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Using this Guide

The *NEC Versa™ 4000 Series User's Guide* contains information about using your portable laptop computer. Read the following chapters to find out more about your NEC Versa 4000.

- Chapter 1 introduces the NEC Versa 4000, its features, and care.
- Chapter 2 explains how to use the NEC Versa 4000 hardware.
- Chapter 3 describes the software that comes with your NEC Versa 4000.
- Chapter 4 gives you useful information about traveling with your notebook computer.
- Chapter 5 gives you a checklist to follow if you have problems with the NEC Versa 4000. Common problems and solutions are included.
- Chapter 6 provides a list of numbers for NEC customer support services.

 **WARNING**

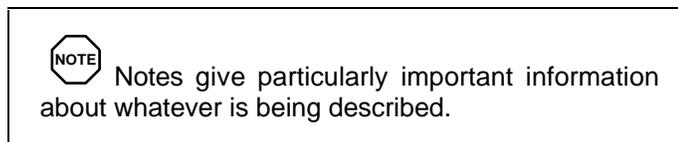
Prolonged or improper use of a computer workstation may pose a risk of serious injury. To reduce your risk of injury, set up and use your computer in the manner described in Appendix A, Setting Up a Healthy Work Environment.

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- Appendix A, Setting Up a Healthy Work Environment, contains guidelines to help you use your computer productively and safely. This appendix also instructs you on how to set up and use your computer to reduce your risk of developing nerve, muscle, or tendon disorders.
 - Appendix B provides system specifications and environmental requirements.

TEXT SETUP

To make this guide as easy to use as possible, text is set up in the following ways.

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



-
- 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

In addition to this guide, other documents ship with your Versa system, including the following:

- The *NEC Versa 4000 Series Quick Setup* shows how to set up and start your system after you unpack it.
- The *NEC Versa 4000 Quick Reference Card* contains brief descriptions of function keys, LCDs, NEC help telephone numbers and troubleshooting tips.

Tuck this card inside the notebook when you take it with you. The card is designed as a quick, portable reference to frequently used functions.

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Getting to Know Your NEC Versa 4000

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™ 4000 is ready to go! It's packed with features to make your work experience fun and productive. To get started, look at the following:

- Read Appendix A, Setting Up a Healthy Work Environment, for guidelines that help you use your computer productively and safely. Information includes how to set up and use your computer to reduce your risk of developing nerve, muscle, or tendon disorders.
- Take the online *System Tour* to get acquainted with the NEC Versa 4000. (The *System Tour* is in the Windows NEC Information group under the NEC Versa 4000 InfoCenter.)
- Wander through the online system *Basics*. (*Basics* is in the Windows NEC Information group under the NEC Versa 4000 InfoCenter.)
- Flip through this guide to familiarize yourself with the NEC Versa.

AROUND THE SYSTEM

The NEC Versa 4000 is light and compact with features on every side.

Front

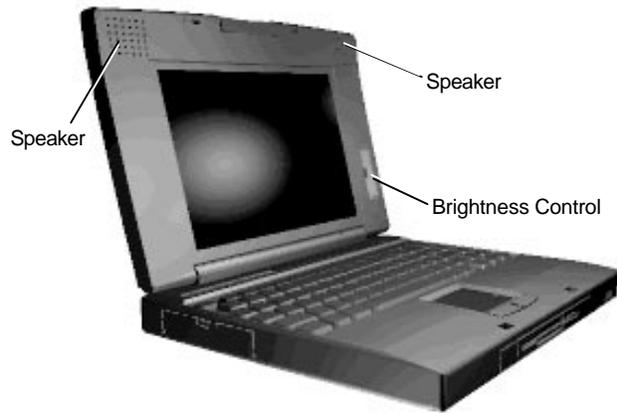
First, look at the front of the NEC Versa 4000.



The front

LCD Panel

Your NEC Versa 4000 comes with a 10.4-inch Dual-Scan Super-Twisted Nematic (DSTN) color display, a 10.4-inch High-Resolution color display, or a 10.1-inch color Thin Film Transistor (TFT) active-matrix display. In addition to the screen, the display panel offers a number of other features. They include the features shown next and described after the figure.

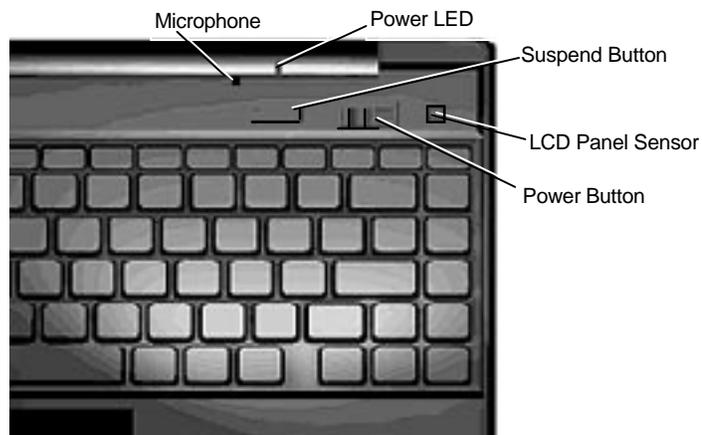


LCD panel features

- Built-in Stereo Speakers — positioned to play stereo sound from your system.
- Brightness Control — a slide switch to adjust the screen backlight brightness.
- Contrast Control — a slide switch to adjust the contrast on the screen (DSTN screens only).

Controls and Microphone

NEC Versa 4000 controls and the built-in microphone are shown in the following figure. These features are described after the figure.

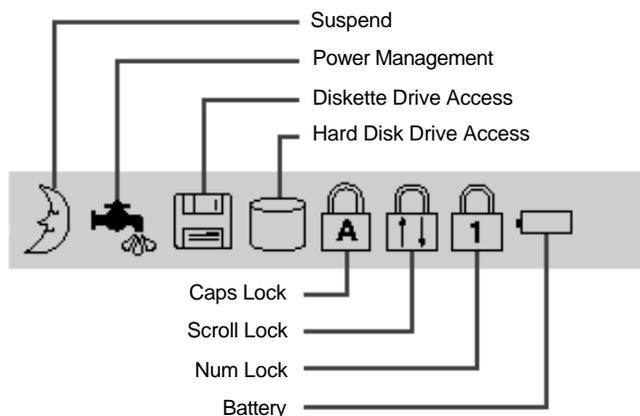


Controls and microphone

- Microphone — allows you to record monophonic sound directly into your notebook computer.
- Power LED
 - Lights green when the system is powered on.
 - Blinks green when the system is in Suspend mode.
 - Blinks yellow to indicate that battery power is low.
- Suspend Button — press the Suspend button to put the unit into Suspend mode or to resume operation mode.
- LCD Panel Sensor— senses when the LCD panel is closed and turns off the panel.
- Power Button — slide the power button to power on and off the notebook computer.

Status Icons

The NEC Versa 4000 has several LCD icons that show you the system status.



- Suspend — appears when the system is in Suspend mode.
- Power Management — shows the current power management mode in use.
- Diskette — appears when the NEC Versa writes data to or retrieves data from a diskette.
- Hard Disk — shows when the NEC Versa writes data to or retrieves data from the system's hard disk.
- Caps Lock — appears when caps lock is in effect.
- Scroll Lock — shows that scroll lock is in effect.
- Num Lock — appears when Num Lock mode is active.

-
- **Battery Status** — displays the battery pack charge status. If you have two battery packs installed, two battery icons appear.

- 4 bars indicate a 76 – 100% charge
- 3 bars indicate a 51 – 75% charge
- 2 bars indicate a 26 – 50% charge
- 1 bar indicates a 1 – 25% charge.

The first and third bars on the battery gauge flash to indicate an unknown battery status. To correct the reading, recharge your battery for 8 hours. If the battery is new and still shows an unknown status, contact the dealer from whom you purchased the battery.

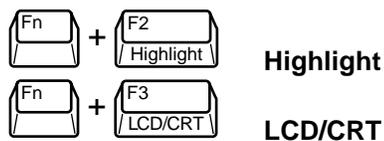
Keyboard

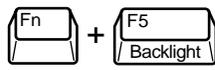
The NEC Versa 4000 keyboard is equipped with many features, including the following. (For more details about keyboard features, see Chapter 2 of this guide and the online information found in the NEC Versa 4000 InfoCenter.)

- **Function keys** — Function (Fn) key combinations activate the functions printed in blue on keys with dual functions. Press the **Fn** key and a function key at the same time. For example, to adjust the speaker volume press and hold **Fn** while you press and hold **F6**.

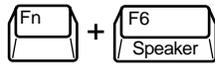
Applications that you run determine what the key functions do. See the application user guide for information about how these keys function.

The following function key combinations are preprogrammed for the NEC Versa 4000.





