**PROPRIETARY NOTICE AND LIABILITY DISCLAIMER**

NEC Computer Systems Division,
A Division of Packard Bell NEC, Inc.

# DECLARATION OF CONFORMITY

<u>We, the Responsible Party</u>

NEC Computer Systems Division
Packard Bell NEC, Inc.
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*declare that the product*

## *NEC V2600 Series*

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.

# Using this Guide

The *NEC Versa® 2600 Series User's Guide* gives you the information you need to maximize the use of your NEC Versa 2600 Series notebook computer. Read this guide to familiarize yourself with the system and its features. For specific information see:

■ Chapter 1, "Getting Started," to acquaint yourself with the system hardware.

■ Chapter 2, "Introducing the Software," for a summary of the applications loaded on your system. We included software to let you experience the full spectrum of the system, from creating vivid multimedia presentations to simply enjoying an audio CD.

■ Chapter 3, "Using Setup and Power Management," to customize your notebook's system parameters and power management settings.

■ Chapter 4, "Using Your NEC Versa," for an understanding of NEC Versa features and functionality. You'll also master procedures for connecting external options like headphones, microphone or speakers.

■ Chapter 5, "Using Multimedia," for steps on integrating video and sound clips into impressive presentations.

■ Chapter 6, "Traveling with Your NEC Versa," lists valuable tips for getting the most out of your system while on the road.

■ Chapter 7, "Solving Problems," provides simple solutions to common problems that may arise while operating your notebook.

- Appendix A, "Setting Up a Healthy Work Environment," provides guidelines to help promote a healthy work setting.

- Appendix B, "Specifications and Environment," to review NEC Versa 2600 Series system specifications and operating conditions.

- Appendix C, "Using DOS Programs," explains how to use power management in DOS mode and how to set up DOS mode games in Windows 95.

## 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:

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

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

> **NOTE** Notes give particularly important information about whatever is being described.

- Names of keys are printed as they appear on the keyboard, for example, **Ctrl**, **Alt**, or **Enter**.

- Text that you must type or keys that you must press are presented in bold type. For example, type **dir** and press **Enter**.

## RELATED DOCUMENTS

See the following documents for additional information on your NEC Versa 2600 Series notebook computer:

- The *NEC Versa 2600 Series Quick Setup* sheet helps you get your system up and running.

- The *NEC Versa 2600 Series Quick Reference* card provides an easy-to-carry reference to LED meanings, controls, function key combinations, and NEC help numbers.

- Depending on the operating system installed, Microsoft® Windows 95 or Microsoft® Windows for Workgroups, MS-DOS operating system online documentation comes loaded on your NEC Versa computer.

- An online version of this user's guide comes on your hard disk drive. That way, you can leave the guide at home and still have all the information you need at your fingertips.

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# 1 Getting Started

> ⚠ **WARNING**
>
> Prolonged or improper use of a computer work-station 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 2600 Series system is ready to go! To get started:

- Read Appendix A, Setting Up a Healthy Work Environment, for guidelines that help you use your computer productively and safely. Information includes how to set up and use your computer to reduce your risk of developing nerve, muscle, or tendon disorders.

- Read through this guide to familiarize yourself with the NEC Versa 2600.

## GETTING TO KNOW YOUR NEC VERSA 2600

The NEC Versa 2600 Series notebook computer offers you a portable system filled with exciting resources for home, business, or travel. Standard features include a powerful Intel® Pentium 133-MHz or 150-MMx microprocessor that works together with the latest 16-MB Extended Data Out (EDO) Random Access Memory (RAM) for exceptional performance.

In addition, your system gives you: a high-performance hard disk drive, a 10X CD-ROM reader, a diskette drive, built-in VersaGlide (like a mouse), and PC Card slots (Personal Computer Memory Card International Association - PCMCIA). As a multimedia system, your NEC Versa 2600 also provides the tools needed to create and present impressive images using video clips and sound.

To get comfortable with your notebook, read the following sections and take a tour around your system!
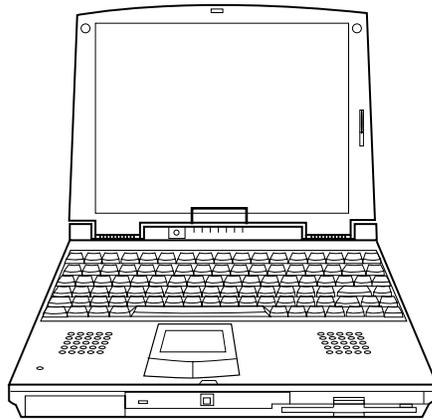
*NEC Versa 2600 Series notebook computer*

## Around the Front of the System

The NEC Versa 2600 is compact with features on every side. First, look at the front of the system. The following sections describe front features, beginning with the liquid crystal display (LCD) panel.
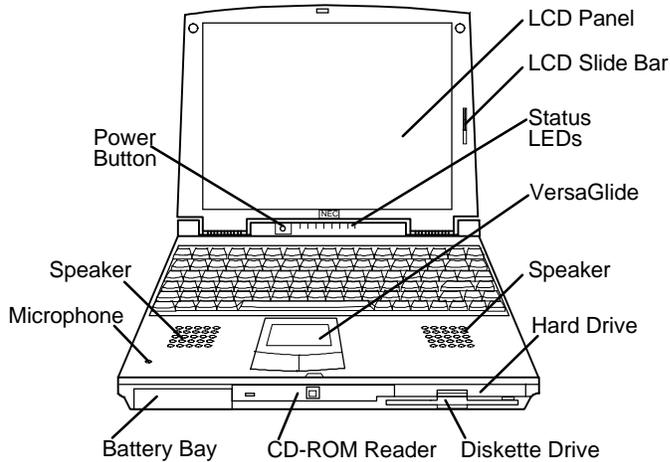


*Front features*

### LCD Panel

Your NEC Versa 2600 Series system comes with a color LCD that you can adjust for a comfortable viewing position. The LCD is a 12.1-inch, cold cathode fluorescent tube (CCFT), backlit Super Video Graphics Array (SVGA) color display, of either the Dualscan Super-Twisted Nematic (DSTN) or the Thin Film Transistor (TFT) type. (TFT displays come only with models NEC Versa 2650CDT and 2655CDT models.)

### Brightness or Contrast Control

Depending on the model of LCD panel the slide bar located to the right of the LCD panel controls brightness or contrast. Slide the bar up or down to adjust screen brightness, if you have a TFT panel. Side the bar up or down to adjust contrast for a DSTN panel.

Additionally models with DSTN-type screens, may use **Fn** key for the following results:

- **Fn-F1** decreases LCD brightness.

- **Fn-F2** increases LCD brightness.

### Power Button and Status LEDs

NEC Versa systems offer the following features on the hinge just under the LCD panel:

Power Button — The Power button turns NEC Versa 2600 power on and off. Press the button to turn power on; press it again to turn power off. When power is on, the Power LED lights. See "Setup Parameters" in Chapter 3 to use this button as a Suspend/Resume buttom.

> **NOTE** After turning off the system, wait 5 seconds before turning it back on. This gives system components a chance to power down properly.

- Power and Status LEDs (identified by icons) are found to the right of the Power button, and inform you of the status of your system and its components. Status LEDs have the following meanings and light under the conditions noted:

Power       Hard            CD-ROM        Diskette
            Disk Drive      Reader        Drive

A           1                             
Caps        Num             Pad           Battery
Lock        Lock            Lock

*Status LED icons*

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

  – lights green when the system is powered on.

  – lights yellow when battery power is below 10%.

  – flashes yellow when battery power is below 5%.

---

⚠ **CAUTION**

Be sure to save your data immediately when the
Power LED turns to yellow, flashes yellow, or the
system beeps. Failure to do so can result in data
loss.

---

— Hard Disk Drive – Lights when the NEC Versa
  2600 writes data to or retrieves data from the hard
  disk drive.

— CD-ROM Reader – Lights when data is read from a
  compact disc in the CD-ROM drive.

— Diskette Drive – Lights when data is written to or retrieved from the 3.5-inch diskette drive.

— Caps Lock – Lights when Caps Lock mode is in effect.

— Num Lock – Lights when Num Lock mode is active.

— Pad Lock – Lights when the embedded numeric keypad lock is on.

— Battery Charging Status – Lights to indicate the following:

– Green – the battery is fully charged.

– Orange – the battery is recharging.

– Light Off – the AC adapter is disconnected.

### Keyboard

The NEC Versa 2600 Series system comes with an 86-key keyboard, featuring an embedded numeric keypad and inverted T cursor keys. See Chapter 4, "Using Your NEC Versa," for details about control keys, function keys, and keyboard features.

### NEC VersaGlide

The NEC VersaGlide works like a standard computer mouse. Simply move your fingertip over the VersaGlide to control the position of the cursor. Use the selection buttons below the VersaGlide to select menu items. The left button is configured to function like the left button on a mouse. The right button is configured as a right-mouse button.

See "NEC VersaGlide" in Chapter 4 for information about customizing VersaGlide settings.

### Microphone and Speakers

A microphone is built into the keyboard's left palm rest (beneath the small single hole), and lets you record mono-phonic sound directly into the NEC Versa 2600.

Two stereo speakers are also built into the keyboard's palm rest, one on the left and one on the right, for your multime-dia presentations or listening pleasure.

Turn the volume control wheel (located on the left side of the NEC Versa 2600) clockwise to increase, or counter-clockwise to decrease sound volume.

### Battery Pack Bay

The NEC Versa (depending on the model) comes with either a Nickel-Metal-Hydride (NiMH) or a Lithium-Ion (Li-Ion) rechargeable battery pack, located at the left front of the Versa 2600.

### Drive Bays

The NEC Versa 2600 comes with the following drives pre-installed as standard features:

■ CD-ROM Reader — A 10X CD-ROM lets you load and start programs from compact discs, or insert and play your favorite audio CDs. The CD-ROM reader is as-signed drive letter E.

> (NOTE) The CD-ROM reader ships with a plastic shipping restraint installed. Remove the restraint by lifting on the plastic edge near the center hole. Do not insert CD with the restraint installed.

■ Diskette Drive — The 3.5-inch, 1.44-MB diskette drive accepts 1.44-MB high-density diskettes as well as 720-KB double-sided double-density diskettes, and is assigned drive letter A.

■ Hard Disk Drive — A removable hard disk drive ships standard with your system and is located above the diskette drive. Depending on your configuration, this bay contains a 1.0-gigabyte (GB) or 1.44-GB hard disk drive. It is assigned drive letter C.

## AROUND THE BACK OF THE SYSTEM

System ports for connecting your NEC Versa 2600 to optional devices (like a printer or external monitor) are located on the back of the system. For an understanding of each feature, see the descriptions that follow the figure.
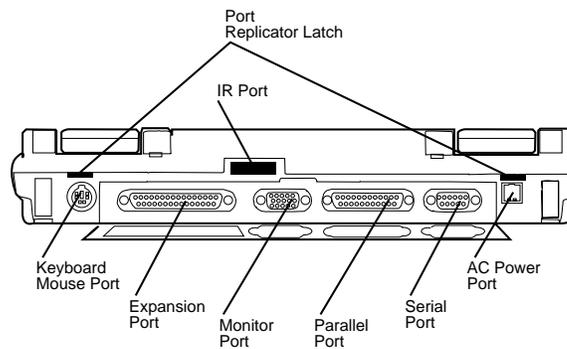


*Back system features*

■ Infrared (IR) Port — Use this port to transfer files between your NEC Versa and an IR-equipped desktop or notebook computer. You can also print to an IR-equipped printer without using cables. The IR port will not function, when the NEC Versa 2600 is installed in the Port Replicator. Transfer files by removing the Port Replicator from the NEC Versa 2600.

- Port Replicator Latches — Use these "ports" as latches for securing the port replicator. A Port Replicator Latch is located at each end of the back of the system.

- Keyboard/Mouse Port — Use the standard PS/2 port to connect an external PS/2-style mouse or a PS/2-style keyboard to the system.

- Expansion Port — This 200-pin port provides a connection for the NEC Port Replicator 2600.

- Monitor (Video) Port — Use this 15-pin port to attach an external monitor to your NEC Versa 2600. You can run the LCD display and the external monitor simultaneously or run either alone.

- Parallel Port — Use this 25-pin port to connect a parallel printer or other parallel device. This port provides both ECP and EPP mode support. The ECP standard provides you with a greater transfer speed than the conventional parallel port. It also supports bi-directional and uni-directional protocols.

- Serial Port — Use this 9-pin port to connect an external modem or other serial device.

- AC Power Port — This 4-pin AC power port lets you attach the NEC Versa 2600 to the AC power source using the AC adapter that comes with your system. Keep the system connected to AC power whenever possible to keep the battery pack and internal CMOS battery charged.

## AROUND THE SIDES OF THE SYSTEM

Your NEC Versa 2600 comes with features on both sides. This section shows you where those features are located and describes their use.

## The Left Side

The left side of your NEC Versa 2600 provides the features shown in the following figure. (Features are described after the figure.)
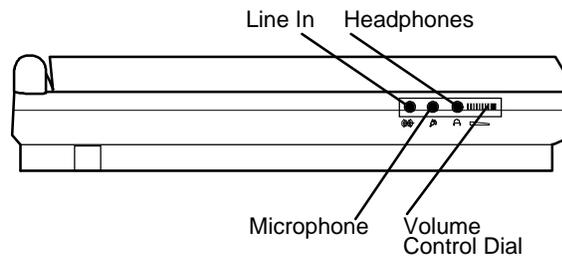


*Left side features*

■ Line In — Lets you use another audio system, like a home stereo, as an input source. Use a cable to connect to the Line-Out port on the other audio system to record or play.

■ Microphone — Connects to an external microphone for monophonic recording or amplification through the unit. Plugging in an external microphone disables the built-in microphone.

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

■ Volume Control Dial— Turn the volume control dial clockwise to increase speaker volume, or counter-clockwise to decrease speaker volume.

## The Right Side

The right side of the NEC Versa offers the features shown in the following figure. (Features are described after the figure.)
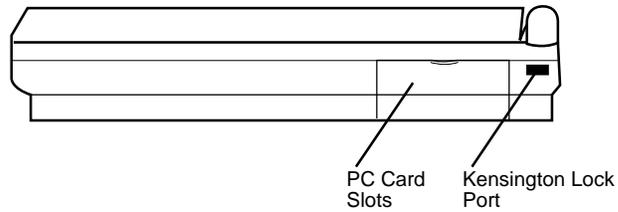
*Right side features*

- PC Card Slots — Two PC card slots let you insert one or two Type II PC cards (formerly called PCMCIA cards), or one Type II and one Type III PC card. See "PC Cards" in Chapter 4 for more about PC cards and their use.

- Kensington Lock Port— Use this port (or slot) for added security by attaching a Kensington Lock.

