Digital HiNote VP

User's Guide

Part Number: ER-P90WW-UA. A01

Portable Document File

Click on Blue Highlighted items to hyper-link with related topics.

Digital Equipment Corporation
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The FCC wants you to know...

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

All external cables connecting to this basic unit must be shielded. For cables connecting to PCMCIA cards, see the option manual or installation instructions.

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About This Guide

This guide describes how to operate, configure, and troubleshoot the Digital HiNote VP notebook computer. This guide, along with the on-line help in the Windows 95 Digital Folder, should familiarize you with all aspects of the notebook computer.

Audience

This guide is written specifically for anyone using or configuring the Digital HiNote VP notebook computer.

Organization

This guide contains the following:

- Chapter 1: *Introducing the Notebook* – This chapter identifies the notebook's external components and provides a quick reference to the notebook functions. It also describes the function of the different hot keys and information on creating a comfortable working environment.

- Chapter 2: *The BIOS Setup Program* – This section introduces the Setup Program, discusses how to move around in the Setup Program, as well as how to specify and save your new settings. A detailed list of the optional settings and the defaults is also provided.

- Chapter 3: *Operation* – This chapter provides information pertaining to the Video Display Controls used to adjust the LCD screen's appearance. Also included in this chapter is a brief overview of the keyboard function keys, the LCD Status Display icons and a description of the notebook's audio features.

- Chapter 4: *Peripheral Devices* – This chapter overviews the peripherals that can be connected to the Notebook, the necessary requirements for using these peripherals with your notebook and instruction on how to connect these devices to your notebook.

- Chapter 5: *Power System* – This chapter contains information on the notebook's power system, including the AC Adapter, the battery system, recharging the battery, and tips for conserving battery power. Also included is a detailed description of power management.

- Chapter 6: *Expansion Options*– This chapter describes the optional equipment that can be added to the basic notebook system. Also covered in this chapter is step by step information on installing and removing the optional modules that can be inserted in the notebook.

- Chapter 7: *PCMCIA Devices*– This chapter introduces Windows 95 PCMCIA on-line Help file.   On-line Help provides useful information on configuring and troubleshooting PC cards.

- Chapter 8: *Caring for Your Notebook*– This chapter provides you with some hints about general notebook maintenance.

- Appendix A: *Technical Specifications*– This appendix lists your notebook computer's operating specifications.

- Appendix B: *Troubleshooting*– In a questions and answer format, this section provides you with solutions to possible problems that may arise.

Abbreviations

Abbreviation	Meaning
BIOS	Basic Input/Output System
CMOS	Complementary Metal Oxide Semi-conductor
DIMM	Dual In-line Memory Module
DMA	Direct Memory Access
DSTN	Dual Super TwistNematic
DRAM	Dynamic Random Access Memory
EDO	Extended Data Out
FDD	Floppy Disk Drive
IDE	Integrated Drive Electronics (internal hard disk drive interface)
IR	Infrared
ISA	Industry Standard Architecture
K	1K = 1024 bytes
KB	Kilobyte
LCD	Liquid Crystal Display
MB	Megabyte
MS-DOS	Microsoft Disk Operating System
MIDI	Musical Instrument Digital Interface
NIC	Network Interface Card
PCI	Peripheral Computer Interconnect
PCMCIA	Personal Computer Memory Card International Association
POST	Power On Self-Test
ROM	Read Only Memory
SVGA	Super Video Graphics Array
TFT	Thin Film Transistor
VGA	Video Graphics Array

Special Notices

Three kinds of special notices are used in this guide to emphasize specific information.

_____**WARNING**_____

 Warning: Indicates the presence of a hazard that can cause personal injury if the hazard is not avoided.

_____

_____**Caution**_____

 Caution: Indicates the presence of a hazard that might cause damage to hardware or that might corrupt data.

_____

_____**Note**_____

Note: Provides additional information.

_____

Related Documentation

A *Quick Setup Guide* is available as a supplement to the information provided in this User's Guide.

A *Quick Reference Card* is available as a supplement to the information provided in this User's Guide.

On-line Help is available as a supplement to the information provided in this User's Guide. The on-line help is an on-line version of this user's guide. This help file can be accessed from the Digital Program Folder in Windows 95.

README files come with your factory installed software. The information contained in these files can help you setup, configure, and operate your notebook computer. The readme files are accessed from the Digital Program Folder in Windows 95.

Additionally, these files might contain warning or caution statements. It is important to read these statements.

1
Introducing the Notebook

Congratulations on your purchase of the Digital HiNote VP notebook computer. Your new HiNote VP features the most innovative advances in portable computing technology. It combines state-of-the-art ergonomics with sophisticated PCI architecture to provide you with a personal computer that is compact, powerful, and easy to use.

The notebook's modular design provides maximum expandability without compromising portability. The high performance CPU and IDE hard drive provide you with the extra processing power and storage capabilities needed to handle complex graphics and large sound files. Two PCMCIA slots give you the ability to use standard PCMCIA cards such as LAN or modem cards. The notebook has a Floppy Disk Drive (FDD) module in the module bay that can be replaced with other modules such as an internal AC Adapter or a Second Battery Pack module.

This User's Guide describes all features of the notebook in an easy-to-read yet thorough manner. The primary goals of this chapter is to identify the notebook's external components and to provide a quick reference of the notebook functions for experienced computer users.

Features and Controls

This section provides an overview of the notebook's features.

CPU

The central processing unit (CPU) is the heart of the computer. It performs all the computing functions and orchestrates the actions of the rest of the system. This notebook was designed with a Pentium CPU.

Your notebook's architecture supports the Intel Pentium family of CPUs which operate at 2.9 volts. These CPUs consume less energy and generate less heat than 5-volt CPUs.

1.44MB Floppy Drive

The notebook comes with a FDD (Floppy Disk Drive) module which can be removed from the unit and replaced with another module. This disk drive can use either 720KB double density or 1.44MB high density 3.5-inch floppy diskettes. Japanese models support 1.2MB floppy diskettes.

Hard Drive

The notebook comes with a 2.5" (12.7mm height) hard disk installed. Depending on the model of purchase, the hard drive in your notebook will be 540MB, 810MB or a higher capacity type.

LCD SVGA Display

Your notebook's SVGA display is one of the following two types of LCD displays:

- 64K-Color DSTN LCD with a 800x600 SVGA back-lit display
- 64K-Color TFT LCD with a 800x600 SVGA back-lit display

SVGA Graphics Accelerator

This notebook is equipped with a C&T 65548 SVGA controller chip with the following features:

- Supports PCI Local Bus

- Supports simultaneous display

- The Integrated Programmable Linear Address feature accelerates GUI performance (for example Windows 95 applications)

- Supports non-interlaced CRT monitors with resolutions of up to 1024x768 at 256 colors

- Supports Advanced Power Management features which minimize power consumption during:

  > Normal operation
  > Standby (Sleep) mode
  > Panel-off LCD powerdown mode

- 1 MB of on-board video RAM

Windows 95 Enhanced Keyboard

The notebook uses a keyboard that will emulate a full-size desktop 101-key keyboard. The keyboard features special function keys and an embedded numeric keypad for number intensive data entry.

Your keyboard supports Windows 95 by incorporating the two Windows specific keys. With the two Windows 95 keys you will be able to access and take advantage of many of the time-saving feature of Windows 95 software.

Touchpad

Your notebook is equipped with a touchpad pointing device. The touchpad, a touch-sensitive pointing device, is ergonomically designed for both convenience and comfort. It employs the PS/2 mouse interface. In other words, it serves the same purpose as a two-button mouse, allowing you to move the cursor around the screen.

Functions called *double-tapping* and *single-tapping* allow the user to make selections from within a software program or execute software applications by double or single tapping on the touchpad.

Connector Ports

The notebook has a number of connector (Input/Output) ports for attaching peripherals to the computer, including the following:

- A 6-pin mini-din connector for a full-size keyboard or a PS/2 mouse
- Two audio jacks used for External Mic (Mic In) and Speaker Out (*available on selected models only*).
- A 15-pin CRT (monitor) port
- A standard 9-pin serial port to which you can attach a variety of serial devices, such as a mouse or modem (16550A UART).
- A 25-pin parallel port which is most commonly used to connect a printer or Pocket LAN to the computer. The parallel port supports both EPP and ECP capabilities.
- A 240-pin connector for the notebook's Port Replicator
- One 3-pin connector provides for an AC Adapter power jack
- One built-in IR (Serial InfraRed) transmitter/receiver for wireless data communications (*available on selected models only*).
- One built-in microphone (*available on selected models only*).
- Two built-in speakers

PCMCIA Socket

The PCMCIA R2.0 host adapter supports one Type III PCMCIA card, two Type II or two Type I PCMCIA cards The PCMCIA socket accommodates SRAM memory cards up to 64MB, Modem cards, LAN cards, HDD and sound cards, etc.

Battery and AC Power System

To power the notebook, you can use an AC adapter or the rechargeable Nickel-Metal Hydride battery module pack. You can configure your system to automatically recharge the battery pack in the notebook by using the AC adapter. For information on recharging the battery while simultaneously using the notebook, see the section in this chapter labeled *Installation and Initial Setup* By using the power management features, the notebook can operate on battery power for approximately 2 hours. The battery pack takes approximately 2 hours to recharge when the computer is turned off. It takes 3.5 hours to recharge when the computer is in use. For extended battery-powered operation, additional batteries can be purchased and added to the system by replacing the floppy disk drive.

Upgradable Memory

The notebook comes with 8MB of EDO memory that is upgradable to a total of 40MB by installing an additional memory module. Three upgradable system memory options (8MB, 16MB, and 32MB) are available for purchase to enhance your system performance.

Keyboard Controls

The notebook provides a host of hot key features. Some control the LCD video display, while others control the sound volume. Please refer to Chapter 3 for a more thorough description of each of these keys and their functions.

Power Management

The notebook features sophisticated power management built into the Setup Program. These features are designed to conserve power and extend the life of the battery between charges. For more information, please refer to the Chapter 2, *The BIOS Setup Program* and Chapter 5, *Power System*.

IR Module (Serial InfraRed)

The notebook features an IRDA compliant InfraRed Module that allows wireless, serial communication between the notebook and other IR equipped devices such as a printer or another computer (*available on selected models only*).

Audio Features

Your notebook is equipped with two integrated speakers. Selected models include such sophisticated features as an on-board 16-bit stereo FM sound generator, microphone and two input/output stereo jacks for use with the two integrated speakers.

Optional Devices

There are several optional products you can purchase to further enhance the utility of your notebook computer.

- Secondary Battery Pack Module with Cradle
- External Battery Charger
- A Port Replicator with NIC
- Car Adapter
- Memory module
- An extra AC Adapter

See your Digital representative or authorized dealer for more information.

Unpacking & Checking the Equipment

Before unpacking the notebook, prepare a clean, stable surface to put the contents of your notebook's shipping container on. Altogether, you should find the following items in the notebook package:

- The notebook Computer (with one battery pack and FDD module installed)
- One AC Adapter with an AC and a DC power cord
- User Documentation

Remove all the items from the container. If anything is missing or broken, inform your dealer immediately. You should save the packaging; if you ever need to ship your notebook or send it in for service, you may need the shipping container. Before setting up the computer, familiarize yourself with the hardware features noted in the next section.

Right Front View (Panel Closed)
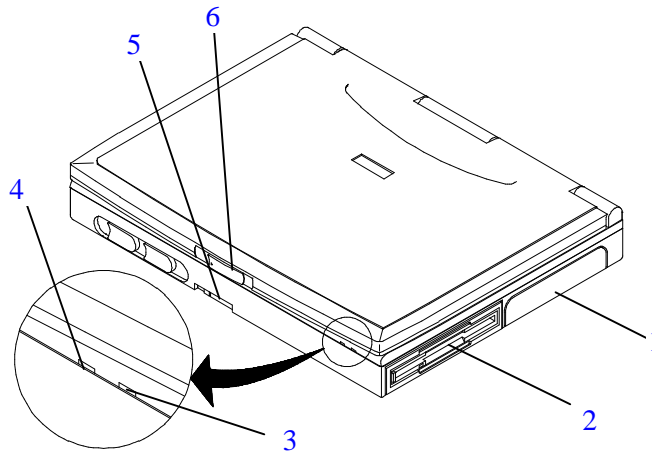
Figure 1-1: Right Front View with Display Panel Closed

1. **Removable Battery Module in Bay 1:** A removable nickel-metal hydride battery pack module is located in bay 1.

2. **Floppy Disk Drive Module in Bay 2:** Your notebook comes equipped with a floppy disk drive module is located in bay 2. Note that the eject button only pops out when a diskette is inserted in the drive. The floppy disk drive module can be removed and replaced with other modules such as an AC Adapter module, a Car Adapter module or a Secondary Battery Pack module.

3. **Power Indicator:** This LED shows when the notebook is connected to an external power source.

4. **Battery Charging LED Indicator:** This LED shows when the notebook is charging the installed battery.

5. **Module Catch Release Lever:** Used in combination with the module lock/release latch to remove any of the optional modules or the supplied FDD module from the notebook.

6. **LCD Panel Catch Release:** When moved to the right, the lid is released and can be raised for viewing

Left Front View (Panel Closed)
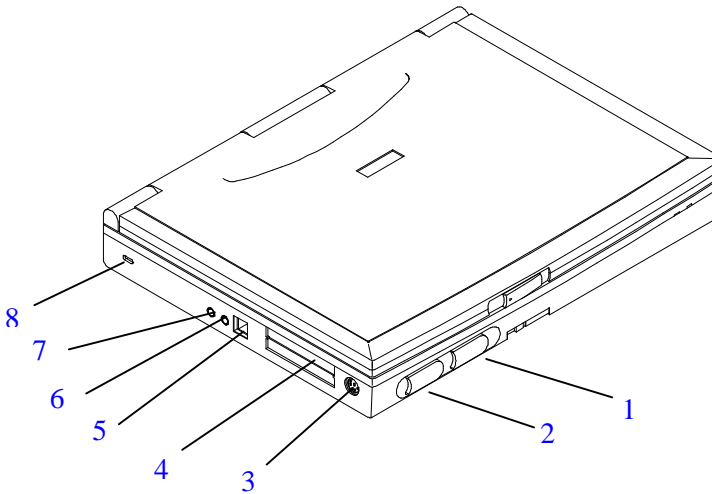
Figure 1-2: Left Front View with Display Panel Closed

1. **PCMCIA Upper Socket Eject Slide Switch:** Releases a PCMCIA Type I or Type II card from the upper slot.

2. **PCMCIA Lower Socket Eject Slide Switch:** Releases a PCMCIA Type I or Type II from the lower socket or releases a Type III card from the socket.

3. **External Keyboard or PS/2 Mouse Port:** PS/2 style connector used to connect either an external keyboard or mouse.

4. **PCMCIA sockets:** Holds two Type I or Type II cards or one Type III card.

5. **Power jack:** Input connector for AC Adapter.

6. **External Mic Connector:** Connects an external microphone to the computer *(available on selected models only)*.

7. **Audio Speaker-Out Connector:** Stereo audio output for external speakers or headphones *(available on selected models only)*.

8. **Locking Port:** Connect a locking cable, such as a Kensington lock, to this port for added security.

Rear View

The rear side of the notebook contains an SIR (Serial InfraRed) port *(available on selected models only)* , a serial (COM) port, a Parallel (LPT) port, a VGA port, a 240-pin Port Replicator connector and a reset button.

The rear side panel is concealed by a protective port cover. The 240-pin connector port cover slides open so that the 240-pin Replicator port is visible. To reveal the remainder of the ports, the main protective port cover must be opened. There are two indented grooves on the port cover. One is on the upper left of the port cover and the other is on the upper right. Gently pull these tabs down to reveal the remaining connector ports.
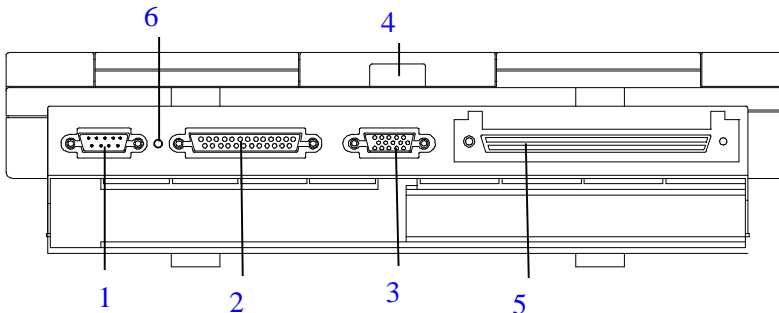
Figure 1-3: Rear View of Notebook

1. **Serial (COM) Port:** Port to connect a serial device.

2. **Parallel (LPT) Port:** Port for a parallel device such as a printer.

3. **VGA Display Port:** Port for an external monitor.

4. **Serial InfraRed (SIR) Module:** InfraRed transmitter/receiver port used to interface with external systems or devices *(available on selected models only)*.

5. **Port Replicator Connector:** Port to connect the Port Replicator.

6. **Reset Button:** Pressing this button will reboot the system. All unsaved data will be lost.