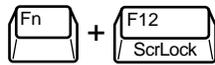
Backlight



System Speaker Volume



Power Management (P/M)



Scroll Lock On/Off

- **Typewriter keys** — The typewriter keys (also called alphanumeric keys) are used almost exactly as those on a typewriter. Keys that behave differently do so when combined with control keys or function keys.
- **Cursor control keys** — Cursor control keys let you position the cursor on the screen wherever you want. On the screen, the cursor is a blinking underline, block or pointer, depending on the application. The cursor shows where the text typed next will appear.
- **Numeric keypad** — Pressing **Num Lock** activates the numeric keypad when no external keyboard or scanner is connected. The numeric keys are printed in blue. 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.
- **Control keys** — Control keys include **Ctrl**, **Alt**, **Fn**, and **Shift**. They are 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. Other control keys include **Num Lock**, **Scroll Lock**, and **Ins**. (For detailed descriptions, see the online information.)

Infrared Port

The infrared (IR) ports on your system let your NEC Versa 4000 communicate with other devices having infrared ports. For example, you can easily transfer files between your NEC Versa and an IR-equipped desktop or print to an IR-equipped printer without using cables.

These ports are Serial-Infrared (S-IR), IrDA compatible.

A second infrared port is located on the back of your notebook system. When your NEC Versa ships, the back port is enabled and the front port is disabled. When you dock your system, the back IR port is automatically disabled and the front IR port is enabled.

NEC VersaGlide

The NEC VersaGlide touchpad gives you control of the pointer on the screen and replaces the mouse usually used with computers. The VersaGlide touchpad is described in detail in Chapter 2, Learning to Use the Hardware.

Diskette Drive and the NEC VersaBay II

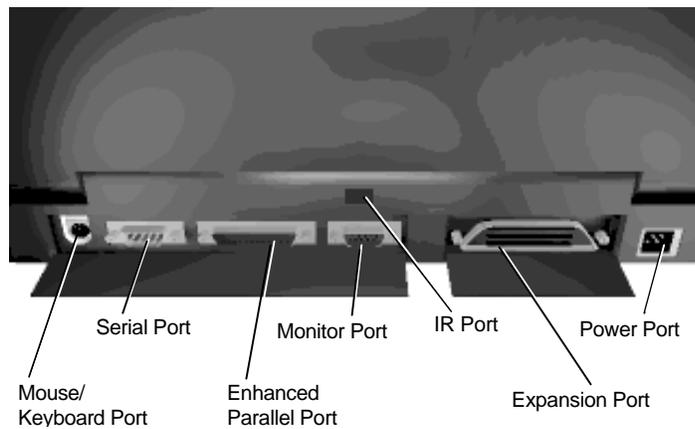
A 1.44-MB diskette drive comes installed in the NEC VersaBay II on the front of your system. You can save your files to diskette and install software from diskette using the diskette drive, called drive A.

The VersaBay II lets you install many other options, including an optional CD-ROM reader, a second battery pack, or an additional hard disk drive.

VersaBay II release latches are on the bottom of the unit.

Back

The back of the system has ports for connecting your NEC Versa 4000 to other devices, like a printer, an external mouse, and power sources.



Back system features

- **Keyboard and Mouse Port** — Use the standard PS/2 port to connect an external PS/2-style mouse or a PS/2-style keyboard to the system. With an optional Y-cable adapter, you can connect both a mouse and a keyboard at the same time.
- **Serial Port** — Use this port to connect an external modem or other serial device. A serial cable has a 9-pin connector.
- **Enhanced Parallel Port** — Use this port to connect a parallel printer or other parallel device. A parallel cable has a 25-pin cable connector.
- **Monitor (Video) Port** — Use this 15-pin connector 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.

-
- **Infrared (IR) Port** — Use the IR port to communicate with other devices having IR ports. This port lets you transfer files between your NEC Versa and an IR-equipped desktop or print to an IR-equipped printer without using cables.
 - **Expansion Connector** — Use this bus connector to attach the NEC Versa to a PortBar 4000 or Docking Station 4000 to further expand your options.
 - **Power Port** — Use the power jack to attach the NEC Versa to a DC power source such as the AC adapter or the available DC car adapter.

Left Side

The left side of your NEC Versa 4000 has two slots for inserting two Type I or Type II PC cards (formerly called PCMCIA cards). You can also insert one Type III PC card.



PC Card Slots

Left side features

The PC card is a standard interface for peripheral devices like fax/modems, local area network (LAN) cards, storage cards, and pagers. A PC card is about the size and shape of a credit card and is inserted into one of the PC card slots.

Right Side

Audio ports, the volume control dial, and the optional Kensington lock socket are located on the right-hand side of the NEC Versa 4000.



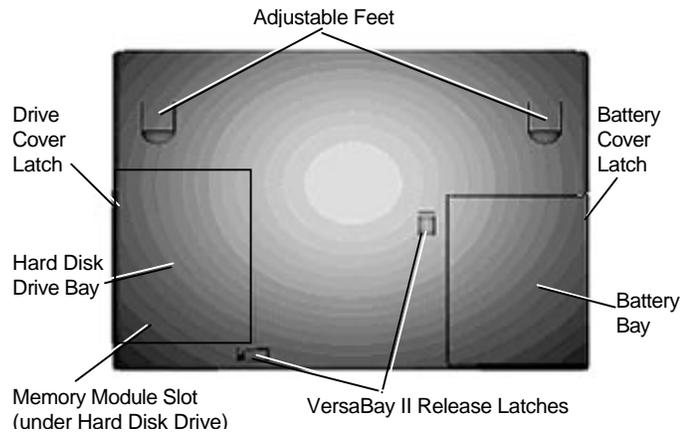
Right side features

- Kensington Lock Socket — Lets you provide added security by installing an optional Kensington Lock.
- Volume Control Dial — Allows you to control the speaker volume.
- Headphones — Lets you connect external headphones or speakers to your NEC Versa 4000. Plugging in headphones disables the built-in system speakers.

-
- **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.
 - **Line Out** — Lets the NEC Versa 4000 act as an input source for another audio system. Connect this port to a Line In port on another audio system to play or record.
 - **Line In** — Lets you use another audio system, like a home stereo, as an input source. Use a cable to connect to the Line Out port on the other audio system to record or play.

Bottom

The bottom of the NEC Versa 4000 contains the features shown in the following figure. Features are described after the figure.



Bottom features

-
- **Hard Disk Drive Bay** — The hard disk drive bay contains the removable hard disk drive. Depending on your NEC Versa's configuration, it contains a 540-MB or 810-MB hard disk drive. You can exchange hard disks in the NEC Versa 4000.

When you turn the system upside down with the front towards you, the hard disk drive is located on the left front of the system.

- **Memory Expansion Slot** — Located just under the hard disk drive, this slot lets you add an optional memory card to expand system memory.
- **Battery Bay** — Contains a Lithium Ion (Li-Ion) battery that lets you run your system on DC power. The battery bay is located on the right front of the system when the system is upside down with the front towards you.
- **NEC VersaBay II Release Latches** — These latches let you remove the option currently installed in the bay.
- **Adjustable Feet** — Adjustable feet let you change the angle and level of the NEC Versa 4000.

SYSTEM CARE

The NEC Versa 4000 is a durable, dependable system built for extensive use and travel. Follow these guidelines to maintain the condition and performance of your computer.

Precautions

Follow these precautions when using your NEC Versa 4000, AC adapter, and VersaBay II.

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

-
- Avoid moving the NEC Versa 4000 during system operation, especially while the hard disk or diskette drive is being accessed.
 - When using the AC adapter, make sure the power source falls within the system's compatible range of 100–240 volts AC. Never use the AC adapter if the voltage falls outside of this range. (Watch for this when traveling to foreign countries.)
 - Turn computer power off before attaching or removing non-plug and play devices.
 - Avoid using the computer or AC adapter for extended periods in direct sunlight.
 - Do not use the system in humid or dusty environments.
 - Turn computer power off before cleaning it.
 - Avoid exposing the NEC Versa 4000 or AC adapter to extreme changes in temperature or humidity. If it is unavoidable, allow your NEC Versa to adjust to room temperature before using.
 - When cleaning the system, use a soft, clean, dry cloth. Avoid wiping the display surface with abrasive material, including rough fabric.
 - If the AC adapter becomes extremely hot, unplug the adapter and let it cool.
 - Do not direct an IR port towards the LCD panel.
 - Keep the AC adapter away from the IR ports.

Storage Requirements

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

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

-
- 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.



CAUTION

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

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

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 4000.

These cleaners are usually high in alkalinity which is measured in pH. Using these cleaners can cause the plastic surface to crack or discolor.

-
- LCD screen — Carefully wipe the LCD screen with a soft cloth or a screen wipe designed for that purpose. Special screen wipes are available through your local computer dealer.
 - System case — NEC recommends that you carefully wipe the case with a slightly damp, almost dry cloth.

2 Using the Hardware

Like any computer, the NEC Versa 4000 is made up of hardware (the physical unit and its components) and software (the programs that run on the computer). This chapter discusses the hardware.

- Powering on the system
- Keyboard features
- NEC VersaGlide
- Options and PC card expansion

Powering Your NEC Versa

The NEC Versa 4000 can be powered from a variety of different sources, making it a truly portable system. Operate your NEC Versa 4000 just about anywhere using one of the following power sources:

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

AC Adapter

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

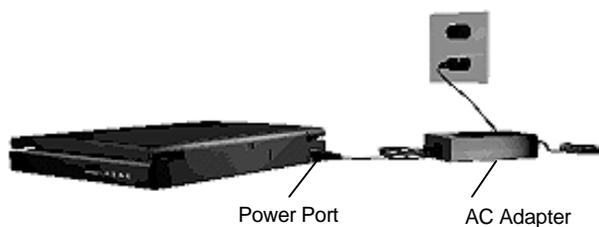
Keep the adapter connected whenever possible. The AC adapter charges the battery whether or not you are using the NEC Versa.



