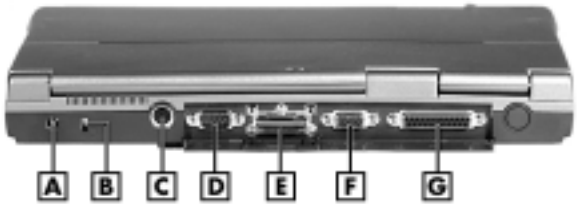
Displays the Start menu

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

Around the Back of the System

You'll find system ports for connecting optional devices (like a printer, the port replicator, or an external monitor) on the back of your NEC Versa. These features are described after the figure.

Features on the back of the system



A – AC Power Port
B – Kensington Lock
C – PS/2 Port
D – Serial Port
E – Expansion Port
F – Video Port
G – Parallel Port

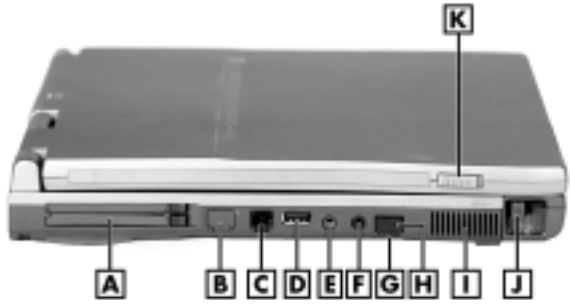
- AC Power Port — Use the power jack to attach the NEC Versa to a DC power source, such as the AC adapter or the optional DC auto adapter.
- Kensington Lock — Provides added security by installing an optional Kensington Lock.

- PS/2 Port — Connects an external PS/2-style mouse or a PS/2-style keyboard to the system. With an optional Y-cable adapter, you can connect both a mouse and a keyboard at the same time.
- Serial Port — Connects an external modem or other serial device.
- Expansion Port — Use this port to connect the NEC Port Replicator.
- Video Port — Attaches an external monitor to your NEC Versa. You can run the LCD display and the external monitor simultaneously or run either alone.
- Parallel Port — Connects a parallel printer or other parallel device. The port is an Enhanced Capabilities Port (ECP). The ECP standard provides you with a greater processing speed than the conventional parallel port. It also supports Enhanced Parallel Port (EPP), bi-directional and uni-directional protocols.

Around the Left Side of the System

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

Left side features



A – PC Card Slots
B – LAN Port (optional)
C – Modem Port (optional)
D – USB Port
E – External Microphone
F – Headphones/External Speakers
G – Volume Control
H – IR Port
I – Left Stereo Speaker
J – Battery Release Latch (Left)
K – LCD Lid Latch (Left)

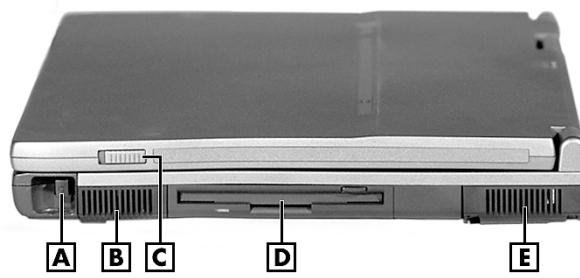
- PC Card slots — Provide two slots for inserting two Type II PC cards or one Type III PC card.
- LAN Port — Uses an RJ-45 cable to connect your system to a local area network. (Available if optional mini-PCI LAN/modem combo installed.)

- Modem Port — Uses an RJ-11 cable to connect your internal modem to an analog telephone line. (Available if optional mini-PCI modem or mini-PCI LAN/modem combo installed.)
- USB Port — The Universal Serial Bus (USB) port allows you to connect up to 127 USB-equipped peripheral devices (printers, monitors, scanners, etc.) to your NEC Versa.
- External Microphone (MIC) — Connects an external microphone for monophonic recording or amplification through the unit. Plugging in an external microphone disables the built-in microphone.
- Headphones/External Speakers — Connects external headphones or speakers to your NEC Versa. Plugging in headphones or speakers disables the built-in system speakers. The headphone/speaker port supports SP/DIF.
- Volume Control — Allows you to control the speaker and headphone volume.
- IR Port — Use this infrared (IR) port to transfer files between your NEC Versa and an IR-equipped desktop or notebook computer or to print to an IR-capable printer.
- Left Stereo Speaker — Provides stereo sound for your multimedia presentations or listening pleasure. The built-in sound system also supports 3D sound, which simulates the latest surround-sound technology.
- Battery Release Latch — Releases and removes the system's main battery.
- LCD Lid Latch — Secures the LCD panel when closed.

Around the Right Side of the System

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

Right side features



A – Battery Release Latch (Right)
B – Right Stereo Speaker
C – LCD Lid Latch (Right)
D – VersaBay III
E – Fan

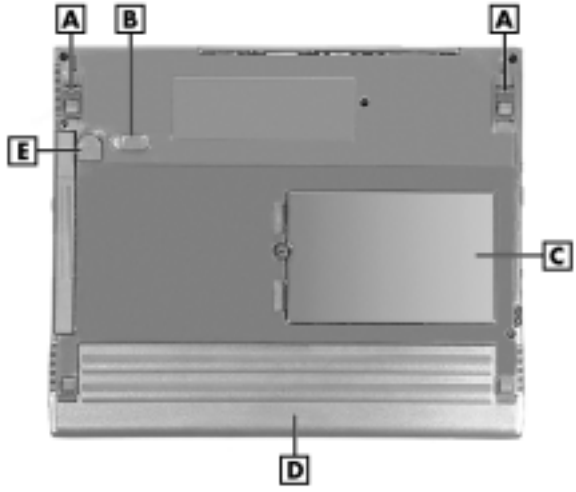
- Battery Release Latch — Releases and removes the system's main battery.
- Right Stereo Speaker — Provides stereo sound for your multimedia presentations or listening pleasure. The built-in sound system also supports 3D sound, which simulates the latest surround-sound technology.
- LCD Lid Latch — Secures the LCD panel when closed.
- NEC VersaBay III™ — A 24X CD-ROM drive, a CD Read/Write drive, a SuperDisk drive, or a 8X DVD-ROM drive comes installed in the NEC VersaBay III on the right side of your system.
- Fan — Allows your system to cool properly and maintain a safe operating temperature.

⚠ CAUTION Always keep the fan vents unobstructed to allow proper system cooling.

Around the Bottom of the System

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

Bottom features



A – Height Adjustment Feet
B – NEC VersaBay III Release Lock
C – Memory Module Bay
D – Battery Bay
E – NEC VersaBay III Release Latch

- Height Adjustment Feet — Modifies the angle of the NEC Versa for easier viewing and typing.
- NEC VersaBay III™ Release Lock — Unlocks the VersaBay III for device removal.
- Memory Module Bay — Stores the system's memory modules.
- Battery Bay — Contains the system's main, eight-cell or twelve-cell, Lithium-Ion (Li-Ion) battery.
- NEC VersaBay III Release Latch — Releases a device from the NEC VersaBay III.

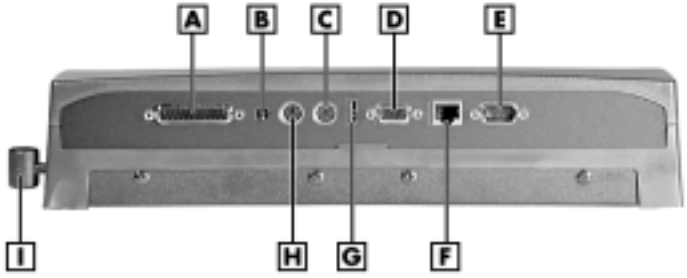
About the Port Replicator

The NEC Port Replicator is an accessory that duplicates some of the ports found on the back of your NEC Versa SXi system. The Kensington lock secures the NEC Versa SXi 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 SXi 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.
- Ethernet Port — Connects via an RJ45 connector to the system's built-in 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 for Your NEC Versa
- AC Adapter
- Main Battery Pack
- System Batteries
- 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. The NEC VersaGlide provides standard mouse functionality, plus more. VersaGlide features include:

- **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.

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

Making VersaGlide Adjustments

The NEC VersaGlide offers a number of options that let you customize how it functions. The options let you control the cursor speed, select button orientation, enable or disable tapping, define auto jumps, enable easy-scrolling, and configure gestures to initiate selected functions by tapping in a designated area of the touchpad.

To access these options, locate the Control Panel and double click on the mouse icon. Use the context-sensitive help to learn more about each option. Select the option, then press **F1** to access context sensitive help.

VersaGlide Tips

Follow these basic ergonomic tips while working:

- Use a light touch on the VersaGlide surface.
- Set up the NEC Versa with your keyboard and VersaGlide at a comfortable height. Keep your forearms parallel to the floor. Your wrists should be relaxed and straight.
- While using the keyboard and VersaGlide, keep your shoulders and arms as relaxed as possible.
- Take regular breaks from the computer to rest your eyes. Perform stretching exercises to relax your fingers, hands, wrists, forearms, and shoulders.

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

Power Sources for Your NEC Versa

The NEC Versa can be powered using two 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 optional Auto adapter. (For details about its use, refer to the accessory sheet that ships with this option.)

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

AC Adapter

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

Keep the adapter connected whenever possible. The AC adapter charges the battery when it is connected, whether the NEC Versa is powered on or off.

⚠ 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 and must meet EN609050 standards.

Connecting the AC Adapter

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

Connect the AC adapter as follows:

1. Connect the AC adapter cable to the power port on the back of your NEC Versa.
2. Plug one end of the AC power cable into the AC adapter and the other end into a properly grounded 120- or 240-volt wall outlet.

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

Only use the AC adapter that comes with your NEC Versa SXi. Although other adapters look similar, using them can damage your system.

Powering On Your System

Power on the system as follows:

1. Locate the latches on the left and right side of the LCD panel, slide them toward the front of the system, and raise the panel.
2. Locate and press the Power button to turn on system power. For additional information about Power control buttons and power LEDs, refer to Chapter 1, "Introducing Your NEC Versa."

Powering On with Windows 2000

If you installed a generic Windows 2000 operating system or disabled hibernate support, a message about the hibernation file appears at power on. Enable Hibernate support to remove this message.

Follow these steps to enable Hibernate support:

1. On the Windows taskbar, click Start, Settings, and Control Panel.
2. Double click Power Options.
3. Select the Hibernate tab.
4. Check the box to enable Hibernate support.
5. Click OK and close Control Panel.

Main Battery Pack

The NEC Versa comes with a rechargeable Lithium-Ion (Li-Ion) battery pack that's easy to install and remove.

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 connectors to prevent a short circuit.
- Make sure the battery is properly installed in the battery bay.
- Read the precautions printed on the battery.

Determining Battery Status

Your NEC Versa system provides tools to help you keep track of the main battery's power level. If your system is configured (default setting) to display the power icon on the taskbar in the Windows environments, an electrical plug appears when the system is connected to an AC power source. A battery icon displays when the system is not connected to an AC power source.

Use the system's power meter to determine battery status. Access the system's power meter in the following ways:

- Move the cursor over the power icon on the taskbar to display the remaining battery power for the system's main battery.
- Right click the power icon on the taskbar to open the power meter or to adjust power properties.
- Double click the power icon on the taskbar to display the remaining power for the main battery.
- Go to Start, Settings, Control Panel, and double click the Power icon and select the Power Meter tab.

