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Contents

Using This Guide

The *NEC Versa® TXi 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 the 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 Microsoft® 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 removing, installing, and using an NEC VersaBay™ IV device, upgrading the internal hard disk drive, and installing a memory module.
- Chapter 6, "Communicating with Your NEC Versa," for essential information about using PC Cards, the Mini PCI modem/LAN, and other communication features of the system.
- Chapter 7, "Traveling Tips," for a variety of checklists to help you to prepare the notebook computer for travel, getting through customs and accessing the Internet when you are on the road.
- Chapter 8, "Using External Devices," for procedures for connecting external devices like an external diskette drive, monitor, headphones, a printer, or TV.
- 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.
- Appendix A, "Setting Up a Healthy Work Environment," for guidelines that help promote a healthy work setting.
- Appendix B, "Specifications," to review NEC Versa system specifications.
- Appendix C, "Frequently Asked Questions," (FAQs) for a look at questions that users commonly ask and the answers to those questions.

Text Conventions

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

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

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

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

Note Notes give important information, etc.

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

Related Documents

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

- The *NEC Versa TXi Quick Setup* sheet helps get your system up and running.
- The *NEC Versa TXi Quick Reference* card provides an easy-to-carry reference to LED meanings, controls, function key combinations, and NEC Computers support numbers. (The quick reference card does not ship with some systems purchased outside the United States and Canada.)
- The *NEC Info Center* is a fully navigational PDF document containing multimedia elements, a full search capability, and important information about your NEC Versa.

1

Introducing Your NEC Versa

- Before You Begin
- About Your NEC Versa TXi 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

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 TXi 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 notebook's information resources. The Tour is part of the NEC Info Center. Use the Application and Driver CD that ships with your NEC Versa TXi system to install the NEC Info Center.

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

About Your NEC Versa TXi Notebook

The NEC Versa TXi notebook computer offers you a portable system filled with exciting resources for home, business, or travel. Standard features include a powerful Intel® Pentium III microprocessor 750 MHz, 700 MHz, 650 MHz, or 600 MHz with Intel SpeedStep™ technology, or an Intel Celeron™ microprocessor 500 MHz that works together with the latest Peripheral Component Interconnect (PCI) architecture.

In addition, your system provides a high-performance hard disk drive, PC Card support, an external USB diskette drive, and an NEC VersaBay IV device. Your VersaBay device may be a CD-ROM, CD read/write, DVD-ROM, or combination CD read/write and DVD-ROM drive. As an alternative, the VersaBay IV slot can also hold an optional second battery for extended computer use while on battery power. As a multimedia system, your NEC Versa notebook also provides the tools needed to create and present impressive images using video clips and sound.

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

LCD Panel

Your NEC Versa TXi notebook comes with a 12.1-inch color Thin Film Transistor (TFT), Extended Graphics Array (XGA) panel that you can adjust for a comfortable viewing position. To adjust the viewing angle, gently tilt the LCD panel into position.

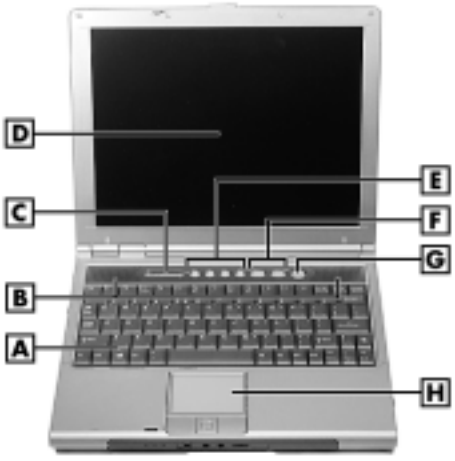
To adjust the LCD panel brightness press the **Fn-F8** and **Fn-F9** functions keys. For more details about using the system's function keys, see the topic later in this chapter, "Keyboard Panel."

Base Unit

The base unit of your NEC Versa notebook offers the features shown in the following figure. Feature descriptions are provided after the figure.

⚠ CAUTION After extended use, the surface of the base unit, below the keyboard, may become hot to the touch.

LCD panel and base unit



A – Keyboard
B – Stereo Speakers
C – NEC Versa Logo
D – LCD Panel
E – CD Control Buttons and Operating Status LEDs
F – Email/Internet Shortcut Keys
G – Power Button
H – NEC VersaGlide Touchpad

- Keyboard — 83 keys with the standard QWERTY-key layout. (Models purchased outside of the U.S. and Canada ship with country-specific keyboard layouts.)
- Stereo Speakers — Provide stereo sound for your multimedia presentations or listening pleasure. The built-in sound system also supports 3D sound, which simulates the latest surround-sound technology.
- LCD Panel — Provides a high-resolution display for sharp, effective visuals on your NEC Versa notebook.

- CD Control Buttons — Control the CD-ROM drive, DVD-ROM drive, CD read/write drive, or combination DVD-ROM and CD read/write drive (with stop, reverse, play/pause, and fast forward). Available on some systems. For more information on using the CD Control buttons, see Chapter 9, "Using Multimedia."
- Operating Status LEDs — Keep you informed of your NEC Versa notebook's current operating status. See the following figure and list for each icon's meaning.

Operating status LEDs

A – Hard Disk Drive
B – Caps Lock
C – Scroll Lock
D – Num Lock

— Hard Disk Drive — lights when the NEC Versa notebook writes data to or retrieves data from the internal hard disk drive.

— Caps Lock — lights when Caps Lock is in effect.

— Scroll Lock — lights when Scroll Lock is in effect.

— Num Lock — lights when Num Lock mode is active.

- Email Shortcut Key — Launches your dial-up networking connection (if not connected to a LAN) and Microsoft® Outlook Express. For details about configuring your Internet Connection and modifying the shortcut keys, see Chapter 6, "Communicating with Your NEC Versa."
- Internet Shortcut Key — Launches your dial-up networking connection (if not connected to a LAN) and Microsoft Internet Explorer. For details about configuring your Internet Connection and modifying the shortcut keys, see Chapter 6, "Communicating with Your NEC Versa."

Email key, Internet key, and Power button

A – Email Shortcut Key
B – Internet Shortcut Key
C – Power Button

- Power Button — Press the Power button to power on, to power off, and to resume from Standby mode.

  For more information about the Power button, see the following topic, "Power Button."

- NEC VersaGlide Touchpad — Works like a standard computer mouse. Simply move your fingertip over the VersaGlide to control the position of the cursor. Use the left and right selection buttons below the VersaGlide to select menu items. Use the scroll button to scroll up or down in a document. See "Using the NEC VersaGlide Touchpad" in Chapter 2 for information about customizing VersaGlide settings.

Power Button

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

Put the unit in Standby mode when you need to be away from your system for a short period of time and want to return to where you left off. Standby mode shuts down all devices in the system while retaining data and system status. Go to Start, Shut Down, Standby to put your system into Standby mode.

Use the Power button in the following ways:

— Press the Power button to power on.

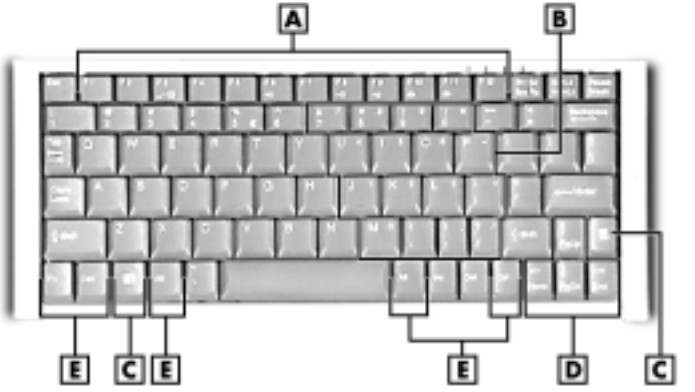
— Press the Power button to resume from Standby mode and proceed with normal operation.

— Hold the Power button in place for 4 or more seconds to power off the system (power override). Only use this option if you cannot power off your system using Start, Shut Down.

Keyboard Panel

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

Keyboard



A – Function Keys
B – Numeric Keys
C – Typewriter Keys
D – Control Keys
E – Cursor Control 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 and some are printed in blue on the key.

  Function keys are application-driven. See the specific application's user guide for information about using function keys with that application.

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

  Fn-F2 —toggles Bluetooth™ power on and off (only in systems equipped with Bluetooth support).

  Fn-F3 — toggles between four video modes; LCD, CRT, both LCD and CRT, or TV Out.

  Fn-F5 — zooms the screen in or out slightly.

  Fn-F6 — sets the beeper volume to low, medium, high, or mute.

  Fn-F7 — has function when Windows operating system is configured for Advanced Configuration Power Interface (ACPI) mode.

  Fn-F8 — increases the LCD panel brightness.

  Fn-F9 — decreases the LCD panel brightness.

  Fn-ScrLk — toggles the Num lock function.

  Fn-Pause — break

  Fn-Left Ctrl — Simulates pressing the right control key to support IBM® 327X connections (not supported in U.S./Canada).

- Numeric keypad — Pressing NumLk 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 NumLk 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.

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

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

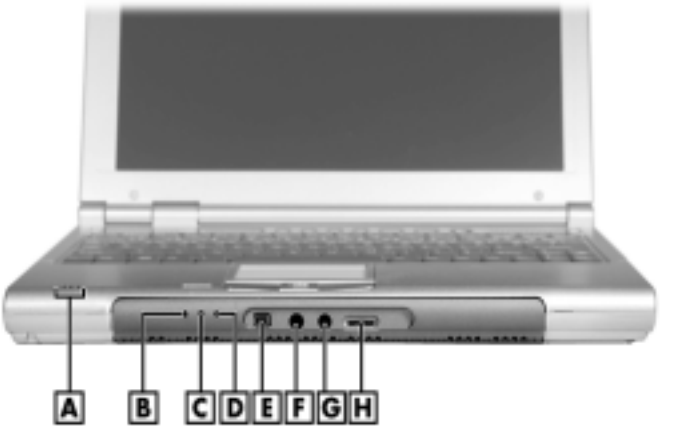
Floating Window key – displays the Start menu.

- 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.
- 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.

Front Features

The front features of your NEC Versa notebook are described after the figure.

Features on the front of the system



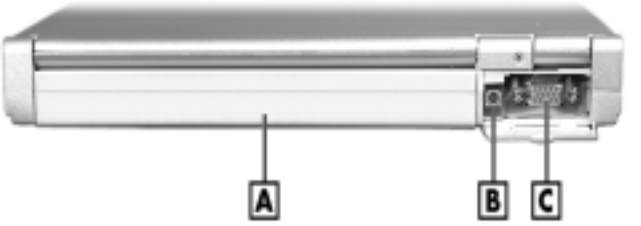
A – Microphone
B – Power Status LED
C – Battery Charging LED
D – Bluetooth Status LED
E – IEEE 1394 Connector
F – Microphone In
G – Dual Headphone Jack and Optical In/Out
H – Volume Control

- 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.
- Power Status LED — Lights to indicate the following:
  - — Lights green when the system power is on.
  - — Blinks green when the system is in Standby mode.
  - — Lights yellow (blinks when in Standby mode) to indicate that battery power is at 8% capacity or less.
  - — Lights amber (blinks when in Standby 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 primary battery is charging. Blinks amber to indicate an error. The primary battery is installed in the battery bay.
  - — Lights green when the secondary battery is charging. Blinks green to indicate an error. The secondary (optional) battery is housed in the NEC VersaBay IV slot.
- Bluetooth Status LED — Lights when Bluetooth power is on.
- IEEE 1394 Port — Use this port to daisy chain up to 63 IEEE 1394 devices to your system. IEEE 1394 devices support Plug and Play connectivity for transfer rates of up to 400 Mbps.
- External Microphone (MIC) — Allows you to connect an external microphone for monophonic recording or amplification through the unit. Plugging in an external microphone disables the built-in microphone.
- Dual Headphone Jack and Optical In/Out Connector — Lets you connect external headphones to your NEC Versa, or connect a device such as a SONY™ Mini Disc player/recorder. Connecting to this port disables the built-in system speakers.
- Volume Control — Allows you to control speaker or headphone volume.

Around the Back of the System

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

Features on the back of the system



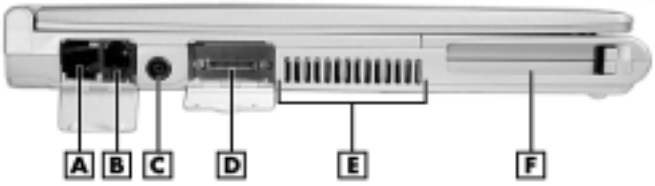
A – Battery Bay
B – TV Out Connector
C – External Monitor Port

- Battery Bay — Contains the system's standard Lithium-Ion (Li-Ion) main battery or an optional Maximum-Life Li-Ion Battery.
- TV Out Connector — Allows you to watch DVD movies on a TV that's connected to your notebook computer.
- External Monitor (Video) Port — Use this 15-pin port to attach an external monitor to your NEC Versa. You can run the LCD display and the external monitor simultaneously or run either alone.

Around the Left Side of the System

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

Left-side features



A – RJ-45 Jack
B – RJ-11 Jack
C – AC Power Port
D – Parallel Port
E – Fan
F – PC Card Slots

- RJ-45 Jack — Connects a LAN adapter cable that ships with your system (if your system is equipped with an RJ-45 jack), to your system and to a local area network (LAN). (Not available in all systems.)
- RJ-11 Jack — Connects an internal modem to an analog telephone line.
- AC Power Port — Attaches the NEC Versa notebook to a power source, such as the AC adapter.
- External Parallel Port — Connects the external parallel transfer cable that ships with your system. Connect the parallel cable that comes with your device to the other end of the transfer cable.
- Fan — Allows your system to cool properly and maintain a safe operating environment.

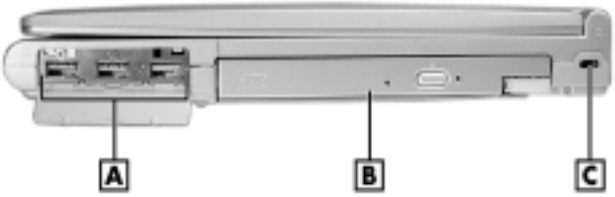
⚠ CAUTION Always keep the fans and vents unobstructed to allow proper system cooling.