Right Front View (Panel Open)
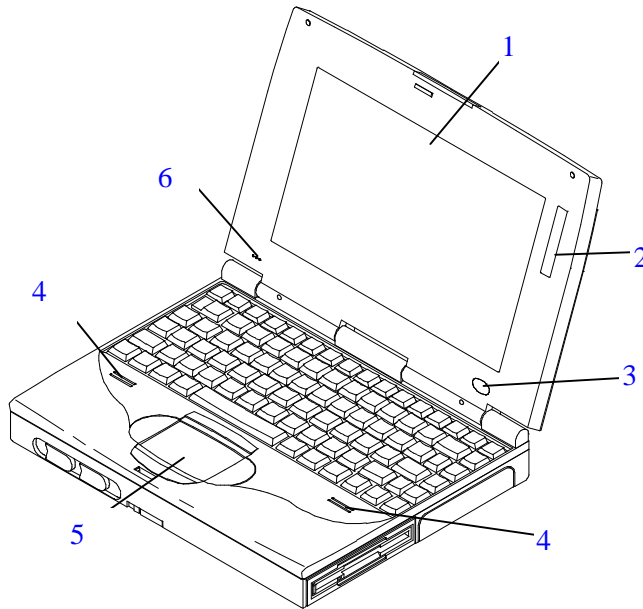
Figure 1-4: Right Front View with Display Panel Open

1. **LCD Screen:** LCD with a 800x600 SVGA back-lit display.

2. **LCD Status Display:** Provides operating status of the computer.

3. **Suspend/Resume button:** Turns the notebook on and toggles between Suspend/Resume mode. (Used with [fn] key to turn the notebook off.)

4. **Internal Speakers:** Two Internal speakers used to hear system sounds.

5. **Touchpad:** Provides all the functions of a two-button mouse.

6. **Built-In Microphone:** Internal microphone used to record music, voice, or sound files (*available on selected models only*).

Installation and Initial Setup
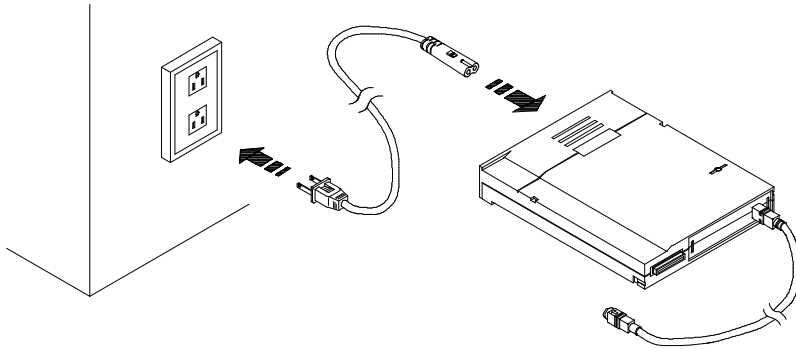
Figure 1-5: Connecting the Power Cord to the AC Adapter

Connecting the AC Power Adapter

There are two possible ways of using the AC Adapter. One is by directly inserting the AC Adapter into module bay 2 of the notebook. This is covered in detail in Chapter 5. The second method is to link the notebook to the AC Adapter module by way of an external AC jack connection. *Figure 1-5* and *Figure 1-6* illustrate an external AC Adapter connection.

An External AC Connection

To power the notebook by using the external AC jack, please refer to the following directions:

1. Two cables come with the AC Adapter. One is the power cord. It connects the AC Adapter with an outlet. The other cord connects the notebook to the AC Adapter module. Plug the power cable into the port on the AC Adapter module. This port is shaped like a figure eight with two pins protruding from it.

2. Plug one end of the notebook-to-AC Adapter cable into the port on the adapter. It doesn't matter which end of the cable you use; the two connector heads are exactly alike. If you are unable to make a smooth connection, you probably do not have the pins in the port lined up properly with the holes in the connector. Do not force a connection. Line up the two, and try again.

3. Locate the AC Adapter port on the notebook. If you are facing the front of the notebook, the AC port is located on its left side. Refer to *Figure 1-2* if you are still having trouble locating this port. Line up the port's pins with the holes in the connector and insert the cable into the port. Again, do not attempt to force a connection.

4. The best power source to which you can connect any computer device is a UPS (uninterruptable power supply). If you do not own a UPS, your next best power source is an extension cord which has its own built-in electrical surge protector. If you lack this kind of extension cord, plug the AC Adapter directly into a wall outlet.

5. Plug in the notebook and press the Suspend/Resume button to turn it on. If the notebook does not power up, please refer to Appendix B, *Troubleshooting*.

6. To turn off the notebook, simultaneously press the [fn] and Suspend/Resume button.
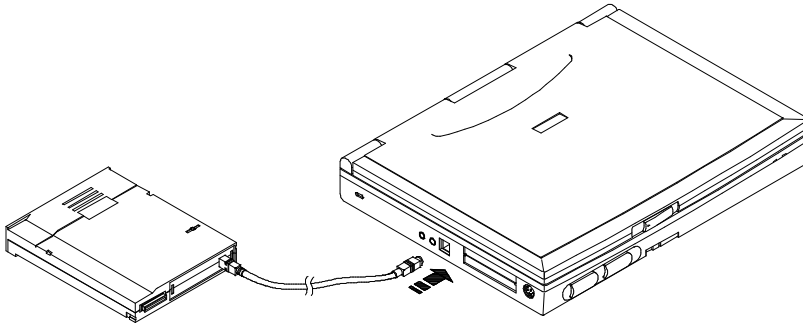
Figure 1-6: Connecting the AC Adapter to the Notebook

The universal AC Adapter for your notebook provides the automatic switching for use with various power standards throughout the world. This includes 100-240 volt, 50-60 cycle power supply. Be sure to use the appropriate power cord.

The Power On Self Test (POST)

Each time you turn on the computer, it will first run through a series of software-controlled diagnostic tests called the Power On Self Test (POST).

Backup Diskettes

Your notebook computer comes supplied with Windows 95 installation software and installation of numerous applications. The first time you turn on your notebook, it will start the installation process. You will be prompted for your certification of authenticity (COA), which you can find in the Windows 95 manual.

_____**Note**_____

It is recommended that you make a backup copy of the factory installed software. You will need the backup copy of the software in case it is inadvertently deleted or if you need to reinstall any of the factory installed software. The number of disks required to create a backup copy of the factory installed software is indicated by the Create Application Disks in the Digital program folder. The Windows 95 Create System Disks (MSCSD) application allows you to make one only set of Windows 95 installation disks. Be sure to prepare an adequate supply of quality diskettes before starting the bootup.

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On-line Information

Your notebook computer is supplied with factory installed On-line Information located in the Programs Menu on the Windows 95 Desktop. This file also contains other on-line information on how to the use your notebook computer and specific information about its features. Double-click on the appropriate icon for additional information.

Creating a Comfortable Working Environment

The following tips can help minimize eye strain and body fatigue when using your notebook computer:

- Adjust your chair so that:
    - Your feet are flat on the floor–use a footrest if needed.
    - Your legs form a right angle to the floor.
    - The backs of your knees are free from the chair seat.
    - Your body weight rests on your spine while supporting the lower back region.

- Adjust your notebook computer so that:

    - Your wrists are straight and supported.

    - Keyboard and touchpad or external keyboard and mouse are at elbow height.

    - Your elbows are close to your sides with your upper arms perpendicular to the floor.

    - You maintain a neutral neck posture with the top of the display no higher than eye level.

- Adjust your display and lighting so that:

    - Light is directed away from the screen to reduce glare. Look away to distant objects frequently. Adjust the angle of your LCD or external monitor, placing it in the most comfortable viewing position.

    - The screen is the correct distance for your vision.

_____**WARNING**_____

⚠ **If you experience pain or discomfort while using your notebook computer, take a break. Review the information in this section. If the pain or discomfort continues after resuming use, stop and report the condition to your job supervisor or physician.**

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2
The BIOS Setup Program

Introduction

The BIOS (Basic Input and Output System) Setup Program is a menu driven utility that enables you to make changes to the system configuration and tailor your system to your individual work needs. It is a ROM-based configuration utility that displays the system's configuration status and provides you with a tool to set system parameters. These parameters are stored in non-volatile battery backed-up CMOS RAM which saves this information even when the power is turned off. When the system is turned back on, the system is configured with the values found in CMOS. Using easy-to-use menus, you can configure such items as:

- Hard drives, diskette drives and peripherals
- Password protection from unauthorized use
- Power Management Features

The settings made in the Setup Program intimately affect how the notebook performs. It is important, therefore, first to try to understand all the Setup's options, and second, to make settings appropriate for the way you use the notebook. This chapter guides you through the Setup Program by providing clear explanations for all Setup options.

The next section discusses how to move around in the Setup Program, as well as how to specify and save your new settings. A brief discussion of the optional settings among the different menus follows.

Navigating through the Setup Program

When turning on the notebook for the first time you may get a message prompting you to run the Setup Program. A warning message may appear on the screen if the hardware configuration is changed or the POST fails. This message will inform you of any errors or invalid settings and prompt you to run the Setup Program to correct the problem.

Even if you are not prompted by a message instructing you to use the Setup Program, at some time in the future you may want to change the configuration of your computer. For example, you may want to set a password or make changes to the power management settings. It may then be necessary to reconfigure your system using the Setup Program so that the computer can recognize these changes.

You should run the Setup Program under certain conditions, for example:

- You have set up the computer for the first time and you were prompted by a message to run the Setup Program
- You want to redefine the communication ports to prevent any conflicts
- You want to make changes to the Power Management configuration
- You want to change the password or make other changes to the security setup

_____**Caution**_____

It is important that you remember your system password if you set one. If you forget your password and wish to have it reset, you must send the notebook to a Digital Service Center for service.

_____

Accessing the Setup Program

To access the Setup Program, press the [F2] key when prompted during the system power up.

The Menu Bar

The top of the screen has a Menu bar with the following selections:

Main   Use this menu to make changes to the basic system configuration.

System Devices   Use this menu to enable and make changes to the System Device features available on your system.

Security   Use this menu to set the password which will restrict access to the notebook computer.

Power   Use this menu to configure and enable Power Management features.

Exit   Use this menu to exit the current menu or specify how to exit the Setup Program.

Figure 2-1 displays the Menu Bar as it appears in the BIOS screens. To access the Menu bar items, you can use the ← → arrow keys to highlight the desired item and press [enter].

The LegendBar

At the bottom of the Setup screen you will notice a legend bar. The keys in the legend bar allow you to navigate through the various setup menus. The following table lists the keys found in the legend bar with their functions.

Legend Key	*Function*
F1	Displays the General Help window.
Esc	Exits the current menu.
← or →	Selects a different menu.
↑ or ↓	Moves cursor up and down between fields.
<Tab>	Cycles the cursor forward through the particular highlighted field. If the field has only one value, the tab key will move the highlighted cell down to the next field.
<Shift - Tab>	Cycles the cursor backward through the particular highlighted field. If the field has only one value, the [tab + shift] keys will move the highlighted cell up to the previous field.
- minus key	Scrolls backwards through the values for the highlighted field.
+ plus key	Scrolls forward through the values for the highlighted field.
F9	Sets the parameters for the current menu to their default values.
F10	Sets the parameters for the current menu to their previous values.
<Enter>	Executes commands or selects a submenu.

If you are a first time user, or are not familiar with Setup Programs, it is highly recommended that you take a few minutes to familiarize yourself with each of the legend keys and their corresponding functions. Practice navigating through the various menus and submenus. If you accidentally make unwanted changes to the current configuration using the function key [F9] will return the activated menu to its factory set values.

Note that in the right side of each of the Setup screens, there is a section labeled *Item Specific Help.* While moving around through the Setup Program, note that explanations for the currently highlighted field appear in the *Item Specific Help* window.

General Help

In addition to the Item Specific Help window, the Setup Program also provides a General Help screen. This screen can be called up from any menu by simply pressing the function key, [F1] or the [Alt + H] combination. The General Help screen lists the legend keys with their corresponding alternates and functions.

When a scroll bar appears to the right of a help window, this indicates that there is more information to be displayed that won't fit in the window. Use the [pgup] and [pgdn] keys or the up and down arrow keys (↑ ↓) to scroll through the entire help document. Press [home] to display the first page, press [end] to go to the last page. To exit the help window, press [enter] or [esc].

Saving Changes and Exiting the Setup Program

Refer to the section labeled *Exit Menu* for detailed information on saving changes and exiting the Setup Program.

The Main Menu

When the Setup Program is accessed, the following screen appears :

```
Phoenix NoteBIOS 4.0 Setup - Copyright 1985-95 Phoenix Technologies Ltd.
  Main   System Devices  Security   Power    Exit
┌──────────────────────────────────────────────┬──────────────────────────┐
│                                                │   Item Specific Help     │
│  System Time:            [14:06:00]            │                          │
│  System Date:            [11/11/1995]          │                          │
│  Keyboard Num Lock:      [Off]                 │  <Tab>, <Shift-Tab>, or  │
│                                                │  <Enter> selects field.  │
│  Quick Boot:             [Disable]             │                          │
│  Boot Sequence:          [A: then C:]          │                          │
│                                                │                          │
│  Summary Screen:         [Disable]             │                          │
│                                                │                          │
│  Floppy Drive:           1.44 MB, 3.5"         │                          │
│  Hard Disk:              C: 840 MB             │                          │
│  Video System            SVGA                  │                          │
│  Base Memory:            640 KB                │                          │
│  Extended Memory:          7 MB                │                          │
│                                                │                          │
└──────────────────────────────────────────────┴──────────────────────────┘
 F1  Help    ↑↓  Select Item  -/+ Change Values      F9  Setup Defaults
 ESC Exit    ←→  Select Menu  Enter Select           F10 Previous Values
```

Figure 2-1: The Main Menu

This is the Main Menu of the Setup Program. Changes to the notebook's basic system configuration can be made from this menu. Each of the fields displayed in this menu are covered below in detail.

SYSTEM TIME

Sets your system to the time that you specify (usually the current time). The format is hour, minute, and second using 24-hour time. For example, 22:00 indicates 10:00 p.m. Insert the appropriate information. Use the tab key to move between the hour, minute, and second fields.

SYSTEM DATE

Sets your system to the date that you specify (usually the current date). The format is month, day, year. Type in the appropriate information. Use the tab key to move between the month, day, and year fields.

KEYBOARD NUM LOCK

This field allows you to make changes to the keyboard's performance. When *Auto* is specified in this field, the system will search for a numeric keypad and automatically engage Numlock if one is found. The On and Off settings turn Numlock on or off at bootup. Configuration options for this field are:

- On
- Off   *(default)*

QUICK BOOT

When this field is set to enabled, the system will skip some of its initial tests, such as memory and floppy tests, during bootup. The values for this field are:

- Enable
- Disable   *(default)*

BOOT SEQUENCE

This field allows you to set the booting sequence of the notebook . For example, when *A: then C:* is specified, the system will attempt to boot from drive A first. If drive A is empty or a non-system diskette is present in the floppy drive, the system will boot from the C drive. You can choose one of three settings:

- A: then C: *(default)*
- C: then A:
- C: only

SUMMARY SCREEN

When enabled, this option displays the system summary screen after POST. Configuration options for this field are:

- Disable   *(default)*
- Enable

FLOPPY DRIVE

This field informs you of the drive type for the floppy diskette drive. Your notebook's drive type is 1.44MB, 3.5". This is a display only field.

HARD DISK

This field informs you of the drive type for the installed hard drive. If a new hard drive is installed, the system will automatically configure the drive. This is a display only field.

VIDEO SYSTEM

It indicates your notebook's VGA type. The field should read SVGA (Super VGA). This is a display only field.

BASE MEMORY

This field displays the amount of conventional memory (KB) detected by the system during bootup. This is a display only field.

EXTENDED MEMORY

This field displays the amount of extended memory (MB) detected by the system during bootup. This is a display only field.

The System Devices Menu

Selecting *System Devices* from the Menu bar displays the System Devices Menu. From the System Device Menu, you will be able to configure the notebook's individual ports.

```
Phoenix NoteBIOS 4.0 Setup - Copyright 1985-95 Phoenix Technologies Ltd.
   Main   System Devices   Security   Power   Exit

                                                    ┌──────────────────────┐
                                                    │  Item Specific Help   │
   Video Display Type:      [LCD]                    │                       │
   System Serial Port:      [3F8, IRQ 4]             │                       │
                                                    │ <Tab>, <Shift-Tab>, or │
   Infrared Serial Port:    [Disable]                │ <Enter> selects field. │
                                                    │                       │
   Parallel Port:           [378, IRQ 7]             │                       │
   Parallel Port Mode:      [Bi-Directional]         │                       │
                                                    │                       │
                                                    │                       │
                                                    │                       │
                                                    │                       │
                                                    └──────────────────────┘
   F1  Help    ↑↓ Select Item  -/+ Change Values        F9  Setup Defaults
   ESC Exit    ←→ Select Menu  Enter Select              F10 Previous Values
```

Figure 2-2: The System Devices Menu

VIDEO DISPLAY TYPE

This field allows you to select among three display type options. They are:

- Simul Mode
- LCD Mode *(default)*
- CRT Mode

Simul mode allows you to simultaneously view the notebook's and the externally connected monitor's display. *LCD mode* restricts you to viewing the notebook's display only. *CRT mode* restricts you to viewing the externally connected monitor's display. The display type can be changed by using the [fn + F4] hot key combination to toggle among *LCD, CRT, and Simul mode*.

SYSTEM SERIAL PORT

This field allows you to configure the notebook's Serial port by selecting a unique address and interrupt request. The following configuration options are available:

- Disabled
- 3F8, IRQ 4 *(default)*
- 2F8, IRQ 3
- 3E8, IRQ 4
- 2E8, IRQ 3

If you do not have a device connected to the System Serial port, specify *Disable* for this field as this will save power, serve as an additional security measure and free resources for other uses.