Systems running the Window NT operating system use SystemSoft's PowerProfiler™ to determine battery status. Simply click the battery icon on the taskbar to launch the PowerProfiler battery page.

Low Battery Status

When battery power is low (8% or less), the power LED lights yellow. When battery power is very low (3% or less) the power LED lights amber. When your system is in a low battery status, do one of the following:

- Power off the system, remove the battery pack and replace it with a fully charged battery.
- Leave the battery pack in the system and connect your NEC Versa to the AC adapter and a wall outlet. If you connect the system to AC power and keep the system within standard operating temperatures, the battery recharges in approximately 2–3 hours whether or not you use your system.

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%).

Extending Battery Life

While on the road, it is important to be aware of the simple things you can do to extend the life of the system's main battery. One way is to keep the brightness setting low. Use the **Fn+F8** and **Fn+F9** function keys to control the brightness.

Conserving Battery Power

In the Windows 98/2000 environment, the default setting for a critical low battery state is Standby. Standby does not power down your system to conserve battery power.

NECC recommends that you change the Windows 98/2000 Standby default setting for a critical low battery state to Hibernate to prevent data loss during battery-powered system operation.

The power management state, Hibernate or Save-To-File (STF), saves the system's current working environment to the system's hard drive, then powers down the system to conserve battery power. You can configure your power management settings to enter hibernation when your system reaches a critical low battery state.

⚠ CAUTION Change the Windows 98/2000 Standby default power management setting for a critical low battery state to Hibernate to prevent data loss during battery-powered system operation.

Follow these steps to modify the default setting for a critical low battery state:

1. From the Windows Start menu, select Settings and Control Panel.
2. Double click Power Options in Windows 2000 or Power Management in Windows 98 and select the Alarm tab.
3. Click the Alarm Action button in the Critical Battery Alarm section.
4. Use the dropdown box labeled, “When the alarm goes off, the computer will:” to change the default setting to Hibernate.
5. Click OK to exit Alarm Actions.
6. Click OK to exit Power Options in Windows 2000 or Power Management in Windows 98.
7. Close the Control Panel.

Battery Handling

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

- Turn off power to the system after use. Keeping system power on can degrade battery performance and shorten battery life.
- Clean the battery connectors with a dry cloth when they get dirty.
- Keep the battery out of the reach of children.

Replacing the Battery

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

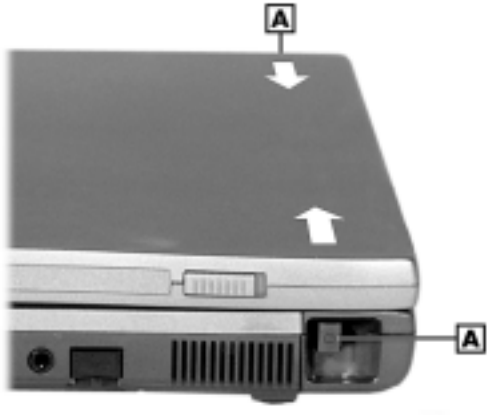
- Shorter work times.
- Discoloration, warping.
- Hot to the touch.
- Strange odor.

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

1. Save your files, exit Windows, and put your system into Standby mode (Windows 98/2000), Suspend mode (Windows NT) or turn off system power.

2. Locate and press the battery release latches.

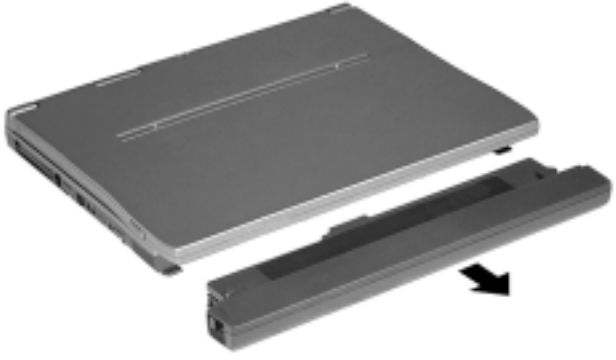
Pressing the battery release latches



A – Battery Release Latches

3. Slide the battery out of the system.

Removing the battery



4. Slide the battery into the bay until securely locked into place.

Inserting the battery pack

Battery Precautions

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

WARNING There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

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

- Keep the battery away from heat sources including direct sunlight, open fires, microwave ovens, and high-voltage containers. Temperatures over 140º F (60ºC) may cause damage.
- Do not drop or impact the battery.
- Do not disassemble the battery.
- Do not solder the battery.
- Do not puncture the battery.
- Do not use a battery that appears damaged or deformed, has any rust on its casing, is discolored, overheats, or emits a foul odor.
- Keep the battery dry and away from water.
- Keep metal objects away from battery connectors. Metal objects in contact with the connectors can cause a short circuit and damage.

If the battery leaks:

- If the battery leaks onto skin or clothing, wash the area immediately with clean water. Battery fluid can cause a skin rash and damage fabric.
- If battery fluid gets into eyes, DO NOT rub; rinse with clear water immediately and consult a doctor.
- Take extra precautions to keep a leaking battery away from fire. There is a danger of ignition or explosion.

Precautions for Recharging the Battery

Adhere to the following precautions when recharging the main 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.

System Batteries

Your NEC Versa is equipped with a main, Lithium-Ion battery and two backup batteries that help to prevent data loss.

Main Battery

The eight-cell or twelve-cell Lithium-Ion (Li-Ion) battery provides the main power source in your NEC Versa SXi computer. See Appendix B for a list of battery specifications. In addition to this battery, the CMOS battery and bridge battery also provide system power.

CMOS Battery

This lithium battery provides battery backup and prevents data loss in the system's complementary metal oxide semiconductor (CMOS) RAM. This memory area contains information on the system's configuration, for example, date, time, drives, and memory. The CMOS battery charges when your NEC Versa is connected to AC power. The CMOS battery may discharge completely if the NEC Versa notebook remains unused for an extended period of time.

Bridge Battery

The bridge battery saves your system status in Standby (Windows 98/2000) or Suspend (Windows NT) mode, giving you time to install a fully charged battery or plug in AC power when your battery charge becomes low.

The bridge battery should be replaced only by an authorized NECC technician.

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

System Care

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

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

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

Precautions for System Use

Follow these precautions when using your NEC Versa SXi computer, AC adapter, and VersaBay III.

- Avoid dropping or bumping the computer or the AC adapter.
- Do not stack heavy objects on the computer, the AC adapter, or the battery packs.
- Avoid moving the NEC Versa during system operation, especially while the hard disk or VersaBay III device is being accessed.
- When using the AC adapter, make sure the power source falls within the system's compatible range of 100-240 volts AC. Never use the AC adapter if the voltage falls outside of this range. (Watch for this when traveling to other countries.)
- Turn computer power off before attaching or removing non-plug and play devices.
- Do not push any foreign objects into the NEC Versa bays, connectors, and slots.
- Do not set the computer on top of a magnetized area. Doing so can destroy the data on your hard disk drive. (Some airline tray tables are magnetic.)
- Avoid using the computer or AC adapter for extended periods in direct sunlight.
- Do not use the system in humid or dusty environments.
- Turn computer power off before cleaning it.
- Avoid exposing the NEC Versa or AC adapter to extreme changes in temperature or humidity. If it is unavoidable, allow your NEC Versa to adjust to room temperature before use.
- When cleaning the system, use a soft, clean, dry cloth. Avoid wiping the display surface with abrasive material, including rough fabric. Do not use a cleaning solution; this may damage the notebook's plastic.
- If the AC adapter becomes extremely hot, unplug the adapter and let it cool.
- Keep the AC adapter away from the IR ports.

Storage Requirements

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

⚠ 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 SXi 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 BIOS 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.

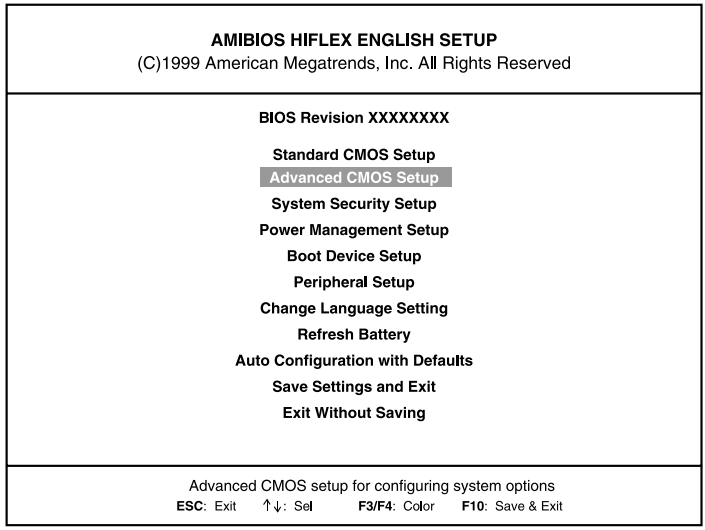
Pausing the Screen

To pause the screen during POST to view the BIOS revision number and other POST messages, press and hold the Insert key while using the Power button to power on the system. The message "<Ins> pressed, Press **F1** to run setup" appears. Press **F1** to enter BIOS Setup. To pause the screen without entering the BIOS setup, simply press the Pause key during POST. Once paused, press any key to continue.

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. Press **Enter** to activate a selection.

Looking at Screens

BIOS setup screens have three areas as described next.

- 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.
Enter	Activates a selection.
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
- Change Language Setting
- Refresh Battery
- Auto Configuration with Defaults
- Save Settings and Exit
- Exit Without Saving

Resetting System Parameters

To reset all parameters to the default settings, highlight and press **Enter** to select Auto Configuration with Defaults from the BIOS Setup Main Menu. Use 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
Internal	Auto	CD/DVD, SuperDsk, Not Installed, User Defined
VersaBay	Auto	CD/DVD, SuperDsk, Not Installed, User Defined
Boot Sector Virus Protection	Disabled	Enabled

- Date — Sets your NEC Versa's calendar month, day and year. 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 Devices — Assigns devices to the internal drive and VersaBay device 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)
LCD Panel View Expansion	On	Off
PS/2 Port Warm Swap	Enabled	Disabled
Internal Mouse	Enabled	Auto, Disabled
Graphics Aperture Size	256 MB	4, 8, 16, 32, 64, 128 MB

- 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 suspension.
- Internal Mouse — Specifies whether or not you can use both the internal and the external mouse.
- Graphics Aperture Size — Selects the graphics aperture size used by the AGP video device, a memory window that optimizes access to accelerated graphics memory.

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	Yes	No
Resume Password Required	Yes	No
Assign HDD Password	Press Enter	
Internal HDD Password	Disabled	Enabled
VersaBay HDD Password	Disabled	Enabled

- Assign Supervisor Password — Establishes password protection for entering the BIOS Setup utility, booting the system, and resuming from Standby. (Resume from Standby, not applicable in Windows 98/2000 with ACPI.)
- Assign User Password — Establishes a user password once a supervisor password is set.
- Boot Password Required — Indicates whether or not a password is required during system boot.
- Resume Password Required — Indicates whether or not a password is required during system resume. 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.
- VersaBay HDD password — Enables or disables the VersaBay III password.

