Versa E Series User's Guide

Table of contents

Help Contents

Using Your Computer

Setting System Parameters

Using the BIOS Update Utility

Adding Options

Troubleshooting

Specifications

PCMCIA Support

NEC Communications Assistant

Using Your Computer - Introduction

This chapter describes how to use Versa™ system components and functions. It includes information on:

- system features
- power sources
- power management
- traveling
- system care.

Versa

System Features

Versa systems combine high-performance SL Enhanced i486™ DX2 computing, and a super video graphics array (SVGA) screen display in a very lightweight notebook package. With the optional docking station, these computers provide complete desktop functionality.

See the following sections for an overview of Versa features.

Top and side features
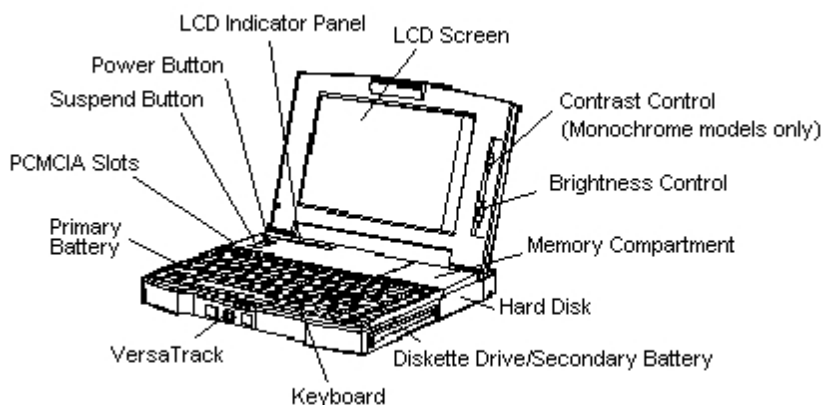
Rear features
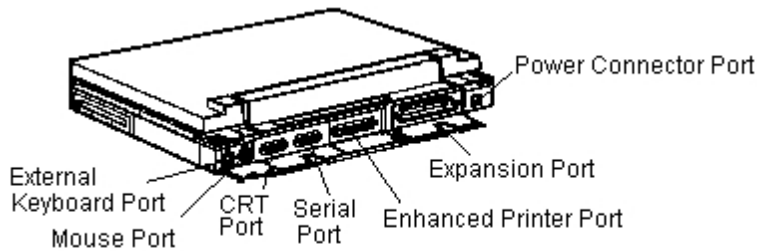
Related Topics:

Processing Unit
Memory
Disk Drives
Display
Digitizer and Pen
Keyboard
LCD Indicator Panel
Buttons and Controls
Memory Compartment
Battery Pack Compartment
Power Connector
I/O Ports and Covers

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Processing Unit

The central processing unit (CPU) in the system is a SL Enhanced i486 DX2 microprocessor. This low power-consuming microprocessor includes an internal 8 kilobyte (KB) cache and a built-in math coprocessor.

- Versa 40E, 40EP, 40EC and 40ECP

    40 megahertz (MHz) with zero wait states, providing extremely high throughput.

- Versa 50E, 50EP, 50EC, and 50ECP

    50 MHz with zero wait states, providing extremely high throughput.

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Using Your Computer - System Features - Memory

The standard Versa system comes with 4 megabytes (MB) of random access memory (RAM) and 256 KB of read-only memory (ROM).

You can add 4-MB, 8-MB, 12 MB, 16 MB, or higher capacity memory options to the system.

The system supports both extended and expanded memory configurations. Use the MS-DOS® or Windows™ memory-management utilities to create expanded memory. Auto Setup automatically configures extended memory.

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Disk Drives

The Versa systems come with a 3 1/2-inch 1.44-MB <u>diskette</u> drive and an 120-MB, 209-MB, 250-MB, or 340-MB <u>hard disk</u> drive.

<u>Default</u> drive designations for the system are as follows:

- drive A — <u>diskette drive</u>

- drive C — hard disk.

The diskette drive can be removed from the system and replaced by a second battery pack.

You can increase the hard disk capacity of the system by replacing the standard hard disk. And with the optional docking station, you can install a thin-type 5 1/4-inch drive, a half-height 5 1/4-inch drive, and a 3 1/2-inch hard disk inside the station (see the *Versa Series Docking Station User's Guide*).

Display

The Versa systems come with a built-in liquid crystal display (LCD). The Versa 40E, 40EP, 50E, and 50EP have a <u>monochrome</u> display, and the Versa 40EC, 40ECP, 50EC, and 50ECP have a color display.

To view the display, push in the LCD panel latch. Lift the LCD panel. The panel hinge design lets you easily adjust the angle of the LCD screen with one hand to a comfortable viewing position.

Opening the LCD panel
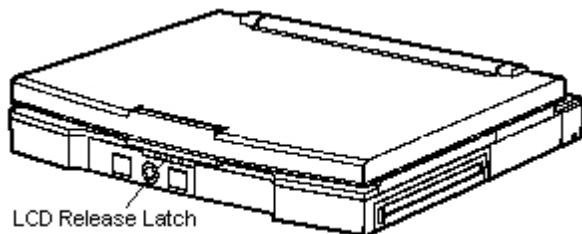
The following figure shows LCD features.

LCD features
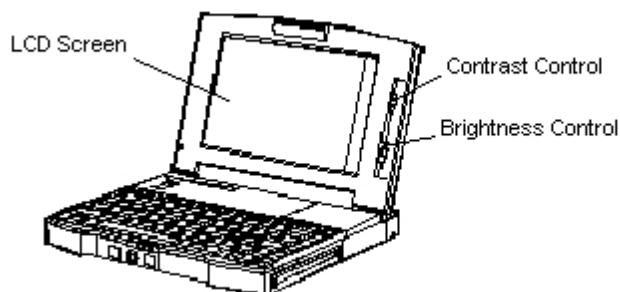
The LCD has the following features:

- For the Versa 40E, 50E, 40EP, and 50EP super-twisted nematic (STN) and side-lit cold cathode fluorescent tube (CCFT) backlighting technology for exceptionally high contrast and brightness.

For the Versa 40EC, 50EC, 40ECP, and 50ECP thin-film transistor (TFT) and cold cathode fluorescent tube (CCFT) backlighting technology for exceptionally high brightness, contrast, and high color saturation.

- Contrast and brightness controls for adjusting the LCD screen. The color models only have a brightness control. For the description of these controls, see Buttons and Controls.

- Power-saving functions for controlling backlighting.

    ROM-based hot key, Fn F5, or the DOS BACKLITE.EXE utility toggles the backlighting between standard and full.

    Power management settings in Auto Setup turn off the backlight automatically after the specified timeout.

    Automatic LCD status sense feature controls backlight power to the LCD screen when you open or close the LCD panel. This feature saves battery power and prolongs the life of the backlight.

    See Fn Key. Also see Power Management for information about power-saving features.

- A digitizer and pen included in the Versa 40EP, 40ECP, 50EP, and 50ECP let you use pen applications. These devices also support mouse emulation with the pen or a finger. See Digitizer and Pen for detailed information on using these devices.

- An adjustable display angle up to 180 degrees for viewing comfort. The LCD stays in the adjusted position.

Caution: *Do not apply extra pressure to open the LCD panel wider than its limit. To do so can damage the LCD panel hinge.*

- For the 40E, 50E, 40EP, and 50EP, a monochrome LCD of 64 gray shade levels at a resolution of 640-by-480 pixels, also supporting VGA-compatible applications.

- For the 40EC, 50EC, 40ECP, and 50ECP, a color LCD with full VGA compatibility. This LCD displays 256 out of 256,000 colors at a resolution of 640-by-480 pixels.

An integrated VGA controller controls the built-in screen. In addition, the VGA controller supports the connection of an optional external color or monochrome VGA display at the rear of the computer. It supports simultaneous video display with 256 colors at 640 x 480 resolution. The VGA controller can support 256 colors at 800 x 600 resolution or 256 colors at 1024 x 768 resolution on an external display. In these two modes, the LCD is blank.

You can upgrade your computer to install the LCD that supports a pen, the color LCD, or the color LCD that supports a pen. Contact NEC for upgrade information.

For information about connecting a CRT, see External CRT.

Digitizer and Pen

The Versa 40E, 40EC, 50E, and 50EC are available with a built-in digitizer and a pen. These devices are used for data input in pen applications.

Some pen operations are equivalent to mouse operations. The pen enables you to use all mouse applications with the Versa system. In addition, the pen provides quick editing capabilities, text annotation, and character recognition with pen capable applications.

You can upgrade your system by installing the digitizer and pen. Contact NEC for upgrade information.

The following table defines pen operations and shows the corresponding mouse operations.

The screen is touch sensitive: you can use your finger instead of a pen in some applications.

Pen Operations

PEN (MOUSE)

OPERATIONS	DESCRIPTION
touch (point)	Touch the digitizer lightly with the tip of the pen without pressing.
tap (click)	Press the digitizer with the tip of the pen and release.
trace (move)	Touch the digitizer lightly and draw a line without pressing hard.
drag (drag)	Press the digitizer with the tip of the pen and move the pen to another location.
double tap (double click)	Tap twice in succession.
tap barrel* button (click right button)	Press and release the button on the barrel of the pen.

*The barrel button is the small button located on the side of the pen.

See the Windows for Pen Computing documentation for details on other pen capabilties within this operating environment.

Using Your Computer - System Features - Keyboard

Versa systems have an 83-key keyboard that emulates the IBM® PC AT® 101-key keyboard. Pressing Fn-Alt emulates the IBM right Alt key and pressing Fn-Ctrl emulates the right Ctrl key.

Note: *In Germany and the United Kingdom, Versa systems have a 79-key keyboard.*

This 83-key keyboard includes the following features:

- standard QWERTY layout
- 12 function keys
- complete set of cursor control keys (arrow keys are arranged in an inverted T layout)
- embedded numeric keypad
- key functions specific to Versa operation.

Key functions depend on the application you run. The following sections describe standard and system-specific key functions.

Note: *Most of the keys have a repeat function. When you hold down a key, the character or function repeats until you release the key.*

Related Topics:

Fn Key
Function Keys
Cursor Control Keys
Standard Keys
Numeric Keypad

Fn Key

The Fn (Function) key activates key functions printed on keys having dual functions.

Some special functions are specific to the Versa systems. These keys set specific system parameters that are built into ROM. The key combinations for system-specific functions are called ROM-based hot keys. ROM-based hot keys are as follows.

- Highlight⸺ press **Fn F2** to set the color LCD contrast to normal or high for text mode.

- LCD/CRT⸺ press **Fn F3** to toggle between displaying images on the LCD, CRT, or both the LCD and CRT simultaneously. The DOS VIDEOMOD.EXE utility provides a similar feature.

- Rev LCD (Reverse LCD screen image) ⸺ press **Fn F4** to reverse the built-in LCD image. Fn F4 toggles the screen image between positive and negative. Reversing the LCD screen image is effective only for the monochrome LCD.

- BackLight ⸺ press **Fn F5** to set the LCD backlight brightness to standard or full. The DOS BACKLITE.EXE utility offers the same feature.

- Speaker Volume⸺ press **Fn F6** to set the internal speaker volume to off, low, medium, or high. A beep sounds when the volume setting is changed.

- Power Management ⸺ press **Fn F7** to set the power management level to off, custom, low, or high.

- Hard Disk Spin Up/Down ⸺ press **Fn F8** to spin the hard disk up and down. Pressing these keys bypasses any timeout. A beep sounds when the hard disk spins down or up.

- Battery I Status ⸺ press **Fn F9** to toggle the LCD battery indicator to 4 blocks in the left box when inserting a fully charged battery.

- Battery II Status ⸺ press **Fn F10** to toggle the LCD battery indicator to 4 blocks in the right box when inserting a secondary fully charged battery.

ROM-based hot keys change system parameters temporarily. Hot key functions operate until you turn off or reset the system.

See Power Management for more information on power-saving features.

Function Keys

The F1 through F12 keys are specific to the application you run. For example, when you use most applications, pressing F1 displays help information.

Cursor Control Keys

These keys control the direction of the cursor one space at a time.

The functions of the cursor control keys depend on the application you use.

Standard Keys

These keys function like standard typewriter keys.

Note: *The number 0 (zero) and the letter O are not interchangeable to your computer or to software applications, nor are the number 1 and the letter I (L).*

Numeric Keypad

The numeric keypad is embedded in the standard key layout. Press **Num Lock** to use the keys as a numeric keypad. Press **Num Lock** again to restore the keys to standard typewriter keys. When you activate numeric keypad mode, the Num Lock icon displays on the LCD indicator panel (see LCD Indicator Panel). To input standard alphabetic characters when keypad mode is in effect, simultaneously press **Fn** and the character.

To use cursor control functions printed on the front of each numeric key, turn off the numeric keypad mode (Num Lock icon disappears) and press **Fn** and the desired key function.

LCD Indicator Panel

Versa systems have an LCD indicator panel located above the keyboard. The indicator panel shows status for the following system functions and components:

- operation mode — a half moon icon appears when the system is in Suspend mode.
- power management — faucet icons indicate the level of power management being used.

  A running faucet (the circle below the faucet is filled) indicates that no power management is enabled.

  A dripping faucet indicates that high power management is enabled.

  A filled circle between the two faucets indicates that low power management is in use.

  The letter C indicates that you selected the custom power management setting and customized the power management features.