- PC Card Slots — Provide two slots for inserting two Type II PC Cards or one Type III PC Card.

Around the Right Side of the System

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

Right-side features



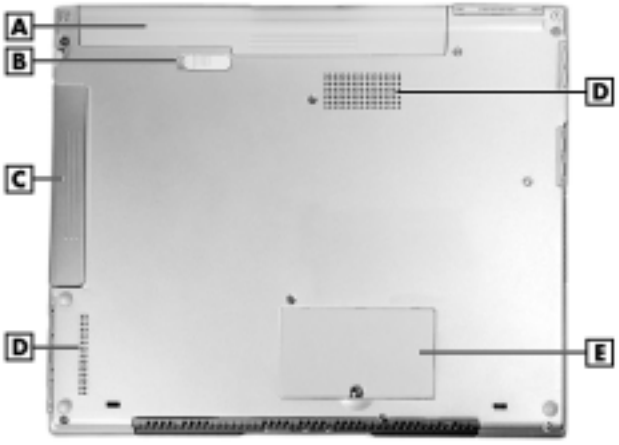
A – USB Ports (3)
B – NEC VersaBay IV Slot
C – Kensington® Lock Slot

- USB Ports — The Universal Serial Bus (USB) ports allows you to connect up to 127 USB-equipped peripheral devices (printers, monitors, scanners, etc.) to your NEC Versa notebook.
- NEC VersaBay IV Slot — Houses a CD-ROM, CD read/write, DVD-ROM, or combination CD read/write and DVD-ROM drive. Also accepts an NEC VersaBay IV battery.
- Kensington Lock Slot — Provides added security by providing a connection for an optional Kensington Lock.

Around the Bottom of the System

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

Bottom features



A – Main Battery
B – Battery Release Latch
C – NEC VersaBay IV Slot
D – Vents
E – Memory Module Bay

- Main Battery — Supplies power when the system is not connected to an AC power source.
- Battery Bay Release Latch — Releases the system's main battery for removal.
- NEC VersaBay IV Slot — Houses a CD-ROM, CD read/write, DVD-ROM, or combination CD read/write and DVD-ROM drive. Also accepts an NEC VersaBay IV battery.
- Vents — Allow your system to cool properly and maintain a safe operating temperature.

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

- Memory Module Bay — Stores the system's memory module.

2

Getting Started

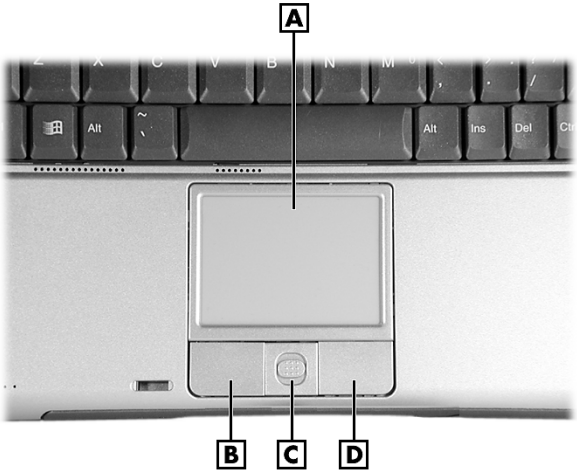
- NEC VersaGlide Touchpad
- Power Sources for Your NEC Versa
- AC Adapter
- System Batteries
- Using the Primary Battery
- Using a Secondary Battery
- System Care

NEC VersaGlide Touchpad

The NEC VersaGlide touchpad is an easy way to control the cursor with your finger. Lightly glide your finger across the NEC VersaGlide and the cursor follows. To use the VersaGlide, you can

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

VersaGlide features



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

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

Note If you install another mouse driver over the shipping default, the double-tap capability may be lost.

Making VersaGlide Adjustments

The NEC VersaGlide offers a number of options that let you customize how it functions. 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 the mouse icon. Use the context-sensitive help to learn more about each option. Select the option, and then press **F1** to access the 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 notebook 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 notebook can be powered using three different sources, making it a truly portable system.

Operate your NEC Versa just about anywhere using one of the following power sources:

- the AC adapter connected to an electrical wall outlet (using AC power)
- battery power:
  - — the primary battery (standard 3-cell or optional 15-cell battery)
  - — with or without the optional secondary battery (6 cell) that installs in the VersaBay IV slot.
- the optional auto adapter. (Not available in the U.S. or Canada. For details about its use, refer to the accessory sheet that ships with the option.)

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

AC Adapter

Use the AC adapter and power cable that came with your NEC Versa notebook to run your computer on alternating current (AC) power, or to recharge the battery.

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

AC adapter

⚠ 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 left side of your NEC Versa notebook.

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, 50- or 60-Hz wall outlet.

Connecting the AC adapter

A – AC Power Port
B – AC Adapter
C – Power Cable

⚠ 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 TXi. Although other adapters look similar, using them can damage your system.

Powering On Your System

Power on the system as follows:

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

Note When powering on your NEC Versa running the Windows 2000 operating system, you may encounter a warning message suggesting that a problem exists with the hibernation file on your system. The warning message is inaccurate. To disable this message, simply enable hibernate support. See the section, "Windows 2000 Hibernate," in Chapter 3, for details about enabling hibernate support.

System Batteries

Your NEC Versa notebook is equipped with a primary Lithium-Ion battery that helps to prevent data loss. In addition, your system provides the option to insert a second Lithium-Ion battery in the NEC VersaBay IV slot, extending battery life when you are away from an AC power source.

Primary Battery

The standard Lithium-Ion (Li-Ion) battery provides the main power source in your NEC Versa TXi computer. Your system comes with a 3-cell Lithium-Ion battery that fits into the battery bay on the rear of your system. An optional 15-cell Maximum-Life Lithium-Ion Battery is also available. The Maximum-Life Battery slides under the system, with connectors that fit into the battery bay on the rear of your system. See Appendix B for a list of battery specifications. In addition to this battery, the CMOS battery also provides system power. For information about installing or removing the standard main battery, see the section, “Replacing the Battery” later in this chapter. For more information about the primary batter see the section, “Using the Primary Battery.” For information about installing the extended life main battery, see the installation instructions that are packaged with it.

Secondary Battery

You can install an optional secondary Lithium-Ion battery in the NEC VersaBay IV slot on the right side of your NEC Versa notebook. Attaching a second fully charged battery increases battery life while you are away from an AC power source. For more information about the secondary battery, see the section, “Using the Secondary Battery.” For information about installing a secondary battery see “Installing a Device in the VersaBay IV Slot” in Chapter 5, or the installation instructions that are packaged with battery.

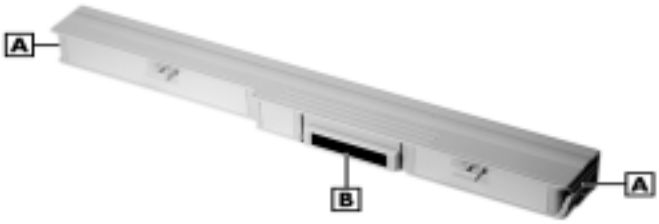
CMOS Battery

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 notebook is connected to AC power. The CMOS battery may discharge completely if the NEC Versa notebook remains unused for approximately two months.

Using the Primary Battery

The NEC Versa notebook comes with a rechargeable 3-cell Lithium-Ion (Li-Ion) battery that's easy to install and remove.

Standard Lithium-Ion battery



A – Alignment Grooves **B** – Battery Connectors

Note Your system may come with the optional 15-cell Maximum-Life Battery for greater battery life while you use your system away from an AC power source. See the sheet that comes with this option for instructions on installing or removing the 15-cell battery.

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 (and an optional) battery's power level. If your system is configured (default setting) to display the power icon on the taskbar, an electrical plug appears when the system is connected to an AC power source or a battery icon appears 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 both the main and optional battery (if installed).
- Go to Start, Settings, Control Panel, and double click the Power Management icon and select the Power Meter tab.

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 flashes amber. When your system is in a low battery status, do one of the following:

- Power off the system, remove the spent battery and replace it with a fully charged battery.
- Leave the spent battery in the system and connect your NEC Versa notebook 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 notebook 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.

In addition, NEC Computers recommends that you always operate your system on AC power when using any external device, and when playing DVD movies.

Battery Handling

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

- Use only the battery designed for your NEC Versa notebook. Mixing other manufacturers' batteries, or using a combination of very old and new batteries can deteriorate battery and equipment performance.
- Turn off power to the system after use. Keeping system power on can degrade battery performance and shorten battery life.
- Clean the battery 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 installed in your NEC Versa system as follows.

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

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

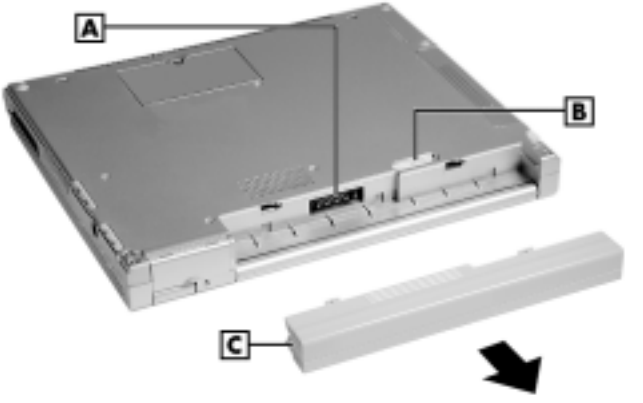
3. Slide the battery release latch toward the right side of the system and hold firmly.

Locating the battery bay release latch

A – Lithium-Ion Battery
B – Battery Release Latch

4. Continue to hold the battery release latch as you slide the battery out of the system.

Removing the battery

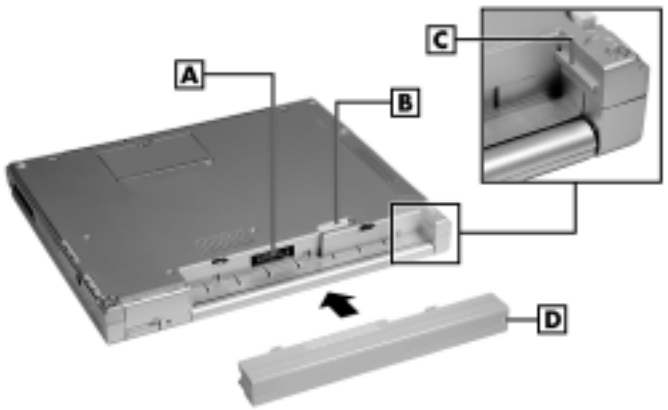


A – Battery Bay Connectors
B – Battery Bay Release Latch
C – Standard Lithium-Ion Battery

5. Insert the new battery as follows:

   - Locate the alignment grooves on either edge of the battery.
   - Locate the alignment grooves inside the battery bay.
   - Align the grooves on the battery with the grooves in the bay.
   - Slide the battery into the bay until securely locked into place.

Inserting the battery



A – Battery Bay Connectors
B – Battery Bay Release Latch
C – Alignment Grooves
D – Standard Lithium-Ion Battery

6. Turn over the system.

Charging the Battery

Charge the primary battery and optional secondary (VersaBay IV) battery by simply connecting your NEC Versa TXi system to an AC power source. To monitor the charging activity, observe the battery charging LED on the front of the system. The battery charging LED lights as follows:

- Lights amber when the primary battery is charging.
- Blinks amber if the primary battery encounters an error while charging.
- Lights green when the secondary battery is charging.
- Blinks green if the secondary battery encounters an error while charging.

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 of 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 primary or secondary battery.

- Charge the battery for the specified charge time only.
- During charging, keep the environmental temperature between 32°F and 104°F (0°C to 40°C).

Using a Secondary Battery

An optional secondary 6-cell VersaBay IV battery is available for your NEC Versa notebook. This battery installs in the VersaBay IV slot on the side of your computer.

Use the secondary VersaBay IV battery *in addition* to the primary battery to extend the amount of time you can run your system on battery power.

Secondary Battery Precautions

Use these precautions when using the secondary battery in the VersaBay IV slot.

- Do not attempt to run the system on secondary battery power if the primary battery is not installed.

  The connectors in the primary battery bay should not be exposed, and can cause a danger if they are accidentally touched, or if they connect with a metal object during system operation.

- Do not remove or install the secondary battery while the system is powered on or plugged in. Shut down and unplug the system first.

- Always install the weight-saving module that ships with your system in the VersaBay IV slot if no VersaBay IV device is installed in the slot.

⚠ WARNING Do not run the system on secondary battery power without the primary battery in place. The connectors in the primary battery bay can cause a danger if they are accidentally touched, or if they connect with a metal object.

Do not remove or install the secondary battery while the system is powered on or plugged in. Shut down and unplug the system first.

If the VersaBay IV slot is empty, always install the weight-saving module to protect the bay and the connectors within it.

Also see the precautions in the section, “Using the Primary Battery” for information that applies to the safe use of the secondary battery.

Replacing the Secondary Battery

See “Removing a Device from the NEC VersaBay IV Slot” and “Installing a Device in the NEC VersaBay IV Slot” for instructions on installing or removing the optional secondary 6-cell VersaBay IV.

See the section, “Secondary Battery Precautions” for information about the safe use of the secondary battery. Also see the section, “Using the Primary Battery” for general information about handling system batteries.

System Care

The NEC Versa notebook is designed to be 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 notebook under the following conditions:

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

Precautions for System Use

Follow these precautions when using your NEC Versa TXi computer and AC adapter.

- Avoid dropping or bumping the computer or the AC adapter.
- Do not stack heavy objects on the computer, the AC adapter, or the batteries.
- Avoid moving the NEC Versa notebook during system operation, especially while the hard disk, diskette drive, or other drive is being accessed.
- When using the AC adapter, make sure the power source falls within the system's compatible range of 100-240 volts and 50 or 60-Hz, 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 notebook or AC adapter to extreme changes in temperature or humidity. If it is unavoidable, allow your NEC Versa notebook 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 magnesium case.
- If the AC adapter becomes extremely hot, unplug the adapter and let it cool.

Storage Requirements

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

⚠ CAUTION If the temperature of the NEC Versa notebook 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 evaporates.