Establishing System 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**. The Caps lock and Scroll lock LEDs alternately flash indicating that you must enter a password to resume operation.

In Windows 98, 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.

In Windows 2000, to establish password protection for resuming from Standby or Hibernation modes you must do the following:

- Press **Ctrl**, **Alt, Del** and select Change Password.
- Enable the option "Prompt for password when the computer goes off standby," in Control Panel, Power Options Properties, Advanced.

Hard Disk Drive Passwords

Your NEC Versa allows you to establish password protection for the internal hard disk drive and for an optional hard disk drive installed in the NEC VersaBay III. 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 required 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 and for an HDD installed in the NEC VersaBay III. 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. (Follow this step to enable password protection for the internal HDD.)

8. Highlight and select VersaBay HDD Password and use the **PgUp/PgDn** keys to enable the selection. (Follow this step to enable password protection for an HDD installed in the NEC VersaBay III.)

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. Save your changes and exit BIOS setup.

Using Hard Disk Drive Password Protection

To facilitate the transfer of one or more HDDs between systems, establish a single master password (and store the password in a secure place). Forgetting your master password results in the inability to access the data on your hard drive. Establish different user passwords to limit access to specific systems.

⚠ WARNING If you set the master and user password on a hard drive, the passwords can never be removed. They can be changed. If the master password is forgotten and the drive is installed in another system, you cannot access the data on the hard drive.

If the hard drive is installed in another NEC Versa system with hard disk drive security enabled, the password must be entered to allow access to the hard drive. **If this NEC Versa system does not support hard disk drive security, you cannot access the data on the hard drive.**

With hard disk drive security enabled on the original NEC Versa system, the system boots normally.

If the hard drive is installed in another NEC Versa system with security enabled, you must enter the master password to access the hard disk drive. If the hard drive is installed in another NEC Versa system with security disabled, you are prompted to enter the master password and then a new user password.

Moving the Hard Disk Drive

When a password protected HDD is moved from its original system and installed in another system and the system is powered on, 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. 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 steps 7 and 8, as desired, 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

If your Versa SXi system ships with the Windows 98/2000 operating system, the Advanced Configuration and Power Interface (ACPI) controls most power management functions through the Power Management Properties screen in Windows 98 (Power Options Properties screen in Windows 2000). For details about ACPI power management, see the section, "Managing System Power," later in this chapter. The BIOS Power Management Setup screen is described next. Use SystemSoft's PowerProfiler to manage power in the Windows NT environment. Access the PowerProfiler icon on the Windows NT taskbar.

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

Power Management Setup

Parameter	Default Setting	Alternate Setting(s)
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[1,2]	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
Suspend Option	Suspend	STF
Auto Save-to-File	Enabled	Disabled
Panel Brightness	Auto	User Defined
Suspend Warning Tone	Enabled	Disabled
Remote Power On	Enabled	Disabled
Wake Up Alarm	Disabled	Enabled
Resume Alarm Time[3]	8:00 AM	Set time in 5 min. increments when Wake Up Alarm is set.
Intel SpeedStep Technology	Automatic	Disabled, BatteryOpt

[1] Available when power savings is set to Custom.
[2] Also applies to the external diskette drive.
[3] 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 disabled (default setting). 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 the time delay before your video powers off.
Peripheral Timeout	Sets the time delay before your peripherals are controlled by power management.
Audio Device Timeout	Enables and disables audio timeout.
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/resume when the LCD panel is closed.
- Suspend Option — Specifies either Suspend or Save to File (STF) when the LCD Suspend parameter is enabled. For more 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.

  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.
- Remote Power On — Allows the modem or LAN to wake the system on a ring signal.
- Wake Up from Suspend Alarm/Resume Alarm Time — Allows the alarm to resume the system from suspend. Designates the time parameter in five minutes increments. (Not applicable in Windows 98/2000 with ACPI.)
- Intel SpeedStep™ Technology — Optimizes CPU performance when the system is powered under AC or by battery.

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]	SuperDsk	Disabled/1st Fnd IDE/Floppy CD/DVD/SCSI/Network
2nd Boot Device[1]	CD/DVD	Disabled/1st Fnd IDE/Floppy/SuperDsk
3rd Boot Device[1]	Floppy	Disabled/1st Fnd IDE/SuperDsk CD/DVD
4th Boot Device[1]	1st Fnd IDE	Disabled/Floppy/SuperDsk CD/DVD
Try Other Boot Devices	Yes	No
1st IDE Hard Drive	Internal	VersaBay
2nd IDE Hard Drive	VersaBay	Internal

[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	Enabled	Disabled
Internal Hard Drive	Both	Disabled, Primary, Secondary
Serial Port	Auto	Disabled COM1,IRQ4/COM2,IRQ3 COM3,IRQ4/COM4,IRQ3
Parallel Port	Auto	Disabled/LPT1/LPT2
Parallel Mode	Bi-Dir	Uni-Directional/ECP/EPP
IR Serial Port	Disabled	Auto COM2,IRQ3/COM3,IRQ4/ COM4,IRQ3

Note If you disable a device in Peripheral Setup, you cannot enable or assign it using the Windows device manager. The device will not be listed in the Windows device list. To control the device using the Windows device manager, select any setting other than Disabled in Peripheral Setup.

Peripheral Setup allows you to define the following functions.

- USB Controller — Enables or disables the USB controller.

- Internal Hard Drive — Enables or disables the IDE controller.
- Serial Port — Disables the port or changes its IRQ and COM port assignment.
- Parallel Port/Parallel Mode — Disables or reassigns the parallel port and selects 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 French 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 98/2000 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 DC (battery) 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 NT environment, your NEC Versa also uses SystemSoft's PowerProfiler to manage power resources and to balance performance with battery conservation. Access PowerProfiler via its taskbar icon or via the Programs menu.

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 or DC (battery) 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 when 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 — Defines a low battery alarm percentage, notification, and system action.
- Critical battery alarm — Defines 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 is 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 2000 Power Options Properties

In Windows 2000, most ACPI power management settings are controlled through Windows Power Options Properties, not through the BIOS Setup utility. To access Windows 2000 Power Options Properties, go to Start, Settings, Control Panel, and double click Power Options.

The Power Options Properties features are broken down as follows:

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

Windows 2000 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, Presentation, Always On, Minimal Power Management, Max Battery
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 5 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

Parameter	Default Setting	Alternate Setting(s)
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

- Power schemes — Defines the most appropriate power scheme for your computer.
- 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.
- System standby — Selects the system standby timeout period for your system when running under AC or DC power.

Windows 2000 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, Power Off
Critical battery alarm	3%	0-100%
Alarm Action Notification	Display message	Sound alarm
Alarm Action Power level	Standby	Power Off
Run a program	none	When the alarm occurs, run this program.

- 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.
- Run a program — Allows you to run a specific program when an alarm occurs.

Windows 2000 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 2000 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	unchecked	checked
Prompt for password when computer goes off standby	checked	unchecked
When I close the lid on my computer	None[1]	Standby, Power Off
When I press the Power button on my computer	Power Off	Standby

[1] When None is 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 2000 Hibernate

Use the Hibernate window to enable hibernate support, see the amount of free disk space, and the amount of disk space required to hibernate. 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 98/2000 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 98/2000 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 98/2000 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 98/2000 Power Management Behavior

	LCD Timeout	Standby (STR)	Hibernate (STF)
Default Setting	2 Minutes, DC power	5 Minutes, DC power	30 minutes after Standby.[1,2]
	15 Minutes, AC power	20 minutes, AC power	
Manually Invoke	Close LCD panel.	Go to Start, Shutdown, Standby.	Close LCD panel.[3]
			Press Power button.[3]
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 is 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 NT 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 NT 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 NT 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 NT 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**
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 is saved to memory.	Progress bar indicates that current working environment is 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. Automatic STF when there is only 3% power remaining in the system.

Updating the BIOS

The BIOS is code transmitted onto your system's Flash ROM. 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, 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 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. Unlock the write protect notch on the diskette, if necessary.
3. Insert the diskette into the file bay drive.

4. Type **a:install** (where a: is the floppy diskette drive) 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.

6. Follow the instructions later in this chapter, "Performing the BIOS Update."

Performing the BIOS Update

Follow these steps to perform the BIOS update. Before you begin, be sure to:

- Connect the computer to AC power and power off the computer.
- Configure the Boot Device Setup to boot from a diskette.
- Document all customized BIOS settings.

1. 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 SXi computer BIOS revision level.

8. Power on your computer. A CMOS Checksum error message appears and prompts you to press **F1** to enter Setup.

9. Press **F1** to enter Setup and restore the default parameter settings.

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

Identifying the Switch Settings

A four-position dip switch is located on the main board inside the system. The following list identifies each switch setting and its function.

- Switch 1 — Keyboard select; Default is “ON” for U.S. 85 key keyboard
- Switch 2 — Keyboard select; Default is “OFF” for U.S. 85 key keyboard
- Switch 3 — Logo select; Default is “OFF” for U.S.
- Switch 4, Password Override Switch — 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.

4

Using the Operating System and Utilities

- Windows Introduction
- NEC Utilities
- SpeedStep Applet
- Application and Driver CD
- NEC Info Center
- Partition Magic
- Product Recovery CD

Windows Introduction

Your NEC Versa comes pre-installed with either the Windows 2000, Windows 98 Second Edition (SE), or Windows NT 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 2000

Windows 2000 gives you the newest features offered by Microsoft, including a Desktop with room to maneuver, taskbar icons for quick access to installed applications, a system performance and monitoring manager, enhanced entertainment features, and a fully integrated Internet experience.

Desktop Icons

With Windows 2000, 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.
- My Network Places — When on a network, provides access to network printers and other computers on your network. Use My Network Places to browse through the computers in your workgroup and the computers in the entire network.
- 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.

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.
- Internet Explorer — Provides your default internet program. Also access Internet Explorer under Start, Programs, Internet Explorer.

Taskbar Icons

With Windows 2000, three 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 2000 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.

See the Windows 2000 online help for detailed instructions on using Windows 2000.

Windows 98 Second Edition

Windows 98 gives you the 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.

- Internet Explorer — Allows you to browse the Internet or view local HTML files. Also access Internet Explorer under Start, Programs, Internet Explorer.
- Set Up the Microsoft Network — Provides a setup program that allows you to sign-up for the Microsoft Network. If you already have an account, use this interface to sign-on to the Microsoft Network.
- Network Neighborhood — 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, some online services may require a long-distance or international call.

- NEC Customize — Gives you the option to launch the Application and Driver CD or install the NEC VersaBay III Swap utility.
- Outlook Express — Provides your default email program with secure and personalized features for email and newsgroup communication. Also access Outlook Express 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, Internet Explorer.
- 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.
- SpeedStep Applet — Allows you to customize high-performance computing on your notebook computer. Only appears on systems with a SpeedStep equipped processor.
- 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 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 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, or install the NEC-supplied mouse driver.
- My Briefcase — Provides a mechanism for file synchronization between the NEC Versa and another system.
- 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.