- diskette drive — a diskette icon appears when the diskette drive is being accessed.
- hard disk — a hard disk icon appears when the hard disk drive is being accessed.
- num lock — a lock icon containing a "1" indicates the num lock function is enabled.
- caps lock — a lock icon containing an "A" indicates the caps lock function is enabled.
- scroll lock — a lock icon containing arrows indicates the scroll lock function is enabled.
- battery — solid rectangular icons (blocks) contained in unfilled boxes represent the amount of power the battery is either consuming or charging.The left unfilled box represents the primary battery and the right box represents the secondary battery.

  Blocks within the unfilled boxes represent the remaining battery charge when the system is in use:

  4 blocks indicate a 100% charge

3 blocks indicate a 75% charge

2 blocks indicate a 50% charge

1 block indicates a 25% charge.

If two fully charged batteries are installed, 8 blocks in 2 boxes appear in the display. Neither the blocks nor boxes blink. As battery power is consumed, the blocks disappear. When one solid blinking block remains, battery power is almost used up.

Blinking boxes in the display indicate that the battery is charging. Four blocks in a box represent one fully charged battery and eight blocks in two boxes represent two fully charged batteries.

If blocks 1 and 3 appear, the battery status is unknown. This is caused when the battery is removed with power on and then a battery is reinserted. Use Fn F9 or Fn F10, depending on which battery you installed, to set the correct status at power-on time.

Eight solid blinking blocks indicate an abnormal battery status. The battery pack might not be installed correctly.

See Battery Status for information on using the battery.

Buttons and Controls

The following figure shows the buttons and controls that operate the Versa systems. Descriptions of the buttons and controls follow.

Buttons and controls
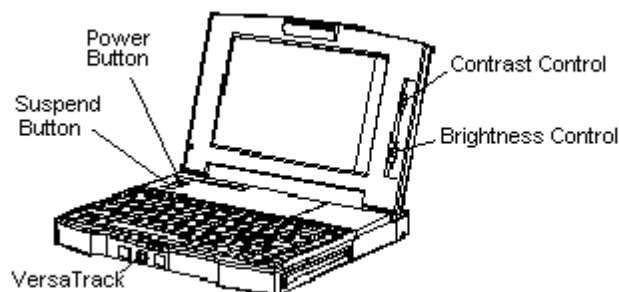
- power button — controls power to the system. Pull, momentarily hold and then release the power button to turn the system on. Pull the power button again to turn the system off. When power is available, the LCD indicator panel shows the operational status of the system.

Note: *After turning off the system, wait 5 seconds before turning the system back on. Turning the system off and on increases the load to the system.*

- suspend button — lets you manually put the system in the Suspend mode of operation while using battery power. Suspend mode retains the contents of RAM and system status. Suspend mode saves battery power.The suspend button must be used to exit Suspend mode.

  Use this mode when you need to be away from the system for a short time and you want to return to where you left off.

  To activate the Suspend mode, press the Suspend button or use Auto Setup to set the system to enter Suspend mode automatically. A half moon appears on the LCD indicator panel when the system is in Suspend mode.

To resume system operation, press the suspend button. System operation returns to where it stopped.

For more information about Suspend mode and using the suspend button, see Power Management.

- contrast control — increases or decreases the contrast between the characters and the background on the screen. Raise the control to increase the contrast or lower it to decrease the contrast. Color models do not have a contrast control.

- brightness control — increases or decreases the brightness of the LCD backlight. Raise the control to increase the brightness or lower it to decrease the brightness.

Note: *The degree of brightness affects the length of battery operation. A brighter adjustment uses more battery power. For longer battery operation, decrease the brightness.*

- VersaTrack™ — functions as a mouse in Windows and any other applications that support a mouse. Use the Windows Control Panel to set the speed of the mouse pointer.

Clicking the left button selects a function and clicking the right button cancels a function. Quickly pressing either button twice is double clicking and rotating the ball with either button is dragging.

Note: *Initially, you may have some difficulty in moving the ball. This will stop after a period of time.*

Periodically clean the ball and the roller inside the VersaTrack. Simply tip the system to easily pull and remove the VersaTrack cover and the ball. Wash and dry the ball before reinstalling it. Use an applicator to carefully remove any dirt on the roller. Place the ball into the system, align the notch of the VersaTrack cover with the system, and push the cover to secure it into place.

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Memory Compartment

The memory compartment accommodates optional memory cards that can be installed in the system. For information about installing a memory card, see Memory Expansion.

The System Configuration switches are also located in the memory compartment.

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Battery Pack Compartment

The battery pack compartment accommodates the battery pack that comes with the system. For information on using the battery pack, see Battery Pack.

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Power Connector

The power connector supplies direct current (DC) to the system from the AC/DC adapter. The battery pack recharges automatically when the AC/DC adapter is connected to the system and an electrical wall outlet (see AC/DC Adapter).

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I/O Ports and Covers

Covers on the rear of the system protect the I/O ports. Open the covers by pulling down the cover latches to access the I/O port connectors.

Rear covers and latches
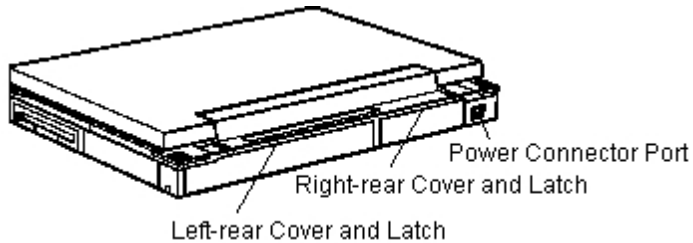
Caution: *If you need to move the system when the rear covers are open, close them so as not to damage the covers.*

Use the I/O ports to connect peripheral devices to the computer.

I/O ports
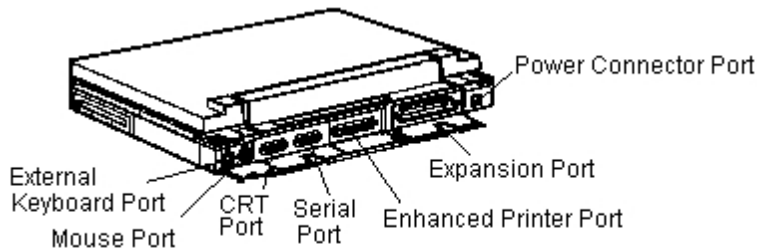
The I/O ports are as follows.

- external keyboard port — supports the connection of an external PS/2®-type keyboard. When an external keyboard is connected, both the built-in keyboard and external keyboard can be used simultaneously.

- mouse port — supports the connection of a PS/2-type mouse to the Versa. A serial mouse is not supported.

Note: *When the mouse port is used, the VersaTrack is automatically disabled.*

- CRT port — supports the external connection of a VGA display with a 15-pin signal cable connector.

Note: *To use an external display, you must connect the display, turn it on, reboot the system, and set the system parameters for an external CRT. The external CRT must be connected to the system and turned on prior to powering on the Versa. To change parameters, use the LCD/CRT toggle key (see Fn Key).*

After you set the system parameters to select a CRT as the active screen, you can turn on the system without the external CRT attached. The system automatically detects that the external CRT is not available and activates the built-in LCD.

- serial port — provides a serial interface connector. Use this port to connect an RS-232C device with a 9-pin connector, such as a serial printer or external modem. A serial mouse is not supported. MS-DOS refers to this port as COM1.

- printer port — provides a parallel interface connector. Use this port to connect a parallel printer with a 25-pin connector. MS-DOS refers to this port as LPT1. This port conforms to enhanced parallel port specifications.

- expansion port — lets you connect the optional docking station to the Versa. You can install AT-type option boards, a diskette drive, a CD-ROM reader or a hard disk inside the docking station.

See the *Versa Series Docking Station User's Guide* for information on connecting the docking station.

Using Your Computer - Power Sources

Operate your system with one or more of the following power sources:

- AC/DC adapter connected to a wall outlet (AC power)
- battery pack that comes with the computer
- optional DC adapter connected to a car cigarette lighter.

Note: *When first using the system, plug it in for 24 hours to charge its batteries.*

You may use the system while it charges.

For best results, use the AC/DC adapter and AC power whenever possible. Use battery power when a wall outlet is not available. The following sections describe how to use the AC/DC adapter, the battery pack, and the optional car DC adapter.

Note: *The optional docking station also provides power to the system.*

Related Topics:

AC/DC Adapter
Battery Pack
Car DC Adapter

AC/DC Adapter

Use the AC/DC adapter to operate your computer with AC power, recharge the battery pack, and keep the internal backup battery charged. The internal backup battery allows the Versa to retain system parameter information. Use the AC/DC adapter whenever a wall outlet is handy.

Keep the adapter connected whenever possible. The AC/DC adapter continues to charge the battery pack and the internal backup battery while you operate the system and when the system power is off.

Caution: *The CMOS battery lasts appoximately three years. When the CMOS battery no longer retains information, contact NEC about CMOS battery replacement.*

If you always use AC power with your system, remove the battery pack to reduce system weight.

Use the following steps to connect the AC/DC adapter.

1. Connect the adapter's DC cable to the power connector on the computer.

   Connecting the DC cable
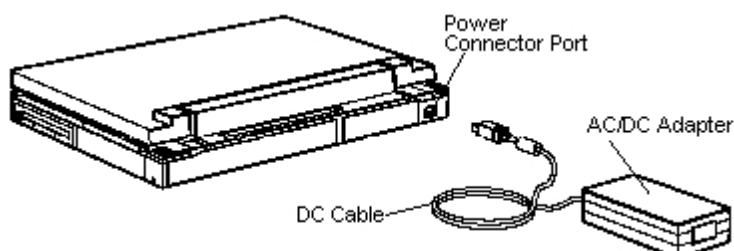
2. Connect one end of the AC power cable to the AC/DC adapter.

Connecting the AC cable
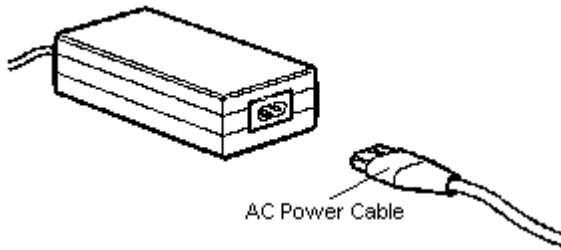
AC Power Cable

3. Connect the other end of the AC power cable to a 100 to 240 volt AC wall outlet.

Connecting to the wall outlet
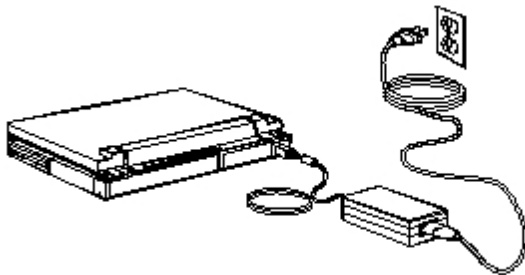
Battery Pack

Once you install the battery pack, you can leave it inside the computer. A second battery pack can be installed in the system at the same time; it replaces the standard diskette drive. To get the most out of battery operation, familiarize yourself with how to

- use battery power

- check battery conditions with the LCD indicator panel

- recharge a battery pack

- install/replace a battery pack.

Related Topics:

Using Battery Power
Battery Status
Recharging the Battery Pack
Discharging the Battery Pack
Installing/Replacing the Battery Pack

Using Battery Power

Keep the battery pack charged for when you need battery power. To charge a battery pack, see Recharging the Battery Pack later in this chapter. Typically, each fully-charged pack lasts approximately 3.0 hours for monochrome models and 2.0 hours for color models under continuous usage without power-management features. If two battery packs are installed, operation time is doubled. Depending on conditions, you could get several more hours of operation time.

The amount of battery time depends upon

- the power-saving functions that you use

- the application program that you use

- optional components installed inside the system

- environmental temperature

- humidity conditions.

If you usually run your computer on battery power, have an extra battery pack available to extend your operating time.

The system comes with power-saving functions set to automatically conserve battery power, extend battery life, and protect against data loss due to low battery power.

For example, if the system detects inactivity for a particular amount of time (known as "timeout"), it shuts off power-consuming devices such as the LCD and hard disk.

Note: *It is normal for the LCD to go off while system power is on when using AC power or battery power. The LCD power-saving function is activated as the default setting. The system automatically shuts off the LCD to conserve power when it detects no keyboard, mouse, or pen input after the timeout. As soon as the keyboard, mouse, or pen, is accessed or a PCMCIA card is inserted or accessed, the system restores the LCD.*

To get the most out of battery power, see Power Management.

Battery Status

The LCD display indicates the battery charge status and remaining power status. The left unfilled box represents the primary battery and the right box represents the secondary battery. With one fully charged battery installed, the display shows 4 solid blocks; with two batteries installed, it shows 8 solid blocks. For monochrome models, 4 blocks represent 3.0 hours. For color models, 4 blocks represent 2.0 hours.

As the battery power is consumed, the LCD indicator panel reduces the number of displayed blocks. When two blocks appear, approximately 1.5 hours (1.0 hours for color models) of battery power remain. When the indicator displays one blinking block, battery power is low. Save all your files and necessary data to disk when 1 block or 1 blinking block appears.

Connect the system to the AC/DC adapter or replace the battery pack before bringing the system out of Suspend mode.

You can change the battery pack while the system is in Suspend mode without shutting off the system. See Installing/Replacing the Battery Pack later in this chapter.

Caution: *A Save to Disk feature is available that automatically saves all information in memory to a file on the hard disk and powers off the system. If an extra battery pack or AC power is not available, you might not be able to save your data once the battery drains. Save your important data as soon as possible. If AC power is available, connect the AC/DC adapter to continue your work, or replace the battery pack. See Installing/Replacing the Battery Pack later in this chapter to replace a battery pack.*

Recharging the Battery Pack

The battery pack contains rechargeable nickel metal-hydride (NiMH) cells. Recharge a battery pack after the LCD indicator panel displays one solid block. To recharge a battery pack installed in the system, connect the AC/DC adapter.

