

DIGITAL HiNote VP 700 Series

User's Guide

Part Number: ER-PJ1WW-UA. A01

Digital Equipment Corporation

September 1997

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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.

Canadian DOC Statement

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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About This Guide

This guide describes how to operate, configure, and troubleshoot the DIGITAL HiNote VP 700 Series notebook computer.

Audience

This guide is written specifically for anyone using or configuring the DIGITAL HiNote VP 700 Series notebook computer.

Organization

This guide contains the following:

- Chapter 1: *About Your Notebook* – This chapter identifies the notebook’s external components, overviews the various advanced features and provides a quick reference to the notebook’s functions.
- Chapter 2: *Power and Your Computer* – This chapter provides information on operating the notebook on AC and battery power. It also covers some of the advanced power management features designed to increase battery run time.
- Chapter 3: *The Setup Program* – This section introduces the Setup Program, discusses how to navigate in the Program, as well as how to specify and save your new settings. A detailed list of the optional settings is also provided.
- Chapter 4: *Peripheral Devices* – This chapter overviews the peripherals that can be connected and instructions on how to connect these devices to your notebook.
- Chapter 5: *PC Cards* – This chapter provides information on using and configuring PC Cards under different operating environments.
- Chapter 6: *Expansion and Option Devices* – 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 modules that can be inserted in the notebook’s expansion bay.

Preface

- Chapter 7: *Caring for Your Notebook* – This section overviews some general maintenance and cleaning techniques.
- Appendix A: *Troubleshooting* – In a questions and answer format, this section provides you with solutions to possible problems that may arise.
- Appendix B: *System Configuration* – A detailed listing of system specifications.

Acronyms	Meaning
BIOS	Basic Input/Output System
CMOS	Complementary Metal Oxide Semiconductor
DIMM	Dual In-line Memory Module
DSTN	Dual Scan Twisted Pneumatic
DRAM	Dynamic Random Access Memory
FDD	Floppy Disk Drive
FIR	Fast Infrared
GB	Gigabyte
HDD	Hard Disk Drive
IDE	Integrated Drive Electronics (internal hard disk drive interface)
ISA	Industry Standard Architecture
K	1K = 1024 bytes
KB	Kilobyte
LAN	Local Area Network
LCD	Liquid Crystal Display
LiIon	Lithium-ion
MB	Megabyte
MS-DOS	Microsoft Disk Operating System
MIDI	Musical Instrument Digital Interface
NiMH	Nickel-Metal Hydride
PC Card (PCMCIA)	Personal Computer Memory Card International Association
POST	Power On Self-Test
ROM	Read Only Memory
SDRAM	Synchronous Dynamic Random Access Memory
SVGA	Super Video Graphics Array
TFT	Thin Film Transistor
USB	Universal Serial Bus
VGA	Video Graphics Array
XGA	Extended 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 provided, the perfect accompaniment when you travel.

An *On-line User's Guide* located on the DIGITAL System CD which came with your system.

Digital Web Site

Please visit the Digital Windows Enterprise Computing Center Web site to download the latest HiNote VP 700 Series operating system drivers and On-line system and expansion User Guide Information. To navigate to the Drivers/ User Guide Information location:

1. Type in the Web site address: <http://www.windows.digital.com>
2. Click on [Service and Support].
3. Scroll down to the Firmware and Drivers bullet and change [Select Library] to X86-based systems. Click on the [Go] button.
4. Scroll to the HiNote Portables Table of Contents and click on HiNote VP 700 notebook.

Click on the desired Driver or User Information to download the data to your hard drive. The HiNote VP 700 Series User Guide Information can be browsed without downloading the data to your hard drive by using Adobe Acrobat Reader. If Adobe Acrobat Reader is not installed on your hard drive, you can download this piece of free shareware from the Adobe web site at www.adobe.com

Preface

1

About Your Notebook

Congratulations on your purchase of the DIGITAL HiNote VP 700 Series notebook computer. The HiNote VP 700 series notebook features innovative advances in portable computing technology. The ergonomic design and sophisticated architecture provides you with a portable computer that is compact, powerful and easy to use.

The notebook's modular design provides maximum expandability without compromising portability. Your HiNote VP 700 series notebook has a Combination Module located in the expansion bay. The Combination Module features both a Floppy Disk Drive and a 20X CD-ROM. It can be easily removed from its housing and replaced with the optional light-weight lithium-ion secondary battery pack. A high performance Pentium CPU and IDE hard drive provide you with the extra processing power needed to handle complex graphics and large sound files. Two PC Card (PCMCIA) slots give you the ability to use standard PC Cards, such as fax/modem, hard drive, memory and network interface cards. The USB port, a new industry standard, provides a single port to which you can attach numerous USB devices, such as a digital cameras, monitors, keyboards, or mice.

This chapter identifies and describes the features, components, controls, and indicators of your Digital notebook computer. Also provided is an overview of your notebook's expansion options.

Features

Your HiNote VP 700 Series notebook is a high-performance portable computer designed for the mobile professional; the notebook is equipped with the following features.

CPU

The central processing unit (CPU) performs all computing functions and directs the actions of the system. Your notebook's architecture supports an Intel MMX Pentium 166MHz or faster CPU. Intel Pentium CPUs consume less energy, for maximum battery life.

Hard Drive

Your notebook comes supplied with a user-upgradeable Hard Disk Drive (HDD) with a data capacity of 2.1 GB or higher.

RAM

Your Digital notebook is equipped with 16 MB or greater of on-board low power consuming 3.3V SDRAM, expandable up to 144 MB. Please contact your Digital notebook dealer for information on purchasing additional dual in-line memory modules (DIMMs).

L1 Cache

L1 Cache memory resides inside the CPU chip. It holds the data more frequently used by the CPU. By holding it in cache, the CPU can access the data at a much faster rate than if it was held in RAM. Your system is equipped with a 32 KB Internal L1 Cache.

L2 Cache

The notebook's L2 Cache functions basically in the same way as the L1 Cache. It does not, however, reside inside the CPU. Like L1 Cache, it is faster than RAM, but slower than L1 Cache itself. Your system is equipped with a 256 KB or 512 KB L2 Cache, depending on the system purchased.

20X CD-ROM/FDD Combination Module

The 20X CD-ROM/ Floppy Disk Drive Combination module can be removed from the notebook's expansion bay and replaced with the optional LiIon secondary battery module.

LCD Display

Your notebook's display is one of the following types:

- 64K-color DSTN LCD with a 1024x768 XGA back-lit display.
- 64K-color TFT LCD with a 1024x768 XGA back-lit display.

Zoomed Video

The HiNote VP 700 Zoomed Video feature allows you to display full motion video without constricting the performance of the system. A section of the LCD can be reserved as a video window while the other portion of the LCD remains occupied by running applications. As a result of the Zoomed Video feature, the performance of other running applications will not be hampered by the video.

USB

USB is a new standard that is destined to replace both the serial and parallel ports. It provides a single connector that can be connected to a maximum of 127 daisy chained peripheral devices. It is Plug-and-Play compatible, offers hassle free configuration and supports peripheral hot plugging.

Advanced Power Management

With Advanced Power Management, you will be able to customize the notebook's power consumption based on your individual work needs.

PC Card Interface

Your notebook's PC Card socket supports two Type II cards, or one Type III card. It is equipped with Card Bus support as well as support for Zoomed Video. Card Bus allows full-size 32-Bit PCI peripheral type performance in a PC Card form factor. It is Advanced Power Management aware -therefore providing superior power management.

Fast Infrared (FIR) Interface

The FIR Port provides you with the hardware needed to perform wireless high speed data transfer between the notebook and other infrared equipped devices, such as a printer or another computer.

Video Chip

Your notebook is equipped with a 128 bit NeoMagic video chip that supports:

- XGA 1024x768 at 64K colors on the external monitor
- Simultaneous display of LCD and external monitor
- PCI Local Bus
- 2 MB Video RAM

Audio

Your notebook's audio system includes the following features:

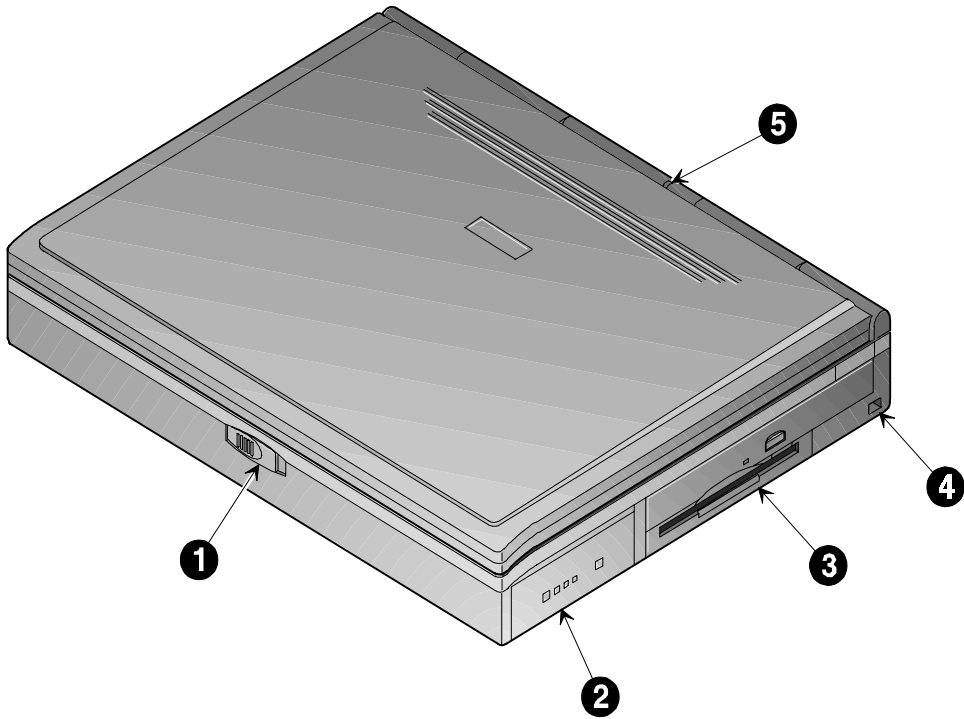
- Two built-in stereo speakers
- Built-in microphone
- Two audio ports for input/output stereo interface
- One external Microphone port
- Wave Table (selected models only)
- 16-bit stereo FM sound generator
- SoundBlaster compatible

Components, Controls and Indicators

This section shows the locations and provides detailed description of the different components, controls, and indicators on your DIGITAL HiNote VP 700 Series notebook computer.

Front and Side Components (Panel Closed)





Component	Description
❶ Lid Release	Slide this latch to the right to open the LCD panel.
❷ Main Battery Module	Removable battery module that can be replaced with a charged battery.
❸ Expansion bay	Supports the 20X CD-ROM/FDD Combination module and optional lithium-ion secondary battery module.
❹ Minidock Locking Tab	Used to secure the notebook to the Minidock.
❺ Power/Charge LED	Indicates the power and charge status of notebook. System plugged into AC Power <ul style="list-style-type: none">• LED is solid, then battery is charging.• LED is blinking (fast speed), then battery is not charging. System running on Battery Power <ul style="list-style-type: none">• LED is blinking (slow speed), then the notebook is in suspend.

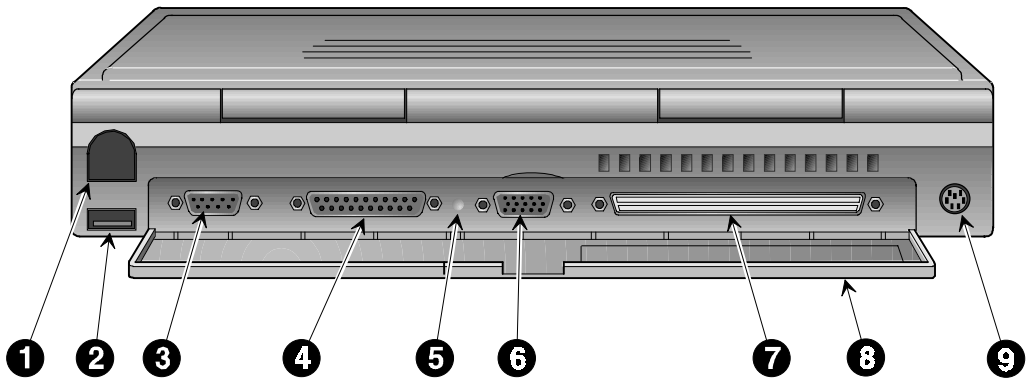


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Figure 1-1: Right Front View (Panel Closed)

Rear View






Component	Description
❶ Fast Infrared Interface	Allows wireless high speed data transfer between the notebook and other IR devices.
❷ Universal Serial Bus (USB) Port	A USB device, such as a mouse, digital camera, keyboard, or scanner, connects to this port.
❸ Serial (COM) Port 	A serial device connects to this port.
❹ Parallel LPT Port 	A parallel device, such as a printer, connects to this port.
❺ Reset Button	Using a pen or paper clip, press this button to reboot the system. All unsaved data will be lost.
❻ External Display Port 	An external monitor connects to this port.
❼ Minidock Port	This 240-pin port allows you to connect the notebook to the Minidock.
❽ Rear Panel Port Cover	Open this cover to expose the Serial, Parallel, and VGA Ports.
❾ External Keyboard or PS/2 Mouse Port 	An external PS/2 keyboard or PS/2 mouse connects to this port. To connect both a PS/2 keyboard and PS/2 mouse, use the PS/2 Y-connector cable packaged with notebook.

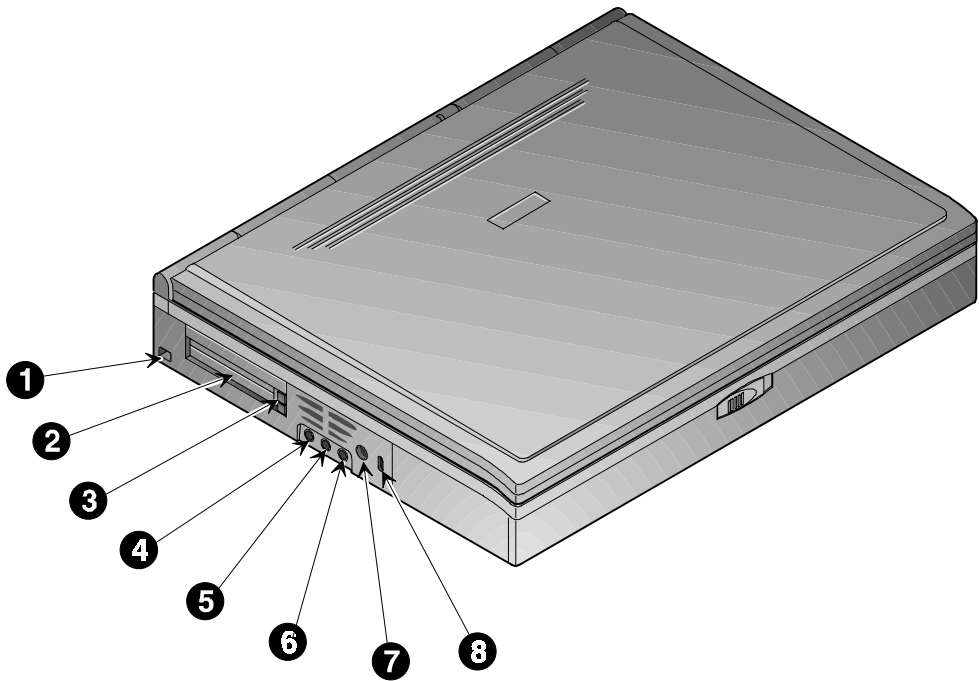


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Figure 1-2: Rear View

Left Side Components

Component	Description
❶ Minidock Locking Tab	Used to secure the notebook to the Minidock.
❷ PC Card Sockets	Insert either two Type II or one Type III PC Card into this socket.
❸ PC Card Eject Buttons	Upper button ejects a PC Card Type II from the upper socket and the lower button ejects a PC Card Type II or III from the lower socket.
❹ Line-in Port 	Connect an external audio source to this port.
❺ External Mic Port 	Connect an external microphone to this port.
❻ Line-out Port 	Connect external speakers or headphones to this port.
❼ AC Power Port 	The AC Adapter connects to this port.
❽ Security Lock Port 	Connect a Security Lock cable to this port. This assists in safeguarding the notebook, HDD and RAM against theft.

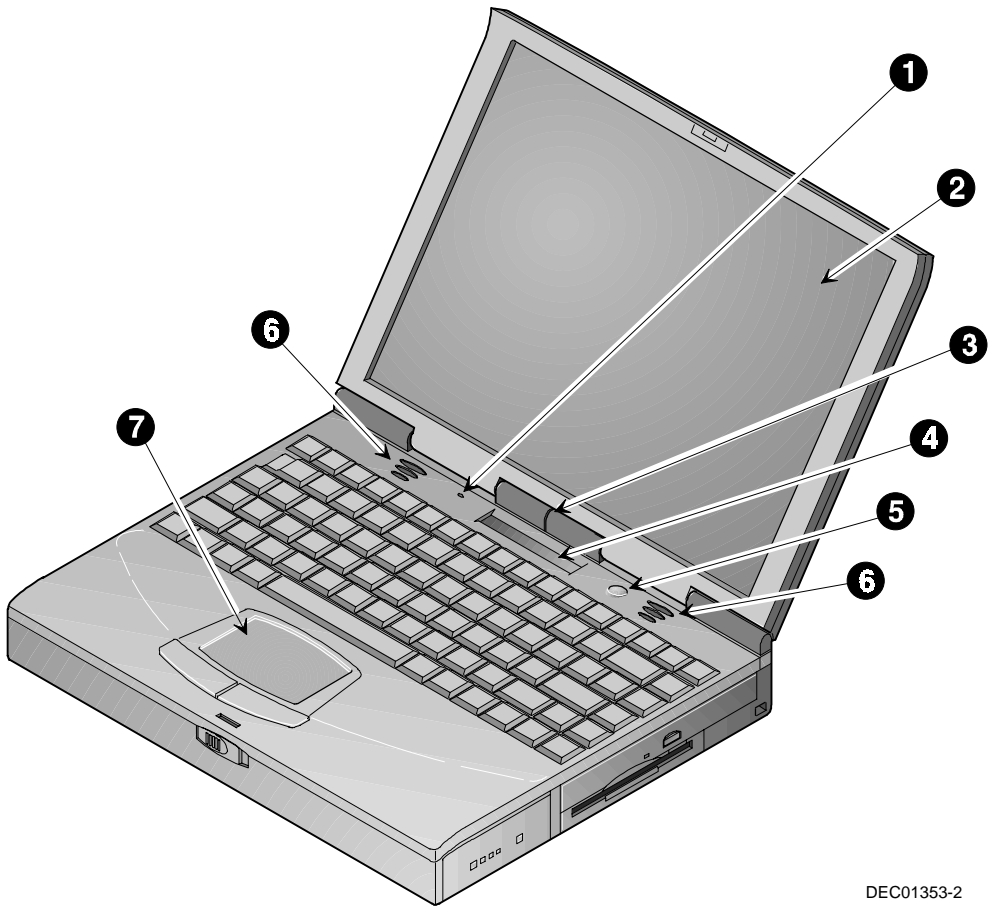


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Figure 1-3: Left Front View (Panel Closed)

Right Front View (Panel Open)

Component	Description
❶ Lid Switch	Close the notebook's LCD lid to suspend the system. Open the lid and press the Suspend/Resume button again to resume the normal operation. The Lid Switch can be configured to CRT display mode from the Power menu of the Setup Program. Please refer to Chapter 3.
❷ LCD Display	DSTN or TFT XGA back-lit display.
❸ Internal Microphone	Used to record music, voice and sound files.
❹ LCD Status Display	Provides system operating status.
❺ Suspend/Resume Button	Turns the notebook on and toggles between the suspend/resume mode. Press the [fn + Suspend/Resume] to turn off the notebook.
❻ Internal Stereo Speakers	Used to hear sound files and system sounds through stereo speakers.
❼ Touch pad (internal PS/2 mouse)	A touch sensitive pointing device providing all the functions of a two-button mouse.



DEC01353-2

Figure 1-4: Right Front View (Panel open)

Installation and Initial Setup

This section guides you through turning on your notebook for the first time.

When turning on the notebook for the first time, operate the computer on AC power. This will give the installed main battery a chance to charge.