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

Connect the AC adapter as follows:

1. Connect the AC adapter cable to the power port on the back of the NEC Versa 4000.
2. Plug one end of the AC power cable into the AC adapter and the other end into a properly grounded 120- or 240-volt wall outlet.



Connecting the AC adapter

Bridge Battery

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

Only an authorized NEC dealer can change a bridge battery.

Battery Pack

The NEC Versa 4000 comes with a rechargeable Lithium Ion (Li-Ion) battery pack. With it, you can run your system on battery power for up to five hours with Power Management or 2.5 hours without Power Management. It's easy to install and remove.

You can keep track of the battery's status through the status LCDs on the front of the system or the battery gauge in the power panel. Both let you know how much battery power remains.



When installing a new battery, the first and third bars on the battery gauge may flash. This indicates an unknown battery status. To correct the reading, recharge your battery for 8 hours. If the battery still shows an unknown status, contact dealer from whom you purchased the battery for a replacement.

When battery power is very low, the battery outline on the battery status LCD blinks. If the system speaker is enabled, 3 low battery warning beeps are emitted.

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

- Put your system in Suspend mode, remove the battery pack, and replace it with a fully charged Li-Ion battery.
- Leave the battery pack in the system and connect your NEC Versa to the AC adapter and a wall outlet. If you connect the system to AC power and continue to use it, the battery recharges in 2.5 to 7 hours. If you connect the system to AC power and do not use it, the battery recharges in about 2.5 hours.

You can also buy an optional battery charger to quickly charge your battery. See the online *Options Catalog*.

 **WARNING**

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

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

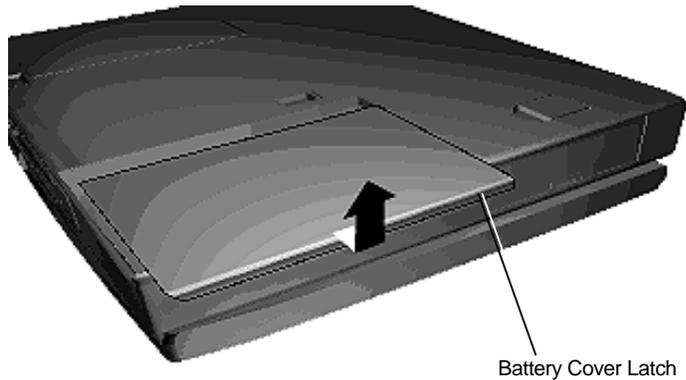
Replacing the Battery Pack

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

1. Turn the NEC Versa over so that it is upside down with the front of the system facing you.

2. Remove the battery cover as follows:

- Locate the battery cover latch and slide it towards the front of the system.
- Slide the cover about half an inch away from the system to align the cover tabs and notches.
- Lift the cover up and away from the system.



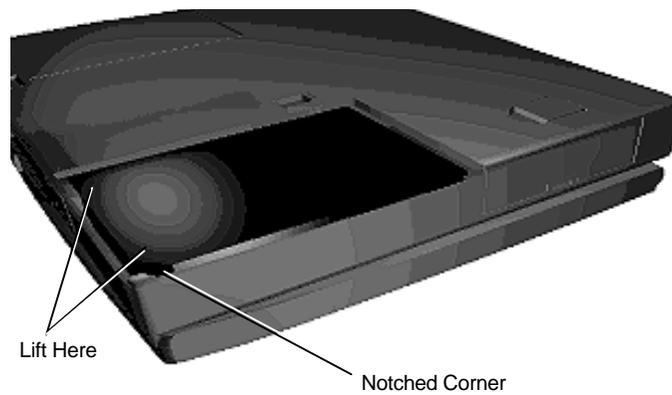
Removing the cover

3. Locate the notch on the battery. Placing your fingers in the notch, lift the battery out of the system.



CAUTION

Always lift the battery out of the system by the notched end. Failure to do so can damage the battery terminals.



Removing the battery

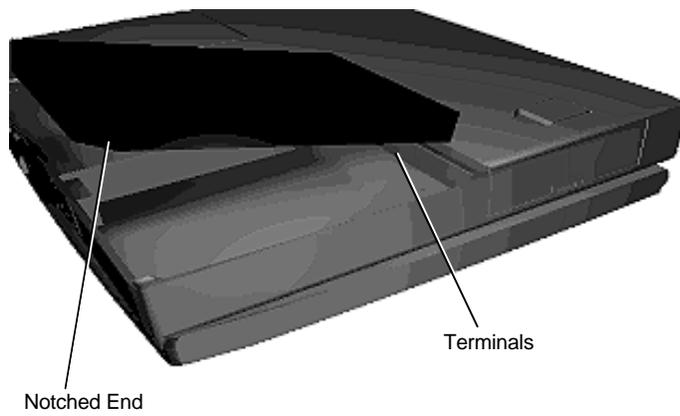
4. Insert the new battery as follows:

- Align the battery terminals with the terminals in the system.
- Lower the terminal end of the battery pack into the bay.
- Next, lower the notched end into the bay.



CAUTION

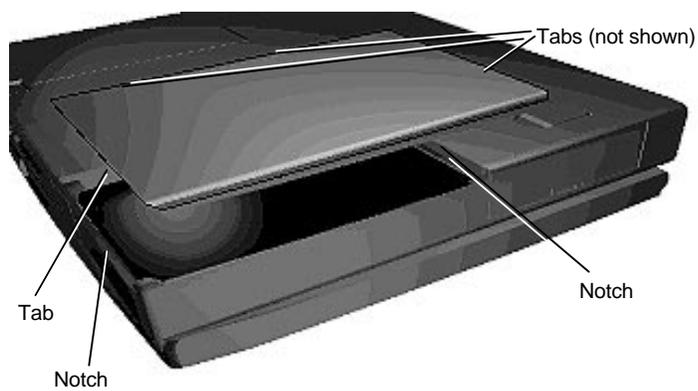
When installing a battery pack, be careful not to twist the terminals.



Inserting the battery pack

5. Replace the battery bay cover as follows:

- Align the tabs on the battery cover with the notches in the system.
- Lower the cover onto the system.
- Slide the cover towards the middle of the unit. Tuck the tabs on the back of the cover under the chassis.

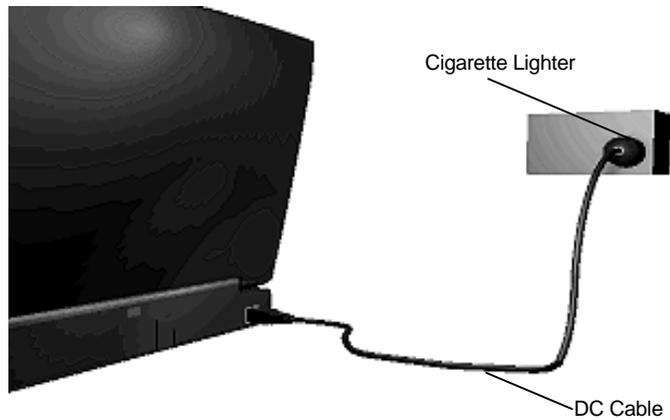


Replacing the cover

DC Car Adapter

The NEC Versa 4000 can run on car battery power using the optional DC car adapter from NEC.

1. Disconnect the AC adapter from the system if connected.
2. Plug the appropriate end of the car DC adapter into the power port on the system.
3. Connect the plug of the DC car adapter to a car cigarette lighter.



Connecting the car DC adapter

Keyboard

The NEC Versa 4000 keyboard is equipped with many features. They include the following:

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

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



Keyboard

- **Function keys** — Twelve function keys, **F1** through **F12**, are available on the NEC Versa 4000 keyboard. These keys work together with the **Fn** key to activate special functions. Six keys are preprogrammed with dual functions, which are printed in blue on the key.
- **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 or block, depending on the application. The cursor indicates where the next text typed is inserted.
- **Typewriter keys** — The typewriter keys (also called alphanumeric keys) are used to enter text and characters. Those keys that have blue printing on them behave differently when combined with control keys or the Fn key.

-
- **Numeric Keypad** — Pressing Num Lock on the keyboard activates the numeric keypad numbers and functions printed in blue on the keys. Num Lock works only when no external keyboard or scanner is connected.

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

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

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

The NEC VersaGlide Touchpad

The NEC VersaGlide touchpad is an easy way to control the screen pointer (cursor) with your finger. Lightly glide your finger across the NEC VersaGlide touchpad and the cursor follows. You can select items in one of two ways:

- Double tap your finger on the VersaGlide touchpad. A gentle tap is all that is required.
- Double click the left button (this is the primary 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 touchpad properties.

Touchpad Adjustments

The NEC VersaGlide offers a number of options that let you customize how the cursor and touchpad function. To access these options, locate the Control Panel and double click on the VersaGlide icon. (In Windows 3.11, look in the Main program group; in Windows 95, look in the Settings group.)