INFRARED SERIAL PORT

This field allows you to configure the Infrared port's address and IRQ. If your notebook is not equipped with a Serial Infrared Module, this field will not appear in your notebook's Setup Program. The values for this field are:

- Disable   *(default)*
- 3F8, IRQ 4
- 2F8, IRQ 3
- 3E8, IRQ 4
- 2E8, IRQ 3

PARALLEL PORT

This field allows you to configure the notebook's parallel port by selecting a unique address and interrupt request. The following configuration options are available:

- Disable
- 378, IRQ 7   *(default)*
- 278, IRQ 7

If you do not have a device connected to the parallel port, specify *Disable* for this field. This will save power and serve as an additional security measure.

PARALLEL PORT MODE

This field allows you to set the parallel port mode. The following options are available:

- Output Only
- Bi-Directional   *(default)*
- EPP
- ECP

Bi-Directional mode permits data flow in two directions, whereas Output Only mode only supports data flow in one direction. When EPP (Extended Parallel Port) mode is specified greater throughput is provided by automatically permitting the transfer of data in two directions to EPP aware peripherals. When ECP is specified in the Setup Program, the parallel port operates in the Extended Capabilities Port mode. This mode is only supported with ECP aware peripherals.

The SecurityMenu

The notebook's advanced system of security allows you to set a password to prevent unauthorized access to system resources, data, and the Setup Program. This section covers each parameter of the Security Setup.

Selecting *Security* from the Menu bar displays the following menu:

```
Phoenix NoteBIOS 4.0 Setup - Copyright 1985-95 Phoenix Technologies Ltd.
  Main   System Devices  Security   Power   Exit
┌──────────────────────────────────────────┬────────────────────────┐
│                                           │   Item Specific Help   │
│  System Password is:        Disable       │                        │
│                                           │                        │
│  Set System Password:       [Press Enter] │                        │
│                                           │                        │
│  Password on Boot/Resume:   [Disable]     │                        │
│                                           │                        │
│                                           │                        │
│                                           │                        │
│                                           │                        │
│                                           │                        │
└──────────────────────────────────────────┴────────────────────────┘
  F1  Help   ↑↓  Select Item   -/+ Change Values      F9  Setup Defaults
  ESC Exit   ←→  Select Menu   Enter Select           F10 Previous Values
```

Figure 2-3: The SecurityMenu

Each field of the SecurityMenu is covered in detail below.

SYSTEM PASSWORD IS

This field indicates whether or not a System Password has been enabled. This is a display only field.

SET SYSTEM PASSWORD

To set the System Password, move the highlighted cell to this field and press the Enter key. The following dialog box appears:

```
┌──────────────────────────────────────────────────────────────────┐
│                                                                    │
│                                                                    │
├──────────────────────────────────────────────────────────────────┤
│  Enter new password:                    [               ]         │
│                                                                    │
│  Re-enter new password:                 [               ]         │
└──────────────────────────────────────────────────────────────────┘
```

Type the password and press the Enter key. You can type up to seven alphanumeric characters. Symbols and other keys are ignored. To confirm the password, type the password again and press the Enter key. The System Password is now set.

_____**Caution**_____

It is important that you remember your system password if you set
one. If you forget your password and wish to have it reset, you must
send the notebook to a Digital Service Center for service.

_____

PASSWORD ON BOOT/RESUME

When this option is enabled, the system will require the user to enter the System Password
during bootup and before resuming from the suspend mode. In order to change the values of
this field, it is required that the System Password be set. The options for this field are:

- Disable   *(default)*
- Enable

The Power Menu

The Power Menu of the Setup Program allows you to enable and adjust the advanced features of the notebook designed to conserve power. Enabling these features will extend the life of the battery pack between charges To make changes to power management settings, select *Power* from the Menu bar. The following menu appears:
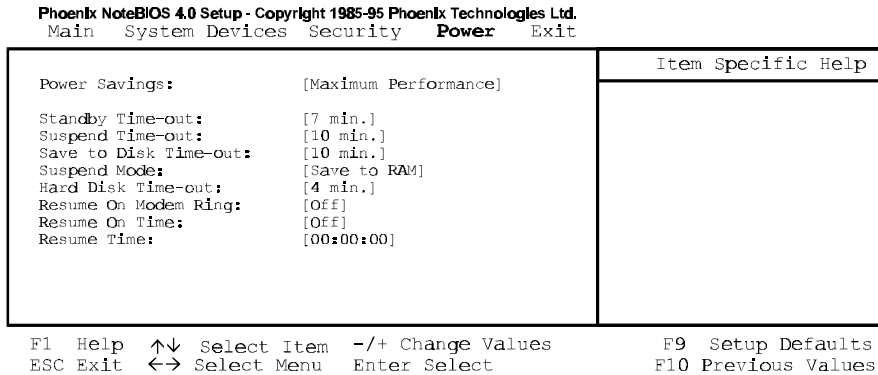
```
Phoenix NoteBIOS 4.0 Setup - Copyright 1985-95 Phoenix Technologies Ltd.
  Main   System Devices  Security   Power    Exit
┌──────────────────────────────────────────────┬──────────────────────┐
│                                                │  Item Specific Help  │
│ Power Savings:          [Maximum Performance]  │                      │
│                                                │                      │
│ Standby Time-out:       [7 min.]               │                      │
│ Suspend Time-out:       [10 min.]              │                      │
│ Save to Disk Time-out:  [10 min.]              │                      │
│ Suspend Mode:           [Save to RAM]          │                      │
│ Hard Disk Time-out:     [4 min.]               │                      │
│ Resume On Modem Ring:   [Off]                  │                      │
│ Resume On Time:         [Off]                  │                      │
│ Resume Time:            [00:00:00]             │                      │
│                                                │                      │
│                                                │                      │
└──────────────────────────────────────────────┴──────────────────────┘
 F1  Help   ↑↓  Select Item   -/+ Change Values      F9  Setup Defaults
 ESC Exit   ←→  Select Menu    Enter Select           F10 Previous Values
```

Figure 2-4: The Power Menu

An explanation of each menu item is covered in this section.

POWER SAVINGS

This menu item allows you to set power management features with pre-defined values. The available options for this field are:

- Disable
- Customize
- Maximum Performance   *(default)*
- Maximum BatteryLife

If this menu item is set to *Disable,* power management features will not function regardless of other field settings on this menu.

The *Customize* option allows you to make your own selections from the following fields.

When this field is specified as *Maximum Performance,* best system performance is achieved with some power conservation. The remaining fields on this menu will be set to pre-defined values that ensure maximum power savings.

When set to *Maximum Battery Life*, system power will be conserved to its greatest amount. The remaining fields on this menu will be set to pre-defined values that ensure maximum power savings.

STANDBY TIME-OUT

This menu item allows you to specify how much time of inactivity must elapse before the system automatically transits to Standby mode. In Standby mode all peripheral devices are powered off and the system enters a low power CPU state. Available options for this field are:

- Disable
- 30 sec.
- 1 min.
- 2 min.
- 4 min.
- 7 min.   *(default)*
- 10 min.
- 15 min.

SUSPEND TIME-OUT

This field determines how much system idle time must pass before the system enters Suspend mode. In this mode the system is saving to RAM. When set to *Disable*, the system cannot suspend operations. The possible settings for this field are as follows:

- Disable
- 1 min.
- 2 min.
- 4 min.
- 10 min.   *(default)*
- 15 min.
- 30 min.

SAVE TO DISK TIME-OUT

This field determines how much system idle time must pass before the system enters Save to Disk mode from Save to RAM mode. When set to *Disable*, the system cannot enter Save to Disk mode from Save to RAM mode. The possible settings for this field are the same as the values in the Suspend Time-out field.

The default value for this field is: 10 min.

SUSPEND MODE

This field allows you to specify the type of Suspend the system enters when the Suspend/Resume button is pressed.

The available options for this field are:

- Save to RAM   *(default)*
- Save to Disk

When this field is specified *Save to RAM,* the system will suspend to memory when the Suspend/Resume button is pressed. When *Save to Disk* is specified, the system will suspend to disk when the Suspend/Resume button is pressed.

Save to RAM saves power by cutting off the power of the CPU and DMA clocks, suspending the math co-processor, turning the video off, and turning off all controllable peripheral devices. The amount of time which must elapse before the system Saves to RAM is determined by the sum of the values set in the Standby Time-out and Suspend Time-out fields. If Save to Disk Time-out is specified, the system will automatically enter the Save to Disk mode from the Save to RAM mode after the specified amount of time has elapsed.

Save to Disk provides the greatest power-saving capabilities by essentially turning off the system. In this mode, all system logic (except for the system wakeup circuitry and battery charger) is turned off. During this suspended mode, the DRAM and video memory are saved to the hard disk and are restored when the system is resumed. The amount of time which must elapse before the system Saves to RAM is determined by the sum of the values set in the Standby Time-out and Suspend Time-out fields.

When Save to Disk is initiated, the system state is written to a reserved partition on the system's hard disk drive. The partition is large enough to contain all the data that the system needs to store during a Save to Disk operation. The next time you turn on your computer, all data and system states are read from the reserved partition and fully restored.

Save to RAM has a faster resume time than Save to Disk, however, the amount of time which the system can reside in this mode is limited. Save to Disk has a slow resume time, however, the system can reside in this mode for a considerably longer period of time.

HARD DISK TIME-OUT

This field allows you to specify the period of inactivity required before the hard disk spins down and enters the standby state. The possible options for this field are:

- Disabled
- 30 sec.
- 1 min.
- 2 min.
- 4 min. *(default)*
- 6 min.
- 8 min.
- 10 min.

RESUME ON MODEM RING

This option allows you to set a modem ring as a resume event. If this field is set to On, the system will "wake up" when receiving a modem call. The possible options are:

- On
- Off *(default)*

Resume on modem ring is not supported by all modems. Please check with your modem manufacturer.

RESUME ON TIME

This option allows you to set a specific time for the system to resume. The possible options are:

- On
- Off *(default)*

If you set this field to *On*, you must set the *Resume Time* field as well.

RESUME TIME

This option allows you to specify the time the system will resume. Enter the time in hours, minutes and seconds in a 24-hour format.

The Exit Menu

Once you have made all of your selections from the various menus in the Setup Program, you should save your changes and exit Setup. Select *Exit* from the Menu bar to display the following menu.

```
Phoenix NoteBIOS 4.0 Setup - Copyright 1985-95 Phoenix Technologies Ltd.
   Main   System Devices  Security    Power    Exit
┌────────────────────────────────────────┬─────────────────────────┐
│                                         │   Item Specific Help    │
│    Save Changes & Exit                  │                         │
│    Discard Changes and Exit             │ Saves current changes   │
│    Reset to Factory Default Values      │ and exits SETUP.        │
│    Reset to Previous Values             │                         │
│    Save Changes                         │                         │
│                                         │                         │
│                                         │                         │
│                                         │                         │
│                                         │                         │
│                                         │                         │
├─────────────────────────────────────────┴─────────────────────────┤
  F1   Help  ↑↓  Select Item  -/+ Change Values    F9  Setup Defaults
  ESC Exit  ←→ Select Menu   Enter Select          F10 Previous Values
```

Figure 2-5: The Exit Menu

_____**Note**_____

Pressing the [esc] key does not exit this menu. You must select one of the options from this menu or a Menu bar item to exit this menu. Each of the options on this menu is described below.

_____

SAVE CHANGES AND EXIT

Once you are finished making your selections, choose this option from the Exit Menu to ensure the values you selected are saved to battery-back CMOS RAM. Changes you make to the Setup Program must be saved to CMOS RAM in order to make them operative. CMOS RAM differs from standard RAM memory in that it is sustained by an on-board battery even when the notebook is turned off.

Once your selections have been saved, the Setup Program displays the following message:

Changes have been saved.
[Continue]

The next time you bootup the notebook, Setup will attempt to load the values you saved in CMOS memory. If these values cause the system boot to fail, reboot and press [F2] to enter the Setup Program. Once in Setup, you can try to change the values that caused the system boot to fail. If the problem persists, load the default values as described below.

DISCARD CHANGES AND EXIT

This option should only be used if you do not want to save the changes you have made to the Setup Program.

If you attempt to exit the Setup Program without saving your changes, the program will prompt you with a message asking if you want to save your changes before exiting.

RESET TO FACTORY DEFAULT VALUES

This option allows you to load the default values for each of the parameters on the Setup menus. When this option is selected, the following message is displayed:

```
            Default values have been loaded.
                    [Continue]
```

You can now select *Save Changes and Exit* or make other changes before saving the values to CMOS RAM.

RESET TO PREVIOUS VALUES

This option allows you to discard the selections you have made and restore the previously saved values. After selecting this option, all selections are updated, and the following message is displayed:

```
            Previous values have been loaded.
                    [Continue]
```

SAVE CHANGES

This option saves your selections without exiting the Setup Program. You can then return to other menus and make changes. After selecting this option, all selections are saved, and the following message is displayed:

```
            Changes have been saved.
                    [Continue]
```

3
Operation

This chapter provides information pertaining to the Video Display Controls used to adjust the LCD screen's appearance. Also included in this chapter is a brief overview of the keyboard's function keys, how the LCD Status Display indicator symbols help you to diagnose or determine any of the specific computer activities going on at a given time and a description of the notebook's audio features.

Video Display Controls

The computer uses special key combinations to control the LCD display's Brightness and Contrast. The key combinations are called hot keys

Brightness adjustment:

1. [fn + F1] : To decrease brightness.

2. [fn + F2] : To increase brightness.

Contrast adjustment
(Contrast adjustments do not need to be made for TFT display notebooks)

1. [fn + F5] : To decrease contrast.

2. [fn + F6] : To increase contrast.

LCD/CRT/Simul-Scan Toggle

Press [fn + F4] keys to switch back and forth between the notebook's LCD screen, an external monitor or simul-scan (LCD and CRT used simultaneously). Closing the LCD cover activates the LCD Switch which shuts off the LCD and enables viewing of the externally connected monitor.

Some Important Keys on the Keyboard

Your notebook computer features a low-profile keyboard that emulates all the functions of a full-size 101/102-key keyboard including an embedded keypad and a full array of special function keys.

The Function Keys

Notice the function keys in the top row of the keyboard. These keys appear in sequence ([F1], [F2], [F3], . . . [F11], [F12]) from left to right The functions of these keys vary with respect to the operating system and software in use. Refer to the appropriate software user's guides for more detailed information on software-specific function key definitions.

When a function key is pressed simultaneously with the [fn] key it performs a certain (hot key) function. For example, when the F1 key is pressed in combination with the [fn] key [fn + F1], the LCD's brightness will be lowered. Each of these hot key combinations are listed below.

Key Combinations	Definition
[fn + esc]	Enters the system into Standby mode.
[fn + F1]	Decreases brightness level.
[fn + F2]	Increases brightness level.
[fn + F3]	Enters Power Management Setup.
[fn + F4]	Toggles among three available display modes: LCD only, LCD/CRT and CRT only.
[fn + F5]	Decreases the display contrast.*
[fn + F6]	Increases the display contrast.*
[fn + F7]	Enables or disables audio/speaker output including system beep indicating low battery.
[fn + F8]	Enables or disables keyboard embedded keypad.
[fn + F9]	Toggles Num Lock on or off.
[fn + F10]	Toggles Scroll Lock on or off.

Key Combinations	Definition
[fn + home/pause]	Pauses the display output.
[fn + end/break]	Sends a system break.
[fn + PrScr/ SysReq]	Determined by software (US keyboard only).
[fn + ↑]	Increases audio volume.
[fn + ↓]	Decreases audio volume.

* There is no need to adjust the contrast on TFT display models and thus this hot key combination has no effect on TFT display models.

Windows 95™ Keys

These two keys are located on either side of the space bar. With these two keys, you can take advantage of some of the advanced features of the new Windows 95 operating system. See your Windows 95 on-line help for more information.

Embedded Numeric Keypad

An embedded numeric keypad consists of 15 keys that make number intensive input more convenient. Numeric assignments are labeled in orange and located in the lower right of each key. When the numeric keypad is engaged, the NumLock icon appears in the LCD Status Display. The keypad is activated in one of two ways:

1. Simultaneously press the [fn + F9] hot key combination.
2. A second way is to temporarily activate the numeric keypad by holding down the [fn] key. The numeric keys will be active as long as you hold down the [fn] key.

CD Status Display

Located to the right of the notebook screen is the LCD Status display panel. This panel informs you of the notebook's current operating status at a glance. Upon activating a certain function, a symbol or icon corresponding to that function will appear in the window until you deactivate that feature. The symbol will remain in the window indicating that the feature is engaged.

The following tables list all icons which appear in the LCD Status Display and their description.

Icon	*Description*
Keypad	The keypad icon appears in the LCD Status Display when you press the notebook's [fn] key indicating the keypad's cursor function is engaged. The icon disappears when you release the [fn] key indicating the cursor function is no longer activated. Another way to turn the keypad icon on is by pressing the [fn + F8] hot key combination. When this is done, the keypad is locked and its numeric feature is engaged. The keypad lock status can be temporarily disabled by pressing and holding down the [fn] key. The keypad lock status is enabled again when the [fn] key is released. The keypad icon disappears when you press the [fn + F8] keys again, indicating the keyboard lock is no longer activated.

Icon	*Description*
Scroll Lock	Upon pressing the [fn + F10] hot key combination, the Scroll Lock icon appears in the LCD Status Display indicating the scroll lock is engaged. Press the [fn + F10] key combination again to deactivate this feature and turn off the icon.
Num Lock	Upon pressing the [fn + F9] hot key combination, the Num Lock icon appears in the LCD Status Display indicating the embedded keypad's numeric feature is activated. Press the [fn + F9] hot key combination again to deactivate this feature and turn off the icon.
Caps Lock	Upon pressing the Caps Lock key, this icon appears in the LCD Status Display indicating that the Caps Lock feature is engaged. Press the Caps Lock key again to deactivate this feature and turn off the icon.
HDD Activity	When this icon appears in the LCD Status Display, it indicates that the hard disk is being accessed.