NEC Utilities

NECC provides several programs and routines designed to make your NEC Versa run more efficiently.

The NEC utilities include:

- NEC Customize utility
- HDPREPEZ utility

NEC Customize Utility

In Windows 2000 systems, Windows 98 systems, and Windows NT systems, the NEC Customize utility gives you the option to install or launch:

- Application and Driver CD — You must use this option to install software applications, drivers, etc.
- NEC VersaBay III Swap utility (Windows 98 only) — You must use this option to take advantage of hot swapping your VersaBay III devices.

- NEC-supplied mouse driver (Windows NT only) — Use this option to take advantage of the VersaGlide features described in Chapter 4, "Using the System Drives and Bays."

NEC Customize Utility Screen

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

The power management state referred to as Save-To-File (STF) saves the system's current working environment to the system's hard drive, then powers down the system to conserve battery power. The HDPREPEZ function creates a file large enough (512 MB) to accommodate the entire memory contents of your system. The STF file is created the first time that you run your system's setup program.

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

Using HDPREPEZ with Windows 98

In Windows 98, run the HDPREPEZ utility if you increase the memory capacity in your NEC Versa beyond the factory installed base memory or if you install a generic Windows 98 operating system.

Follow these steps to run the HDPREPEZ utility.

1. Power off and restart your NEC Versa.
2. At the statement "Starting Windows 98," 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.

Using HDPREPEZ with Windows NT

If you install a generic Windows NT operating system on your NEC Versa SXi, use the Application and Driver (A&D) CD to load the HDPREPEZ utility to increase the size of or to create the STF file. Follow the instructions on the A&D CD to run the HDPREPEZ utility.

SpeedStep Applet

Some processors that ship with the NEC Versa SXi notebook computer include Intel's SpeedStep technology that allows you to customize high-performance computing on your NEC Versa to optimize processing speed and to conserve battery life.

If your processor is equipped with SpeedStep technology, an icon appears on your taskbar allowing you to adjust processing properties. However, the default settings are recommended for optimal performance and battery conservation.

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 SXi 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 CD with Windows 98

Follow these procedures to launch the Application and Driver CD using NEC Customize with Windows 98.

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

   The Application and Driver CD dialog box appears.

Launching the CD with Windows NT/2000

Follow these procedures to launch the Application and Driver CD using NEC Customize with Windows NT.

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

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 the features and specifications of your NEC Versa system.

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 SXi User's Guide*, 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.

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

2. Use this method to uninstall the NEC Info Center using the Wise uninstall feature.
   - Access the C:\NEC INFO directory on your hard disk drive.
   - 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 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.

For systems running the Windows NT operating system, use the Disk Administrator in the Administrative Tools menu to repartition your hard drive.

⚠ 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 contains the NEC Product Recovery utility that allows you to restore your system to its initial installations state.

If you determine that you need to restore your system to its initial installation state follow the instructions provided 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 and 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 at 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).

- 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 proceed 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: of 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.

5

Using the System Drives and Bays

- SuperDisk Drive
- NEC VersaBay III
- NEC VersaBay III Swap Utility
- 24X CD-ROM Drive
- CD Read/Write Drive
- 8X DVD-ROM Drive
- Hard Disk Drive
- Memory Modules

SuperDisk Drive

The SuperDisk drive offers many improvements on the standard diskette drive technology, including faster data access, greater reliability, and higher recording capacities. The drive uses the latest laser-servo (LS) technology, which writes to and reads from specially designed 120-MB diskettes as well as standard 720-KB and 1.44-MB diskettes.

The SuperDisk drive offers the following features which are described after the figure.

- Emergency Eject Hole — allows you to manually remove a disk from the SuperDisk drive if the eject function is disabled by software or a power failure.

  To remove a disk, insert the end of a paper clip into the eject hole and push in. The SuperDisk ejects.

- Release Button — ejects the SuperDisk. Press this button when power is on to insert a SuperDisk into or remove a SuperDisk from the drive.

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

Formatting Diskettes in the SuperDisk Drive

When formatting a diskette in the SuperDisk drive while in DOS mode, you may encounter the following error messages:

- For 720-KB and 1.44-MB diskettes the error message states
  "Invalid media or Track 0 bad – disk unusable,"
  "Extended Error 1g - format terminated."

- For a 120-MB SuperDisk the error message states
  "Parameters not supported by drive."

When in DOS mode, the message text may vary. These error messages indicate that the diskette you are attempting to format is write-protected. Simply write-enable the diskette before formatting.

NEC VersaBay III

The NEC VersaBay III is the drive bay located on the right side of the system. Your NEC Versa ships with a 24X CD-ROM drive, CD read/write drive, SuperDisk drive, or 8X DVD-ROM drive installed in the bay. In Windows 2000, you can swap devices out of the NEC VersaBay III with system power on. In Windows 98, the NEC VersaBay III supports warm swapping which allows you to remove and replace a device while your NEC Versa is in a sleep state. For details about using the warm swap utility, refer to the section, "NEC VersaBay III Swap Utility," later in this chapter.

In addition to the CD-ROM drive, CD read/write drive, SuperDisk drive, or DVD-ROM drive, the NEC VersaBay III accepts a second hard disk drive.

Contact your NECC dealer to purchase options and accessories for your NEC Versa notebook computer.

NEC VersaBay III Swap Utility

The NEC VersaBay III supports hot swapping of some bay devices. Hot swapping extends the power of Plug-and-Play technology to your NEC VersaBay III devices by allowing you to swap a CD-ROM drive, CD read/write drive, SuperDisk drive, or DVD-ROM drive in the NEC VersaBay III while your system is on. This dynamic solution further increases the flexibility of your already versatile notebook computer.

Installing the NEC VersaBay III Swap Utility

Use the NEC Customize utility to install the NEC VersaBay III Swap utility. For details about using the NEC Customize utility, see Chapter 4 "Using the Operating System and Utilities."

Once the swap utility is installed on your system, a small icon appears in the lower right hand corner of the Windows taskbar. Moving your cursor over the icon displays information about the NEC VersaBay III. The balloon message that appears indicates if the bay is empty or if a device is installed. Because hot swapping is only supported for the CD-ROM drive, CD read/write drive, SuperDisk drive, and DVD-ROM drive, the balloon message may not be accurate if you install a hard disk drive. Your system must be powered off before installing a hard disk drive in the NEC VersaBay III.

Using the NEC VersaBay III Swap Utility

With the NEC VersaBay III Swap utility running on your notebook computer, you can hot swap a CD-ROM drive, CD read/write drive, SuperDisk drive, or DVD-ROM drive in the NEC VersaBay III. Please note the following when using the swap utility:

- Windows 98 Power Management *must be enabled* to use the swap utility.
- Windows 2000 supports hot swapping.
- Hot swapping is not supported under Windows NT.
- The swap utility *only* supports the hot swapping of a CD-ROM drive, CD read/write drive, SuperDisk drive, or DVD-ROM drive. Other devices installed in the VersaBay will work properly. However, hot swapping other devices is not supported.

⚠ WARNING Hot swapping other devices can damage the device, the system, or both.

Swap devices in the NEC VersaBay III as follows:

1. If you have files open on the device you are planning to remove, close them.
2. Double click on the swap utility taskbar icon to display the menu.
3. A dialog box appears identifying the device in the NEC VersaBay III along with a Swap Device button.
4. Click the Swap Device button.
5. Click Yes to continue.
6. Remove the current device from the NEC VersaBay III and install the new device.

References to the drive letter listed under My Computer and the Windows Explorer change automatically when the device is swapped or removed. The balloon message that appears when you move your cursor over the taskbar icon also changes to reflect the new VersaBay status.

Removing a Device from the NEC VersaBay III

Use the following steps to remove a device from the NEC VersaBay III.

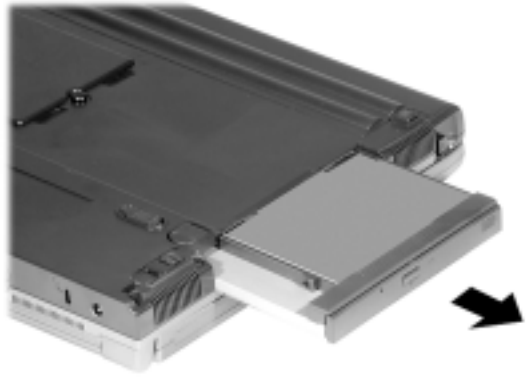
Your system *must* be powered on but not in a sleep state or powered off before removing or inserting devices in the NEC VersaBay III.

1. Use the NEC VersaBay III Swap utility or power off the system.
2. Close the LCD panel and turn the system upside down.
3. Locate the NEC VersaBay III release lock and release latch on the bottom of the unit.
4. Slide the lock to the unlocked position before releasing the latch.
5. Slide the latch toward the rear of the system and hold it.

6. Pull the device out of the system.

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

Removing the device



Installing a Device in the NEC VersaBay III

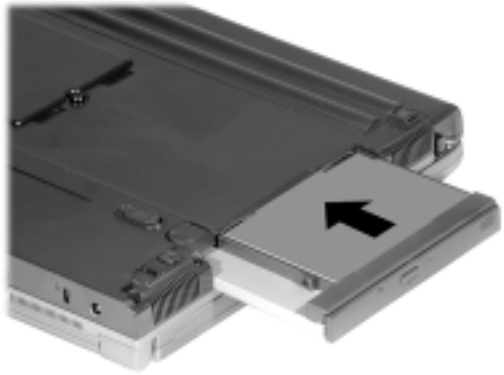
Use the following steps to install a device in the NEC VersaBay III.

Your system *must* be powered on but not in a sleep state or powered off before removing or inserting devices in the NEC VersaBay III.

1. Use the NEC VersaBay III Swap utility or power off the system.
2. Close the LCD panel and turn the system upside down.
3. Locate the NEC VersaBay III release lock and release latch on the bottom of the unit.
4. Slide the lock to the unlocked position, if necessary.
5. Slide the latch toward the rear of the system and hold it.
6. Align the device in the NEC VersaBay III and push it in until it locks into place.

7. Slide the lock back to the locked position.

Inserting the CD-ROM drive



8. Turn the system over and open the LCD panel.
9. Press the Power button to power on or resume operation.

Other NEC VersaBay III Devices

Customizing your NEC Versa is easy using the NEC VersaBay III. If you find you require additional hard disk space simply remove the standard device and install an optional hard disk drive.

Your system *must* be powered off before removing or inserting a hard disk drive in the NEC VersaBay III.

Add another hard disk drive as follows.

1. Power off your system.
2. Remove the installed device from the NEC VersaBay III as described in steps 2-6 in “Removing a Device from the NEC VersaBay III.”
3. Install the new hard drive in the NEC VersaBay III as described in steps 2-9 in “Installing a Device in the NEC VersaBay III.”
4. Once you power on, the system automatically recognizes the newly installed drive.

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) or 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.

The CD-ROM drive offers the following features.

- 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.

  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.

- 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.

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

CD Loading

To insert a CD into the CD-ROM 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's shipping configuration may not 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 Start menu, select Settings and Control Panel.
2. In the Control Panel, highlight and double-click 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.