## AROUND THE BOTTOM OF THE SYSTEM

The bottom of the NEC Versa 2600 is the location of the system's memory module sockets, reset switch, battery pack release latch, and support legs, as described next.
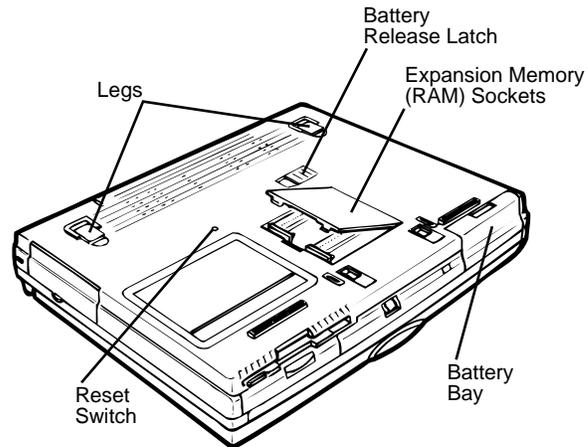


*Bottom of the system*

■ Expansion Memory (RAM) Sockets — Pop open the protective cover to access two expansion RAM double inline memory module (DIMM) sockets. Up to 64 MB of RAM may be added to the standard 16 MB of RAM that comes with the system, for a maximum total RAM of 80 MB.

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⚠ **CAUTION**

DIMMS must be added in pairs. When adding memory always use DIMMS of the same capacity. DIMMS with different capacity that are installed together will not work properly.

---

■ Battery Bay — Location of removable battery pack.

■ Reset Switch — This recessed switch lets you restart your system. Use a pointed object, like a straightened paper clip, to push in the Reset button. Use this button *only* if your system hangs up, fails to respond to keystrokes, or fails to respond to the Power button.

■ Legs — Drop down the two support legs, and tilt your NEC Versa forward for more comfortable keyboard operation.

■ Battery Release Latch — Lets you remove the battery pack installed in the battery bay.

## NEC VERSA POWER SOURCES

The NEC Versa 2600 can be powered using different sources, making it a truly portable system. Operate your NEC Versa system 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.

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

### Using the AC Adapter

Use the AC adapter and power cable that came with your NEC Versa 2600 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.

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### ⚠ 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 the NEC Versa 2600 only.

---

The AC adapter, when connected, charges the battery whether or not the computer is powered on. The AC adapter LED lights a constant yellow when plugged into an electrical outlet.

## ⚠ WARNING

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

## ⚠ CAUTION

Use only the AC adapter that comes with your NEC Versa 2600 Series system. Although other AC adapters may look similar, using them can damage the system.

Connect the AC adapter as follows:

**1.** Connect the AC adapter cable to the power port on the back of your NEC Versa 2600 Series system.

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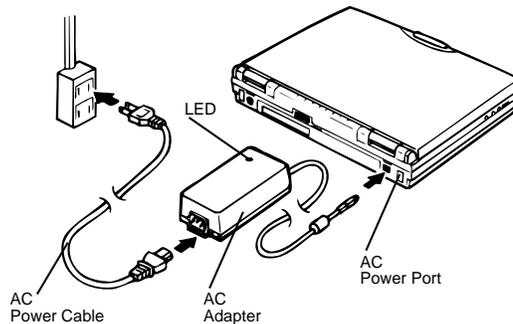


*Connecting the AC adapter*

# ⚠ **WARNING**

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

## *Powering On*

To power on, locate the power button on the hinge beneath the LCD screen and push it in. To power off the system, push the power button a second time.

## Using the Main Battery Pack

The NEC Versa 2600 Series system comes with either of two rechargeable batteries:

— a Nickel Metal-Hydride (NiMH) battery pack, or

— a Lithium-Ion (Li-Ion) battery pack (models 2650CDT and 2655CDT only).

> **(NOTE)** Although the battery is fully charged at the factory, transit and shelf time may reduce the initial battery charge. We recommend that the first time you use your system, you connect it to AC power using the AC adapter. This will also recharge your battery.

Your NEC Versa 2600 Series system provides two tools to help you keep track of the main battery's power level:

■ Battery Status LED (located at the right side of the hinge beneath the LCD), described earlier in this chapter

■ Battery Gauge utility, which lets you quickly identify how much battery power you have available.

When remaining battery power falls to 10%, the system emits a single beep; when battery power falls to 5%, the system beeps once every 60 seconds.

### *Installing the Battery Pack*

Install the battery pack in your system as follows. (For information about replacing a battery pack, see "Replacing the Battery Pack," later in this section.)

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⚠ **CAUTION**

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

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1. If your system is on, save your data, close any applications running, and power off the system.

2. Align the battery pack with the Battery Pack bay. Make sure the battery contacts are aligned properly with the connector inside the bay. Install the battery pack *only* in this bay.

3. Push the battery pack into the bay until the locking latch on the bottom of the system clicks into place.

## How to Recharge the Battery Pack

When battery power gets low, proceed as follows:

1. Connect your system to the AC adapter and AC power to recharge the battery pack . Your system is again ready for use and will recharge as being used. The recharge time will be about the same, no matter if powered "on" of powered "off." (see "Using the AC Adapter")

or

2. Place your system in Suspend Mode.

3. Install a charged battery pack (see "Replacing the Battery Pack").

4. Press the power switch to resume your system.

---

## ⚠ **WARNING**

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

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

---

### Battery Handling

Review the following before handling either an NiMH or an Li-Ion battery.

- Use batteries only in the computer for which they are designed. Mixing other manufacturer's batteries can deteriorate battery and equipment performance.

- Turn off power to the system after use. Keeping system power on can degrade battery performance and shorten battery life.

- Clean the battery terminals with a dry cloth if they get dirty.

- When not in use, store the battery in a cool dry area.

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

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

### *Replacing the Battery Pack*

Replace the battery pack installed in your NEC Versa 2600 system as follows.

1. Save your files, exit Windows, and turn off system power.

2. Close the LCD and turn the system over.

3. Press the battery release latch and slide the battery out of the system, as shown next:



Battery Release Latch

Battery Pack
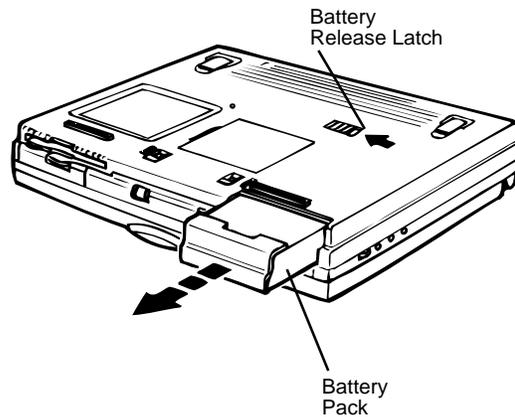
4. Insert the new battery into the bay, pressing it firmly until the release latch clicks (see next).
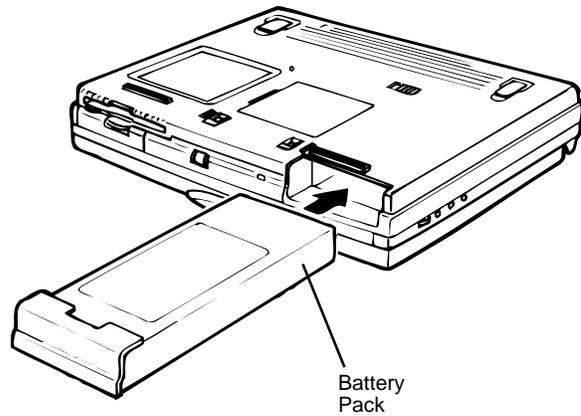
Battery
Pack

Turn the system over, open the LCD panel, and power on the system.

## Battery Life

The NEC Versa 2600 battery life, on a single charge, is as follows.

■ For NiMH batteries

— 2 − 4 hours, with power management enabled

— 2 hours, without power management

■ for Li-Ion batteries

— 2 − 3 hours, with power management enabled

— 1 hour and 40 minutes, without power management.

These estimates are made under the following conditions:

■ When the battery is new and fully charged.

■ When no peripherals are connected to the NEC Versa.

Your actual operation time on a single battery charge may vary significantly, depending on the intensity of system usage.

## 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. Use the power management features enabled through Setup to extend battery life. See "Using Power Management" in Chapter 3 for details.

## Battery Charging

The time to completely recharge your main battery should be about the same, no matter if the system is powered "on" or powered "off," as follows:

- for NiMH batteries — approximately 4 hours.

- for Li-Ion batteries — approximately 3 hours.

For maximum battery performance, fully discharge the battery before recharging it. To do so, unplug the AC adapter, turn off power management features (through Setup and Windows), and turn on the system. (Do not leave any applications running.) Once the battery is fully discharged, plug in the AC adapter and recharge the battery.

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

## Battery Precautions

Always comply with the following battery precautions.

### ⚠ WARNING

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

- Keep the battery away from heat sources including direct sunlight, open fires, microwave ovens, and high-voltage containers. Temperatures over 60ºC (140ºF) may cause damage.

- Do not drop or impact the battery.

- Do not disassemble the battery.

- Do not solder the battery.

- Do not puncture the battery.

- Do not use a battery that appears damaged or deformed, has any rust on its casing, is discolored, overheats, or emits a foul odor.

- Keep the battery dry and away from water.

- Keep metal objects away from battery terminals. Metal objects in contact with the terminals can cause a short circuit and damage.

- If the battery leaks onto skin or clothing, wash the area immediately 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.

## Battery Disposal

Before disposing of the main battery, put adhesive tape on the terminals. The main battery is made of either Nickel Metal-Hydride (NiMH) or Lithium Ion (Li-Ion).

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

## INTERNAL BATTERIES

Your nickel metal-hydride or lithium Ion battery is the main power source in your NEC Versa 2600 computer. Appendix B lists NiMH and Li-Ion battery specifications. In addition to this battery, the CMOS battery and bridge battery provide power for system backup.

## CMOS Battery

This battery provides battery backup and prevents data loss in the system's complementary metal oxide semiconductor (CMOS) RAM. This memory area contains information on the system's configuration, for example date, time, drives, and memory. The CMOS battery lasts approximately two years.

Only an authorized NEC service technician can replace the CMOS battery.

## Bridge Battery

The bridge battery provides power to the NEC Versa 2600 when main battery power is very low (and the system is about to shut down), and during the time a spent main battery is removed and replaced. The bridge battery gives you time to

■ Save your unsaved data, close your open programs, and shut down the system.

■ install a fully charged battery or plug in an AC power adapter.

Only an authorized NEC dealer can change a bridge battery.

## SYSTEM CARE

The NEC Versa 2600 is a durable, dependable system built for extensive use and travel. Follow these guidelines to maintain the condition and performance of your computer.

---

### ⚠ **CAUTION**

Immediately turn off and unplug the NEC Versa 2600 under the following conditions:

- The power cord is damaged or frayed.

- Liquid spills on or into the NEC Versa.

- Someone drops the system or damages the cabinet.

---

### Precautions

Follow these precautions when using your NEC Versa 2600 and AC adapter.

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

■ Avoid dropping or bumping the computer or the AC adapter.

■ Do not stack heavy objects on the computer, the AC adapter, or the battery pack.

- Avoid moving the NEC Versa during system operation, especially while the hard disk or diskette drive is being accessed.

- When using the AC adapter, make sure the power source falls within the system's compatible range of 100 – 240 volts AC and nominal 50 – 60 Hz. Never use the AC adapter if the voltage falls outside of this range. (Watch for this when traveling to other countries.)

- Turn computer power off before attaching or removing non-plug and play devices.

- Do not push any foreign objects into the NEC Versa option bays, connectors, and slots.

- Avoid using the computer or AC adapter for extended periods in direct sunlight.

- Do not use the system in humid or dusty environments.

- Keep liquids and food away from the system.

- Turn computer power off before cleaning the computer.

- Avoid exposing the NEC Versa 2600 or AC adapter to extreme changes in temperature or humidity. Allow your NEC Versa to adjust to room temperature before use, if it has been exposed to temperature or humidity extremes.

- When cleaning the system, use a soft, clean, dry cloth. Avoid wiping the display surface with abrasive material, including rough fabric. Do not use a cleaning solution; this may damage the notebook's plastic.

- If the AC adapter becomes extremely hot, unplug the adapter and let it cool.

- Do not use the IR port directly under fluorescent lighting, or near flashing incandescent light.

- Do not direct an IR port towards the LCD panel.

- Keep the AC adapter away from the IR port.

⚠ **CAUTIONS**

This equipment uses an ungrounded power cable. Replace the cord if it becomes damaged. U.S. and Canadian replacement cords must be UL-approved (CSA certified in Canada) type SPT-2, 18 AWG, 2-conductor cord with a permanently attached NEMA type 5-15P plug at one end, and a permanently attached connector body on the other. Cord length may not exceed 15 feet. Outside the U.S. and Canada the cord must be rated for at least 250VAC at 10 amps, and must indicate international safety agency approval. The plug must be a type appropriate for the country where it is used.

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

Disconnect all supply lines before the expansion memory slot cover is removed. Replace the expansion memory slot cover before the unit is restarted.

## Storage Requirements

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

■ Maintain storage temperatures between –20°C and 60°C (–4°F and 140°F).

## ⚠ CAUTION

If the temperature of the NEC Versa 2600 suddenly rises or falls (for example, when you move the system from a warm place to a cold place), vapor condenses inside the system. Turning on the system under this condition can damage the internal system components.

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

■ Keep the storage area free from vibration and magnetic fields.

■ Keep the system and its components away from organic solvents or corrosive gases.

■ Avoid leaving the system and its components in direct sunlight or near heat sources.

## Routine Cleaning

Clean or dust your system as follows.

> ### ⚠ CAUTION
>
> *Never* use harsh solutions, household cleaners, or spray cleaners that contain caustic materials on the NEC Versa 2600.
>
> 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 Introducing the Software

This chapter introduces you to the software that comes with the NEC Versa 2600 Series system, including:

- the Windows 95 operating system or the Windows for Workgroups operating system with MS-DOS®

- Online Help

- Setup Utility

- Other Software

    — CardWizard™ (standard on Windows for Work-groups)

    — LapLink®

    — McAfee VirusScan™

    — McAfee WebScan™

    — VideoSaver™

    — MediaMatics Arcade™ (standard on Windows 95)

    — XingMPEG Player™ (standard on Windows for Workgroups)

    — PointCast Network

    — Microsoft Works (standard on Windows 95 only models)

    — Microsoft Money (standard on Windows 95 only models)

— Return of Arcade (standard on Windows 95 only models)

— Microsoft Sampler (standard on Windows 95 only models)

> NOTE Windows 95-only systems are available only in the United States.

— Netscape Navigator

— Microsoft Internet Explorer

— Official Airline Guide (OAG®)

## WINDOWS INTRODUCTION

Some NEC Versa 2600 Series models give you the option of loading either Windows 95 or Windows for Workgroups to use on your system. (Other models come standard with Windows 95 already loaded.) When you select one operating system, the other is automatically deleted. 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 tools.

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.

In Windows 95, the following icons are loaded on your desktop:

■ My Computer — provides access to drives, printers, the control panel, and network features.

■ Inbox — lets you access the Microsoft fax and mail software as well as Microsoft network services.

■ Recycle Bin — gives you a trash container in which to put unwanted files.

■ Network Neighborhood — shows you the computers connected to your workgroup and those on the entire network (if your system is connected to a network).

■ My Briefcase — allows easy file transfer between the NEC Versa and another system.

■ Start — displays a pop-up menu with which to start programs and applications, opens documents, accesses system settings, accesses online help, and shut down your system.

■ NEC Versa 2600 InfoCenter — gives you easy access to online help and customer service information.