Icon	*Description*
FDD Activity	When this icon appears in the LCD Status Display, it indicates that the system is accessing the floppy disk drive.
CRT/LCD/Simul	When this icon appears in the LCD Status Display, it indicates that either the external monitor (CRT) or the Simul mode is activated. Like the name implies, during Simul mode, the user will be able to simultaneously view both the notebook's LCD as well as the externally connected CRT monitor screen. Pressing the [fn + F4] hot key combination toggles between CRT only, LCD only and Simul mode.
	This icon indicates that there is approximately 76% to 100% charge in the battery.
	This icon indicates that there is approximately 51% to 75% charge in the battery.

Icon	*Description*
	This icon indicates that there is approximately 26% to 50% charge in the battery.
	This icon indicates that there is approximately low battery to 25% charge in the battery. When low battery status is reached, the system's warning beep will sound. Save your work, change the battery or if possible, use an AC power source to run the notebook. To shut off the warning beep, simultaneously press the [fn + F7] keys.

LED Display

The notebook's LEDs also informs you of the notebook's current operating status. The LEDs are located on the right-front side of the notebook. Upon activating a certain function, the corresponding LED green light should light indicating that the feature is engaged. The table below shows the LEDs respective descriptions.

System LED	*Description*
AC Power	When lit, it indicates the notebook is plugged into an AC power source.
Battery Charging Indicator	When lit, it indicates the notebook is charging the installed battery. If there is more than one battery installed in the system, the main battery is charged first. After it is fully charged, the system will then charge the secondary battery.

Suspend/Resume Button

The Suspend/Resume button has many functions. When the notebook computer is off, pressing the Suspend/Resume button will turn on the system. When the system is on, pressing the Suspend/Resume button will enter the system into the Suspend mode. If the system is in Standby mode, pressing the Suspend/Resume button will also launch the computer into Suspend mode. While in the Suspend mode, press the Suspend/Resume button again to resume normal operation. If the notebook computer is on, simultaneously pressing the [fn + Suspend/Resume] will shut off the system.

Using the Touchpad

The touchpad is a touch-sensitive pointing device that provides all the features of a two-button mouse. Although its operation differs from a mouse, its function is quite the same; to move the cursor around the screen.

Buttons - function similar to the buttons on a mouse

Trackpad - A pressure sensitive pad which controls the direction of the cursor on the screen.
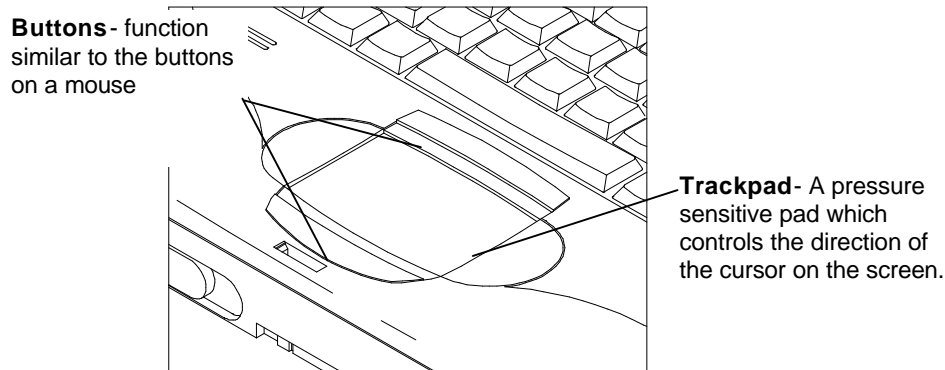
Figure 3-2: The Touchpad

Please refer to the following for instructions on how to operate the touchpad.

1. Place your fingers on the keyboard in the normal typing position.

2. The touchpad is easily accessible by moving either your left or right thumb off the space bar and on to the touchpad.

3. Gently move your thumb across the touchpad in the direction you want the cursor to move. The pad detects the change in pressure and moves the cursor in the corresponding direction.

4. With a conventional mouse, selections are usually made by double-clicking the mouse's left button. The touchpad also supports this feature. It is described in more detail below. If you are familiar with the operations of a mouse you may only need to scan the information below as a review.

The touchpad buttons have essentially the same function as mouse buttons. Clicking these buttons make selections, drag objects, or perform a variety of other functions depending on the software. To select an object, first move the pointer over the object you want to select, and then press the lower button one time and release it. The functionality of these buttons depends on your software. Refer to your software user's manuals for specific information on the touchpad (mouse) functions.

Double-clicking is a common technique for selecting objects or launching programs from icons. Once you have moved the pointer over the object you wish to select, then rapidly press the lower button two times. This action is commonly referred to as "double-clicking on an object."

Many of the functions within the Windows 95 application can be launched by using *Single-clicking*. Once the cursor has been moved to the object which you want to select, press the lower touchpad button once. This single-clicking will select the desired item and prompt the software to perform the related operation.

Double-tapping is another technique for selecting objects or executing applications from icons. For the most part *double-tapping* is very similar to the *double-clicking* technique of a mouse. The difference lies in the fact that instead of *double-clicking* on a mouse button, the user *double-taps* on the pressure sensitive touchpad to make the selection. Once the cursor has been moved to the object which you want to select, lightly double-tap the pressure sensitive touchpad itself. This double-tapping on the touchpad will select the desired item and prompt the software to perform the related operation.

Many of the functions within the Windows 95 application can also be launched by using *Single-tapping*. Once the cursor has been moved to the object which you want to select, lightly single-tap on the pressure sensitive touchpad. This single-tapping on the touchpad will select the desired item and prompt the software to perform the related operation.

When working with programs that employ a graphic user interface (GUI), such as Windows, *dragging* objects from one point on the screen to another is a technique you will have to master. To drag an object, first move the pointer over the object, then press and hold down the lower button. Now without releasing the button, move the object to a new location on the screen by moving your finger across the touchpad. Once the object is in the desired position, release the button to drop the object in place.

The SIR Module (Selected Models)

Selected models are equipped with a Serial InfraRed (SIR) module located on the rear panel. The operation of the SIR module is similar to the operation of a television remote control device. The transmitter emits a signal stream consisting of data in the form of pulses of InfraRed light. The receiver picks up pulses of infrared light transmitted by other SIR modules.

The SIR module allows wireless, serial communication between the notebook and other SIR equipped devices such as a printer or another computer. Use an IR-specified application to transmit or receive data via the notebook's SIR module. Follow the guidelines listed below when using the SIR module to transmit or receive data.

- Make sure the SIR field in the Setup Program is set to Enabled and the InfraRed Serial port is active. Refer to Chapter 2, *The BIOS Setup Program* for more information.
- Ensure that the notebook's SIR module is properly lined up with the other device's SIR module. The SIR baud rate can reach 115,200 at a distance of one meter and bias angle of 15°. The transmission distance can be further lengthened by reducing the baud rate or by perfectly aligning the two devices.
- There should be a clear, unobstructed path between the two SIR modules; otherwise the optical signal will be blocked. Likewise, do not place anything between the two SIR modules during data transmission.
- Do not move either the notebook or the other device during transmission of data.
- An error can occur in SIR transmission if subjected to an environment with high levels of noise. To avoid a transmission error do not transmit SIR signals near equipment with compressors, such as refrigerators or air conditioners.

Multimedia Sound System (Selected Models)

Selected models are equipped with a Multimedia sound system. The notebook's built-in audio capabilities allow you to take advantage of a wide range of educational and entertainment multimedia software available on today's growing market without the additional costs of add-on cards and peripheral hardware. Your notebook's Microsoft® Windows Sound System features a sophisticated on-board FM sound generator that produces realistic, music and human voice sounds in 16-bit stereo. The integrated speakers are located on either side of the notebook's key deck. The internal microphone is located to the bottom left of the LCD. The notebook is also equipped with both an input and output audio ports for external audio units. An external microphone can be connected the microphone jack. External speakers or headphones can be connected to the notebook's Audio-out jack. All audio features are software controlled. For detailed information on Microsoft® Windows™ Sound System compatibility and potential IRQ conflicts, please refer to your software's README file.

The notebook's multimedia sound system includes the following features:

- 16-bit stereo

- Record, compress and playback voice for both sound and music

- Stereo inputs for line-in, music synthesis and a mono input for the microphone

- Audio mixer controls for inputs and outputs

- Data transfer via DMA or programmed I/O

- Power management features

- Integrated 16-bit A/D and D/A converters

- ADPCM as well as patented ESPCM™ compression for lower bit rates

- Programmable volume control for both record and playback functions

- Programmable sample rate up to 44.1KHz for record and playback

- Windows and OLE compliant

- Sound Blaster™ with OPL3 compatibility

- A 20 Voice FM sound generator capable of simultaneous voicing of 18 melody sounds and 4 operator-voices via software control

- MIDI serial port compatible with MPU401 UART mode (*available on Port Replicator only*)

- 4-channel mixer (*available on Port Replicator only*)

Audio Volume Control

The notebook supports hot key combinations to control the audio output volume:

1. [fn + ↑] : increases audio output volume

2. [fn + ↓] : decreases audio output volume

3. [fn + F7]: to mute the sound including the internal speakers, headphones and Port Replicator's speakers or to deactivate the system beep.

4
Peripheral Devices

Your Digital HiNote VP notebook computer is equipped with several ports for connecting a number of peripheral devices such as a printer, a modem or an external monitor. There are also two PCMCIA sockets for connecting industry standard PCMCIA cards and stereo jacks for connecting external audio equipment. For added expansion and versatility, you can connect your notebook to an optional Port Replicator via the 240-pin connector located in back of the notebook.

This chapter covers the following topics:

- An overview of the peripherals that can be connected to the notebook
- The necessary requirements for using these peripherals with your notebook
- Instruction on how to connect these devices to your notebook

Additional Equipment

Before attempting to connect a peripheral device to the computer, make sure you are familiar with the notebook's various I/O ports. If you are having trouble locating any one of the following, please refer to *Figure 1-2* and *Figure 1-3*.

- One parallel port
- One serial port
- An external monitor connector
- An external keyboard/ PS/2 mouse connector
- Two PCMCIA sockets
- An external microphone connector (*available on selected models only*)
- A speaker out connector (*available on selected models only*)

Parallel Device

This parallel port uses a 25-pin connector, allowing you to attach any equipment that is compatible with this connector standard. This port is most commonly used for connecting a printer. Most printers have a parallel interface. These include dot matrix, ink-jet and laser printers. The parallel port supports EPP, ECP, Output only or Bi-directional modes. See the section in Chapter 2 labeled *Parallel Port Mode* for more information.

Serial Device

This is a standard 9-pin serial port. Any device that uses this standard can be connected to the notebook. For example, most pointing devices such as a mouse or graphic tablet can be directly connected to the computer. External modems or fax/modems will usually employ a standard cable. If you have any doubt about the cables required for equipment you plan to purchase, you should consult an authorized Digital dealer to ensure you have the correct cables.

External Monitor

The notebook has a port for connecting an external VGA monitor. The port is a standard 15-pin analog connector commonly used with these monitors. The display output of the computer supports standard VGA color and resolution on a color monitor. Your notebook supports simultaneous viewing. Please see the section in Chapter 3 labeled *LCD/CRT/ Simul-Scan* for more information.

External Keyboard or PS/2 Mouse

The 6-pinned mini-din port allows you to attach a full size enhanced keyboard. You can use any standard desktop computer 101/102-key enhanced keyboard. If you attach an external keyboard, the computer will automatically detect it. The PS/2 mouse and the external keyboard share the same auxiliary port. In order to connect a PS/2 mouse, you must first shut off the notebook. After connecting the mouse to the PS/2 port and turning on the computer, notice that the touchpad is disabled.

External Mic and Speaker Out

Selected models are equipped with the following audio ports. A built in microphone located to the lower left of the LCD screen. You can use it to record voice, sound, and music. The notebook is also equipped with two audio jacks: an External Mic and Speaker Out. The external microphone jack is used to connect an external audio-in device such as a microphone. You can connect external stereo speakers or headphones to the Speaker Out jack.

Connecting Peripheral Devices

Connecting Serial Devices

The notebook has one Serial Port referred to as System Serial Port. Its address can be customized via the Setup Program. Please refer to Chapter 2 for more information.
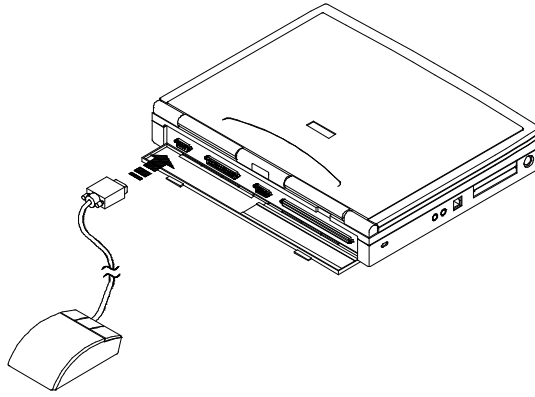
Figure 4-1: Connecting a Mouse to the Notebook's Serial Port

Connecting Parallel Devices

To connect a parallel device to the computer you'll need the standard parallel 25-pinned connector cable mentioned earlier. Before you connect any device, check the documentation that comes with the equipment to see if you need to make any adjustments to the equipment before using it. Assuming the port's address and IRQ have been properly set within the *BIOS Setup Program*, parallel devices can be hot-plugged to the notebook. This means that it is not necessary to turn off the notebook before making the connection. Once the equipment is ready, all you will probably need to do is attach the connecting cable. Please refer to *Figure 4-2.*
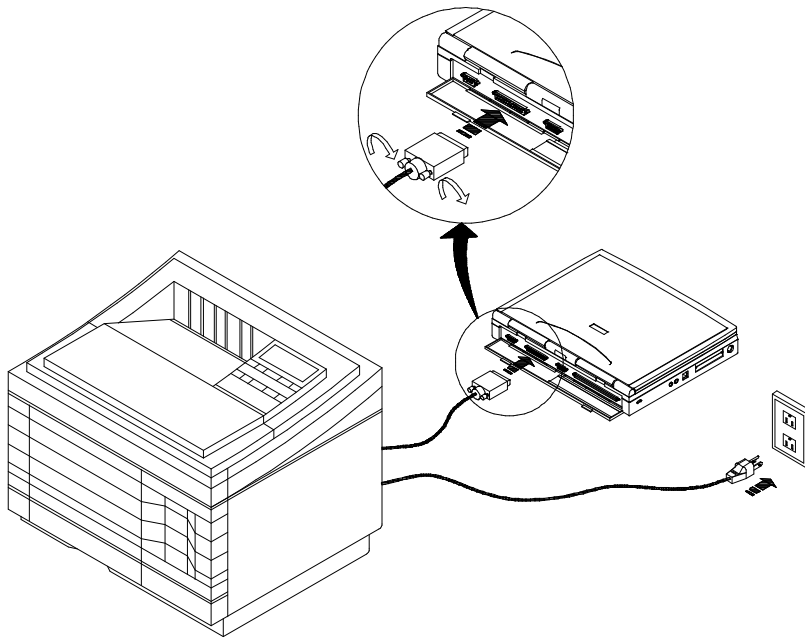
Figure 4-2: Connecting a Printer to the Notebook's Parallel Port

Connecting An External Monitor

An external monitor can be hot-plugged to your notebook. This means that it is not necessary to turn off the notebook before making the connection. Please refer to *Figure 4-3*.

1. Ensure that the monitor is the correct type. Do not use a monitor that does not match the VGA standard.

2. Although the monitor can be hot-plugged to the notebook, it is recommended that you turn off your monitor before connecting it to the notebook.

3. Connect the monitor cable to the monitor before connecting the cable to the notebook's VGA Display port.

4. Connect the monitor to a power source and turn on the power.
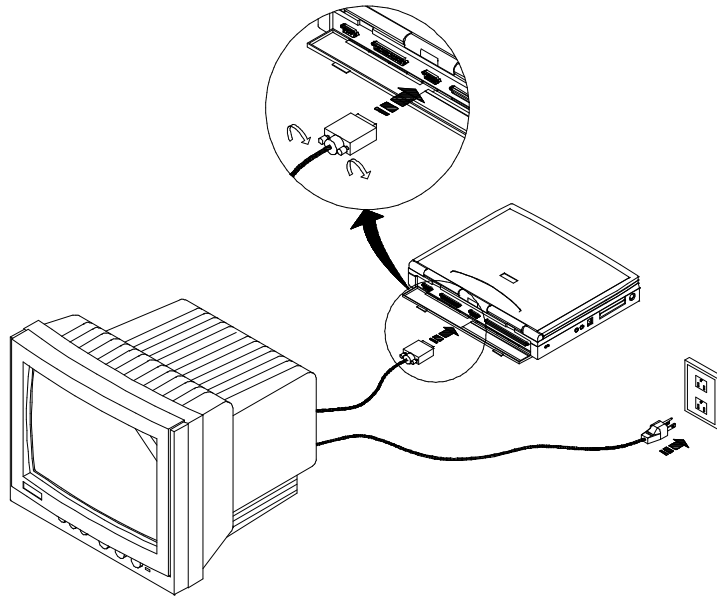
Figure 4-3: Connecting an External Monitor to the VGA Display Port

To activate the external monitor you'll need to press the [fn + F4] hot key combination to toggle among the notebook's LCD display, Simul mode (simultaneously viewing the notebook's LCD and external monitor screen) and CRT (external monitor viewing only).