CD Read/Write Drive

Your NEC Versa may ship with a CD read/write drive with Easy CD Creator that features the latest in CD-ROM technology. Use the CD read/write drive to load and start programs from a compact disc (CD) or to play your audio CDs. The CD read/write drive is fully compatible with Kodak Multisession Photo CDs™ and standard audio CDs.

In addition, the Easy CD Creator application allows you to write information to a CD and backup information from your hard disk drive to a CD. For detailed information about using the CD read/write drive and installing the Easy CD Creator, refer to the accessory sheet that ships with your system.

8X DVD-ROM Drive

The 8X 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.

In addition, some DVD-ROM drives ship with the NEC SoftDVD Player that allows you to play movies in DVD format. For detailed information about using the 8X DVD-ROM drive and installing the NEC SoftDVD Player, refer to the accessory sheet that ships with your system.

The DVD-ROM drive offers the following features.

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

  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.

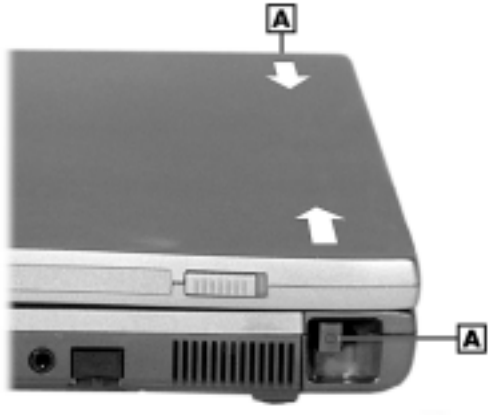
Hard Disk Drive

You can increase the system's storage capacity by replacing the standard hard disk drive or adding a second hard disk drive in the NEC VersaBay III. Adding a second hard disk drive is described in the section, “Other NEC VersaBay III Devices.”

The hard disk drive is located under the battery bay in your NEC Versa notebook computer. You must remove the system’s main battery before replacing the hard disk drive. Replace the hard disk drive as follows.

1. Save your files, exit Windows, and turn off system power.
2. Close the LCD and turn over the system.
3. Press the battery release latches.

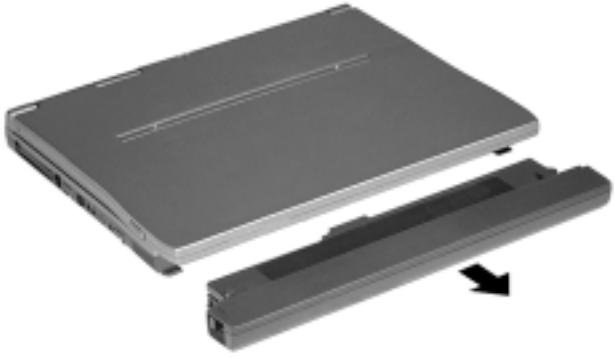
Pressing the battery release latches



A – Battery Release Latches

4. Slide the battery out of the system.

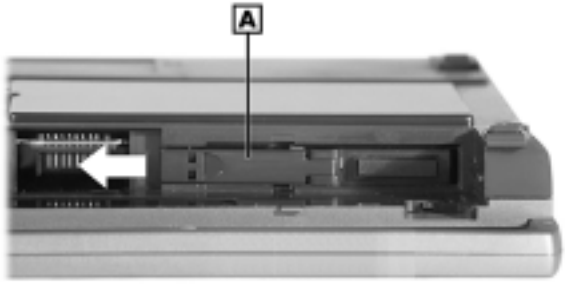
Removing the battery



5. Remove the disk drive as follows:

   - Locate the disk drive lock lever. Push the lock lever to the left.

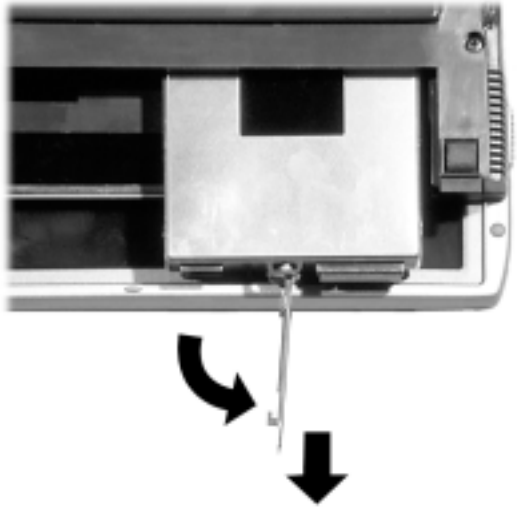
Locating the lock lever



A – Lock Lever

- Pull the lever toward the front of the system and pull the drive out of the bay.

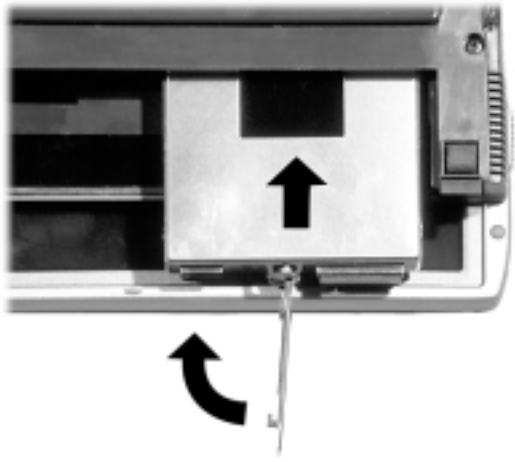
Removing the drive



6. Replace the new drive as follows:

   - Slide the drive into the drive bay.
   - Push the lock lever toward the rear of the system. Slide it to the right to secure the drive.

Replacing the drive



7. Slide the battery into the battery bay until securely locked into place.

Inserting the battery

Memory Modules

Your NEC Versa computer comes standard with 64 or 128 megabytes (MB) of random access memory (RAM). You can increase system memory to a maximum of 512 MB, depending on your model. The RAM combinations vary depending on which two of the listed single bank SO-DIMMs are used.

- 64-MB memory module
- 128-MB memory module
- 256-MB memory module

⚠ CAUTION Only install NECC supplied/approved memory module options to ensure proper functionality of your NEC Versa notebook computer.

Contact your NECC dealer for information about available NECC-supplied/approved memory modules.

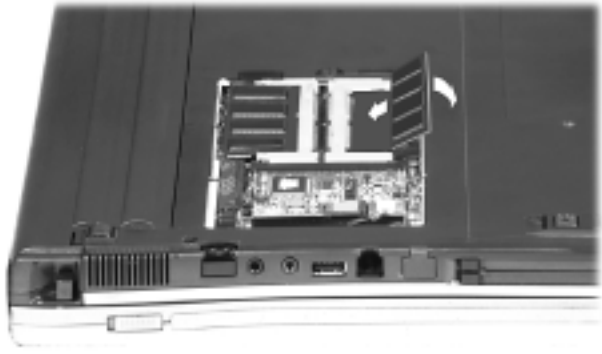
⚠ CAUTION Before handling any internal components, discharge static electricity from yourself and your clothing by touching a nearby metal surface.

Follow these steps to install a memory module.

1. Power off the NEC Versa and disconnect any peripheral devices.
2. Turn over the system and locate the memory module bay.
3. Remove the screw and bay cover.
4. Locate the connectors and alignment key on the SO-DIMM.
5. Locate the SO-DIMM expansion port and proceed as follows:

- Hold the SO-DIMM at a 45 degree angle and align the SO-DIMM contacts with the socket in the system. Push the connector into the socket.
- Press down on the edge of the SO-DIMM opposite the contacts until the lock tabs on the sides snap into place, securing the module.

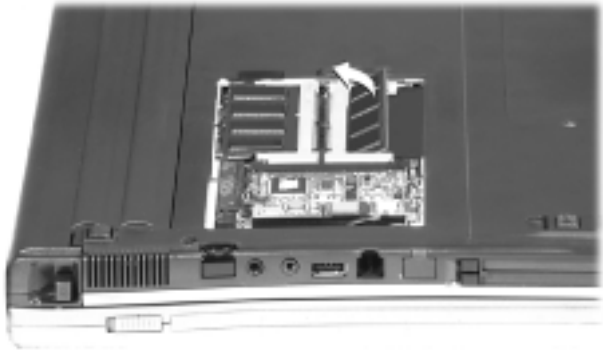
Installing the SO-DIMM



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

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

Removing an installed SO-DIMM



6. Replace the memory module bay cover and screw.
7. Turn over the system and power on.

6

Communicating with Your NEC Versa

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

PC Cards

Your NEC Versa SXi system is equipped with two PC card slots. Type II cards are supported in both slots, while Type III cards only are supported in the bottom slot.

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 communication devices such as Static Random Access Memory (SRAM), Read Only Memory (ROM), Flash Memory, LAN, and Small Computer System Interface (SCSI). Typically Type II cards include input/output (I/O) features such as modems.

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. 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.

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

PC Card Slots

Your NEC Versa SXi notebook integrates two CardBus slots for inserting two Type II PC cards or one Type III PC card. The 32-bit CardBus also has zoomed video support in the bottom slot (slot 1).

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

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

Using the PC Card Slots

When using PC cards in your NEC Versa system, please note the following:

- To ensure optimal functionality when using SRAM cards in your NEC Versa, insert the SRAM card in the top PC card slot.
- Before using two PC cards at the same time in your NEC Versa system, you may have to disable another system device to release an IRQ (system interrupt) for PC card use.

  To disable a device (such as the serial port) in Windows 98/2000, go to Start, Settings, Control Panel, System, and access the Device Manager. To disable a device in Windows NT, reboot your system, enter the BIOS setup and access the Peripheral Setup menu.

Inserting a PC Card

To insert a PC card, follow these steps.

1. Align the card so that the 68-pin connector points towards the slot and the arrow shows on the top face of the card.
2. Slide the card into either slot. (Install Type III cards in the bottom slot, only.) A low tone followed by a high tone lets you know that the card is fully inserted and recognized. If you turn off the sound through the function keys or volume control, no sound is emitted. If you insert the card before powering on the system, the tones are emitted during bootup.

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

3. Use the software preinstalled on your system to check PC card slot availability.

   In Windows 98, look for the PC Card icon in the Control Panel or on the right side of the taskbar. It shows which slot contains a PC card and which is empty.

   In Windows NT, use SystemSoft's CardWizard to monitor the status of your system's PC card activity. Access CardWizard via the taskbar icon or via the Programs menu.

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 on 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.

In Windows NT, use SystemSoft's CardWizard to monitor the status of your system's PC card activity. Access CardWizard via the taskbar icon or via the Programs menu.

PC Card Modems

You can use a PC card modem with your NEC Versa to communicate with others via fax, email, or connect to an online service or bulletin board. Depending on the PC card modem that you purchase, you may have to install PC card drivers, prior to using the card.

Follow these steps to use your PC card modem.

1. Connect an RJ-11 cable to the modem port on the card.
2. Connect the other end of the RJ-11 cable to an analog phone line.
3. Slide the PC card modem into one of the PC card slots.
4. Refer to the user guide that ships with your PC card modem for detailed instructions about how to use the PC card modem.

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

Mini-PCI Modem

Your NEC Versa SXi may ship with a mini-PCI modem. The mini-PCI modem is an internal modem that allows you to connect to the Internet, send a fax, or access your email.