## Windows for Workgroups

Windows for Workgroups offers the well-established Windows interface. Application icons are placed in groups, which are represented by group icons. To start an application, highlight the application icon and double click or double tap on the VersaGlide.

The Program Manager contains the following groups.

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

- Accessories — Includes desktop programs that come with Windows, such as a simple word processing program, a drawing program, a calendar, and a calculator.

- Startup — Lets you add programs to start automatically when you enter Windows.

- Games — Gives you a way to practice your VersaGlide skills or just relax.

- NEC Versa 2600 InfoCenter — Includes online topics specific to the NEC Versa 2600 Series, NEC Customer Support and the operating system (Windows 95 or Windows of Workgroups) installed in your NEC Versa 2600.

- NEC Versa 2600 Utilities — Includes small programs written by NEC to help you manage your NEC Versa 2600.

## DOS INTRODUCTION

MS-DOS is the Microsoft disk operating system that runs the computer in Windows for Workgroups systems. (In Windows 95 systems, DOS is a stand-alone program.) DOS uses commands that every personal computer user needs to know, to operate a DOS system effectively. The Windows environment makes it possible for you to manage your system and application programs without knowing DOS commands, but as you become more comfortable with computers you may want to begin learning DOS.

## GUIDE TO ONLINE HELP

The NEC Information group contains online information about your NEC Versa, as follows.

■ *NEC Versa 2600 Series Online User's Guide*

The *NEC Versa 2600 Series Online User's Guide* provides general information on system usage as well as more extensive topics including using power management, PC card technology and the system memory map.

■ *NEC Customer Support Guide*

The *NEC Customer Support Guide* discusses the various levels of support NEC offers you, our customer. We provide information to help you become self-sufficient with your NEC Versa, but if you need help, we're there for you. (If you purchased your system outside of the United States, please contact your local NEC dealer for customer support information.)

■ *NEC UltraCare Guide*

The *NEC UltraCare Guide* describes NEC's extended warranty program to help you protect your investment in an NEC Versa Series system. (If you purchased your system outside of the United States, please contact your local NEC dealer for extended warranty information.)

■ *Using Windows 95*

This online "book" 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.)

■ *The Windows QuickStart Guide 3.11*

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

■ *The MS-DOS QuickStart Guide 6.22*

This online "book" offers lessons on using MS-DOS, which also runs on the NEC Versa. (This file is available only when Windows for Workgroups 3.11 is the operating system loaded.)

## GUIDE TO THE NEC SETUP UTILITY

NEC provides a setup utility program which makes your NEC Versa run more efficiently. This program is known as the Setup utility. Setup utility automatically configures your NEC Versa 2600 each time you start it up. This utility is not accessible from Windows. Access Setup at power-on. Just press **Fn-Esc** when the following prompt appears.

Press <Fn-Esc> to enter System Configuration Utility

See Chapter 3, "Using Setup and Power Management," for a discussion of the Setup utility. In addition, online help is available to assists you in changing settings.

## OTHER SOFTWARE

Your NEC Versa 2600 comes with other programs that let you take full advantage of your system resources. The rest of this chapter discusses each program, including what it can do for you, how to get started, and how to use the program help.

## CardWizard™

CardWizard is only installed on systems with Windows for Workgroups as the operating system. CardWizard lets you manage PC cards and slots in your Windows for Workgroups system. 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 allocation problems.

Once CardWizard identifies and resolves configuration issues, it automatically configures PC cards each time they are installed.

CardWizard is not available in Windows 95 because the card management software is built into Windows 95.

## LapLink

LapLink helps you stay in touch with your home office system or get in touch with other systems through the infra-red port, modem, network, or cable. Use LapLink to transfer files on a remote system, or exchange written information with another user on a remote system. LapLink even bridges the communication gap between Windows 3.11 and Windows 95 systems.

LapLink offers the following features:

- File Transfer — lets you move or copy files between computers. To speed file transfer, LapLink compares files being updated and transfers only the changed information.

- Remote Control — gives you access and control over a remote computer. Activity you perform on a system, such as keystrokes, file access and change, and program execution, actually occurs on the remote system.

- Chat — provides a way for you to exchange information, instructions, or other messages with a user at a remote computer.

LapLink software must be loaded on both the sending (local) and receiving (remote) system for communication between them to work properly.

## *How to Use LapLink*

Follow these steps to get started using LapLink. Once you have LapLink up and running, refer to the LapLink online help for more information.

1. Start LapLink as follows:

    ■ In Windows for Workgroups, locate and double click the LapLink group icon. Select Laplink for Windows.

    ■ In Windows 95, press **Start**, slide the cursor to Programs, and locate the LapLink for Windows 95 folder. Highlight the LapLink line and press the VersaGlide selection button or tap the VersaGlide pad once.

      If you do not have a port enabled, LapLink prompts you to enable one. Press **Yes** to do so and follow the on-screen instructions to configure the port. Otherwise, press **No**.

2. Once your ports are configured, select your communication method by pressing the appropriate button. The buttons give you the following connection options.

    ■ Connect over cable

    ■ Connect over wireless

    ■ Connect over modem (if installed)

    ■ Connect over network

    ■ Connect over dial-up network

    Once communication is established between systems, the LapLink window is displayed.

3. Select the procedure you want to use by pressing one of the last three buttons in the LapLink toolbar at the top of the screen.

- Press the File Transfer button to transfer files between systems.

- Press the Remote Control button to exercise control over a remote system.

- Press the Chat button to converse with another user at the remote system.

**4.** When you finish, press the Disconnect button to break the link between the local and remote systems. Press **OK**.

The other system is notified of the break in communication.

To find out more about LapLink capabilities and uses, refer to the online help that is available when you open LapLink.

## McAfee AntiVirus Software

The McAfee AntiVirus software is installed to scan your system for any virus infections. WebScan™ and VirusScan™ are two scanning software tools included on the NEC Versa 2600 Series system. In Windows for Workgroups, a Vshield icon is shipped minimized as an icon on the desktop to easily determine whether virus protection software is running or not, as well as provide a virus alert chime message when a virus is resident.

- WebScan software protects your system against virus infection from files attached to mail messages or from files you download from the Internet. WebScan is activated any time you download executable and Microsoft Word document files and scans mail through the Pegasus Mail system. Also included is the SPRY Mosaic browser and the WebScan Web browser, which give access to the Internet.

Set up the WebScan software on your NEC Versa 2600 computer using the easy-to-follow setup program.

■ VirusScan detects, identifies and disinfects known DOS, Windows for Workgroups, and Windows 95 computer viruses. It checks memory and the system and data areas of disks for virus infections. In most cases, it eliminates the virus and fully repairs infected programs or system areas to their original condition.

> **NOTE** Before you can use the WebScan software and connect to the Internet, you must first purchase and install a modem card into your NEC Versa 2600 computer. Make sure the PC card is connected to a working phone line. The line must be an analog line. If you are unsure what type of line you have, call your local telephone company.
>
> It is strongly recommended that you install the modem card in your NEC Versa prior to running the WebScan Setup program. As part of the Setup program, it recognizes the modem information. If you run the Setup program without an installed modem, you will have to manually enter the modem information the first time you use the online service.

## VideoSaver

The VideoSaver software package that comes preloaded on selected systems gives a variety of full-screen video clips that you can use as screen savers. Simply select VideoSaver from the list of screen savers in your Windows list.

Modify how the screen saver runs as follows:

**1.** Double click the Display icon in the Control Panel.

**2.** Go to the Screen Saver tab and select VideoSaver (95) in Windows 95 systems or VideoSaver in Windows for Workgroups systems.

3. Press the Preview button to see the current video clip selected. To modify the video settings, press the Settings button.

The settings screen shows the available video clips and gives you options to:

- Rearrange the order in which the clips appear.
- Mute the sound.
- Preview the videos available.

## MediaMatics Arcade™ MPEG Player

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

## XingMPEG Player™

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

## Microsoft Works

Microsoft Works gives you all that you need to create forms, format letters, start a data base and pull it all together to create reports. Works includes a word processing program, data base program, and sets of preformatted documents for you to use. (Available in Windows 95-only systems.)

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NOTE Windows 95-only systems are available exclusively in the United States.

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## Microsoft Money

Microsoft Money gives you a new option for handling your finances. With this package, you can balance your checking account, track spending trends, and even make payments over the network. (Available in Windows 95-only systems.)

## Microsoft Sampler

This CD offers demonstration versions of other Microsoft software. (Available in Windows 95-only systems.)

## Microsoft Return of Arcade

This collection of electronic games includes classic favorites like "Pac-Man" and many more. (Available in Windows 95-only systems.)

## PointCast Network

The PointCast Network is a free internet news services that delivers up-to-the-minute information to your Versa 2600 notebook computer 24 hours a day. You select the types of information you wish to receive, and schedule the times for your NEC Versa 2600 to get the latest news.

## ONLINE SERVICES

Your NEC Versa comes with the most popular online services available today including America Online, AT&T WorldNet, CompuServe, Microsoft's Internet Explorer and Netscape Navigator.

America Online, AT&T WorldNet and CompuServe are found in the Online Services program group.

The first time you open America Online, AT&T WorldNet or CompuServe, you need to install the software. Simply highlight and click on the installation icon and follow the on-screen instructions.

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

NOTE It is strongly recommended that you install the modem card in your NEC Versa prior to running the online service setup program. As part of the setup program, it recognizes your modem information. If you run the setup program without an installed modem, you will have to manually enter the modem information the first time you use the online service.

Here are the things you must do in order to use an online service:

- purchase and install a modem card into your NEC Versa. Make sure the PC card is connected to a working phone line. The line must be an analog line. If you are unsure what type of line you have, call your local telephone company. You can also use an external modem connected to the serial port.

- set up the selected online service on your NEC Versa using an easy-to-follow setup program.

- select the newly created online service icon, register with the service, and begin your online adventure.

Just follow these steps to set up and use your selected online service:

1. Connect your modem card to a phone line.

2. Continue as follows:

- From the Program Manager in Windows for Workgroups, locate and double click on the Online Install program group. Double click on the icon for the service you want to install.

- In Windows 95, press Start, move to the Programs group, slide to Online Services, and slide to the online service group that you want to install. Tap the VersaGlide pad once or click once.

3. The setup screen for the selected online service is displayed. Follow the on-screen instructions to install the service on your NEC Versa.

   For both Windows for Workgroups and Windows 95, a program group is created for your selected online service.

4. To use the selected online service, follow the on-screen instructions to log onto the service.

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

## America Online

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

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

1. Log onto America Online.

2. From the opening screen, click on Go To in the Main Menu.

3. From the Go To menu, click Keyword.

4. At the prompt, type either NECTECH or NEC, then press **Enter** or click on Go.

5. From the NEC menu, double-click on one of the following topics, then follow the prompts:

   ■ About NEC

   ■ Terms and Conditions

   ■ News

   ■ Product Information

   ■ Questions and Answers

   ■ NEC Web Site

   ■ Message Board

   ■ Software Library.

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

## AT&T WorldNet

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

## CompuServe and
## WOW! from CompuServe

Installation programs for CompuServe, and its youth-oriented counterpart WOW! from CompuServe, are part of your Windows 95 software.

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

> **NOTE** You cannot download information from the NEC Bulletin Board from CompuServe. You must call the NEC Bulletin Board directly to download information.
>
> If you are using this computer outside North America, there may not be any local access points for online services. It may require a long distance or international call.

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

1. Log onto CompuServe.

2. At the opening screen, click on Service, type in **NEC TECH** at the prompt, and click **OK**.

3. At the NEC menu, double-click on one of the following topics, then follow the prompts:

   ■ NEC Bulletin Board

   ■ Information About This Service

- ■ Access NEC BBS

- ■ Access CompuServe Information Services

- ■ Exit.

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

You may obtain information about NEC and its products by visiting our web site at WWW.NEC.COM.

## Microsoft Internet Explorer

Internet Explorer is pre-installed in both your Windows 95 and Windows for Workgroups operating systems. It is automatically registered with Microsoft when you register your Windows operating system software.

In Windows 95 systems, plug in your PC modem card, then start your NEC Versa 2600 system. Follow this Path with your cursor clicking on each item to advance to the next: Start\Programs\Internet Explorer and then click on Internet Explorer. Follow the instruction and you will be ready to go.

In Windows for Workgroups systems, from Program Manager click on Microsoft Internet Explorer and then click on the "Read Me" file, before running this program, for information about modem and internet service connections.

## Netscape Navigator Dial Up Edition

The first time you use Netscape Navigator, you must allow the system to detect your modem and register your copy of the program.

> **NOTE** Before setting up Netscape Navigator, con-
> nect your modem. During the setup procedure, the
> system tries to detect the modem. If it is not con-
> nected, the process stops.
>
> If you connect the modem and the system fails to
> detect it, open the Windows Control Panel, select
> the modem icon, and specify your modem type and
> port.

Set up Netscape Navigator as follows:

- Windows for Workgroups systems — In the Program
  Manager, double-click the Netscape Navigator icon.
  Next double-click the Netscape Navigator Install icon to
  establish dial-up networking services within Windows
  for Workgroups. When you complete the required in-
  formation, the system restarts Windows for Work-
  groups. Continue the installation by running the Account
  Setup Wizard.

- Windows 95 systems — use the Netscape Navigator
  Install program in the Windows 95 Programs menu.

  The Install program includes a Read.me document,
  Online Books, Account Setup Wizard and Netscape
  Navigator Install. Choose the Netscape Navigator Install
  icon first to establish dial-up networking services within
  Windows 95. When you complete the required
  information, the system restarts Windows 95. Continue
  the installation by running the Account Setup Wizard.

  The completion of Netscape Navigator Install generates
  a Netscape Navigator group and a shortcut icon on your
  desktop.

## Official Airline Guide (OAG)

This program demonstrates the convenience of "information to go." You can purchase the full package or subscribe to future releases through the software publisher. The software publisher also provides technical support for these programs.

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

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

1. Access OAG as follows.

   ■ Purchase and install a modem card into your NEC Versa. Make sure the card is connected to a working phone line.

   ■ From the Program Manager in Windows for Workgroups, locate and double click on the OAG FlightDisk Worldwide Edition icon in the OAG FlightDisk program group.

   ■ In Windows 95, press **Start**, move the cursor to the Programs group and open the OAG FlightDisk group. In the group, highlight "OAG FlightDisk Worldwide Edition" and click the mouse.

2. The first time you open OAG, an agreement screen appears. Follow the on-screen instructions.

3. In the Trip Plan screen, fill in the fields with the trip information requested. Press **Enter** after making selections from the available drop-down lists.

4. To retrieve seat availability and price information, press the appropriate button.

5. Follow the on-screen instructions to register for a free trial of the OAG travel service.

# 3 Using Setup and Power Management

Your NEC Versa 2600 Series system comes with a system configuration program called Setup that allows you to view and set system parameters. The system also comes with a power management program that lets you conserve energy, save battery power, extend the life of your LCD backlight, and protect against data loss due to low battery power.

This chapter describes these NEC Versa 2600 features.

## SETUP UTILITY

The NEC Versa 2600 Setup program lets you view and set system parameters. Setup also includes security features that protect your system from unauthorized use.

Use Setup to

- set the current time and date

- customize your operating system to reflect your computer hardware

- secure your system with a password

- balance your performance needs with power conservation.