It takes about 1.5 hours to recharge a fully depleted battery pack (3.0 hours for two battery packs) when the computer power is off, and 2.6 hours (5.2 hours for two) when the system power is on. With two batteries installed, the primary battery recharges first, then the secondary.

Discharging the Battery Pack

After several recharges, the batteries might not become fully charged if they are not fully discharged between charges. If your battery does not last as long after recharging as it did when it was new, use the Discharge utility.

The Discharge utility (DCHARGE) drains all the power from the battery. This utility comes with the system and enables you to completely discharge a battery.

Note: You do not need to use the Discharge utility every time you recharge the battery. If your battery pack does not hold a charge, you might need to replace it with a new one. See Installing/Replacing the Battery Pack for information about battery replacement.

Use the following steps to discharge a battery pack.
1. Make sure you have a battery pack installed in the Versa system.
2. Save any necessary files and data.
3. Exit Windows.
4. If the AC/DC adapter is connected to the system, disconnect it.
5. To speed up discharging, adjust the LCD brightness control to the brightest setting.
6. At the MS-DOS prompt, type **dcharge** and press **Enter**. The Discharge screen appears with a confirmation message.
7. Press any key to start the discharging process. The discharging procedure runs without any power management settings invoked. You can stop the process by pressing any key.
   When the LCD backlight goes off, discharging is complete.
8. Turn off the system and connect the AC/DC adapter to recharge the battery pack.

Installing/Replacing the Battery Pack

Situations that require battery installation or replacement include:

- You want to charge the new battery pack that ships with your system.

- You have more than one battery pack and you want to replace the drained battery pack with a fully charged one.

- The current battery pack does not hold a charge.

- You want to install a secondary battery pack.

The bridge battery maintains the memory contents and system status when the system is in Suspend

mode and the primary battery pack is removed. To change a drained battery with a charged battery, you do not have to turn off system power if the system is in Suspend mode. This means the data you are currently working on is kept by the internal bridge battery while you replace the primary battery.

Note: *The bridge battery supplies power for up to 5 minutes while the system is in Suspend mode. When changing the battery, be sure the change takes less than 5 minutes or important data might be lost.*

Caution: *Use Suspend mode to replace the battery pack only when all of the following conditions are true:*

- *the bridge battery is charged*

- *a another charged battery pack is available*

- *AC power is connect.*

Replace a battery pack with a fully charged battery pack as follows.
1. If it is convenient, turn off system power. If the system is on, press the suspend button to put the system in Suspend mode.

Note: *The bridge battery allows the system to maintain memory contents and system status for up to five minutes. The bridge battery begins providing power when you take out the current battery pack and ends when you insert the charged battery.*
2. Slide the appropriate bottom release latch while pulling the battery out of the compartment.

Sliding the release latch

Battery Release Latch
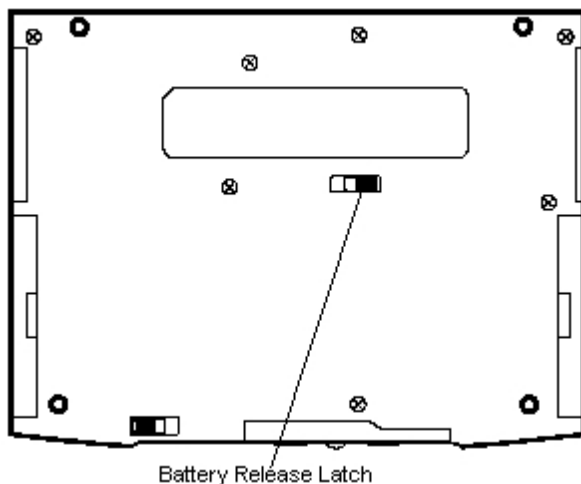
3. Insert the battery pack completely into the battery compartment.

Installing the battery pack
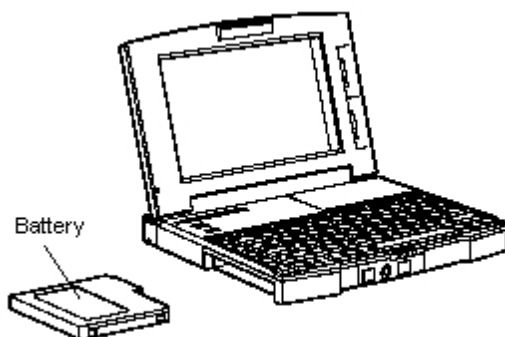
Battery

To install a new, uncharged battery pack, save your files, exit Windows and turn off system power. Then install the battery pack as shown in step 3 in the preceding procedure.

Replace the diskette drive with a secondary battery pack as follows.
1. Turn off system power.

2. Slide the appropriate bottom release latch while pulling the <u>diskette drive</u> out of the compartment.

Removing the diskette drive

Diskette Drive
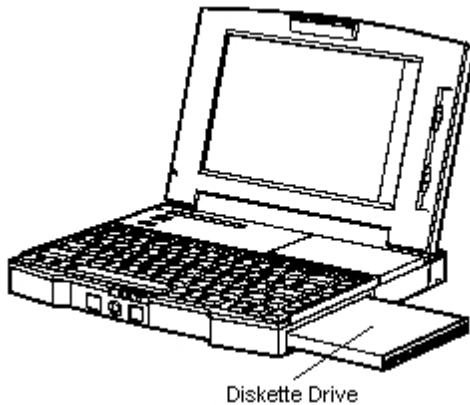
3. Insert the battery pack completely into the compartment.

Inserting the battery pack

Secondary
Battery
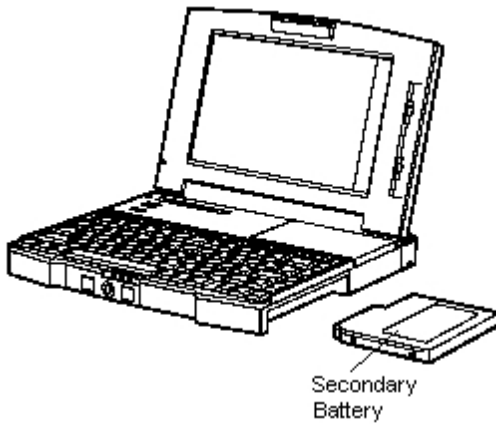
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Car DC Adapter

The Versa system can operate on car battery power using the optional car DC adapter.

To use the car battery to power the system:
1. Disconnect the AC/DC adapter from the system if connected.
2. Plug the appropriate end of the car DC adapter into the power connector on the system.
3. Connect the plug of the car DC adapter to the cigarette lighter of the car.

Connecting the car DC adapter
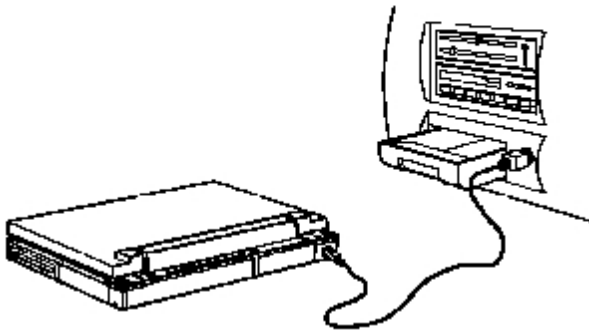
Power Management

The Versa system has many power management features that conserve battery power, maximize the life of your battery pack and LCD backlight, and provide protection against data loss due to low battery power.

Note: *The length of time you can operate the system on battery power varies. Battery life depends on system settings, system configuration, environment, temperature, humidity, battery condition,and application program.*

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

Power management features can be enabled when using AC power, with power management under AC enabled, but not when the Versa system is in its docked configuration. When docked, the LCD is still managed.

The following sections describe how to manually control power consumption or set functions that automatically manage power.

Related Topics:

Battery Life
Power-Saving Modes

Battery Life

Use the following guidelines to control power consumption and maximize battery life.

- Adjust the LCD brightness control to the lowest setting that is comfortable for viewing.

- Put the system in Suspend mode when you need to leave the system for a short time but plan to resume working. Suspend mode uses the least amount of battery power for keeping the contents of RAM. In Suspend mode all operations temporarily cease.

  Suspend mode lets you stop working and return to where you left off.

- Close the LCD panel. When you close the LCD panel, the LCD panel sensor automatically shuts off the LCD.

- Use the **Fn F5** hot key or BACKLITE.EXE to toggle the LCD backlight between standard and full.

- Use the automatic hard disk power-saving function. Set the timeout to power down the hard disk with Auto Setup.

- Turn off the system when you are finished using it.

- Use the **Fn F8** hot key to turn off the hard disk if you are not going to use it for awhile.

The system is set up with the power-saving features in the following table. Power management can be on or off when AC power is connected. When the optional docking station is connected, power management is off.

See the following sections for detailed information on automatic power management and Suspend mode.

Automatic Power-Saving Features

DEVICE	DEFAULT (timeout)	COMMENT
LCD backlight	2 min.	Backlight is turned off after there is no keyboard, mouse, or pen input for the specified timeout. You can change the timeout using Auto Setup.
Hard disk	1 min.	Hard disk motor stops when hard disk is not accessed for specified timeout. You can change the timeout using Auto Setup.
Serial port	4 sec.	The serial port times out after the specified time of system inactivity.You can change the timeout using Auto Setup.
Suspend mode	10 min.	System enters Suspend mode after a specified amount of time.You can change the timeout using Auto Setup.

The **Fn F7** hot key allows you to quickly enter the power management utility to set power consuming levels. Two of the levels, Low and High, are preset while the third level, Custom, can be modified for your specific working environment using Auto Setup. Default CMOS values change depending on the type of power management you use.

Power-Saving Modes

The system has three different power consumption states:

- Normal mode

- Local Stand-by mode

- Suspend mode.

The system can switch automatically to Local Stand-by and Suspend modes. This eliminates unnecessary power consumption when you operate the system on battery power or AC.

Related Topics:

Local Stand-By Mode
Suspend Mode

Local Stand-By Mode

When the Versa system uses battery power or AC and power management is enabled, the system automatically enters Local Stand-by mode after the specific timers have timed out due to system inactivity. For example, in Local Stand-by mode, if the option is enabled, the hard disk and diskette drive motors turn off. The system returns to Normal mode as soon as the system starts activity, such as when a disk is accessed, keystrokes are entered, or an I/O port begins communication. The system also returns to Normal mode when the LCD panel is opened.

Suspend Mode

Suspend mode is a power-saving mode that shuts down all possible devices in the system while retaining RAM contents and system status. The system resumes Normal mode when you press the suspend button or if an optional modem detects a ring (also available with the resume on time of day option). Suspend mode lets you save power without first saving the working data.

Press the suspend button to enter Suspend mode when you need to be away from your system for a short period of time and want to return to where you left off.

In Suspend mode, if Save to Disk is selected, all information in memory is saved to a partition on the hard disk and the system powers off. When the power button is used to turn the system on, the system returns to where it was (applications open, cursor returns, etc.).

You can toggle between Suspend mode and Normal mode with the suspend button.

Note: *The system does not enter Suspend mode when the Discharge utility is in use or when AC power is connected unless power management under AC is enabled. Power management under AC power is selectable in Auto Setup.*

Caution: *If the Suspend button is pressed while the diskette or hard disk drive is being accessed, the Versa enters Suspend mode, completing the disk access.*

The Save to Disk feature, which is set in Auto Setup, saves the contents of memory to a special non-DOS partition which can be reserved on your hard drive. This partition prevents the loss of valuable data from your system memory. This safety feature allows you to resume operation of your software exactly where it was before Save to Disk was implemented.

The Save to Disk feature is not implemented when you purchase your system and the partition has been reserved as a drive D DOS partition. If you require this feature, use the following procedures.
1. Move any data from drive D to drive C or to diskettes using drive A.
2. At the DOS prompt, change to the DOS directory by typing **cd \dos** and press **Enter**.
3. Type **fdisk** and press **Enter**.
4. Type **4** and press **Enter** to display partition information. Verify that partition 2 is an EXT DOS partition and is 4 MB to 21 MB in size.
5. Press Esc to return to the previous menu.
6. Type **D** and press **Enter**. At the message "Enter volume label...?[]," enter the volume label exactly as it appears at the top of the screen. If the volume is blank, press **Enter**. At the message "Are you sure (Y/N)...?[]," type **y** and press **Enter**. Press **Esc** twice to return to the main menu.
7. Type **3** and press **Enter** to select the option to delete a logical DOS drive in an extended partition.
8. The message "What drive do you want to delete...?[]" appears. Press **D** and press **Enter**. The system returns to the main menu.

9. Type **3** and press **Enter** to select the option to delete a partition or logical DOS drive.

10. Type **2** and press **Enter** to select the option to delete an extended DOS partition.

11. The message "WARNING! Data in the deleted Extended DOS partition will be lost. Do you wish to continue(Y/N)...[]?" Type **y** and press **Enter**.

12. The prompt "DOS partition deleted. Press Esc to continue." appears. Press **Esc** to return to the opening menu. Press **Esc** again to exit and any key to restart the system.

You have now created MB of free space on your hard disk.Use the PHDISK utility to create a Save to Disk partition that matches the amount of memory (system RAM) currently in your system. Once the partition is created, you can use whatever space remains to recreate drive D. To create a Save to Disk partition, use the procedure below.