To take advantage of the mini-PCI modem, simply connect an RJ-11 cable to the modem port on the left side of your system. The LAN and modem ports are only available if your system is equipped with these optional components.

Mini-PCI LAN/Modem

Your NEC Versa SXi may ship with an internal mini-PCI Modem/LAN that combines the functionality of a LAN and modem to allow you to connect to a local area network, connect to the Internet, send a fax, or access your email.

To take advantage of the internal LAN/Modem, simply connect an RJ-45 cable to the LAN port on the left side of the system or an RJ-11 cable to the modem port on the left side of your system. The LAN and modem ports are only available if your system is equipped with these optional components.

Installing the Online LAN/Modem Guides

For additional information about LAN features or your modem's AT commands and s-registers, use the A&D 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 LAN/modem) to identify the name of your system's modem. Double click Network adapters (if your system is equipped with an optional combination LAN/modem) to identify the name of your system's LAN. Use the A&D CD to install the online guide of the same name to your NEC Versa hard drive.

Internet Connections

Your NEC Versa SXi system is equipped with the Windows operating system to provide a fully-integrated internet experience. Use the Internet Connection Wizard 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 98/2000

Access the Internet Connection Wizard in Windows 98/2000 through its desktop icon. The Windows 98/2000 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.

The Windows 98/2000 Internet Connection Wizard automatically configures your dial-up connection. Next, enter your logon and password to establish a live connection. Once the live connection is established, launch your internet browser to access the Internet or launch your email application to send and receive email.

If you are connected to a LAN, your live connection is already established. Simply launch your internet browser or email application.

Connecting to the Internet in Windows NT

In Windows NT, use the operating system's network configuration options to establish your internet connection. For details about using the network configuration options, refer to the Windows NT online help.

IR Port

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

IR transfer speed ranges from 2.4 Kbit/sec to 4.0 Mbit/sec. You can choose 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 detailed instructions in the sections that follow.

Infrared Communications

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

- Position the NEC Versa SXi 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.

Using the IR Port

For optimal performance when using the IR (infrared) port for file transfer, printing, and other infrared communication, the Windows 98/2000 operating system is equipped with infrared drivers for infrared communication on your NEC Versa.

Enabling the IR Port in Windows 98

Follow these steps to enable the IR port in Windows 98.

1. Right click the infrared icon and choose Enable Infrared Communication, highlight Open to open the Infrared Monitor window, or go to Start, Settings, Control Panel, and double click the infrared icon.
2. Select the Options tab and place a check in the box labeled “Enable infrared communication.”

3. Click Apply, then click OK to close the Infrared Monitor window.

Enabling the IR Port in Windows 2000

Follow these steps to enable the IR port in Windows 2000.

1. From the Windows taskbar, select Start, Settings, Control Panel, and double click the Wireless Link icon.
2. Select the Hardware tab and click the Properties button.
3. Under Device usage:, select Use the device (enable). Click OK, then click OK again to close the Wireless Link window.

7

Traveling Tips

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

Preparing for Travel

The NEC Versa SXi 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.
- Carry the 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 (domestic and international)
- *NEC Versa Quick Reference* card
- AC extension cord.

Using Power Sources

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 notebook computer 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 notebook computer 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. Be sure to modify your dial-up connection, as required.
   - To circumvent unusual dial tone sounds sometimes encountered in hotels, you may have to modify a modem configuration setting to ignore the dial tone. For details specific to your modem, refer to the AT command section of your modem user's guide.

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/.

8

Using Peripheral Devices

- External Monitor
- Printer
- External Keyboard/Mouse
- External Audio Options
- USB Devices
- Port Replicator

External Monitor

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

Note For optimal performance when connecting an external monitor, use only a DDC-compliant monitor. Refer to the user's guide that ships with the monitor or check with your supplier, to determine if your external monitor is DDC-compliant.

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

1. Check that the NEC Versa is powered off and the monitor power switch is turned off.
2. Open the port cover on the back of the system and locate the monitor port.
3. Attach the 15-pin cable connector to the monitor port on the system. Secure the cable connection with the screws provided.
4. Connect the monitor power cable and plug it into a properly grounded wall outlet.
5. Follow any setup instructions in the monitor's user's guide.
6. Turn on power to the system and device.
7. Press **Fn-F3** to toggle through the video modes.

Printer

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

Parallel Devices

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

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

Connect a parallel device to your NEC Versa as follows.

1. Check that power to both the NEC Versa and the device is off.
2. Open the port cover on the back of the system and locate the parallel port.
3. Align and connect the 25-pin parallel cable connector to the parallel port on the system. Secure the cable with the screws provided.
4. Align and connect the other end of the cable to the parallel port on the device. Lock the connector clips.
5. Connect the power cable to the device and a properly grounded wall outlet.
6. 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. Open the port cover on the back of the system and locate the serial port.
3. Align and connect the 9-pin connector with the serial port on the system. Secure the connection with the screws provided.
4. Align and connect the other end of the cable to the appropriate port on the device. Secure the connections with the screws provided.
5. Connect the power cable to the device and a properly grounded wall outlet.
6. Turn on power to the system and the device.

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

External Keyboard/Mouse

You can add a full-size PS/2-style keyboard or PS/2-style mouse to your NEC Versa using the Plug and Play feature. The PS/2 style keyboard and the PS/2 style mouse are 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, see Chapter 3, "Using the BIOS Setup Utility." The Internal 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 a 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.

To connect an external keyboard or mouse simply put the system into a sleep 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.

External Audio Options

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

Connect audio jacks, like a microphone, headphones, or external speakers to the audio ports as follows. The headphone/external speaker port supports SP/DIF.

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

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.

USB Devices

Your NEC Versa SXi is equipped with one USB port that increases your connectivity choices. The USB port on the left side of your system allow you to connect up to 127 USB-equipped peripheral devices to your NEC Versa notebook computer for Windows 98 systems, only. These peripherals may include digital cameras, scanners, printers, CD-ROM drives, modems, keyboards, telephones, and game devices.

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

Some external devices require additional power and may require an externally powered USB hub.

⚠ CAUTION Connecting USB devices to your system may reduce battery life. Always connect your system to an AC power source before connecting USB devices.

Connect an external USB device to your system as follows.

1. Locate the USB port.
2. Plug in the USB device to optimize your notebook possibilities.

Port Replicator

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

1. Remove any devices connected to the back of the NEC Versa.
2. Push the docking lever on the right side of the NEC Port Replicator towards the rear of the replicator.
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.
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.

9

Using Multimedia

- Audio
- Video
- Multimedia Applications

Audio

The NEC Versa provides entertainment-level sound quality through internal stereo speakers or external headphones. It handles MIDI files, digital audio files, and analog audio sources. This means the NEC Versa recognizes .WAV, .MID, and .AVI files. The system is 3D-stereo, Sound Blaster PRO™ compatible.

Recording

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

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

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

The following procedure describes how to use the Microsoft® Sound Recorder to record sound into a file on the NEC Versa.

1. To record from an external device such as a portable CD or tape player, you need a cable with audio jacks on both ends. Set up your hardware as follows:
   - Connect one end of the audio cable to the Line-Out jack on the external device. (On some devices, you can record from the headphones port.)
   - Connect the other end of the cable to the Microphone port on the NEC Versa (to record monaural sound).
2. Go to Start, Programs, Accessories, Entertainment (Windows 98/2000) or Multimedia (Windows NT), and select Sound Recorder.
3. Specify the default sound quality before you record.
   - Select Audio Properties from the Sound recorder edit menu.
   - Use the Effects menu to adjust recording volume, device and quality settings.
4. Select File, New from the Sound Recorder menu bar.
5. Click the Record button (solid round dot) to begin recording.

6. Click the Stop button (solid rectangle) to stop recording.
7. Select File, Save As from the Sound Recorder menu bar.
8. Name and save your file.

You can play your recording in Sound Recorder or in Media Player. See the section, "Playing Back," later in this chapter.

Playing Back

You can play back your recorded soundtrack through stereo headphones, the internal NEC Versa stereo speakers, or external stereo speakers. You can play .wav and .mid files as well as CD audio. Adjust the volume with the volume control knob on the left side of the system or through the software using the sound horn on the taskbar.

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

1. Go to Start, Program, Accessories, Entertainment (Windows 98/2000) or Multimedia (Windows NT) and select the Windows Media Player option.
2. Click File and specify the file name of your audio source.
3. Once your file is open or your source specified, press the Play button.
4. Press the square Stop button to stop playing the audio.

Optimizing the Sound Quality

To ensure optimal sound quality when using the record and playback features on your NEC Versa be sure to configure the microphone volume control as follows.

1. Right click the sound horn on the right side of the taskbar.
2. Click Open Volume Controls, select the Options menu, and select Properties.
3. Scroll down in the Show the following controls window, place a check in the Microphone box and click OK.
4. Click Open Volume Controls, select the Options menu, and select Advanced Controls.
5. Remove the check from the Mute box on the Microphone panel.
6. From Advanced Controls, click the Advanced button on the microphone panel, check the box labeled 1 20dB Setting, then click Close.

WARNING Adjust the microphone volume to remove feedback.

You are now ready to record and playback on your NEC Versa notebook computer!

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. Simply follow the instructions in the section earlier in this chapter, "Recording," to record sound from your CD player.

Microphone

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

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

Mixing

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

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

Using Headphones

The NEC Versa headphone port delivers sound at half a watt. Stereo headphones (not shipped with your system) plug in through the headphone jack located on the left side of the NEC Versa. Adjust the volume with the volume control knob on the left side of the system or through the software using the sound horn on the taskbar.

Using External Stereo Speakers

For full stereo sound impact, you can plug a pair of stereo speakers into the headphone jack located on the right side of the system. Adjust the volume with the volume control knob on the left side of the system, through the software using the sound horn on the taskbar, or through the controls on the speakers.

Using the Built-In Speakers

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

Digital Audio Output

Your NEC Versa headphone/external speaker port supports SP/DIF, allowing you to create digital audio output. With the use of a commercially available optical output cable and optical disk device, you can create .wav and .mid files.

MIDI Files

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

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

Video

The NEC Versa SXi computer features a dazzling TFT 16 million color high-resolution display for sharp, effective visuals on the NEC Versa or on an external CRT monitor. The NEC Versa XGA TFT display has high resolution of 1024 x 768 pixels.

Use the Windows Media Player to run full motion, full-screen MPEG video. For details about using the Windows Media Player, refer to the section earlier in this chapter, “Playing Back.”

Using Digital Video Files

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

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

Using Animation Files

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

Multimedia Applications

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

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

10

Solving System Problems

- Problem Checklist
- Start-Up Problems
- If You Need Assistance

Problem Checklist

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

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

Troubleshooting

Problem	Resolution
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 you are using a working electrical outlet.
LCD screen is dark and blank.	Power-saving mode has shut off the backlight. Press a keyboard key or move the mouse.
	The built-in LCD may not be selected. Press **Fn-F3** once or twice to select the LCD video mode.
	Screen brightness needs adjustment. Use the **Fn-F8** and **Fn-F9** functions keys.
	The system entered Suspend (Windows NT) mode or Standby (Windows 98/2000) mode due to low battery power. Plug in the AC adapter or replace the battery pack, and then press the Power button to resume operation.
Battery power does not last long.	Use power-saving modes.
	Fully charge and discharge the battery several times to recondition it.
	Replace the battery.
Information on the LCD is difficult to see.	Use the **Fn-F8** and **Fn-F9** functions keys to adjust the brightness control.