## How to Enter Setup

Access Setup immediately after you power-on your Versa 2600, during booting up. Just press the **Fn** and **Esc** keys simultaneously when the following prompt appears

<Fn - Esc> to enter System Configuration Utility

> **NOTE** The **Fn** key is located on the front-left of the NEC Versa 2600 keyboard. The **Esc** key is located on the rear-left of the NEC Versa 2600 keyboard.

The Setup screen appears, displaying current system parameter settings.

When you press **Fn - Esc** and enter Setup, the system automatically displays current system parameter settings.

## How to Use Setup

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

- The Setup Screen

- Using keys

- Checking and setting system parameters.

### *The Setup Screen*

The Setup screen looks similar to the one shown next and has five separate areas.

```
┌──────────────────────────────────────────────────────────────────────────┐
│ SystemSoft SCU                                    Nov 18, 1996   12:25:23 pm│
│ Startup   Components   Security   Key   Power   Miscellaneous   Exit        │
│  ┌─ System Information ──────────────┐    ┌─ System ──────────────────┐    │
│  │                                   │    │                           │    │
│  │  Hard Drive      : 1031  MB       │    │  CPU Type    = Pentium     │    │
│  │  Current Display : LCD            │    │  CPU Clock   = 133 MHz     │    │
│  │  LCD type        : TFT (800x600)  │    │                           │    │
│  │  Battery Remain  : 54%            │    └───────────────────────────┘    │
│  │  Password        : Disable        │                                     │
│  │                                   │    ┌─ Memory ──────────────────┐    │
│  │                                   │    │                           │    │
│  │                                   │    │  Base        =      640 KB │    │
│  │                                   │    │  Extended    =    15360 KB │    │
│  │                                   │    │  Total RAM   =    16384 KB │    │
│  │                                   │    │  Cache (Ext) =      256 KB │    │
│  └───────────────────────────────────┘    └───────────────────────────┘    │
│  Press <Alt> key to activate menus, and cursor keys to navigate.  Spacebar or│
│  <Enter> keys accept menu item.  <Esc> key cancel current action.            │
└──────────────────────────────────────────────────────────────────────────┘
```

Item Specific Help Area

- ■ Menu Bar
  Each of the seven menu items has its own drop-down
  screen, where you may view and edit the system
  configuration settings.

- ■ System Information
  The left part of the screen. This area describes the cur-
  rent hardware, battery status, and password setting.

- ■ System
  The upper-right part of the screen. This area contains in-
  formation about your system's CPU.

- ■ Memory
  The bottom right part of the screen. These lines display
  the base and  extended memory, total RAM, and the
  Cache size, all in KB.

■ Item-Specific Help Area
The bottom of the screen describes the highlighted system configuration parameter and the available settings for that parameter.

## USING KEYS

The following table lists Setup keys and their functions.

### *Setup Key Functions*

| KEY | WHAT IT DOES |
| --- | --- |
| Alt | Activates the menu bar, by highlighting Startup. |
| ← → | Scrolls, left or right, along the menu bar, and highlights the current menu selection |
| Enter or Spacebar | Opens the currently highlighted menu or parameter item. After highlighting a selection with the ↑ ↓ arrows, use the Spacebar to select a highlighted parameter setting. Use the **Spacebar** or **Enter** for OK or Cancel. |
| Home/End | Moves to the first/last parameter of the currently open drop-down screen. |
| ↑ ↓ | Moves the cursor up or down among the parameters on a drop-down menu. |
| Tab | For some parameter settings, moves the cursor between the subfields. For example, for Startup / Date and Time, Tab moves the cursor from day to month to year to hour to minute to second, and to the OK and Cancel options. |
| Esc | Closes the current window or drop-down screen, de-activates the menu bar, or closes the Setup system configuration utility. |

### Checking/Setting System Parameters

See the following table for a list of parameters, their factory default settings, and alternate settings. As you set each parameter, its available settings are explained in the Item-Specific Help in the bottom of the screen.

Reset the parameters on the displayed screen to their factory default settings, selecting Default Values on the Exit screen.

### *Setup Parameters*

| PARAMETER | DEFAULT SETTING | ALTERNATE SETTINGS |
|---|---|---|
| **Startup** | | |
| Date and Time | DAY, MO, YR, HR, MIN, SEC | |
| Boot Device | Floppy Disk A/ Hard Disk C | Hard Disk C |
| Boot Display | LCD | CRT, LCD and CRT |
| Power Switch | ON/OFF | Suspend/Resume |
| **Components** | | |
| Serial / IR Ports | | |
|   Serial Ports | COM1(3F8h) IRQ4 | COM2(2F8h) IRQ3, COM3(3E8h) IRQ4, COM4(2E8h) IRQ3 DISABLED |
|   IR Ports | COM2(2F8h) IRQ3 | COM1(3F8h) IRQ4, COM3(3E8h) IRQ4, COM4(2E8h) IRQ3, DISABLED |
| Parallel Port | LPT1(378h) | LPT2(278h), LPT3(3BCh), DISABLED |
| Parallel IRQ | IRQ7 | IRQ5 |
| Parallel DMAC | | |
|   LPT DMA | DMA0 | DMA1 |
| Parallel Port Type | | |
|   LPT Port Type | Bidirectional (PS-2) | Standard AT (Centronics), EPP, ECP |
| Audio Base Port | 220h | 230h, 240h |
| Audio, Midi, IRQ | IRQ5 | IRQ9, IRQ10, IRQ5 IRQ9, IRQ5 IRQ11, IRQ10 IRQ9, IRQ10 IRQ11 |

| PARAMETER | DEFAULT SETTING | ALTERNATE SETTINGS |
|---|---|---|
| Audio DMAC | DMA1 | DMA0 |
| Midi Port | 330h | 300h, 320h, DISABLED |
| Speaker | Enabled (checked) | Disabled (unchecked) |

**Security**

| | | |
|---|---|---|
| Password | no password | user defined |

**Key**

| | | |
|---|---|---|
| Keyboard Type | U.S.A. | U.K., French, Germany, Japanese |
| Typmatic Delay | 500 ms | 250 ms, 750 ms, 1000 ms |
| Typmatic Rate | 10 CPS | 2, 6, 15, 20, 30 CPS |

**Power**

| | | |
|---|---|---|
| Maximum Battery Life | Disabled | Enabled (checked) |
| Good Battery Life | Disabled | Enabled (checked) |
| Good Performance | Disabled | Enabled (checked) |
| Maximum Performance | Disabled | Enabled (checked) |
| User Setting Battery | Enabled | |
| Video Timeout | 2 Min | 1, 2, 3, 4, 6, 8, 10 Min Always On |
| Disk Timeout | 15 Seconds | 15, 30, 45 Sec, 1, 2, 3, 4 Min, Always ON |
| CPU Throttle | Good Performance | Maximum Power Savings, Good Power Savings, Maximum Performance |
| Standby Timeout | 2 Min | Always On, 1, 2, 3, 4, 6, 8, 10 Min |
| Suspend Timeout | 12 Minutes | 2, 4, 6, 8, 12, 16, 20 Min |
| Brightness | Medium | Low, High |
| Lid Close | Suspend | Standby, Backlight off |
| User Setting AC | | |
| Video Timeout | Always On | 1, 2, 3, 4, 6, 8, 10 Min |
| Disk Timeout | Always On | 15, 30, 45 Sec, 1, 2, 3, 4 Min |
| CPU Throttle | Maximum Performance | Maximum Power Savings, Good Power Savings, Good Performance |
| Standby Timeout | Always On | 1, 2, 3, 4, 6, 8 10 Min |
| Suspend Timeout | Always On | 2, 4, 6, 8, 12, 16, 20 Min |
| Brightness | High | Low, Medium |

| PARAMETER | DEFAULT SETTING | ALTERNATE SETTINGS |
|---|---|---|
| Lid Close | Suspend | Standby, Backlight off |
| PCMCIA Power (Suspend) | Enabled (checked) | Disabled (unchecked) |
| **Miscellaneous** | | |
| Low battery beep | Enabled (checked) | Disabled (unchecked) |
| Wake Up Alarm | Disabled | One Time, Every Day |
|   Hour | | User input |
|   Minute | | User input |
| L2 Cache | Enabled (checked) | Disabled (unchecked) |
| **Exit** | | |
| Save and Exit | To save the current setup parameters (with changes) and exit setup. | |
| Save and Reboot | | To save the current setup parameters, then reboot the computer. |
| Exit (No Save) | | To exit Setup without saving any parameter setting changes. |
| Default Settings | | To restore the default Setup settings, then Exit. |
| Version Info | Displays information about Setup and BIOS. | |

As a new user, it will be important for you to check and, perhaps, change the following parameter settings.

**Startup Menu**

■ Date and Time
Set the System Date and Time to the current time and date. Use numerical input (remember that the hour setting begins at 0 and ends at 23). The settings remain in memory even after you turn off system power.

■ Boot Device
Select the drive you want your system to read from when the computer starts-up. Specify the boot sequence, by instructing the system to look

— only to the Hard Disk, drive C

— first to the Diskette, drive A, and then to drive C.

■ Boot Display
Lets you specify the system display screen as the NEC Versa 2600 LCD screen (the default), an external CRT display, or both.

■ Power Switch
Lets you determine how the Power Switch (located on the hinge beneath the LCD display) functions after the NEC Versa 2600 is powered on.

— Suspend/Resume lets you use the Power Switch to save battery power. This selection is appropriate for Windows 95 systems, which automatically power off when you shut down the Windows 95 software.

— ON/OFF (the default) turns the system on or off, and should be used by Windows for Workgroups systems.

## Components

This drop-down screen displays configuration settings for the serial and parallel I/O ports as well as the sound device and speakers.

The Speaker item displays a check mark which means the system's built-in speakers are enabled (the default). An empty underscore means the speakers are disabled.

## Security

Your NEC Versa 2600 supports a password for system security. Using the Security screen, you can require that a password be entered at each startup or boot.

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

Once you set a password, you must enter it before your system will boot up. This feature allows only an authorized user to access your system, including the Setup program where you can set or change system parameters.

*Setting an Initial System Password*

Set an initial password as follows.

**1.** Select Security from the menu bar.

**2.** Open the Password screen by pressing **Enter**.

**3.** Tab to the "Enter Password" field and enter a password up to eight characters long. Press **Enter** on the keyboard.

**4.** Reenter your password as prompted for verification. Press **Enter** and write your password down and keep it in a secure place in case you forget it.

**5.** If you have successfully set a password, a check mark will appear next to the word "Password" on the Security drop-down menu.

**6.** Press **ESC** as many times as needed to close the screen, and to exit Setup. When you exit Setup, be sure to save your changes reboot your system.

*Removing a Password*

Remove a previously set password by opening the Password screen and entering the previously set password. Press **Enter** on the keyboard. (The check mark should be removed from the word "Password" on the Security drop-down menu.)

**Key**

These menu settings control the functionality of your NEC Versa 2600 keyboard, and include

- Keyboard Type
  Lets you select the desired keyboard format. U.S.A. is the default.

- Typematic Delay
  Sets the time delay between the moment a key is pressed and the time the character appears on screen. The default is 500 milliseconds (ms).

- Typematic Rate
  Sets the number of characters that appear on screen if a key remains pressed for a second. The default is 10 characters per second (cps).

**Power**

The Power drop-down menu lets you balance system performance and energy conservation, for both battery and AC operation, using the following parameters.

> NOTE Some operating systems such as Windows for Workgroups and Windows 95 have their own power management software which overrides CMOS settings. In this case, be sure to set your desired power management settings accordingly.

### Battery Operation

- Maximum Battery life
  Sets power savings to a maximum and system performance to a minimum, by running the CPU at half speed all of the time.

- Good Battery life
  Provides good power savings and moderate system performance, by reducing CPU clock speed to one-half of its maximum speed any time the CPU is not engaged for one-half a second.

- Good Performance
  Provides high system performance and moderate power savings, by reducing CPU clock speed to one-half of its maximum speed any time the CPU is not engaged for eight seconds.

- Maximum Performance
  Sets system performance to a maximum and power savings to a minimum, by running the CPU at full speed all the time.

- User Setting Battery (the default setting)
  Lets you input your choice of performance and power saving parameters. See "Using Power Management," later in this chapter, for details.

### AC and PCMCIA Operation

- User Setting AC
  Lets you set performance and power saving parameters for AC operation. Default settings are for maximum system performance.

- PCMCIA Power
  Permits PC Card socket power to remain on while the system is in Suspend Mode (see "Using Power Management.")

**Miscellaneous**

Use this drop-down menu to set the following parameters:

- Low battery beep (default)
  This parameter lets you know when battery power is low, by emitting a beep

  — once, when battery power falls to 10%, and

  — every 60 seconds, when battery power falls to 5%.

- Wake Up Alarm
  Lets you specify Resume time for your NEC Versa 2600 anytime of day from Suspend mode

  — one time only or

  — everyday at the same time.

- L2 Cache
  Level 2 Cache speeds up your system's data processing time, and is enabled (checked) by default.

**Exit**

Lets you save or not save parameter changes when you exit Setup, as follows:

- Save and Exit
  Saves changes, but does not reboot. The changes are effective only after the next system startup.

- Save and Reboot
  Saves changes and immediately shuts down and restarts the system, so parameter settings take effect immediately.

- Exit (No Save)
  Exits Setup, without saving changes.

- Default Settings
  Restores all Parameter settings to their default settings. Default settings take effect on the next system startup.

## USING POWER MANAGEMENT

Power Management in the NEC Versa 2600 lets you conserve energy, save battery power, extend the life of your LCD backlight, and protect against data loss due to low battery power.

You can set some features to function automatically or activate them manually with the keyboard or a button.

## Power Saving Modes

The NEC Versa 2600 has three different power consumption states. These include:

■ Active Mode — All components are turned on and active.

> NOTE Even in Active Mode, you can specify timeouts for the LCD panel, hard disk drive and CPU. See "Power Management Settings."

■ Standby Mode — Eliminates unnecessary battery or AC power consumption. The LCD panel, Hard Disk Drive and CD-ROM reader all shut down, and the Keyboard Controller and CPU slow down, providing both privacy and power savings.

To end Standby mode, press any key and return to Active mode.

■ Suspend Mode — Shuts down every system component, except those that preserve unsaved data in memory, or system status and PCMCIA cards if so configured.

To end Suspend mode and return to Active mode, press the Power button on the hinge beneath the LCD panel and restart the system.

You can set your system to enter Standby or Suspend modes automatically after a specified number of minutes of system inactivity. System activity includes keyboard, VersaGlide, diskette or hard disk drive access, PC Card modem, network, or LAN card, serial, or printer port communications.

## Power Management Settings

The system arrives set up with many power-saving features already enabled. You can change the timeout period for these devices in Setup, under the "Power" menu, with the "User Setting Battery" and the "User Setting AC" parameters. The following table lists the default settings for "User Setting Battery" operation.