1. At the DOS prompt, change to the NECUTILS directory by typing **cd \necutils** and press **Enter**.

2. Type **phdisk** and press **Enter**.

3. Type **phdisk/create** and press **Enter** if you want PHDISK to automatically create a Save to Disk partition that matches the amount of RAM currently in your system.

   Type **phdisk/create [size]** and press **Enter** if you plan to add RAM later. For 4 MB of RAM, the partition size is 4609. For 8 MB of RAM, it is 8705. For 12 MB, the size is 12801.For 16 MB of RAM, it is 17068. For 20 MB of memory, it is 21000.

4. There are two options for the Save to Disk feature: Save to Disk and Suspend mode. See Chapter 2, Setting System Parameters, to enable the Save to Disk feature in Auto Setup.

5. Rerun FDISK to recreate a DOS partition and logical drive D from the remaining disk space.

   Type **1** and press **Enter** to select the option to create a DOS partition or logical DOS drive.

   Type **2** and press **Enter** to select the option to create an Extended DOS partition.

   Press **Enter** to use the maximum available space for the extended DOS partition.

   Press **Esc** and press **Enter** to create a maximum-size logical drive D. Press **Esc** to return to the main menu.

   Press **Esc** then any key to restart the system.

Automatic Suspend Mode Initiation

You can set your system to enter Suspend mode automatically after a specified number of minutes of on Global Stand-by mode.

You specify how long system inactivity continues before the system enters Suspend mode. System activity includes any keyboard, mouse, pen input, or finger touch, diskette or hard disk drive access, PCMCIA modem, network, or LAN card, serial, or printer port communications.

Resume Normal mode by pressing the suspend button.

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On the Road

When you travel and use the Versa system, it is likely you will want to plug it into a power source or connect it to a telephone system. This section provides information you might find helpful when taking the system on the road.

For successful operation of your Versa system away from your usual work place, follow the guidelines below.

- Keep your system charged and ready for trips at all times. Operate your system with the AC/DC adapter connected whenever possible.

- Carry an extra charged battery pack for additional battery power. The diskette drive can be replaced with a second battery pack for longer system operation.

- Check that you have everything you need before you leave on a trip. Be sure you have all the

necessary cables and accessories.

Note: *If you plan to fly and carry the Versa system on board, be prepared for an inspection of the unit by airport security. Inspectors want to see the screen display a message. The* <u>boot</u> *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/DC adapter and power cable. And if you don't have these, the inspection might include a disassembly of the system.

- If you operate your system with battery power, maximize battery life by using power-saving features whenever possible.

- Take the AC/DC adapter in case you have an electrical outlet handy. This saves battery power for when you really need it.

- Carry along a bootable diskette in case the system fails to start up for some reason. Also take along any application or <u>data files</u> on diskette that you might need.

Related Topics:

<u>Power Connections</u>
<u>Telephone Line Connections</u>

Power Connections

Your system self-adjusts to various power sources. The United States, Canada, and most of Central and South America use 110-volt alternating current (AC). Most other countries use 220-volt AC. The Versa system automatically adapts to voltages ranging from 100 to 260 volts.

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

To use your system overseas, you need an adapter plug and transformer. There are different plugs available worldwide. These can be purchased at an electronics supply store.

Telephone Line Connections

Before you can connect the Versa to a telephone line, you must install a PCMCIA <u>modem</u> into the system. The modem option comes with an adapter that provides a telephone cable jack.

Note: *PCMCIA modem connector adapters vary. Refer to your modem card's documentation for specific setup procedures.*

To connect the modem's telephone jack to a wall telephone outlet, use a telephone cable with a modular (RJ11) connector on both ends. You can purchase telephone cables and any other necessary accessories in computer stores or wherever telephones are sold.

Follow the steps below to connect your system to a phone line.

1. Open the cover over the PCMCIA slots. Insert the PCMCIA modem into one of the Versa's PCMCIA slots.

       Inserting the PCMCIA modem

PCMCIA Modem
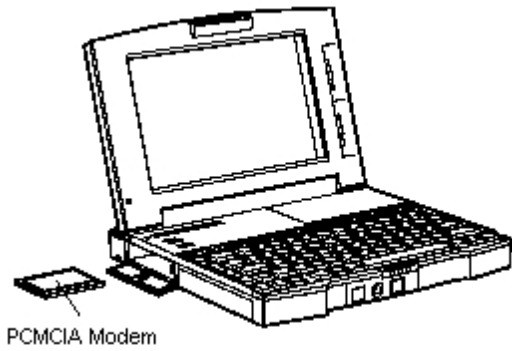
2. Connect the modem's adapter to the PCMCIA modem.

Connecting the adapter

Modem
Adapter

3. Connect one end of the modular telephone cable to the adapter's telephone jack.
4. 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).

Connecting to a telephone line

To connect both your system and a telephone to the wall outlet, use a dual-RJ11 connector. Use the following procedure to attach a dual-RJ11 connector.
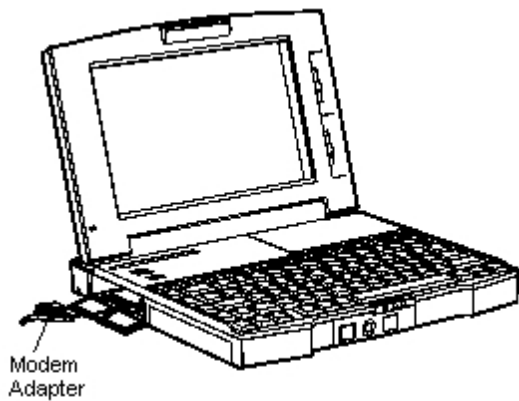**1.** Open the latch covering the PCMCIA slots. Insert the PCMCIA modem into one of the Versa's PCMCIA slots.
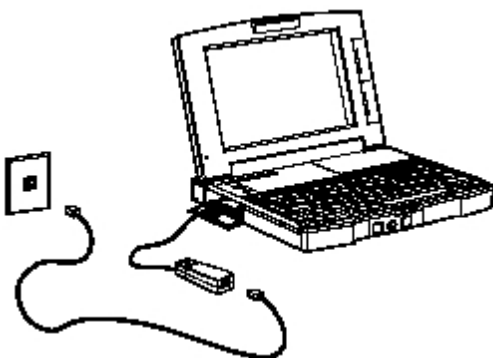
Inserting the PCMCIA modem

PCMCIA Modem
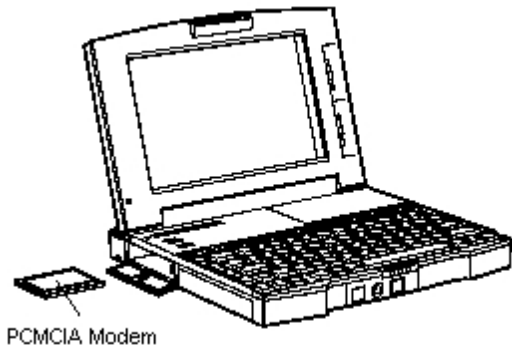
2. Connect the modem's adapter to the PCMCIA modem.

Connecting the adapter

Modem
Adapter
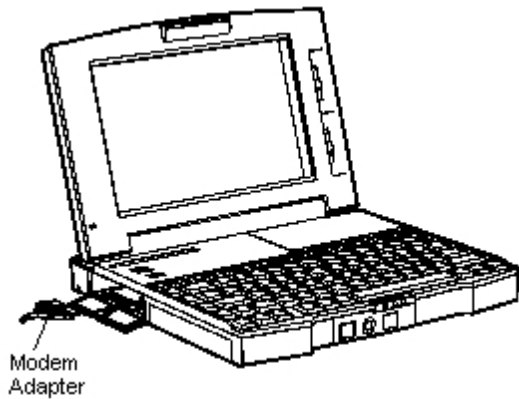
3. Connect one end of a modular telephone cable to the adapter's telephone jack.

4. Connect the other end of the telephone cable to the single jack on the dual-RJ11 connector.

5. Unplug the telephone cable from the wall outlet. Connect the cable to one of the two available jacks of the dual-RJ11 connector and to the telephone.

6. Connect another telephone cable to the other available jack of the dual-RJ11 connector and to the wall outlet.

Using a dual-RJ11 connector
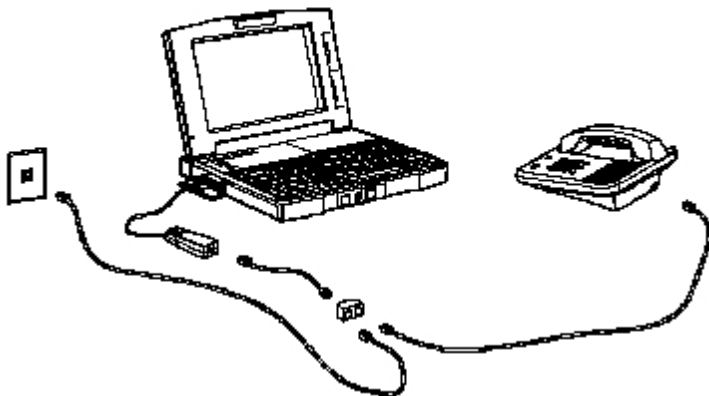
Note: *When using a modem outside the U.S. and Canada, you might need to use an international*

telephone adapter. This can be purchased at an electronics supply store.

For more information on using the modem, see the modem documentation.

System Care

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

- Periodically clean the outside and inside surface areas with a soft, clean, dry cloth.

  You can remove fingerprints or stains with a cloth slightly dampened with a mild detergent. Never use a strong cleaner or solvent on any part of the computer.

  For safety, unplug your system from an electrical outlet before cleaning.

  If the LCD screen gets dirty, apply a household glass cleaner to a clean dry cloth or paper towel and wipe the screen. Do not spray cleaners directly on the screen. The cleaner could run down inside the unit.

- Keep food and liquids away from your computer.

- Avoid vibrations and shocks.

- Avoid environments with dust and smoke.

- Turn off the power button when you are not using the system.

- Close the screen securely before moving the system. Never lift or carry the computer by its screen.

- Keep the system cover closed when you are not using the computer.

- Close all system covers before you transport the Versa.

- Keep the battery pack charged. Whenever possible, leave the AC/DC adapter connected to your computer and wall outlet. The adapter continues to charge the battery when the computer is on or off.

- Periodically, fully discharge the battery.

- Do not expose the system to direct sunlight or high temperatures. For example, do not leave it in an enclosed car parked in the sun. Heat can raise the internal temperature of the system and damage its components.

- Operate and store the system within the following temperature and humidity ranges.

  Operation   41°F to 95°F(5°C to 35°C)
                 20% to 80% no condensation

  Storage   -4°F to 104°F(-20°C to 40°C)
                 20% to 80% no condensation

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

Wait before turning the system on so that the internal temperature of the system can equalize with the warmer environment and any moisture can dry.

Setting System Parameters - Introduction

Your system comes with a hardware setup program that allows you to view and set system parameters. This program includes security features that protect your system from unauthorized use. The setup program is Auto Setup.

The Versa system supports two sets of internal settings: one mobile and one docked. The mobile configuration settings are used when the system is not connected to the docking station. If the system is connected to the docking station, the docked configuration settings are used. The sample screen in this chapter show a docked configuration. A mobile configuration might look slightly different.

This chapter describes the program and the system parameters that you can set with it.

Auto Setup

The Auto Setup program is accessible at power-on and does not require a diskette. Auto Setup detects current system parameters automatically during the Power-On Self-Test (POST).

Use Auto Setup

- to set the time and date.

- to check a hardware discrepancy when POST displays an error message and prompts you to run Auto Setup.

- to identify which parameter(s) changed. Auto Setup indicates specific hardware changes with blinking double carets (>>).

- to confirm that any optional memory you added is installed correctly.

- to customize your system.

Related Topics:

How to Enter Auto Setup
How to Use Auto Setup

How to Enter Auto Setup

When enabled (factory default), Auto Setup is accessible at power-on, when the cursor changes to a block character, and after you enter your system password.

The following sections describe how to enter Auto Setup when there is an invalid configuration message or at any other time during POST.

Related Topics:

With an Error Message at POST
With No Error Message at POST

With an Error Message at POST

If an Invalid Configuration message prompts you to "Press F1 to enter Auto Setup" during POST, simply press **F1** at the prompt.

After you press F1, the system displays a message that it is collecting Auto Setup data. Then it displays an error message regarding changes found in the current parameter settings. Press **Enter** to check these settings.

After you press Enter, Auto Setup displays windows that indicate the detected hardware changes. For information about using Auto Setup, see How to Use Auto Setup.

With No Error Message at POST

To enter Auto Setup when no error message is displayed during POST, press **F1** after POST displays the memory test and while the cursor is a large block.

After you press F1, the system displays a message indicating that it is collecting Auto Setup data. After the message, the Auto Setup Summary screen appears. The summary screen displays the current hardware parameters of your computer.

See How to Use Auto Setup for information about using Auto Setup.

Auto Setup Summary screen

```
                        Auto Setup Summary
  Exit  Comms  Drives  Keyboard  Power  System  Time/Date  Video  About

        System RAM:                      4.00 MB

        Current Extended RAM:            3.00 MB
        Previous Extended RAM:           3.00 MB

        Power Management:                High

        Diskette Drive A:                Internal 1.44 MB - 3.5"
        Diskette Drive B:                Not Installed

        Hard Disk Drive 1:               BIOS Defined Type
        Hard Disk Drive 2:               Not Installed
        Hard Disk Drive 3:               Not Installed


  To open a window, press ALT+the highlighted character key; i.e., ALT+X to Exit
```

How to Use Auto Setup

The following sections describe the menu areas, keys, and procedures you use in Auto Setup for checking and changing system parameters.