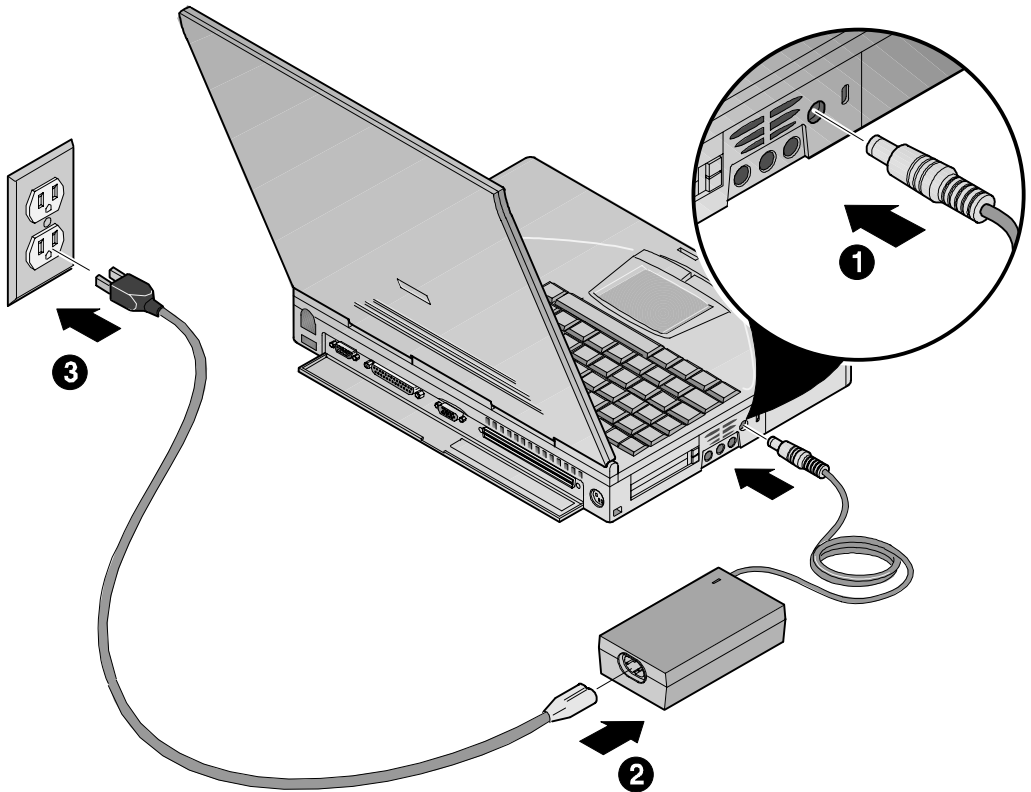
Plugging In and Turning On

To power the notebook by using the supplied Universal AC Adapter, refer to figure 1-5, figure 1-6 and the following instructions:

1. Connect the Universal AC Adapter to the AC port (Figure 1-5, step 1).
2. Connect the power cord to the port on the AC Adapter (Figure 1-5, step 2).
3. Plug the power cord into an electrical outlet (Figure 1-5, step 3). The green LED on the AC Adapter will light.

Note

You can purchase the optional Airline/Car Adapter which plugs into DC power ports on newer model airplanes or into your car's cigarette lighter.



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Figure 1-5: The Notebook to AC Power Connection

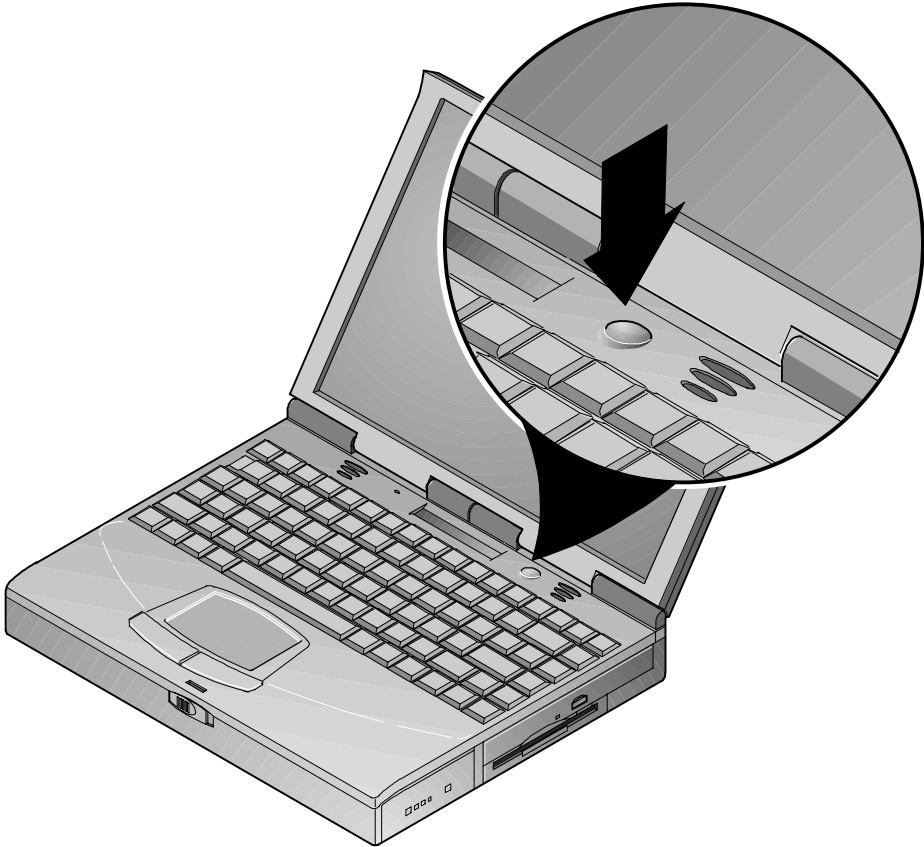
WARNING



Do not use an AC Adapter other than the one provided with your HiNote VP 700 Series notebook.

To avoid personal injury and/or equipment damage, do not open the case of the International AC Adapter. There are no customer-serviceable parts.

4. After you have plugged the notebook into its power source, open the lid and press the Suspend/Resume (Power) button to turn the notebook on (Figure 1-6).

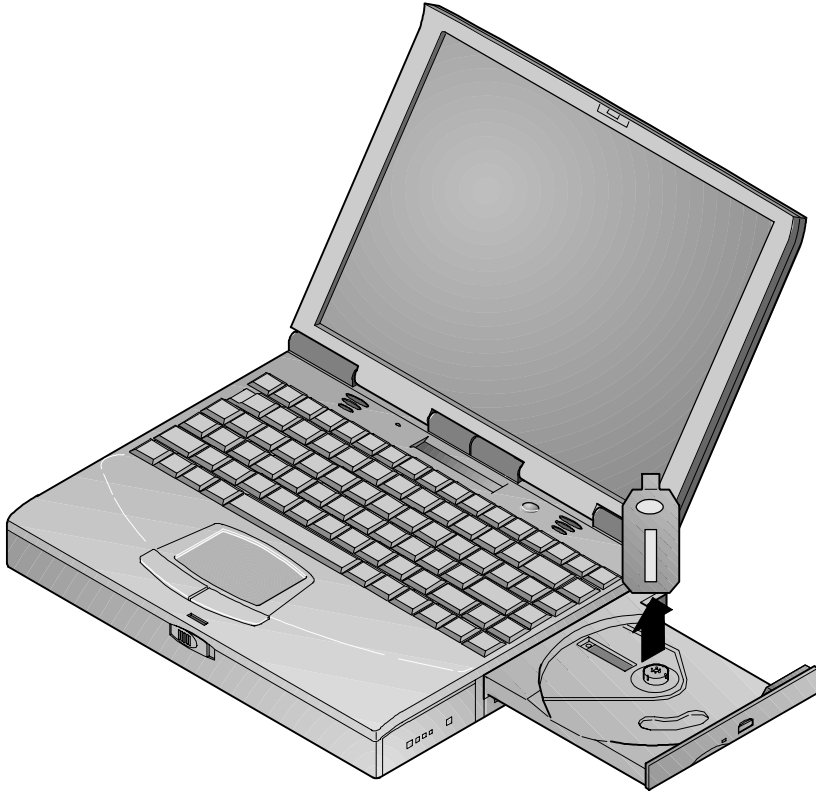


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Figure 1-6: Turning On the Notebook

5. If the notebook does not power up, check the AC Adapter and power cord connections. If the notebook still does not power up, please refer to *Appendix A, Troubleshooting*.

6. The CD-ROM is shipped with a protective cover to prevent damage to the CD-ROM head during shipping. Press the eject button and remove the protective cover. (Figure 1-7)



DEC01370-3

Figure 1-7: Removing the CD-ROM Protective Cover

Windows Software

Your notebook computer comes supplied with a Microsoft Windows operating system, numerous applications and required device drivers. The first time you turn on your notebook, the system will begin the installation process. You will be prompted for your Product ID, which you can find on the Certificate of Authenticity on the front cover of the Microsoft User's documentation. After setting up your operating system, insert the DIGITAL System CD into the CD-ROM and install the desired applications.

Bundled CDs

Your notebook came bundled with two CDs: a Microsoft Operating System CD and a DIGITAL System CD.

Installing Additional System Software

The DIGITAL System CD provides a variety of software which can be loaded onto your HiNote VP 700 Series notebook to increase its versatility. This User's Guide is also available on the DIGITAL System CD as an Adobe on-line file. Download it to your hard drive so you will always have it to reference when you need it.

System Restoration

In the event that you purchase a new hard drive or you need to restore the system on an existing hard drive, you will need both of the CDs which came with your notebook: the Microsoft Operating System CD and the DIGITAL System CD.

The Microsoft Operating System CD provides you with the data needed to re-load your operating system. The DIGITAL System CD provides applications, drivers and utilities needed to restore your system to factory issued standards. Please refer to the User's Guide Addendum for restoration instructions.

Turning Off and Unplugging

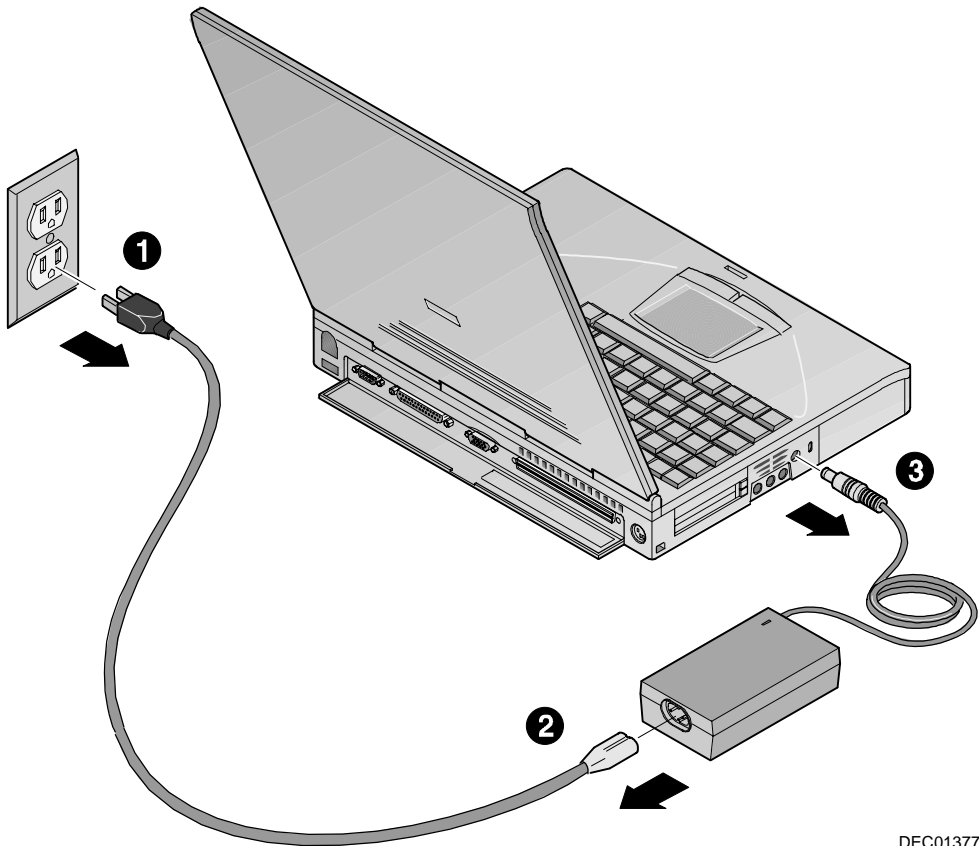
To turn off and unplug the notebook, refer to figure 1-8 and the following instructions:

1. Hold down the [fn] and Suspend/Resume buttons for approximately two seconds. The system will emit a beep indicating that the notebook has turned off.
2. Unplug the power cord from the electrical outlet (Figure 1-8, step 1), then disconnect the power cord from the AC Adapter (Figure 1-8, step 2).
3. Disconnect the AC Adapter from the notebook (Figure 1-8, step 3).

WARNING



Always unplug the notebook as shown below. Always disconnect the cords by grasping the plug end.








DEC01377










Figure 1-8: Unplugging the Power/Adapter Cords

Controlling Power






Unique to Digital notebooks, the suspend/resume button not only turns the notebook on and off, but enables you to take advantage of the built-in power saving features.

Goal	Action
On 	Press the Suspend/Resume (power) button to turn the system on.
Suspend 	When the system is on, press this button to place your system in Suspend.
Resume 	Press the Suspend/Resume button to resume normal operation from the Suspend.
Off  + 	To completely shut off your notebook, press and hold [fn + suspend/resume] button until the system emits a beep, indicating that the system has been successfully turned off.
Lid Switch	In its factory default configuration, closing the LCD lid will enter the notebook into Suspend. Refer to Chapter 3, in the section labeled <i>The Power Menu</i> for instructions on how to configure the Lid Switch function.

LCD Status Display

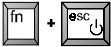
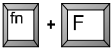
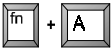
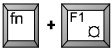
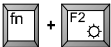
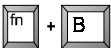
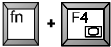
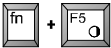



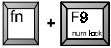
Icon	When Displayed Indicates...
	Caps Lock is enabled.
	Num Lock is enabled. If you are using the notebook's keyboard, the embedded keypad must also be enabled to use the embedded keypad as a numeric keypad.
	Embedded Numeric Keypad is enabled. On external keyboards, the embedded keypad functions as a cursor control keypad. When displayed in conjunction with the Num Lock icon, the embedded keypad on both internal and external keyboards functions as a numeric keypad.
	Scroll Lock is enabled.
	Hard Disk Drive/CD-ROM is being accessed by the system.
	Floppy Disk Drive is being accessed by the system.
	PC Card socket is being used by the system.
	AC adapter is being used to power the system.
	Battery(ies) is installed. See the following section, Battery Charge Gauge, for status details.













Battery Charge Gauge (in LCD Status Display)

Icon	When Displayed, Indicates...
	<p>Battery status - shows available battery power. Each line represents approximately 10% battery charge. The upper triangle corresponds to the main battery and the lower triangle corresponds to secondary battery. If the triangle is flashing, its corresponding battery is in use or charging. If both batteries are installed, the battery life will be calculated based on the charge sum of both batteries.</p> <p>When the lines within the battery icon are rotating, it indicates that the battery is being charged. When the rotating stops, the battery is fully charged.</p>
	<p>51% to 60% battery operating time remaining.</p>
	<p>Low battery. 1% to 10% battery operating time remaining. The system's warning beep will sound. Save your work, replace the low battery with a fully charged one or use an AC power source to run the notebook. The [fn + F7] keys shut off the warning beep. It also mutes all audio.</p>
	<p>Critical low battery. The system will automatically save all data and application information to the hard disk (Save-to-Disk), then power down the notebook. If system is in Suspend mode when power low is reached, the system will resume, then complete down.</p>
	<p>System has ceased charging the battery. The core of the battery has reached its maximum temperature, indicating that charging has stopped.</p>

Keyboard Hot Keys

Hot keys are activated by holding down the [fn] key (located in the lower left corner of the keyboard) and pressing the desired function key.

[fn] + function	Activity
	Places the computer in Standby Mode.
	All open data and system settings are Saved to Disk.
	Place the computer in Suspend Mode.
	Decreases brightness level.
	Increases brightness level.
	Displays the second battery gauge if the optional LiIon battery is installed in the expansion bay.
	Switches between the three display modes: <ol style="list-style-type: none"> 1. LCD Display 2. LCD Display and External Monitor 3. External Monitor only Each time you press this hot key combination the computer changes to the next display mode.
	Decreases the display contrast (DSTN screens only).
	Increases the display contrast (DSTN screens only).
	Enables or disables audio/speaker output including the system beep which indicates low battery. The system will emit a beep when the audio output is enabled.
	Toggles the keyboard's embedded key pad on and off. When used by itself, it functions as a cursor control keypad. Press [fn+F9] and then the [fn+F8] hot key combination to use the notebook's numeric embedded keypad.
	Toggles Num Lock on and off. Used by itself, fn+F9 enables an external keyboard numeric keypad.

[fn] + function	Activity
 + 	Toggles Scroll Lock on and off. The Scroll Lock functions in certain applications, leaving the cursor in its current position while moving the screen in the direction of the arrow pressed.
 + 	Pauses the display output. Press a key to resume.
 + 	If Break is enabled, pressing this hot key sends a system break.
 + 	Determined by application software.
 + 	Increases the audio volume.
 + 	Decreases the audio volume.

Using the Touch Pad (Internal PS/2 Mouse)

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

Your notebook's touch pad is equipped with many advanced feature options. To customize any of these settings, double-click on the mouse icon in the Control Panel.

Please refer to figure 1-9 and the following explanation on how to use the touch pad.

1. With your fingers on the keyboard in the normal typing position, the touch pad is easily accessible by moving either your left or right thumb off the space bar and down on to the pad.
2. Gently move your thumb across the touch pad in the direction you want the cursor to move across the screen.
3. The touch pad's left button is equivalent to the left button on a conventional two-button mouse. The touch pad's right button is equivalent to the right mouse button on a conventional two-button mouse.

Touch Pad On-line Help

For more detailed instructions on using and controlling the touch pad, refer On-line Help file provided by Synaptics. To access the On-line Help, do the following:

1. Click Start from the task bar, then Programs, and then Explorer.
2. Double click on the Digital folder, then the Driver folder, then the Syntouch folder, and then the Syntp folder.
3. Double click on the Syntpenh file to load the touch pad's On-line Help.

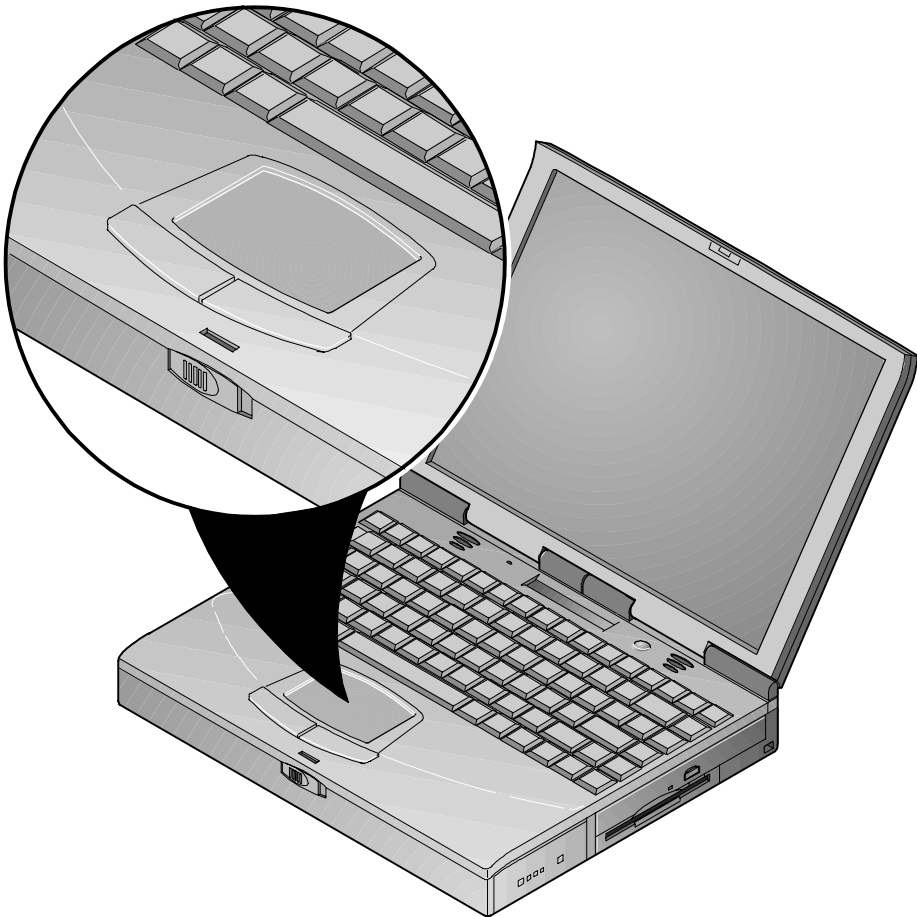


Figure 1-9: The Touch Pad

DEC01383

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 touch pad 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.
- Adjust your display and lighting so that:
 - Light is directed away from the screen to reduce glare. Look away to distant objects frequently. Use the tilt capabilities of your LCD and the tilt and swivel capabilities of the external monitor to place it in the most comfortable viewing position.
 - The screen is the correct distance for your vision.