Problem	Resolution
An optional component does not work.	Make sure the component is securely installed or connected. Verify that the system parameter for the I/O port configuration is set correctly in Setup.
The Power button does not resume the system from: Suspend (Windows NT) or Standby (Windows 98/2000) mode.	If system does not resume, it may have automatically entered Suspend (Windows NT) or Standby (Windows 98/2000) on a low battery. Attach the AC adapter and try again.
The system does not automatically enter Suspend (Windows NT) or Standby (Windows 98/2000).	A disk drive might be busy. Wait until the disk drive stops and try again. Check that Auto Play is disabled. See "Changing the Auto Play Setting" in Chapter 5 for details.
Upon resuming from a manual STF the system displays the message, ”Following system component(s) changed since last Suspend (Windows NT) or Standby (Windows 98/2000) – System Memory. Do you want to (B)oot or (P)ower down?”	Power down the system and reseat the memory. If new memory was installed prior to manual STF, remove new memory before resuming from Suspend (Windows NT) or Standby (Windows 98/2000) mode.

Start-Up Problems

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

- the current configuration information does not match configuration information stored in Auto Setup, such as when an internal option is added.
- the system loses configuration information.

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

To continue start-up procedures, press **F2** (or **F1** when prompted) and run the Setup utility to set current system parameters.

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

Post Error Messages

The NEC Versa SXi computer has a built-in checking program that automatically tests its components when you turn the system power on. This diagnostic test is called the Power-On Self-Test (POST). If the system finds a problem during the POST, the system displays an error message or emits a series of beep signals. If this happens, follow the instructions in the POST Error Messages table or the Beep Code table, as appropriate.

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.

Post Error Messages

Message	Resolution
Address line is short	Error in the address decoding circuitry on the system board. Contact your service representative for service.
C: Drive Error	Hard disk drive C: does not respond. Confirm that C: hard disk type in Setup is correct.
C:Drive Failure	Hard disk drive C: does not respond. You may need to replace the hard disk drive. Contact your service representative for service.
Cache Memory Bad, Do Not Enable Cache	Cache memory is defective. It must be replaced. Contact your service representative for service.
CH-2 Timer Error	Most ISA computers include two timers. There is an error in timer 2. Contact your service representative for service.
CMOS Battery State Low	CMOS RAM is powered by a battery. The battery power is low. Connect the system to AC power to charge the CMOS battery. If the battery does not charge, contact your service representative to replace the CMOS battery.
CMOS Checksum Failure	After CMOS RAM values are saved, a checksum value is generated for error checking. The previous value is different from the current value. Run Setup to reset the value.

Post Error Messages

Message	Resolution
CMOS System Options Not Set	The values stored in CMOS RAM are either corrupt or nonexistent. Run Setup to reset the value.
CMOS Display Type Mismatch	The amount of memory on the system board is different than the amount in CMOS RAM. Run Setup to reset the value.
CMOS Time and Date Not Set	Run Setup to set the time and date.
Diskette Boot Failure	The boot diskette is corrupt. It cannot be used to boot the computer. Use another boot disk and follow the on-screen instructions.
DMA Error	Error in the DMA controller. Contact your service representative to replace the CMOS battery.
DMA#1 Error	Error in the first DMA channel. Contact your service representative for service.
DMA#2 Error	Error in the second DMA channel. Contact your service representative for service.
FDD Controller Failure	The BIOS cannot communicate with the floppy disk controller. Contact your service representative to check all appropriate connections.
HDD Controller Failure	The BIOS cannot communicate with the hard disk drive controller. Contact your service representative to check all appropriate connections.
INTR #1 Error	Interrupt channel 1 failed POST. Contact your service representative for service.
INTR #2 Error	Interrupt channel 2 failed POST. Contact your service representative for service.
Invalid Boot Diskette	The BIOS can read the diskette in the disk drive, but cannot boot the computer. Use another boot diskette.
Keyboard is Locked Unlock It	The keyboard lock on the computer is engaged. The computer must be unlocked to continue.
Keyboard Error	There is a timing problem with the keyboard. Set the Keyboard option in Setup to Not Installed to skip the keyboard POST routines.
KB/interface Error	There is an error in the keyboard connector. Contact your representative for service.

Post Error Messages

Message	Resolution
Off Board Parity Error	Parity error in an expansion slot. Contact your service representative to be sure that the memory module is installed correctly. The error format is: OFF BOARD PARITY ERROR ADDR(HEX) = (XXXX) XXXX is the hex address where the error occurred.
On Board Parity Error	Parity error in system board memory. Contact your service representative for service.
Parity Error ????	Parity error in system memory at an unknown address. Contact your service representative for service.

Beep Codes

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

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

Beep Codes are listed in the table that follows.

Beep Codes

Number of Beeps	Error	Description
1	Refresh Failure	The memory refresh circuitry on the motherboard is faulty.
2	Parity Error	Parity error in the first 64 KB of memory.
3	Base 64 KB Memory Failure	Memory failure in the first 64 KB.
4	Timer Not Operational	Memory failure in the first 64 KB of memory or Timer 1 on the motherboard is not functioning.

Beep Codes

Number of Beeps	Error	Description
5	Processor Failure	The CPU on the motherboard generated an error.
6	Gate A20 Failure	The keyboard controller may be bad. The BIOS cannot switch to protected mode.
7	Processor Exception Interrupt Error	The CPU generated an exception interrupt.
8	Display Memory Read/Write Error	The system video adapter is either missing or its memory is faulty. (This is not a fatal error.)
9	ROM Checksum Error	The ROM checksum value does not match the value encoded in the BIOS.
10	CMOS Shutdown Register Read/Write Error	The shutdown register for CMOS RAM failed.
11	Cache Error/External Cache Bad	The external cache is faulty.

If You Need Assistance

If you have a problem with your computer, first review the checklist and troubleshooting table at the beginning of this chapter.

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.

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 with internet access, 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

The NECC Support Services offers technical support by email over the Internet network if you have a modem. The Internet address is:

tech-support@neccsd.com

You can also fax technical questions to the 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 Chair
- 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.

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

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 (90° to 105°). The angle formed by your thighs and back should be 90° or more.
- Your seat depth should allow your lower back to comfortably contact the backrest. Make sure that the backs of your lower legs do not press against the front of the chair.
- Extend your lower legs slightly so that the angle between your thighs and lower legs is 90° or more.
- Place your feet flat on the floor. Only use a footrest when attempts to adjust your chair and workstation fail to keep your feet flat.
- Be sure that you have adequate clearance between the top of your thighs and the underside of your workstation.
- Use armrests or forearm supports to support your forearms. If adjustable, the armrests or forearm supports should initially be lowered while all the other adjustments discussed in this appendix are made. Once all these adjustments are completed, raise the armrests or adjust the forearm supports until they touch the forearms and allow the shoulder muscles to relax.

Adjust Your Input Devices

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

- Position your keyboard directly in front of you. Avoid reaching when using your keyboard or mouse.

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

Adjust Your Screen or Monitor

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

- Adjust the height of your screen or external monitor so that the top of the screen is at or slightly below eye level. Your eyes should look slightly downward when viewing the middle of the screen or external monitor.
- Position your screen or external monitor no closer than 12 inches and no further away than 28 inches from your eyes. The optimal distance is between 14 and 18 inches.
- Rest your eyes periodically by focusing on an object at least 20 feet away. Blink often.
- Position the screen or external monitor at a 90° angle to windows and other light sources to minimize glare and reflections. Adjust the monitor tilt so that ceiling lights do not reflect on your screen or external monitor.
- If reflected light makes it hard for you to see your screen or external monitor, use an anti-glare filter.
- Clean your screen or external monitor regularly. Use a lint-free, non-abrasive cloth and a non-alcohol, neutral, non-abrasive cleaning solution or glass cleaner to minimize dust.

- Adjust the screen or external monitor's brightness and contrast controls to enhance readability.
- Use a document holder placed close to the screen or external monitor.
- Position whatever you are looking at most of the time (the screen or reference material) directly in front of you to minimize turning your head while you are typing.
- Get regular eye check-ups.

Vary Your Workday

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

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

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

Pre-Existing Conditions and Psychosocial Factors

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

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

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

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

B

Specifications

- System Components
- Memory Map
- Interrupt Controllers

System Components

The following system component specifications are standard except where noted.

System Processor

Intel Pentium III, 650-MHz, 700-MHz, 750-MHz with SpeedStep

Architecture

64-bit Peripheral Component Interconnect (PCI) bus

Random Access Memory

- Standard Main Memory
  - — 64-MB SDRAM 3.3V SO-DIMM, 64 bit data path, 100-MHz, CBR-refresh
- Optional Expansion — 1 slot
  - — Expandable in 64-MB, 128-MB 256-MB increments
  - — Maximum 512 MB
- Video RAM — 8 MB SDRAM (External) 125-MHz
- L1 Cache RAM — 16 KB code, 16 KB data, 4 way set associate, Write Back (data)
- L2 Cache RAM — 256 KB/On-die, TAG RAM: 32K x 8 bit, Speed: 15ns

Read-Only Memory

512 KB x 8 bit, Flash ROM

Calendar Clock

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

Input/Output (I/O) Facilities

Integrated industry-standard interfaces

- Parallel — 1 port, 25-pin D-sub (ECP and EPP support)
- Serial — 1 port, 9-pin D-sub
- Infrared — 1 port, IrDA-1 compatible
- VGA — 1 port, 15-pin high-density D-sub
- External Keyboard/External Mouse — 1 port, PS/2, 6-pin MiniDin; exclusionary use or both supported with optional Y-cable adapter
- Expansion — 1 port, 100-pin for optional NEC Port Replicator
- Microphone — 1 port, Mini Jack
- Stereo Headphones — 1 port, Mini Jack, .5 watts per channel
- DC In — 1 port, for AC adapter cable
- USB port — 1 port, 4 pin
- LAN port — RJ-45 interface (optional)
- Modem port — RJ-11 interface (optional)

Speakers

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

- 16-bit stereo, 48 Khz
- 64-Voice wave table synthesizer support
- 3D stereo sound
- Sound BlasterPRO compatible
- MIDI Roland: MPU401, UART Mode compatible
- ESS Maestro2E Rev. B (PCI Audio) + ESS 1921 (AC97 Link)

PC Card Slots

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

LCD Panel

The LCD panel is a 14.1-inch or high resolution active matrix Thin Film Transistor (TFT), Extended Graphics Array (XGA) color display

- — Resolution — 1024 x 768
- — Colors — 16 million, maximum

Keyboard

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

- Function keys — 12 keys
- Cursor Control keys — 8 keys; arrow keys arranged in inverted T layout
- Numeric keypad — embedded
- Fn key — function key for ROM-based key functions
- Stroke — 3 mm
- Height — 9.5 mm
- Pitch — 19 mm