Connecting an External Keyboard

The notebook has a port for connecting a full-size 101/102-key desktop keyboard. A PS/2 mouse can also be connected to the same port. The external keyboard needs to be equipped with a PS/2 connector. You should be able to obtain this adapter from your authorized Digital dealer.

If the keyboard has a PS/2 type connector, plug it into the notebook's keyboard connector port. There is no need to turn off the notebook's power as your notebook supports hot-plugging of external keyboards. If the keyboard has a PC-type jack, connect it to the adapter cable and then plug the other end of the adapter cable into the computer.
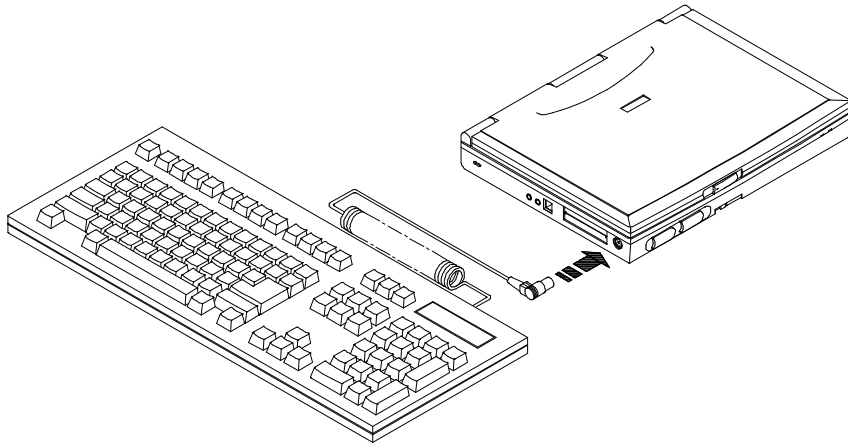
Figure 4-4: Connecting an External Keyboard to the PS/2 Port

PCMCIA Expansion Sockets

Your notebook computer features two PCMCIA expansion sockets designed for interface
with two Type I or Type II cards or one Type III card. This sophisticated innovation allows
you to expand and customize your notebook computer to meet a wide range of computing
needs without sacrificing portability. PC cards accommodate a number of expansion options.
Memory cards, modems, hard disks, and network (LAN) cards are just a small sample of the
PC card products available on today's market.

Installing PCMCIA Cards

The PCMCIA is a widely accepted industry standard that defines the design and operation of
PC cards. PC cards that conform to the PCMCIA standard are plug-and-play devices, i.e.
they can be inserted into the PCMCIA expansion sockets while the computer is powered on.
This type of hot insertion does not apply to all PC cards. Refer to the documentation that
came with your PC card for detailed information on insertion and operation of PC cards.

Inserting and Ejecting a PCMCIA Card

Please refer to *Figure 4-5* and the following instructions for inserting and ejecting a PCMCIA card:

1. Hold the PCMCIA card with the arrow side up and the connector side toward the socket.

2. Align the card connectors with the appropriate socket and carefully slide the card into the socket until it locks into place. The upper socket is labeled *slot 0*, and the lower socket labeled *slot 1*.

3. The eject buttons are located on the notebook's front panel. Note that there are two eject buttons, one per slot. To remove a PC card simply slide the respective eject button to the right.

4. The right-hand eject button will release a Type I or Type II PCMCIA card from the upper socket. The left-hand eject button will release a Type I or Type II card from the lower socket or a will eject a Type III PCMCIA card from the PCMCIA socket. Remove the card and store it properly.

Eject Switches
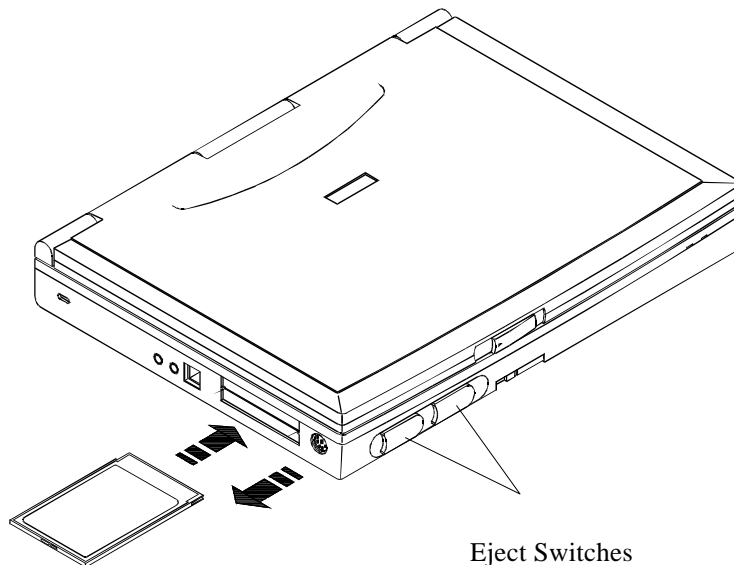
Figure 4-5: Inserting a PCMCIA Card

5
Power System

This chapter contains information on the notebook's power system, including the AC Adapter, the battery system, recharging the battery, and tips for conserving battery power. Also included is a detailed description of power management and each of the power modes.

The power system is comprised of two parts, the AC Adapter and the battery system. The AC Adapter converts AC power from a wall outlet to the DC power required by the computer. The battery pack is a set of Nickel-Metal Hydride (NiMH) batteries housed in a plastic shell. There is one pack inserted in the battery housing at the side of the computer, otherwise called bay 1.

The AC Adapter

The AC Adapter's primary function is to provide power to the computer. When the Adapter is connected to the computer it provides power as long as it is plugged into an electrical outlet.

The Adapter has a built-in indicator light that comes on when you plug the Adapter into a power source. If the AC In LED does not come on, the Adapter may not be properly connected, or may not be functioning properly. Recheck the connections. If the adapter is not functioning properly, please consult your authorized Digital representative or authorized dealer immediately for support.
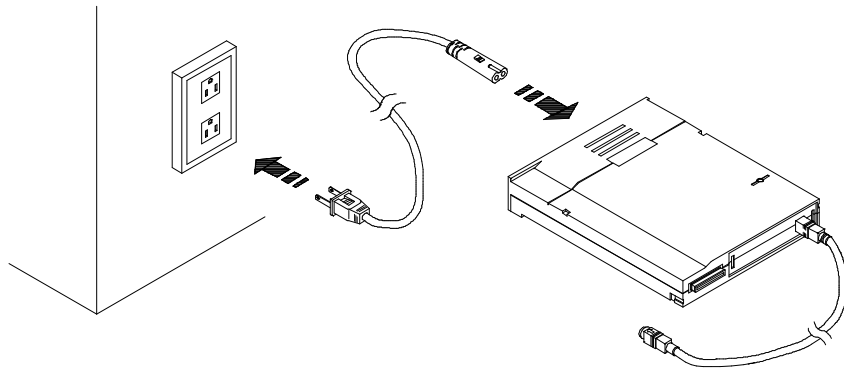
Figure 5-1: The Notebook's AC Power Adapter

The BatteryPower System

The notebook's NiMH removable battery pack is found in the battery bay. Please refer to *Figure 1-1* of Chapter 1 if you are unsure of the location of this bay.

A fully charged pack will provide approximately 2 hours of battery life before you have to recharge or replace the battery. Additional battery packs are optional equipment and can be purchased separately.

Before using the computer on battery power for the first time, check the battery status icon in the LCD Status Display to make sure the battery is fully charged

Charging the battery takes about 2 hours when the system is off or suspended, or 3.5 hours when the system is on. If possible, always charge the battery completely.

A safety timer feature automatically stops the charging process after 2 hours when the computer is turned off or after 3.5 hours when the computer is turned on. This prevents dangerous conditions from occurring if there is a fault somewhere in the charging circuitry.

Removing the Battery Pack

To remove the main battery pack from its bay 1 housing port, refer to the following instructions.

1. Close any open applications and turn off the notebook's power.

2. Close the notebook's cover, ensuring that it snaps shut.

3. Turn the notebook so that its underside is facing up and its front panel is facing you.

4. Locate the battery lock/release latch on notebook. Please see *Figure 5-2*.

5. Place the thumb of your left hand on the lock/release latch. Slide it in the direction of the arrows.

6. While holding the latch in this position, slide the battery pack out of its housing.

Battery Lock/Release Latch
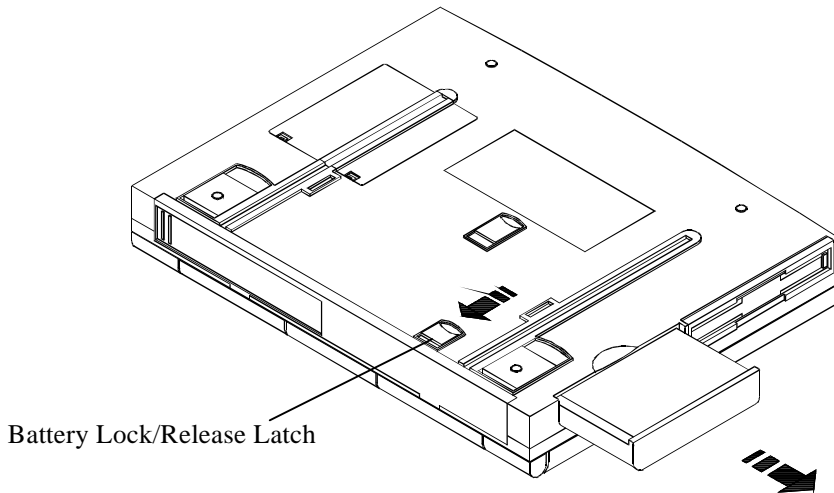
Figure 5-2: Removing the Battery Pack

Inserting the Battery Pack
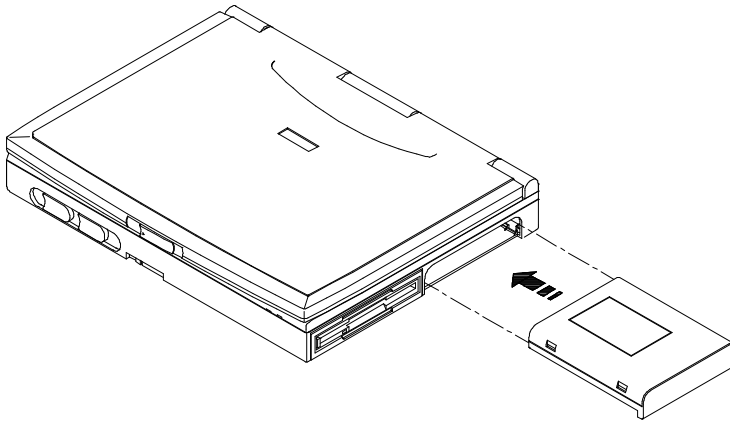
Figure 5-3: Inserting the Battery Pack

To reinsert the battery back into the bay 1 port refer to *Figure 5-3* and the following instructions.

1. Make sure the underside of the battery is facing down before attempting to insert the battery pack into the housing.

2. Slide the battery into the bay 1 housing. If it does not slide in smoothly, do not force it. Chances are the battery pack is being inserted incorrectly. Check it and continue.

3. When the battery has been placed properly in its seat, you should hear it click into place. Also when seated properly, the pack will be flush with the side panel of the notebook.

Automatic Battery Charging (Using One or Two Battery Packs)

There are three ways to charge a battery pack: by way of the AC Adapter, the optional Car Adapter or the optional Battery Pack Charger. This chapter will focus on using the AC Adapter to charge the battery. The Car Adapter module and battery Pack Charger are optional pieces of equipment covered in Chapter 6.

There are two ways to run the notebook off AC power. The first is by inserting the AC Adapter pack into bay 2. Bay 2 is the housing in which the FDD is situated. The second way of (AC) powering your notebook is to externally connect the AC Adapter to the notebook. In both of these scenarios the battery pack in the notebook's bay 1 will automatically be recharged while you are working on your notebook. Two charge speeds are supported. When the computer is turned off or in suspend mode the charge time is about 2 hours, otherwise the charge time is approximately 3.5 hours.

If there are two batteries inserted in the notebook and the notebook is running off AC power, the main battery will always be the first to receive charging. After being charged to capacity, the secondary battery will then be charged.

If the notebook is not being charged by AC power, the secondary battery, assuming one is installed, will be the first battery to be discharged. After the second battery runs down, the system will begin using the main battery.

Once the main battery is fully charged the charging stops. The system will then search for a secondary battery pack, and if located, will begin to charge it. Once the secondary battery charging process commences, the system will not switch to charging the main battery until the secondary battery is completely charged.

An Internal Connection

The notebook can be run off AC power by inserting the AC Adapter into bay 2 of the notebook. Bay 2 is the bay in which the FDD module is located. *Figure 5-4* illustrates this connection. In the internal connection mode, as long as the AC Adapter continues to receive current from an electrical outlet, the battery in bay 1 will be charged
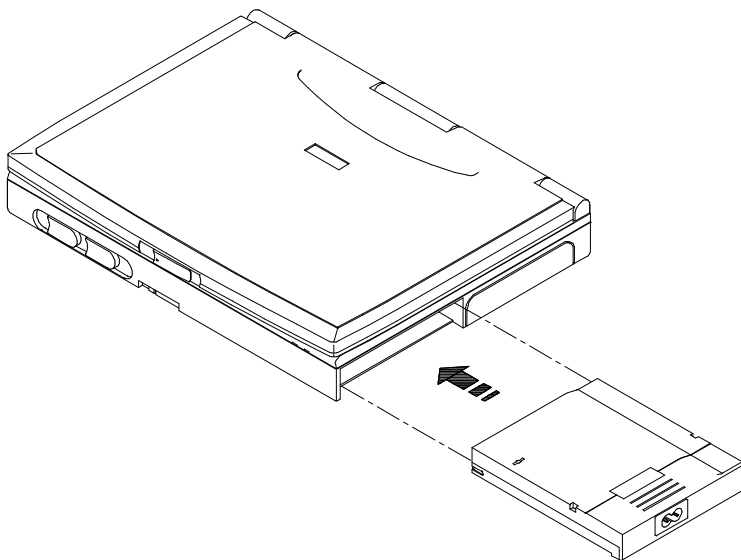
Figure 5-4: Inserting the AC Adapter into bay 2

For instructions on inserting the AC Adapter into bay 2 please refer to the following:

1. Ensure that the AC Adapter's power cord is removed from its power source. To make the installation easier you may also want to remove the power cable from the AC Adapter pack as well.

2. Before you are able to insert the AC Adapter, you will need to remove the FDD (Floppy Disk Drive) from bay 2. Refer to the section in Chapter 6 labeled *Removing and Installing the FDD and Module* to ensure proper executing of this operation.

3. After you have removed the FDD from bay 2, insert the AC Adapter into the port. The bottom side should be facing down when the AC Adapter is inserted. Please refer to *Figure 5-4*.

4. If the AC Adapter was inserted properly in its seat you should have heard it click into place. The pack should sit flush with the side panel of the notebook.

5. Connect the power cord's figure eight connector to the port on the AC Adapter. Plug the cord into its power source.

6. Turn the notebook's power on.

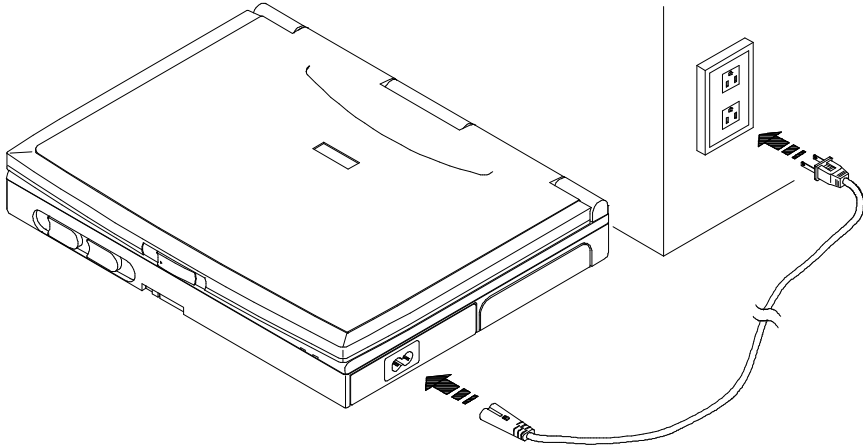7. The battery status icon should appear in the LCD Status Display.

Figure 5-5: Connecting the power cord to the installed AC Adapter

Using BatteryPower

The battery system will provide approximately 2 hours of power to the notebook. This figure will vary depending on how you use the power saving features, your general work habits, and the type of CPUand LCD which your notebook has. We recommend you use the AC power adapter as often as possible to conserve battery power.

The LCD Status Display will indicate the status of the battery pack when you are using battery power.

Low Battery Activity

When the system reaches low battery charge level, a warning beep will sound reminding you to save the data that you are working on immediately. Although there is a safety margin of approximately ten minutes, it is always better to save right away. Pressing the [fn + F7] keys will shut off the warning beep.

After saving your data, turn off the notebook, change the weakened battery or if possible, power the notebook using the AC Adapter.

To extend battery power, we recommend you make full use of the notebook's built-in power saving features.

Small Battery for Real Time Clock

There is a small built-in battery pack that supplies power to the system in order to maintain certain system information while the power is off.

Power Management Tips

While operating the notebook on battery power, it is important to develop good power saving habits to maximize battery life Although the notebook provides automatic power saving features that can be enabled, you can still improve on them by keeping power conservation in mind.