Important

If you experience pain or discomfort while using your notebook computer, take a rest 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.

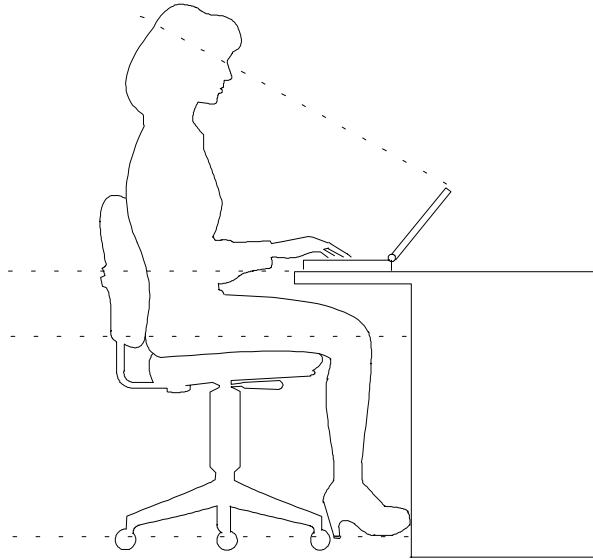


Figure 1-10: A Comfortable Working Environment

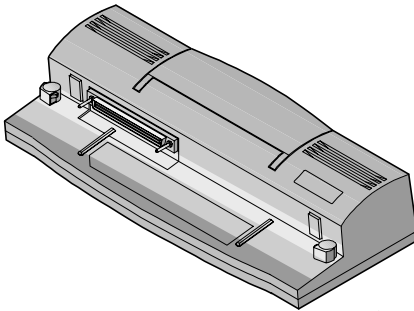
Optional Expansion Devices

A variety of optional expansion devices are available to increase the already superb performance and versatility of your HiNote VP 700 notebook computer. Please contact your Digital notebook dealer for purchasing information.

Products

Portable and Powerful

Minidock



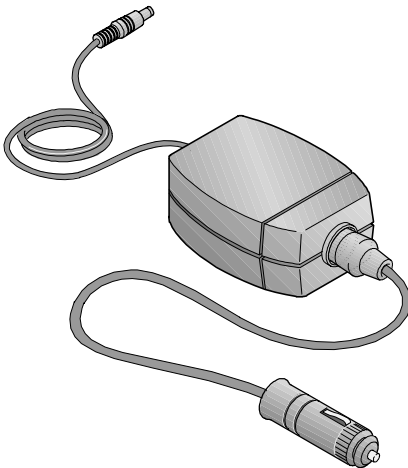
DEC01357A

The HiNote VP 700 Series notebooks can be used as a full office PC by connecting it to the Minidock.

The Minidock is equipped with two stereo speakers, a serial, parallel, monitor, audio-in, audio-out, MIDI/joystick, PS/2 mouse and keyboard port. Also featured are two USB ports and a one PC Card slot.

Whether you are docking or undocking the notebook, all devices can be left attached to the Minidock.

Airline/Car Adapter



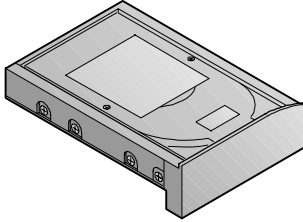
DEC01381

The Airline/Car Adapter provides power to the HiNote VP 700 series notebooks by utilizing the DC power from a plane's power port or car's cigarette lighter. It can also be used with the external battery charger.

Products

Portable and Powerful

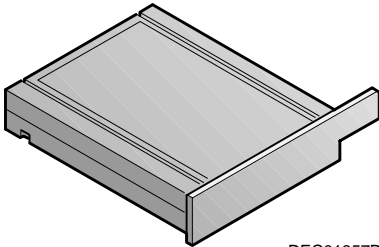
HDD



DEC01357C

The DIGITAL HiNote VP 700 Series supports easy-to-upgrade hard disk drives for expansion and investment protection.

Secondary Battery



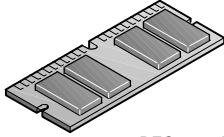
DEC01357D

The optional lithium-ion secondary battery pack provides the convenience of extended battery run time. So light weight, it's the perfect traveling companion.

Products

Portable and Powerful

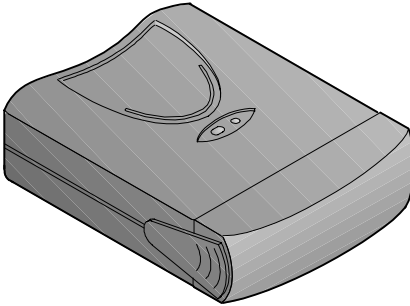
Additional SDRAM



DEC01357E

With today's demanding applications and operating systems, eventually you may find it necessary to increase your system's base memory. Your DIGITAL HiNote VP 700 series notebook was designed to make memory upgrading easy. The DIGITAL HiNote VP 700 uses the fast speed SDRAM DIMMs.

External Battery Charger



DEC01380

The optional Battery Charger provides a way to externally charge a battery pack. This is helpful for charging spare battery packs or for charging a battery quickly while the notebook is in use.

2

Power and Your Computer

Your Digital notebook computer can be powered by:

- Battery
- International AC Adapter

Note

If the notebook is operating on AC power and a battery pack (main battery, secondary battery, or both) is in the notebook, the battery(ies) will continue to charge until full.

Your notebook's main battery is either an Enhanced Nickel Metal Hydride (NiMH) Smart Battery or a Lithium Ion (LiIon) Smart Battery. To get the most out of your notebook computer and its battery, you need to:

- Know how to use and care for the Battery Pack.
- Understand the Power Management features of the computer and how to configure them.

General Battery Information

All batteries have limited life span. A battery's *life span* is measured by the number of charging and draining cycles it can undergo before it can no longer be charged. The amount of time that your system can be operated by battery power before the battery is drained is referred to as battery *run time*.

Nickel Metal Hydride Battery Care

Nickel-Metal Hydride (NiMH) batteries are extremely common in many types of portable systems, such as cellular phones, camcorders and portable computing devices.

Memory Effect

A NiMH battery in poor condition may begin to exhibit characteristics of *memory effect*. Memory effect will occur when a user does not allow the battery to fully drain before charging it again. For example, if you use the battery for 20 minutes at a time and then recharge it, the battery will tend to “remember” that it only needs to operate 20 minutes per charge. As a result, during the charging process, the battery will only receive a portion of its charge capacity.

NiMH Battery Life

Memory effect has a direct impact on the battery's life span. NiMH batteries have a typical life of up to 800 (charge/drain) cycles. If the battery is used an average of 30 minutes per cycle, you can expect a total life of 400 hours. If you use the battery 3 hours per cycle, you can expect a total life of 2,400 hours. Therefore, it is advantageous to use the battery as much as possible during each cycle.

However, in attempts to prevent the memory effect, it may not always be practical to continuously use your notebook until the battery drains to its minimum level. As a solution, Digital recommends that you periodically *form* or condition the battery. When a battery is formed, it is put through a series of charging and draining cycles. A battery which is formed will perform better and last longer than a battery which has not been formed.

If your system will not be in use for more than 30 days, Digital recommends that you remove the NiMH Battery from the system. When a NiMH battery is removed from the system, it has a shelf life of approximately 90 days before a charge cycle is required.

Forming a Battery

Action	Instructions and Information
Forming a battery	<ol style="list-style-type: none"> 1. Charge it to its full capacity. The notebook's battery charge LED will turn off. 2. Use the notebook until the battery is completely drained. 3. Charge the battery to full capacity a second time and drain it again. 4. Charge the battery to full capacity. The battery is now formed.
Draining the battery	<ul style="list-style-type: none"> • Software is available to assist in the draining process. Please consult your Digital notebook dealer for information about the kinds of software. • Lacking software: To expedite the draining process, enter the Setup Program and disable all power management functions. Increase the screen brightness to its highest setting.
When to form a battery	<ul style="list-style-type: none"> • Form all new batteries, including the one which came with you system. • Form batteries which do not provide as much run time as they used to. • Form a battery to achieve maximum battery life. • Form the battery if you are receiving questionable readings from the battery icon gauge in the LCD Status Display.
Required time	<ul style="list-style-type: none"> • Assuming it takes 2 hours to fully drain the battery, forming a battery requires approximately 10 hours. • To charge a battery with the system off requires approximately 2 hours. To fully charge a battery with the system on requires approximately 4 hours. • Depending upon your power management settings, to fully drain a battery requires approximately 2 hours.

Lilon Battery

The Lithium-ion (LiIon) main battery pack is standard on selected models. The optional secondary battery pack is also LiIon. The secondary LiIon battery pack can be installed into the expansion bay, where the 20X CD-ROM/FDD Combination module is located. A fully charged battery will last approximately three hours depending on your usage of the computer and its power management settings.

Greater Life Span and No Memory Effect

Lithium-ion batteries have a longer life and are considerably lighter than NiMH batteries. LiIon batteries average 1,000 complete charge/discharge cycles. In actual use, the number is larger due to the fact that most users will not fully discharge the battery. Unlike the nickel-metal hydride battery, there is no need to be concerned with fully discharging the battery before charging it again since lithium-ion technology is not susceptible to memory effect.

If your system will not be in use for more than 30 days, Digital recommends that the LiIon Battery Pack be removed from the system. When a lithium-ion battery is removed from the system, it has a shelf life of approximately 90 days before a charge cycle is required.

WARNING



When transporting the battery pack, make sure that the metal terminals on the battery pack do not come in contact with other metal surfaces (such as loose coins, paper clips, etc.). An electrical discharge can occur which may cause injury or damage.

Lilon Battery Conditioning

Your notebook uses a Smart Battery. The battery has circuitry that reports the amount of charge in the battery to the system.

Initial Use – To properly initialize the circuitry that reports the state of the battery charge, you should:

1. Fully charge the battery.
2. Fully discharge the battery. To fully discharge the battery, use the notebook computer on battery power until the computer enters Save to Disk mode because of a critically low battery state.
3. Fully charge the battery.

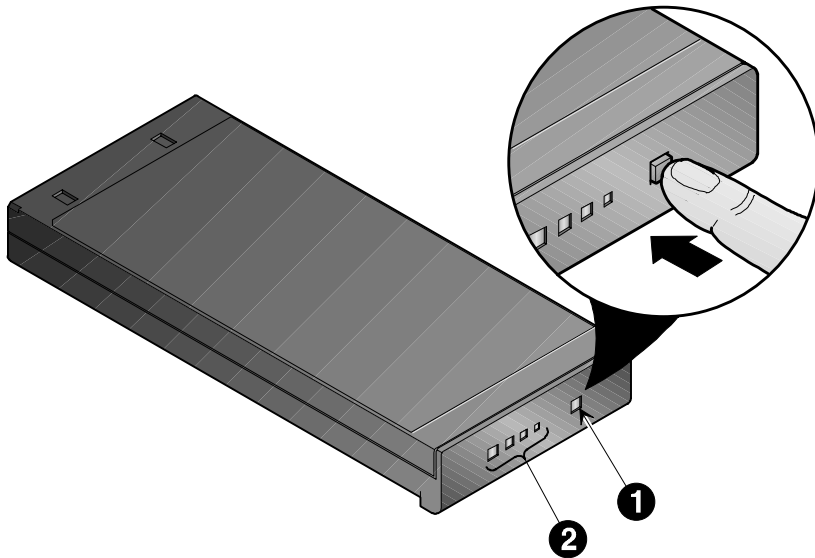
Regular use – To help maintain the accuracy of the circuitry that reports the state of the battery charge, it is recommended that you allow the battery to go through a full charge and discharge cycle at periodic intervals.

Main Battery Pack

Regardless of which type of main battery you have, NiMH or LiIon, both are considered *Smart Batteries*. A Smart Battery can tell you how much approximate charge remains in the battery without the assistance of external hardware or software.

There are 4 LEDs on the outer casing of the battery module that indicate how much battery run time is remaining. Each LED represents approximately 25% battery charge. There is 75% battery life remaining if three LEDs are lit. If no LEDs are lit, the battery is drained and needs to be charged.

1. Push this button.
2. The corresponding LED lights, indicating the battery charge.



DEC01358

Figure 2-1: The Main Battery Module

Removing the Main Battery Pack

Assuming the system is not connected to AC power, save your data, close all applications and turn off the notebook before removing the main battery pack. To remove the main battery pack, refer to the following instructions.

1. Slide the locking button in the direction of the arrow shown. (Figure 2-2, step 1) This will unlock the Module Release latch.
2. Slide the Module Release latch in the direction of the arrow shown. (Figure 2-2, step 2) The battery will eject approximately a quarter of an inch from its bay.
3. Slide the battery module out of its bay. (Figure 2-2, step 3)

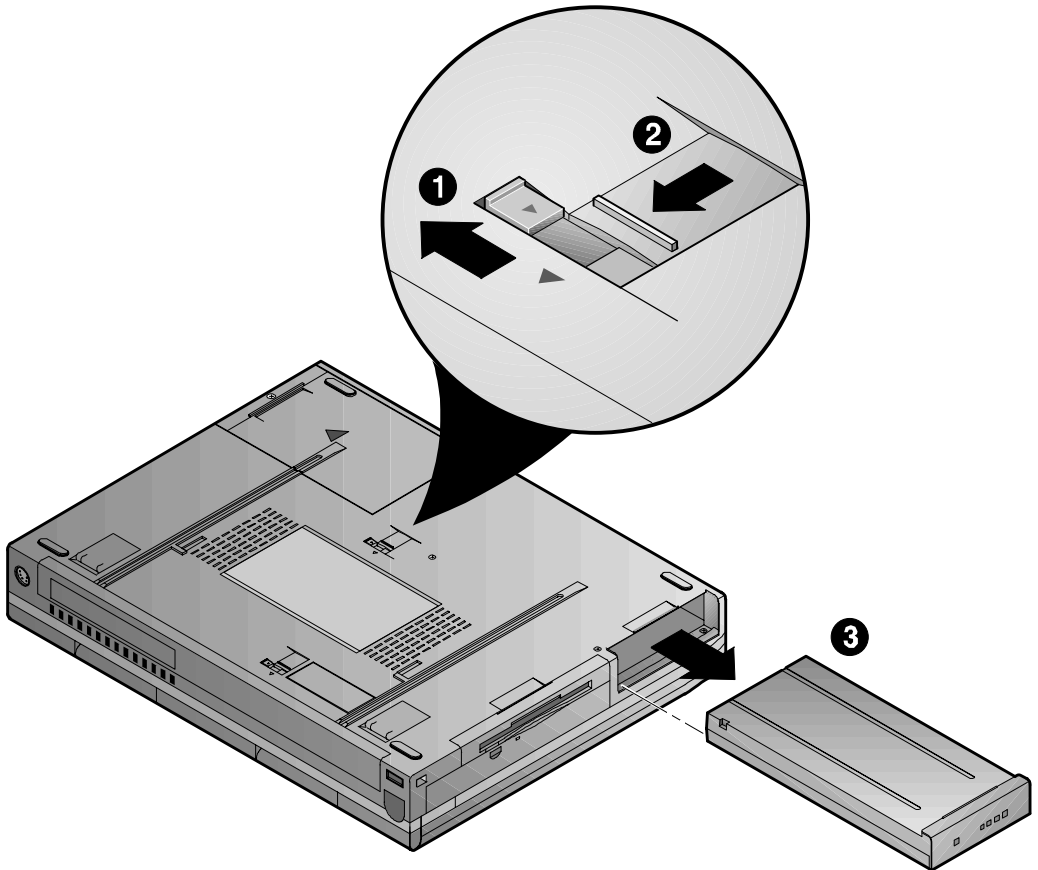


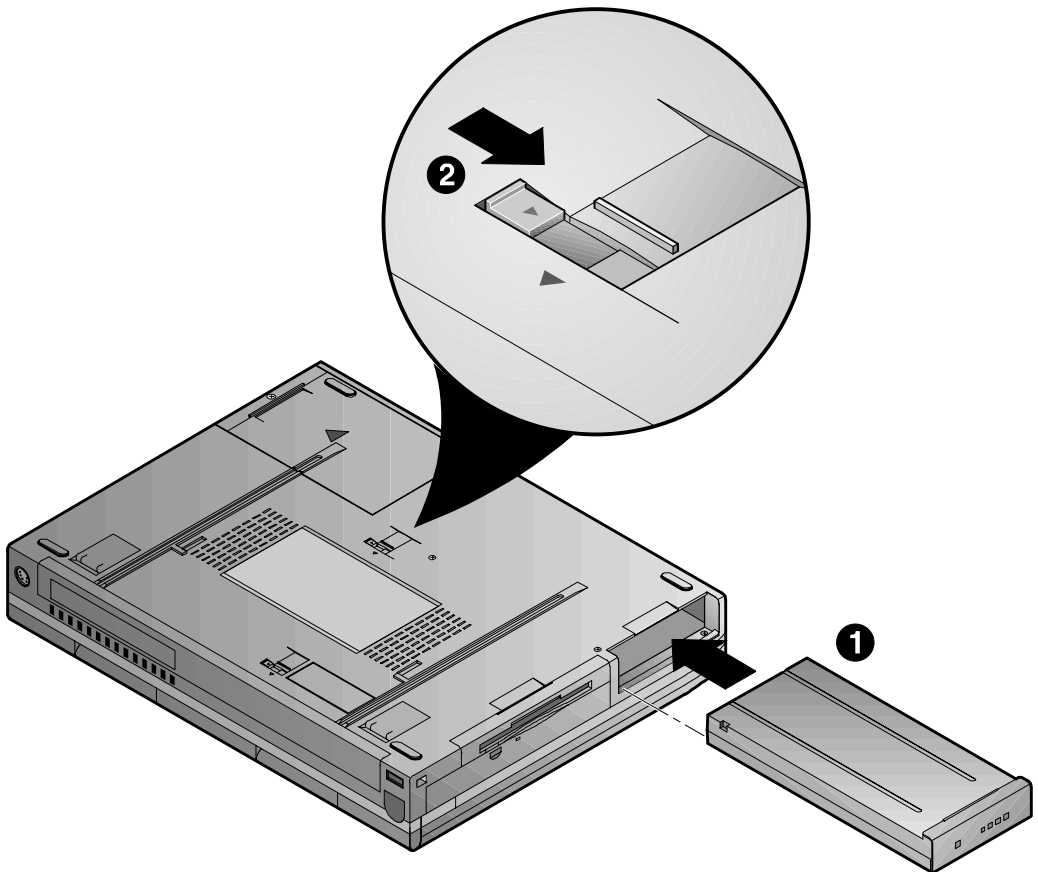
Figure 2-2: Removing the Main Battery

DEC01359-4

Installing the Main Battery

Insert the charged main battery pack into the notebook as follows.

1. Turn the notebook over so the bottom is facing up.
2. Holding the main battery so the rails are facing up, slide the battery into the notebook. (Figure 2-3, step 1)
3. When the battery has been installed, reposition the locking button to its original secured position. (Figure 2-3, step 2)



DEC01359-3

Figure 2-3: Installing the Main Battery

Charging the Battery Pack

The Battery Pack charges automatically whenever your DIGITAL notebook computer is connected to AC power. The following table describes how the system charges the battery and draws power in different operating situations.

Battery	System Power	System Action
Main Battery is Installed	System is being powered by AC power. System is being accessed by the User in full operation mode.	Battery charges automatically. Fully charging a completely drained battery requires approximately 4 hours.
Main Battery is Installed	AC Adapter is connected to the system. The system is in either suspend or power off mode.	Battery charges automatically. Fully charging a completely drained battery requires approximately 2 hours.
Main and Secondary Batteries are Installed	Both the main battery and the optional secondary battery modules are installed. The optional secondary battery is installed in the expansion bay.	Main battery is the first to be charged to full capacity. Once the main battery is fully charged, the secondary battery charges. The system first draws from the secondary battery. After the secondary battery is drained, the system draws power from the main battery.

Note

Digital recommends that you form the new Enhanced NiMH battery and that you fully charge the new LiIon battery before using it.

Low Battery Activity

When the battery reaches low battery charge level, a warning beep sounds to remind you to save your data immediately. Although there is a safety margin of approximately ten minutes, it is always better to save right away. Pressing the [fn + F7] hot key combination turns off the system warning beep and mutes all system sound.

After saving your data, power the notebook using the AC Adapter. If AC power is not available, turn off the notebook and change the weakened battery with a fully charged one.

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

Replacing and Disposing of Batteries

When replacing batteries, use only Digital supplied batteries that are compatible with the notebook computer's electrical requirements and charging circuitry.