- 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 harm the magnesium surface.

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

Introducing BIOS Setup

Your NEC Versa 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. <F12> to Network Boot.
```

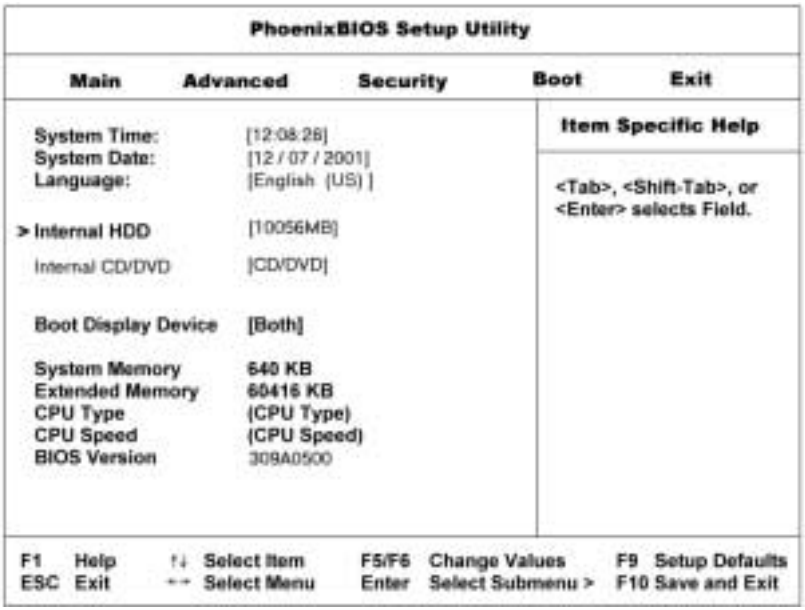
When you press **F2** to enter BIOS Setup, the system interrupts the Power-On Self-Test (POST) and displays the current CMOS RAM settings.

If the system detects an error during POST, it prompts you with a double beep and a message: "Press <F1> to resume." If you press **F1**, the system enters BIOS Setup automatically. If you want to fix the error, carefully read the error message that appears above the prompt (taking notes if you want), and press **F2**. You will see this message if your CMOS battery becomes fully discharged.

BIOS Setup Main Menu

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

Main Setup Menu



How to Use Setup

The Setup utility has a Main Menu window and five top-level menus with submenus. The menu bar at the top of the Main Menu window lists the following top-level menus.

- Main — Use the Main menu for basic system configuration. For example, select Main to set the system time and date, set diskette and hard disk parameters, or check memory parameters.
- Advanced — Use the Advanced menu to set serial port and printer port addresses and interrupts, I/O device configuration, LCD panel view, Intel SpeedStep technology options and more.
- Security — Use this menu to choose a security mode, set User and Supervisor Passwords, password on boot, fixed disk boot sector, and diskette access.
- Boot — Use this menu to set boot sequence.
- Exit — Exits the Setup utility with various save or discard options.

Use the keys listed in the legend bar on the bottom of the Setup menu to make the selections or exit the current menu. The following table describes the legend keys.

Setup Key Functions

Key	Function
F1	Provides help for the parameter field being displayed.
Esc	Exits the menu.
Up or down arrow keys	Moves cursor up and down for item selection.
Left or right arrow keys	Selects next menu.
F5/F6	Changes values.
Enter	Executes a command or selects submenu.
F9	Loads the default configuration values for the current menu.
F10	Saves the current values and exits Setup.

To select one of the five menus from the menu bar, use the left and right arrow keys. Use the up or down arrow keys to select an item under the menu.

Menu items preceded by a > contain a submenu of selectable fields for setting system parameters. Display a submenu by using the up or down arrow keys to move the cursor to the desired submenu, then press **Enter**.

An Item Specific Help window on the right side of each menu displays the help text for the currently selected Setup option. It updates as the cursor moves to each new field.

Pressing **F1** on any menu brings up the General Help window that describes the legend keys and their functions.

Press **Esc** to exit the current window.

The following subsections describe the five top-level menus and their submenus.

Main Menu

Choose the Main menu by selecting Main in the legend bar on the Main menu screen. Other Main menu options are available by selecting submenus.

Use the arrow keys to select one of the Main menu options and press **Enter** to select a submenu. Items with grayed-out text are not available. Explanations of each Main menu item are in the following table.

⚠ CAUTION Setting items on this menu to incorrect values can cause your system to malfunction.

Main Menu Items

Menu Item	Settings (default is bold)
System Time	Set system time in this field. Press **Tab** or **Enter** to move between hour, minute, and second fields. Example: 09:30:00
System Date	Set system date in this field. Press **Tab** or **Enter** to move between month, date, and year fields. Example: 07/09/2001
Language	**English**, French, Japanese Selects the display language for the BIOS.
Internal HDD	Displays the HDD capacity. Example: 10056 MB Bring up the Internal HDD submenu by pressing **Enter**. The submenus include Type and LBA Format. See the table, “Internal HDD Menu Items” for descriptions of each submenu and its fields.
Internal CD/DVD	**CD/DVD Installed**, None This field is read-only and cannot be changed from BIOS Setup.

Main Menu Items

Menu Item	Settings (default is bold)
Boot Display Device	Both, **LCD**, CRT Allows you to choose either display devices, or both.
System Memory	Displays amount of conventional memory detected during boot. This field is read-only and cannot be changed from BIOS Setup. Example: 640 KB
Extended Memory	Displays amount of extended memory detected during boot. This field is read-only and cannot be changed from BIOS Setup. Example: 63488 KB
CPU Type	Displays the processor type. This field is read-only and cannot be changed from BIOS Setup. Example: Pentium® III
CPU Speed	Displays the processor speed. This field is read-only and cannot be changed from BIOS Setup. Example: 750 MHz
BIOS Revision	Displays the BIOS revision number. This field is read-only and cannot be changed from the BIOS Setup. Example: 309A0500

Internal HDD Submenu Items

Menu Item	Settings (default is bold)
Type	**Auto**, None, User, CD-ROM, ATAPI Removable Device When set to Auto, the values for Cylinders, Heads, Sectors, and Maximum Capacity as read only. When set to Auto, the BIOS detects what the drive is capable of, not the translation mechanism that was used to format the drive. If a drive is run in a mode other than the mode in which it was partitioned and formatted, unpredictable results may occur, including data loss. When set to None, informs the system to ignore this drive. When set to User, allows the manual entry of all fields described next. When set to CD-ROM, IDE Removable, ATAPI Removable, or Other ATAPI, allows the manual entry of all fields described next.
Cylinders	When Type is Auto, value in the Cylinders field is auto-detected and field is read only.
Heads	When Type is Auto, value in Heads field is auto-detected and field is read only.
Sectors	When Type is Auto, value in Sectors field is auto-detected and field is read only.
Maximum Capacity	This field is read-only and cannot be changed from BIOS Setup. Example: 10056 MB
Multi-Sector Transfers	Disabled, 2, 4, 8, 16 sectors, Max. Determines the number of sectors per block for multi-sector transfers. When Type is Auto, value in Multi-Sector Transfers field is auto-detected and field is read only.

Internal HDD Submenu Items

Menu Item	Settings (default is bold)
LBA Mode Control	**Enabled**, Disabled
	When Enabled is selected, it causes logical block addressing to be used in place of cylinders, heads, and sectors.
	When Type is set to Auto, the value in the LBA Mode field is auto-detected and the field is read only.
32-Bit I/O	**Disabled**, Enabled
	When Enabled, allows 32 bit data transfers.
Transfer Mode	Standard, Fast PIO1, Fast PIO2, Fast PIO3, **Fast PIO4**, Fast PIO3/DMA1, Fast PIO4/DMA2
	Selects the method for moving data to and from the drive.
	When Type is set to Auto, the value in the field is auto-detected and the field is read only.
SMART Monitoring	Enabled, **Disabled**
	This field is read-only and cannot be changed from BIOS Setup.
Ultra DMA Mode	**Disabled**, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4
	Selects the Ultra DMA Mode for moving data to and from the drive. Autotype the drive to select the optimum transfer mode.
	When Type is set to Auto, the value in the field is auto-detected and the field is read only.

Advanced Menu

Choose the Advanced menu by selecting Advanced in the legend bar on the Main menu screen. Other Advanced menu options are available by selecting submenus.

Use the arrow keys to select one of the Advanced menu options and press **Enter** to select a submenu. Items with grayed-out text are not available. Explanations of each Advanced menu item are in the following table.

⚠ CAUTION Setting items on this menu to incorrect values can cause your system to malfunction.

Advanced Menu

Menu Item	Settings (default is bold)
Num-Lock on Boot	LockOn, **LockOff**
	Selects the state for Num Lock at power on.
Internal Mouse	Disabled, **Enabled**
	Enabled forces the internal mouse port to be enabled regardless of whether a mouse is present. Disabled prevents any installed internal mouse from functioning, but frees up IRQ 12.
LCD Panel View Expansion	**Enabled**, Disabled
	Disabled reduces the panel view in some video modes. Enabled expands the panel view. The enabled setting sometimes affects graphic quality.
Suspend Warning Tone	**Enabled**, Disabled
	On enables the Suspend warning tone.
BootUp Message	**Enabled**, Disabled
	Disabled suppresses the logo screen during boot.
Save to Disk Warning	Enabled, **Disabled**
	Disabled prevents the Save to Disk message when the SAVE2DSK.BIN file does not exist on the hard drive.

Advanced Menu

Menu Item	Settings (default is bold)
Summary Screen	**Disabled**, Enabled When set to Enabled, information about the system's configuration is displayed onscreen during boot.
Silent Boot	Disabled, **Enabled**, Black. When set to Enabled, the logo screen appears during boot. Disabled causes the POST messages to appear during boot. Black causes the screen to remain black during boot.
Bluetooth	**Disabled**, Enabled Enables or Disables the Bluetooth wireless functionality.
Intel® SpeedStep™	Disabled, Battery Operation, **Automatic** Use Automatic for the system to perform in full power mode when the system is running under AC power. Use Battery Operation for the system to use power conservatively whether the system is running on AC power or battery power. Use Disabled to turn off Intel SpeedStep technology.
I/O Device Configuration	Press **Enter** to bring up the I/O Device Configuration submenu to configure the serial and parallel ports, and the diskette drive controller.
Parallel port	**Auto**, Disabled, Enabled Use Enabled to manually configure the Parallel Port. Use Disabled to disable the Parallel Port. Use Auto to allow the BIOS or operating system to configure the Parallel Port.
Mode	Output Only, Uni-directional, **Bi-directional**, ECP, EPP

Advanced Menu

Menu Item	Settings (default is bold)
Base I/O Address	378, 3BC, 278 This selection only appears when Parallel Port is set to Enabled. Select the base I/O address for the parallel port.
USB Floppy	Disabled, **Enabled** Use Enabled to allow the USB diskette drive to be recognized when attached.

Security Menu

Choose the Security menu by selecting Security in the legend bar on the Main menu screen. Other Security menu options are available by selecting submenus.

Use the arrow keys to select one of the Security menu options and press **Enter** to select a submenu. Items with grayed-out text are not available. Explanations of each Security menu item are in the following table.

Security Menu Items

Menu Item	Settings (default is bold)
Supervisor Password Is	Clear, Set This read-only field indicates whether a supervisor password has been set.
User Password Is	Clear, Set This read-only field indicates whether a user password has been set.
Set Supervisor Password	Press **Enter** to access. Use this field to set or change the supervisor password. Press **Enter** to bring up a dialog box where the password can be entered and confirmed.
Set User Password	Press **Enter** to access. Use this field to set or change the user password. Press **Enter** to bring up a dialog box where the password can be entered and confirmed.

Security Menu Items

Menu Item	Settings (default is bold)
Security Mode	**Password**, SmartCard, FingerPrint* Use this field to select which security mode to enable on your system.
Password on Boot	**Disabled**, Enabled When Enabled, requires password entry before boot. System remains in secure mode until the password is entered.
Fixed Disk Boot Sector	**Normal**, Write Protect Write Protect protects the boot sector on the hard disk from viruses.
Diskette Access	**Supervisor**, User Controls access to the diskette drive.
Assign HDD Password	Press **Enter** to access. Use this field to set or change the hard drive password. Press **Enter** to bring up a dialog box where the password can be entered and confirmed.
Internal HDD Password	Enabled, **Disabled** This field is only active if a HDD Password has been set. When Enabled, requires password entry for the hard drive to be accessed.

*For information on configuring SmartCard security mode or FingerPrint security mode, see the instructions that come with the device.

Boot Menu

Choose the Boot menu by selecting Boot in the legend bar on the Main menu screen. Other Boot menu options are available by selecting submenus.

Use the arrow keys to select one of the Boot menu options and press **Enter** to select a submenu. Items with grayed-out text are not available. Explanations of each Boot menu item are in the following table.

Boot Menu Settings

Menu Item	Settings (default is bold)
ATAPI CD-ROM Drive USB Diskette Drive Hard Drive Network Boot	The Boot Menu displays the bootable devices in the current boot order (list varies according to bootable devices present in system). Use the up or down arrows to select a device. Press **Enter** to expand or collapse device information (presence of subentries is indicated with a plus sign). Press **Ctrl Enter** to expand or collapse all device information. Use the plus (+) or minus (-) key to move a selected device up or down in the boot order.

Exit Menu

Choose the Exit menu by selecting Exit in the legend bar on the Main menu screen. Other Exit menu options are available by selecting submenus.

Use the arrow keys to select one of the Exit menu options and press **Enter** to select a submenu. Explanations of each Exit menu item are in the following table.

Exit Menu Items

Menu Item	Settings (default is bold)
Exit Saving Changes	Implements the changes just made, and exits BIOS.
Exit Discarding Changes	Exits leaving BIOS unchanged.
Load Setup Defaults	Loads default values for all BIOS setup fields.
Discard Changes	Loads previous values from BIOS for all setup fields.
Save Changes	Saves all setup value changes to BIOS.
Battery Refresh	Uses the Battery Refresh option to reactivate the battery.

Managing System Power

In the Windows® 2000, Windows® 98 Second Edition (98 SE), and Windows® Millennium Edition (Me) operating system environments, your NEC Versa notebook manages its power resources using the Advanced Configuration and Power Interface (ACPI) while the system is powered on using AC or battery (DC) power. ACPI enables the operating system to manage the power given to each attached device and to turn off a device when not in use.

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 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
- Intel SpeedStep technology

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
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
System hibernates (Plugged in and Running on batteries)	After 1 Hour	10, 15, 20, 25, 30, 45 minutes; 1, 2, 3, 4, 5, 6 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.
- System hibernates — Selects the system hibernate timeout period for your system when running on 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*	Standby, Power Off
When I press the Power button on my computer	Power Off	Standby

*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.