The options let you control the size and color of the cursor, the cursor speed, the accepted double-click speed, and selection button orientation. You can also disable the touchpad tap and drag feature.

The NEC VersaGlide also offers an autocentering feature that makes finding the cursor on your screen quick and easy. If you are away from your system and then return, the cursor is always located where you specified on the screen.

Use the NEC VersaGlide online help button for details about configuring your VersaGlide.

Ergonomics

Follow these basic ergonomic tips while working:

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

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

OPTIONS AND PC CARD EXPANSION

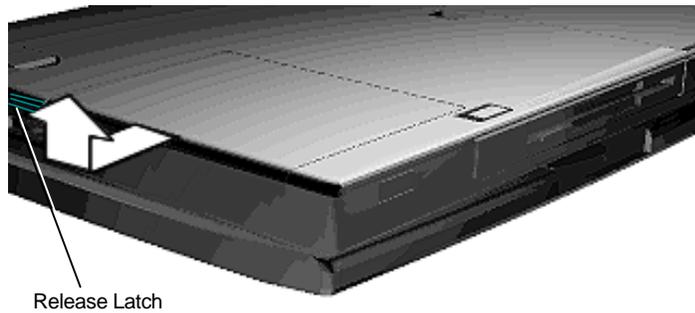
You can add a number of options and connect a number of external devices and PC cards to your NEC Versa 4000. For details on how to obtain these options, see the online *Options Catalog*.

Hard Disk

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

Replace the hard disk drive as follows.

1. Check that the NEC Versa power is off.
2. Turn the NEC Versa 4000 upside down with the front of the unit facing you.
3. Remove the drive cover as follows:
 - Locate the drive cover latch and slide it toward the front of the unit.
 - Slide the cover about a quarter of an inch away from the system.
 - Lift the cover up and off of the system.



Removing the drive bay cover

4. Remove the drive as follows:

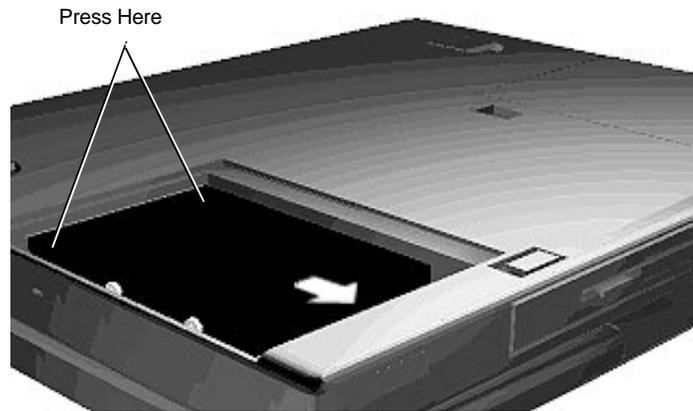
- Using your fingers, press down on the hard disk drive at the end closest to the connector.
- While maintaining pressure, slide the drive towards the front of the system.



CAUTION

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

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



Removing the hard disk drive

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

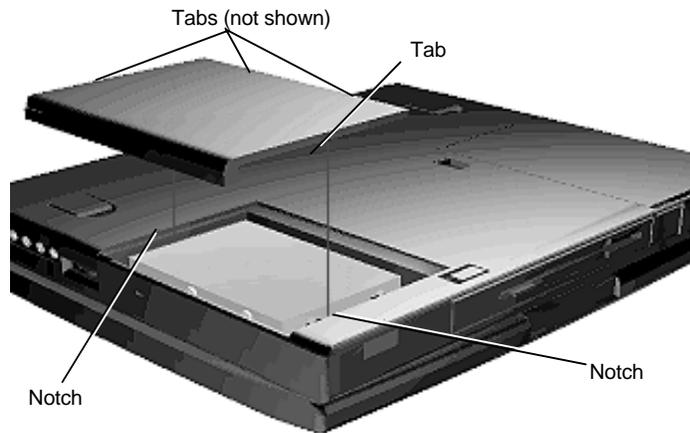


Inserting the drive

6. Slide the drive back and push firmly to secure the connection.

7. Replace the cover as follows:

- Align the tabs on the drive cover with the notches on the system chassis.
- Lower the cover onto the chassis.
- Slide the cover towards the center of the unit, making sure the second set of tabs at the back of the cover slide under the frame.
- Gently push the cover until it snaps into place.



Replacing the drive bay cover

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

Memory Expansion

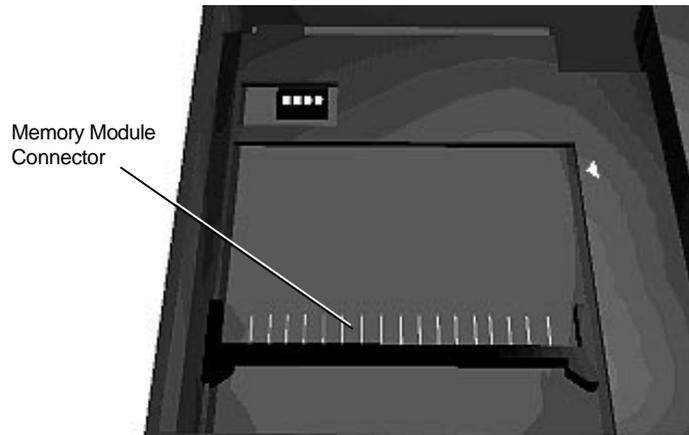
Your NEC Versa 4000 comes standard with 8 megabytes (MB) of random access memory (RAM). You can increase system memory to a maximum of 40 MB by installing one of the following memory modules in the system.

- 4-MB memory card
- 8-MB memory card

-
- 16-MB memory card
 - 32-MB memory card

Use the following steps to install a memory card.

1. Follow steps 1 through 4 in the preceding section, “Hard Disks,” to remove the hard disk drive.
2. Locate the memory connector in the drive bay.



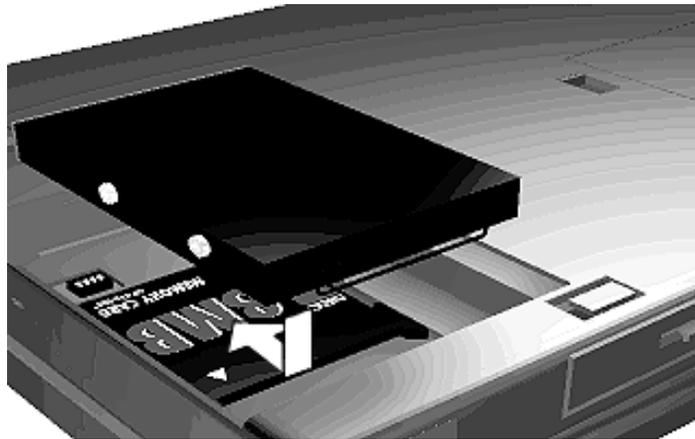
Locating the connector

3. Lower the module into the drive bay and align the module and system connectors.
4. Slide the module towards the front of the system to install it.
5. Press the card gently to make sure it is securely seated. Check that the edge of the card opposite the connector is aligned with the alignment arrow.



Inserting a memory card

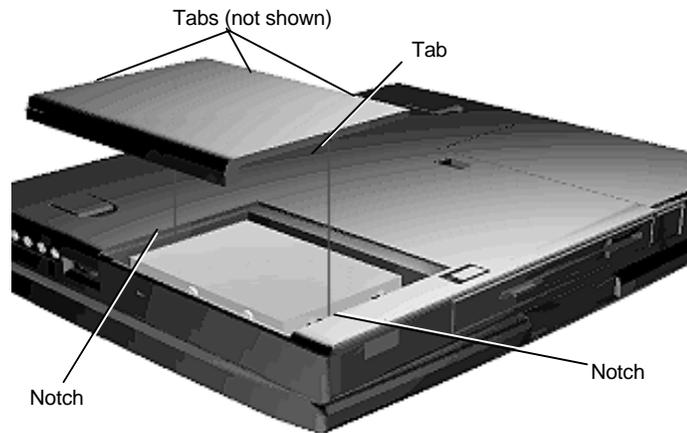
6. Lower the hard disk drive back into the drive bay and align its connector with the connector in the system.
7. Slide the drive back and push firmly to secure the connection.



Replacing the drive

8. Replace the cover as follows:

- Align the tabs on the drive cover with the slots on the system chassis.
- Lower the cover onto the chassis.
- Slide the cover to the right, making sure the second set of tabs at the back of the cover slide under the chassis frame.
- Push the cover until it snaps into place.



Replacing the drive bay cover

- 9.** Turn the system over and power on. The system automatically configures the new memory. The Setup summary screen will display the new amount.

VersaBay II

The VersaBay II lets you remove your diskette drive and add another hard disk drive, CD-ROM reader, or a second battery pack.



Optional CD-ROM readers installed in the VersaBay II must be specified as slave devices in the Setup utility. They must also be set as slave devices via the hardware switch on the back of the CD-ROM reader.