Related Topics:

Looking at the Screen

Looking at the Screen

The Auto Setup screen has three main areas of information:

- Menu bar — top line of the screen. This line contains user-selectable menu options.

- Parameter list — middle of the screen. This list provides current parameter information. Selecting a parameter from the list (using the menu bar) opens a pop-up window. That window may display another window with a list of selectable parameter settings.

- Key status line — bottom line of the screen. This line displays the keys that you can use to move the cursor or to select a particular function, such as saving parameters and exiting the menu.

Setting System Parameters - How to Use Auto Setup - Using Key Functions

The following table provides a quick reference to key functions that you can use in Auto Setup.

Auto Setup Key Functions

KEY	FUNCTION
Tab	Moves the cursor to another field in the menu. For example, pressing Tab moves the cursor up or down a list of current parameters.
Highlighted letter	Selects the menu bar option or parameter with the highlighted letter.
Alt and down arrow	Opens a window with a list of parameter settings.
Up or down arrow	Moves the cursor up or down a list of parameter settings.
Esc	Exits a parameter window without changing parameter settings.
C	Saves parameter changes and closes a parameter window. Also opens the Auto Setup Comms menu on the main screen.
Enter	Saves parameter changes and closes a parameter window.

Setting System Parameters - How to Use Auto Setup - Checking/Setting System Parameters

If no error condition is detected, Auto Setup starts at the summary screen. If an error condition exists, Auto Setup displays the discrepancy in the appropriate parameter window.

Use the following steps to view or change system parameters.

See System Parameter Options later in this section for a description of all parameter options and their settings.

1. If an error condition exists, go to step 2. Otherwise, select a parameter option from the menu bar by simultaneously pressing the highlighted character in the menu name.

    For example, to select "Drives," press **D**. A window appears with a parameter menu and the current setting for each parameter. Continue to step 3.

2. If you entered Auto Setup with an error condition, blinking double carets (>>) identify the changed parameter(s). You can do one of the following:

    — accept the change(s) by pressing **Enter** and return to the Auto Setup Summary screen. Continue to step 7.

    — check other settings for the changed parameter by continuing to the next step.

3. Position the cursor on the parameter that you wish to view by pressing **Tab** or the arrows.

4. View the parameter settings by simultaneously pressing **Alt** and the down arrow.

    A window appears with a list of parameter settings.

5. Select a setting as follows.

    Press the up or down arrow to position your cursor on the parameter setting.

    Press **Enter** to select the new setting. Auto Setup records the change, exits the window, and returns you to the parameter menu.

6. Repeat steps 3, 4, and 5 to set parameters in the same parameter menu.

    When you are through viewing and setting parameters within the parameter menu, press **Enter** or **C** to record any parameter changes, close the window, and return to the Auto Setup Summary screen.

    To return to the summary screen without saving changes, press **Esc**.

7. When you are through viewing or changing parameters, press **X** to select Exit in the menu bar. The screen displays a list of options.

8. Use the down arrow to select "Exit and Save Changes" and press **Enter**. The screen displays a prompt requesting confirmation that you wish to exit.

9. Press **Enter** to confirm your selection. The system reboots with the saved changes.

System Parameter Options

This section provides descriptions of the available parameter options in Auto Setup. Refer to the following table for a quick-reference list of parameters and their factory (default) settings in the mobile configuration.

Default CMOS settings is an option in Auto Setup if you have difficulty in setting specific parameter options.

System Parameter Options

MENU/PARAMETER	DEFAULT SETTING

Comms

Serial Port	3F8h - 3FFh/IRQ4 (COM1)
Parallel Port	378h - 37Fh/IRQ7 (LPT1)
Parallel Port Mode	Unidirectional

Drives

Diskette Drive A	Internal 1.44 MB — 3.5"
Diskette Drive B	Not Installed
Hard Disk Drive 1	BIOS defined
Hard Disk Drive 2	Not Installed
IDE Hard Disk Interface	Internal only
Diskette Boot	Enable
PCMCIA Boot	Disable

Keyboard

Typematic Rate	Normal
NumLock Boot Status	NumLock Off
System Password	Disable
Keyboard Lock Hot Keys	Disable

Power

Power Management	High
Power Management under AC	Off
System Suspend Mode	Suspend/Resume
Automatic Save to Disk	Disable
Slow CPU Speed When Idle	Enable
BackLight	Full
HighLight	Full
Suspend Warning Tone	Enable
Resume on Serial Port Ring	Disable
Resume on Time of Day	Disable

System

Quick Boot	Disable
Setup Lock	Disable

Time/Date

Time	—
Date	—

Related Topics:

Comms
Drives
Keyboard
Power
System
Time/Date

Comms

The Comms menu lets you check or change settings for the following system communication ports:

- Serial port
- Parallel port.

The Comms menu lets you change the I/O address for the serial and parallel ports. Change the default address only if a conflict exists with optional board settings. This menu option also allows you to set the mode of the parallel port.

Note: *The default settings are recommended. Change these settings only if your system conditions require different settings.*

For system security, you can disable a port entirely by selecting the "Disable" setting. This prevents unauthorized data transfer through the port.

Drives

The Drives menu lets you check or change parameters for your diskette drives and hard disk, including system security features.

Unless you are connecting the Versa to the docking station, you do not need to change Diskette Drive or Hard Disk Drive parameter settings. If you install another hard disk drive type, you need to enter Auto Setup to accept the new system configuration.

Drive options include the following parameters:

- IDE Hard Disk Interface

  Allows you to select the internal IDE controller, the docking station's IDE controller if the system is docked or to disable the interface completely.

- Diskette Boot

  Lets you specify from which drive you would like the system to boot. When disabled, prevents boot-up from the diskette drive. When enabled, allows start-up from the diskette drive. If a diskette is not inserted in drive A or drive A is not installed, the system defaults to drive C.

- PCMCIA Boot

  Enable any PCMCIA cards installed in the available PCMCIA slots.

Setting System Parameters - System Parameter Options - Keyboard

The Keyboard menu lets you check or change keyboard parameters and set password options. The following information describes these parameters and options.

- Typematic Rate

  This parameter lets you change the keyboard typematic rate to suit your typing speed. The

typematic rate is the speed at which a key repeats itself when you press the key.

- Numlock <u>Boot</u> Status

  Numlock Boot Status controls the NumLock key status at power-on. When set to "NumLock Off" (<u>default</u>), this parameter disables the Numeric Keypad <u>mode</u> at power-on. Set this parameter to "NumLock On" to enable the Numeric Keypad mode at power-on.

- System Password

  This parameter lets you enable and set a system password for system security. The system password protects your data by allowing your system to boot only after you enter a password. You are not prompted for a password until you set an initial password.

  Once you set a system password, you can enable the hot-key security feature or keyboard lock hot keys.

  To set and use a system password, see <u>System Password</u> later in this chapter.

- Keyboard Lock Hot Keys

  This parameter offers a security feature. It is available after you set a system password.

  After you select a <u>hot key</u> sequence, you can lock your keyboard, mouse, or touch screen at any time, using any operating system, by executing the hot key sequence.

  Your keyboard, mouse, or touch screen remain locked until you enter the system password.

  For information about selecting and using keyboard lock hot keys, see <u>Keyboard Lock Hot Keys</u>.

Note: *Select your hot keys carefully to prevent locking your keyboard unintentionally. See <u>Keyboard Lock Hot Keys</u> for guidelines on choosing hot keys.*

Setting System Parameters - System Parameter Options - Power

The Power menu lets you select the desired level of power management, suspend <u>mode</u> operation, and suspend/resume options and times.

- Power Management

  The Versa's ability to manage power can be set to high, low, or turned off completely. A "High" setting provides maximum power saving, "Low" sets minimal savings and "Off" disables all power management timers. You can also customize the system's power management by entering values for the following timeouts:

  — Automatic Suspend

  — <u>Hard Disk</u> Timer

  — <u>Serial</u> Port Timer

  — LCD Panel Timer.

- Power Management under AC

  Normally, whenever AC power is connected to the Versa, power management is disabled. If you enable this option, the system uses the power management mode (high, custom, low, or off) you set using the Power Management option.

- Suspend Mode

  Suspend mode has two methods of operation. The Suspend/Resume method stores information in RAM and maintains RAM contents after shutting down all local devices. The Save to Disk method first stores all necessary system information to a dedicated partition of the hard disk then shuts the system off.

- Automatic Save to Disk

  With this feature enabled, the system automatically saves all necessary information to disk and shuts the system off 30 minutes after entering Suspend mode. To use this feature, you must select Suspend/Resume in the Suspend mode option.

- Slow CPU Speed When Idle

  This option lets you slow the CPU speed when the system is idle.

- BackLight

  This option lets you set the backlight to either standard or full.

- HighLight

  This option lets you set the character brightness to either standard or full.

- Suspend Warning Tone

  This option lets you enable or disable a warning tone when the Suspend/Resume or Save to Disk process starts. It is strongly recommended to keep this option enabled.

System

The System menu lets you set system parameters.

- Quick Boot
- Setup Lock

The Quick Boot option removes certain tests from POST to reduce the time needed to boot the system.

The Setup Lock option is a security feature which when set to disable keeps unauthorized users from changing system parameters at power on.

Note: *To enable Auto Setup after disabling it, you must use the ENABLACU.EXE utility. Type* **ENABLACU** *at the MS-DOS prompt. Turn the system off and back on again. Press* **F1** *to enter Auto Setup.*

Time/Date

Use this menu to set the current time and date. The settings remain in memory even after you turn off system power.

To set the time, enter the current hour, minute, and seconds in hh:mm:ss, 24-hour format. For example, type **13:30:00** for 1:30 P.M.

To set the date, enter the current day, month, and year in dd/mm/yyyy format.

Note: *When setting the time and date, enter any preceding zeroes. For example, to enter 8:20 A.M. and February 4, 1994, type* **082000** *and* **02041994***.*

Password Options

Your system supports the following Auto Setup and HCP <u>password</u> options for system security:

- system password
- keyboard lock hot keys.

The following sections describe how to set up and use each password option.

Related Topics:

<u>System Password</u>
<u>Keyboard Lock Hot Keys</u>

System Password

The system <u>password</u> protects your data by allowing your system to <u>boot</u> only after you enter a password.

When a system password is set, you must enter the password before you can enter Auto Setup. This feature allows only an authorized user to change system parameters.

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

See <u>Setting an Initial System Password</u> to set your system password.

Related Topics:

<u>Setting an Initial System Password</u>
<u>Using the System Password</u>
<u>Removing/Replacing a Password</u>

Setting an Initial System Password

Set an initial <u>password</u> as follows.
1. Select the Keyboard menu option in Auto Setup.
2. Select "System Password" on the Keyboard <u>parameter</u> menu in Auto Setup.
3. Select "Enter and Enable."
4. At the prompt, enter a password up to seven characters in length including **Enter**. Write your password down and keep it in a secure place in case you forget it.
   Another window appears with a prompt for you to reenter your password for verification.
5. Reenter your password. Auto Setup returns you to the Keyboard parameter menu.
6. Save your changes and return to the initial summary screen.
7. Save the changes and exit Auto Setup.

Note: *Once you set a system password, you cannot edit or disable it in Auto Setup or HCP. If you want to change or remove your password, see* <u>*Removing/Replacing a Password*</u> *in this chapter.*

See <u>Using the System Password</u> for information about using your password.

Using the System Password

After you set your initial password and reboot the system, a password prompt appears each time you power on your system. The password prompt is a key icon.

The key icon appears after the completion of POST.

Note: *You cannot enter Auto Setup until you enter the system password, if set.*

To use your password, boot the system by turning the power off and then on again. At the password prompt (key icon), enter your password and press **Enter** to load your operating system or to enter Auto Setup.

Note: *For security, the characters you enter do not appear on your screen. Enter your password carefully. The password is case sensitive.*

If you enter the password incorrectly, your system does not boot. You have three chances to enter the correct password. After the third unsuccessful attempt, you must power off your system and try again.

Removing/Replacing a Password

You can remove a password and you can replace a current password with a new one.

To remove a password, at the password prompt type your current password and a slash in the following format:

> *current password/*

Press **Enter**. Your password clears and you are no longer prompted to enter one when you power on the system.

To replace your current password with a new one, at the password prompt type your current password, a slash, and your new password in the following format:

> *current password/new password*

Press **Enter**. Your password changes to the new password. The next time you power on and enter the new password, the operating system loads.

Note: *Enter your new password carefully. If you make a mistake, you cannot change the password again without powering off and starting over.*

Keyboard Lock Hot Keys

This feature lets you use a key sequence to lock your keyboard. This key sequence (up to three keys) can be used at any time or while in any application program. You must have a system password to use this feature (see Setting an Initial System Password).

Valid keys

The following keys are valid hot keys:

- All keys on the typewriter key area of your keyboard including
  - — Ctrl, Alt, Caps Lock, Tab, left Shift, right Shift, Enter, and Back Space
  - — "Lowercase" keys

⸺ punctuation, brackets, and slashes

⸺ numbers 0 through 9 (excluding the numeric keypad)

- Esc key

- all <u>function keys</u> (F1 through F12).

Invalid keys

The following keys are invalid hot keys:

- Numeric keypad keys

- Arrow keys

- "Uppercase" keys

- Print Screen, Scroll Lock, and Pause keys

- Insert, Delete, Home, End, Page Up, and Page Down keys.

Before you select a key sequence, review the guidelines in Selecting Hot Keys.