To enable hibernate support, go to Start, Settings, Control Panel, and double click the Power Management Properties icon. Select the Hibernate tab and place a check mark in the box labeled ‘Enable hibernate support.’ Click Apply, click OK, and close the Control Panel.

Note When powering on your NEC Versa notebook running the Windows 2000 operating system, you may encounter a warning message suggesting that a problem exists with the hibernation file on your system. The warning message is inaccurate. To disable this message, simply follow the instructions in the previous paragraph to enable hibernate support.

Windows 2000 and Intel SpeedStep Technology

Use the Intel SpeedStep technology (available in systems with Intel Pentium III processors) to optimize processing speed and conserve battery life.

Enable Intel SpeedStep technology through the BIOS Setup utility. The available settings are Disabled, Battery Operation, and Automatic.

- Use Automatic for the system to perform in full power mode when the system is running under AC power.
- Use Battery Operation for the system to use power conservatively whether the system is running on AC power or battery power.
- Use Disabled to turn off Intel SpeedStep technology.

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

For information about accessing the BIOS Setup utility refer to “How to Use Setup” and “Advanced Menu” earlier in this chapter.

Windows 98 SE/Windows Me Power Management Properties

In Windows 98 SE and Windows Me, most ACPI power management settings are controlled through Windows Power Management Properties, not through the BIOS Setup utility, unless otherwise noted. To access Windows 98 SE 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
- Intel SpeedStep technology

Windows 98 SE/Windows Me Power Schemes

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

Power Schemes

Parameter	Default Setting	Alternate Setting(s)
Power Schemes	Portable/Laptop	Home/Office Desk, Always On
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
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
System hibernates (Plugged in and Running on batteries)	After 1 Hour	10, 15, 20, 25, 30, 45 minutes; 1, 2, 3, 4, 5, 6 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.
- System hibernates — Selects the system hibernate timeout period for your system when running on AC or DC power.

Windows 98 SE/Windows Me 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	No action	Standby, Hibernate, Shutdown (Windows 98 SE), Power Off (Windows Millennium)
Critical battery alarm	3%	0-100%
Alarm Action Notification	Display message	Sound alarm
Alarm Action Power Level	Standby	Hibernate, Shutdown (Windows 98 SE), Power Off (Windows Millennium) No Action

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

Windows 98 SE/Windows Me 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 SE/Windows Me Advanced

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

Advanced Windows

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 (Windows 98 SE), Power Off (Windows Millennium)
When I press the Power button on my computer	Shutdown (Windows 98 SE), Power Off (Windows Millennium)	Standby, Hibernate

- 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 or (for WinMe) Hibernate.
- 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 SE/Windows Me Hibernate

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

Windows 98 SE/Windows Me and Intel SpeedStep Technology

Use the Intel SpeedStep technology (available in systems with Intel Pentium III processors) to optimize processing speed and conserve battery life.

Enable Intel SpeedStep technology through the BIOS Setup utility. The available settings are Disabled, Battery Operation, and Automatic.

- Use Automatic for the system to perform in full power mode when the system is running under AC power.
- Use Battery Operation for the system to use power conservatively whether the system is running on AC power or battery power.
- Use Disabled to turn off Intel SpeedStep technology.

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

For information about accessing the BIOS Setup utility refer to "How to Use Setup" and "Advanced Menu" earlier in this chapter.

Windows Power Management States

ACPI uses different levels or states of power management. These 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 ACPI power management states in the Windows 2000, Windows 98 SE, and Windows Me environments 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), Hibernate 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 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 Power Management Behavior[1]

	LCD Timeout	Standby (STR)	Hibernate (STF)
Default Setting	2 Minutes, DC power. 15 Minutes, AC power.	5 Minutes, DC power. 20 minutes, AC power.	30 minutes after Standby.[2,3]
Manually Invoke	Close LCD panel.	Go to Start, Shutdown, Standby.	Close LCD panel.[4] Press Power button.[4]
System behavior	LCD panel is blank. Status LED lights green.	LCD panel is blank. Status LED blinks green.	LCD panel is blank. Status LED turns off. Progress bar indicates that current working environment is saved to hard disk.
Resume	Press any key.	Press Power button.	Press Power button. Progress bar appears during process.

[1] The Windows 2000, Windows 98 SE, and Windows Millennium operating systems.
[2] Only when BIOS "Suspend Option" set to STF and BIOS "Auto Save to File" set to enabled.
[3] Also when 3% battery power remaining, if BIOS set as in number 2.
[4] Only when set in Advanced Windows Power Management Properties.

Updating the BIOS

The BIOS is code transmitted onto your system's microprocessor, or central processing unit (CPU). As indicated in this chapter, you use the BIOS Setup Utility to configure your system's software and hardware features. Only 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 NEC Computers makes significant improvements or fixes to the current system BIOS. Your authorized NEC Computers dealer or support representative can help you determine this.

To update the system BIOS you must:

- Obtain the BIOS Update
- Prepare the BIOS Update Diskette
- Enable the BIOS Flash Switch Setting
- Perform the BIOS Update
- Disable the BIOS Flash Setting

Obtaining the BIOS Update

If you are informed that the default BIOS needs an update contact NEC Computers Support Services at (800) 632-4525, Fax (801) 579-1552, or access the web site, www.neccomp.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 NEC office 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 external floppy diskette 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.

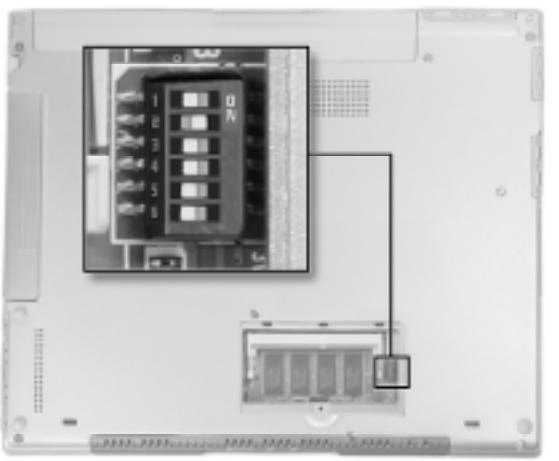
6. Follow the instructions later in this chapter, "Enabling the BIOS Flash Switch."

Identifying the Switch Settings

A six-position dip switch is located on the bottom of the system in the memory module bay. The following list identifies each switch setting and its function.

- Switch 1, 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" to erase your current password.
- Switch 2 — Keyboard select; Default is "ON" for U.S. 83-key keyboard.
- Switch 3 — Reserved for factory use; Default is "OFF."
- Switch 4 — Keyboard select; Default is "OFF" for U.S. 83-key keyboard.
- Switch 5 — BIOS flash enable; Default is "OFF" (disabled). Before updating your BIOS, change the setting to "ON."
- Switch 6 — Logo select; Default is "OFF" for U.S.

Default switch settings



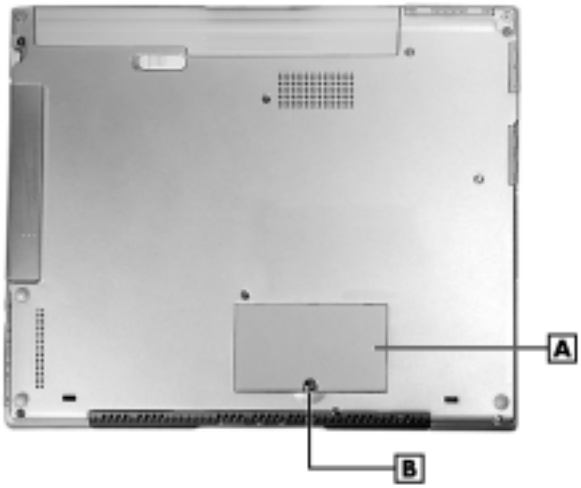
Enabling the BIOS Flash Switch

Before performing the BIOS update, be sure to enable the BIOS flash switch. The BIOS flash switch is enabled when switch 5 is set to "ON."

Follow these steps to enable the BIOS flash switch.

1. Make sure the system is powered off and that no peripheral devices are attached.
2. Turn over the system and locate the memory module bay.

Locating the memory module bay



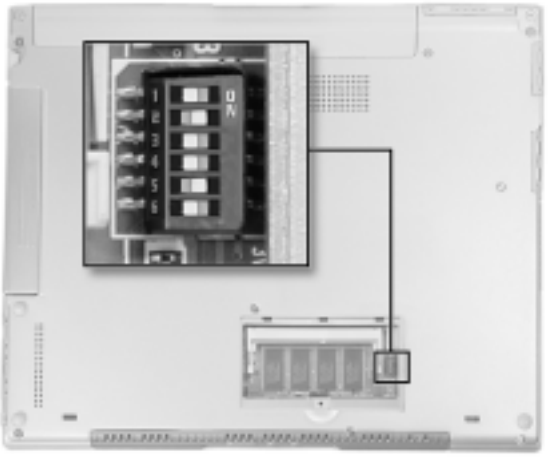
A – Memory Module Bay Cover **B** – Screw

3. Remove the screw and bay cover.

4. Locate the dip switch block. Using a fine-tipped object, change switch 5 to "ON" to enable the BIOS flash.

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

BIOS flash switch enabled



Note The system memory module slot is also located here. Therefore, if you need to replace your SO-DIMM module, you might want to do so while the system is already disassembled.

5. Replace the memory module bay cover and screw.
6. Turn over the system.
7. Follow the instructions later in this chapter, "Performing the BIOS Update."

Performing the BIOS Update

Make the following preparations before performing 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 floppy diskette.
- Remove any bootable CDs from the CD-ROM drive, if connected.
- Write down what you've done to customize your BIOS settings.
- Enable the BIOS flash switch.

Once you have prepared the system for a BIOS update, perform the following steps:

1. Insert the BIOS Update diskette into the floppy diskette drive.
2. Power on the computer with the diskette in the floppy diskette drive. The computer boots and automatically loads the utility. Read the message that displays and follow the instructions.
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 file bay 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 TXi computer BIOS revision level.
8. Power on your computer. A CMOS Checksum message appears and prompts you to press **F1** to enter Setup.
9. Press **F1** to enter Setup and restore the default parameter settings.

10. Reconfigure Setup with the custom settings you documented for yourself before beginning this procedure.

11. Power off the system.

12. Disable the BIOS flash switch by changing switch 5 back to “OFF.” For details about enabling and disabling the BIOS flash switch, see the section earlier in this chapter, “Enabling the BIOS Flash Switch.”

4

Using the Operating System and Utilities

- Microsoft Windows Introduction
- NEC Utilities
- Applet for Intel SpeedStep Technology
- Application and Driver CD
- NEC Info Center
- PartitionMagic® Special Edition
- Product Recovery CD

Microsoft Windows Introduction

Your NEC Versa notebook comes pre-installed with the Microsoft® Windows® 2000, Windows® 98 Second Edition (98 SE), or Windows® Millennium (Me) operating system. These operating systems provide a means of running applications, navigating through your file structure, and using your notebook computer. Each operating system offers its own look and tools and employs its own easy-to-use graphical interface.

Windows 2000

Windows 2000 gives you the enhanced performance and networking 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 notebook 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.
- Microsoft 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.

- Microsoft Internet Explorer — Allows you to browse the internet or view local HTML files. Also access Internet Explorer under Start, Programs, Internet Explorer.
- Microsoft 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.

Windows 98 Second Edition/Windows Millennium Edition

The Windows 98 Second Edition (98 SE) and Windows Millennium Edition (Me) operating systems give you the enhanced user 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, and enhanced entertainment features. Both also offer networking features you've come to expect in your operating system.

In addition, Windows Me offers the following features and capabilities:

- Home networking made easy with Microsoft's HomeClick Network Software. The software features the Home Network Wizard that asks all the right questions to help you tailor your network setup.
- Expanded Help that brings information about the operating system, hardware, and peripherals to your fingertips.
- Drivers for USB and the IEEE 1394 external bus standard. These drivers are installed automatically when the operating system is installed.
- Plug and Play ease of use.

Desktop Icons

With Windows 98 SE and Windows Me, 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.
- 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 notebook 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 the internal modem to a working phone line or install a LAN card for network access.

In addition, you must run the Internet Connection wizard to establish a dial-up networking connection for internet access.

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

  Your NEC Versa notebook 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, connect the internal modem to a working phone line or install a LAN card for network access.

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 or to install the External Drive Connect utility.
- Microsoft 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.

Taskbar Icons

With Windows 98 SE and Windows Me, 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 SE and Windows Me taskbar.

- Microsoft Internet Explorer — Allows you to browse the Internet or view local HTML files. Also access Internet Explorer under Start, Programs, Internet Explorer.
- Microsoft 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 SE and Windows Me 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.

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

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

NEC Utilities

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

The NEC utilities include:

- NEC Customize utility
- PHDISK utility (Windows 98 SE)

NEC Customize Utility

The NEC Customize utility gives you the option to install or launch the:

- Application and Driver CD — Use this option to install a variety of software applications, drivers, utilities, internet browsers, and the NEC Info Center.
- Phoenix® BaySwap utility — Use this utility to configure your system so you can hot or warm swap your VersaBay IV devices. If the Phoenix BaySwap utility is not already installed on your system, install it using the NEC Customize utility.

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 or Install 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.

PHDISK Utility for Windows 98 SE

The PHDISK utility for Windows 98 SE configures your NEC Versa system's save-to-file (STF) area on the hard disk drive. This allows you to use your system's power management features to automatically save open files when your system hibernates.

To set up PHDISK use the information in the following sections.

Note For more details about the PHDISK utility, see the ReadMe.txt file in the necutils\phdisk directory.

Preparing Your System for the PHDISK Utility

Before running the PHDISK utility, verify that:

- **All appropriate drivers have been installed from the NEC Application and Driver CD.**

  (For information about installing all appropriate drivers displayed in the Drivers Table Interface on the NEC Application and Driver CD, see "NEC Application and Driver CD.")

- **No devices listed under Device Manager are flagged with a yellow exclamation point.**

  (To check the Device Manager, press Start, and click Control Panel. Double click the System icon and click the Device Manager tab. Check each device listing, expanding the sub-items if necessary, to be sure no devices are tagged with yellow exclamation points.)

If these two conditions are not met before you install the PHDISK utility, Hibernate will not work correctly, and your hard drive may become corrupted.

⚠ CAUTION Before running the PHDISK utility, verify that all appropriate drivers have been installed, and that no device listed in Device Manager is flagged with a yellow exclamation point.