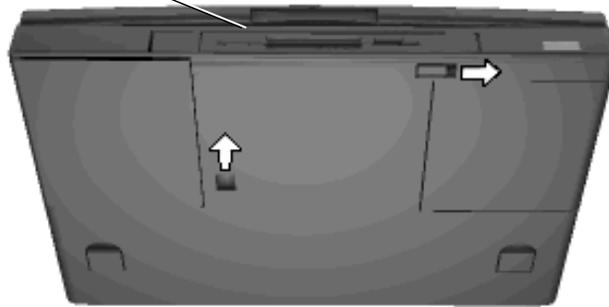
If you install a second hard disk drive in the VersaBay II, it can be set to either master or slave.

However, if you use a hard disk drive from a previous Versa model, the drive is set to master. (The Master drive is the drive from which the system boots.) Setting the drive to master lets you access both the optional drive and internal drive.

Remove the diskette drive from the VersaBay II as follows:

1. Make sure the NEC Versa 4000 is powered off and all options are disconnected.
2. Turn the system upside down with the front facing away from you.
3. Locate the VersaBay II release latches on the bottom of the unit.

Front of the Unit



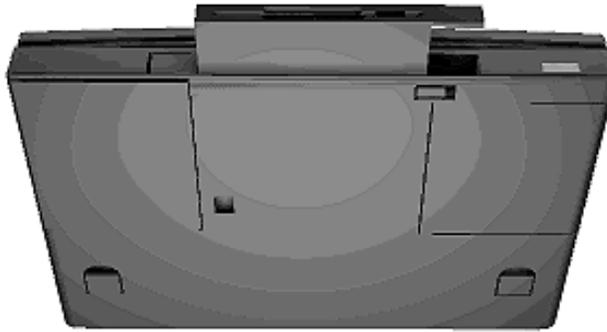
VersaBay II release latches

4. Slide the front latch to the right.
5. Push the middle latch forward until the drive pops part way out of the unit. (You may need to use some force when pushing the middle latch.)



CAUTION

Do not use a metal object to push the release latch. Doing so can damage the system casing.



Releasing the drive

6. Pull the drive the rest of the way out of the system.
7. Prepare your option for installation as follows:
 - To install a battery pack, first connect it to the bay adapter that came with the battery. (Follow the instructions that came with the battery pack.)
 - To install a hard disk drive, first connect it to the appropriate bay adapter or drive cradle pak. (Follow the instructions that come with the adapter or cradle pak.)
8. Align the option and its carrier in the VersaBay II and push it in until the option clicks into place.
9. Turn the system over and power on. The system should automatically recognize the newly installed option.

External Monitor

You can add a standard external monitor to your NEC Versa 4000. You need a display signal cable (usually provided with the monitor). One end of the cable must have a 15-pin connector for the system.

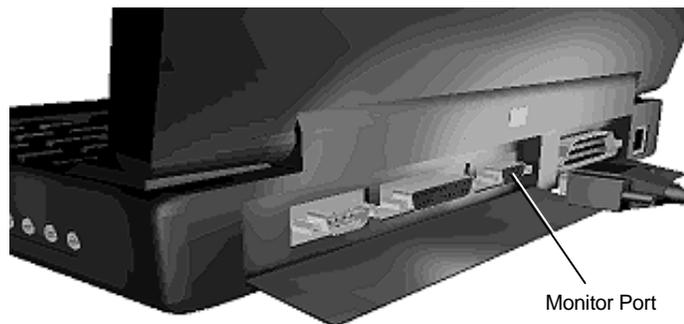
Follow these steps to connect an external monitor to your NEC Versa 4000.

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



The NEC Versa must be in Suspend mode or powered off while the monitor is being connected.

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



Connecting a monitor

-
4. Connect the monitor power cable and plug it into a properly grounded wall outlet.
 5. Follow any setup instructions in the monitor manual.
 6. Turn on power to the monitor.
 7. Press the Suspend button to resume Active mode or power on the NEC Versa 4000.

Press the **Fn + F3** function key combination to toggle between the LCD, CRT, or simultaneous display on both.

Printer

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

Parallel Devices

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

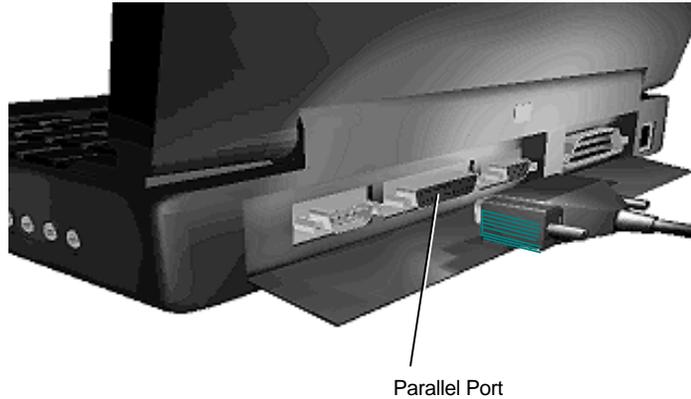


When you connect a printer, be sure to install the appropriate printer driver through the Windows Control Panel.

Connect a parallel device to your NEC Versa 4000 as follows.

1. Check that both the NEC Versa and parallel device power are off.

-
2. Open the port cover on the back of the system and locate the parallel port.
 3. Align and connect the 25-pin parallel cable connector to the parallel port on the system. Secure the cable with the screws provided.
 4. Align and connect the other end of the cable to the parallel port on the device. Lock the connector clips.



Connecting a parallel printer

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



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

Serial Devices

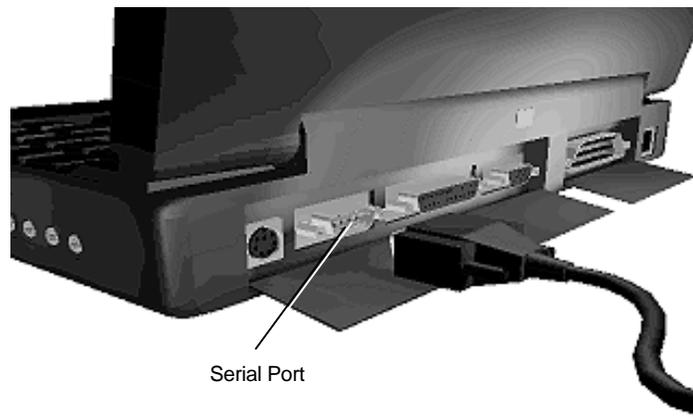
To install a serial device such as a printer or an external modem, you need a cable with a female 9-pin connector.



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

Follow these steps to connect a serial device to your NEC Versa 4000.

1. Check that both the NEC Versa and the device power are off.
2. Open the port cover on the back of the system and locate the serial port.
3. Align and connect the 9-pin connector with the serial port on the system. Secure the connection with the screws provided.
4. Align and connect the other end of the cable to the appropriate port on the device. Secure the connections with the screws provided.



Connecting a serial device

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



Make sure your printer is online before trying to print. See the printer guide for instructions.

External Keyboard

You can add a full-size PS/2-style keyboard to your NEC Versa 4000. You can continue to use the system keyboard while an external keyboard is connected.

If you want to attach both an external keyboard and a PS/2-style external mouse at the same time, use the optional NEC Y-adapter. See the online *Options Catalog*.

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

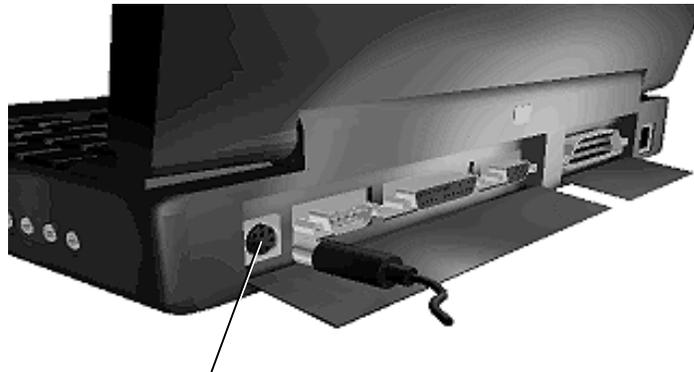
-
1. Press the Suspend button on the NEC Versa. Check that the system is in Suspend mode.



CAUTION

Make sure the NEC Versa is in Suspend mode (look for the moon icon on the Status Bar) or powered off whenever you add or remove the keyboard. Connecting an external keyboard to the system in Operating mode can damage the keyboard controller chip.

2. Connect the keyboard cable connector to the keyboard port on the system.



Keyboard/Mouse Port

Connecting an external keyboard

3. Press the Suspend button again to resume Active mode.

The system immediately recognizes the keyboard.

After you connect an external keyboard, you can use both the built-in keyboard and external keyboard simultaneously. (Only the numeric keypad on the external keyboard works in this case.)



For instructions on connecting an external keyboard to a docking station, see the user's guide that came with your docking station.

Mouse

You can add an external mouse to your NEC Versa 4000 to use in place of the NEC VersaGlide for moving the pointer. Use the following procedure to connect a PS/2-style mouse to the system. The Plug and Play feature allows you to do this with the system in Suspend mode.



Connecting an external mouse disables the NEC VersaGlide.