Related Topics:

<u>Selecting Hot Keys</u>
<u>Setting Your Hot Keys</u>
<u>Using Your Hot Keys</u>

Selecting Hot Keys

It is extremely important to choose your hot keys within the parameters described in this section. To prevent locking your keyboard unintentionally, select your hot-key sequence as follows:

- Use a different key sequence than your system <u>password</u>.

- Avoid key sequences that are used by your operating system and commonly used applications.

- Avoid key sequences that contain all alphanumeric characters.

- Use non-printable keys such as the Ctrl key or <u>Function keys</u> to start your key sequence. This helps eliminate accidental lockout by the use of commonly typed character sequences.

  For example, if you select "ste" as your hot keys, your keyboard locks everytime you type "system."

- Avoid a one-key sequence.

Setting Your Hot Keys

Use the following procedure to set your hot keys.
1. If you do not have a system <u>password</u>, set one (see <u>Setting an Initial System Password</u>).
2. Select "Keyboard" from the menu bar.
3. Select "Keyboard Lock Hot Keys" on the Keyboard parameter menu.
4. Select "Enter and Enable." A window opens with a prompt to enter up to three keys.
5. Type up to a three-key sequence (see <u>Selecting Hot Keys</u>).
   When you are through entering your hot keys, press **End** to save them.

Note: *To reject the hot keys, press **End**, then press **Esc**.*

6. Save the changes and exit Auto Setup.

Using Your Hot Keys

To use your keyboard lock hot keys, simply type them when you wish to lock your keyboard. The first two keystrokes appear on your screen, if they are printable keys. The third keystroke does not appear.

To unlock your keyboard, enter your system password.

If you have a problem with the keyboard lock hot keys, disable them or set new hot keys using "Keyboard Lock Hot Keys" from the Auto Setup Keyboard menu.

Using theBIOS Update Utility - Introduction

The BIOS Update utility (BUU) allows you to update the ROM BIOS version of your system, should it ever become necessary. This feature allows the ROM BIOS chip in your system to be "flashed" with a new BIOS code through software, rather than requiring you to manually replace the chip.

To perform a BIOS update, you need a BIOS Update Diskette (BUD). The BUD, which contains the latest version of the BIOS code, can be obtained through NEC Technologies, Inc. or through the NEC Bulletin Board System (BBS).

The NEC BBS is available in the U.S. only.

You need to use a modem to download the utility from the NEC BBS.

Note: *It takes about 25 minutes to download the BIOS Update utility from the NEC BBS. If you prefer, you can request a BIOS Update Diskette by mail from NEC Technologies, Inc. NEC will ship you the diskette with a 24-hour turnaround from the time your request is received.*

To download the BUU to a diskette, see "Receiving the BUU" later in this section. The BIOS Update utility identifies and saves the currently installed BIOS version before installing the new version. This permits the old version to be restored, if desired, after the new BIOS has been installed. If you have more than one system, each should have its own BIOS Update diskette.

In order to use the BIOS Update utility, your system configuration must include:

- 640 KB of base memory

- supported ROM BIOS version

- System Configuration switch SW1-1 (switch is located under the memory compartment cover) set to OFF on the system (BIOS reprogramming allowed).

The BIOS Update utility operates through a simple menu and is quick and easy to use. Even though the utility is easy to use, there are some things you need to be aware of before updating your BIOS. If a conflict or problem arises during the update, the utility displays a warning message informing you of the situation. Before attempting to update the BIOS, make sure your system configuration meets the utility's requirements. If these requirements are not met, the appropriate message is displayed.

For example, the messages include the following references to the requirements

- system does not have 640 KB of RAM

- nonsupported BIOS version

- programming voltage (VPP) not enabled.

If your system meets the requirements, you are ready to boot the utility diskette.

Caution: *Never swap BIOS Update diskettes between systems.*

Make sure the diskette is not write protected. If you attempt to use a diskette that has updated another system, a message warns that you may not be able to restore the system's original BIOS.

If you are updating more than one system, use the MS-DOS DISKCOPY command to make a copy of the original diskette for each system before using the diskette.

Once the BIOS updating starts, it is very important to let the operation complete. This should take less than one minute. Disturbing the system in any way during the procedure may severely damage your system. A warning message appears during the update process.

During the update, the system indicates the progress with an occasional single tone. If the procedure ends successfully, the system sounds an OK tone and resets with the new BIOS. An OK tone consists of three long tones followed by a long-short-long tone sequence.

If an error occurs, the system sounds a warning or error tone. You must turn the system off to stop the tone. The warning tone is an alternating high-low tone. This indicates that the new BIOS could not be installed for some reason. When this happens, the utility attempts to restore the system's original BIOS. Your system should operate. Because the attempted update failed, a problem exists and service may be needed.

The error tone is three short tones, three long tones, then three short tones again. This tone indicates that the new BIOS could not be installed and that the old BIOS could not be restored. Your system requires service.

The following sections contain the information you need to load and use the utility.

Receiving the BUU

If you obtained a BUD from NEC, continue to the next section, "Start-Up." Otherwise, use the following procedure to download the latest version of the BIOS Update utility to a diskette. This procedure assumes you are using an optional modem.

The filename that you enter to download the BIOS Update diskette looks similar to the following filenames:

- L440nB3.EXE
- L450nB3.EXE.

"L" and the three numbers following L specify a laptop file for the a particular system:

- L440 for the Versa 40E
- L450 for the Versa 50E.

The "n" is the number that specifies the revision number of the BIOS. For example, "0" downloads the BIOS version that ships with your system; a "1" downloads a BIOS Update diskette with a revision level of 1.

"B3" creates a 3 1/2-inch BIOS Update diskette.

Note: *The BBS screens contain information that you might want to read at some later time. The following procedure steps you through downloading as simply as possible.*

1. Go into terminal mode. From the Windows Program Manager, select "Accessories" and double click on "Terminal."
2. From the settings menu, select "Communications" and check that the settings match the BBS parameters.
   The BBS parameters are as follows.
      Baud rate: 2400 bps

Parity: none
Data bits: 8
Stop bits: 1

3. Log onto the BBS by dialing (508) 635-4706.

4. Press **Enter** twice.

5. Enter your first name, last name, and password when prompted. Press **Enter** after each.

6. Follow the screen prompts until the NECTECH Main Menu is displayed. The prompts require that you do the following .

    Press **S** and then press **Enter**.

    Press **S** and then press **Enter**.

    Press **Enter** three times.

7. At the NECTECH Main Menu, press **F** and **Enter** for the File menu.

8. Press **L** and press **Enter** to list the filenames. Find the filename for your computer and the current revision number (n).

9. Return to the File menu. Press **D** and **Enter** for download.

10. Type the filename for the BIOS Update diskette that you wish to download and press **Enter**. Be sure to specify the revision level, n, and the diskette drive type.

    For example, L4401B3.EXE creates revision 1 of the BIOS Update utility for the Versa 40E on a 3 1/2-inch diskette.

11. Press **Enter** twice.

12. Select your default protocol (xmodem works in most cases).

13. The BBS displays a prompt that it is ready to send the file. Execute your software's download or transfer procedure to download the file.

    For example, if you are using the Windows Terminal mode, select Transfers from the Windows Terminal menu bar. From the drop down menu, select the type of file you want to receive on your system. For instance, select "Receive Binary file."

    In the next menu, type **a:** to store the file on diskette drive A.

14. After the download has successfully completed, log off the BBS.

15. Insert a blank diskette in the drive and execute the downloaded file.

    For example, if you downloaded L440nB3.EXE (where n is the BIOS revision level), type the following:

    L440nB3.EXE A:

    This procedure creates a new BIOS Update diskette that you can use to update your BIOS.

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Start-Up

Use the following steps to load the BIOS Update utility and to display the Main Menu.

1. Turn off the power to the system unit.

Note: The BIOS update only works with a cold boot.

2. Insert the BIOS Update diskette into drive A.

3. Turn on the power to the system unit. The system boots and automatically loads the utility. A message similar to the following appears:
    FLASH ROM EQUIPPED
    WARNING: The BIOS Update Procedure is about to begin, press ENTER to continue. To abort, REMOVE the diskette and reset the system.

4. Press **Enter** to continue.

The utility checks the currently installed BIOS version and the diskette's BIOS versions. If the BIOS can be updated, the Main Menu appears. If there is a problem, the appropriate message is displayed.

Menu Functions

Use the Main Menu to update your BIOS version; other menu functions are optional. To select a menu function, use the arrow keys to highlight the function and press Enter. If you need help, press F1 for additional information.

Information

This option provides important information about the BIOS Update utility. Read this information before proceeding with the utility.

Display BIOS Version

Use this option to display the currently installed BIOS version and the version of the new replacement BIOS. A message appears.

Note: *The original BIOS version level is included if the utility has been run previously.*

Customize BIOS

This allows you to install custom BIOS options. This customization takes place when you install the new BIOS. When selected, a message appears.

The edit option allows you to create or change a custom sign-on message. This sign-on message can be up to 40 characters and is displayed every time the system boots. View shows the sign-on message, if any, to be installed into the new BIOS. The clear function erases the custom sign-on message. Exit returns you to the Main Menu.

Install New BIOS

This menu option first saves the system's original BIOS to the diskette and then installs the new BIOS. Be sure to choose the Customize BIOS feature, if desired, before selecting this option. After the installation is completed, it resets the system to enable the new BIOS.

When you select this function, a message appears.

Press **Y**, then press **Enter**. After a brief pause, another message is displayed.

A warning appears after you press any key. The utility updates the BIOS and resets the system to make the new version operational. To reuse the utility, you must power the system off and back on again with the BIOS Update diskette inserted in drive A.

Restore Original BIOS

Use this option to restore your previous BIOS from the update diskette. If your system BIOS has not been updated, this function does nothing. A message indicates the new BIOS must be installed before the original BIOS can be restored. Selecting this function displays a message.

Press **Y**, then press **Enter**. After a brief pause, another message appears.

A warning appears after you press any key.

The utility restores the previous BIOS and resets the system to make the previous version operational. To reuse the utility, you must power the system off and back on again with the BIOS Update diskette inserted in drive A.

Exit

This option will exit the utility and reset the system. Press Enter to exit the utility. If you press Esc, a message appears.

Select the appropriate option.

In high-security environments where you do not want the BIOS to be easily updated, simply disable the BIOS reprogramming. This prevents any modification of the BIOS. You can prevent BIOS reprogramming with System Configuration switch SW1-1. See Chapter 5, Setting Switch Functions.

Errors and Messages

The following list describes the possible error and warning messages you might receive when using the BIOS Update utility.

- An error indicating that the system does not contain a Flash ROM. The utility cannot be used. Be sure that you powered off the system before loading the BIOS Update utility. Run Auto Setup to check that your system configuration settings are correct. If you still have a problem, contact technical support or your NEC dealer for update information.

- A message informing you that the system's version of BIOS cannot be updated by the diskette because it is not a supported revision. The utility cannot be used. Contact technical support or your NEC dealer for update information.

- An error indicating that the system's BIOS reprogramming is not enabled or possibly that no Flash ROM is installed. The utility cannot be used. Be sure that System Configuration switch SW1-1 is set to the OFF (enable) position. Contact technical support or your NEC dealer for update information.

- A message indicating that the update is in progress. You should not disturb the system in any way while this screen appears. The system resets after the update completes.

- An error noting that your system does not have enough RAM available. Make sure you booted the system from the BIOS Update diskette.

- A message stating that the diskette you are about to use has already been used. You may not be able to restore the previously installed BIOS if you proceed with the update. This condition is acceptable if you maintain a separate copy of the utility diskette for each system.

- An error indicating that you are attempting to restore the original BIOS before installing the new BIOS. You must first install the new BIOS.

Adding Options - Introduction

This chapter describes procedures for adding options to the Versa system. Procedures are for the following options:

- memory expansion
- PCMCIA cards
- hard disk
- parallel printer
- external keyboard
- external mouse

- external CRT.

Note: *Some of the optional components may not be available outside the U.S. Contact an authorized NEC dealer for specific information.*

A port replicator is an available option to keep at the office to make connecting the Versa system to your peripherals easy and convenient.

See the *Versa Series Docking Station User's Guide* for instructions on connecting the docking station.

Memory Expansion

You can increase system memory by installing memory cards in the Versa. The memory cards that can be installed are a 4-MB, 8 MB, 12 MB, 16 MB, and higher capacity cards (when available).

Use the following steps to install a memory card.

1. Make sure the system power is off.
2. Remove the memory compartment cover from the system by pressing down slightly and sliding it to the right. Lift the cover off the system. Remove the disk compartment cover by sliding it downward.

Removing covers
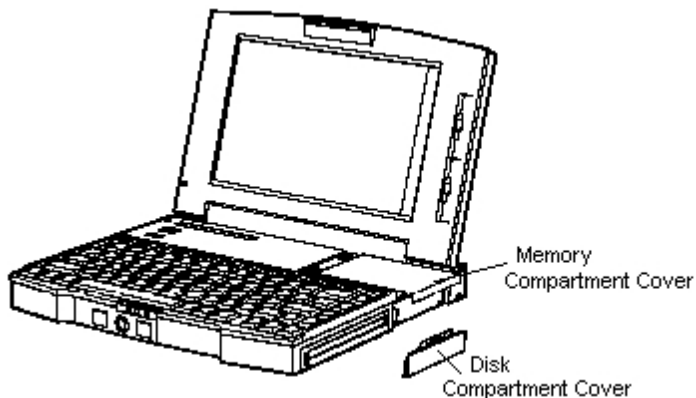
3. Install the memory card as follows.