If not, Hibernate does not work correctly, and your hard drive may become corrupted.

Running the PHDISK Utility

Follow these steps to run the PHDISK utility.

1. With system power on, insert the NEC Application and Driver CD in the CD-ROM or DVD-ROM drive. For more information on using the Application and Driver CD, see "NEC Application and Driver CD" in this chapter.
2. Select the PHDISK utility for installation. Follow the prompts to install the appropriate files on your hard drive.
3. Once the files have been installed, exit the Application and Driver CD interface and remove the CD.
4. Restart your system in MS-DOS mode by pressing Start and clicking Shutdown. Select 'Restart in MS-DOS mode' and click OK.
5. At the MS-DOS prompt, type **cd \necutils\phdisk** and press **Enter** to change to the \necutils\phdisk directory.
6. Type **phdisk** and press **Enter**. The PHDISK utility interface appears with the following valid options:

   1. Create Partition
   2. Create File
   3. Reboot
   4. Exit

7. Enter **2** and press **Enter**. (Be careful ***not*** to select Create Partition.) A prompt similar to the following appears:

   Please input size (Minimal: 74179) KB:

   (The minimal size varies according to the amount of system memory installed in your system.)
8. Press **Enter** to accept the minimal size. A file large enough to accommodate your system's memory is created on the hard disk drive, and the PHDISK utility interface appears again.
9. Enter **3** (for Reboot) and press **Enter**.
10. If necessary, press any keyboard key when prompted to reboot the system.

11. When Windows 98 SE has restarted, press Start, click Settings, and click Control Panel. Double click the Power Management icon.

12. Click the Hibernate tab. Put a check in the box next to **Enable hibernate support** and click Apply.

13. Select the Advanced Tab. The following settings now provide Hibernate as a choice in their pull-down menus.

    - When I close the lid of my portable computer
    - When I press the power button on my computer

14. Select Hibernate for either or both of these settings (if desired). Click OK to close the Power Management Properties window.

Applet for Intel SpeedStep Technology

Some processors that ship with the NEC Versa TXi notebook computer include the Intel SpeedStep technology that allows you to customize high-performance computing on your NEC Versa notebook, optimizing processing speed and conserving battery life.

If your processor is equipped with Intel 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.

For more information about configuring settings for Intel SpeedStep technology, see the sections in Chapter 3 that are specific to the operating system you use. For information about accessing the BIOS Setup utility refer to “How to Use Setup” and “Advanced Menu” in Chapter 3.

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 TXi system. Some of the drivers are already installed as part of your operating system environment. The additional software on the A&D 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 some applications through the Start, Programs menu.

Launching the A&D CD with Windows 2000

Follow these procedures to launch the Application and Driver CD using NEC Customize with Windows 2000.

1. Insert the Application and Driver CD into the CD-ROM drive.
2. Double click the NEC Customize icon.
3. Select Application and Driver CD.
4. Click Install to launch the CD.

   The Application and Driver CD dialog box appears.

Note If the NEC Customize icon is not available, double click My Computer on the desktop and then click the CD icon. The Application and Driver CD dialog box appears.

Launching the A&D CD with Windows 98 SE/Windows Me

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

1. Insert the Application and Driver CD into the CD-ROM drive. If the CD does not auto-run, perform steps 2 through 4.
2. Double click the NEC Customize icon, if necessary.
3. Highlight Launch Application and Driver CD.
4. Click Install to launch the CD.

   The Application and Driver CD dialog box appears.

Note If the NEC Customize icon is not available, double click My Computer on the desktop and then click the CD icon. 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 Online Documentation.
- 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.
- View — Clicking the View button displays installation instructions for those utilities that are not installed using the A&D CD utility.
- Exit — Clicking the Exit button closes the Application and Driver CD dialog box.

Installing the A&D 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 an online version of portions of the printed user's guide.

Installing the NEC Info Center

To install the NEC Info Center simply follow the instructions, presented earlier in this chapter, for launching the A&D CD and installing the software. For the most current version of the *NEC Versa TXi User's Guide*, periodically check the NEC Computers web site at **www.neccomp.com**.

Uninstalling the NEC Info Center

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

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

  1. Go to Start, Settings, Control Panel, and double click Add/Remove Programs.
  2. Use the scroll bar, if necessary, to display the NEC Info Center item.

3. Highlight NEC Info Center and click the Add/Remove button.
4. Select Automatic as the uninstall method and click Next.
5. Click Finish to complete the uninstall.
6. When the uninstall is complete, click OK and close the Control Panel window.

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

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

PartitionMagic Special Edition

Dividing the hard disk drive into several partitions lets you efficiently organize operating systems, programs, and data. PartitionMagic Special Edition, 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 notebook ships with an internal hard disk drive consisting of a single FAT 32 partition, drive C:. Use PartitionMagic Special Edition if you want to create multiple partitions and convert your hard disk drive to FAT 16 partitions.

Note PartitionMagic Special Edition software differs from the full-featured version and does not include all program functionality or user manuals.

⚠ **CAUTION** Before using PartitionMagic Special Edition, 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 installation 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.
- Carefully review the Product Recovery CD options in the next section before proceeding.

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

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 if you wish 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.

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. *To use the Partition Only option, drive C: must be equal to or greater than 1 GB.* Additional partitions, e.g., drives D:, E:, etc., remain intact. For important information about partitioning your hard disk drive, see the section, "PartitionMagic Special Edition," 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 reboot 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, "PartitionMagic Special Edition," 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

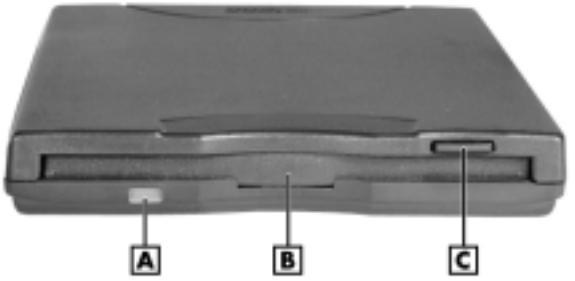
- USB Diskette Drive
- NEC VersaBay IV Slot
- Phoenix BaySwap Utility
- Variable-Speed CD-ROM Drive
- CD Read/Write Drive
- Variable-Speed DVD-ROM Drive
- Combination CD Read/Write and DVD-ROM Drive
- Memory Modules

USB Diskette Drive

Connecting the USB diskette drive to the USB port on your NEC Versa TXi computer lets you expand your storage and data transfer possibilities without having to install internal components or permanently tie up an internal bay. In addition, the USB diskette drive is powered through its USB connection, so there's no need to power it separately from an electrical outlet. The USB diskette drive is simple to connect, configure, and use.

The NEC Versa TXi USB diskette drive offers the features shown in the following figure.

NEC Versa USB diskette drive features



A – Status LED **B** – Diskette Slot **C** – Release Button

These features offer the following functions:

- Status LED — lights during data read operations. Do not eject the disc or turn off the NEC Versa TXi system when the indicator is lit.
- Diskette Slot — insert the diskette in the diskette slot.
- Release Button — ejects the diskette. Press this button when the power is on to eject a diskette from the drive.

NEC VersaBay IV Slot

The NEC VersaBay IV slot is the bay located on the right side of the system. Your NEC Versa notebook ships with a 24X CD-ROM drive, a CD read/write drive, an 8X DVD-ROM drive, or a combination CD read/write and DVD-ROM drive installed in the bay.

The NEC VersaBay IV slot lets you maximize your computer's capabilities, and is designed for ease-of-use. It allows you to:

- Hot swap and warm swap storage devices.
- Remove a VersaBay IV device simply by pressing the eject lever, without having to turn the system over.
- Install the weight-saving module that ships with the system. Using the module in the VersaBay IV slot, you lighten your NEC Versa notebook for travel, and protect the bay when no device is installed.
- Install an optional secondary VersaBay IV battery in the slot instead of installing a drive.

⚠ CAUTION Do not remove or install the secondary battery while the system is powered on or plugged in. Shut down and unplug the system first.

For details about using hot and warm swapping, refer to the section, "Phoenix BaySwap Utility," later in this chapter, or access the Phoenix BaySwap utility online help.

Read the instructions that come with your VersaBay IV device for specific information about installation and configuration. Contact your NEC Computers dealer to purchase additional VersaBay IV devices.

Phoenix BaySwap Utility

The NEC VersaBay IV slot supports hot swapping (switching devices while the system is powered on) and warm swapping (switching devices while the system is in a sleep state) for many bay devices, through the Phoenix BaySwap Utility. Using hot swapping and warm swapping extends the power of Plug-and-Play technology to your NEC VersaBay IV devices. This dynamic solution further increases the flexibility of your already versatile notebook computer.

Installing the Phoenix BaySwap Utility

If the Phoenix BaySwap utility for NEC VersaBay IV devices is not already installed, use the NEC Customize utility to install it. For details about using the NEC Customize utility, see Chapter 4 "Using the Operating System and Utilities."

When 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 device in the NEC VersaBay IV slot.

Using the Phoenix BaySwap Utility

With the Phoenix BaySwap utility running on your notebook computer, you can hot or warm swap a CD-ROM, CD read/write, DVD-ROM, or combination CD read/write and DVD-ROM drive in the NEC VersaBay IV slot. Please note the following when using the Swap utility:

- Windows 98 SE or Windows Me Power Management *must be enabled* to use the Swap utility.
- Windows 2000 supports hot swapping without use of the Phoenix BaySwap Utility.

Swap devices in the NEC VersaBay IV slot as follows:

1. If you have files open on the device you are planning to remove, close them.
2. Click on the Swap utility taskbar icon to display the menu.
3. A box appears identifying the device (if any) in the NEC VersaBay IV slot that can be ejected.
4. Click the name of the device to prepare it for being ejected.
5. When the device can be safely removed, a message box appears.
6. Remove the device (see the section, "Removing a Device from the NEC VersaBay IV Slot"). Click OK after the device is removed.
7. Insert a different device in the NEC VersaBay IV slot (see "Installing a Device in the NEC VersaBay IV Slot").

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 IV status.

Removing a Device from the NEC VersaBay IV Slot

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

1. Use the Phoenix BaySwap utility or power off the system.
2. Locate the NEC VersaBay IV release latch to the right of the VersaBay IV slot.
3. Flip the latch to the open position. Then press the latch into the system to eject the device from the bay.
4. Pull the device out of the system.

Removing a device from the VersaBay IV slot

⚠ CAUTION Always install the weight-saving module that ships with your system in the VersaBay IV slot if no VersaBay IV device is installed in the slot. See "Installing a Device in the NEC VersaBay IV Slot" for instructions on installing the module.

Installing a Device in the NEC VersaBay IV Slot

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

1. Use the Phoenix BaySwap utility or power off the system.
2. Locate the NEC VersaBay IV release latch to the right of the VersaBay IV slot.
3. Flip the latch to the open position.
4. Align the device in the NEC VersaBay IV slot and push it in until it fits securely into the bay.

Inserting a device into the NEC VersaBay IV slot

5. Press the latch back to the locked position.
6. Press the Power button to power on or resume operation.

Variable-Speed CD-ROM Drive

Your NEC Versa notebook may ship with a 24X maximum/12X minimum variable-speed CD-ROM drive. 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 CD-ROM drive is fully compatible with Kodak™ multisession Photo CD™ discs 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. Note that data is read at a variable transfer rate depending on its location. For example, the maximum rated speed is generally achieved only when reading the outermost track on a completely filled CD.

The CD-ROM drive offers the following features.

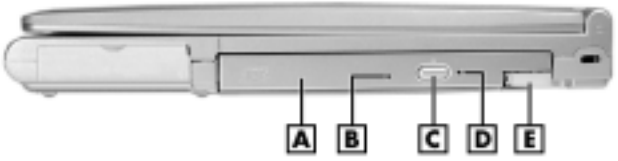
- Emergency Eject Hole — allows you to manually remove a disc from the CD-ROM drive if the eject function is disabled by software or a power failure.

  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 notebook when the indicator is lit.

CD-ROM drive features



A – CD-ROM Drive
B – CD-ROM Drive Status LED
C – Eject Button
D – Emergency Eject Button
E – Device Latch/Eject Button

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 either side of the disc.
- Do not write on or apply labels to the data 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. Press the Start button, 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 notebook may ship with a CD read/write drive with Adaptec® Easy CD Creator™ software. 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 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.

Note For DVD-ROM, CD read/write, or combination DVD-ROM and CD read/write drives, software and drivers are provided separately on a CD. Printed installation instructions are packaged with the CD.

Variable-Speed DVD-ROM Drive

The 8X maximum/2X minimum 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 reads from 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 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 notebook 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.

Note For DVD-ROM, CD read/write, or combination DVD-ROM and CD read/write drives, software and drivers are provided separately on a CD. Printed installation instructions are packaged with the CD.

Combination DVD-ROM and CD Read/Write Drive

Your system supports a combination DVD-ROM and CD read/write drive. Use the drive to load and start programs from a compact disc (CD) or to play your audio CDs, write information to a CD, or play digital videodiscs (DVDs).