Before recycling or disposing of a battery, protect it against accidentally short circuiting by placing non-conductive tape across the terminals or conductive surfaces of the battery.

If the battery is not marked, or if you require information about battery disposal, consult your nearest Digital Service Center.

WARNING



Batteries must be replaced with the same type recommended by the manufacturer. Please see your authorized Digital notebook dealer for details. These batteries must be disposed of in accordance with local ordinances and regulations.

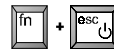
Power Management

Your Digital notebook computer comes equipped with power management features designed to reduce energy consumption. By understanding these features and utilizing good power management techniques, you will obtain the longest possible battery run time.

Good Power Management Habits

If you often operate the notebook on battery power, it is important to develop good power saving habits to maximize battery life.

The Standby/Resume Feature



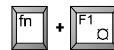
If you need to momentarily stop using the notebook, immediately press the [fn + esc] Standby hot key combination. The system will turn off the LCD screen and spin down the hard disk drive (HDD) to conserve some battery power. Touch pad, external mouse or keyboard activity resumes the system to normal operation.

The Suspend/Resume Feature



If you need to temporarily step away from the notebook, enter the system into suspend by pressing the Suspend/Resume button or by closing the LCD lid (default setting). The system will suspend, conserving battery power and increasing battery run time. In suspend mode, all the high power consuming devices (LCD, HDD and CPU) are turned off. Press the Suspend/Resume button to restore the system to the point where you stopped.

Screen Brightness



The brighter the LCD display screen, the shorter the battery run time. Avoid setting the screen brightness higher than necessary. This will extend battery run time.

20X CD-ROM/FDD Drive



Floppy Disk (FDD) and CD-ROM drives consume a large amount of battery power. In order to maximize battery run time, use the 20X CD-ROM/FDD Combination module when necessary.

PC Cards



PC (PCMCIA) Cards will also tax your battery power, significantly reducing run time. When operating the notebook on battery power, use PC Cards when necessary. When you finish using your PC Card, eject it from the PC Card slot. This extends battery run time.

The Serial and Infrared Ports

The computer's serial and infrared ports will draw some power if *Enabled*, even though no serial device is connected. If you are not using these ports, disable the ports through the Setup Program. This will assist in conserving battery power. Please see Chapter 3 for a complete discussion on enabling and disabling the notebook's ports.

AC Power



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.

Power Management Modes

Your notebook computer is factory-configured with preset power management values. If you are not an advanced user, start by using the factory-configured power management settings. If you find that the factory settings do not fit your specific needs, enter the Setup Program and make the needed changes. Please refer to chapter 3 for details.

If you choose to set your own power saving features, you should understand how it affects battery run time and system performance before changing a setting.

Three power management modes are supported: Standby, Suspend, and Save to Disk.

Standby Mode

In this mode, components such as the HDD, FDD and CD-ROM drive and the LCD back-lit display are powered down and the CPU speed is reduced. Other components, transparent to the user, are put in their lowest active states.

Standby Mode is entered:

- Automatically when the system remains idle for the period of time specified in the Standby Time-out field of the Setup Program.
- Manually by pressing the [fn + esc] key combination.

Standby Mode is exited by any of the following actions:

- Modem ring (if Resume on Modem ring is enabled in the Setup Program.)
- Pressing any key on the keyboard
- Touch pad or externally connected PS/2 mouse activity
- PC Card activity

Suspend Mode

Suspend Mode saves power by cutting power to the DMA clocks, suspending the math co-processor, turning the video off, and turning off all controllable peripheral devices.

When the system suspends, the following events take place:

- A system beep notifies you that suspend mode has been entered.
- The caps lock, number lock, embedded keypad lock, and scroll lock icons in the LCD Status Display begin to rotate.
- If AC power is not connected, the Power/Charge LED will blink approximately once every four seconds.

Suspend Mode is entered by:

- Pressing the Suspend/Resume button.
- Pressing the [fn+A] or [fn+Q] hot key combination.
- Closing the LCD display lid (Lid Switch field in the Setup Program must be set to Suspend)
- When the system has been in Standby for the period of time specified in the Suspend Time-out field of the Setup Program.
- Software aided within Windows 95 by clicking on the Start button and then Suspend.

Suspend Mode is exited by:

- Pressing the Suspend/Resume button.
- When the clock time specified in the Resume Date and Resume Time fields have arrived.
- Modem Ring (Resume on Modem Ring must be set to enabled in the Setup Program)

Save to Disk Mode

Save to Disk is a dual purpose feature. When controlled by the Setup Program, it transparently functions as a safeguard against accidental loss of data due to low battery power. When initiated by the user, it provides the greatest power saving capabilities. Upon entering/initiating Save to Disk, the notebook will save all data and system settings to a pre-created DOS file, then turn off the system. If, in the future, you purchase a second hard drive for expansion or backup purposes, you will need to create a DOS file on the drive in order to take advantage of the Save to Disk feature. Please refer to User's Guide Addendum for details on creating a Save to Disk DOS file.

In the Save to Disk mode, all system logic (except for the battery charger) is turned off. During the Save to Disk mode, the DRAM and video memory are saved to the hard disk and are restored when the system is resumed.

Save to Disk Mode is initiated by:

- Pressing the [fn+F] hot key combination
- Automatically when the battery reaches a critical low power level. If the notebook is in Suspend when a critical low power level is reached, the system will turn back on for a moment and enter Save to Disk.

Save to Disk Mode is exited as follows:

- If entered by pressing [fn+F], press the Suspend/Resume button.
- If entered by critical low battery, first connect the AC adapter, then press the Suspend/Resume button.

A Power Management Example

It may be helpful to enter the Setup Program (pressing F2 key when prompted to during bootup), and open the Power Menu for a visual reference as you read through this section.

The time-out settings for Standby and Suspend Time-out specify the amount of time the system must be inactive before the next power management level is enabled.

In this example the system is left idle, allowing the Power Management features to trigger automatically. The individual Power Savings fields in the Setup Program are configured to the following times:

- Standby Time-out is set to 5 minutes
- Suspend Time-out is set to 5 minutes

The following power management events take place:



After 5 minutes of system inactivity, the notebook enters Standby.

HDD, FDD or CD-ROM drive spin down; the LCD back-lit display and audio are powered off; I/O controller and PCMCIA are put into low power mode; the CPU speed is reduced.

After 5 additional minutes (a total of 10 minutes of inactivity), the system enters Suspend Time-out.

DMA clocks power down; HDD, FDD or CD-ROM, audio, and LCD are turned off; I/O controller is put into low power mode, turning off all controllable peripheral devices; CPU suspends.



When running off battery power, the system will reside in Suspend Mode until the battery reaches the critical low state.

Upon reaching the critical low state, the system will resume, save all data and application information to the pre-created DOS file, then power down.

Power Management Summary

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

Power Mode	How to Enter Mode	How to Resume
Standby	<p>Automatically when system has been inactive for the period of time specified in Standby field of the Setup Program.</p> <p>Press [fn+esc.]</p>	<ul style="list-style-type: none"> • Press any key • PCMCIA activity • Touch pad entry or a PS/2 mouse activity if one is connected • Modem ring
Suspend	<p>Closing the LCD lid.</p> <p>Transits automatically from Standby when the system has been inactive for the period of time specified in the Setup Program.</p> <p>Press Suspend/Resume Button.</p> <p>Press the [fn+A] or [fn+Q] hot key combination.</p> <p>Software aided within Windows 95. Click on Start then Suspend.</p>	<ul style="list-style-type: none"> • Press Suspend/ Resume button • When the clock time specified in the Resume Date and Resume Time fields have arrived
Save to Disk	<p>Pressing the [fn+F] hot key combination</p> <p>Critical low battery charge</p>	<ul style="list-style-type: none"> • If entered by pressing [fn+F], press the Suspend/Resume button. • If entered by critical low battery, first connect the AC adapter, then press the Suspend/Resume button.

Using Power Panel

To make specific changes to the individual Power Management settings, such as changing the time value set for Standby Time-out, you must enter the Setup Program. Chapter 3 discusses in detail how to enter, navigate and make changes to Setup Program.

However, if you want to make changes to the Power Savings, such as changing Hard Disk Time-out, you do not need to enter the Setup Program. The System CD provides a Power Panel utility which provides a customizable Windows user-interface which allows on-the-fly control of many of the power management settings. Refer to the User's Guide Addendum for detailed instruction on installing the Power Panel utility.

3

Setup Program

Introduction

The Setup Program is a menu driven utility that enables you to make changes to the system configuration and tailor the operation of your notebook to suit your individual work needs. It is a ROM-based (Read only Memory) 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. CMOS chips are extremely low power consuming. When the system is turned back on, the notebook is configured with the values found in CMOS.

Note

The CMOS battery receives a charge when the system is being operated on AC power. If the system is off for more than one year, the CMOS battery will drain and the ROM data will be lost. If the CMOS battery is completely drained, you will be prompted with a CMOS Checksum Error message during bootup and given the choice of selecting F1 to resume or F2 to enter the Setup Program. Select F2, then reset the System Time and System Date fields, and load the default settings from the Exit menu. Then select Save Changes and Exit to save the new configuration and exit the Setup Program. Connect the AC adapter to the notebook for 24 hours to recharge the CMOS battery.

By activating user friendly Setup Program 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 affect how the notebook performs. It is important to try to understand all the Setup Programs options and to make settings appropriate for the way you use the notebook.

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 Power On Self Test (POST) fails. This message will inform you of any errors or invalid settings and prompt you to run Setup to correct the problem.

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

A few examples of why you may want to enter the Setup Program follow.

- 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.

Accessing the Setup Program

To access the Setup Program, press the F2 key when prompted during bootup. There are three essential elements to the Setup Program screens: Menu Bar, Item Specific Help Window and Legend Bar.

Menu Bar

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

Main	Changes to the basic system configuration are made from within this menu.
System Devices	Use this menu to enable and make changes to the system port addresses and modes.
Security	Sets System and Boot/Resume password.
Power	From within this menu, you will be able to configure and enable Power Management features.
Boot	Allows you to specify the device the system will boot from and the boot device sequence.
Exit	Use this menu to save changes, set factory defaults and exit the Setup Program.

Item Specific Help

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

Legend Bar

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

Legend Key	Alternate Key	Function
F1	Alt + H	Displays the General Help window.
ESC	Alt + X	Exits the current menu and returns you to the previous screen.
← or →		Selects a different menu bar item.
↑ or ↓		Moves the cursor up and down between fields.
F5	- (minus key)	Scrolls backwards through the values of the highlighted field.
F6	+ (plus key) <space bar>	Scrolls forward through the values of the highlighted field.
F9		Sets the fields for the active menu to their default values.
F10		Saves the new configuration and exits the Setup Utility.
Press Enter		Executes commands, selects submenus, selects fields, or displays available options.

Launching Submenus

Notice that a pointer symbol appears next to selected fields in the menu screens. For example, see the Hard Disk option in the Main menu. The symbol indicates the existence of a submenu that can be launched for more advanced configuration options. To launch a submenu:

1. Move the highlighted cell to the desired Menu Bar item and press <Enter>.
2. Use the legend keys to navigate around the screen and make the needed configuration changes.
3. When you finish, press the [esc] key to exit the submenu and return to the main screen.

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 provides a description of all the keys with their corresponding alternates and functions which are used to navigate the Setup Program.

The scroll bar to the right of the help window indicates that there is more information to be displayed. 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 the <esc> key.

The Main Menu

The following settings are available in the Main Menu screen of the Setup Program.

Field	Settings	Description
System Time	Enter current time: hour, minute, second format	Sets the system to specified time.
System Date	Enter current date: month, day, year format	Sets the system to specified date.
Floppy Drive	<ul style="list-style-type: none"> • 1.44 MB, 3 1/2"* • Disabled 	Enables/Disables support for the Floppy Disk Drive Module.
Hard Disk	Submenu	Displays the Hard Drive size. Press Enter to access the Hard Disk submenu.
Video Display Device		Sets the Video mode.
	<ul style="list-style-type: none"> • CRT Mode 	Allows viewing of externally connected monitor only.
	<ul style="list-style-type: none"> • LCD Mode* 	Allows viewing of the notebook's LCD only.
	<ul style="list-style-type: none"> • Simul Mode 	Allows simultaneous viewing of externally connected monitor (CRT) and the notebook's LCD display.
System Memory	Display only field	Indicates the amount of conventional memory used by the system.
Extended Memory	Display only field	Indicates the amount of RAM, minus conventional memory (640 KB) and high memory (360 KB), installed in the system.

* Default value.

PhoenixBIOS Setup Utility

Main System Devices Security Power Boot Exit

System Time: [03:01:25] System Date: [08/15/1997] Floppy Drive [1.44 MB, 3 1/2"] ▶ Hard Disk [4100 MB] Video Display Device: [Simul Mode] System Memory: 640 KB Extended Memory: 15 MB	<p style="text-align: center;">Item Specific Help</p> <p><Tab>, <Shift-Tab>, or <Enter> selects field.</p>
------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------

F1 Help ↑↓ Select Item F5/F6 Change Values F9 Setup Defaults
 ESC Exit ←→ Select Menu Press Enter Select ▶ Sub-Me F10 Save and Exit

Figure 3-1: The Setup Main Menu

The Hard Disk Submenu

Move the highlighted cell to this field and press <Enter> to launch the submenu. The following settings are available in the Hard Disk Menu.

Field	Settings	Description
Type	<ul style="list-style-type: none"> • Auto* • 1-39 • None • User 	Select the type of hard drive installed in the system. Automatically detects and configures all parameters, except 32 Bit I/O, for the type of hard drive installed. Choose from 39 predefined hard drive types. No hard drive is installed in the system or hard drive is of an unknown type. Manually configure the hard drive parameters. Consult the hard drive documentation for more information on making the correct settings.

Note

Auto is the recommended setting for most hard drive types. If your hard drive is not recognized by the system, consult the hard drive documentation for information on the appropriate settings.

The System Devices Menu

Select System Devices from the menu bar the display the following menu.

PhoenixBIOS Setup Utility		Item Specific Help	
Main System Devices Security Power Boot Exit			
PS/2 Mouse	[Auto]	Selecting 'Disabled' prevents any installed PS/2 mouse from functioning, but frees up IRQ 12. Selecting 'Enabled' allows the OS to determine whether to enable or disable the mouse.	
IDE Controller	[Both]		
FDD Controller	[Enabled]		
Serial Port	[PnP0S]		
Infrared Port	[PnP0S]		
Mode:	[IrDA]		
Parallel Port	[PnP0S]		
Mode:	[ECP]		
DMA channel:	[DMA 3]		
Audio	[PnP0S]		
1st DMA channel:	[DMA 1]		
2nd DMA channel:	[DMA 0]		
F1 Help ↑↓ Select Item F5/F6 Change Values F9 Setup Defaults ESC Exit ←→ Select Menu Press Enter Select ▶ Sub-Me F10 Save and Exit			

Figure 3-2: The System Devices Menu

The following settings are available in the System Devices Menu screen of the Setup Program.

Field	Settings	Description
PS/2 Mouse	• Auto	Configured automatically by the BIOS.
	• Disabled	Disables the touch pad and PS/2 mouse and frees IRQ 12.
	• Enabled*	Allows the OS to determine whether or not to enable the mouse.
IDE Controller	• Primary	Enables the primary IDE channel.
	• Both*	Enables both the primary and secondary IDE channels. This field must be set to Both to use both an IDE hard drive and an IDE CD-ROM.
	• Disabled	Disables the all IDE devices.
FDD Controller	• Enabled*	Enables the floppy disk controller.
	• Disabled	
Serial Port		Enables/Disables, configures or disables the serial port.
	• Auto*	Configured automatically by the BIOS.
	• PnPOS	Configured automatically by the Plug and Play OS.
	• Disabled	Disables the serial port.
	• Enabled	Manually configures the serial port Base I/O Address. Available configurations are: 3F8-IRQ4*, 2F8-IRQ3, 3E8-IRQ4, 2E8-IRQ3.

*Default value.

Field	Settings	Description
Fast Infrared	• Auto*	Enables, configures or disables the Fast Infrared port. Configured automatically by the BIOS.
	• PnPOS	Configured automatically by the Plug and Play OS.
	• Disabled	Disables the infrared module.
	• Enabled	Manually configure the infrared port Base I/O Address. Available configurations are: 3F8-IRQ4, 2F8-IRQ3*, 3E8-IRQ4, 2E8-IRQ3.
Mode	<ul style="list-style-type: none"> • IrDA* • ASK-IR • FIR 	Choose the default setting for this field or refer to the IR device User's manual.
DMA channel	<ul style="list-style-type: none"> • DMA 0 • DMA 2 • DMA 3* 	Appears only when mode is set to FIR. Define the DMA channel to be used by the FIR serial port
Parallel Port	• Auto*	Enables, configures or disables the parallel port. Configured automatically by the BIOS.
	• PnPOS	Configured automatically by the Plug and Play OS.
	• Disabled	Set the parallel port to disable in order to increase the battery run time.
	• Enabled	Manually configure the parallel port Base I/O Address (278, 3BC, or 378) and Interrupt (IRQ5 or IRQ7*).

*Default value.

Field	Settings	Description
Parallel Port Mode	<ul style="list-style-type: none"> • Normal mode • Bi-directional mode • ECP* • EPP 	<p>Choose the default setting for this field or refer to the parallel device User's manual.</p> <p>To take advantage of ECP (Extended Capabilities Port) and EPP (Enhanced Parallel Port) mode, the parallel device must be ECP/EPP aware. See your parallel device user's guide.</p>
DMA channel	<ul style="list-style-type: none"> • DMA 0 • DMA 2 • DMA 3* 	Appears only when the Parallel Port Mode is set to ECP. Define the DMA channel to be used by the parallel port.
Audio	<ul style="list-style-type: none"> • Auto* • PnPOS • Disabled • Enabled 	<p>Enables, configures or disables the sound device.</p> <p>Configured automatically by the BIOS.</p> <p>Configured automatically by the Plug and Play OS.</p> <p>Disables the sound device.</p> <p>Manually configure the sound device SB,WSS and AdLib I/O addresses. The defaults are 220h, 530-534h, and 388h respectively.</p>
1st/2nd DMA channel	<ul style="list-style-type: none"> • DMA 0* • DMA 1* • DMA 3 	Define the DMA channels to be used by the sound device. DMA 1 is the default for the 1st channel and DMA 0 is the default for 2nd channel.
Interrupt	<ul style="list-style-type: none"> • IRQ 5* • IRQ 7 • IRQ 9 • IRQ 11 	In use when Audio is set to Enabled.

* Default value.

The Security Menu

Select Security from the menu bar to display the following menu.

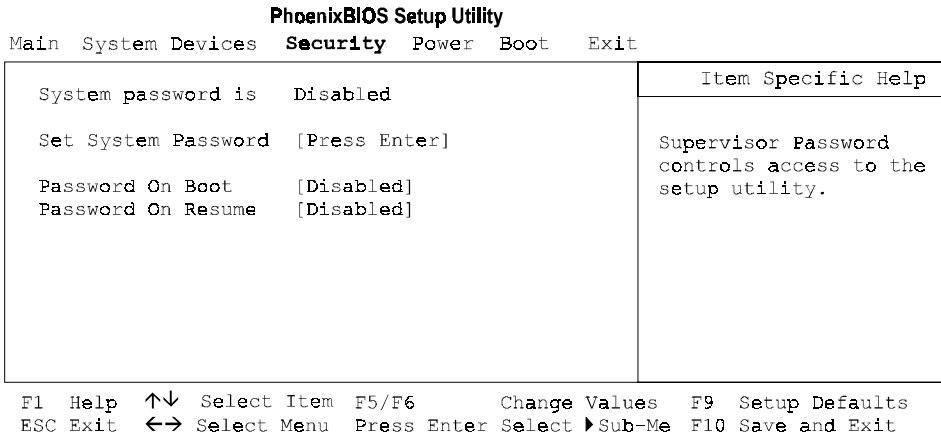


Figure 3-3: The Setup Security Menu

Field	Settings	Description
System Password is Disabled	Display only field	Indicates whether or not a password is enabled.
Set System Password	[Press Enter]	Upon pressing Enter, the system will prompt you to enter a new password and to verify it. Once set, this password must be entered to access the Setup Program.
Password on Boot	<ul style="list-style-type: none"> • Enabled • Disabled * 	When enabled, the system will require the Password during system boot. In order to enable Password on Boot, you must have a System Password set.
Password on Resume	<ul style="list-style-type: none"> • Enabled • Disabled * 	When enabled, the system will require the Password when resuming from suspend. In order to enable Password on Resume, you must have a System Password set.

* Default value.

The Power Menu

The Power Menu allows you to enable and adjust the notebook's power saving features. Enabling these features will extend the battery run time.