The AC Adapter

The most obvious way to conserve battery power is to avoid using the battery when there is an available AC power source. The AC Adapter is lightweight and compact, so it is very convenient to bring while traveling. By using the AC Adapter as much as possible, you can ensure you will have a charged battery whenever you really need it.

The Suspend/Resume Feature

If you need to temporarily step away from the computer, simply press the Suspend/Resume button to put the computer into its maximum power saving mode while maintaining your work. When you return, just press the Suspend/Resume button to restore the system to the point where you stopped.

Screen Brightness

The brighter the LCD display screen is the more power it requires. Avoid setting the screen brightness level higher than necessary to extend the duration of battery power.

The Floppy Disk Drive

The floppy disk drive consumes a substantial amount of battery power. Use the FDD little as possible when you are operating the computer on battery power.

Power Management Modes

The computer has a number of automatic or adjustable power conservation features which you can use to maximize the duration of the battery's charge. You can control many of these features through the Power Management menu in the BIOS Setup Program.

The computer is made up of electronic components, all of which consume power to operate. Yet, some components consume much more than others. The power management features are designed to conserve as much electricity as possible by putting these components into a low power consumption mode as often as possible. These low power modes are referred to as "Standby" and "Suspend" mode.

Standby Mode

In this mode the peripheral components are put in their lowest active states in addition to reducing the CPU speed. These include the hard disk, the LCD screen, and the screen back light. The notebook enters Global Sleep mode when the system remains idle for a specified amount of time or when the LCD cover is closed while the notebook is on. This time value can be set from the Power Management Control menu in the Setup Program. Standby mode can also be entered by pressing the hot key combination [fn + esc]. To leave this mode and resume normal operation, simply press any key.

The Two Levels of Suspend Mode

There are actually two levels of Suspend: Suspend to RAM and Suspend to Disk. DRAM Suspend saves power by cutting off the power of the CPU and DMA clocks, suspending the math co-processor, turning the video off, and turning off all controllable peripheral devices. The amount of time which must elapse before the system enters Suspend to RAM can be configured from the Setup program's Power Menu in the Suspend Time-out field. To resume normal operation, press the Suspend/Resume button.

Suspend to Disk provides the greatest power saving capabilities by essentially turning off the system. The amount of time which must elapse before the system enters Suspend to Disk can be configured from the Setup program's Power Menu in the Save to Disk Time-out field. In this mode, all system logic (except for the system wake up circuitry and battery charger) is turned off. During this suspended mode, the DRAM and video memory are saved to the hard disk and are restored when the system is resumed. To resume normal operation, just press the Suspend/Resume button.

The PHDISK Utility

Your notebook's hard drive has been given a 42MB partition. During the Dave to Disk operation the system's state is written to this Disk Suspend partition.

If, for some reason you feel that a 42MB partition is not suitable for your needs, run the PHDISK.EXE application to create a new or different size partition. The PHDISK.EXE is located on your hard drive.

Methods of System Suspend

There are many ways to enter Suspend mode. One method is by specifying a time out period in the Suspend Time-out field of the Power Management Menu in the Setup Program. Like the Standby Time-out field, the Suspend Time-out field enables you to specify a time out period that must elapse before the system automatically suspends. If Standby Time-out is enabled, a suspend is triggered when the sum of the time-outs specified for each of the fields is achieved. If Standby Time-out is not enabled, the system suspends based on the time out setting specified in the Suspend Time-out field.

A Suspend Example

1. The time out settings for Standby Time-out and Suspend Time-out specify the amount of time the system must be inactive before the next power management level is enabled. The example below demonstrates this functionality. If the Hard Disk Time-out (HDD) is set to 1 minute, Standby Time-out is set to 2 minutes and Suspend Time-out is set to 5 minutes, then the following power management events take place:

2. After 1 minute of system inactivity, the hard disk spins down.

3. After 1 additional minutes, the system enters Standby Time-out.

4. After 5 additional minutes in Standby the system suspends to memory (RAM) or Disk, depending on the value set in the Suspend Mode field in the System Setup.

After the system has suspended, operation can be returned (resumed) to the point in your application where it was suspended. See the section in this chapter labeled *How to Resume* for a complete list of resume conditions.

How to Suspend

The system can be suspended in the following ways:

- The system enters Auto Suspend. This is enabled by setting a time out period for the Suspend Time-out field in the System menu. This time out period is the amount of idle time that the system allows before a Suspend is initiated.
- Pressing the Suspend/Resume button.

The Chain of Suspend Events

If the system enters Suspend mode from any of the above options, it enters the best power-saving Suspend mode that is supported by the system (either Suspend to RAM or Suspend to Disk).

When the system suspends, the following events take place:

- The video screen is turned off
- CPU, DMA clocks and the mathco-processor are powered down
- All controllable peripheral devices are turned off
- All system logic (except for the battery charger) is turned off (Suspend to Disk only)
- The DRAM and video memory are saved to the hard disk (Suspend to Disk only)

If the system is left in Suspend mode long enough to consume all battery power, then the contents of the computer's memory are lost. The system cannot resume until the battery is recharged or the notebook is connected to AC power.

The amount of time that the system remains suspended depends on the amount of battery power remaining. Due to this limitation, you should always save your data before the system suspends.

How to Resume

From the Suspend mode, pressing the Suspend/Resume button causes the system to resume normal operation. Resuming returns the system's operation to the point in your application where the suspend was initiated. This does not mean, however, that all devices are powered up. When the system resumes, the following events occur:

- DRAM refresh memory returns the system to the application that was running before the Suspend operation
- The video is turned on
- The COM ports are enabled
- Then, each device is powered on when it is requested for use by the system

Other ways to Resume

Beyond the above mentioned method of resuming operations, the system can be configured by using the Setup Program to automatically resume when a certain event has occurred.

By enabling the Resume on Time feature and setting the Resume Time in the Setup Program, the system will automatically resume normal operation at the specified time.

By enabling the Resume on Modem Ring feature in the Setup Program, the system will come out of suspend mode and resume operations if a modem ring is detected.

_____**Note**_____
Not all PCMCIA cards support Resume on Modem Ring. Refer to your PCMCIA card's documentation to see if this feature is supported.
_____

Controllable Features

The Power menu in the Setup Program allows you to specify the amount of inactivity time that must elapse before power saving features are activated. The interval is set using the Setup Program controls as described in Chapter 2 *The BIOS Setup Program.*

The available ranges for each of the Power mode fields are as flows:

Power Mode	Time-out Values
Standby Time-out	30 sec. 1,2,4,7,10,15 minutes
Suspend Time-out	1,2,4,10,15, 30 minutes
Hard Disk Time-out	30 sec. 1,2,4,6,8,10 minutes

The factory setting for Standby Time-out and Suspend Time-out is 7 and 10 minutes respectfully. The factory default setting for Hard Disk Time-out is 4 minutes.

From the Setup Program you can also disable any one of the above mentioned settings. Other customize settings can be made from within the Setup Program to suit your work habits. Remember that the longer the interval of time that elapses, the less power will be conserved.

Reactivating from Power Saving Modes

After entering one of the power saving modes, the system will return to normal operation in various ways depending on current system status. All of this is transparent to the user. From the user's point of view the computer reactivates almost as soon as you start to use it again.

Power Management Summary

The following table summarizes the notebook's power-saving features:

Power Mode	How to Enter Mode	How to Reactivate
Hard Disk Time-out	• Transits automatically after time out	User accesses hard disk System accesses hard disk
LCD Power-down	• Transits automatically after time out • Close LCD cover	User input device, such as the touchpad or keyboard has been activated. Modem ring, if the Setup Program field for this feature is set to Enable
Standby Time-out	• Transits automatically after specified time out • Press [fn + esc] keys	Press any key Modem ring, if the Setup Program field for this feature is set to Enable Touchpad entry or a PS/2 mouse if one is connected.
Suspend Time-out	• Transits automatically after specified time out • Press Suspend/ Resume button • Low battery condition	Press Suspend/ Resume button Modem ring, if the Setup Program field for this feature is set to Enable Resume Time, if the value for the Resume On Time field in the Setup Program is set to On.

The APM Interface

In addition to the power saving features built into the resident Setup Program System Configuration Utility, your notebook computer also supports the Intel-Microsoft Advanced Power Management(APM) version 1.1 specification. APM is a cooperative interface that enhances the notebook's built-in power management features by providing one of the most accurate schemes for detecting true idle. This allows APM implementation to put the CPU in a lower power state with no loss in user performance. If APM is installed and properly configured, and power management is enabled in the Setup Program, APM functions in the following manner:

- Takes over power management from system Setup Program
- Constantly monitors all system activity to provide one of the most accurate detection schemes for determining true idle under DOS, Windows, Windows 95 and OS/2
- Accounts for operating system inactivity and power demands
- Accounts for application inactivity and power demands
- Allows application programs, DOS and Setup Program to share power management features to ensure more efficient use of power
- Determines when power-saving features should be activated
- Operates transparent to the user (behind the scenes)

While you are running an APM aware application, APM will detect any system inactivity. If APM detects that either the operating system or the application is waiting for input (or is in some other idle state), APM will reduce the CPU to minimum speed. Once high speed is required again, APM will increase the CPU to maximum speed. With APM constantly monitoring all system activity, accounting for the notebook's power consumption, and controlling all power-saving features, you will realize significant additional power savings.

6
Expansion Options

This chapter describes the optional equipment that can be added to the basic notebook system. The term expansion is used signify items that are installed inside the computer rather than standard equipment such as a printer that can be connected to the computer's I/O ports. For example:

- You can add more system memory to improve performance.
- Putting the notebook on the Port Replicator will expand its versatility, making it a suitable replacement for your Desktop PC.

This section also covers the optional modules that can be inserted in the bay located on the right side of the notebook.

System Memory Expansion

The notebook comes with 8MB of on-board system memory. While this memory is sufficient for most circumstances, you may find that in some cases additional memory is required. This is particularly true as more and more application programs are designed to run under Windows. Simultaneously running two applications under the Windows environment may require additional system memory. The notebook provides an optional memory expansion slot for installing an 8MB, 16MB, or 32MB memory card.

Installing Memory Cards

Your computer chips, especially RAM (random access memory), are extremely static-sensitive. Static electricity will permanently damage your chips. It is therefore important to discharge the static electricity from your body before installing the memory module Discharge your body's electricity by touching the metal shielding around the connectors on the rear of the notebook computer. Typical grounds are a radiator or a printer case when your unit is plugged in. If you regularly work on your notebook, it may be beneficial to purchase an anti-static mat or wrist band. Contact your authorized Digital dealer for details on where anti-static devices can be purchased.

You may find it helpful to refer to *Figure 6-1* and *Figure 6-2* while reading the following directions.

1. The memory door is located on the underside of the notebook. There are two release tabs at the top of the door which unlock the memory door when pressed.

2. After the memory door has been opened, the memory card can be installed. Insert the DIMM (Dual Inline Memory Module) at a 45° angle into its slot. Gently, but firmly push the DIMM until it locks in place and lays horizontally in its slot.

3. Now replace the memory door in the reverse order in which it was removed.
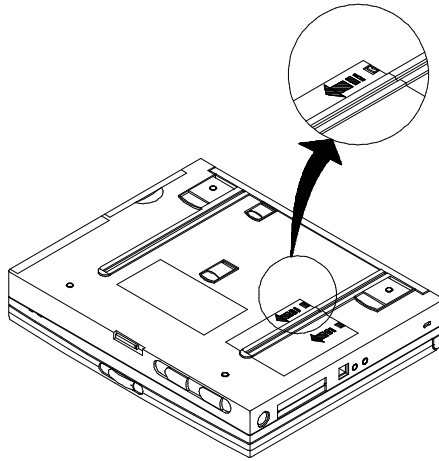
Figure 6-1: Removing the Memory Door
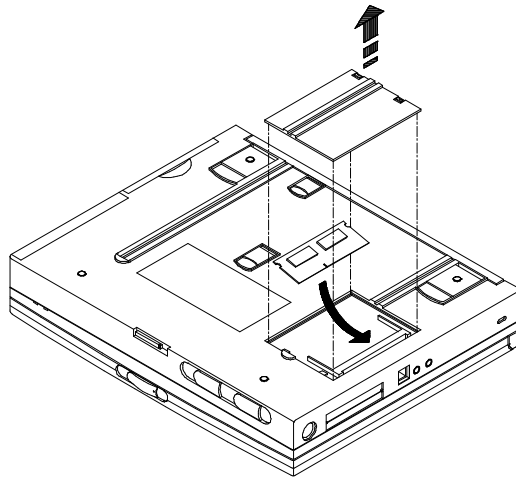
Figure 6-2: Installing the Memory Card

Upgrading the Hard Disk Drive (HDD)

Your Digital HiNote VP notebook comes equipped with a hard disk drive already installed and prepared for operation. To allow for future expansion, you can upgrade your notebook with a Digital approved HDD. The upgrade procedure requires three tools: two Philips screwdrivers (#0 and #1, preferably magnetized) and a small flat blade screwdriver.

If after reading the following instructions you do not feel completely confident that you can perform the operation on your own, please contact your authorized Digital service representative for assistance.

_____**CAUTION**_____

Before removing the HDD from your notebook, you must perform a full image disk backup to a data storage device such as an external drive, Type III PCMCIA hard disk card, etc.

_____

1. Turn off the notebook. Disconnect the AC power cable, disconnect any connected peripherals, and remove the notebook's battery or batteries.

2. Discharge your body's electricity by touching your finger against the metal shielding around the connectors on the rear of the notebook computer for approximately 10 seconds.

3. In order to access the HDD, you must remove the keyboard. To remove the keyboard, you must lift out the four tabs that hold the keyboard in place. First insert the small flat blade screwdriver in front of the key to the left of the Left Arrow key. Next, push down on the screwdriver far enough to position the blade between the keyboard and the plastic chassis. Then, gently lift the keyboard with the point of the screwdriver. Perform this same operation at the following two positions on the keyboard: at the middle of the Space Bar and between the left Alt key and the key to its right.

4. A ribbon cable connects the keyboard to your notebook. Do not remove this cable. It is long enough so that you can place the keyboard toward the front of the notebook and comfortably access the HDD.
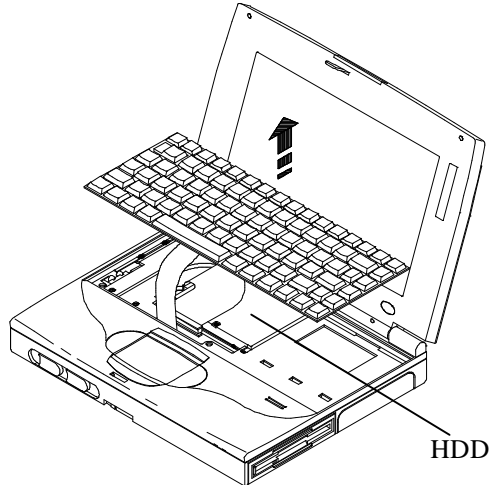
Figure 6-3: Locating the HDD

5. The HDD is held in place by four screws located at each of the four corners of the HDD. Using the proper Philips screwdriver, remove the screws and place them in an area where they will not get lost. Please refer to ***Figure 6-4***.

6. Gently lift the back of the HDD, which is closest to the LCD screen, to a 45º angle. A ribbon cable connects your notebook to the 40-pin connector located on the left side of the HDD.

7. Notice that the ribbon cable is equipped with a handle made from a plastic strip. Carefully pull on this handle to disconnect the ribbon cable from the HDD and remove the HDD. Please refer to ***Figure 6-4***.
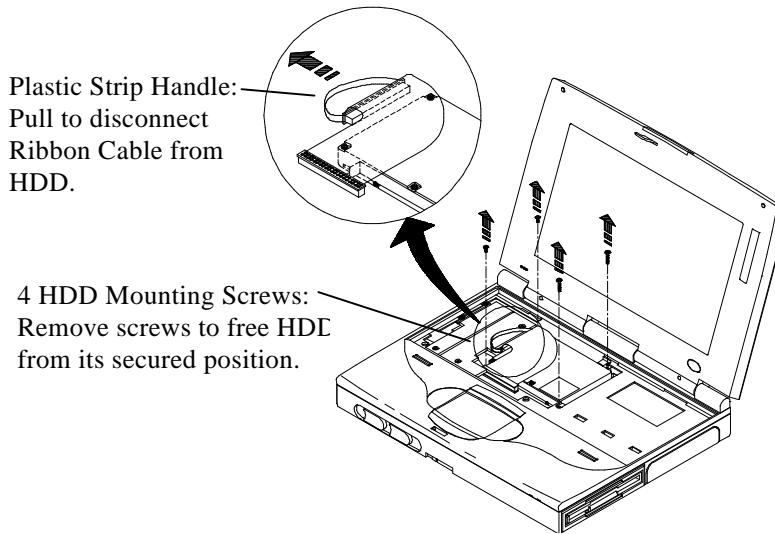
Figure 6-4: Disconnecting the Ribbon Cable from the HDD

8.   There are four screws that hold the two brackets on the HDD. Using the
      proper Philips screwdriver, transfer one bracket at a time from the old HDD
      to the new HDD to ensure the same physical orientation.

9.   Insert the HDD by positioning the two tabs of the front mounting bracket over
      their holes, while keeping the rear of the HDD elevated to approximately a
      45º angle.

10. Align the pins on the HDD with the holes in the 40-pin keyed connector.
      Carefully attach the ribbon cable without forcing the connection. Forcing a
      connection can damage the pins on your new HDD.

11. Using the four screws which you removed in Step 5, secure your new HDD
      into place. Be sure you first align the brackets with the holes and then tighten
      the screws only after all four screws have been started in their positions.