Note For DVD-ROM, CD read/write, or combination DVD-ROM and CD read/write drives, software and drivers are provided separately on a CD. Printed installation instructions are packaged with the CD.

Memory Modules

Your NEC Versa computer comes standard with 64 megabytes (MB) of random access memory (RAM) on the system board. In addition a 144-pin, PC100 SO-DIMM (Small Outline Dual Inline Memory Module) memory slot is located on the underside of your computer inside the memory bay. The following configurations can be used in the slot.

- 64-MB memory module, for a total of 128 MB
- 128-MB memory module, for a total of 192 MB
- 256-MB memory module, for a total of 320 MB

You can increase system memory to a maximum of 320 MB. If upgrading after initial purchase, the memory module provided with the system may have to be replaced with an optional larger memory module in order to achieve the maximum capacity.

⚠ CAUTION Only install memory module options that are approved by NEC Computers to ensure proper functionality of your NEC Versa notebook computer.

Contact your NEC Computers dealer for information about available supplied/approved memory modules.

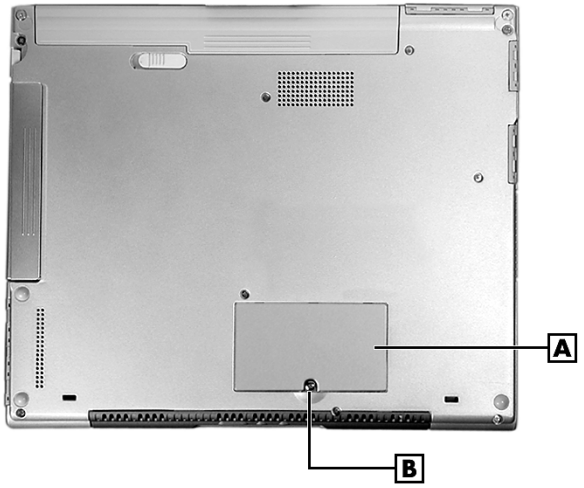
⚠ CAUTION Before handling any internal components, discharge static electricity from yourself and your clothing by touching a nearby metal surface.

Removing a Memory Module

Follow these steps to remove a memory module.

1. Power off the NEC Versa notebook and disconnect any peripheral devices.
2. Turn over the system and locate the memory module bay.

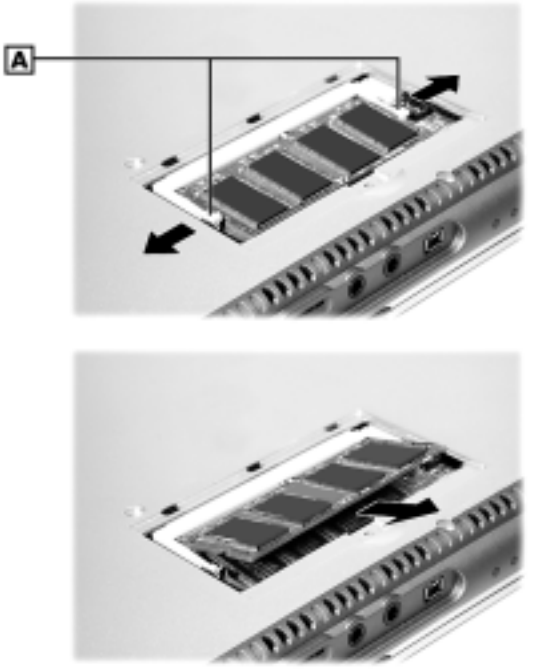
Locating the memory bay screw and cover



A – Memory Module Bay Cover **B** – Screw

3. Remove the screw and bay cover.
4. Press the locking tabs away from the sides of the memory module and hold while gently lifting on the edge of the memory module.

Removing a memory module



A – Memory Module Locking Tabs

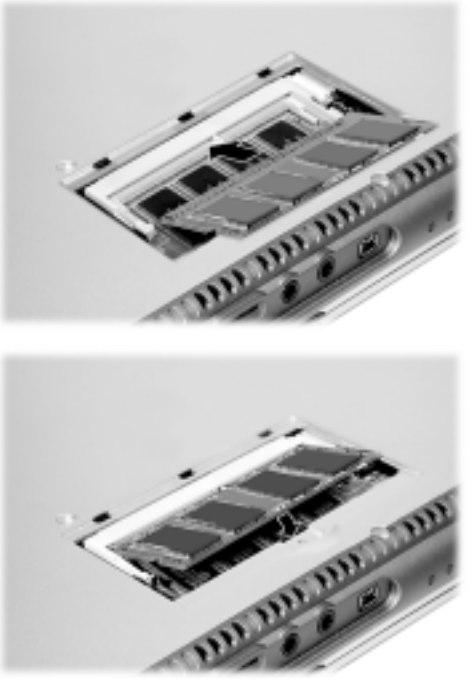
5. When the edge of the memory module pops up and is at approximately a 60 degree angle, pull it from the socket.

Installing a Memory Module

Follow these steps to replace a memory module.

1. Locate the connectors and alignment notch on the new memory module.
2. Locate the memory module connector. Hold the memory module at a 45-degree angle and align the memory module contacts with the socket in the system. Push the connector into the socket.
3. Press down on the edge of the memory module opposite the contacts until the locking tabs on the sides snap into place, securing the module.

Installing the memory module



4. Replace the memory module bay cover and screw.
5. Turn over the system, open the LCD panel, and power on the system.

6

Communicating with Your NEC Versa

- PC Cards
- Mini PCI LAN/Modem Card
- Internet Connections

PC Cards

Your NEC Versa TXi system is equipped with two PC Card slots that support both Type II and Type III PC Cards.

PC Cards are all approximately the same size and vary only in thickness. All have a standard 68-pin connector. Your NEC Versa notebook 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 LAN/modem card), and small hard drive storage.

Communication Cards

You can use both fax/modem and network PC Cards with your NEC Versa notebook. 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 NEC 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 Before using a PC Card modem, use the BIOS Setup utility to disable the internal modem. Find the internal modem setting in the Peripheral Setup section of the utility. See Chapter 3, "Using the BIOS Setup," for details about disabling the internal modem.

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 TXi notebook integrates two CardBus slots for inserting two Type II PC Cards or one Type III PC Card.

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

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

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.)

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

Inserting a PC Card

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

Removing a PC Card

Follow these steps to remove a PC Card.

1. 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.

Mini PCI LAN/Modem Card

Your NEC Versa TXi system may ship with a combination Mini PCI LAN/modem card that allows you to connect your system to a local area network, or connect to the Internet over a standard phone line. The internal LAN is a 10/100Base-TX interface that supports both Wake on LAN and Network Boot functions. The modem supports V.90/K56flex™ connections.

Connecting the Mini PCI LAN

Follow these steps to take advantage of the internal Mini PCI LAN.

1. Locate the RJ-45 network cable that ships with your NEC Versa notebook. The cable has a LAN port connector and an RJ-45 connector.
2. Locate and open the LAN port jack cover on the left side of the system. Locate the LAN port.
3. Connect the LAN port connector to the LAN port jack.
4. Connect the RJ-45 connector at the other end of the LAN adapter cable to an RJ-45 cable.
5. Connect the RJ-45 cable to a local area network.

Connecting the Internal Modem

Follow these steps to connect an RJ-11 telephone cable to the Mini PCI modem.

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

⚠ WARNING Use only a standard phone line cord when connecting the internal modem.

1. Locate the RJ-11 telephone cable that ships with your NEC Versa notebook. Each end of the cable has an RJ-11 connector that plugs into a standard telephone outlet.
2. Locate and open the RJ-11 port cover on the left side of the system. Locate the RJ-11 port.
3. Carefully plug the RJ-11 telephone cable into the RJ-11 port.
4. Connect the other end of the RJ-11 telephone cable into an (analog) phone jack.

Now you are ready to configure your modem for Internet or email access!

Installing the Online Modem Guide

For additional information about your modem's AT commands and s-registers, use the Application and Driver (A&D) CD to install the online modem guide for your system. (This guide is not available with all modems.) 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 to identify the name of your system's modem. Use the A&D CD to install the online modem guide of the same name to your NEC Versa hard drive.

Internet Connections

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

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)

Accessing the Internet

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

Locating Internet and email shortcut keys

A – Email Shortcut Key
B – Internet Shortcut Key
C – Power Button

Sending and Receiving Email

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

Modifying the Internet and Email Shortcut Keys

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

Follow these instructions to modify the NECMFK.INI file.

1. Use Windows Explorer to locate the file, C:\Windows\NECMFK.INI.
2. Double click the NECMFK.INI file to open it.
3. Use the scroll bar to locate the sections at the end of the file designated as Btn6 and Btn7.

4. To modify the application to launch when pressing the Email shortcut key, change the variable Btn6_AP1=msimn.exe to the *.exe of your choice. Be sure to use the full path name, for example, C:\Program Files\Netscape\Netscape.exe.

   In addition, modify the variable Btn6_Name=Mail to an appropriate and corresponding identifier.

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

   In addition, modify the variable Btn7_Name=Internet to an appropriate and corresponding identifier.

6. Click File, Save, then File, Exit to save your changes and exit the editor.

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

7

Traveling Tips

- Preparing for Travel
- Packing for Travel
- Using Power Connections
- Getting Through Customs
- Connecting to the Internet

Preparing for Travel

The NEC Versa computer makes a natural traveling companion. With a little preparation you can use the computer practically 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 may 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 that you might need on diskettes or CDs.
- 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

- USB diskette drive if you plan to use diskettes
- 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 Connections

With the right accessories, you can run your NEC Versa almost anywhere! Your system self-adjusts to various power sources. The United States, Canada, and most of Central and South America use 120-volt alternating current (AC). Most other countries of the world use 240-volt AC. The NEC Versa adapts to voltages ranging from 100 to 240 volts, 50 or 60-Hz.

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 whenever you travel out of the country with your NEC Versa notebook computer.

Connecting to the Internet

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.

Connecting Using a Modem

If you have access to a standard telephone jack while you are traveling, you can probably use your modem for dial-up access to your favorite sites. Follow these guidelines for connecting and configuring your system.

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

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

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

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

Connecting Using a LAN

Many hotels and convention centers now offer direct Internet access for a nominal fee. If your hotel provides this service, follow these guidelines for connecting and configuring your system.

- Many hotels can provide a LAN cable by prearrangement, so you can travel with a minimum of accessories.
- Plug the LAN cable into your system and the LAN connector in the room or hall where you want to access the Internet.
- After connecting the LAN cable, connect your system to an AC power outlet (if desired) and power on your system.
- Try launching your browser (Microsoft Internet Explorer, or Netscape Communicator, for example):
  - — If your TCP/IP network settings are already configured to "Use DHCP for WINS Resolution" you should be able to access the Internet.
  - — If your TCP/IP network settings are not set to use DHCP, a help screen may appear, or you may be directed to call the LAN provider for assistance configuring your system.

    Follow the instructions that are provided to you completely, so your settings work effectively with the provider's system.
- If you have problems, the hotel or convention center may be able to direct you to a support technician.

8

Using External Devices

- External Monitor
- Parallel Device
- USB Devices
- IEEE 1394 Devices
- External Audio Options
- External Television Connection

External Monitor

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

The external monitor port supports 640x480, 800x600, and 1024x768 display settings. However, for optimal viewing, set the screen resolution to 1024x768 when the video output device is an LCD panel or an external monitor (CRT).

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

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

1. Check that power to both the NEC Versa and the monitor is off.
2. Open the monitor port cover at the far left on the back of the system.
3. Attach the 15-pin cable connector to the monitor port on the system. Secure the cable connection with the screws on the connector.

Connecting a monitor

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

Parallel Device

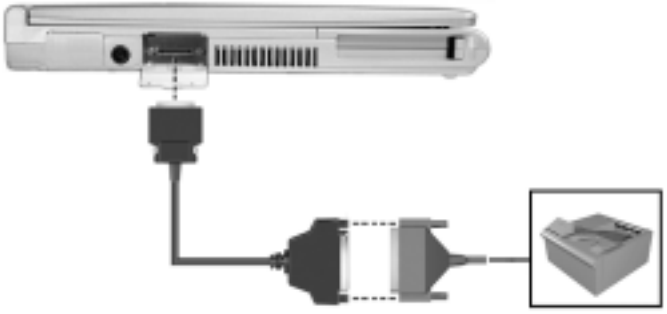
You can attach a parallel printer to the printer port on the left side of your NEC Versa TXi system. To install a parallel printer you need the transfer cable that ships with your system and the parallel cable that comes with the printer. The transfer cable has a 36-pin connector at one end, and a 25-pin printer port at the other. Your device's parallel cable has a 25-pin parallel connector at one end, and a connector appropriate for your device at the other (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 printer to your NEC Versa as follows.

1. Check that power to both the NEC Versa and the device is off.
2. Open the printer port cover on the left side of the system.
3. Align the small, 36-pin connector at one end of the transfer cable with the printer port on the system.
4. Squeeze the clips at either side of the connector and insert the connector. Release the clips when the connector is secure.
5. Align and connect the other end of the cable to the 25-pin parallel connector at one end of the parallel cable that comes with the device. Turn the screws on the parallel printer connector to secure the connection.

Connecting a parallel printer



6. Connect the other end of the parallel cable to the parallel printer.
7. Connect the power cable to the device and a properly grounded wall outlet.
8. 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.

Disconnecting a Parallel Printer

When disconnecting the transfer cable from the NEC Versa, squeeze the release clips before pulling the cable away from the system port.

⚠ **CAUTION** Failure to squeeze the release clips may result in damage to the cable connectors.

USB Devices

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

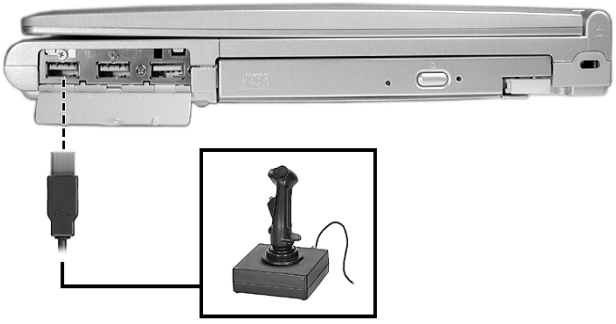
USB devices called USB hubs can serve as connection ports for other USB peripherals. Only one device needs to be plugged into your NEC Versa. Additional peripherals can be connected in a daisy chain configuration where one device is connected to another in a series. Up to 127 devices can be connected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

⚠ **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. Open the USB port cover on the right side of your system.
2. Plug in up to three USB devices to optimize your notebook possibilities.

Connecting a USB device



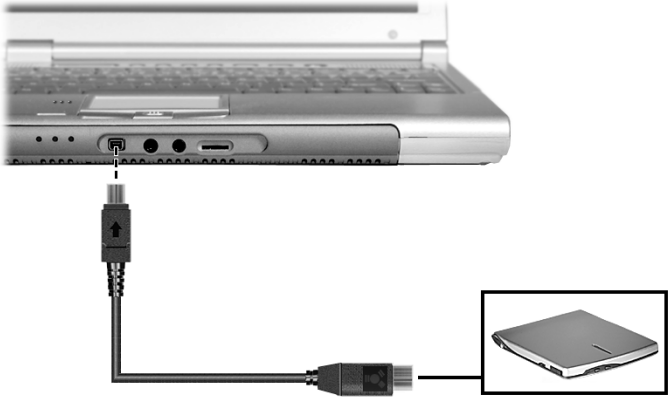
IEEE 1394 Devices

Your NEC Versa TXi system is equipped with an IEEE 1394 port that increases your connectivity choices. The IEEE 1394 port on the front of your system allows you to daisy chain up to 63 IEEE 1394 devices to your system. IEEE 1394 devices support Plug and Play connectivity for transfer rates of up to 400 Mbps. These peripherals may include a digital camera, scanner, printer, or other device.

Connect an IEEE 1394 device to your system as follows.

1. If you are running Windows 98 SE or Windows 2000, install the drivers for your device.
2. Locate the IEEE 1394 port on the front of your system.
3. Plug the IEEE 1394 device into the IEEE 1394 port.

Connecting an IEEE 1394 device



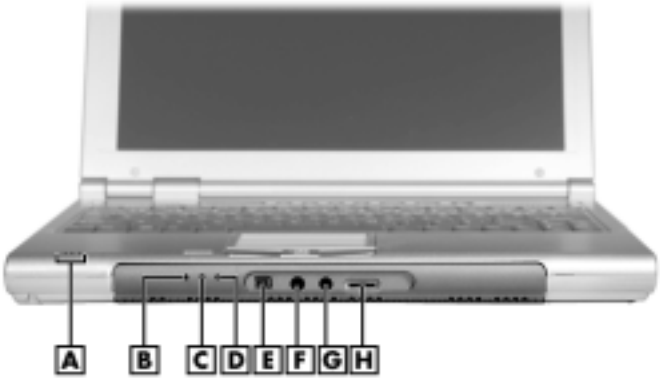
External Audio Options

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

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

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

External audio controls



A – Internal Microphone
B – Power Status LED
C – Battery Charging LED
D – Bluetooth Status LED
E – IEEE 1394 Port
F – Microphone In
G – Dual Headphone and S/PDIF Port
H – Volume Control

External Television Connection

Your NEC Versa TXi is equipped with a TV Out port and a transfer cable that allow you to use a television as an external display device in the Windows environment. The transfer cable allows you to use an RCA-to-RCA cable to connect to a standard RCA input jack on your television or VCR.

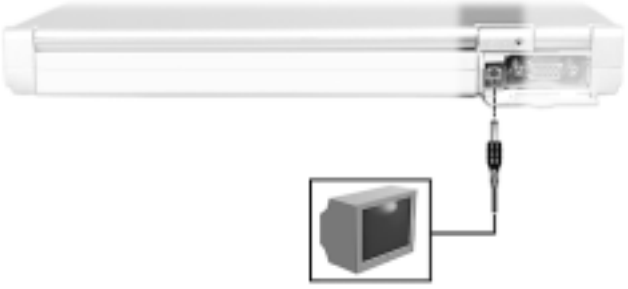