PhoenixBIOS Setup Utility

Main System Devices Security **Power** Boot Exit

Power Management Mode [Customize]	Item Specific Help
Smart CPU Mode: [On]	Select Power Management Mode. Choosing modes changes system power management settings. Maximum Power Savings conserves the greatest amount of system power while Maximum Performance conserves power but allows greatest system performance. To alter these settings, choose Customize. To turn off power management, choose Disable.
Standby Time-out: [2 Minutes]	
Suspend Time-out: [8 Minutes]	
Hard Disk Time-out: [6 Minutes]	
Video Time-out: [Disabled]	
Lid Switch Action: [Suspend]	
Resume On Modem Ring: [Disabled]	
Resume Date: [Disabled]	
Resume Time: [00:00:00]	
Resume Date: [07/01/1997]	

F1 Help ↑↓ Select Item F5/F6 Change Values F9 Setup Defaults
 ESC Exit ←→ Select Menu Press Enter Select ▶ Sub-Me F10 Save and Exit

Figure 3-4: The Setup Power Menu

Field	Settings	Description
Power Management Mode	<ul style="list-style-type: none"> • Disabled 	<p>Sets the Power Management Mode.</p> <p>Disables all Power Management</p>
	<ul style="list-style-type: none"> • Customized * 	<p>Allows you to customize the Power Management fields (Smart CPU Mode, Standby, Suspend Disk Time-out, Video Time-out) to suit your individual work needs.</p>
	<ul style="list-style-type: none"> • Max. Power Savings 	<p>Power Management fields will be set with pre-defined values to ensure maximum battery run time.</p>
	<ul style="list-style-type: none"> • Max. Performance 	<p>Power Management fields will be set with pre-defined values to provide best system performance with some power conservation.</p>
Smart CPU Mode	<ul style="list-style-type: none"> • Off 	<p>If enabled, the CPU slows down during periods when the system is not busy thus conserving battery power.</p>
	<ul style="list-style-type: none"> • On 	
Standby Time-out	<ul style="list-style-type: none"> • Disabled 	<p>Indicates the amount of time the system needs to be idle before entering Standby mode. In order to make changes to this field, Power Management Mode must be set to Customize.</p>
	<ul style="list-style-type: none"> • 1, 2* Min. 	
	<ul style="list-style-type: none"> • 4 Min. 	
Suspend Time-out	<ul style="list-style-type: none"> • Disabled 	<p>Indicates the amount of time the system needs to be idle before entering Suspend mode. Power Savings must be set to Customize in order to change these values.</p>
	<ul style="list-style-type: none"> • 4, 8* Min. 	
	<ul style="list-style-type: none"> • 16 Min. 	
Hard Disk Time-Out	<ul style="list-style-type: none"> • Disabled 	<p>Indicates the amount of time the hard disk needs to be inactive before it is turned off. In order to make customized changes to this field, Power Management Mode must be set to Customize.</p>
	<ul style="list-style-type: none"> • 30 Seconds 	
	<ul style="list-style-type: none"> • 1 Min. 	
	<ul style="list-style-type: none"> • 2, 4, 6*, 8, 10, 15 Min. 	

*Default value.

The Setup Program

Field	Settings	Description
Video Time-out	<ul style="list-style-type: none"> • Disabled* • 1 Min. • 2, 4, 6, 8, 10, 15 Min. 	Indicates the amount of time input devices, such as the keyboard, need to be idle before the LCD is turned off.
Lid Switch Action	<ul style="list-style-type: none"> • Suspend* • CRT 	Allows you to determine whether or not the system will suspend or switch to CRT display when the LCD is closed.
Resume on Modem Ring	<ul style="list-style-type: none"> • Disabled* • Enabled 	If enabled, a modem ring will resume the system from suspend mode.
Resume Date	<ul style="list-style-type: none"> • Disabled* • Enabled 	If enabled, the system will automatically resume from the Suspend Mode as defined by the Resume Time and Resume Date fields described below.
Resume Time	Enter resume time: hour, minute, second format.	Allows you to specify the time the system will resume. The Resume Date field above must be set to Enabled for the system to resume.
Resume Date	Enter resume date: month, day, year format.	Allows you to specify the date the system will resume. The Resume Date field above must be set to Enabled for the system to resume.

* Default value.

The Boot Menu

From this menu you can choose where the system looks to boot from. You can also prioritize the different boot devices.

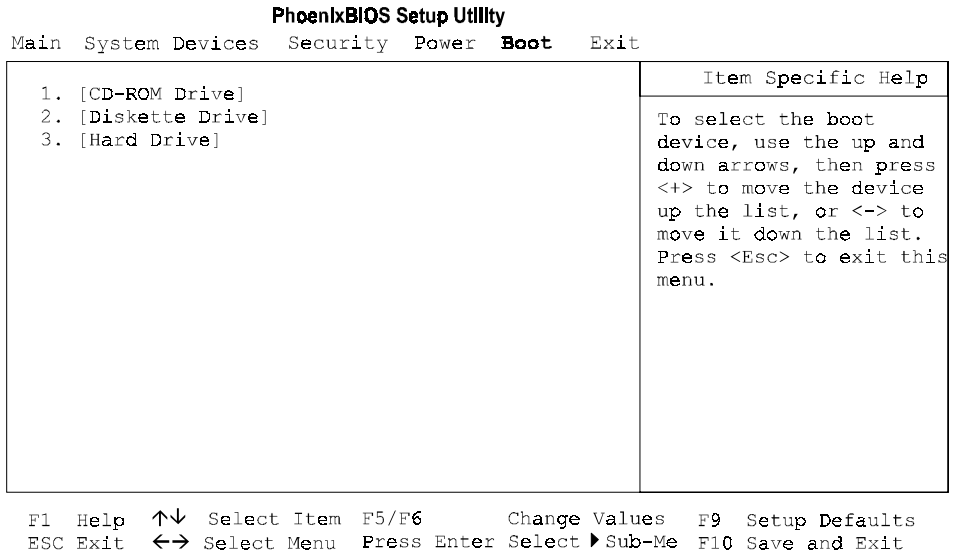


Figure 3-5: The Setup Boot Menu

Field	Description
1. [CD-ROM Drive]	These fields allow you to define the order of devices in which the system looks for an OS. To change the order, move the highlighted cell to the field to be moved. Press F5 to move the field to a lower priority. Press F6 to move the field to a higher priority.
2. [Diskette Drive]	
3. [Hard Drive]	

The Exit Menu

Enter the Exit Menu to save changes, set factory defaults or exit the Setup Program.

Field	Action	Description
Save Changes & Exit	<Enter>	Saves the current changes and exits the Setup Program.
Discard Changes & Exit	<Enter>	Discards the current changes and exits the Setup Program.
Get Default Values	<Enter>	Loads the factory default values for each of the fields in the Setup Program. To keep default values and exit the Setup Program, you must move the highlighted cell to the Save Changes & Exit field and press the <Enter> key.
Load Previous Values	<Enter>	Discards any changes made during the current BIOS configuration session, and loads the prior session's values. You cannot exit the BIOS through this field.
Saves Changes	<Enter>	Saves the changes made during the current BIOS configuration session. You cannot exit the Setup Program through this field.

PhoenixBIOS Setup Utility

Main System Devices Security Power Boot **Exit**

	Item Specific Help
Save Changes and Exit	Exit System Setup and save your changes to CMOS.
Discard Changes and Exit	
Get Default Values	
Load Previous Values	
Save Changes	

F1 Help ↑↓ Select Item F5/F6 Change Values F9 Setup Defaults
 ESC Exit ←→ Select Menu Press Enter Execute Command F10 Save and Exit

Figure 3-6: The Setup Exit Menu

The Setup Program

4

Peripheral Devices

Your notebook computer is equipped with several ports for connecting a number of peripheral devices such as a printer, a modem, or an external monitor. Also featured are three stereo jacks for connecting external input/output audio equipment.

Peripheral Equipment

Before attempting to connect a peripheral device to the computer, make sure you are familiar with the notebook's various I/O ports.

- External monitor connector
- Parallel port
- Serial port
- External keyboard/ mouse (PS/2) connector
- External line in connector
- External microphone connector
- A line out connector
- Fast Infrared Port
- Built-in Microphone
- Universal Serial Bus port

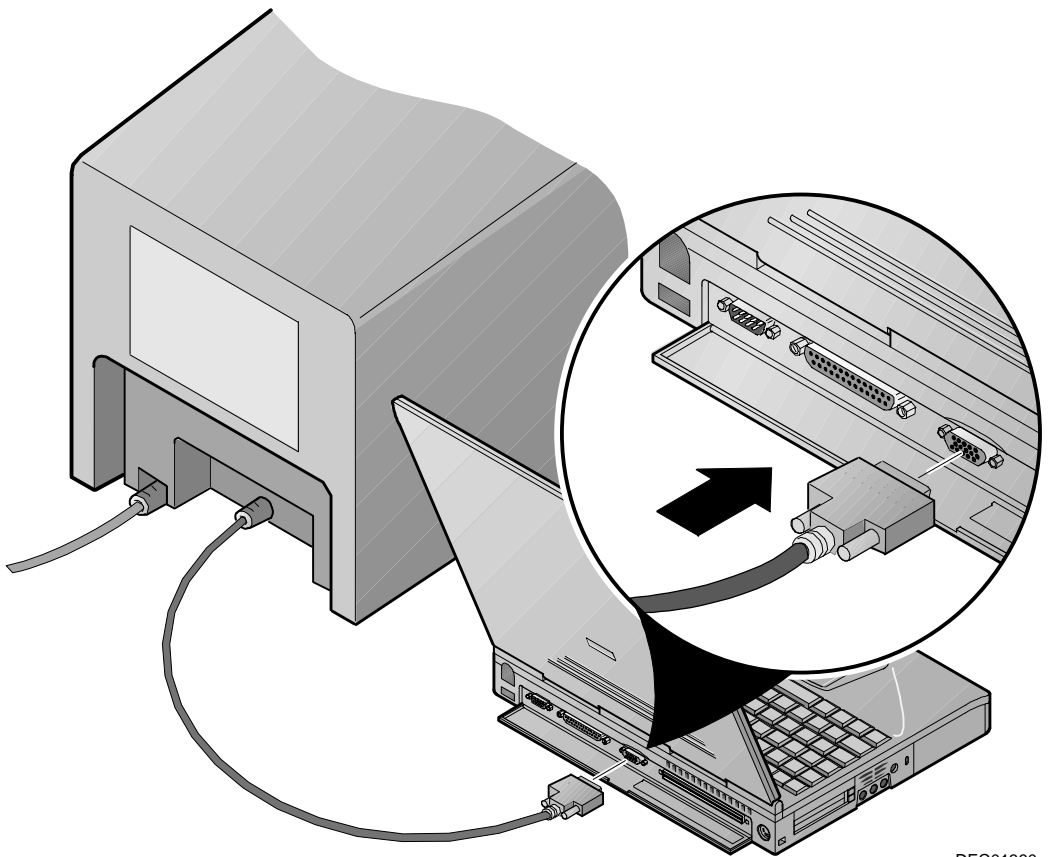
Connecting An External Monitor

The notebook has a port for connecting an external VGA or higher resolution monitor. The port is a standard 15-pin analog connector. Your Digital notebook supports three display modes: LCD only, CRT only and Simul scan (simultaneous view of CRT and LCD).

If you wish to connect both an external keyboard and an external monitor, you should first enter the Setup Program and set the Lid Switch Action to CRT mode. This will allow you to close the lid of the notebook without the system entering into suspend. Please refer to Chapter 3 in the section labeled *The Power Menu* for detailed instructions on how to configure the Lid Switch's function.

Connect an external monitor to the notebook as follows. (Figure 4-1)

1. Connect the monitor signal cable to the notebook's VGA port located on the rear of the notebook. Tighten the thumb screws.
2. After ensuring the monitor is turned off, connect its power cord to a wall outlet.
3. Turn on the monitor.
4. Use the [fn + F4] hot key combination to achieve CRT only or simultaneous viewing mode.



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Figure 4-1: Connecting an External Monitor

Connecting a Printer to the Parallel Port

The notebook's parallel port uses a 25-pin connector, allowing you to attach any parallel equipment 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 Bi-directional, Normal, EPP and ECP modes.

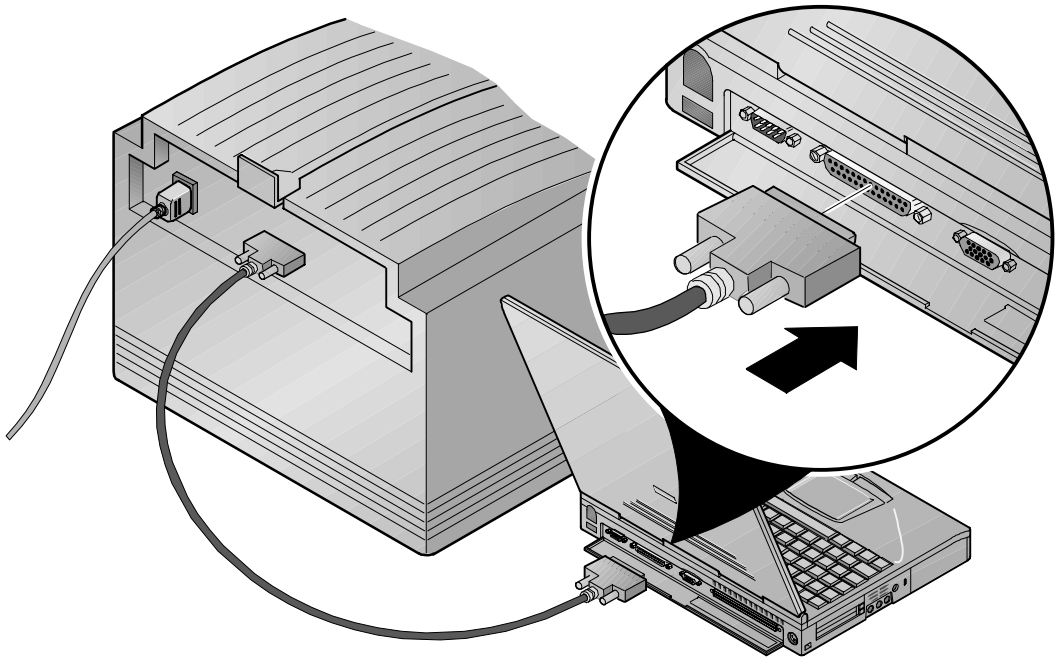
To connect a parallel device to the notebook, you need the standard 25-pin connector parallel cable mentioned earlier. Your notebook's parallel port IRQ and I/O address is factory-default set to Auto (detect). This should be adequate for the connection of most parallel devices. In some cases, however, you may need to make specific changes to the parallel port's IRQ and I/O address to suit the parallel device. Enter the Setup Program and open the System Devices sub-menu. Please refer to Chapter 3 for detailed instructions.

Parallel Port Data Transfers

When using Puma IntelliSYNC 97 to conduct parallel port data transfers under Windows for Workgroups, you must enter the Setup Program and configure the Parallel Port to EPP mode. For detailed information on changing the Parallel Port mode, please refer to Chapter 3, System Devices.

Refer to figure 4-2 and connect a printer to the notebook as follows:

1. Connect the printer signal cable to the parallel port on the rear of the notebook. Tighten the thumb screws.
2. Connect the printer's power cord to a wall outlet.
3. Turn on the printer.



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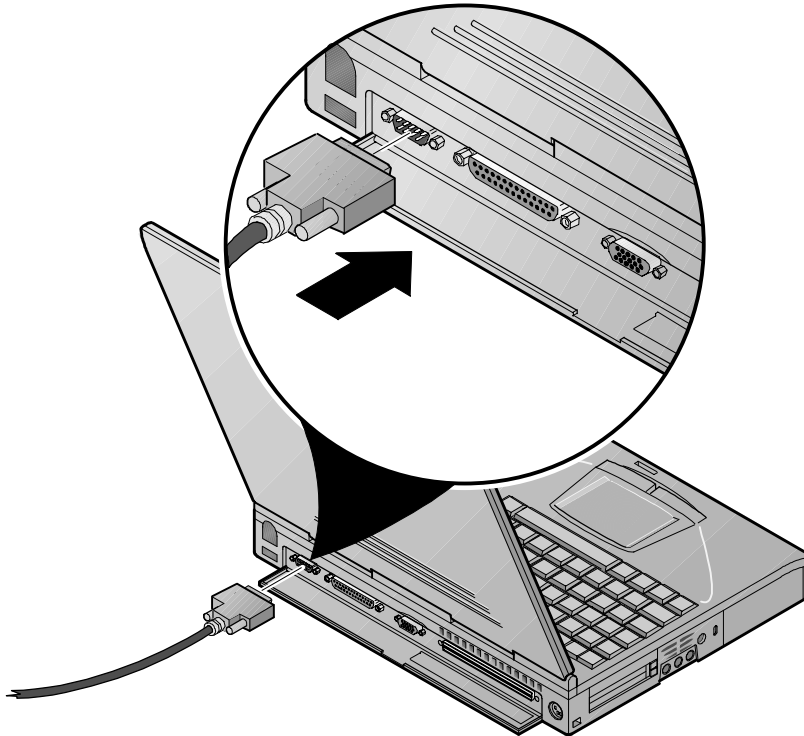
Figure 4-2: Connecting a Printer

Connecting a Serial Mouse

The notebook's serial port is a standard 9-pin connector. Any device that uses this standard can be connected to the notebook. For example, a mouse, graphics tablet or scanner can be directly connected to this port. If you have any doubt about the cables required for equipment you plan to purchase, consult your authorized Digital notebook dealer.

The notebook's Serial Port address can be set through the Setup Program (refer to Chapter 3 for information on Setup). Refer to figure 4-3 and connect a serial mouse as follows:

1. Connect the mouse cable to the notebook's serial port located on the rear of the notebook.
2. Tighten the thumb screws.



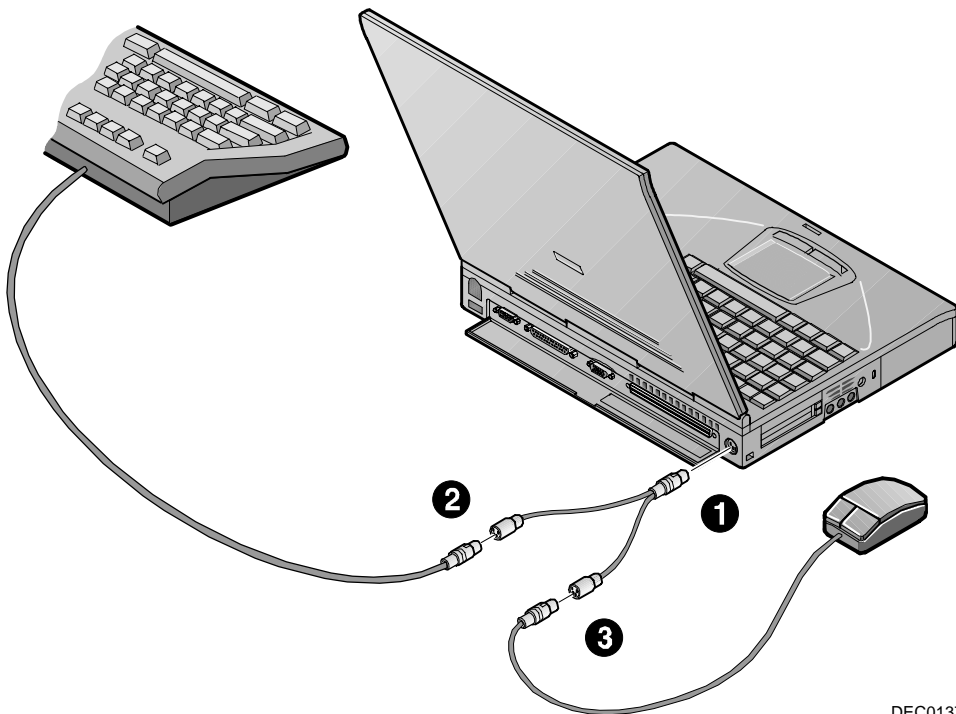
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Figure 4-3: Connecting a Serial Mouse

Connecting an External Keyboard and PS/2 Mouse

The notebook is shipped with PS/2 Y-connector cable which allows you to connect a full size enhanced keyboard and PS/2 mouse to this port. To connect both devices, refer to the following instructions and figure 4-4.

1. Connect the PS/2 Y-connector to the PS/2 port. (Figure 4-4, step 1)
2. If your keyboard cable connector is not equipped with a PS/2 connector, attach a PS/2 adapter to it. Connect the keyboard to the Y-connector cable. (Figure 4-4, step 2) The keyboard is now ready to use. Contact your Digital notebook dealer for PS/2 adapter purchase information.
3. Connect the PS/2 mouse to the Y-connector. (Figure 4-4, step 3) Reboot the notebook to allow detection of the PS/2 mouse.