- Align the memory card connector with the connector in the system.
- Insert the card connector by sliding it into the system connector. Press the card to make sure it is securely seated.

Installing a memory card
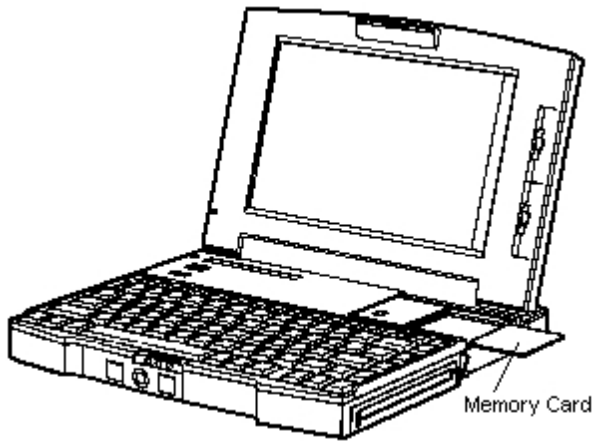
Memory Card

4. Replace the disk compartment cover.
5. Replace the memory compartment cover.
6. Run Auto Setup to check the new configuration.

PCMCIA Cards

You can add various types of PCMCIA cards to your system. The Versa system provides two PCMCIA slots in which different kinds of PCMCIA cards can be installed. Available cards include modem, network, memory, and storage cards.

The PCMCIA slots are located on the left side of the system. Slot 0 (primary) is on the bottom and slot 1 (secondary) is on the top.

To use a PCMCIA card, open the slot cover and simply insert the card into one of the system PCMCIA slots. Install any necessary software or drivers. Follow any instructions that come with the PCMCIA card.

The Versa supports 2 Type I or Type II cards or 1 Type III card.

Installing a PCMCIA card
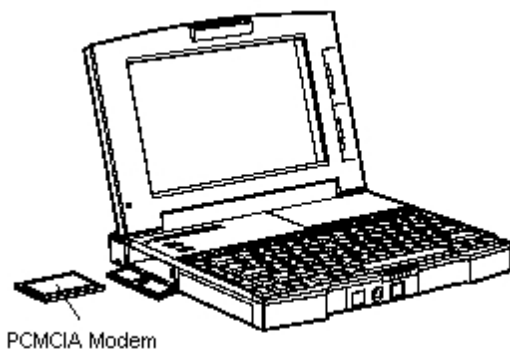
PCMCIA Modem

Hard Disk

You can increase the system's storage capacity by replacing the standard <u>hard disk</u>.

Use the following procedure to replace the hard disk.
1. Make sure the system power is off.
2. Remove the <u>memory</u> compartment cover from the system by pressing down slightly and sliding it to the right. Lift the cover off the system. Remove the disk compartment cover by sliding it downward.

Removing covers

Memory
Compartment Cover

Disk
Compartment Cover
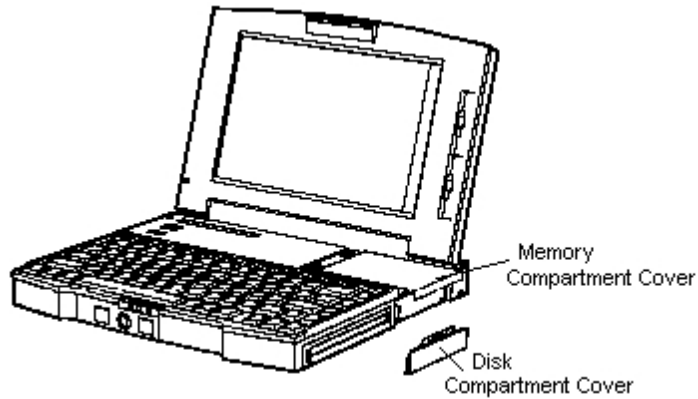
3. Swing the drive lever down to the side and pull the drive out of the compartment.

Swinging the drive lever
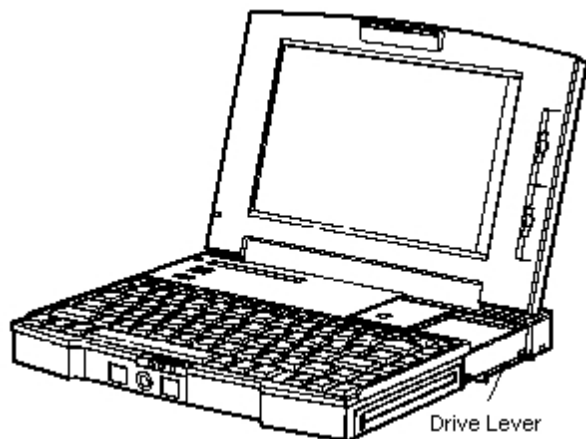
Drive Lever

4. Swing the drive lever on the new drive down to the side. Insert the drive by sliding it into the compartment. Press firmly to make sure the drive is fully seated. Swing the drive lever up.

Installing the hard disk

Hard Disk
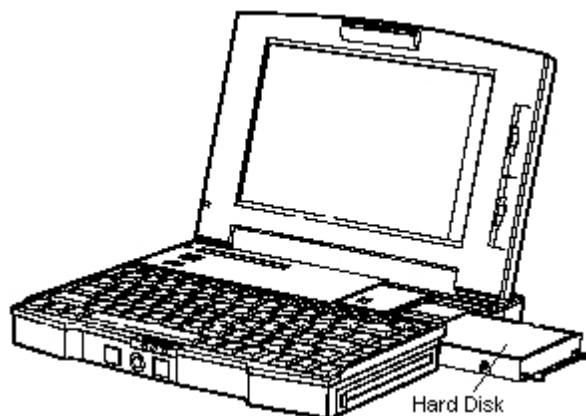
5. Replace the disk compartment cover.

6. Replace the memory compartment cover.
7. Run Auto Setup to check the new configuration.

Parallel Printer

Connection of a parallel printer requires a parallel printer cable with a male 25-pin connector for the system and, for most parallel printers, a Centronics®-compatible 36-pin connector.

Use the following procedure to connect a parallel printer to the system.

Note: Before connecting a printer to your system, be sure that you have set up the printer correctly. Follow the setup instructions that come with the printer.

1. Make sure the system and printer power are off.
2. Pull down the left-rear cover latch and open the left-rear cover of the system.
3. Attach the 25-pin printer cable connector to the printer port on the system.
4. Attach the 36-pin printer cable connector to the parallel port on the printer.
5. Secure the printer cable as follows.

   - Secure the system connection with the screws provided.
   - Lock the connector to the printer with the connector clips.

   Connecting a parallel printer
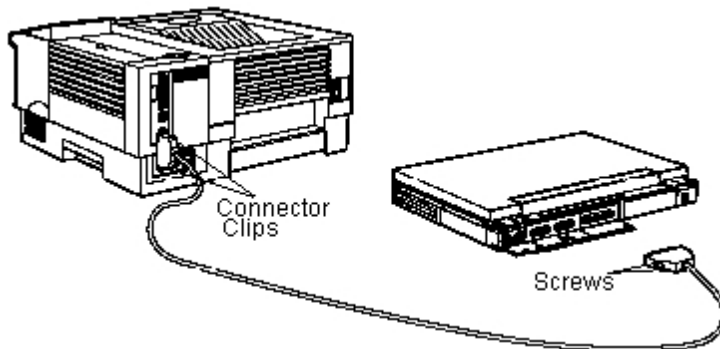
6. Connect the power cable to the printer.
7. Turn on power to the system and the printer.

Note: Make sure that the printer is on-line before you try to print. See the instructions that come with your printer for printing information.
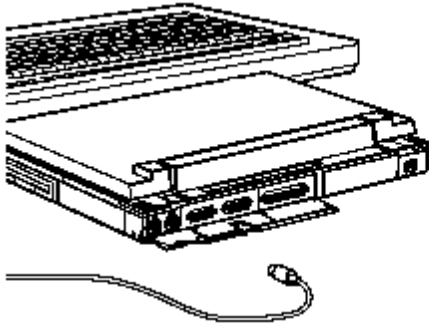
External Keyboard

Use the following procedure to connect a PS/2-style keyboard to the system.

Note: For instructions on connecting an external keyboard to the docking station, see the Versa Series Docking Station User's Guide.

1. Make sure the system power is off.
2. Pull down the left-rear cover latch and open the left-rear cover of the system.
3. Connect the keyboard cable connector to the keyboard port on the system.

Connecting an external keyboard

4. Turn on power to the system.

Note: *After you connect an external keyboard, both the built-in keyboard and external keyboard can be used simultaneously.*
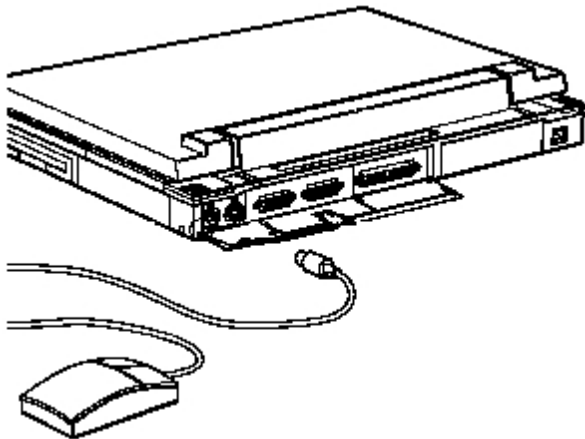

External Mouse

Use the following procedure to connect a PS/2-style mouse to the system.

Note: *For instructions on connecting an external mouse to the docking station, see the Versa Series Docking Station User's Guide.*

1. Make sure the system power is off.

2. Pull down the left-rear cover latch and open the left-rear cover of the system.

3. Connect the mouse cable connector to the mouse port on the system.

Connecting an external mouse

4. Turn on power to the system.

Note: *When an external mouse is connected, the VersaTrack is automatically disabled.*

External CRT

To connect an external CRT display, you need a display signal cable. A signal cable is usually provided with

a display. One end of the cable must have a male 15-pin connector for the system.

Note: When you connect a monochrome VGA or super VGA monitor to the color Versa, the built-in color LCD displays in monochrome mode.

Use the following steps to connect an external CRT display.
1. Make sure the system power button and display power switch are turned off.

Note: System power must be turned off while the CRT is being connected. If power remains on, the system will not recognize the CRT type, and setup cannot switch the active screen from LCD to CRT.
2. Pull down the left-rear cover latch and open the left-rear cover of the system.
3. Attach the 15-pin cable connector to the CRT port on the system.
4. Secure the cable connection with the screws provided on the 15-pin connector.

Connecting a CRT
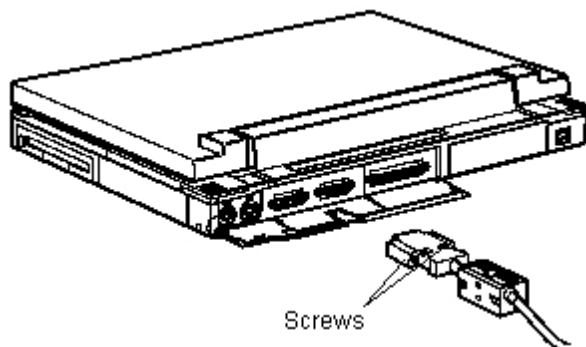
5. Connect the display power cable and plug it into a proper power source.
6. Follow any setup instructions in the CRT documentation.
7. Turn on power to the CRT.
8. Turn on power to the system.

Note: Be sure to power on the CRT before you power on the system. Otherwise, the system cannot recognize the CRT type.

See Fn Key for information about using both the LCD and CRT.

Troubleshooting - Introduction

The Versa has a built-in checking program that automatically tests its components when you turn 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 later in this chapter.

Read this chapter to familiarize yourself with what to do if you encounter a problem.

If the screen is blank, the instructions do not help, or an error message does not appear, use the information in this chapter to determine and fix the problem. The problem is often one you can solve yourself.

Problem Checklist

First check the items in the following list. If these items do not help, see the table that follows the list.

- Power is on to the computer.

- The electrical outlet to which your AC/DC 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.

- If you do not have the AC/DC adapter connected, check that the battery pack is properly inserted and fully charged.

- The display's brightness and contrast controls are adjusted properly.

- System parameters are set correctly through Auto Setup or HCP for your hardware configuration.

Troubleshooting

PROBLEM	CORRECTIVE ACTION
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/DC adapter to recharge the battery. If you have the AC/DC adapter attached, check that the electrical outlet you are using works.
LCD screen is dark and blank.	Power-saving mode has shut off backlight. Press any key, **Fn F5**, or the suspend button. The built-in LCD may not be selected. Press **Fn F3** once or twice.
	Brightness and contrast controls need adjustment. Adjust the controls. Power-saving mode has shut off backlight. Press any key, **Fn F5**, or the suspend button.
	The system entered Suspend mode due to low battery power. Plug in the AC/DC adapter or replace the battery pack, then press the suspend button to resume operation.
Battery power does not last long.	Use power-saving modes. Recharge the battery pack fully. If this does not work, use the Discharge utility or replace the battery pack with a new one.
Information on the LCD screen is difficult to see.	Adjust the brightness and contrast controls.
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 Auto Setup.
The pen or touch screen does not work.	Check that the appropriate pen driver is installed.

The suspend button does not work	A disk drive might be busy. Wait until the disk drive stops and try again.
	The docking station might be connected to the Versa system. Power management functions do not work when the docking station is connected.
System BIOS cannot be reprogrammed.	System Configuration switch one is on.
	The Docking Station might be connected to the Versa system. System BIOS cannot be reprogrammed when the Docking Station is connected.