### Automatic Power-Saving Features

| DEVICE | DEFAULT TIMEOUT | COMMENT |
|---|---|---|
| Video Timeout | 2 minutes | Shuts off video screen after the timeout specified elapses. |
| Hard Disk Timeout | 15 Seconds | Stops the hard disk motor when the hard disk is not accessed for the specified timeout. |
| CPU Throttle | Good Performance | CPU "clocks down" to slower speeds. |
| Standby Timeout | 2 minutes | Specifies when the system enters Standby mode after total system inactivity. |
| Suspend Timeout | 12 Minutes | This setting specifies how long the system remains in Standby mode before entering Suspend mode. |
| Lid Close | Suspend | This setting determines what power-saving action occurs when the notebook cover is closed while the system is on. |

> **NOTE** In Windows 95 systems, power management settings under Windows override the settings established in Setup. Make the Windows 95 power saving settings match those in Setup for the best results.

## Using Fn-F3

Press the **Fn-F3** key combination to shut off the LCD panel when you need to be away from your system for a short period of time and want to return to where you left off. Press the same key combination again to turn the LCD panel back on.

# 4 Using Your NEC Versa

The more you use your NEC Versa 2600 Series system, the more proficient you will become at everything — from using function keys to setting up presentations.

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

- the LCD panel
- the keyboard
- the NEC VersaGlide
- drive bays
- the 10X CD-ROM reader
- PC card slots
- the Infrared (IR) port

In addition, this chapter focuses on installing options, expanding hard disk space and memory.

## LCD

The LCD panel on your NEC Versa 2600 Series system is fully adjustable to provide a comfortable viewing angle. To adjust the viewing angle, gently push the LCD panel into position.

To adjust the LCD panel's brightness do the following:

■ for TFT panels, just slide the brightness control switch located on the right side of the LCD panel; up or down.

■ For DSTN panels

— Fn-F1 decreases LCD brightness

— Fn-F2 increases LCD brightness

— Use the slide control on the right side of the LCD to adjust contrast.

## KEYBOARD

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

■ 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.

Function Keys

Control Keys    Embedded Numeric Keypad    Cursor Control Keys

*Keyboard*

## Function Keys

A number of function keys (**F1** through **F12, Esc, Setup, NumLk, PadLk, Scroll Lock)** are included in the NEC Versa keyboard. These keys work together with the **Fn** key to activate special functions. Keys that are pre-programmed with dual functions are identified by a blue icon or phrase depicting the function.

Function keys **F1** through **F12** are application-driven. See the specific application's user guide for information about how each function key works within the application you are using.

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

**Fn-Esc/Setup —** during boot-up, opens the system's Setup program, where you can set, view or change system parameters.

**Fn-F1 —** darkens the LCD brightness setting (in models with a DSTN type LCD screen).

**Fn-F2 —** brightens the LCD brightness setting (in models with DSTN type LCD screen).

**Fn-F3** — toggles the LCD/CRT displays on and off.

**Fn-F9/NumLk** — activates the embedded numeric keypad. Hold down the **Fn** button, then press a numeric keypad key to use that key (or use **Fn-F10/PadLk**).

**Fn-F10/PadLk** — with **NumLk** activated, lets you use the embedded numeric keypad without holding down the **Fn** button.

■ Windows 95 keys — You can use the following two key combinations 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.

■ Cursor Control keys — Cursor control keys let you position the cursor on the screen where you want. On the screen, the cursor is a blinking underline, block, or vertical bar depending on the application. The cursor indicates where the next typed character will be inserted.

■ Typewriter keys — The typewriter keys (also called alphanumeric keys) are used to enter text. Keys with blue printing on them behave differently when combined with **Fn**.

■ Numeric Keypad — Pressing **Fn-F9/NumLk** on the keyboard activates the numeric keypad numbers and functions printed in blue on top of these keys.

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

To use the numeric keypad, first press **Fn-F9/NumLk**, then either

— hold down the **Fn** key, and press your choice of keys on the numeric keypad, or

— press **Fn-F10/PadLk** and use the numeric keypad without pressing down the **Fn** key.

When you press **Fn-F9/NumLk** (and, if activated, **Fn-F10/PadLk**) 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.

## NEC VERSAGLIDE

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

■ Tap your finger on the VersaGlide.

■ Click the left, or primary button.

A double tap on the VersaGuide is the equivalent to a double click on the left or primary button.

VersaGlide

Left
Selection Button

Right
Selection Button
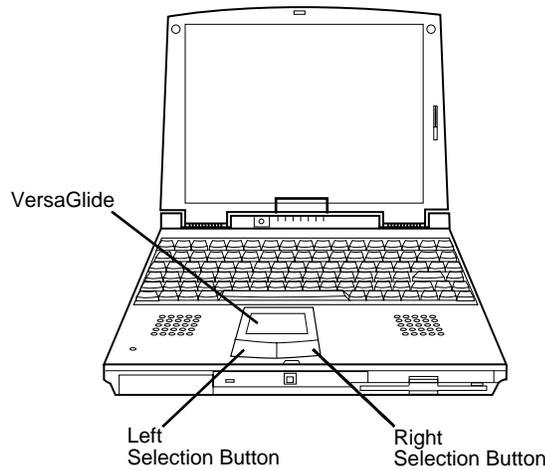
*VersaGlide features*

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

> **NOTE** If you install another mouse driver over the shipping default, the tap capability may be lost.

## Making VersaGlide Adjustments

The NEC VersaGlide lets you customize how it functions with the cursor. You can control the size and color of the cursor, cursor speed, double-click speed, and selection button orientation.

Use the online help button for details about configuring your VersaGlide. See the appropriate section that follows for your operating system.

### Windows 95 VersaGlide Adjustments

To access and adjust your VersaGlide and cursor, follow these steps.

1. Select Start, Settings, Control Panel.

2. From the Control Panel, highlight and double tap (or double click) on the Mouse icon. A Mouse Properties screen appears.

3. Along the top of the Mouse Properties screen, tabs represent the primary functions available.

   ■ Buttons – lets you select or change which button is the Primary or Secondary button. Also lets you modify the speed required when double clicking selection buttons.

   ■ Pointers – lets you change the pointer scheme and define which symbols you want to use for various Windows tasks.

   ■ Motion – lets you adjust the pointer speed and specify a short or long pointer trail.

   ■ General – lets you change or update mouse drivers.

4. Click **OK** or **Cancel** to accept or cancel the adjustments you make.

### Windows for Workgroups VersaGlide Adjustments

To access and adjust your VersaGlide and cursor, follow these steps.

1. From the Program Manager, open the Main program group, and double-click the Control Panel icon.

**2.** Double click on Alps GlidePoint® icon. A control panel screen appears.

**3.** Along the top of the screen, tabs represent the primary functions available.

- Pointer – lets you define the color and size of the on-screen mouse cursor.

- Motion – fine-tunes the responsiveness of the screen pointer, VersaGlide double-click speed, cursor acceleration, and extra precision functions for using key/button combinations for some pointer functions.

- Orientation – adjusts the direction of the pointer device motion (rotation) and lets you specify the Primary and Secondary VersaGlide button.

- Shortcuts – assigns autojumps and hotspots to reduce the keystrokes or button clicks needed. You can also customize keyboard functions or VersaGlide buttons.

- Tapping – sets tapping sensitivity.

**4.** Click **OK** or **Cancel** to accept or cancel the adjustments you make.

### VersaGlide Tips

Follow these basic ergonomic tips while working:

- Use a light touch on the VersaGlide surface.

- Set up the NEC Versa with your keyboard and VersaGlide at a comfortable height. Keep your forearms parallel to the floor. Your wrists should be relaxed and straight.

- While using the keyboard and VersaGlide, keep your shoulders and arms as relaxed as possible.

- Take regular breaks from the computer to rest your eyes. Perform stretching exercises to relax your fingers, hands, wrists, forearms, and shoulders.

See Appendix A, "Setting Up a Healthy Work Environ-ment," for more information.

## 10X CD-ROM READER

The NEC Versa 2600 comes with a 10X CD-ROM reader that features the latest in CD-ROM technology. The CD-ROM reader is assigned the drive letter E:.

> **NOTE** The CD-ROM reader is a Class 1 Laser product.

Use the CD-ROM reader to load and start programs from a compact disc (CD). You can also use the CD-ROM reader to play your audio CDs (see "Playing Audio CDs" in this chapter). The 10X CD-ROM reader is compatible with Ko-dak Multi-session Photo CDs™ and industry data and audio CDs.

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

CD-ROM reader features include the following:

■ Release Button — ejects the CD tray. Press this button to insert a CD into or remove a CD from the reader.

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

■ Auto Vibration Prevention Mode Switch — accessible with CD drawer open and no CD inserted. When this switch is on, the drive detects unbalanced CD and changes its rotational speed in order to reduce drive vibration.

## CD Loading

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

> **NOTE** The CD-ROM reader ships with a shipping restraint installed. Remove the restraint by lifting on the plastic edge near the center hole. Do not insert a CD with the restraint installed.

1. Press the release button and pull the CD tray out of the reader bay.

2. Put your CD, printed side up, into the circular impression in the tray.

3. Push the CD tray in until it clicks shut.

> **NOTE** Some CDs vibrate when playing. This does not affect CD-ROM reader functioning.

### Using Audio CDs in Windows for Workgroups

Follow these instructions to play audio CDs in Windows for Workgroups. The first time you play an audio CD, you need to add the device to the Media Player's Device option list. Follow these steps to do so. You only need to perform this procedure the first time. After that, go directly to "Playing Audio CDs."

### Adding the CD Audio Option

Add the CD Audio option to the Media Player's Device list as follows:

1. Insert the audio CD into the CD-ROM reader tray.

2. From the Program Manager, open the Main program group and double click the Control Panel icon.

3. Double click the Drivers icon and select "Add."

4. Scroll through the list of drivers and highlight **[MCI] CD Audio** and click "OK."

   A message similar to the following appears:

   > One CDROM drive was detected. Installation is complete.

   If you see a prompt stating that the mcicda.drv is already on the system, select "New."

5. Press "OK" and close the Control Panel.

6. Go to the next section, "Playing Audio CDs."

### Playing Audio CDs

Play audio CDs in Windows for Workgroups as follows:

1. If you have not yet done so, insert a CD into the tray.

2. From Windows, double click on the Accessories program group.

3. In Accessories, highlight and double click on the Media Player icon.

4. From the Device drop down menu, select "CD Audio."

5. From the media player control panel that appears, click on the play button.

   Use the slide bar displayed to specify a particular track on the CD.

### Using Audio CDs under Windows 95

Follow these instructions to play audio CDs in Windows 95. For more details, see your *Microsoft Windows 95 User's Guide*.

1. Insert the audio CD into the CD-ROM reader tray.

2. Push the CD tray in until it clicks shut. If configured in the Windows 95 Device Manager, the software automatically detects the audio CD and begins playing.

### Playing Entertainment CDs using Windows 95

Use the following steps to run a game or educational CD.

1. Press the Stop/Eject button to open the CD tray. Insert a CD into the tray. Push the CD tray in until it clicks shut.

2. Follow the installation instructions that come with your CD-ROM title. For example, you will have to enter the drive letter assigned to the CD-ROM reader.

3. Exit the installation utility. Select **Yes** to save your settings.

4. Click on the game icon created when you ran the CD title's installation utility. You are now ready to play!

## CD Care

When handling CDs, keep the following guidelines in mind.

- Always pick up the CD by its edges.

- Avoid scratching or soiling the side of the CD that has no printing or writing on it. This is the data side of the CD.

- Do not write on or apply labels to either side of the CD.

- Keep the CD away from direct sunlight or high temperatures.

- Clean fingerprints or dust from the CD by wiping it with a soft cloth. Gently brush the cloth from the center of the CD toward the edge.

⚠ **CAUTION**

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

## PC CARDS

PC cards are all approximately the same size and vary only in thickness. All have a standard 68-pin connector. There are three types of cards, which vary in thickness.

## Type I Cards

Type I cards have a thickness of 3.3 millimeters (mm). Type I cards are often used for memory devices such as RAM and Flash cards.

### Type II Cards

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

### Type II Extended Cards

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

### Type III Cards

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

### *Communication Cards*

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

■ Network Cards

■ Fax/Modem Cards

   You can insert a fax/modem in either slot.

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

### PC Card Modems

You can use a PC card modem with your NEC Versa to communicate with others via fax, e-mail, or connect to an online service or bulletin board.

Follow these steps to connect your system to a phone line.

1. Connect the telephone cable to the modem port.

2. Connect the other end of the telephone cable to the wall outlet (you might have to unplug the telephone if it is plugged into the outlet).

### Storage Cards

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

The following table provides sample drive designations.

## *Sample Drive Designations*

| DRIVE LETTER | LOCATION/DEVICE |
| --- | --- |
| C: | Internal hard disk |
| D: | Internal hard disk, default is no partation |
| E: | CD-ROM Reader |
| F: | Slot 0, IDE/ATA memory card |
| G: | Slot 1, IDE/ATA memory card |
| H: | Slot 0, high-speed memory card |
| I: | Slot 1, high-speed memory card |

### *Interface Cards*

You can connect most standard Small Computer System Interface (SCSI) devices using the optional NEC PCMCIA SCSI card. This PC card is also known as the New Media Card.

### *Other Cards*

Many other kinds of PC cards are available to notebook computer users. They include the following cards:

■ Global Positioning System (GPS) − to enable the tracking of remote units (for example, delivery trucks)

■ Paging − for receiving remote paging messages

■ Serial − for adding an extra serial communications port

■ Multimedia − for combining animation and sound

■ Video − for recording, displaying, and capturing full-motion video (NEC VersaVideo™)

■ Audio − to enable the use of sound.

## PC Card Enablers

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

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

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

■ Hot swap may not work with some Enablers.

■ An Enabler may only work in Windows Standard Mode.

■ Enablers have minimal memory requirements. For example, they require as little as 4 KB for a modem, 16 KB for Ethernet, and 24 KB for Token Ring.

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

## Disabling Preloaded PCMCIA Drivers

You can disable all of the PCMCIA drivers that come pre-loaded in your NEC notebook computer. However, doing so limits some of the flexibility of PCMCIA. You can still use PC cards that have Enabler software, but you can install and run only one at a time. The card must rely on the software supplied by the card vendor (Enablers).

Remove the preloaded PCMCIA drivers by modifying the CONFIG.SYS file as follows.

**1.** Select the File menu in Windows Program Manager.

2. Select **Run**, type **sysedit** in the command line, and press **Enter**. This should take you to the System Configuration Editor.

3. Click on the CONFIG.SYS window and scroll down to the following line:

====== PCMCIA Device Drivers ======

4. Type **rem** for "remark" in front of all lines showing PCMCIA device drivers. This tells the operating system to ignore those lines.

5. Save and exit the file.

6. Reboot the system for the changes to take effect.

By default MTSRAM.exe and MTDRAM are remarked out.

## PC Card Slots

Your NEC Versa has two PC card slots for inserting PC cards. One or two Type I or Type II PC cards (formerly called PCMCIA cards), or one Type III PC card and one Type I or Type II PC card may be inserted.

**NOTE** This 32-bit structure is backward compatible, but also accepts new cards.

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

### Inserting a PC Card

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

> **NOTE** NEC recommends that you keep the PC card slot cover open if you are using a PC card for a long period of time. Some PC cards can overheat and damage the system.