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Figure 4-4: Connecting an External Keyboard

Note

On an external keyboard, the [Ctrl+Alt] key combination can be used to emulate the notebook's [fn] key. For example, pressing the [Ctrl+Alt+F] key combination on an external keyboard will suspend the notebook.

Fast Infrared Port

The notebook is equipped with a Fast Infrared (FIR) port located on the rear panel (Figure 1-2). The Fast Infrared (FIR) port allows wireless high-speed transfer of data (data input and output) between your Digital notebook and another Infrared equipped computer device, such as a printer or another notebook.

Three transfer modes are supported: FIR, IrDA, and ASK-IR. Consult IR device documentation for information on the appropriate settings for your device. Refer to Chapter 3, in the section labeled *System Devices* for instructions on how to configure the Fast Infrared port.

The FIR port consists of one Light Emitting Diode (LED) and one photo sensor. The transmission/receiving function of the FIR port is similar to that of a television remote control device. The LED functions as a transmitter and the photo sensor acts as a receiver. The transmitter emits a signal stream of data in the form of pulses of infrared light. The receiver picks up pulses of infrared light transmitted by other Infrared modules.

The data transfer software which is installed on your system is Puma IntelliSYNC 97. Please refer to its on-line documentation for detailed instructions on conducting Infrared data transfers.

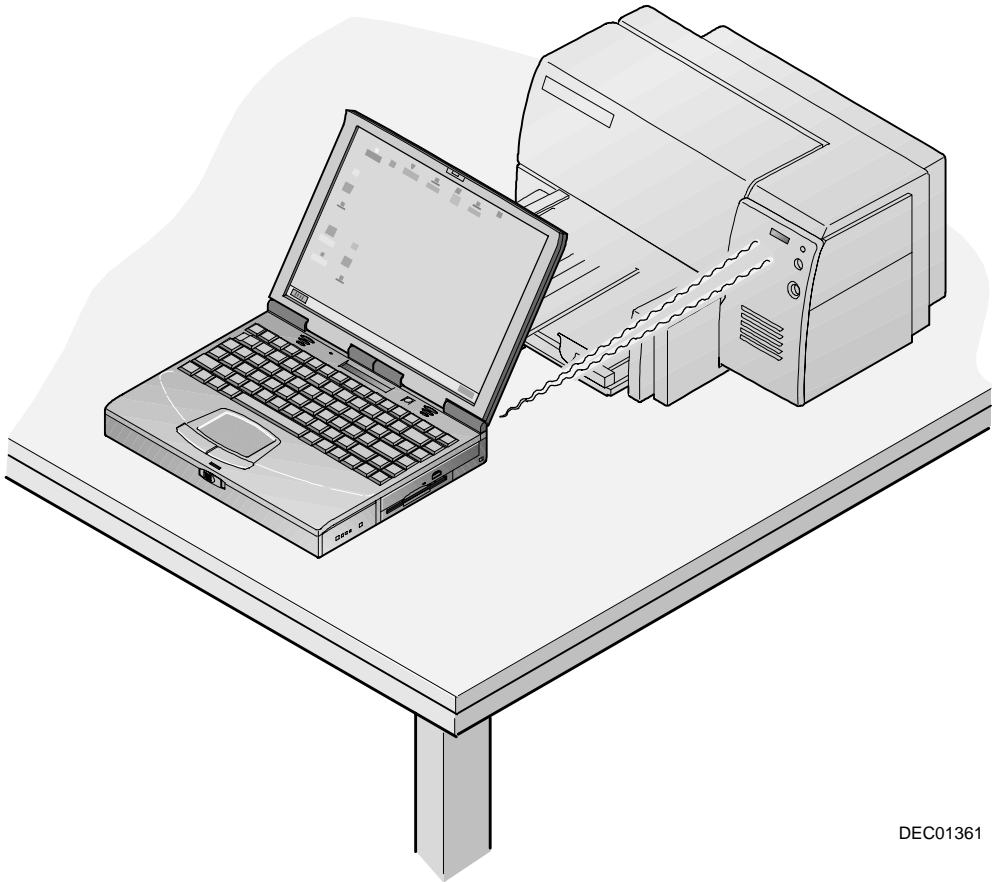
When conducting an Infrared (IR) data transfer:

- Make sure the Infrared Port field in the Setup Program is configured with the correct address. If you are unsure of the correct address, try setting the port to Auto (detect).
- Ensure that the notebook's FIR port is properly lined up with the other device's IR port. The FIR baud rate can reach 4 Mbps (mega bits per second) 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 IR modules; otherwise the optical signal can be distorted.
- Do not move either the notebook or the other device during data transmission. Moving either device during transmission distorts the optical signal resulting in loss of data or a system crash.

Note

An error can occur in IR transmission if subjected to an environment with high levels of noise. To avoid transmission error do not transmit IR signals near equipment with compressors, such as refrigerators or air conditioners.

If you re-install the operating system, you must re-install the infrared port. Enter Control panel, click on installing new hardware and follow the on-screen instructions.

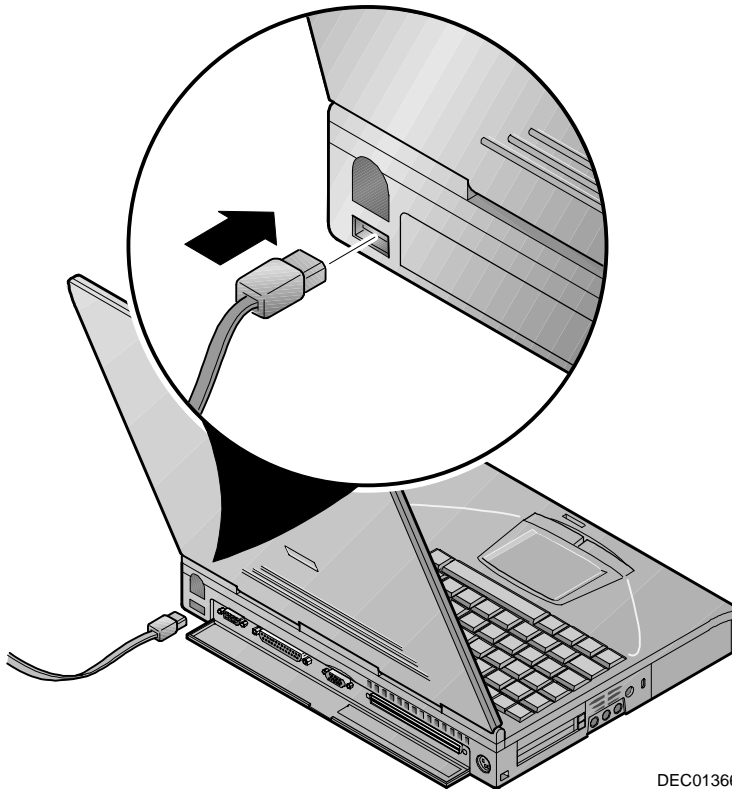


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Figure 4-5: An Infrared Data Transfer

Connecting a USB Device

One USB connector is located below the Infrared Module on the right side of the notebook. This connector allows you to up to 127 daisy chained USB devices, including digital cameras, scanners, keyboards, mice and monitors.



DEC01366-3

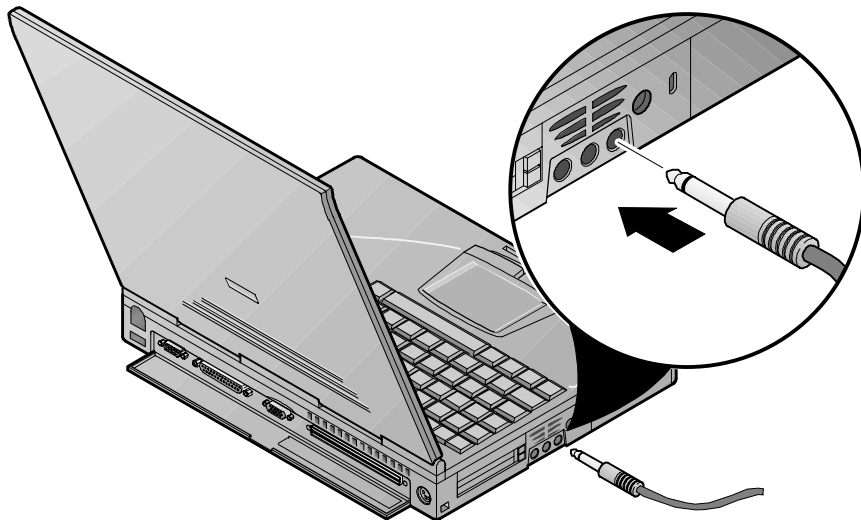
Figure 4-6: Connecting a USB Device

External Mic, Line In and Line Out

Three audio jacks, a Line In, an External Mic and a Line Out, are located to the left of the AC Adapter port on the left side panel of the notebook. The Line In jack allows you to connect an external audio source, such as a CD Player. The external microphone jack is used for connecting an external microphone. Connect external stereo speakers or headphones to the Line Out port.

Note

The Line Out signal is not amplified. To enjoy the audio output to its fullest, connect amplified speakers to this port.



DEC01366-4

Figure 4-7: Connecting External Audio Devices

5

PC Cards

Your Digital notebook is equipped with two PC Card Bus sockets. Card Bus is a new standard that allows full-size 32-Bit PCI peripheral type performance in a PC Card form factor. It is Advanced Power Management aware - therefore providing superior power management.

The PC Card Bus sockets accommodate two 3.3V/5V Type I or Type II PC Cards or one Type III PC Card. The PC Card feature allows you to expand and customize your notebook to meet a wide range of computing needs without sacrificing portability. PC Cards accommodate a number of expansion options: hard disks, fax/modems and network (LAN) cards are just a small sample of the PC Card products available on today's market.

Your Digital notebook computer comes from the factory with a Microsoft operating system installed. The drivers needed for most of the PC Cards are included on your system. If a compatible driver is not available, refer to your operating system's PC Card On-line help or the PC Card manufacturer's documentation.

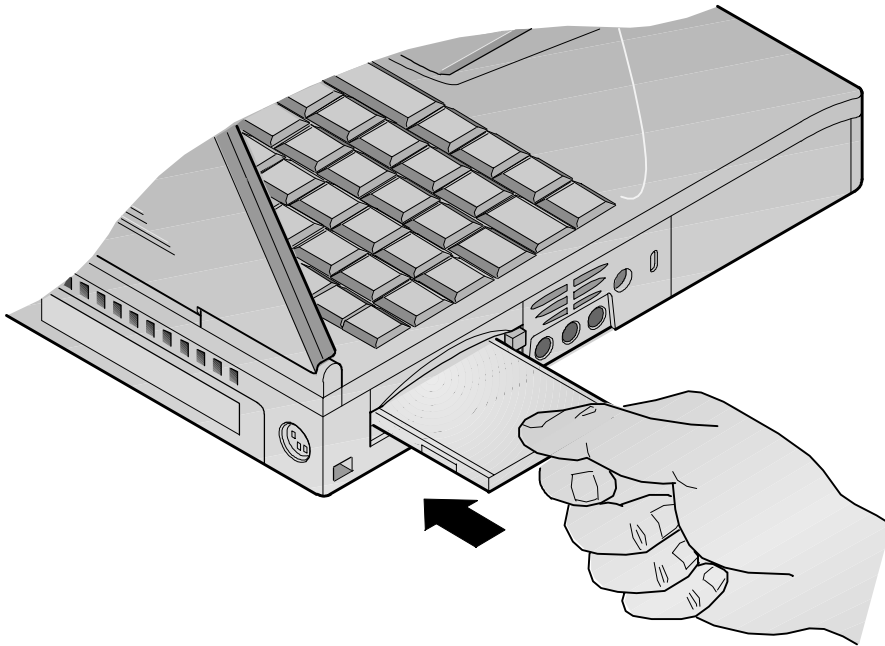
Inserting and Ejecting PC Cards

Many PC Cards available today are plug-and-play devices, i.e. they can be inserted into the PC Card expansion sockets while the computer is powered on. Refer to the documentation that came with your PC Card for detailed information on configuring and operation.

Inserting a PC Card

The instructions for inserting a PC Card are as follows. (Figure 5-1)

1. If your PC Card or operating system does not support hot-plugging, save your data and close all applications. Shut down the notebook.
2. Hold the PC Card with the label facing up and the connector side toward the socket.
3. Align the card connectors with the appropriate socket and carefully slide the card into the socket until it locks into place.



DEC01362-2

Figure 5-1: Inserting a PCMCIA Card

Caution

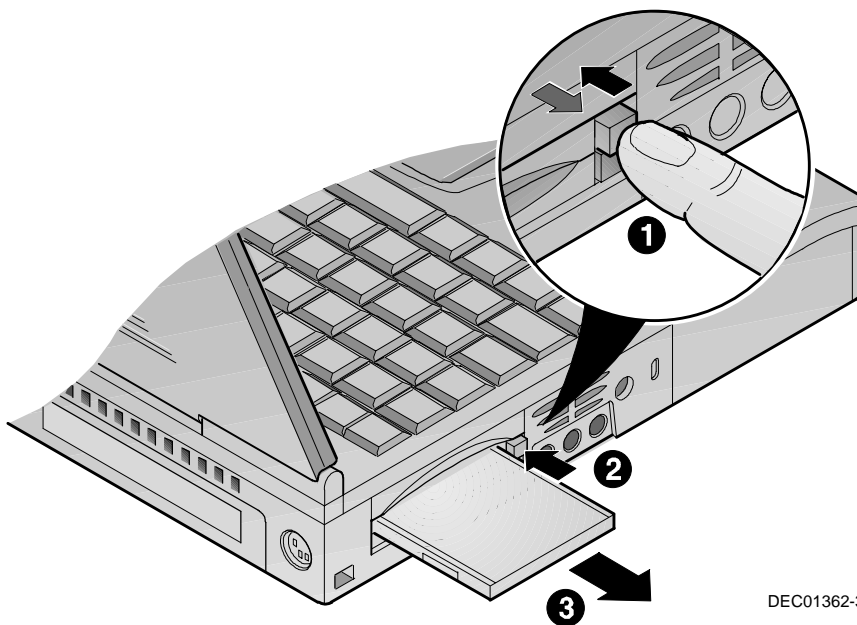


When inserting a Type III PC card, make sure the connector is inserted in the lower socket. Before ejecting a PC Card, ensure that it is not being accessed by the system. Memory card users must never change a card's write protect switch while the card is inserted into a PC Card socket. To change the switch setting, (a) eject the card, (b) change the switch setting, and (c) re-insert the card.

Ejecting a PC Card

The notebook features Push-Push eject buttons for easy PC Card removal. The instructions for ejecting a PC Card are as follows: (Figure 5-2)

1. Use the operating system software to shutdown the PC Card.
2. Locate the eject button next to the PC Card socket. Press eject the once to extend the button beyond the case. (Figure 5-2, step 1) Press the button again to eject the PC Card. (Figure 5-2, step 2)
3. Remove the card and store it properly. (Figure 5-3, step 3)



DEC01362-3

Figure 5-2: Ejecting a PC Card

Using Windows 95 PC Card Support

Windows 95 allows for the hot plugging of most modem and network cards. If a driver is required or if you are required to reboot the system, Windows 95 will notify you.

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 in the Windows 95 PC Card On-line Help:

- 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

Installing PC Modem Cards in Windows 95

To install PC modem cards and load the modem drivers within Windows 95 please refer to the following instructions:

1. Insert the PC modem Card into the PC Card socket. Please refer to figure 5-1 if you have questions on inserting PC Cards into the PC Card socket.
2. Windows 95 will normally configure the modem card immediately. If Windows 95 cannot configure your PC Card, it will give you up to four choices to choose from:
 - Use Windows default driver
 - Driver from disk provided by manufacturer
 - Do not install a driver
 - Select from a list of alternative drivers
3. Select one of the four choices and follow the remaining on-screen instructions.

Installing PC Network Cards in Windows 95

1. Insert the PC Network Card into the PC Card socket. Please refer to figure 5-1 if you have questions on inserting PC Cards into the PC Card socket.
2. Windows 95 will normally configure the network card immediately. If Windows 95 cannot configure your PC Card, it will give you up to four choices to choose from:
 - Use Windows default driver
 - Driver from disk provided by manufacturer
 - Do not install a driver
 - Select from a list of alternative drivers

3. Select one of the four choices and follow the remaining on-screen instructions. For further network configuration information, see your Network Administrator.

Installing PC Cards in Windows NT 4.0

In order to use a PC Card under the Windows NT 4.0 environment, that card's driver must be a Windows NT compatible 32-bit driver. If it is not, you will not be able to complete the install procedure. Refer to your PC Card's documentation for more details.

Digital state of the art engineering has designed a driver which enables you to make use of many of the DIGITAL HiNote VP 700 Series Power Management features on a Windows NT 4.0 platform. The driver is called Enhanced Power Management (EPM). It can be found on the DIGITAL System CD with the following path Driver/WinNT/EPM. The EPM advanced features allow for:

- Hot insertion/removal of PC Card modems
- Dynamically power on/off modem slot as needed
- Power down PCMCIA sockets when in suspend mode
- Update of operating system time after power management events (for example, suspend/resume)
- Improved battery life and system shutdown feature
- Power source icon added to the Task bar, double-clicking shows the % of battery power remaining

Installing PC Modem Cards in Windows NT 4.0

To install PC modem cards and drivers within Windows NT 4.0 please refer to the following instructions.

1. Save all data files and close any open applications. Insert the PC modem Card into the PC Card socket. Please refer to figure 5-1 if you have questions on inserting PC Cards into the PC Card socket.
2. Open Control panel by either clicking on the My Computer icon and then Control Panel or by clicking on the [Start] button, then Settings and then Control panel.
3. Double click on the Modem icon. The Install New Modem dialogue box will appear informing you that Windows will attempt to detect the modem. Click on the [Next] button.
4. In the Install New Modem dialogue box, you will be notified of the location of the modem (COM 2) and the driver. If Windows NT does not have the modem in its data base, Windows NT will substitute the cards driver with "Standard Modem Types." This driver works with most all modems. Click on the [Next] button.
5. The Location Information dialogue box will appear requesting your country, current area code and the number you need to press, if any, to access an outside line. Fill in the information and click on the [Next] button.
6. Click on [Finish]. The PC Card Modem is now installed.

Installing PC Network Cards in Windows NT 4.0

To install PC Network cards and drivers within Windows NT 4.0, please refer to the following instructions.

1. Save all data files, close any open applications and shut down the notebook.
2. Insert the PC Network Card into the PC Card socket. Please refer to figure 5-1 if you have questions on inserting PC Cards into the PC Card socket. Turn the notebook on. The PC Network Card must be installed in the notebook prior to boot up.
3. Right click on the Network Neighborhood icon and click on the Adapter tab.
4. Click on the [Add] button. The Select Network Adapter dialogue box will appear. Locate and click on your card's network driver. Click on the [OK] button and skip to step 7. If you were unable to locate the driver from the list proceed to step 5.
5. If you are unable to locate the Network driver from the list provided by Windows NT and you have the driver located on a floppy, insert the manufacturer's floppy which came with PC Card into the floppy drive and click on the [Have Disk] button.

6. The Insert Disk dialogue box will appear. In the command line, type in the path where the driver is located. For example, A:\Card\network\driver.inf Click on the [OK] button.
7. The Windows NT Setup dialogue box will appear. The command line should read C:\WinNT\options\i386 Click on the [Continue] button.
8. At the Network Card dialogue box, locate the Network's IRQ setting. By default, the Network will be assigned IRQ 5. Change this to IRQ 11. Your notebook's audio uses IRQ 5. If you do not change the Network IRQ to IRQ 11, you will not have any system sound when using the network. Ensure that the other settings are correct and click on the [OK] button.
9. At the TCP/IP Setup dialogue box, you are asked if you wish to enable DHCP. Whether or not to enable DHCP depends upon your network configuration. See your Network Administrator for details.
10. At the Show Bindings for: dialogue box click on the [Next] button.
11. Click on the [Next] button again to restart the Network. If you are using Domain style network, enter the Domain name. If you are using a WorkGroup, enter the WorkGroup name and click on the [Next] button.
12. Click on the [Finish] button. At the Network Settings Change dialogue box click on the [Yes] button to restart the computer.

6

Expansion and Option Devices

This chapter describes the optional and expansion equipment that can be added to the basic notebook system. Expansion devices are ones which are installed inside the computer rather than external equipment such as a printer that can be connected to the computer's I/O ports. For example:

- Add more system memory to improve performance.
- Remove the 20X CD-ROM/FDD Combination module and replace it with the optional secondary battery pack.
- Connect your Digital notebook to the optional Minidock to increase expandability.