SuperDisk™ Drive

- Formatted Capacity:
  - — Optical diskette — 120 MB
  - — High Density floppy diskette — 1.44 MB
  - — Double Density floppy diskette — 720 KB
- Data Transfer Rate
  - — 120-MB: 680 KB/S (max.)
  - — 1.44-MB: 150 KB/S (max.)
  - — 720-KB: 75 KB/S (max.)
- Track to track seek rate
  - — 120-MB: 20ms (typ)
  - — 1.44-MB/720-KB: 25ms (typ)

Hard Disk Drive

Specifications vary depending upon model:

- Ultra DMA/33 support
- Capacity — Internal 6.x, 12.x, or 18.x GB
- Drive height — 9.5 mm
- Read/write track-to-track seek rate — 3 ms – 4.5 ms
- Average seek time — 12 ms – 14 ms
- Revolutions per minute — 4000 - 4200
- Data transfer rate
  - — 16.6 MB/sec (PIO mode4/DMA mode2)
  - — 33.3 MB/sec (ultra DMA)
- Media data rates — 88.0 bit/sec – 118.0 bit/sec
- Mean Time Between Errors (MTBF) — 300,000 hours

24X-speed CD-ROM Drive

- Type — 5-inch CD-ROM Pack
- Average Data Transfer Rates
  - — 2550 KB/second (mode 1)
  - — 2907 KB/ second (mode2)
- Read Rate — 3600 KB/sec max, 2550 KB/sec avg
- Burst Transfer Rate — 16.7 MB/sec, PIO mode4/DMA mode
- Average Access Time
  - — 120 ms (Random)
  - — 250 ms (Fullstroke)
- Memory Buffer — 128 KB
- Interface — IDE (ATAPI)
- Photo CD Compatibility — Multisession Photo CD, Video CD (CD-1, CD-I Ready, CD-G, CD-Plus, CD-DA, CD-EXTRN, and CD-ROM XA)

8X DVD-ROM Drive

- Dimensions — 12.7 mm (h), 128.0 mm (w), 127.0 mm (d)
- Burst Transfer Rate — 16.67 MB/sec, PIO/Multiword DMA
- Read Rate
  - — CD, 3600 KB/sec max.
  - — DVD, 8115 KB/sec max.
- Average Access Time
  - — DVD, 270 ms (Random), 480 ms (Full Stroke)
  - — CD, 180 ms (Random), 270 ms (Full Stroke)
- Data Buffer — 512 KB
- Interface — IDE (ATAPI)
- CD Compatibility — CD-Audio, CD-ROM (mode 2, form 1, form 2), CD-ROM XA (mode 2, form 1, form2), CD-I (mode 2, form 1, form 2, Ready, Bridge), CD-WO, CD-RW, Photo CD, Video CD, Enhanced Music CD, CD-TEXT
- DVD Compatibility — DVD-5, DVD-9, DVD-10, DVD-R (3.95G)

CD Read/Write Drive

- Speed
  - — Read, max 20X
  - — CDRW max 14X
- Read Transfer Rate
  - — 150 KB/s, normal speed
  - — 3000 KB/s, 20X, maximum speed
  - — 16.6 MB/s, Mode 4 PIO
  - — 16.6 MB/s, Multi Mode 2 DMA mode (not Ultra DMA)
- Write Transfer Rate
  - — 150 KB/s, normal speed
  - — 300 KB/s, 2X speed
  - — 600 KB/s, 4X speed
- Audio Out — 0.8 +/-0.25 Vrms

- Operating Conditions
  - — Shock, 1G (11ms)/read, 0.5G (11ms)/write
  - — Vibration, 0.2G/read, 0.1G/write

Power

AC Adapter

- Input Voltage — 100 to 240 volts (V) AC, 50 or 60 Hz, 1.5 A
- Output Voltage — 19.0 V DC, 60 Watt
- Australia, Europe and Asia use an AC power cable specific to each country's standards.

Battery Pack

- Type — eight- or twelve-cell Lithium Ion (Li-Ion)
- Output Voltage — 14.4 V
- Capacity — 3600 mAh (eight-cell) or 5400 mAh (twelve-cell)
- Recharging Time —- Approximately 3 hours when the system is on or off.

Bridge Battery

When fully charged, backs up memory contents and system status when in Standby (Windows 98/2000) or Suspend (Windows NT) mode, giving you time to install a fully charged main battery.

Dimensions

System

- Width — 12.1 in. (308 mm)
- Depth — 9.9 in. (253 mm)
- Height — 1.4 in. (36.25 mm)

Weight

6.4 lb (2.9 kg) – with 8-cell battery

Recommended Environment

Operation

- Temperature — 41°F to 95°F (5°C to 35°C)
- Relative Humidity — 20% to 80% (Noncondensing)

Storage

- Temperature — -4°F to 104°F (-20°C to 40°C)
- Relative Humidity — 20% to 80% (Noncondensing)

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
000000-0002FFh	768 bytes	BIOS Interrupt Vector Table
000300-0003FFh	256 bytes	BIOS Stack Area
000400-0004FFh	256 bytes	BIOS Data Area
000500-09FFFFh	639 KB	Applications Memory (used by the OS, device drivers, TSRs, and all DOS applications)
0A0000-0AFFFFh	64 KB	Video Buffer (EGA and VGA)
0B0000-0B7FFFh	32 KB	Video Buffer (monochrome, CGA color, VGA monochrome)
0B8000-0BFFFFh	32 KB	Video Buffer (CGA, EGA color, and VGA color)
0C0000-0CBFFFh	64 KB	Video ROM (EGA and VGA)
0D0000-0DFFFFh	64 KB	Used by Adapter ROMs (i.e., network controllers, hard disk controllers, SCSI host adapters)
0E0000-0EFFFFh	64 KB	Used by System ROM adapters (i.e., network controllers with boot capability)
0F0000h-0FFFFFh	64 KB	System AMIBIOS (includes Setup and hard disk drive utilities)
100000h-1FFFFFF	32 MB	Built-In Extended Memory
2000000-5FFFFFF	up to 256 MB	Extended Memory

Interrupt Controllers

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

System Interrupt Controllers

Controller Master/Slave	Priority	Name	Device
Master	0	IRQ00	SystemTimer 1
Master	1	IRQ01	Keyboard
Master	2	IRQ02	Programmable Controller
Slave	3	IRQ08	Real-time Clock
Slave	4	IRQ09	USB Port
Slave	5	IRQ10	Video/Sound
Slave	6	IRQ11	Available
Slave	7	IRQ12	PS/2 Mouse/NEC VersaGlide
Slave	8	IRQ13	Math Coprocessor (built into CPU)
Slave	9	IRQ14	Primary IDE
Slave	10	IRQ15	Secondary IDE
Master	11	IRQ03	Infrared Port, when enabled
Master	12	IRQ04	Serial Port
Master	13	IRQ05	PC CardBus Controller/Mini-PCI
Master	14	IRQ06	Diskette Drive Controller
Master	15	IRQ07	Parallel Port

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 SXi 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 Versa Port Replicator. Both options provide two PS/2-style ports.

Contact your NECC dealer for ordering information.

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

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

Display

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

The maximum resolution in simultaneous mode is 1024 x 768 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, go to Start, Settings, Control Panel, and double click the Display icon. Click the Settings tab, click Advanced Properties, click on the Adapter tab and Update Driver or click 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 the 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 Windows 2000 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 Windows 2000.

In Windows NT, SystemSoft's CardWizard configures each card. Use CardWizard to monitor PC card status in the Windows NT environment.

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 diskette 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, double click on the My Computer icon and then right click (click the right-hand mouse button) on the 3.5-inch Floppy or SuperDisk icon (depending upon your hardware configuration. 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?

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

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

Some systems ship with the SuperDisk™ drive that uses 120-MB diskettes. You can store up to 120-MB of information on these diskettes. The SuperDisk drive is backward compatible and uses 720-KB and 1.44-MB diskettes.

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.

In Windows, go to Start, Shut Down, Restart the computer. In DOS mode, press **Ctrl**, **Alt**, and **Del** to warm boot the system.

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.

To perform a cold boot, go to Start, Shut Down, to 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?

Your system's default settings are configured with power management features enabled when on DC (battery) power and disabled when on AC power. In Windows NT, use the BIOS Setup utility to modify the default settings, if desired.

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 NT) or LCD timeout (Windows 98/2000).

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 NT) or Standby mode (Windows 98/2000). See the following questions and answers.

What is the purpose of Suspend to RAM? (Windows NT)

Suspend-to-RAM in Windows NT places the system in a deeper state of "sleep" and requires that you press the Power button again to bring it back to Active mode. (The System Switch BIOS parameter must be set to "Sleep.")

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

What is the purpose of Suspend to RAM? (Standby in Windows 98/2000)

You can initiate full Suspend-to-RAM in Windows 98/2000 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 NT)

In Windows NT, 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.

What is the function of Suspend-to-File? (Hibernation in Windows 98/2000)

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 98 Power Management Properties, check the box labeled “enable hibernate support,” under the Hibernate tab. In Windows 2000, in the BIOS Power Management Setup, enable the “Auto save-to-file” parameter.

How do I bring my system out of Standby mode (Windows NT) or LCD timeout (Windows 98/2000)?

Press the Power button to bring the system out of Standby mode. Moving your VersaGlide pointer or using your keyboard brings the system out of LCD timeout.

How do I bring my system out of Suspend mode (Windows NT) or Standby mode (Windows 98/2000)?

Press the Power button to bring the system out of Suspend mode (Windows NT) or Standby mode (Windows 98/2000).

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 NT 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, 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 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 (DOS) 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**.

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, access the Peripheral Setup menu and be sure that the IR serial port setting contains an available COM port and IRQ setting.

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.

Reference the IR setup online help for further information.

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 read/write drive
The CD read/write drive loads and starts programs from a compact disc (CD) or plays your audio CDs. It also writes information to a CD.

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 NEC 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. NEC Versa displays are LCD type.

load

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

M

megabyte

(MB) 1,048,576 bytes.

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.

mini-PCI

A communications standard that offers smaller size, greater design flexibility, and reduced cost for mobile platforms.

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 NEC Versa is a complementary metal oxide semiconductor (CMOS) chip which is backed up by an internal battery. The backup battery preserves the clock/calendar data and system configuration parameters stored in CMOS. See volatile memory.

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.

SpeedStep technology

Intel's SpeedStep technology provided with some Pentium III processors lets you customize high-performance computing on your notebook computer. When powered by a battery, the processor drops its computing speed to lower power consumption and conserve battery life.

SP/DIF

Sony and Philips Digital Interconnect Format. SP/DIF enables a computer system to produce digital audio output through the use of an optical output cable to an optical disk device.

Standby (Windows 98/2000) or Suspend (Windows NT) 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.

SuperDisk

A high capacity diskette drive that uses laser-servo technology to read from and write to specially designed 120-MB diskettes. The SuperDisk is backward compatible and reads 1.44-MB and 720-KB diskettes.

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 NEC Versa are volatile memory. See nonvolatile memory.

W

warm boot

Process of resetting the computer without turning off the power through keyboard input (pressing Ctrl, Alt, and Del keys simultaneously). 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.

⚠ 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 LAN/modem, 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 SXi

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