1. Align the card so that the 68-pin connector points to-wards the slot.
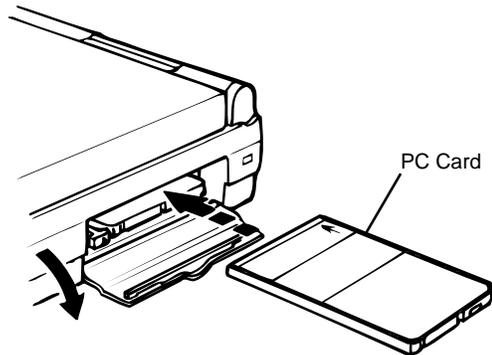


PC Card

*Inserting a PC card*

2. Slide the card into either slot. If you plan to use two cards at the same time; (one being a Type III) slide that card into the top slot and the second into the bottom slot. These two slots will support either two Type I , two Type II or one each Type I and Type II or one each Type III and one of either Type I or Type II at the same time. A low tone followed by a high tone lets you know that the card is fully inserted and recognized. (If you turn off the sound, no sound is emitted.)

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

### Removing a Card

Remove PC cards from Windows for Workgroups systems (Windows 3.11) as follows. Go to step 3 for Windows 95 systems.

**1.** To remove the card, press the PC Card Release button on the side of the slot. A double tone sounds.

PC Card
Release Buttons
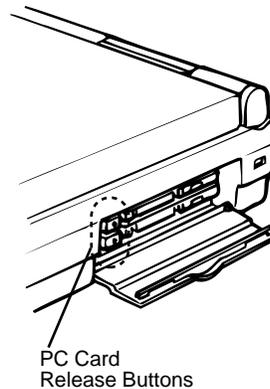
*Removing a PC Card*

**2.** Pull the card firmly out of the slot.

> **NOTE** PC cards draw power even when not in use. To save energy, press the button to disconnect the card when it is not in use. You can leave the card in the slot while it is disconnected for easy storage.

Remove PC cards from Windows 95 system as follows.

3. From the screen, select "My Computer," then "Control Panel."

4. Double click on the PC Card icon.

5. Select the PC Card to remove and select "Stop." Windows 95 alerts you if any applications are still using the card. If all applications using that card are closed, services for that card are shut down, and you get a message telling you it is safe to remove the card.

6. Press the Release button on the side of the PC card in the slot.

7. Pull the card out of the slot.

## IR Port

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

When your NEC Versa ships, the IR port is enabled.

For the infrared technology to work, follow these guidelines:

■ position the NEC Versa no more than three feet way from the IR peripheral device you are using

■ keep the IR port between the computer and the device parallel.

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

## INCREASING SYSTEM STORAGE AND MEMORY

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

## Hard Disk

You can increase the system's storage capacity by replacing the standard hard disk drive with a drive with greater storage capacity.
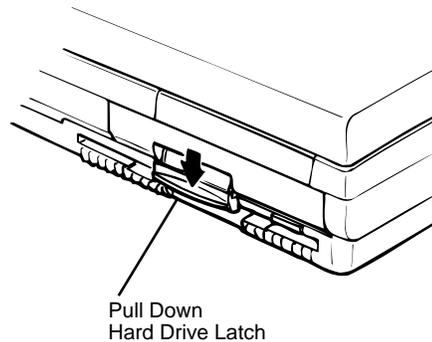
### Removing the Hard Drive

Make sure your NEC Versa is powered off, all external options are disconnected, and the LCD panel is closed. Then perform the following steps:

> **NOTE** The NEC Versa must be powered off while the hard drive is being removed and installed.

1. Pull down the hard drive latch located on the right front of the computer, as shown next.



Pull Down
Hard Drive Latch

*Remove hard drive (Step 1)*

**2.** Pull the hard drive latch forward, as shown next.



Pull Out
Hard Drive Latch
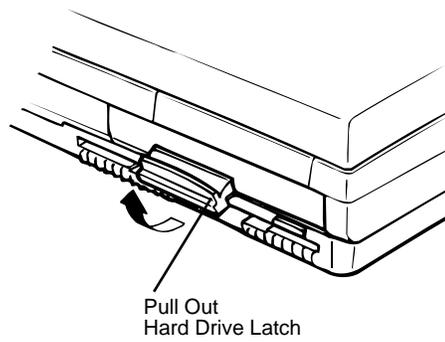
*Remove hard drive (Step 2)*

**3.** Continue pulling on the latch, until you have removed the hard drive from its bay.
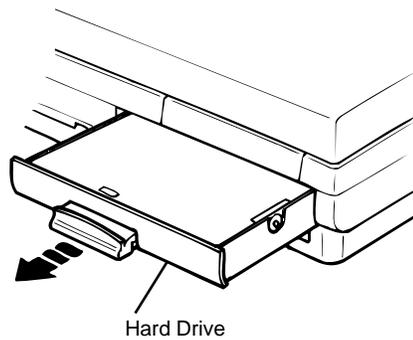


Hard Drive

*Remove hard drive (Step 3)*

### Inserting the New Hard Drive

**1.** Insert the new hard drive into the hard drive bay.

**2.** Push the new hard drive all the way into the bay, until the front of the new hard drive is flush with the front of the NEC Versa 2600.
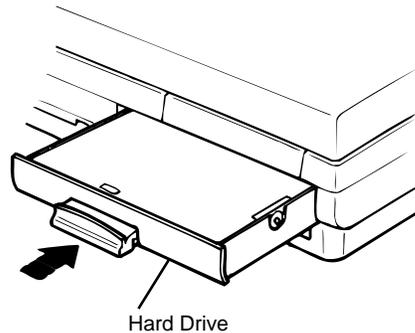


Hard Drive

*Insert hard drive*

**3.** Pivot the latch down, then slide up, until it snaps close.

**4.** After you install the drive, you may need to go into Setup to specify your new drive type.

## Installing Memory Modules

Your NEC Versa comes standard with 16 megabytes (MB) of Extended Data Out (EDO) memory. This new technology gives your system higher performance. You can increase system memory to a maximum of 80 MB by installing two double inline 32-MB memory modules (DIMM) in the system.

The following module capacities are available:

■ 8-MB memory module

■ 16-MB memory module

■ 32-MB memory module.

> NOTE Always add memory using two DIMM memory
> modules of the same capacity. A single module, or
> modules with different capacities installed will not
> operate properly.

Install DIMMs as follows.

1. Make sure the system is powered off and that no periph-
   eral devices are attached.

2. Turn the system upside down.

3. Locate and open the DIMM memory socket cover, as
   shown next.
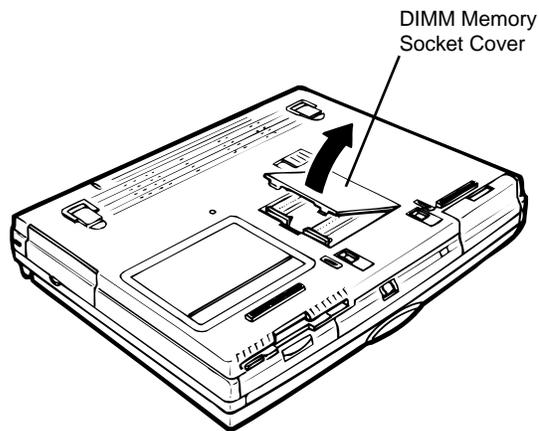


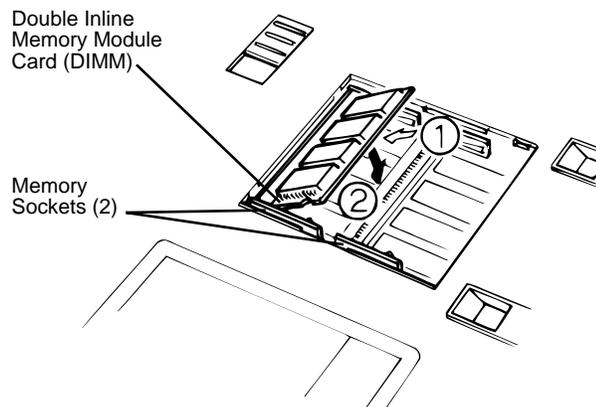*Open DIMM memory socket cover*

4. Locate the DIMM sockets.

5. Look at the DIMM card. Locate the notched corner on
   the DIMM.
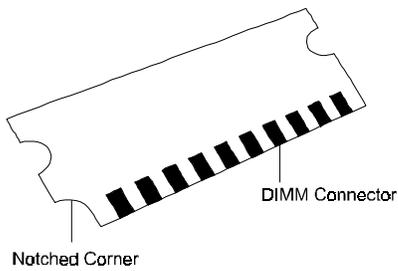
*DIMM features*

6. Hold the notched corner towards the left side of the
   system and insert the module as follows.

   ■ Hold the DIMM at a 60 degree angle and align
     the DIMM connector with the socket in the sys-
     tem. Push the connector into the socket.

   ■ Press down on the DIMM until the locking tabs
     on the sides snap into place, securing the mod-
     ule.

   (Repeat these two steps for the second DIMM card.)



*Inserting DIMMs*

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

7. Replace the memory socket cover.

8. Run the Setup program to register the new memory installed.

### Reviewing the 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.

#### Memory Map

| MEMORY SPACE | SIZE | FUNCTION |
|---|---|---|
| 00000000h-0009FFFFh | 640 KB | DOS Applications & Optional Memory Space Gap |
| 000A0000h-000A7FFFh | 96 KB | Video (VGA) Graphics Memory |
| 000B0000h-000BFFFFh | 32 KB | Text Mode Memory (SMM Space) |
| 000C0000h-000CC7FFh | 40 KB | Video (VGA) BIOS |
| 000CA000h-000CFFFFh | 24 KB | PnP BIOS / PCI BIOS |
| 000D0000h-000DFFFFh | 64 KB | Setup / PCMCIA Window (Extended Memory or Upper Memory Block) |
| 000E0000h-000FFFFFh | 128 KB | System BIOS ROM |
| To    -00FFFFFFh | 16 MB | Total Base Memory |
| To    -FFFEFFFFh | 80 MB | Total Expansion Memory |

## INSTALLING OPTIONS

The back of your NEC Versa notebook provides industry-standard connectors so that you can integrate the following.

- External monitor

- Parallel Ports (printers and parallel paripherals)

- Serial Ports (modems and serial peripherals)

- External mouse/ keyboard

In addition, NEC offers the NEC Port Replicator 2600 which was developed to work specifically with your NEC Versa.

See the following sections for steps on using the options.

## External Monitor

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

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

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

> NOTE The NEC Versa must be 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.
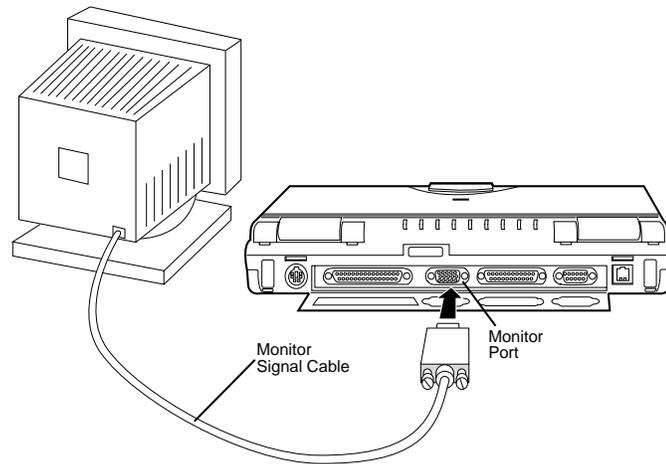


*Connecting a monitor*

**4.** Connect the monitor power cable and plug it into a properly grounded wall outlet.

**5.** Follow any setup instructions in the monitor's user's guide.

**6.** Turn on power to the monitor.

**7.** Power on the NEC Versa.

## 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 some parallel printers, a Centronics®-compatible 36-pin connector.

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

Connect a parallel device to your NEC Versa as follows.

1. Check that 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.
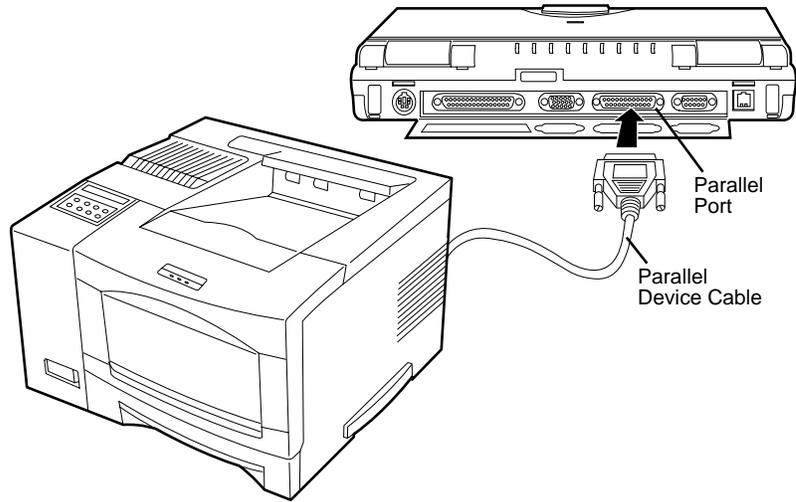
*Connecting a parallel device*

**5.** Connect the power cable to the device and a properly grounded wall outlet.

**6.** Turn on power to the system and the device.

> **NOTE** Check that the device is online before you try to use it. See the instructions that came with the device for more information.
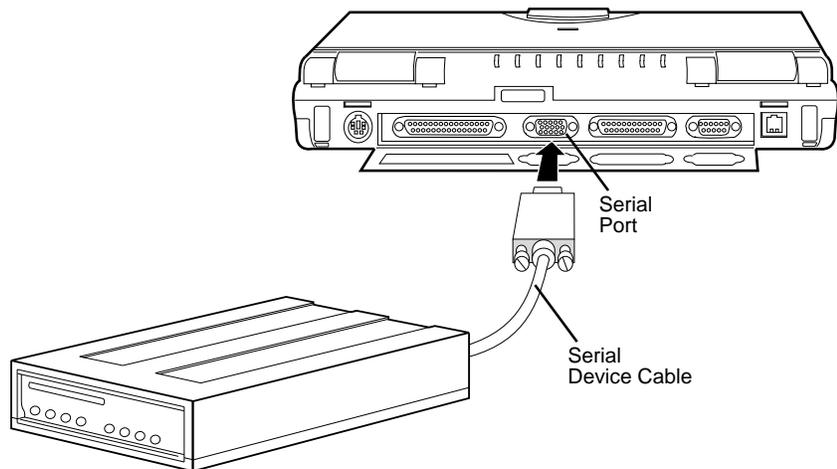
### Serial Devices

To install a serial device such as a printer or an external modem, you need a cable with a female 9-pin connector. If installing a serial mouse, see the information under "Serial Mouse Use" following the device connection instructions.

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

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

1. Check that 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.

Serial
Port

Serial
Device Cable

*Connecting a serial device*

4. Align and connect the other end of the cable to the appropriate port on the device. Secure the connections with the screws provided.

5. Connect the power cable to the device and a properly grounded wall outlet.

6. Turn on power to the system and the device.

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

## External Keyboard or Mouse

You can add a full-size PS/2-style keyboard or PS/2-style mouse to your NEC Versa.

■ When you connect an external keyboard, you can use both the built-in keyboard and external keyboard simultaneously. (The embedded numeric keypad on the NEC Versa does not work in this case. Use the keypad on the external keyboard.)

■ When you use an external mouse, the VersaGlide is disabled.