12. Insert the rear keyboard tabs into their slots at the back of the notebook.
      Next, push the keyboard back and then down until the front tabs snap into
      position. Please refer to*Figure 6-5*.

13. When powered up, your notebook computer will automatically detect the presence of the newly installed HDD. You can now restore your previously backed-up operating system and data.
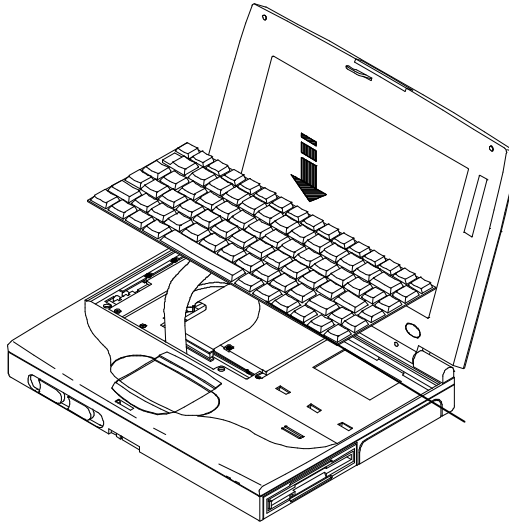

Figure 6-5: Reinserting the Keyboard

Removing and Installing FDD and Modules

All modules are installed in the notebook's bay 2 port. The main battery pack is in bay 1. Most likely your FDD is in bay 2. Before you install any of the optional modules, you must remove the FDD from the bay. The procedure for removing the FDD or removing any of the modules from the bay is the same.

Removing Modules

For step by step information on removing any one of the modules from bay 2 of the notebook, please refer to *Figure 6-6*, *Figure 6-7* and the following set of instructions.

1. Locate the Module Catch Release lever on the front panel of the notebook. It is found directly below the LCD panel catch release.

2. Pivot the lever so that it is at a 90º angle with the notebook by pushing on the notched end of the Module Catch Release.

3. Locate the Module lock/release latch centered on the underside of the notebook.

4. The latch works on a spring, and when left alone remains in the module lock position. Using the thumb on your left hand, slide the latch to its release position.

5. While holding the latch in its release module position, push the Module Catch Release lever in towards the notebook. As it slides in, the FDD module (or what ever module happens to be in bay 2 at the time) should slide out.

6. When you remove your hand from the Module lock/release latch, it will slide into its original position.

7. Return the Module Catch Release lever to its original position.

8. Insert the desired module into the bay. Please refer to the steps below for proper installation procedure.
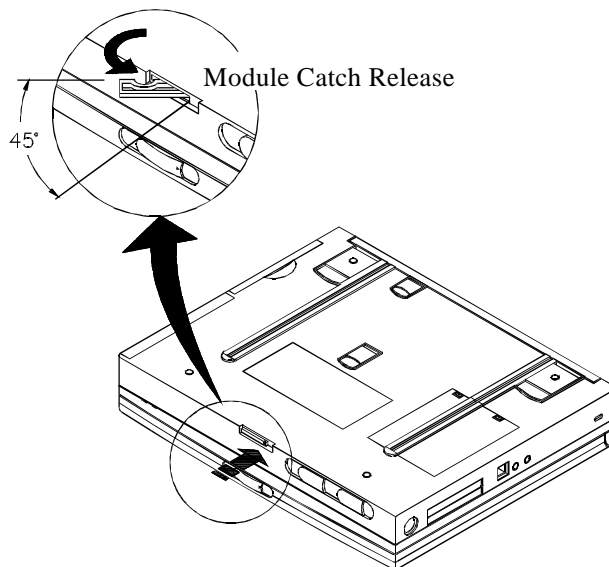
Figure 6-6: Locating the Module Catch Release Lever

Module Lock/Release
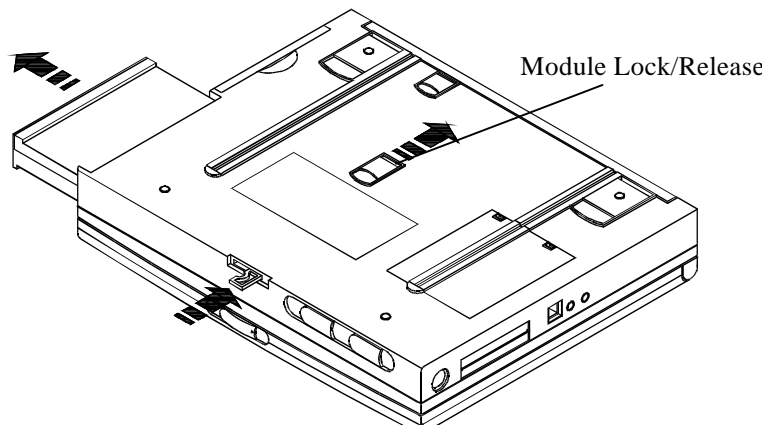
Figure 6-7: Removing the FDD Module from bay 2

Installing Modules

Modules can be hot-plugged into bay 2 (FDD bay). This means that you do not have to turn off the computer before removing or installing modules. The Car Adapter Module, the AC Adapter Module and the External Battery Charger can all be inserted into bay 2 of the notebook. For step by step information on installing any one of the modules into bay 2 of the notebook, please refer to the following:

1. Locate bay 2 on the notebook. This is the bay in which your removable floppy disk drive is located. Remove the FDD from the notebook's bay. Refer to the section in this chapter labeled *Removing Modules* for steps on taking the FDD out of its bay.

2. With the top side of the module facing up, align the beveled edge of the module with the right side of the notebook.

3. Slide the module into its bay until you hear it lock into place.

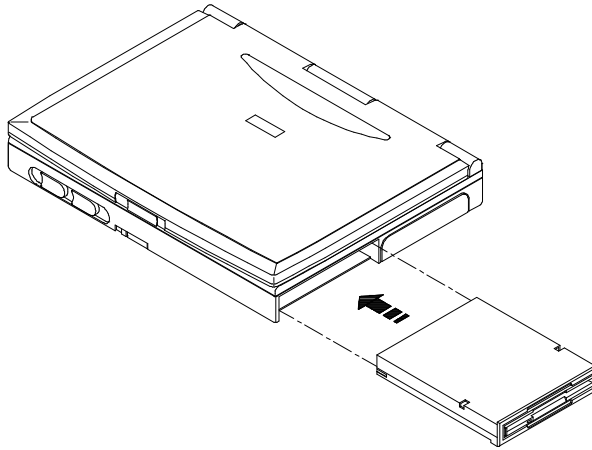4. The notebook will automatically recognize the presence of the module which was just inserted.

Figure 6-8: Inserting the FDD Module into bay 2

Optional Modules

Your notebook's FDD employs a modular design. It can be removed from its housing and replaced with a different module. These modules are discussed below.

FDD Module

The optional FDD module's architecture is of the same design as the FDD which comes with the notebook. Please refer to the section in Chapter 1 labeled *Features* for more information.

The Battery Module

The optional battery module allows for more versatility when you are on the road. The notebook's battery module will run out of power after approximately 2 hours without the use of power management. An extra battery module allows you more flexibility while on the road by giving an additional two hours to the computer's operational time.

For information on how to remove the battery from the notebook in order to replace it with the charged optional module please see the section in Chapter 5 labeled *Removing the Battery Pack.*

Insert the battery into the external battery charger, and the entire unit can be placed into the notebook's bay 2 to power the notebook.

The External Battery Charger

For instructions on how to use the external battery charger, please refer to *Figure 6-9* and the following steps :

1. Before connecting the AC Adapter power cord to the external battery charger, ensure that the AC cable is unplugged from its power source.

2. Connect the AC Adapter's connector head to the corresponding port on the battery charger module.

3. Insert the battery you wish to have charged into the battery charger unit. It should be placed in the charger so that the top side of the battery is face up.

30C-U035
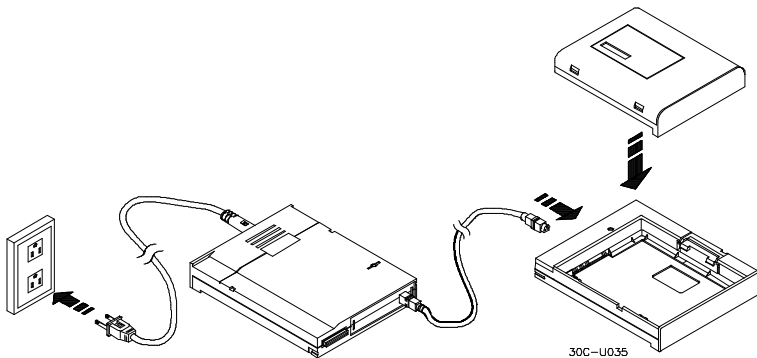
Figure 6-9: Connecting the External Battery Charger to AC power supply

4. Plug the AC Adapter power cord into a power source, such as an extension cord with a built-in surge protector or a wall outlet.

5. A green light on the battery charger should turn on, indicating that the battery is being charged If it does not light, there is something wrong. If you are using an extension cord, make sure that cord is not damaged. Also ensure that the battery has not been placed incorrectly into the charger.

6. The battery will take approximately 2 hours to charge. After the battery has been fully charged, the external charger will automatically cease feeding current to the battery and the green LED will flicker.

The external battery charger, complete with battery pack installed, can be used as a second battery source. Simply slide this unit into the notebook's bay 2. Please refer to *Figure 6-10*. The two batteries will supply the notebook with approximately four hours of power.
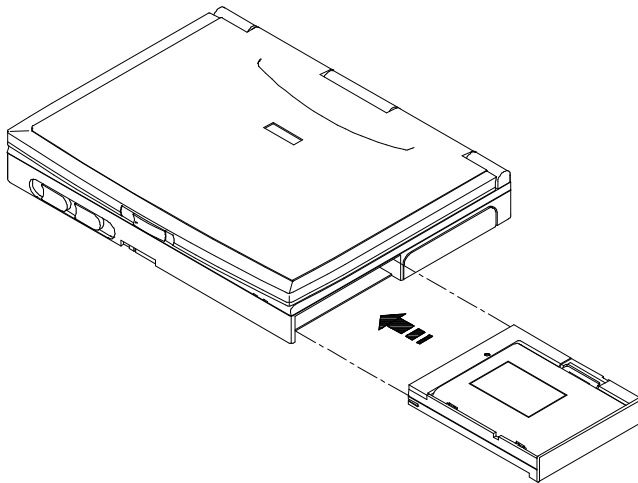

Figure 6-10: Inserting the External Battery Charger into bay 2.

The Car Adapter Module

An optional Car Adapter can be purchased providing extended versatility while on the road. Please see *Figure 6-11*. The Car Adapter Module, complete with battery pack installed, can also be installed into the notebook's bay 2 and used as a second battery source.

In this mode, as long as the Car Adapter module continues to receive electrical current, the battery in bay 1 will be charged.
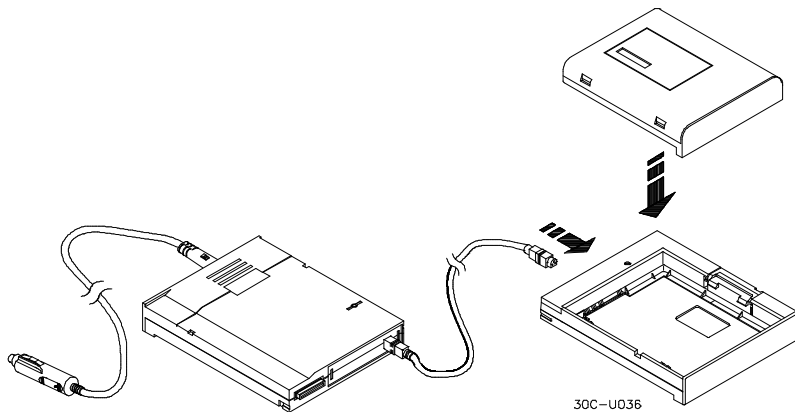
Figure 6-11: Using the Car Lighter Adapter

Adding the Port Replicator

Your new Port Replicator features the most innovative advances in notebook personal computing technology. Much consideration has gone into the design of the Port Replicator in order to meet your requirements for versatility as well as quality.

Before attempting to connect your notebook to any peripheral devices or serial devices, make sure you are familiar with the Port Replicator's various I/O ports and controls. Please refer to the following diagrams for a detailed labeling.

Figures 6-12 displays the rear side of the Port Replicator and labels the locations of the serial and peripheral device ports. *Figure 6-13* pictures the notebook's Port Replicator station being properly aligned with the notebook's I/O port.

Making the Port Replicator Connections

The AC adapter port and all peripheral ports are located on the rear side of the Port Replicator. Please see *Figure 6-12* for a complete port layout. The Port Replicator supports hot-plug connections. This means that you can connect peripheral devices to the Port Replicator without having to turn off the power. You'll want to place the Port Replicator flat on a desk near a wall outlet or an extension cord with a built-in circuit breaker.
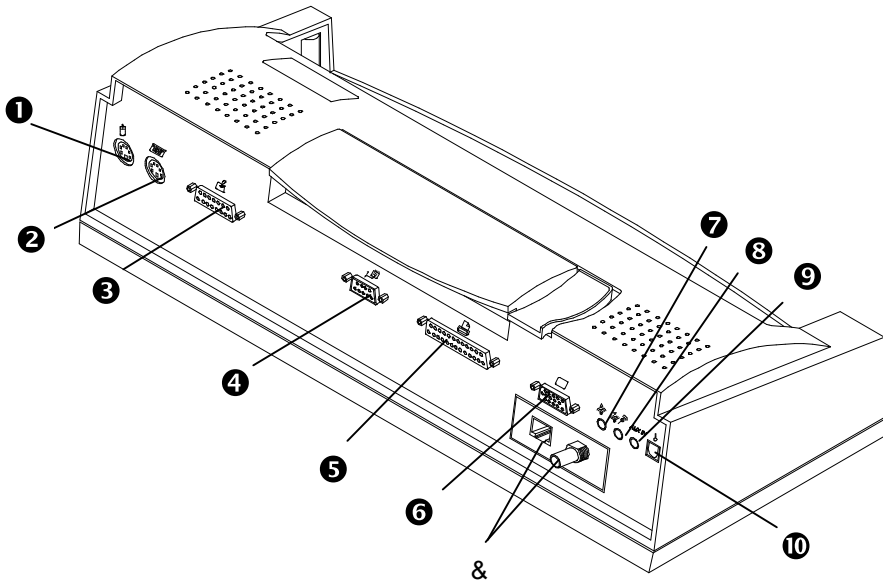
Figure 6-12: The Port Replicator's Ports

The following list and *Figure 6-9* help to identify the ports on the Port Replicator.

1. PS/2 Mouse port
2. PS/2 Keyboard port
3. MIDI port
4. COM port
5. Parallel Device Port
6. Extension Monitor port

7. External Mic port
8. Audio-out port
9. Audio-in port
10. AC port
11. Network Connectors

The AC Adapter Connection

1. Two cables come with the AC Adapter. One is the power cord and the other cable connects the Port Replicator to the AC Adapter. Plug the power cable into the port on the AC Adapter module which is shaped like a figure eight with two pins protruding from it.

2. Plug one end of the AC Adapter cable into the port on the AC Adapter module. It doesn't matter which end of the cable you use; the two are exactly alike. If you are unable to make a smooth connection, you probably do not have the pins in the port lined up properly with the holes in the connector. Do not force a connection. Line up the two, and try again.

3. Locate the AC Adapter port on the rear side of the Port Replicator. Line up the port's pins with the holes in the connector. Again, do not attempt to force a connection.

4. The best power source which you can hook any computer device to is a UPS (uninterrupted power supply). If you do not own a UPS, your next best power source is an extension cord which has its own power surge protector. If you lack this kind of extension cord, plug the AC adapter directly into a wall outlet.

Connecting Peripheral Devices

Your Port Replicator supports hot-plug connections. In other words you do not have to power off before connecting any peripheral. Digital recommends if you are connecting a device which utilizes speakers or are connecting speakers themselves, that you turn off the power to the device or speakers before making the connection to the Replicator. This will ensure that your speakers will not be damaged from any static discharges.

The Mouse Connection

1. Locate the PS/2 mouse port on the back of your Port Replicator. In order from left to right the PS/2 mouse port is first. It is round in shape. If your mouse's connector head is rectangular, then it is not a PS/2 mouse. If this is the case there are two possibilities: (1) you'll need an adapter, or (2) connect your mouse to the COM port.

2. Connect the PS/2 mouse to the Port Replicator, while power is either on or off, before making the notebook to Replicator connection.

3. Connect the mouse to the round serial port. It should slide in smoothly. If it does not, chances are the pins are not lined up with the holes in the port. Do not force a connection as you may damage the port.

4. If you are connecting the mouse to the COM port and you are not able to plug it in smoothly, do not force it. Chances are you have the connector head upside down. Flip it over and try again. After it is inserted fasten the mouse's connector head firmly to the serial port by tightening the screws on either side.

The Keyboard Connection

1. Locate the keyboard port on the back of your Port Replicator It is round in shape and designed so that a 6-pinned mini-din plug can be inserted into it.

2. Your Port Replicator supports hot-plug connections. In other words, you do not have to power off before connecting the mouse.

3. Gently push the 6-pinned connector head into the keyboard port. If you are not able to connect it easily, you probably don't have the pins on the head lined up with the holes in the port. Continue to turn the 6-pinned head to the right until it slides in easily. Do not try to force it in as you may end up bending the pins on the keyboard's cable head

4. If you are connecting a PS/2 keyboard into the port, then the PS/2 keyboard on the Port Replicator and the notebook's keyboard can be both used. The presence of one will not disable the function of the other.