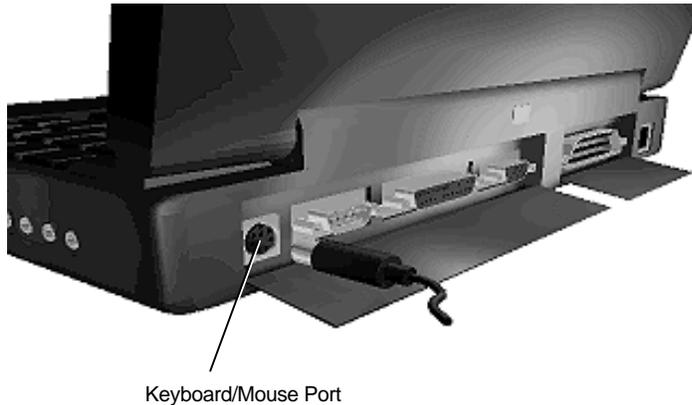
1. Check that the NEC Versa is in Suspend mode or powered off.



CAUTION

Make sure the NEC Versa is in Suspend mode (look for the moon icon on the Status Bar) or powered off whenever you add or remove a mouse. Connecting an external mouse while in Operating mode can damage the system.

-
2. Connect the mouse cable connector to the keyboard/mouse port on the system.



Connecting an external mouse

3. Press the Suspend button again to resume Active mode on the NEC Versa.



For instructions on connecting an external mouse to a docking station, see the user's guide that came with your docking station.

External Bar Code Scanner

You can use an external bar code scanner with a PS/2-style connector with your NEC Versa 4000 using the Plug and Play feature. You can still use the system keyboard while a scanner is connected.

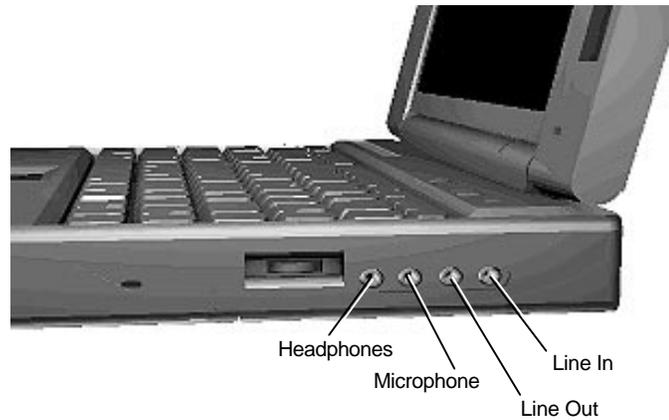
To connect a bar code scanner, follow the instructions under "External Keyboard."

External Audio Options

The NEC Versa 4000 comes equipped with built-in audio ports that let you record and play sound.

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

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



Audio ports



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

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

PC Cards

You can easily install and change peripheral devices, such as modems, LAN cards, and storage cards in your NEC Versa 4000. The NEC Versa 4000 series notebook computers have software that automatically allocates system resources when you install or remove a PC card using PCMCIA technology.

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

1. Align the card so that the 68-pin connector points towards the slot.
2. Slide the card into either slot. A low tone followed by a high tone lets you know that the card is fully inserted and recognized. (If you turn off the sound through Setup or the PowerPanel, no sound is emitted.)

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



Inserting a card

-
3. If Windows for Workgroups is your operating system, check the CardWizard™ icon in the Program Manager. It shows which slot contains a PC card and which is empty.

To remove the card, press the button on the side of the slot. A high tone followed by a low tone sounds.

Docking the NEC Versa 4000

You can further enhance your NEC Versa 4000's capabilities by connecting the notebook computer to an optional docking station.



If you have a CD-ROM reader installed in your NEC Versa 4000 and another CD-ROM reader installed in the docking station, you must select the audio source you want to use.

Check for the CD-ROM reader icon in the Power-Panel toolbar. Click to specify the CD-ROM reader to use.

NEC Versa PortBar 4000

The NEC Versa PortBar™ 4000 duplicates the ports found on the back of your NEC Versa 4000 system. Keep the PortBar in your office connected to peripherals while you take your NEC Versa 4000 on the road.



Whenever you dock the NEC Versa 4000, the back IR port is automatically disabled and the front IR port is enabled.

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



CAUTION

Do not use the tilt feet when installing the PortBar. Doing so can damage the connector.

NEC Versa Docking Station 4000

The optional NEC Versa Docking Station™ 4000 lets you turn your portable computer into a desktop or a full-blown multimedia workstation. See the *NEC Versa Docking Station 4000 User's Guide* for instructions on connecting and using the docking station.



Whenever you dock the NEC Versa 4000, the back IR port is automatically disabled and the front IR port is enabled.

3 Understanding the Software

This chapter introduces you to the software that comes with the NEC Versa 4000, including:

- Windows 95 and Windows for Workgroups
- MS-DOS®
- Online Help
- NEC Utilities (Setup, Distribution Diskette Creator)
- Other Utilities
 - Phoenix® PowerPanel™
 - TranXit™
 - CardWizard™
 - Taxi™ and Official Airline Guide (OAG).
 - ESS Audio.

WINDOWS INTRODUCTION

Your NEC Versa 4000 gives you the option of loading either Windows 95 or Windows for Workgroups to use on your system. Both Microsoft operating systems provide a means of running applications, navigating through your file structure, and using your notebook computer. Each operating system offers its own look and means of operation.

Both Windows 95 and Windows for Workgroups employ a graphical interface to make the operating systems easy to use.

Windows '95

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

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

- My Computer — provides access to drives, printers, the control panel, and network features.
- Inbox — lets you access the Microsoft fax and mail software as well as Microsoft network services.
- Recycle Bin — gives you a trash container in which to put unwanted files.
- The Microsoft Network — shows you the network, integrated LANs, and WANs, if your system is connected to a network.
- My Briefcase — gives you quick access to files you frequently use.
- Start — lets you access a pop-up menu to start programs and applications, open documents, access system settings, look at online help, and shut down your system.

Windows for Workgroups

Windows for Workgroups offers the Windows interface to which experienced users are accustomed. The Program Manager contains the following program groups.

- Main — Includes programs and tools to help you control printing; set up printers, plotters, and modems; customize the desktop; and manage files.

-
- Accessories — Includes desktop programs that come with Windows, such as a simple word processing program, a drawing program, a calendar, and a calculator.
 - Startup — Lets you add programs to start automatically when you enter Windows.
 - Games — Gives you a means to practice your Versa-Glide skills or just relax.
 - Applications — Includes any applications that Windows detects on your hard disk during installation.
 - NEC Information — Includes online topics specific to the NEC Versa, NEC customer support, and Windows and DOS.
 - NEC Utilities — Includes small programs written by NEC to help you manage your NEC Versa computer.

Application icons are placed in Windows groups, which are represented by group icons. To start an application, highlight and double click or double tap the application icon.

See the online *Windows QuickStart* in the NEC Information program group for detailed instructions on using Windows.

DOS INTRODUCTION

MS-DOS is the Microsoft disk operating system that runs the computer. DOS uses commands that every personal computer user needs to know at least a little about. The Windows environment makes it possible for you to manage your system and application programs without knowing DOS commands, but as you become more comfortable with computers you may want to begin learning DOS.

For detailed instructions on how to use MS-DOS, refer to the online book *MS-DOS 6.22 QuickStart* in the NEC Information program group.

GUIDE TO ONLINE HELP

The NEC Versa has plenty of information for you online. The NEC Information group contains information about your NEC Versa 4000, warranty coverage, and customer services.

NEC Versa 4000 InfoCenter

The NEC Versa 4000 InfoCenter contains several specific areas of information to help you.

- *System Tour*

The NEC Versa *System Tour* gives you a complete tour of the system, pointing out components, switches, software, and utilities. Take the tour to become comfortable with your new NEC Versa 4000.

- *Basics*

Basics describes the NEC Versa 4000 main features, how to travel with the system, use power management, and care for the system. *Basics* also includes a glossary.

- *Advanced Topics*

Advanced Topics covers specific areas such as adding options, changing setup settings, solving problems. *Advanced Topics* also includes a glossary.

- *Questions and Answers*

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

- *Options Catalog*

The *Options Catalog* lists options such as memory cards, hard drives, carrying cases, and PC cards that you can purchase for the NEC Versa 4000.

Additional Topics

- Customer Service Guide

The *NEC Customer Service Guide* discusses the various levels of support NEC offers you, our customer. We provide lots of information to help you become self-sufficient with your NEC Versa, but if you need help, we're there for you.

- UltraCare Guide

The *NEC UltraCare Guide* describes NEC's three-year warranty program to help you protect your investment in an NEC Versa Series computer.

- The Windows QuickStart 3.11 Guide

This online "book" provides lessons on using Microsoft Windows, which runs on the NEC Versa 4000. (This file is available only when Windows for Workgroups 3.11 is the operating system loaded.)

- The MS-DOS 6.2.2 QuickStart Guide

An online "book" that offers lessons on using MS-DOS, which also runs on the NEC Versa 4000.

- Using Windows 95

This online help file lets you explore Windows 95 and learn about navigating through the new interface. (This file is available only when Windows 95 is the operating system loaded.)