> **NOTE** The NEC Versa 2600 does not support an optional Y-adapter with two external devices. Only one device will operate when using a Y-adapter.

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

**1.** Power off the NEC Versa.

<div style="border:1px solid black;">

## ⚠ CAUTION

Make sure the NEC Versa is powered off whenever you add or remove the keyboard or external mouse. Doing so while in Operating mode can damage the keyboard controller chip.

</div>

**2.** Connect the keyboard or mouse cable connector to the keyboard or mouse port on the system.
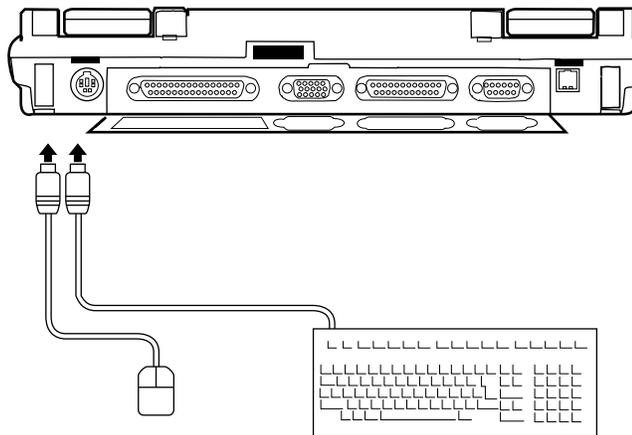


*Connecting an external keyboard or mouse*

**3.** Power on the NEC Versa to resume operation.

The system immediately recognizes the keyboard or mouse.

## Left Side

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

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

**1.** Locate the audio port that you want to use.

**2.** Plug the jack into the port on the left of the system.

**3.** Rotate the thumbwheel for volume control.

Line In    Headphones

Microphone    Volume
Control Dial
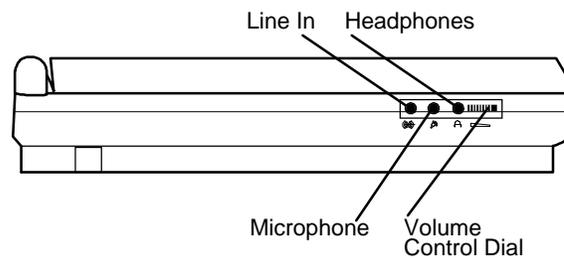
*Audio ports*

> **NOTE** If you use external speakers and experience sound distortion or feedback, lower the volume.
>
> Some feedback is caused by having the microphone and speakers too close to each other, so moving the external audio option away from the unit may also help.

# NEC Port Replicator 2600

The NEC Port Replicator™ 2600 duplicates the ports found on the back of your NEC Versa 2600 Series system. Keep the NEC Port Replicator 2600 in your office connected to peripherals while you take your NEC Versa on the road.

## Attaching the Port Replicator 2600

Follow these steps to attach the port replicator to your Versa 2600:

1. Turn off the power, and fold down the legs (or stands) on the bottom of the Versa 2600.

2. Slide open the expansion port cover.

3. Gently but firmly, plug the port replicator into the expansion connector on the back of the computer.
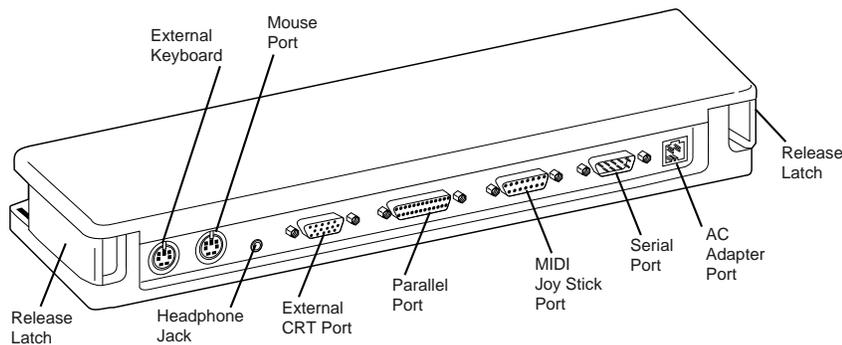


*Port Replicator ports*

## Port Replicator Ports

The ports on the Port Replicator are described next.

■ External Keyboard Port — Connects to a 6-pin standard PS/2 101 keyboard.

- Mouse Port — Connects to a PS/2 mouse.

- Headphone Jack Port — Connects to standard head-phones.

- External CRT (VGA) Port — Connects an external VGA/SVGA monitor to your notebook computer.

- Parallel Port — Connects a printer to your notebook computer.

- MIDI Joystick Port — Connects a joystick or MIDI device to your notebook computer.

- Serial Port — Connects a serial device to your notebook computer, such as an external modem or mouse.

- AC Adapter Port — Connects to the AC Adapter for AC power operation and battery recharging.

### Detaching the Port Replicator

Detach the Port Replicator by:

1. Pushing the Release Latches outward and forward

2. Separating the NEC Versa 2600 from the Port Replicator.

# 5 Using Multimedia

With its fast Pentium™ processor and enhanced audio and video capabilities, you can perform fantastic multimedia feats with your NEC Versa 2600! This section describes the NEC Versa 2600's multimedia features and how you can use them to create high-quality, powerful presentations.

Multimedia combines audio, text, animation, photo images, and video sources into one presentation.

## AUDIO

The NEC Versa 2600 provides entertainment-quality sound through stereo speakers. It handles MIDI files, digital audio files, and analog audio sources. This means the NEC Versa 2600 recognizes .WAV, .MID, and .AVI files. The system is Sound Blaster Pro™ compatible.

## Recording

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

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

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

You can use either the Sound Recorder in the Microsoft Windows Accessories group or the AudioRack software to record sound on your system. The following procedures give an example of recording sound using the Sound Recorder and saving it to a file on the NEC Versa. (For details, see the online help that becomes available when you open the Sound Recorder.)

1. Locate the Sound Recorder:

    ■ In Windows for Workgroups, open the Accessories group and double click on the Sound Recorder icon.

    ■ In Windows 95, slide the cursor over Programs, Accessories, Multimedia, and the Sound Recorder line. Release your finger from the VersaGlide to open the recorder. (You may have to press the left selector button on the VersaGlide.)

2. Use the VersaGlide to press the record button on the screen. (In Windows 95, the play button has a red circle in the middle. In Windows for Workgroups, the record button has a microphone on it.)

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

4. When you finish recording, press the Stop button (the button with a black square or rectangle).

> (NOTE) Be careful when recording; audio files can become quite large.

To listen to the sounds you've recorded, use the VersaGlide to press the play button. (The play button has a single right-facing triangle on it.)

To use the AudioRack software, open the AudioRack program group and select the Audio Recorder. For operating instructions, check the AudioRack online help file after you open the program. (In Windows 95, the package is called AudioRack32.)

## Line-In

Analog signals come in through the NEC Versa 2600's Line-In port. The analog signals are converted into digital bits and bytes (digitized) through a converter known as an ADC (analog-to-digital converter). The resulting digital sound bytes can be stored, edited, processed, and transferred. You can record ambient sound effects, specific sound effects, or music to enhance a presentation.

*Ambient* sound effects create a sense of place or environment and include sounds such as rain, heavy traffic, chirping birds. *Specific* sound effects accent or illustrate an action. Examples of specific sound effects include footsteps, a crash, a clock chime. There are many sources of prerecorded sound effects available on the market, or you can record your own sounds.

Line-In accepts analog signals from external devices such as a tape deck, a stereo CD-player, or a stereo tuner. The Line-In port has a mini-type connector. You may need an adapter to connect your input device to the NEC Versa 2600 through Line-In.

> **NOTE** Using Line-In does not disable the internal speakers.

## Microphone

You can capture and record sounds through the internal microphone on the NEC Versa 2600. You can record voice-overs for narrations, reminders, or special instructions.

See "Recording" earlier in this chapter, for details about recording sound with the microphone.

## Playing Back

You can play back your recorded soundtrack through stereo headphones, the internal NEC Versa 2600 stereo speakers, or external stereo speakers. You can play .WAV and MIDI files as well as CD audio. Adjust the volume through the thumbwheel on the left side of the NEC Versa 2600 or the software. (A volume control feature can be found in Accessories\Multimedia\Volume Control.)

Play audio from files or audio devices as follows. (This example shows how to use the Media player option in Accessories. You can also play audio by opening a file through the Sound Recorder and pressing the Play button.)

**1.** In Windows for Workgroups, open the Accessories group, highlight the Media Player icon, and double click to open it.

In Windows 95, go to Programs, Accessories, Multimedia, and open the Media Player.

**2.** Select your audio source as follows:

■ If playing a file, use the File menu to specify the file name.

- If playing from a device, use the Device menu to select your audio source.

  If you want to use a CD-ROM reader and it does not appear in the list, see "Adding the CD Audio Option" in Chapter 4. This should only occur in Windows for Workgroups systems.

3. Once your file is open or your source specified, press the Play button.

4. Press the square **Stop** button to stop playing the audio.

---

(NOTE) It is recommended that the volume be adjusted to the mid point with the software. Then use the volume control wheel or the controls on the external speakers to adjust the volume.

---

### *Using Headphones*

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

### *Using the Built-In Speakers*

The NEC Versa 2600 has built-in stereo speakers. The built-in speakers are disabled if headphones are connected Use the audio software that comes on your system or the volume control wheel to adjust the volume.

### *Using External Stereo Speakers*

For full stereo sound impact, you can plug a pair of stereo speakers into the headphones jack located on the left side of the system. Adjust the volume through software or through the controls on the external speakers.

## MIDI Files

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

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

## VIDEO

The NEC Versa 2600 features a DSTN or TFT (depending on your system) backlit SVGA color display for sharp effective visuals right on the system or projected onto an external CRT monitor.

The NEC Versa 2600 comes with the Microsoft Video for Windows player.  In Windows for Workgroups the Xing player gives you MPEG capabilities.  In Windows 95, MediaMatics Arcade MPEG player gives you MPEG capabilities.

Access either the Microsoft or the MPEG video player as follows:

**1.** Open the Media Player in accessories.

**2.** Under Device, select the video player you want to use.

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

## Using Animation Files

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

## MULTIMEDIA APPLICATIONS

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

■ Animation software allows you to create 3-D effects and 3-D titles and add interest to an otherwise static presentation.

■ Authoring packages let you pull all the elements of your design into an exciting, interactive multimedia presentation.

## VideoSaver

The VideoSaver software package, that comes preloaded on selected systems, gives a variety of full-screen MPEG video clips that you can view or use as screen savers.  If  you want to  use VideoSaver as your screen saver, simply select VideoSaver from the list of screen savers in your Windows list.

To view additional video clips, insert the VideoSaver CD into the CD-ROM drive. While the VideoSaver is running, it automatically accesses the CD and presents the new clips. (If you don't insert the CD in the reader, a blank screen briefly appears when the VideoSaver tries to access the CD.)

Modify how the screen saver runs as follows.

In Windows for Workgroups, follow these steps:

1. Double click the Control Panel icon in the Main program group.

2. Double click the Desktop icon in the Control Panel.

3. Go to the Screen Saver tab and select VideoSaver.

4. Press the **Test** button to see the current video clip selected. To modify the video settings, press the **Setup** button.

   The settings screen shows the available video clips and give options to:

   ■ Rearrange the order in which the clips appear.

   ■ Mute the sound.

In Windows 95, follow these steps.

1. Click Start, Settings, and the Control Panel.

2. Double click the Display icon from the Control Panel. The Display Properties screen appears.

3. Click the Screen Saver tab from the choices along the top of the screen.

4. Scroll through the screen saver choices. Highlight and click on Video Saver. (This may be listed as VSaver on your system.)

5. To modify the video settings, press the **Settings** button.

   The settings screen shows the available video clips and gives you options to:

   ■ Rearrange the order in which the clips appear.

   ■ Mute the sound.

   ■ Preview the videos available.

   ■ Get information to upgrade to the VideoSaver Pro video package.

6. To adjust the wait time before the VideoSaver is initiated, use the up or down arrow to change the time.

7. Click **OK** to accept your settings. The VideoSaver is now activated.

---

NOTE When running MPEG video clips as a screen saver, power management will not occur due to the disk and panel activity.

VideoSaver does not work as a screen saver when running on battery power.

---

# 6 Traveling with Your NEC Versa

The NEC Versa 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 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 2600 Series system almost anywhere! Your system self-adjusts to various power sources. The United States, Canada, and most of Central and South America use 120-volt alternating current (AC). Most other countries of the world use 240-volt AC. The NEC Versa adapts to voltages ranging from 100 to 240 volts.

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

## CHECKLISTS

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

## What to Take

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

- Extra fully charged batteries

- 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

- AC extension cord.

## Preparing Your NEC Versa for Travel

Here is what you should do before you leave home:

> **NOTE** Speed the trip through airport security by carrying a charged system. Inspectors want to see the screen display a message. The boot message is usually sufficient.
>
> If your system is fully charged, the inspection only takes a minute or so. Otherwise, be prepared to attach the AC adapter and power cable. And if you don't have these, the inspection might include a disassembly of the system.

- Back up your NEC Versa's hard disk.

- 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.

# 7 Solving Problems

Once in a while you may encounter a problem with your NEC Versa 2600. If the screen is blank, the instructions don't help, or no error message appears, use the information here to determine and fix the problem. You still may be able to solve the problem yourself!

## PROBLEM CHECKLIST

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

- Power is on to the computer.

- The electrical outlet to which your AC adapter is connected is working. Test the outlet by plugging in a lamp or other electrical device.

- All cables are tightly connected.

- The display setting is configured correctly.

- The display's brightness control is adjusted properly.

- If using battery power, check that the battery pack is properly inserted and fully charged.

## Troubleshooting

| PROBLEM | WHAT TO DO |
| --- | --- |
| The system does not power on. | If you are operating the system with battery power, check that the battery pack is correctly inserted. Attach the AC adapter to recharge the battery.<br><br>If you have the AC adapter attached, check that the electrical outlet you are using works. |
| LCD screen is dark and blank. | LCD power-saving mode, or Standby Mode has shut off the backlight. Press any keyboard key.<br><br>The LCD may have been switched off. Press **Fn-F3** to switch the LCD back on.<br><br>Screen brightness needs adjustment. Adjust the control.<br><br>The system entered Suspend mode due to preset timeout. Press the Power button and resume operation.<br><br>The system entered Suspend mode due to low battery power. Plug in the AC, press the Power button, and resume operation. |
| Battery power does not last long. | Use power-saving modes. |
| Information on the LCD screen is difficult to see. | Adjust the brightness using either **Fn-F2** for a DSTN LCD or the LCD brightness slide control for TFT LCD. |
| 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 for Windows for Workgroups or Device Manger in Windows 95. |

## 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 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 **Fn-Esc** 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.