The MIDI

To connect a MIDI device to the Port Replicator, please refer to the following:

1. Although your Port Replicator supports hot-plug connections, to protect your MIDI system's external speakers, Digital recommends that you unplug the Port Replicator from its power source and make sure that the MIDI is in the power off mode before connecting it to the Replicator. Failure to do so could cause damage to your speakers.

2. Locate the MIDI port on the back of your PC. It is on the rear side of the Port Replicator, the third port from the left. Please refer to *Figure 6-12* if you are having trouble locating this port.

3. Depending on the type of connector head your MIDI has, you may or may not need an adapter.

4. Insert the MIDI connector head into its respective port. If you are not able to plug it in smoothly, do not force it. Chances are you have the MIDI connector head upside down. Flip it over and try again.

5. Make sure the connection between the MIDI cable and the MIDI port is secure. If your MIDI connector has fastening screws, tighten them so that the MIDI cable is firmly connected to the port

The External Monitor

1. Locate the VGA port on the back of your Replicator Please refer to *Figure 6-12* if you are having trouble locating this port.

2. Depending on the type of connector head your monitor has, you may or may not need an adapter.

3. Insert the monitor's connector head into the VGA port. If you are not able to plug it in smoothly, do not force it. Chances are you have the monitor's connector head upside down. Flip it over and try again.

4. Make sure the connection between the monitor cable and the monitor port is secure. If your monitor's connector has fastening screws, tighten them so that the monitor cable is firmly connected to the VGA port.

The Printer

1. The printer cable has two connector heads on it. One plugs into a printer port on the back of your Port Replicator and the other, naturally, plugs into your printer. The two heads are different sizes. The smaller of the two heads attaches to the port found on the back of your Replicator.

2. Locate the printer port on the back of your Replicator It should be shaped like a long narrow "D" and designed so that a 25-pinned plug can be inserted into it.

3. Connect the printer to the port. If you are not able to plug it in smoothly, do not force it. Chances are you have the printer's connector head upside down. Flip it over and try again.

4. Make sure the connection between the printer cable and the printer port is secure. If your printer's connector has fastening screws, tighten them so that the printer cable is firmly connected to the port

COM Port Connection

The COM port is for connecting serial devices such as faxes, modems, etc. If you wish to use the COM port for serial connections, refer to the steps below.

1. Locate the serial port on the back of your Port Replicator. Please refer to *Figure 6-12* if you are having trouble locating this port.

2. Connect the serial device's cable to the COM port. If you are not able to plug it in smoothly, do not force it. Chances are you have the device's connector head upside down. Flip it over and try again.

3. Make sure the connection between the cable connector and the COM port is secure. Tighten the screws of the device's connector head into the COM port to ensure a firm connection between the two.

The Audio-In Connection

1. Disconnect your speakers from the Audio-out port before connecting to the audio-in connection. This will save your speakers from being damaged by any sudden electrical discharges created from the connection.

2. Locate the audio-in port on the rear side of the Replicator. Please refer to *Figure 6-12* if you are having trouble locating this port.

3. Depending on the connecting cable which you are using, you may or may not need an adapter.

4. Insert the round cable connector into the audio-in port.

The Microphone Connection

1. Connecting a microphone to the Port Replicator is almost exactly the same as connecting an external audio source. The difference is the point of connection.

2. The microphone port is round and is located directly to the left of the audio-in port. Please see *Figure 6-12*. Beyond this variance, connection of a microphone is exactly the same as connecting a audio-in unit to the Port Replicator.

Connecting Speakers

1. Before connecting your speakers to the Port Replicator, make sure that they are either unplugged or turned off. Otherwise you may damage the speakers' woofers and/or tweeters from any electrical discharge created by the connection.

2. The Audio-out port is round and is located directly to the left of the microphone port. Please see *Figure 6-12* if you are having trouble locating this port.

3. The remaining steps of the connection procedure are the same as connecting an external audio source.

The Notebook to Port Replicator Connection

By inserting your notebook into the Port Replicator, and by connecting peripheral devices (a keyboard, mouse, monitor, printer, etc.) to the Replicator's rear side, the Port Replicator turns your notebook computer into a fully functional desk-top PC. Your notebook can be hot-plugged into the Port Replicator. This means that you do not have to turn off the notebook before connecting it to the Port Replicator.

_____**Caution**_____

Even though you may be able to fit other notebook computers into the Port Replicator, it is strongly recommended you do not use it with any other notebooks before checking with your authorized Digital service technician. This could result in severe electrical damage to the Replicator and your notebook.

_____

You may want to refer to *Figure 6-12* and *Figure 6-13* as you read these instructions for a visual guide to connecting the notebook to the Port Replicator.

To connect your notebook to the Port Replicator, observe the following steps :

1. Turn off and disconnect any peripheral devices connected to the notebook.

2. Prepare the Port Replicator by connecting the desired peripheral devices and connecting the Port Replicator to an AC power source.

3. There is no need to turn off your notebook since it can be hot-plugged into the Port Replicator. However, it is recommended that you save your data and enter the system into the suspend mode by pressing the Suspend/Resume button and close the LCD lid.

4. Locate the replicator's 240-pin port. It is found on the front left side of the Port Replicator. Please refer to *Figure 6-13* if you are having trouble locating this port. The rear of the Replicator is designed for peripheral connections.
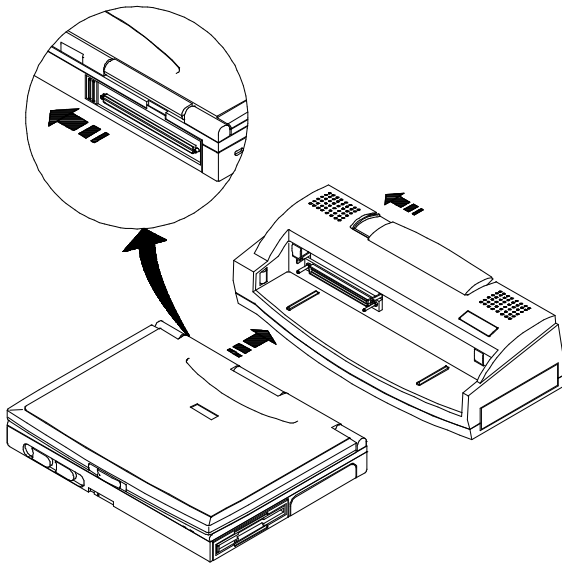

Figure 6-13: Connecting the Notebook to the Port Replicator

5. Find the 240-pinned connector on the rear side of the notebook. It is concealed by a plastic door. Slide the door to the left until it locks into its open position. Please refer to *Figure 1-3*.

6. Notice that there is one rail on the left of the docking platform and one on the right. These rails correspond with two grooves on the bottom side of the notebook computer. Place the notebook on the Port Replicator docking platform, lining up the rails with the grooves.

7. Slide the long rectangular-shaped Release latch in the direction of the arrow shown in *Figure 6-13*. This will unlock the latch allowing the notebook to be connected to the port.

8. Gently slide the notebook along the rails on the docking platform until the notebook's 240-pinned connector makes form connection with the 240-pinned port on the Replicator Forcing a connection between the two can seriously damage either or both the port and the connector. Realign the grooves to the rails and try again.

9. Once you are confident that you have a firm connection, slide the Release latch back to its original position. This will secure the Locking latch as well as the connection.

10. Open the notebook's LCD cover and assuming you entered the system into suspend mode in step 3, press the Suspend/Resume button to resume normal operation.

11. Turn on all peripherals.

Removing the Notebook from the Port Replicator

You may want to occasionally refer to the illustration in this section as you read these instructions for a visual guide in removing the notebook to the Port Replicator

1. Save your data and press the Suspend/Resume button to enter your notebook into the Suspend mode.

2. Slide the Release latch (to the left) in the direction of the arrow shown in *Figure 6-14*. You should be able to pivot the Release lever up.

3. Lift the Release lever to disengage the connection between the notebook and the Port Replicator It is now safe to remove the notebook.

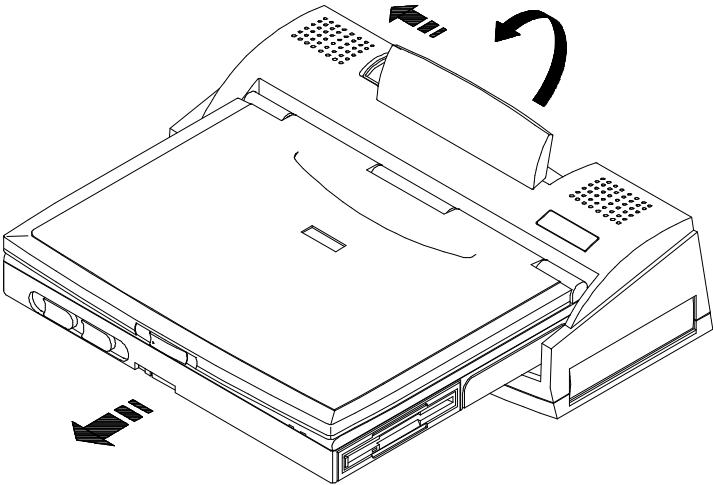4. Push the Release lever back down to its original position.

Figure 6-14: Removing the Notebook from the Port Replicator

A
PCMCIA Devices

Your Digital HiNote VP notebook computer comes from the factory with Windows 95 installed. Windows 95 has 32-bit drivers for most PCMCIA cards. If a compatible driver is not available, contact the card's manufacturer. Windows 95 refers to PCMCIA cards as PC Cards.

Windows 95 provides on-line help for configuring and troubleshooting PC Cards. The on-line help can be accessed from the Windows 95 Start menu. The following topics are covered:

- Enabling and disabling support for PC Cards
- Removing PC Card support
- Specifying the number of PC Card slots
- Setting up the PC Card socket
- Installing support for SRAM memory cards
- Displaying the PC Card status indicator
- Troubleshooting

Configuring PCMCIA Devices

Windows 95 32-bit PC Card (PCMCIA) support uses PnP drivers. In normal operation, Windows 95 automatically configures itself for the installed devices. Refer to the Windows 95 on-line help for information on configuring your PC Cards

_____**Note**_____

If a device does not have a PnP driver, you will not be able to use 32-bit support.
Contact the device manufacturer for the correct drivers.

_____

The Windows 95 PC Card (PCMCIA) wizard allows you to control your PC Card devices.
The wizard is accessed from the Windows 95 Control Panel.

The PC Card (PCMCIA) Properties sheet provides information about installed PC Cards and
allows you to remove a card.

PCMCIA Real Mode Drivers

For PCMCIA devices that do not have 32-bit PnP drivers, Windows 95 allows you to
install real mode drivers provided by the devices manufacturer. The Windows 95 on-
line help provides instructions on how to turn off 32-bit support so you can use 16-bit
real mode drivers.

B
Caring for Your Notebook

General Maintenance

The best maintenance you can perform yourself is preventive. Try to keep the computer as clean as possible. Avoid transporting or using it in dirty or dusty environments if possible. Use the carrying bag provided or some other clean container when you transport the computer. Be careful to avoid getting dirt and dust in the floppy disk drive.

Try to keep the keyboard as clean as possible. Avoid spilling liquids on it. You can clean the keyboard with a small computer vacuum to remove dust buildup that can impede key motion.

Always keep the port covers closed when you're not using the ports. This will prevent dust from getting into the connector ports and possibly affecting electrical contacts when you attach a device to the computer. You can occasionally use a vacuum to clean the ports.

Cleaning The Notebook

Cleaning The Case

If the computer case gets soiled you can clean it. Always make sure that the computer is turned off and the AC adapteris disconnected before you do anything else. You can clean the case with a soft, preferably lint-free, cloth. If necessary you can use a mild detergent.

Avoid any cleaner that has abrasives in it and DO NOT use cleaning solvents or isopropyl alcohol-based products. Never spray anything directly onto the computer. Always spray onto a cloth and then wipe the computer with that.

Cleaning The LCD Display

The LCD display panel is covered with glass. You can clean the glass if it gets dirty the same way you would clean a computer monitor screen. Use a lint free cloth and if necessary some commercially available screen or glass cleaner. It is better to avoid ammonia-based cleaners, however. If you use a cleaner, be sure to spray the cleaner on the cloth first, rather than spraying directly onto the screen.

C
Specifications

CPU
- Intel Pentium

SYSTEM MEMORY
- On board 8MB DRAM for system memory
- Upgradable to a total of 40MB by 8MB, 16MB, or 32MB module.

FIXED (HARD) DISK DRIVE
- 540MB/ 810MB/ upgradable

FLOPPY DISK DRIVE
- 3.5" 1.44MB floppy disk drive

DISPLAY
- 64 K Color DSTN LCD with a 800x600 SVGA back-lit display
- 64 K Color TFT LCD with a 800x600 SVGA back-lit display

KEYBOARD

- Enhanced PC/AT compatible keyboard with embedded numeric keypad and special hot keys. The Windows ® and Windows 95 application keys are also supported.

EXTERNAL INTERFACES

- One 9-pin serial port (16550A UART)
- One 25 pin parallel port (Standard, bi-directional, ECP, and EPP modes)
- One 15 pin CRT port
- One 6-pin external keyboard port
- One Audio Mic port and one speaker-out port
  (*available on selected models only*)
- Built-in microphone (*available on selected models only*)
- Built-in IRDA SIR transmitter-receiver (*available on selected models only*)
- 240-pin Connector supporting a Port Replicator
- One 3-pin AC adapter jack
- Two 68-pin Type II or Type I PCMCIA slots or One Type III PCMCIA slot
- Two built-in speakers

AC ADAPTER

- Universal AC Adapter
- Supports 100-240 volt, 50-60 cycle power supply

System Window Patterns

SYSTEM ICONS

- Battery Status
- FDD in use
- HDD in use
- CRT/LCD/Simul
- Key Pad
- Scroll Lock
- NumLock
- Caps Lock

LEDs

- AC In
- Charging Indicator

Standard Accessories

- AC adapter and cables

BATTERY

- One Rechargeable NiMH battery pack
- 2 operation hours with PMU disabled (may vary depending on operating temperature, battery condition, and power management features.)
- 3.5 hours charge when power is on, 2 hours when off (May vary depending on operating temperature, battery condition, and power management features).

Power Management

- System activity monitor
- Automatic transition between modes (Active/Standby/Suspend)
- Other intelligent power management technology

O/S SOFTWARE

Windows 95

WEIGHT

- 6.0 lbs with FDD installed

D
Troubleshooting

This chapter will try to anticipate potential problems that you may encounter in the day-to-day use of your computer. Included in this chapter is information that should help to solve these problems for you. This section is organized into categories based on the hardware.

The Power System

Question: When I turn on the computer, nothing happens. What's the matter?

Answer: If your system is running off battery power, the batteries are probably completely drained. Attach the AC adapter and recharge the batteries. If you are running off the adapter, check to make sure that it is plugged into a live power source. If the power indicator light is lit, it indicates that the power source is good and that the adapter is functioning properly. If there is a battery in the computer, turn the power switch off, remove the battery, and then turn on the computer. If there is still no response, consult your dealer for an appraisal of the problem.

Question: The computer keeps beeping at me. Have I done something wrong?

Answer: No, but you may be about to. The computer is most likely trying to tell you that battery power is low. Save your work, quit immediately, and replace the batteries or use the AC adapter as a power source.

Booting Up

Question: When I turn the notebook on, I can't get an operating system prompt to appear on the screen. The notebook does seem to be running, though.

Answer: Make sure that you have properly installed an operating system on the hard disk. Check that the brightness and contrast controls are properly adjusted. Try using a system floppy diskette to make sure the operating system will load properly. If it doesn't, contact your Digital support representative.

The LCD Display

Question: I know the notebook is on, but the LCD screen is blank. Is it broken?

Answer: Probably not. More than likely, the screen contrast or brightness controls are improperly adjusted or you've accidentally put the computer into Suspend Mode by pressing the Suspend/Resume switch. Press the button again to reactivate the screen. Another possibility is that you've turned off the LCD display by pressing [fn]+[F4] and set the display for an external monitor. Press the space bar first to see if the computer is in Standby Mode. If the screen image doesn't come back, check the contrast and brightness adjustments. If the problem persists, press the [fn + F4] combination to toggle back to LCD mode. If the screen remains blank consult your Digital dealer for technical support.

Keyboard

Question: I can't get the embedded numeric keypad to work.

Answer: Make sure that the [fn + F9] key is pressed and the PAD Lock status pattern is on if you want to access the keypad. Conversely, make sure the PAD Lock is off when you want to use the typewriter functions of these keys. Press the [fn] key to temporarily access the embedded numeric keypad while you hold down the key.

Question: When I type, I get numbers when I should get letters. What's wrong?

Answer: The numeric keypad is enabled. Disable it by pressing the [fn] and toggling [NumLock] key. The Pad Lock light should go out.

I/O Connections

External Monitor

Question: Is it possible to use both an external monitor and the LCD screen at the same time?

Answer: Yes, the notebook provides three display configuration: LCD, monitor and Simul Scan (LCD & MONITOR active at the same time). The three modes are toggled on and off by pressing [fn + F4].

Mouse or Other Pointing Device

Question: I connected a Serial mouse to the computer but it doesn't work? Why is this?

Answer: First make certain you followed the manufacturer's installation instructions completely and everything necessary to install the mouse properly. If you installed the mouse correctly and it doesn't work, check the following:

- Make sure the serial portoption of the setup program is set to the same port which is selected for the mouse driver.

- Set the mouse device driver to the corresponding COM port which is selected for serial port option.

-

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