Start-Up Problems

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

- current configuration information does not match configuration information stored in memory, such as when an internal option is added

- the system loses configuration information.

If either of these conditions exists, the system displays an "invalid configuration information" message. To continue start-up procedures, press **F1** and run Auto Setup 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 system detects an error related to display devices, the system cannot use either the LCD or a CRT as a display. The system warns you by beeping.*

POST Error Messages

MESSAGES	WHAT YOU SHOULD DO
Diskette drive *n* failure	Drive *n* does not work or is not properly connected. (*n* is 0 or 1. Drives 0 and 1 refer to drives A and B). Check that drive *n* is securely connected and power is on. Press **F1** to start Auto Setup to check the diskette drive parameters. If a problem still exists, drive *n* might need repair.
Diskette read failure --- press **F1** to run Auto Setup Press any key to retry boot	Remove the diskette from drive A and press **F1** to start the system from the hard disk. Or, insert a bootable disk in drive A and press **F1**.
Non-system Disk or Disk Error; Replace and press any key when ready	Remove the diskette from drive A and press any key to start the system from the hard disk. Or, insert a bootable disk in drive A and press any key.

No boot device available --- press **F1** to run Auto Setup	Press **F1**, start Auto Setup and change the hard disk type to the correct setting. Exit and save Auto Setup.
Invalid configuration information --- run Setup program	One or more system configuration parameters are not properly set. Start Auto Setup, set them correctly, and exit and save to update the parameters. Connect the AC/DC adapter to charge the internal backup battery.
Real time <u>clock</u> failure	Set time and date using Auto Setup. Exit and save to update the parameters. Connect the AC/DC adapter to charge the internal backup battery.
Time-of-day not set --- run Setup program	Set time and date using Auto Setup. Exit and save to update the parameters.
Fixed disk configuration error	Start Auto Setup. Exit and save to update the parameters. If a problem still exists, the hard disk might need repair.
Fixed disk failure	Press **F1**. Start Auto Setup. Exit and save to update the parameters. If a problem still exists, the hard disk might need repair.
Fixed disk controller failure	Press **F1**. Start Auto Setup. Exit and save to update the parameters. The hard disk controller does not work and 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 the obstruction if any exists. If the error message remains, the keyboard might need repair.

If You Need Assistance

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

If you still have a problem, call the NEC Technical Support Center (TSC), toll free, at 1-800-388-8888. Direct technical assistance is available Monday through Friday, between 8:30 a.m. and 8:00 p.m. eastern time.

Your system is supplied with remote diagnostic software. If you purchased a modem to use with your

system, a TSC technician may be able to diagnose the system remotely.

Related Topics:

Direct Technical Support
Remote Technical Support

Direct Technical Support

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

Remote Technical Support

Remote Support Session allows the technician to diagnose your system from a TSC computer. Use of this utility requires the connection of your modem to a telephone line.

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

Follow these steps to prepare your system for remote support. A modem must be installed in the system and connected to a telephone line.

1. With the system power off, insert the NEC Hardware Utilities diskette into drive A..
2. Turn on system power. A menu appears.
3. Type **2** to select "Remote Support Session." Your screen displays "Wait Dial-In Set" and a message indicating that the system is waiting for the remote dial-in.

Note: *Do not touch the keyboard while waiting for the remote dial-in.*

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

Remote Support Session has the following features:

*   The remote screen (technician's screen) looks like your computer's screen.

*   The technician can access data, run and control applications on your system, and print reports using the remote keyboard and mouse. Or the technician can simply observe the operations of your computer.

*   You can simultaneously view what the technician sees on the remote screen.

*   The technician can view your keystrokes and whatever appears on your screen.

Specifications - Specifications

These specifications are standard except where noted.

System Processor

Versa 40E/40EP/40EC/40ECP — SL Enhanced i486 DX2-40

Versa 50E/50EP/50EC/50ECP — SL Enhanced i486 DX2-50

Random Access Memory (RAM)

Standard Size — 4-MB high-speed

Optional — expandable in 4-MB, 8-MB 12-MB, or 16-MB increments

Video RAM — 1 MB

Cache RAM — 8 KB

Read-Only Memory (ROM)

256 KB

Calendar Clock

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

Display

Monochrome Models

Super-twisted nematic (STN), cold cathode fluorescent tube (CCFT) sidelit LCD

- Black-and-white — 64 shades
- Interface — Super VGA
- Resolution — 640 x 480 pixel display
- Dot Pitch — 0.30 mm by 0.30 mm (0.012 in. by 0.012 in.)
- Viewing Area — 192 mm by 144 mm (7.56 in. by 5.67 in.)
- Aspect Ratio — 4:3 (or true CRT aspect ratio)

Color Models

Thin-film transistor (TFT), cold cathode fluorescent tube (CCFT) backlit LCD

- Color — 256 colors out of 256,000 colors

  CRT — 256 colors out of 262,144 colors
- Interface — Super VGA
- Resolution — 640 x 480 pixel display
- Dot Pitch — 0.30 mm by 0.30 mm (0.012 in. by 0.012 in.)
- Viewing Area — 192 mm by 144 mm (7.56 in. by 5.67 in.)
- Aspect Ratio — 4:3 (or true CRT aspect ratio)

Keyboard

Built-in, 83 keys with standard QWERTY-key layout, 79 keys for U.K. and Germany

- Function Keys — 12 keys
- Cursor Control Keys — 8 keys: arrow keys arranged in inverted T layout
- Numeric Keypad — embedded
- Fn Key — function key for ROM-based key functions

I/O Facilities

Six integrated interfaces

- <u>Parallel</u> — 25-pin enhanced parallel port

- <u>Serial</u> — <u>RS-232C</u> port, supports asynchronous communication, up to 9600 bps, 9-pin connector

- <u>CRT</u> — supports VGA CRTs; supports <u>enhanced VGA</u> for some applications

- Mouse — supports PS/2-type mouse

- Keyboard — supports PS/2-type keyboard

- Expansion — connects the docking station

Diskette Drive

Standard 1.44-MB drive

- Size — 3.5 inch

- Capacity — 720 KB or 1.44 MB

- Access Time (average) — 94 ms

- Transfer Rate — 500k bps (with 1.44-MB diskettes)

- Interleave 1:1

Hard Disk Drive

Internal 2.5-inch, 120-MB, 209-MB, 250-MB, or 340-MB drive

Power

AC/DC Adapter

Input Voltage — 100 to 240 volts (V) AC, 50 or 60 Hz, 1.0 - 0.5 A

Output Voltage — 11.5 V DC, 1.7/2.8 A 13.5 V DC, 1.5 A

Battery Pack

Output Voltage — 7.2 V DC

Capacity — 3,800 mAH

Battery Life — Approximately 3.0 (monochrome) or 2.0 (color) hours under typical operating conditions

Recharging Time

— Approximately 1.5 hours when the system is off

— Approximately 2.6 hours when the system is on

Bridge Battery

— Backs up <u>memory</u> contents and system status for up to 5 minutes under Suspend <u>mode</u>

Dimensions

System Unit

- Width — 11.69 in. (297 mm)

- Depth — 9.33 in. (237 mm)

- Height — 2.098 in. (53.3 mm)

Battery Pack

- Width — 4.2 in. (108 mm)

- Depth — 4.5 in. (114.5 mm)

- Height — 0.85 in. (21.8 mm)

Weight

Monochrome Models — 6.2 lb (2.8 kg)

Color Models — 6.9 lb (3.1 kg)

Battery Pack — 1.16 lb (527.6 g)

Recommended Environment

Operation

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

- Relative Humidity — 20% to 80%
(No condensation)

Storage

- Temperature — -4° to 104°F (-20° to 40°C)

- Relative Humidity — 20% to 80%
(No condensation)

PCMCIA Support - PCMCIA Support

This section describes how your Versa system interacts with PCMCIA cards.

PCMCIA is an industry standard allowing for the interchangeability of peripheral devices, such as modems, between portable computers. PCMCIA cards are available in credit-card sized fax/modem, LAN, and storage integrated cards.

These cards fit into the PCMCIA slots of your system. The 68-pin slots support any of the various kinds of PCMCIA cards. Now using peripherals is as easy as inserting a diskette into a diskette drive. The objective for PCMCIA is the ability to plug and play multiple cards into multiple systems.

Card Types

PCMCIA cards are measured 3 3/8" long by 2 1/8" wide and come in three types. Type I is 3.3 mm thick, Type II is 5.0 mm, and Type III is 10.5 mm thick. Most cards and slots are Type II compatible. Type I cards fit in Type II slots but Type II cards cannot plug into Type I slots.

Type I cards usually function as storage devices and Type II cards as modems and LANs. Type I and II extended cards are also available offering added functionality, such as LAN adapters, modem jacks, and antennas. Type III cards can potentially provide advanced I/O connectivity, enhanced storage, and perform multiple functions.

Services

Card Services, a software interface, manages the automatic allocation of system resources. It detects a PCMCIA card when it is installed or removed. Card Services also provides an interface to other software in order to load any necessary hardware drivers.

Socket Services, a BIOS software interface, isolates driver software from the hardware. It provides a variety of system specific functions, such as system slot detection and card detection while the system is operating.

Software

PCMCIA cards operate in a variety of operating system environments. Cards can be inserted or removed while the operating system is responding to ther peripheral needs. Any applications need to be aware that the resources, the cards, can be removed or reinstalled at any time.

Your system offers full use of the PCMCIA slots under MS-DOS, Windows, and Windows for Pen Computing. The Versa system has two Type II slots stacked vertically to support either two Type II cards or one Type III cards. Supported cards can be installed or removed while the system is on.

QuickSwap™ guarantees that the operating system interacts with any NEC-approved cards. Any data transfers are secured even if the card is removed at the time of transfer. The interaction of applications with cards depends on the individual sofware. For example, some modem applications perform reasonably well when the card is removed during data transmission. Other applications need to acknowledge the constant presence of modem hardware.

Your system has been configured to support a variety of PCMCIA cards. The AUOTEXEC.BAT, CONFIG.SYS, and WIN.INI files contain and load the PCMCIA drivers. You can modify these files using a text editor to remove any drivers in order to free up needed memory. Before any modification, make a backup of each original file. See your operating system documentation for information on editing these files.

Memory/Storage

When you insert a memory/storage card in the Versa system, it appears as a unique drive, depending on the type of card and the slot you are using. The following list provides the different drive designations.

Drive Letter	Location/Device
C:	Internal hard disk
D:	Slot 0, IDE/ATA memory card
E:	Slot 1, IDE/ATA memory card
F:	Slot 0, high-speed memory card
G:	Slot 1, high-speed memory card

Communications

You can use both fax/modem and network PCMCIA cards with your Versa system. The following information should help you get the best system performance

Fax/Modem

You can insert a fax/modem card in either slot 0 or slot 1.

Note: 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 will not find the card.

The factory default COM port/interrupt setting for the fax/modem is COM2/IRQ3.

Network

You can insert a network card in either slot 0 or slot 1. The default memory address/interrupt setting for the network card is memory address DC000/IRQ5.

If the Versa system is docked in the docking station and a PCMCIA LAN card is installed, the card might conflict with the memory address area used by the docking station.

NEC Communnications Assistant

The NEC Communications Assistant file provides technical assistance on various topics when communication problems occur. It offers useful troubleshooting information and an indexed list of tips and techniques. Covered topics include a range of telecommunication areas such as

- modem "HotSwapping"

- LAN reconnection

- Token-Ring configuration management

- connection management.

Connection management includes telephone line connections, how telephone line quality affects the connection, what signal strength is, and how battery power and handshaking affects transmission. Other information includes a primer on baud rates.

Glossary of Terms

application program
BIOS
boot
clock
communications program
cursor
data files
default
diskette
diskette drive
enhanced VGA
function keys
hard disk
hardware
hot key
interface
kilobyte
load
megabyte
memory
microprocessor
mode
modem
monochrome
parallel
parameter
password
peripheral
pixel
ports
program
prompt

random access memory
read
read-only memory
resetting
resolution
RS-232C
serial
write

Program designed for a specific purpose, such as a word processor, spreadsheet, or a data base.

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

To start up the system with a diskette or hard disk containing MS-DOS files.

Electronic timer used to synchronize computer operations.

An application program that lets you use the modem to communicate with other computers.

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

Files created when application programs are used.

A preprogrammed value the system uses if a different value is not specified.

The 3 1/2-inch diskette has a hard plastic jacket and an automatic shutter to protect it from warping, fingerprints, and dust.

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

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

The set of keys on the keyboard (usually F1 through F12) that allow you to get help or error message information, or quickly select a frequently used command.

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

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

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

A connection that enables two devices to communicate.

1024 bytes

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

1, 048, 576 bytes

An electronic part of a computer that stores information.

The principal component of a microcomputer, it is a semiconductor central processing unit. It contains an arithmetic logic unit, control logic, and control memory unit.

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

A device that links computers over a telephone line.

A video display that features different shades of a single color.

Interface that communicates eight bits at a time.

A variable or symbol that is given a constant value for a specified application and that might designate the application.

A string of entered characters a system requires before it grants access privileges.

Input or output device not under direct computer control.

Picture element. The tiny dots that make up a screen image.

Interfaces between the microprocessor and external devices.

A set of instructions written in computer language that tells the computer how to perform some task.

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

Temporary read/write memory that stores information only when the computer is on.

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

Permanent computer memory that cannot be written to.

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

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

Standard interface for serial devices.

An interface that communicates information one bit at a time.

#write

To record or store information in a file on a storage device.

\# J6BWZU