System Memory Expansion

Your Digital notebook comes equipped with 16 MB or greater of on-board SDRAM. While this memory is sufficient for most circumstances, you may find that in some cases additional memory is required. The notebook provides two expansion slots for installing two optional Dual In-line Memory Modules (DIMMs). Contact your Digital notebook representative for purchasing information.

Memory Configuration

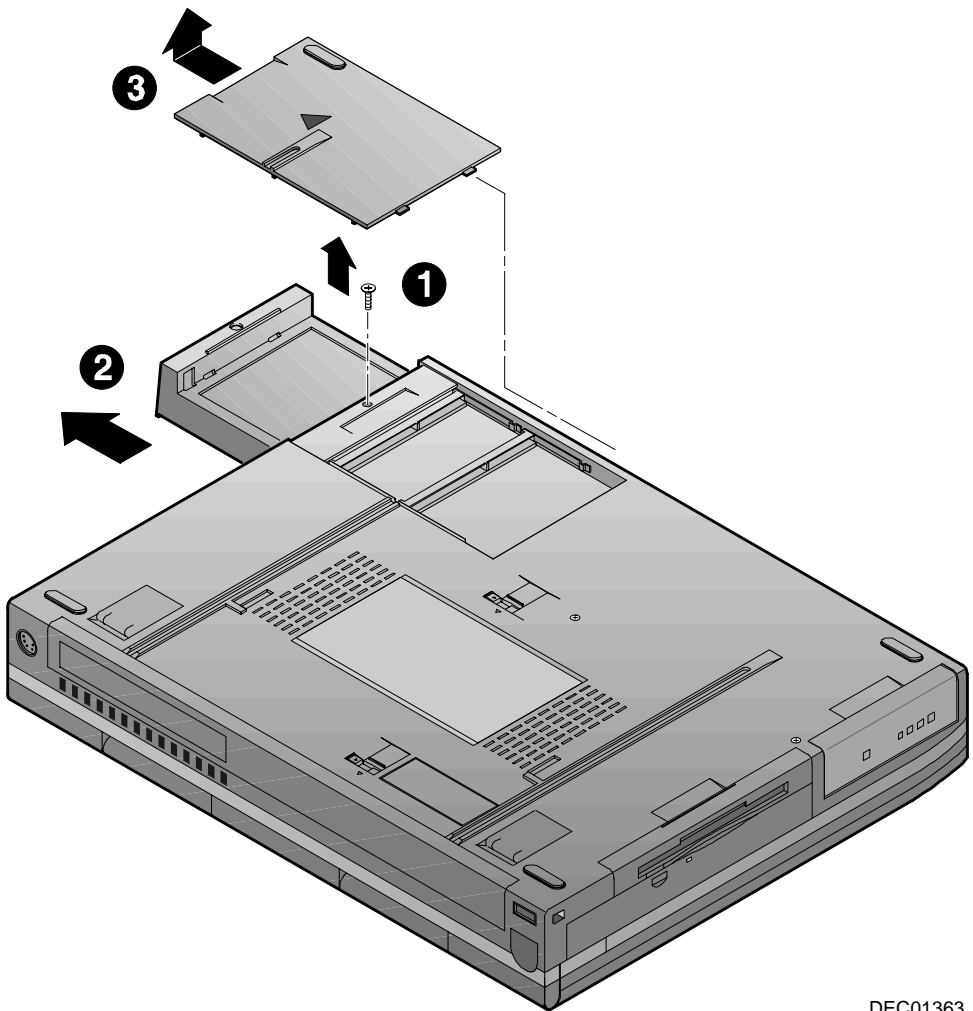
Your notebook's memory is expandable up to 144 MB. Any mix and match combination of 16 MB, 32 MB, and 64 MB DIMMs, including a single DIMM can be used. For example, it is possible to install two 16 MB DIMMs, or one 16 MB DIMM and one 32 MB DIMM or one 64 MB. To achieve 144MB, install two 64 MB DIMMs.

Installing Memory (DIMMs)

Static electricity will permanently damage your computer's internal components. It is important to discharge the static electricity from your body before handling the DIMMs. Discharge your body's electricity by touching the metal shielding around the ports on the rear of the notebook computer for approximately five seconds. If you regularly work on your notebook, it may be beneficial to purchase an anti-static mat or wrist band. Contact your Digital notebook dealer for anti-static device purchase information.

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

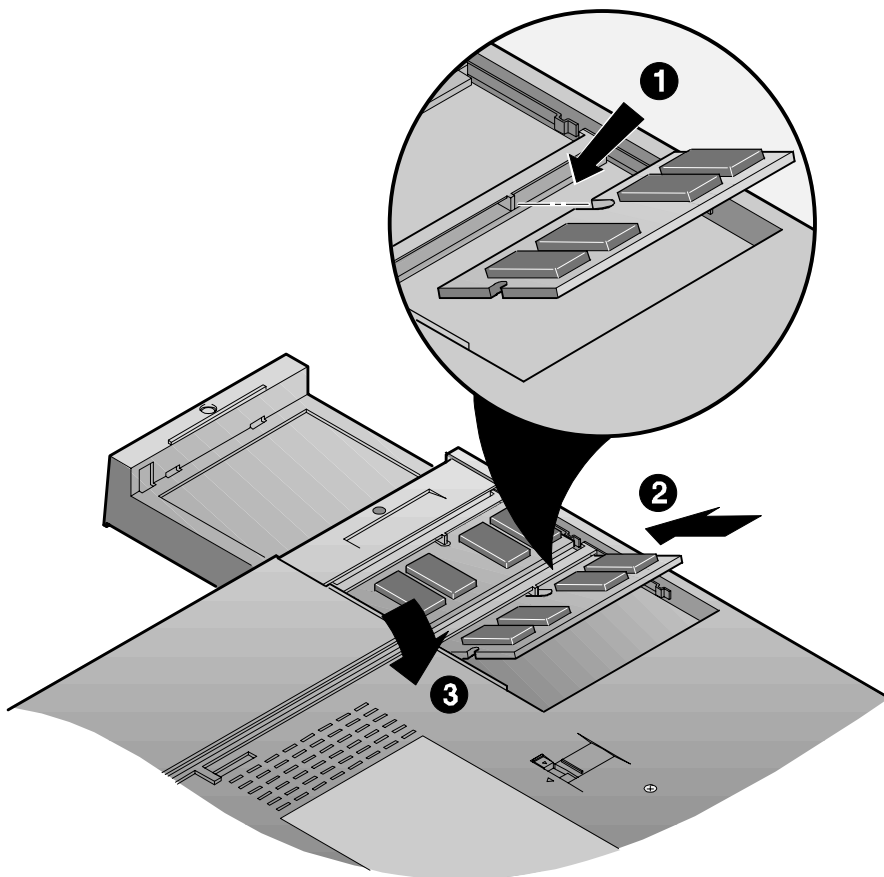
1. Save all data files and close any applications which are open. Turn off the notebook and unplug the AC power. Remove the battery.
2. The memory door is located on the underside of the notebook. To release the door, remove the Phillips head screw securing the HDD module. (Figure 6-1, step 1)
3. Gently pull the HDD module about one inch from it housing to release the memory cover. (Figure 6-1, step 2)
4. Remove the memory door to reveal the DIMM slots. (Figure 6-1, step 3)



DEC01363

Figure 6-1: Removing Memory Door

5. Insert the DIMM into the memory slot at a 45° angle. (Figure 6-2, step 1)
6. Gently, but firmly slide the DIMM into its plastic memory cradle, until it locks into place. (Figure 6-2, step 2)
7. Press down on the plastic memory cradle until it snaps into place, laying horizontally in its slot. (Figure 6-2, step 3)
8. Replace the memory door.



DEC01364

Figure 6-2: Inserting DIMMs

Installing and Removing Expansion Modules

Your notebook has the added feature of being capable of supporting two hardware expansion modules: the 20X CD-ROM/FDD Combination module or the Secondary Battery module.

Modules are installed in the notebook's expansion bay. For information about removing and replacing modules, please refer to the following table.

Module Swapping In Windows 95

The following table details the action needed when swapping modules in Windows 95.

Removing Module...	Inserting Module...	Action
20X CD-ROM/FDD Combination	Secondary Battery	Place the notebook in suspend before swapping.
Secondary Battery	20X CD-ROM/FDD Combination	Power off system. System needs to reboot to recognize CD-ROM.

Module Swapping In Windows NT 4.0

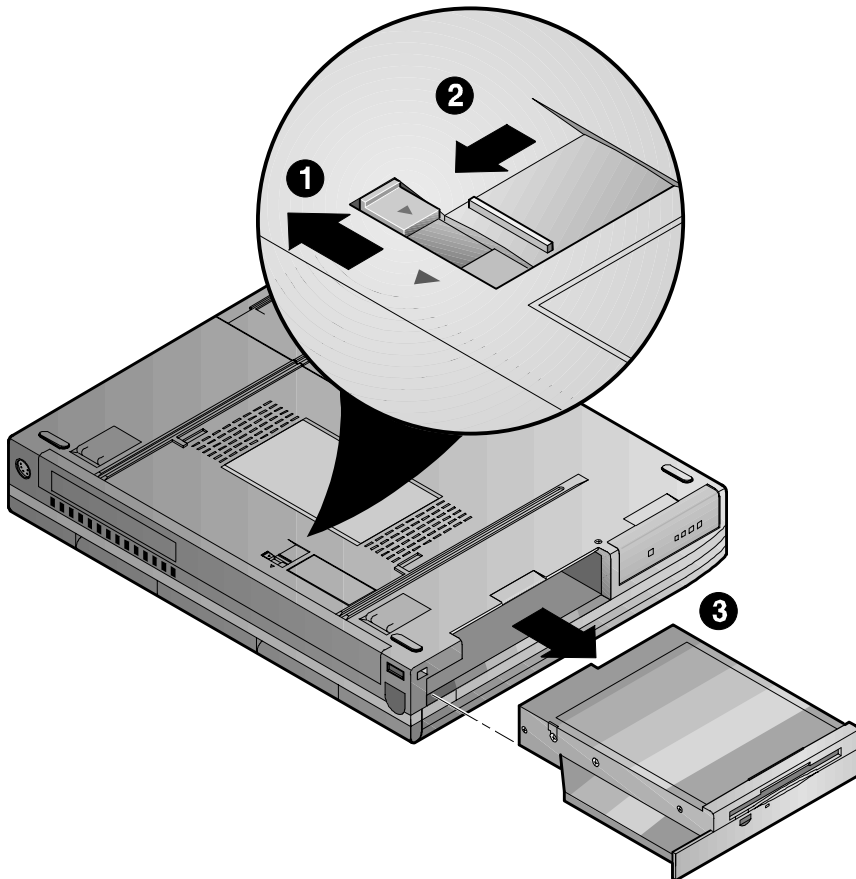
Hot swapping of modules in Windows NT is not supported. To swap modules under Windows NT 4.0, you must do the following;

1. Save all data and close all applications, and exit Windows NT.
2. Then turn off the notebook by pressing the [fn] and Suspend/Resume button for two seconds.
3. Swap the modules, then turn on the notebook. The new device will be recognized and configured.

Removing the Modules

For step by step information on removing any one of the modules from the expansion bay, please refer to the following:

1. Slide the locking button in the direction of the arrow shown. (Figure 6-3, step 1)
This will unlock the Module Release latch.
2. Slide and hold the Module Release latch in the direction of the arrow shown. (Figure 6-3, step 2)



DEC01359-5

Figure 6-3: Removing a Module from the Expansion bay

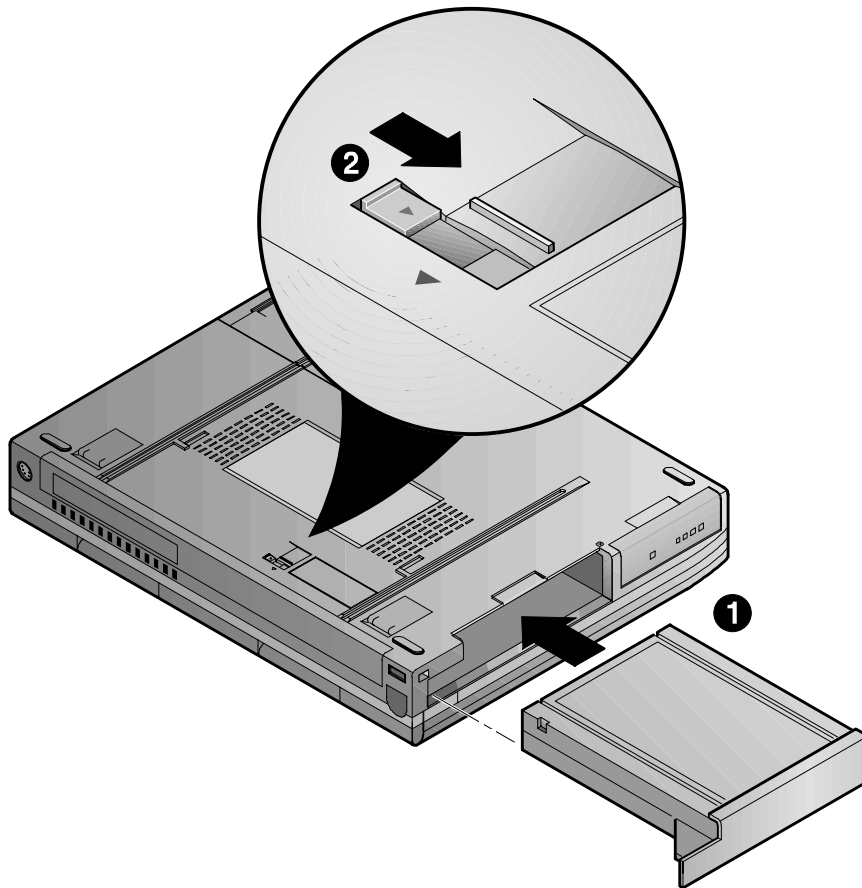
3. Holding the Module Release latch in this position, slide the module out of the expansion bay. (Figure 6-3, step 3)
4. Install the desired module. Move the locking button back to its original position.

Installing Modules

The following provides illustrative instructions on how to install the Secondary Battery module and 20X CD-ROM/FDD Combination module into the expansion bay, how to eject the CD-ROM tray and how to install the other module devices.

Installing the Optional Secondary LiIon Battery

The following provides illustrative instructions on how to install the optional LiIon Secondary Battery module.

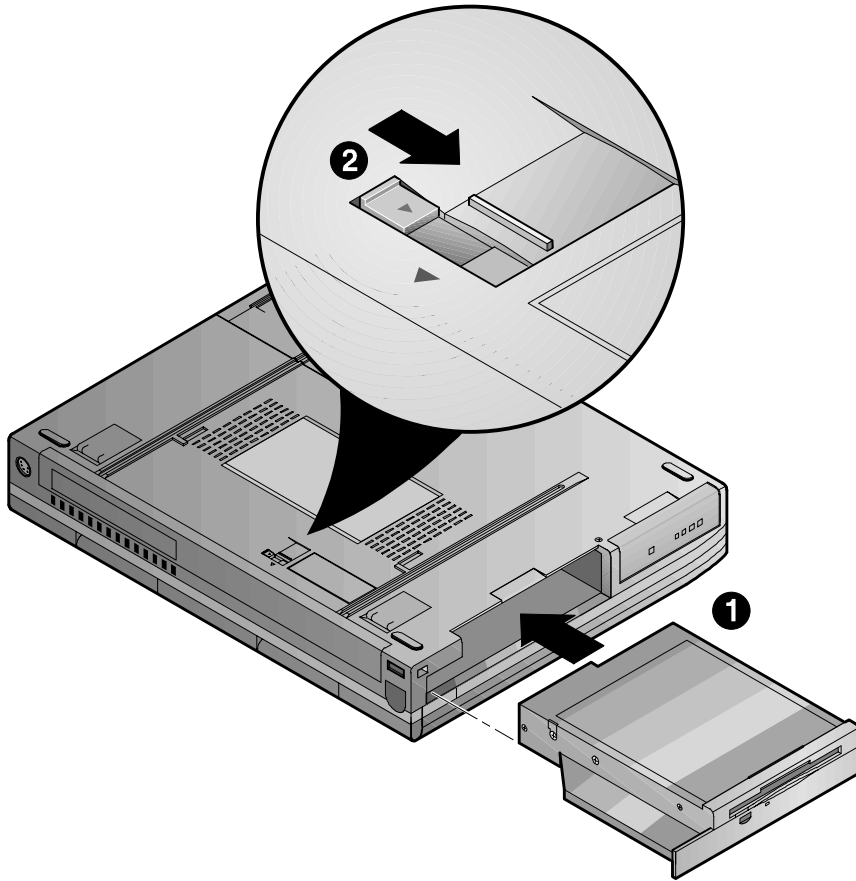


DEC01359-7

Figure 6-4: Installing the Optional Secondary Battery

Installing the 20X CD-ROM/FDD Combination Module

With the 20X CD-ROM/FDD Combination Module, you will be able to take advantage of many of the graphics and educational software packages on today's market. Refer to the following illustration to install the 20X CD-ROM/FDD Combination Module.

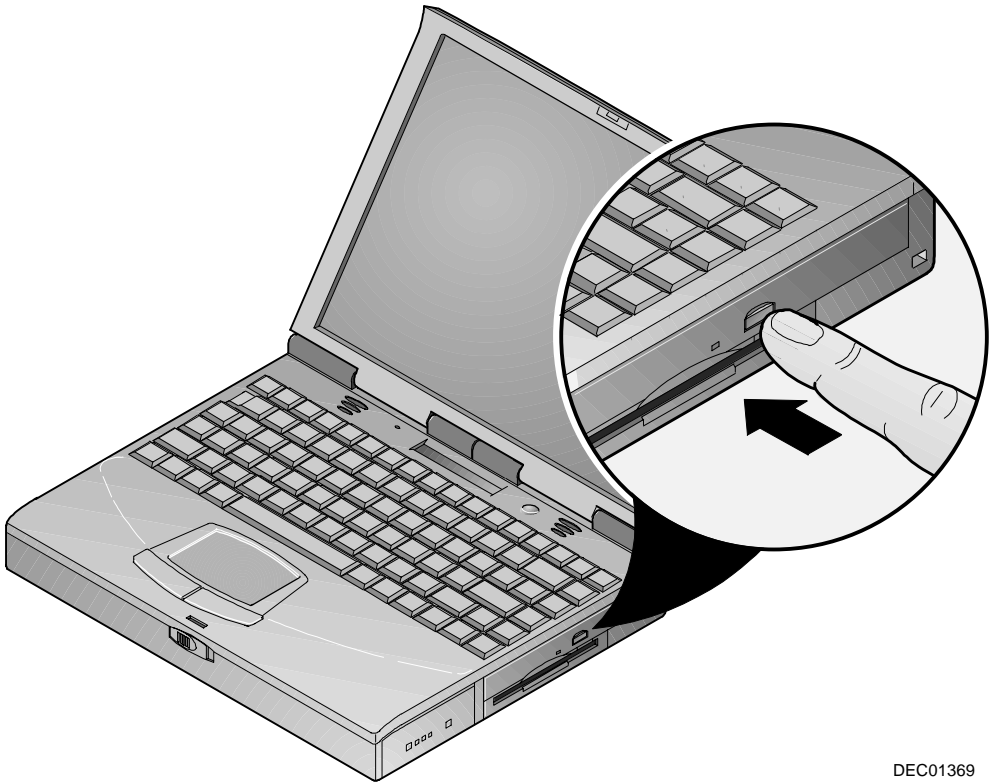


DEC01359-6

Figure 6-5: Installing the Combination Module

Loading a Disc into the Combination Module

To load a disc into the CD-ROM/FDD Combination module, please refer to figure 6-6, figure 6-7 and the following instructions.



DEC01369

Figure 6-6: Ejecting the CD-ROM Tray

1. With the notebook turned on, press the eject button. The motorized tray ejects from the drive. (Figure 6-6)
2. Place the disc into the tray with the CD label facing up. (Figure 6-7)
3. Push the tray, sliding it back into the drive.

Caution

Do not insert any foreign objects into the disc tray. Do not force the tray to open or close. When not in use, keep the tray closed to prevent dust or dirt from entering the drive unit. The CD-ROM module uses 5¼” CDs; does not support 3” CDs.



DEC01370-2

Figure 6-7: Loading a CD into the Combination Module

Manually Ejecting the CD-ROM Tray

Your CD-ROM tray is motorized allowing it to interact with software. It does, however, require that the system be powered on. If the notebook is shut down and you need to retrieve a CD from the CD-ROM drive use the manual eject button. The manual eject button is hidden inside a small hole. Press the eject button with a thin metal object, such as a straightened paper clip. The tray will open.