The external monitor port supports 640x480, 800x600, and 1024x768 display settings. However, for optimal viewing, set the screen resolution to 640x480 when the video output device is a television.

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

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

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

Connecting an external television



9

Using Multimedia

- Audio
- Video
- Multimedia Applications

Audio

The NEC Versa notebook provides entertainment-level sound quality through internal stereo speakers. It handles MIDI files and digital audio files recognizing .WAV, .MID, and .AVI formats. The system is 3D-stereo, Sound Blaster® PRO compatible. The system also includes an S/PDIF-supported port for fiber optical recording and playback on external devices.

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 microphone level recordings on your NEC Versa TXi computer using the internal microphone or an external microphone plugged into the microphone jack on the front of the system.

(You can also record using the S/PDIF fiber optical technology if you have an external device on your system. See the instructions that come with the device for information about optimal performance when recording to an external device.)

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 record using the Microsoft Sound Recorder and an external microphone plugged into the NEC Versa notebook.

1. To record using an external microphone, attach an external microphone to the microphone port on the front of the system.
2. Go to Start, Programs, Accessories, Entertainment, and select Microsoft Sound Recorder.
3. Specify the default sound quality before you record.
   - Select Audio Properties from the Microsoft 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 Windows Media Player. See the section, “Playing Back,” later in this chapter.

Note Before recording from an external CD-ROM drive to the internal hard disk drive, disable the internal microphone. To disable the internal microphone, go to Start, Programs, Accessories, Entertainment, Volume Control. Choose Options, Properties and remove the check from the Microphone box in the ‘Show the following controls’ window.

Microphone

You can capture and record sounds through the internal microphone on the NEC Versa notebook 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.

Mixing

With the Microsoft Sound Recorder on your NEC Versa notebook, 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.

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 using the volume control wheel on the front of the system or through the software using the sound horn on the taskbar.

You can also playback using the S/PDIF fiber optical technology if you have an external device on your system. (See the instructions that come with the device for information about optimal performance when playing back to an external device.)

Play audio from files or audio devices as follows. (This example shows how to use the Windows 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, Programs, Accessories, Entertainment, 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, click the Play button.
4. Click the square Stop button to stop playing the audio.

Using Headphones

The NEC Versa headphone port (shared with the S/PDIF fiber optical connector) delivers sound at half a watt. Stereo headphones (available at an electronics supply store) plug in through the headphone jack located on the front of the NEC Versa notebook. Adjust the volume using the volume control wheel on the front of the system or through the software using the sound horn on the taskbar.

Using Fiber Optic S/PDIF Devices

The NEC Versa notebook has a built-in fiber optic S/PDIF connector (shared with the headphone connector) for near-professional quality recording and playback on the latest audio devices. Follow the instructions that come with a device for optimal performance.

Using the Built-In Speakers

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

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 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 XGA TFT display panels have a high-resolution capability of 1024x768 pixels with up to 16-million colors.

Use the Windows Media Player on your NEC Versa notebook 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 many video devices, including VCRs, camcorders, and laser disc players into your NEC Versa notebook and record motion graphics to your hard drive. Use the system's PC Card slots (depending on the video capture hardware and software that you purchase separately) to plug in the external video device. You can even 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 3D effects and 3D 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.

- Power is on to the computer.
- The electrical outlet to which your AC adapter is connected is working. Test the outlet by plugging in a lamp or other electrical device.
- All cables are tightly connected.
- The display setting is configured correctly.
- The display brightness control is adjusted properly.
- If using battery power, check that the battery 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 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 Standby mode due to low battery power. Use the power meter to check battery status. Plug in the AC adapter or replace the battery, 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.

Troubleshooting

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 Standby mode.	If system does not resume, it may have auto suspended (Standby) on a low battery. Attach the AC adapter and try again.
	Check that the “System Switch” BIOS parameter is set to “Sleep.”
The system does not auto-suspend (Standby).	A disk drive might be busy. Wait until the disk drive stops and try again.
	Check that Auto Play is disabled.
Upon resuming from a manual STF the system displays the message, ”Following system component(s) changed since last suspend – 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.

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 notebook 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 TXi 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 NEC Computers 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 NEC Computers service representative for service.
Cache Memory Bad, Do Not Enable Cache	Cache memory is defective. It must be replaced. Contact your NEC Computers service representative for service.
CH-2 Timer Error	Most ISA computers include two timers. There is an error in timer 2. Contact your NEC Computers 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 NEC Computers service representative to replace the CMOS battery.
CMOS Checksum Failure	After CMOS RAM values are saved, a checksum value is generated for error checking. The previous value is different from the current value. Run Setup to reset the value.
CMOS System Options Not Set	The values stored in CMOS RAM are either corrupt or nonexistent. Run Setup to reset the value.

Post Error Messages

Message	Resolution
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 NEC Computers service representative to replace the CMOS battery.
DMA#1 Error	Error in the first DMA channel. Contact your NEC Computers service representative for service.
DMA#2 Error	Error in the second DMA channel. Contact your NEC Computers service representative for service.
FDD Controller Failure	The BIOS cannot communicate with the floppy disk controller. Contact your NEC Computers service representative to check all appropriate connections.
HDD Controller Failure	The BIOS cannot communicate with the hard disk drive controller. Contact your NEC Computers service representative to check all appropriate connections.
INTR #1 Error	Interrupt channel 1 failed POST. Contact your NEC Computers service representative for service.
INTR #2 Error	Interrupt channel 2 failed POST. Contact your NEC Computers 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 NEC Computers representative for service.

Post Error Messages

Message	Resolution
Off Board Parity Error	Parity error in an expansion slot. Contact your NEC Computers 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 NEC Computers service representative for service.
Parity Error ????	Parity error in system memory at an unknown address. Contact your NEC Computers 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 NEC Computers.

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

11

Getting Service and Support

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

Service and Support Contact Information

Service	Contact Information
NEC Computers Inc. Web Site	www.neccomp.com
Support Services Web Site	support.neccomp.com
FTP Site	ftp.neccsdeast.com/pub
Support Services (U.S. and Canada customers only).	800-632-4525 Fax: 801-579-1552
Email to Support Services through a commercial online service or the Internet.	Internet email address: tech-support@nec-computers.com

Note If you purchased your computer outside the U.S. or Canada, please contact the local NEC 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.

Web Site

If you have a modem or are connected to a network, you can access the NEC Computers web site. You can do this through a commercial online service or through your Internet account. The web site contains general information about NEC Computers and its products, press releases, reviews, a reseller locator, 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
- an automated email form for your technical support questions
- a password-accessible area for resellers.

To access The NEC Computers Home Page, enter the following Internet Uniform Resource Locator (URL) in your browser:

http://www.neccomp.com/

To access The NEC Computers Support Page, enter the following Internet Uniform Resource Locator (URL) in your browser:

http://support.neccomp.com/

FTP Site

Use the Internet to access the NEC Computers 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 NEC Computers Web site.

To access The NEC Computers FTP site, enter the following Internet ftp address through your service:

ftp.neccsdeast.com/pub

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

Support Services

NEC Computers also offers direct technical support through Support Services. (NEC Computers 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 their country.)

Direct assistance is available 24 hours a day, 7 days a week. Call the NEC Computers Support Services, toll free, at **800-632-4525** (U.S. and Canada only) for the following support and to find out about the extended service programs available for purchase.

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

  For hardware support after the standard limited 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 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 NEC Computers Support Services offers technical support by email if you have Internet access. The email address is:

tech-support@nec-computers.com

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

801-579-1552

When using the email or fax support service, you should include the word "Notebook" in the subject field for prompt response from the appropriate technical person.

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, usually 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.

Note Components that ship with the system are subject to change without notice.

System Processor

Depending on the model:

- Intel Celeron processor — 500 MHz
- Intel Pentium III processor featuring Intel SpeedStep technology — 750 MHz, 700 MHz, 650 MHz, or 600 MHz

Architecture

64-bit Peripheral Component Interconnect (PCI)

Random Access Memory

- Onboard Memory — 64-MB PC100 SDRAM on the system board
- 1 memory slot, supports 64-MB, or 128-MB, or 256-MB PC100 SDRAM SO-DIMMs
- Maximum 320 MB

Note If upgrading after initial purchase, the memory module provided with the system may have to be replaced with an optional larger memory module in order to achieve the maximum capacity.

- Video Ram — 8 MB SGRAM
- Cache RAM — 128-KB L2 cache (Celeron processor) or 256-KB L2 cache (Pentium III processor)

Read-Only Memory

512 KB x 8 bit, Flash ROM

Calendar Clock

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

LCD Panel

The LCD panel is a 12.1-inch high-resolution active-matrix Thin Film Transistor (TFT), Extended Graphics Array (XGA) color display

- Resolution — 1024x768 max.
- Colors — up to 16.8 million

Keyboard

Membrane 83 keys (U.S., Canada, 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 — 2.5mm
- Height — 6mm
- Pitch — 19mm

Speakers

2 built-in, 1 watt (W) each with a maximum 3W output

- 16-bit stereo, 48 KHz
- Sound Blaster PRO compatible
- MIDI Roland: MPU401, UART Mode compatible
- EV 1983 Sound Blaster Audio PCI 64V or
  ESS Solo1 PCI AudioDrive + ESS 1946S

Input/Output (I/O) Facilities

Integrated industry-standard interfaces

- Printer — 1 port, 25-pin D-sub IEEE 1284 compatible, ECP and EPP support (via transfer cable)
- VGA — 1 port, 15-pin high-density D-sub
- TV Out — 1 port, RCA x1 (via transfer cable)
- USB port — 3 ports, 4 pin USB2.0 standard
- IEEE 1394 — 1 port, 1394 standard 6-pin 1394 bus
- Dual Headphone and S/PDIF— 1 shared port
- 3-pin, Mini Pin Jack, .5 watts per channel
- S/PDIF fiber optic connection for input/output
- Microphone — 1 port, 3-pin, Mini Pin Jack
- DC In — 1 port, for AC adapter cable
- LAN — 1 port, for 10/100 Ethernet RJ-45 jack

- Modem — 1 port, 4-pin, RJ-11 modular jack
- Bluetooth support — for Bluetooth module, and Bluetooth-compliant devices

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

External USB Diskette Drive

Interface:

- Standard USB interface including: USB-compatible protocol; support for standard USB operations such as configuration and reset

Connection:

- Support for "hot-swapping" (connecting or disconnecting while system is powered on)

Features:

- Heads: 2
- Tracks: 80
- Encoding method: MFM

Size — 3.5-inch

Capacity — 1.44 MB (formatted), 2 MB (unformatted)

Note When referring to storage capacity, GB stands for one billion bytes and MB stands for one million bytes. Some utilities may indicate varying storage capacities. Total user-accessible capacity may vary depending on operating environments.

Hard Disk Drive

Specifications vary depending upon model:

- Ultra DMA/66 support
- Capacity — Internal 10 or 20.x GB
- Drive height — 9.5 mm
- Revolutions per minute — 4200

Note When referring to storage capacity, GB stands for one billion bytes and MB stands for one million bytes. Some utilities may indicate varying storage capacities. Total user-accessible capacity may vary depending on operating environments.

CD-ROM Drive

- 24X maximum/12X minimum variable-speed
- Type — 5-inch CD-ROM Pack
- Average data transfer rates — 1545 KB/second to 3600 KB/second
- Burst transfer rate — 16.7 MB/second, PIO mode4/DMA mode
- Average access time
  - — 190 ms (Random)
  - — 350 ms (Fullstroke)
- Interface — IDE (ATAPI)
- Photo CD Compatibility — Single Session/Multisession Photo CD, Video CD (CD-1, CD-I Ready, CD-G, CD-Plus, CD-DA, CD-EXTRN, and CD-ROM XA mode 2)

CD Read/Write Drive

- Speed
  - — Read, max 20X
  - — CD-RW, max 14X
  - — Write, 8X (CD-R), 4X (CD-RW)
- 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

DVD-ROM Drive

- Burst transfer rate — 16.67 MB/sec, PIO/Multiword DMA
- Spin up time, 2.5s (DVD), 2.0s (CD)
- Read rate