GUIDE TO NEC UTILITIES

NEC provides several programs and routines designed to make your NEC Versa 4000 run more efficiently. These programs are known as utilities. You can access most of these utilities from the Windows Program Manager.

Distribution Diskette Creator

This utility lets you create diskette copies of the system software that comes loaded on your NEC Versa 4000. Store the diskettes in a safe place in case you ever need to reload the system.

Setup Utility

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

Press <F2> to enter SETUP

See *Advanced Topics* for details about the Setup utility. Also look at the next section “Using Setup.”

Using Setup

The Setup utility automatically configures your NEC Versa each time you start it up. This utility also lets you change your system start-up settings.

Use the Setup utility as follows:

1. Reboot your system. When the screen displays the following prompt at boot-up, press **F2**.

Press <F2> to enter SETUP

2. When the setup utility is displayed, use the left and right cursor arrows to move between the setup categories in the menu bar.

For example, press the right arrow to move from Main to Peripherals to Security. Press the left arrow to move from Security back to Peripherals.

-
3. Use the up and down arrows to move between selections displayed on the screen.

As you move through the listed selections, the Item Specific Help column briefly describes the highlighted option.

4. Follow the instructions at the bottom of the screen to access Help, make selections, and change values.



If you set a boot password, the status LCDs blink for approximately 30 seconds. If you fail to enter the password within the 30 seconds and try to access the system, the LCDs begin to blink again to remind you to enter your password.

If you specified a password for Resume, the blinking LCDs are your only indication that a password is required. The system does not issue a prompt.

See *Advanced Topics* for details about the Setup utility.

OTHER SOFTWARE

Your NEC Versa 4000 comes with other software to make using your system more efficient. These programs include

- The Phoenix PowerPanel
- TranXit
- CardWizard
- Taxi™ and Official Airline Guide (OAG).
- ESS Audio.

The PowerPanel

The PowerPanel lets you control system settings with just the press of a button.



Fn-Key changes do not affect the settings shown on the PowerPanel toolbar. Fn-keys change the settings for the session you are currently using. The toolbar shows the settings that you specify to go into effect whenever you invoke PowerPanel or reboot your system. Once you restart PowerPanel, your settings return to the default profile.

Some of the features that PowerPanel controls include the following:

- Power Management Profiles let you turn power saving options off or choose from settings that provide the longest battery life, highest system performance, or customized settings.
- PowerPanel command buttons let you control IR port assignments, speaker sound levels, video modes, and the backlight intensity.

Command buttons also let you check the status of your battery charge, go into Suspend mode, turn off the LCD panel or save your current system state to file and shut down system power.

TranXit

TranXit software lets you use the IR ports to transfer files between your system and other systems or peripherals that are similarly equipped. TranXit also supports serial and parallel file transfers with a cable for devices not equipped with IR ports.

TranXit provides a comprehensive online help file that answers any questions you may have about TranXit operation and use. Plus, a readme file containing important TranXit information can be found under the TranXit subdirectory "Ri." You can either print the file or view it online.

CardWizard

CardWizard lets you manage your PC Cards and slots. Through CardWizard you can

- view card slot activity and availability
- be alerted to missing or improperly installed card drivers
- receive help to address resource conflicts and memory window allocation problems.

Once CardWizard identifies and resolves configuration issues, it automatically configures PC cards each time they are installed. (CardWizard is only available with Windows for Workgroups.)

Taxi and OAG

These two programs are included to demonstrate the convenience of "information on the go." You can purchase the full package or subscribe to future releases through the software publishers. The software publisher also provides technical support for these programs.

ESS Audio

The ESS audio system that comes on your NEC Versa 4000 provides exceptional sound capabilities. Control the ESS audio system through the Windows Audio applications program group.

4 Traveling with Your NEC Versa 4000

The NEC Versa 4000 makes a natural traveling companion. Using a battery, you can use the computer anywhere you go. Here is some information you might find helpful when taking the NEC Versa on the road.

- Carry an extra charged battery pack (and its VersaBay II adapter) for additional battery power.
- Check that you have everything you need before you leave on a trip. Be sure you have all the necessary cables and accessories. (See the checklist at the end of this chapter.)
- If you run your system with battery power, maximize battery life by using power-saving features whenever possible.
- Take the AC adapter in case you have an electrical outlet handy. This saves battery power for when you really need it.
- Take along any application or data files on diskette that you might need.

POWER CONNECTIONS

With the right accessories, you can run your NEC Versa 4000 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 4000 adapts to voltages ranging from 100 to 240 volts.

There are a few countries with areas that use direct current (DC) as their main power source. You need a DC-to-AC converter in particular areas of Argentina, Brazil, India, Madeira, and South Africa.

To use your system overseas, you need an adapter plug and transformer. There are five different plugs available worldwide. You can buy these at an electronics supply store.

CHECKLISTS

The following checklists can help you prepare for your trip with your NEC Versa 4000. Look them over and use what fits your situation.

What to Take

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

- Extra fully charged batteries (and a VersaBay II battery adapter)
- Single-outlet surge protector
- Appropriate AC plug adapter
- Copy of proof of purchase for computer and other equipment for customs check
- Customer support phone numbers for your software
- *NEC Versa 4000 Series Quick Reference*
- AC extension cord.



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

Things to Do



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

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

Here is what you should do before you leave home:

- Back up your NEC Versa's hard disk.
- Put your system into Suspend or Standby mode so you can quickly boot up at the airport security check.
- Fully charge all your batteries.

Tape your business card to your NEC Versa, AC adapter, and batteries.

5

Solving Problems

Once in a while you may encounter a problem with your NEC Versa 4000. The Online Information program group has *Questions and Answers* that might be helpful to you.

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

PROBLEM CHECKLIST

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

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

Troubleshooting

PROBLEM	WHAT TO DO
The system does not power on	<p>If you are operating the system with battery power, check that the battery pack is correctly inserted. Attach the AC adapter to recharge the battery.</p> <p>If you have the AC adapter attached, check that the electrical outlet you are using works.</p>
LCD screen is dark and blank	<p>Power-saving mode has shut off the backlight. Press a keyboard key, Fn F5, or the Suspend button.</p> <p>The built-in LCD may not be selected. Press Fn F3 once or twice.</p> <p>Brightness control needs adjustment. Adjust the control.</p> <p>Power-saving mode has shut off the backlight. Press a keyboard key, Fn F5, or the Suspend button.</p> <p>The system entered Suspend mode due to low battery power. (Check the Status bar for a half-moon icon.) Plug in the AC adapter or replace the battery pack, then press the suspend button to resume operation.</p>
Battery power does not last long	<p>Use power-saving modes.</p>
Information on the LCD screen is difficult to see	<p>Adjust the brightness control.</p>
An optional component does not work	<p>Make sure the component is securely installed or connected. Verify that the system parameter for the I/O port configuration is set correctly in Setup.</p>
The Suspend/Resume button does not work	<p>A disk drive might be busy. Wait until the disk drive stops and try again.</p> <p>The NEC Versa may be connected to a docking station. Some power management functions do not work when the NEC Versa is docked.</p>

START-UP PROBLEMS

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

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

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

To continue start-up procedures, press **F2** and run the Setup utility to set current system parameters.

If an error message appears before the operating system starts, look up the error message in the following table. Follow the instructions. If you see other error messages, the hardware might need repair.



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

POST Error Messages

The NEC Versa 4000 has a built-in checking program that automatically tests its components when you turn the system power on. This diagnostic test is called the Power-On Self-Test (POST). If the system finds a problem during the POST, the system displays an error message. If this happens, follow the instructions in the POST error message table.

POST Error Messages

MESSAGE	WHAT TO DO
Diskette drive A or B failure or No Floppy Drive	Drive A does not work or is not properly connected. Drive A is the diskette drive. Check that drive A is securely connected and power is on. Press F2 to start Setup to check the diskette drive parameters. If there's still a problem, the drive might need repair.
General Failure Reading Drive A or Diskette Read Failure – press F2 to run Setup. Press any other key to retry boot	Remove the diskette from drive A and press F2 to start the system from the hard disk. Or, insert a bootable disk in drive A and press F2 .
Non-system disk or disk error; Replace and press any key when ready	Remove the diskette from drive A and press any key to start the system from the hard disk. Or, insert a bootable disk in drive A and press any key.
Operating System Not Found or Fixed Disk Failure 0	Press F2 to start Setup. Change the hard disk type to the correct setting. Exit and save Setup changes.
Invalid configuration information – run Setup program	One or more system configuration parameters are not properly set. Start Setup, set them correctly, and exit and save to update the parameters.
Real time clock failure	Set time and date using Setup. Exit and save to update the parameters.
Time-of-day not set – run Setup	Set the time and date using Setup. Exit and save Setup changes to update the parameters.