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

## POST Error Messages

The NEC Versa 2600 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 failure | The diskette drive does not work or is not properly connected. |
| | Check that the drive is securely connected and power is on. |
| | Run the SCU to check the diskette drive parameters. |
| | If problem persists, the drive might need repair. |
| Diskette read failure | Remove the diskette from the drive and try another diskette. If you cannot read from the next diskette, your drive might need repair. |
| No boot device available | Go into the SCU and check the hard disk type defined. Unless you had a different hard disk installed, the setting should be "Auto." Correct the setting. |
| Invalid configuration information – run SCU | Start the SCU, check the system parameters set, and correct them. Exit and save the parameters set. |
| | Connect the AC adapter to charge the internal backup battery. Restart the SCU and set the correct parameters. |
| Real time clock failure | Set the time and date using the SCU. Exit and save to update the parameters. |
| | Connect the AC adapter to charge the internal backup battery. |
| Time-of-day not set | Run SCU and set the time and date. Exit SCU and save to update the time and date. |
| Fixed disk configuration error | Start the SCU. Check that the hard disk type specified is "Auto." If not, change it to Auto under the Hard Disk option in the Standard menu. Exit and save to update the parameters. If a problem still exists, the hard disk might need repair. |

| | |
|---|---|
| Fixed disk failure | Start the SCU. Check that the disk type specified is "Auto." If not change it to Auto under the Hard Disk option in the Standard menu. Exit and save. If a problem still exists, the hard disk might need repair. |
| Fixed disk controller failure | Start the SCU. Exit and save to update the parameters. |
| | If problems continue, the hard disk controller might need repair. |
| Keyboard clock line failure | The keyboard might need repair. |
| Keyboard data line failure | The keyboard might need repair. |
| Keyboard controller failure | The keyboard might need repair. |
| Keyboard stuck key failure | A key is jammed. Remove any obstructions. If the error message remains, the keyboard might need professional cleaning or 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 NECCSD Technical Support Center (TSC), toll free, at 1-800-632-4525. Direct technical assistance is available 24 hours a day, seven days a week.

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

## 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

NEC provides driver files and BIOS updates free of charge through our Bulletin Board System (BBS). Also, diskettes containing these updates can be mailed at a rate of $15/per disk for duplication, shipping and handling.

### NEC Customer Technical Support Center

(800) 632-4525

Call the Support Center for help in resolving problems that arise while using your NEC Versa system.

### NEC Customer Service

(800) 632-4525

Fax:     (508) 635-4666

Call Customer Service for spare parts ordering, warranty claims, repair services, and service authorizations.

### NEC FastFacts Service

U.S. and Canada:          (800) 366-0476

International:               (708) 860-9500, x2621

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

**NEC Electronic Bulletin Board**

(508) 635-4706

The NEC Electronic Bulletin Board is a 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 for use with various software applications.

**CompuServe Password**   "GO NECTECH"

**Internet Address**          tech-support@NECTECH.com

**America Online**           nectech@aol.com

**Worldwide Web Address:**

www.nec.com

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

## Updating the System BIOS

If you receive a BIOS Update diskette from NEC, simply insert the diskette in the drive and reboot your system. Follow the on-screen instructions.

## NEC WARRANTY/NON-WARRANTY REPAIR SERVICE

Before you call for repair service, see the previous sections in this chapter to determine if you can solve the problem yourself, within your company, or through your NEC authorized dealer.

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

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

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

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

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

Before calling, please have ready your system name, model number, serial number, and purchase date. Also have ready as much information as possible about the problem you are having, including any message errors that occurred.

---

**NOTE** Free technical specifications, troubleshooting tips and other helpful information for out-of-warranty products are available through NEC FastFacts Service at 1-800-366-0476 by requesting catalog number seven.

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

---

# 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.

> **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 30 centimeters (cm) and no further away than 70 cm from your eyes. The optimal distance is between 35 and 45 cm.

- Rest your eyes periodically by focusing on an object at least 50 cm 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

The following specifications are standard except where noted.

**System Processor**

- NEC Versa 2630CD, NEC Versa 2635CD — P54CSLM/133MHz (Intel Pentium-133)

- NEC Versa 2650CD, NEC Versa 2655CD, NEC Versa 2650CDT, NEC Versa 2655CDT — P55CL/150MMx (Intel Pentium-150)

**Architecture**

32-bit Peripheral Component Interconnect (PCI)

**Random Access Memory (RAM)**

- Standard Main Memory — 16MB EDO (On PCB Board)

- Optional Expansion — 2 DIMM slots. Expandable in 8-MB, 16-MB or 32-MB increments. Maximum 80 MB total.

> NOTE  RAM may be added only by inserting 2 DIMM cards of equal MB value.

- Video RAM

    — 1 MB in models with TFT LCD screens
       (NEC Versa 2650CDT and NEC Versa 2655CDT)

    — 1.5 MB in models with DSTN LCD screens
       (NEC Versa 2630CD, NEC Versa 2635CD,
       NEC Versa 2650CD and NEC Versa 2655CD)

- Cache RAM

    — Level 1: 16KB (internal)

    — Level 2: 256KB (PB-SRAM)

## Read-Only Memory (ROM)

256 KB, 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 (supports both ECP
  and EPP modes)

- Serial — 1 port, 9-pin D-sub, 16550A compatible,
  UART

- Infrared — 1 port, IrDA-1 compatible

- VGA — 1 port, 15-pin external analog

- External Keyboard or External Mouse — 1 port, PS/2,
  6-pin MiniDin (input facility will not support both
  devices at the same time)

- Expansion — 1 port, 200-pin for optional NEC Port
  Replicator 2600

- Stereo Headphones — 1 port, .5 watts per channel

- Stereo Line-In — 1 port
- Microphone — 1 port
- DC In — 1 port, for AC adapter cable

**Main Battery Size**

|  | **Lithium-Ion (Li-Ion)** | **Nickel Metal-Hydride (NiMH)** |
|---|---|---|
| NEC Versa 2600 models: | 2650CDT, 2655CDT | 2630CD, 2635CD, 2650CD, 2655CD |
| Output Voltage: | 14.4V | 9.6V |
| Capacity: | 2700mAH | 3500mAH |
| Battery Life: | Approximately 1:40 to 3 hours * | Approximately 2 to 4 hours * |
| Recharging Time: | Approximately 3 hours | Approximately 3 hours |

* Actual battery life on a single charge depends on the intensity of system use and your choice of Power Management settings.

**Speakers**

2 stereo speakers, 28mm, 16-bit, located beneath left and right palm rests.

**Card Slots**

Two 32-bit card slots for one or two Type I or Type II PC cards; or one Type I or Type II and one Type III PC cards; 5V or 3.3 V interface.

**LCD Display**

- 12.1-inch cold-cathode fluorescent tube (CCFT) backlit Super VGA (SVGA) color display of one of the following types:

  — Dualscan Super-Twisted Nematic (DSTN) in NEC Versa 2630CD, NEC Versa 2635CD, NEC Versa 2650CD and NEC Versa 2655CD models, or

  — Thin Film Transistor (TFT), in NEC Versa 2650CDT and NEC Versa 2655CDT models

- Resolution — 800 x 600 pixels (both types)

- Colors — 64K (TFT type), or 64K (DSTN type)

**Keyboard**

Membrane-type, 86 keys

- Cursor Control keys — 4 keys; arrow keys arranged in inverted T layout
- Numeric keypad — embedded
- Function keys — 12 keys
- Fn key — used with function keys in Setup and Keyboard locking functions
- Stroke — 3 mm

**Diskette Drive**

Standard 1.44-MB drive

- Size — 3.5 inch
- Capacity — 720 KB/1.44 MB

**Hard Disk Drive**

- Internal 2.5-inch, IDE

- 1.44 GB Hard Disk Drive

**10X Speed CD-ROM Reader**

5.25-inch, 12.7mm CD-ROM Reader

**AC Adapter**

- Input — 100 to 240 volts (V) AC, 50/60 Hz

- Output — 15V 1.7A and 18V 1A

**Dimensions**

System

- Width — 303 mm (11.7 in.)

- Depth — 229.5 mm (9.04 in.)

- Height — 52 mm (2.05 in.)

**Weight**

NEC Versa 2600 Series — from 3.1 to 3.3 kg (6.8 lb to 7.3 lb) depending on LCD screen and battery types

**Recommended Environment**

Operation

- Temperature — 5°C to 35°C (41°F to 95°F)

- Relative Humidity — 20% to 80% (Noncondensing)

Storage

- Temperature — –20°C to 60°C (–4°F to 140°F)

- Relative Humidity — 10% to 80% (Noncondensing)

## Interrupt Controllers

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

### IRQ Settings

| CHANNEL | DEVICE |
|---------|--------|
| IRQ00 | System Timer |
| IRQ01 | Keyboard |
| IRQ02 | Second Interrupt Controller |
| IRQ03 | IR Port |
| IRQ04 | COM1 (internal serial port) |
| IRQ05 | Sound Chip, MIDI (default) |
| IRQ06 | Floppy Disk Drive Controller |
| IRQ07 | LPT1 Default (internal printer port) |
| IRQ08 | Real Time Clock |
| IRQ09 | Not Used |
| IRQ10 | Not Used |
| IRQ11 | Not Used |
| IRQ12 | Internal Glide Pointer or External PS/2 Mouse |
| IRQ13 | Co-Processor |
| IRQ14 | Hard Disk Drive |
| IRQ15 | CD-ROM |

## DMA Settings

| CHANNEL | DEVICE |
|---------|--------|
| DMA00 | Assigned Device |
| DMA01 | Sound Chip (default) |
| DMA02 | Floppy Disk Drive Controller |
| DMA03 | Not Used |
| DMA04 | Cascade from DMA Controller |
| DMA05 | Not Used |
| DMA06 | Not Used |
| DMA07 | Not Used |

# C Using DOS Programs

## USING POWER MANAGEMENT IN DOS MODE

If you run a program or application using a boot diskette, power management features normally initiated from the hard disk drive at boot up are bypassed. You can enable power management features in MS-DOS. To enable power management and change the diskette start-up files when running programs from diskette, follow the instructions given here for your operating system.

> **NOTE** To activate power management when running MS-DOS programs, follow these instructions for each boot diskette you use.

## Windows for Workgroups

Modify the diskette start-up files for Windows for Workgroups systems as follows:

1. With your system already turned on, insert the boot diskette for the program into the diskette drive.

2. Go to MS-DOS. At the C: prompt type the following and press **Enter**.

   **EDIT A:\CONFIG.SYS**

3. Scroll to the end of the file and proceed as follows:

■ Look for the category line [COMMON]. If it is not listed, add it. If it is listed, go to the next bullet.

■ Under Common, position the cursor after the last line and add the following line.

    **DEVICE=C:\DOS\POWER.EXE**

3. From the file menu, press **Alt-F** and **s** to save your changes.

4. Press **Alt-F** and **x** to exit.

The next time you use the diskette to boot the system and start an application, power management features are enabled.

## Windows 95

For Windows 95 systems, change the diskette start up files as follows:

1. Left click on the Windows 95 Start Menu and select Accessories. Left click Notepad.

2. Insert the boot disk into drive A:.

3. Select File from the menu at the top of the screen. Left click Open.

4. Left click on the Look in: directory window and select $3\frac{1}{2}$ Floppy (A:). Make sure the "Files of type" window reads "All Files (*.*)."

5. Select config.sys to open the file.

6. Scroll to the end of the file and proceed as follows:

■ Look for the category line [COMMON]. If it is not listed, add it. If it is listed, go to the next bullet.

- Under Common, position the cursor after the last line and add the following line:

  **DEVICE=C:\WINDOWS\COMMAND\POWER.EXE**

**7.** Select File, then Save to save changes.

**8.** Select File, then Exit to exit Notepad.

The next time you use the diskette to boot the system and start up an application, power management features are enabled.

## SETTING UP DOS MODE GAMES IN WINDOWS 95

Follow this procedure to set up MS-DOS games to run on Windows 95 systems.

**1.** From the Windows 95 start menu, choose "Shut Down" and "Restart in MS-DOS mode."

**2.** Install the game on your system, following the instructions that came with the game.

**3.** Reboot your system.

Place the game icon on your desktop as follows:

**1.** In Windows 95, right click on an empty spot on the desktop.

**2.** Select "New" from the menu that appears.

**3.** Select "Shortcut" and then left click.

**4.** Press the Browse button and locate the file that starts the game. See your game instructions for the file name.

**5.** Highlight the file name and press the Open button.

**6.** Press Next and then press the Finish button.

The game icon or a generic Windows icon appears on the screen with the name of the game.

To specify that the game is to run in MS-DOS mode, proceed as follows:

1. Right click the new game icon.

2. Select "Properties" from the menu that appears.

3. Click the Program Tab to put it on top.

4. Press the Advanced button.

5. Select MS-DOS mode. Under MS-DOS mode:

   ■ Select "Specify a new MS-DOS configuration."

   ■ Press the **Configuration** button.

   If a warning message appears and indicates that currently entered data will replace existing data, simply press the **Yes** button to continue.

6. Press the **OK** button to select the default MS-DOS configuration options. The correct default options appear automatically.

7. Press the **OK** button again to accept the Advanced settings. Press **OK** again to complete the process.

Check your game by double clicking the game icon to start the game. A message warns you that all other programs will shut down while running in MS-DOS mode and asks you to verify that you want to do so. Press **Yes** to run the game.

## 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.

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### ⚠ ATTENTION

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 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.

# Glossary

**A**  **AC Adapter**

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

**A/D Conversion**

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

**animation**

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

**applications programs**

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

**audio**

The range of 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 primitive computer routines, usually burnt into ROM, that controls the real-time clock, keyboard, disk drives, video display, and other peripheral devices.

**bit**

Binary digit. The smallest unit of computer data.

**bits per second**

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

**board**

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

**boot**

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

**bus**

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

**byte**

Group of eight contiguous bits.

## C  CD audio

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

**CD-ROM reader**

A computer-controlled device that reads high-capacity optical discs and sends the output to the computer.

**clock**

Electronic timer used to synchronize computer operations.

### CMOS

Complementary Metal Oxide Semiconductor. A chip that contains nonvolatile memory in the Versa. CMOS is backed up by an internal battery that preserves clock/calendar data and system configuration parameters stored in CMOS.

### cold boot

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

### crt

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

### cursor

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

## D   default

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

### digital audio

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

### digital sound

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

**digitizing**

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

**diskette**

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

**diskette drive**

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

**DSTN**

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

**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** **FM synthesis**

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

**function key**

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

## H  hard disk

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

### hardware

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

### hertz

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

### hot key

Combination of two or three keys that you press simultaneously for a particular function.

## I  input/output

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

### IDE

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

### 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.

**mode**

A method of operation; for example, the Versa 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 for Workgroups and Windows 95 applications lets you play back MPEG files.

**multimedia**

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

**N** **nonvolatile memory**

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

**O** **operating system**

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

**overwrite**

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

## P page

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

**parallel interface**

Interface that communicates eight bits at a time.

**parallel printer**

A printer with a parallel interface.

**parameter**

A characteristic of a device or system.

**password**

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

**PC Cards**

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

**peripheral**

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

**pixels**

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

**port**

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

**processor**

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

**prompt**

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

# R  RAM

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

**read**

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

**ROM**

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

**reset**

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

**resolution**

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

**RS-232C**

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

**S** **scanner**

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

**serial interface**

An interface that communicates information one bit at a time.

**serial printer**

A printer with a serial interface.

**software**

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

**SVGA**

Super Video Graphics Array. Graphics technology that supports up to 256 colors and a graphics resolution of 1024 by 768 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.

**T** **TFT**

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

## V VGA

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

### volatile memory

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

## W warm boot

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

### 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.

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