  - — CD, 10.3X – 24X, approximately 5,100 rpm
  - — DVD, 4X – 7.5X, approximately 1,200 – 2,000 rpm
- Access time
  - — Average random access, 100 ms (DVD), 95 ms (CD 24X)
  - — Average random seek, 95 ms (DVD), 90 ms (CD 24X)
  - — Full stroke, 160 ms (DVD), 160 ms (CD 24X)
- Data buffer — 128 KB
- Interface — IDE (ATAPI)
- CD Compatibility — CD-DA, CD+G, CD MIDI, CD-TEXT, CD-ROM, CD-ROM XA, CD-I Bridge (Photo-CD, Video CD), CD-I, Multisession CD (Photo-CD, CD-Extra, CD-RW, CD-R), CD-R (read), CD-RW (read)
- DVD Compatibility — DVD-5, DVD-9, DVD-10, DVD-18, DVD-R (read, single border)

DVD-ROM and CD Read/Write Combination Drive

- Data capacity
  - — DVD, 2,048 bytes/block
  - — CD, 2048 bytes/block (mode 1), 2,336 bytes/block (mode 2)
- Rotational speed
  - — DVD, 3,792 (2.5 – 6X CAV)
  - — DVD-Video, 1,377-2,222 rpm (1.6X – 2.4X PCAV)
  - — CD, 5,100 rpm (10.3 – 24X CAV)
  - — CD-RW, 1,200 – 2000 rpm (4 – 5.7X PCAV)
  - — Video-CD, 1,200 – 2000 rpm (4 – 5.7X PCAV)
  - — CD-R/CD-RW (Write), 850 – 1,980 rpm (4X CLV)
420 – 990 rpm (2X CLV)

- Sustained data transfer rate
  - — DVD, 3,357 – 8,112 kbytes/sec (2.5 – 6X CAV)
  - — DVD-Video, 2,163 – 3,245 kbytes/sec (1.6X – 2.4X PCAV)
  - — CD, 1,552 – 3,600 kbytes/sec, mode 1 (10.3X – 24X CAV)
    1,769 – 4,104 kbytes/sec, mode 2 (10.3X – 24X CAV)
- Access time (typical)
  - — Average random access, 120 ms (DVD), 110 ms (CD)
  - — Average random seek, 115 ms (DVD), 105 ms (CD)
  - — Average full stroke, 180 ms (DVD), 170 ms (CD)
- Spin up, 2.5s (DVD), 2.0s (CD)
- Data buffer, 2 MB
- Power supply, +5V
- Dimensions (W x H x D)
  - — 5.04 x .5 x 4.96 in.
  - — 128 x 12.7 x 126.1 mm
- Weight .54 lb. (0.246 kg)

Mini PCI LAN/Modem Card

- 10BASE-T and 100BASE-TX compatible
- IEEE 802.3 and IEEE 802.3u compliant
- 10/100 Mbps transmission rate
- 10/100M, LINK, and ACT diagnostic LEDs
- Some systems support Wake-On LAN
- V.90 data/V.17 fax soft, MMX optimized
- K56flex compatible
- SmartDAA™ technology
- V.80 synchronous access mode

Power

AC Adapter

- Input Voltage — 100 to 240 volts (V) AC, 50 or 60 Hz, Maximum 2.8A
- Output Voltage — 15 V DC
- Australia, Europe, and Asia use an AC power cable specific to each country's standards.

Batteries

- Primary (main) battery with output voltage of 11.1V
  - — 3-cell Lithium Ion (Li-Ion), 1900 mAh
  - — 15-cell Maximum-Life Li-Ion, 8250 mAh
- Secondary battery — optional 6-cell Li-Ion VersaBay IV battery with output voltage of 11.1V 3300m Ah

Auto Adapter — For plugging into vehicle cigarette lighter (not available in U.S. and Canada)

Dimensions

- Width — 11.04 in. (283 mm)
- Depth — 9.3 in. (238.5 mm)
- Height
  - — with 3-cell battery 1.21 in. (31 mm)
  - — with 15-cell battery 1.78 in. (45.6 mm)

Weight

With 3-cell battery:

- 3.64 lb. (1.65 kg) with weight-saving module installed
- 4.03 lb. (1.83 kg) with VersaBay IV drive installed

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
0000 0000h-0009 FFFFh	640K	System/Application Memory
000A 0000h-000B FFFFh	128K	Video Buffer RAM
000C 000h-000D FFFFh	128K	Available for applications
000E 0000h-000F FFFFh	128K	Upper ROM, System and Video BIOS
0010 0000h-09FF FFFFh	up to 160MB	Extended Memory
000A 0000h-FFEF FFFFh	128K	Video RAM Frame Buffer
FFF0 0000h-FFF7 FFFFh	512K	1MB Extended BIOS
FFF8 0000h-FFF9 FFFFh	256K	New Extended BIOS
FFFA 0000h-FFFBFFFFh	128K	Lower ROM, Power Management BIOS
FFFE 0000h-FFFF FFFFh	128K	System BIOS (alias)

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.

Priority	Name	Device
0	IRQ00	Internal Timer 1
1	IRQ01	Keyboard
2	IRQ02	INT from Controller 2
3	IRQ08	Real-time Clock
4	IRQ09	Reserved for ACPI SCI
5	IRQ10	PC CardBus/LAN//Video/USB[1]
6	IRQ11	Available
7	IRQ12	PS/2 Mouse/NEC VersaGlide Touchpad
8	IRQ13	Numeric Data Processor
9	IRQ14	Hard Disk Controller 1
10	IRQ15	Not Used
11	IRQ03 or IRQ04	
12	IRQ04 or IRQ03	Available
13	IRQ05 or IRQ09	Sound/Modem or PC CardBus
14	IRQ06	Diskette Drive Controller
15	IRQ07	Printer Port (LPT1)

C

Frequently Asked Questions

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

External Mouse

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

The NEC Versa TXi is equipped with three USB ports that allow you to connect any combination of three USB devices, at the same time. If you purchase a USB mouse and a USB keyboard, simply plug each device into any of the USB ports on your system.

Display

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

The maximum resolution in simultaneous mode is 1024x768 for XGA TFT or 800x600 for SVGA TFT panels, depending on the capabilities of the external monitor. 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?

Go to Start, Settings, Control Panel, and double click the Display icon. Click the Settings tab, click Advanced Properties, and 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 a new video driver.

PC Cards

In which slots do my PC Cards go?

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

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

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

Can I run two of the same type cards simultaneously?

Yes, Windows configures each card. If they are both modems, configure each for a different Com port and different available interrupts under the Device Manager in Windows. Click Start, Settings, Control Panel, System, Hardware (Windows 2000 only), Device Manager.

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, NEC Computers excluded some resources from PC Card use.

Diskette Drive

Why can't I boot from the external USB diskette drive?

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

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

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

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

How do I format a diskette?

Double click on the My Computer icon and then right click (click the right-hand mouse button) on the diskette drive icon. Select Format and choose the format process that best suits your needs.

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

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

Your NEC Versa TXi ships with an external 1.44-MB* USB 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.

Why does the amount of available storage displayed for the diskette drive vary between utilities?

Some utilities may indicate varying storage capacities. Total user-accessible capacity may vary depending on operating environments.

Booting

How do I warm boot my computer?

In Windows 2000, Windows 98 SE, or Windows Me, press **Ctrl**, **Alt**, and **Del** twice to restart the system or go to Start, Shut Down, Restart the computer. In DOS mode, press **Ctrl**, **Alt**, and **Del** to warm boot the system.

How do I cold boot my computer?

Press the system's Power button to perform a cold boot or go to Start, Shut Down, to shut down the computer. Wait at least five seconds, and then turn the power on.

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.

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.

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. 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 an LCD timeout.

When your screen goes blank, before the system goes into Standby mode (power status LED blinks), just press the Space Bar or move your mouse to reactivate your system.

What is the purpose of Suspend to RAM (Standby)?

You can initiate full Suspend-to-RAM 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 (Hibernation)?

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

Resuming from STF mode requires less time than performing a cold boot.

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

How do I bring my system out of Standby mode?

Pressing the Power button brings the system out of Standby mode.

What is a timeout?

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

What can I do to conserve battery power?

There are several ways to conserve battery power, and this is an important activity, particularly if you frequently use your system in situations when you can’t operate your system on AC power.

Try using your system with a lower screen illumination to conserve battery.

If you have an Intel Pentium III processor with SpeedStep technology, run your system on battery power with SpeedStep technology enabled. This allows the processor to run at a lower speed during non-intensive processor operations, and consequently conserves your battery.

There are also activities that draw larger amounts of battery power. If possible, operate your system on AC power in these circumstances to conserve your battery. For example, NEC Computers recommends running the system on AC power while using external devices such as a printer or a USB drive, when connected to a network, or while playing DVD movies.

Miscellaneous

How do I set the time and date?

You can change the time and date in Windows 2000/98/Me by double clicking 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. (If upgrading after initial purchase, the memory module provided with the system may have to be replaced with an optional larger memory module in order to achieve the maximum capacity.)

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 128 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**.

How do I save a file?

You save a file by selecting File, then Save, from the drop down menu. If the file was not previously named, you will be prompted for a file name. In Windows 2000/98/Me you can use up to 255 characters to name a file.

*When referring to storage capacity, MB stands for one million bytes. Some utilities may indicate varying storage capacities. Total user-accessible capacity may vary depending on operating environments.

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.

AGP
Advanced Graphics Port is an interface specification designed for the throughput demands of 3D graphics. AGP introduces a point-to-point channel allowing the graphics controller direct access to main memory, increases bandwidth to 266-MBps, and supports throughputs of 533-MBps and 1.07-GBps.

animation
The art of making things appear to move in two-dimensional (2D) or three-dimensional (3D) 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.

Bluetooth

Wireless protocol that allows wireless connectivity from a Bluetooth module in your computer to a wireless communication device.

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 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 discs or those used by the music industry to store digital recordings and CDs used to store computer data. Both types are read-only, which means that once the data is recorded onto them, they can only be read or played.

CD audio

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

CD-ROM drive

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

CD-RW drive

Compact Disc Read/Write. A computer controlled device that reads from and writes to high capacity optical discs.

clock

Electronic timer used to synchronize computer operations.

CMOS

Complementary Metal Oxide Semiconductor. A chip that contains nonvolatile memory in the Versa notebook. 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.

DVD
Originally *digital video disk* but now *digital video disk*, this new type of disc can hold up to seven times the data of a compact disc.

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.

IEEE 1394 Standard

IEEE 1394 devices support Plug and Play connectivity for transfer rates of up to 400 Mbps. Use this port to daisy chain up to 63 IEEE 1394 devices to your system.

input/output

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

IDE

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

infrared

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

interface

A connection that enables two devices to communicate.

interrupt

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

K

kilobyte

(KB) 1024 bytes.

L

LAN

Local Area Network.

LCD

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

load

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

M

megabyte
(MB) 1,048,576 bytes.

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

menu
A video display of programs or options.

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

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

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

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

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

MPEG
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 media such as sound, text, graphics, and video.

N

nonvolatile memory

Storage media that retains its data when system power is turned off. Nonvolatile memory in the Versa notebook is a complementary metal oxide semiconductor (CMOS) chip that 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 Card

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, 800x600. 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 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.

S/PDIF

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

Standby mode

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

SVGA

Super Video Graphics Array. Graphics technology that supports up to 256 or more colors and a graphics resolution of 800x600 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 LCD color screen that supports up to 16.8-million 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 touchpad

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 640x480 pixels.

volatile memory

Storage media that loses its data when system power is turned off. Standard memory and memory that you add to the Versa notebook 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 1024x768 pixels and 16 million simultaneous colors. XGA also supports non-interlaced monitors.

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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 ne depasse pas les limites de Classe B d'émission de bruits radioelectriques pour les appareill numerique, lelles que prescribes per le Reglement sur le brouillage radioélectrique elebil por le minisieredes Communications du Canada.

European Community Directive Conformance Statement

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

Battery Replacement

A lithium battery in some computers maintains system configuration information. In the event that the battery fails to maintain system configuration information, NEC Computers recommends that you replace the battery. For battery replacement information, call your NEC Computers dealer or NEC Computers Support Services.

⚠ 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.

Do not place used batteries in your regular trash. The batteries must be collected, recycled, or disposed of in an environmentally approved manner.

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

LCD Panel Disposal

The LCD lamp in your computer's LCD panel contains mercury.

Do not place a used LCD panel in your regular trash. The panel must be collected, recycled, or disposed of in an environmentally approved manner.

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

Mini PCI FCC Registration Numbers

If your system has a built-in Mini PCI modem, the FCC registration number of your system is FJE USA-40066-ME-E REN 0.0A.

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 TXi

is in conformity with part 15 of the FCC Rules. Operation of this product is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.