POST Error Messages

MESSAGE	WHAT TO DO
System CMOS Checksum Bad – run Setup or Press (F1) to resume, (F2) to setup.	Press F2 to enter Setup. Under Exit, set the default values. Under Main, set the date and time. Save your changes and exit.
Fixed disk configuration error	Start Setup. Exit and save to update the parameters. Check to see if the hard disk connector is seated properly. If there is still a problem, the hard disk might need repair.
Fixed disk failure	Press F2 to start Setup. Exit and save to update the parameters. Check to see if the hard disk connector is seated properly. If there is still a problem, the hard disk might need repair.
Fixed disk controller failure	Press F2 to start Setup. Exit and save to update the parameters. Check to see if the hard disk connector is seated properly. The hard disk controller does not work and might need repair.
Keyboard clock line failure	Unplug external keyboard if attached. Have the keyboard repaired.
Keyboard data line failure	Unplug external keyboard if attached. Have the keyboard repaired.
Keyboard controller failure	Unplug external keyboard if attached and reboot the system. If it still fails, have the keyboard repaired.
	 Repeated keystrokes during boot may produce an error message.

POST Error Messages

MESSAGE	WHAT TO DO
xx Key Stuck Keyboard Error	A key is jammed. Remove any obstruction you find. You may have repeatedly pressed the F2 key when trying to enter Setup. If the error message remains, the keyboard may need repair.

IF YOU NEED ASSISTANCE

If you have a problem with your computer, first review the checklist and troubleshooting table in the previous section.

If you still have a problem, call the NEC Technical Support Center (TSC), toll free, at 1-800-632-4525. Direct technical assistance is available 24 hours a day, seven days a week.

If you have an optional modem, a TSC technician may be able to diagnose the system remotely.

Direct Technical Support

When TSC receives a call from you, a technician attempts to diagnose your problem over the telephone. The technician determines if your problem requires troubleshooting your system remotely with the Remote Support Session software that comes on your bootable NEC diskette.

Remote Technical Support

With Remote Support Session, the technician can diagnose your system from a TSC computer. To use this utility, you must connect a modem to a telephone line. (See the user's guide that came with your modem for connection details.)

If the Remote Support Session software is required, the technician asks you for your phone number and helps you to prepare your system for remote support.

Follow these steps to prepare your system for remote support. You must have the modem connected to a telephone line.

1. With the system power off, insert the bootable diskette (labelled "Co-Session Host") that came with your NEC Vesa into the diskette drive.
2. Turn on the system power. A menu appears.
3. Type **2** to select "Remote Support Session." Your screen displays "Wait Dial-In Set" and a message indicating that the system is waiting for the remote dial-in.



Do not touch your keyboard while waiting for the remote dial-in. You may interfere with the remote connection.

To cancel the remote dial-in, remove the diskette and simultaneously press **Ctrl-Alt-Del**.

Features

Remote Support Session has the following features:

- The remote screen (technician's screen) looks like your computer's screen.
- The technician can access data, run and control applications on your system, and print reports using the remote keyboard and mouse. Or the technician can simply observe your computer's operations.
- You can simultaneously view what the technician sees on the remote screen.
- The technician can view your keystrokes and whatever appears on your screen.

6 Getting Help

NEC is ready and willing to help you with our products.
Here's how to reach us.

NEC Versa Diskette Fulfillment Center (800) 842-6446

To purchase backup diskettes and manuals.

NEC Customer Service and Support (800) 632-4525

Fax (508) 635-4666

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

NEC FastFacts (800) 366-0476 (U.S and Canada)

(708) 860-9500 x2621 (International)

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

NEC Electronic Bulletin Board (508) 635-4706

Remote database system containing files that are dedicated to enhancing the functions of NEC products, It also gives general public access to drivers for NEC products to be used with various software applications.

CompuServe Password: "GO NECTECH"

Internet Address: tech-support@NECTECH.com

America On-Line: nectech

Worldwide Web Address www.nec.com

NEC is a member of TSANet (Technical Support Alliance Network).

A Setting Up a Healthy Work Environment

WARNING

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

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

MAKING YOUR COMPUTER WORK FOR YOU

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

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

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

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

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



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

- use a separate, external keyboard attached to your notebook computer
- use a separate, external monitor attached to your notebook computer.

ARRANGE YOUR EQUIPMENT

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

ADJUST YOUR CHAIR

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

Check the following:

- Keep your body in a relaxed yet upright position. The backrest of your chair should support the inward curve of your back.
- Use the entire seat and backrest to support your body. Tilt the backrest slightly (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.

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- 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.

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- Press the keys gently; do not bang them. Keep your shoulders, arms, hands, and fingers relaxed.

ADJUST YOUR SCREEN OR MONITOR

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

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

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

VARY YOUR WORKDAY

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

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



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

PRE-EXISTING CONDITIONS AND PSYCHOSOCIAL FACTORS

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

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

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 and Environment

The following specifications are standard except where noted.

System Processor

- NEC Versa 4000 DSTN, TFT, and High Resolution models — Intel Pentium-75 Mhz
- NEC Versa 4050 TFT and High Resolution models — Intel Pentium-90 Mhz

Random Access Memory (RAM)

Standard Main Memory — 8-MB high-speed interleaved access

Optional Expansion — 1 slot. Expandable in 4-MB, 8-MB, 16-MB or 32-MB increments. Maximum 40 MB total.

Video RAM — 1 MB

Cache RAM — L1: 8 KB for code, 8 KB for data;
L2: 256 KB

Read-Only Memory (ROM)

256 KB x 8 bit, Flash ROM

Calendar Clock

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

Input/Output (I/O) Facilities

Integrated industry-standard interfaces

- Parallel — 1 port, 25-pin D-sub
- Serial — 1 port, 9-pin D-sub
- Infrared — 2 ports, 1 on front of system; 1 on back, IrDA-1 compatible
- VGA — 1 port, 15-pin high-density D-sub
- External Keyboard/External Mouse — 1 port, PS/2, 6-pin MiniDin; exclusionary use or both supported with optional Y-adapter
- Expansion — 1 port, VGA CRT signal, external keyboard signal, PS/2 mouse signal, ISA bus signals
- Speakers — 2 built-in, .15 watts (W) each with a maximum .3-W output
- Mono MIC IN — 1 port, 3-pin, Mini Pin Jack
- Stereo Headphones — 1 port, 3-pin, Mini Pin Jack, .5 watts per channel
- Stereo Line In — 1 port, 3-pin, Mini Pin Jack
- Stereo Line Out — 1 port, 3-pin, Mini Pin Jack

Card Slots

Two slots for two Type I/Type II PCMCIA cards or one Type III PCMCIA card, 5 V or 3.3 V interface

LCD Display

- Dual-Scan STN (DSTN) CCFT Backlit color; 10.4-inch
Diagonal Size — 10.4 in.
Resolution — 640 x 480 pixels
Dot Pitch — 0.33 mm
Colors — 256

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- VGA Thin Film Transistor (TFT) CCFT Backlit color

Diagonal Size — 10.1 in.

Resolution — 640 x 480 pixels

Dot Pitch — 0.32 mm

Colors — 16.8 Million, 18 bits

- High Resolution TFT CCFT Backlit color

Diagonal Size — 10.4 in.

Resolution — 800 x 600 pixels

Dot Pitch — 0.26 mm

Colors — 256, 18 bits

Keyboard

Membrane 83 keys with standard QWERTY-key layout,
(79 keys for International)

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

Diskette Drive

Standard 1.44-MB drive

- Size — 3.5 inch
- Capacity — 720 KB or 1.44 MB
- Access Time (average) — 94 ms
- Transfer Rate — 250 to 500 K/bps
- Interleave 1:1

Hard Disk Drive

Internal 2.5-inch, 540-MB, or 810-MB drive, removable

Track-to-track seek rate — 4 ms

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

Revolutions per minute — 4000

I/F data rate — Mode 3-11 MB per second

Media data rates — 39.5 – 27 Mbps

Power

AC Adapter

- Input Voltage — 100 to 240 volts (V) AC, 50 or 60 Hz, 1.0–0.5 A
- Output Voltage — 13.5 V DC, 3 A (40.5 W)

Battery Pack

- Type — Lithium Ion (Li-Ion)
- Output Voltage — 10.8 V
- Capacity — 2,500 mAH
- Battery Life — Approximately 3–5 hours, depending on model, under typical operating conditions.
- Recharging Time
 - 2.5 hours when the system is off (Quick Charge)
 - 2.5–7 hours when the system is on (Normal Charge), depending on system operation status.
- Bridge Battery
 - Fully charged, backs up memory contents and system status for up to 5 minutes under Suspend mode.

Dimensions

System

- Width — 11.69 in. (297 mm)
- Depth — 9.4 in. (240.5 mm)
- Height — 2.1 in. (53.5 mm)

Battery Pack

- Width — 3.13 in. (79.5 mm)
- Depth — 4.53 in. (115.5 mm)
- Height — 0.83 in. (21 mm)

Weight

NEC Versa 4000 DSTN — 6.25 lb (2.84 kg)

NEC Versa 4000/4050 TFT — 6.58 lb (2.98 kg)

NEC Versa 4000/4050 High Resolution — 6.34 lb
(2.87 kg)

Battery Pack — 0.64 lb (0.29 kg)

Recommended Environment

Operation

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

Storage

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

BATTERY REPLACEMENT

A lithium battery in your computer maintains system configuration information. In the event that the battery fails to maintain system configuration information, NEC recommends that you replace the battery. Have an authorized NEC service representative replace the battery.

WARNING

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

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

BATTERY DISPOSAL

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

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