Enabling CD-ROM and Touch Pad for DOS Real Mode

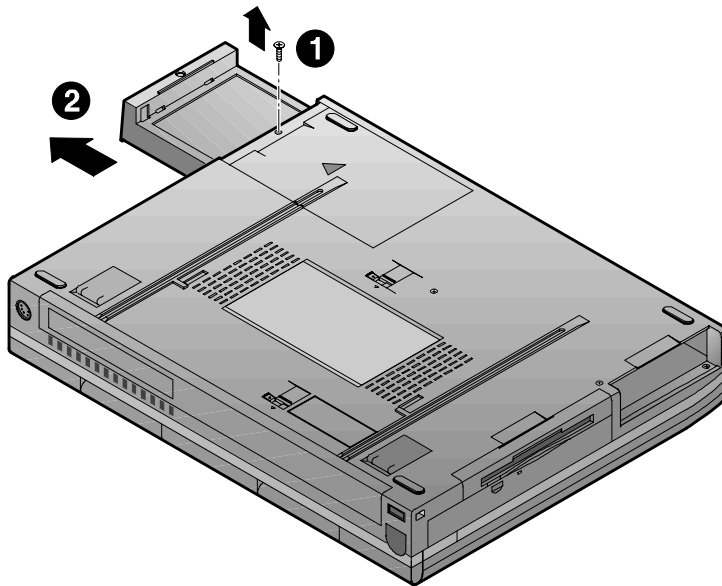
When entering DOS Real mode for the first time, the CD-ROM and touch pad will not function. In order to use the CD-ROM and touch pad from within DOS, you must remove the REM from the relevant command lines in the AUTOEXEC.BAT and CONFIG.SYS files. This process only needs to be done once. Please refer to the following for detailed instructions.

1. If you are not completely confident that you possess the skills to edit the CONFIG.SYS and AUTOEXEC.BAT files, please consult Digital technical support.
2. Before beginning this procedure, save any open data files and close all open applications. Any unsaved data will be lost upon system reboot.
3. At the C:\ Windows> prompt type:
EDIT \CONFIG.SYS
4. Remove the REM from line:
REM DEVICE=C:\CD\TRICD.SYS /D:TRICD1
The command line should now read:
DEVICE=C:\CD\TRICD.SYS /D:TRICD1
5. Save changes and exit.
6. Return to the C:\ Windows prompt and type:
EDIT \AUTOEXEC.BAT
7. Remove the REM from the following lines:
REM C:\ WINDOWS\COMMAND\MSCDEX.EXE /D:TRICD1
REM C:\ SYNTOUCH\SYNTOUCH
These two lines should now read
C:\ WINDOWS\COMMAND\MSCDEX.EXE /D:TRICD1
C:\ SYNTOUCH\SYNTOUCH
8. Save changes and exit.
9. After exiting the AUTOEXEC.BAT file, turn off the system and install your CD-ROM module into the expansion bay. You will now be able to use your CD-ROM in DOS mode.

Removing and Installing HDD

Eventually you may find that your notebook's HDD space is limiting and you wish to upgrade to a larger capacity. Please contact your Digital authorized notebook dealer for purchasing information. The installation of an additional HDD is relatively simple. Please refer to figure 6-8.

1. Turn off the notebook, disconnect the AC cord and any connected peripherals and remove the battery.
2. There is a single Phillips head screws located on the bottom of the notebook. It secures the HDD into the unit and prevents it from being damaged from vibrations. Remove this screw. (Figure 6-8, step 1)



DEC01371

Figure 6-8: Removing the HDD

3. Gently remove the HDD from its housing. (Figure 6-8, step 2)
4. Store your HDD in a safe, dry place away from direct sunlight or heat.

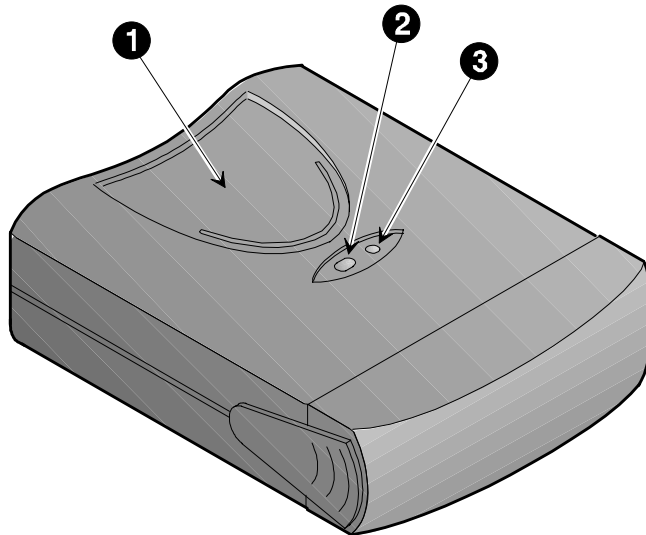
Optional Devices

Optional devices are available to increase your notebook's performance and versatility. Your Digital notebook representative will be able to provide you with detailed technical and purchase information on any of the optional devices.

The External Battery Charger

The external battery charger provides one step connection to the battery. This section describes the features of the external battery charger.

Component	Description
❶ Battery Release	Press this button to disconnect the battery from the charger.
❷ Power LED	Indicates when lit that power is being supplied to the charger.
❸ Charging LED	Indicates when lit that the battery is charging. If the power LED is lit and the charge LED is off, the battery is charged to maximum capacity.



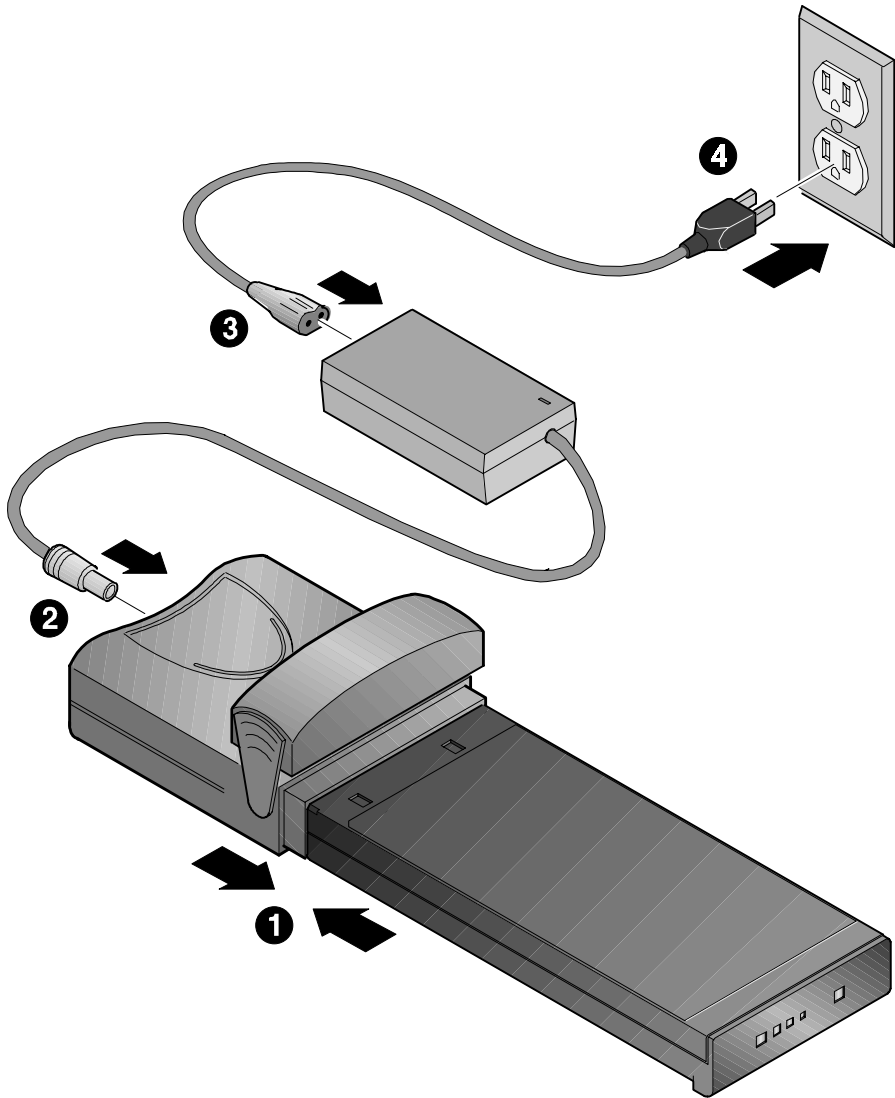
DEC01380-2

Figure 6-9: The External Battery Charger

Using the External Charger

The external provides a quick and convenient way to charge spare battery packs while the notebook is in use. To charge a battery using the external charger, refer to the following instructions and figure 6-10.

1. Align and connect the battery to the External Battery Charger.
(Figure 6-10, step 1) The charger tabs will extend and lock the battery and charger.
2. Connect the AC Adapter to the External Battery Charger (Figure 6-10, step 2)
3. Then connect the power cord to the AC Adapter. (Figure 6-10, step 3)
4. Plug the power cord into a power source, such as a wall outlet. (Figure 6-10, step 4)
5. The LED on the battery charger turns on, indicating that the battery is being charged. If it does not light, the battery is either already fully charged or there is something wrong. Check all connections.
6. The battery will take approximately 2.0 hours to charge. After the battery has been fully charged the external charger will automatically cease charging the battery and the LED will turn off.

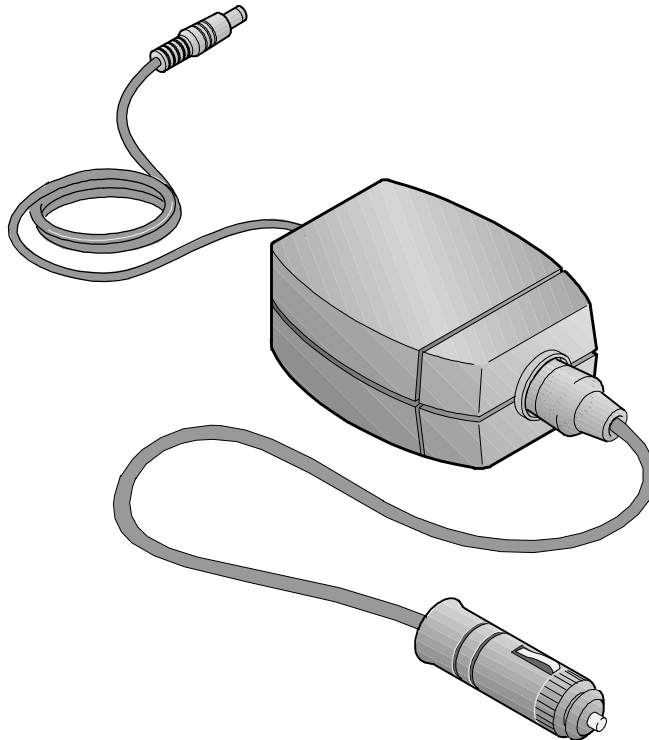


DEC01382

Figure 6-10: Charging a Battery with the External Charger

The Airline/Car Adapter

The Airline/Car Adapter provides for additional flexibility while in the air or on the road. The Airline/Car Adapter also operates with the battery charger. In order to take advantage of this feature, follow the same procedures as stated in the section labeled External Battery Charger, except substitute the Airline/Car power port adapter cord for the AC power cord.

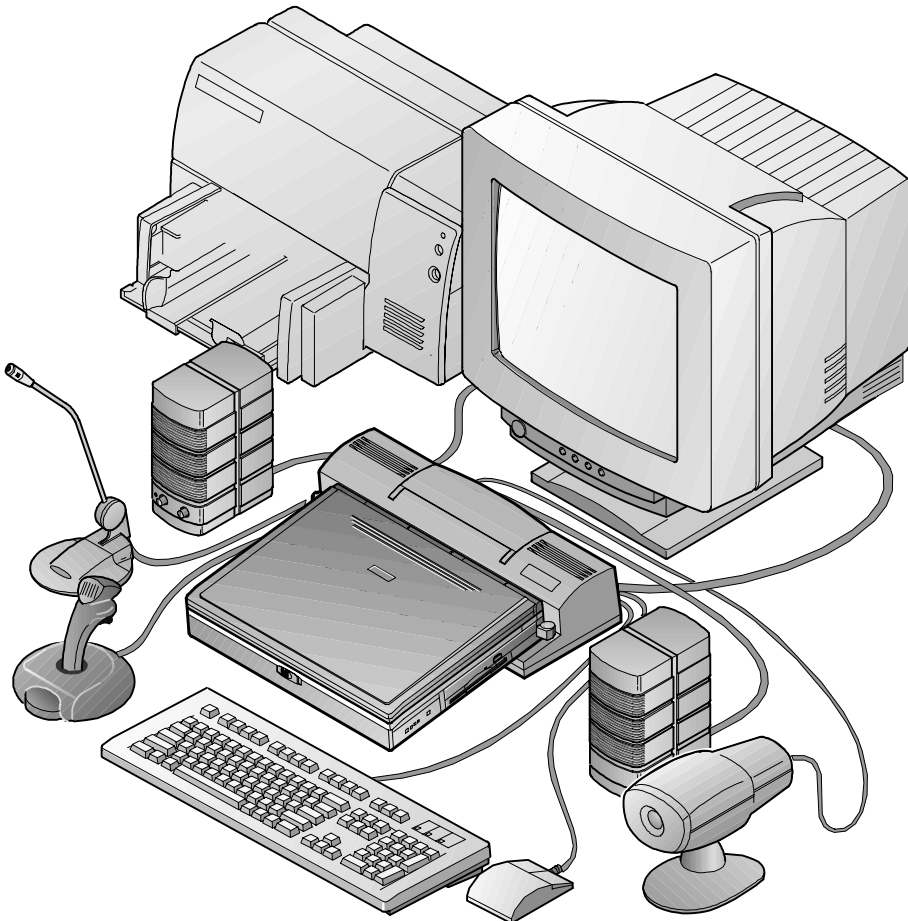


DEC01381

Figure 6-11: Optional Airline/Car Adapter

Adding the Minidock

The optional Minidock features innovative advances in notebook personal computing technology. Much consideration has gone into the design of the Minidock in order to meet your requirements for versatility as well as quality.



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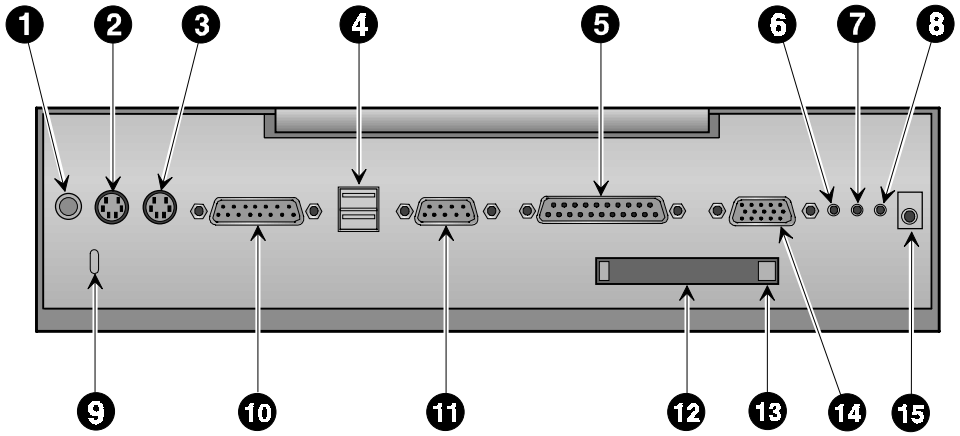
Figure 6-12: Minidock Expansion

Identifying the Features, Ports and Connectors

Before attempting to connect your notebook, peripheral devices, or serial devices to the Minidock, make sure you are familiar with the Minidock's various I/O ports and controls.

Rear View

Component	Description
❶ Reset Button	Press this button to reset and reboot the system. All unsaved data will be lost.
❷ PS/2 Mouse Port	Connect a PS/2 mouse to this port.
❸ PS/2 Keyboard Port	An external PS/2 keyboard connects to this port.
❹ USB Ports	USB devices connect to these ports.
❺ Parallel Port	A parallel device, such as a printer, connects to this port.
❻ Line-out Port	External speakers or headphones connect to this port.
❼ External Mic Port	An external microphone connects to this port.
❽ Line-in Port	Connect an external audio source to this port.
❾ Security Lock Port	A security lock cable connects to this port.
❿ MIDI/Joystick Port	Connect a MIDI or joystick device to this port.
⓫ Serial Port	A serial device, such as a mouse or modem, connects to this port.
⓬ PC Card Socket	Insert one Type I or one Type II PC Card into this socket.
⓭ PC Card Eject Button	Press this button to eject the PC Card.
⓮ External Display Port	An external monitor connects to this port.
⓯ AC Power Port	The AC Adapter power cord connects to this port.

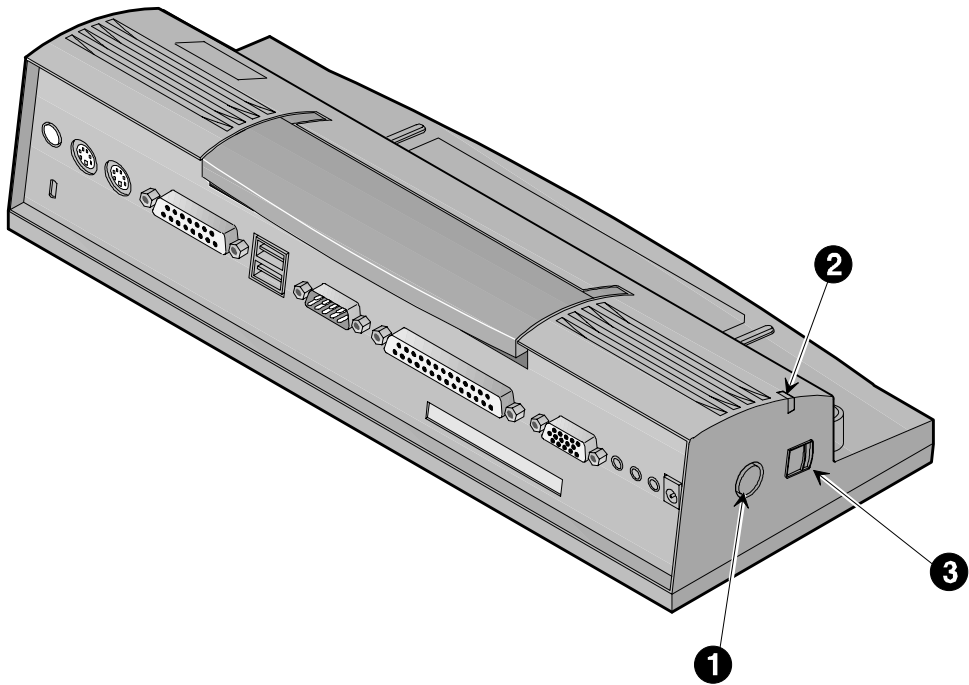


DEC01372

Figure 6-13: Minidock Rear Panel

Left View

Component	Description
❶ Minidock power button	Turns the notebook on and toggles between the suspend/resume mode.
❷ Minidock power LED.	Indicates power is being supplied to the notebook when lit. When green, it indicates the notebook is docked and when amber, it indicates the notebook is undocked.
❸ Undock Request button	Slide this button towards the front of the Minidock to initiate the software undocking sequence.



DEC01373

Figure 6-14: Minidock Left View

Connecting the AC Adapter

1. Connect the AC Adapter cable to the Minidock's AC port.
2. Connect the power cord to the AC Adapter. Plug the power cord into a wall outlet.

Hot-Plug Peripheral Devices

Your Minidock supports hot-plug connections. Digital recommends if you are connecting a device which utilizes speakers or are connecting amplified speakers, that you turn off the power to the device or speakers before making the connection to the Minidock. This will ensure that your speakers will not be damaged from any static discharges.

External Monitor, Printer, Serial Mouse, and Audio Components

1. Locate the port on the back of the Minidock and connect the cable to it.
2. If applicable, tighten the thumb screws on the cable connector to secure the connection.
3. Connect the peripheral device power cord to a wall outlet.

MIDI/Joystick Device

1. Depending on the type of connector your MIDI has, you may or may not need an adapter.
2. Connect the MIDI signal cable to the port. Tighten the thumb screws to secure the connection.

PS/2 Mouse Connection

1. Turn off the notebook.
2. Locate the port on the back of your Minidock.
3. Gently push the 6-pin connector into the port. Do not try to force it in as you may bend the pins on the mouse connector.
4. Turn on the notebook.

Docking the Notebook

By docking your notebook to the Minidock, and by connecting peripheral devices (a keyboard, mouse, monitor, printer, etc.) to the Minidock's rear side, your DIGITAL HiNote VP 700 series notebook turns into a fully functional desk-top PC.

Depending on your operating system, your notebook can be hot-plugged into the Minidock. This means that you do not have to turn off the notebook before connecting it to the Minidock.

Caution

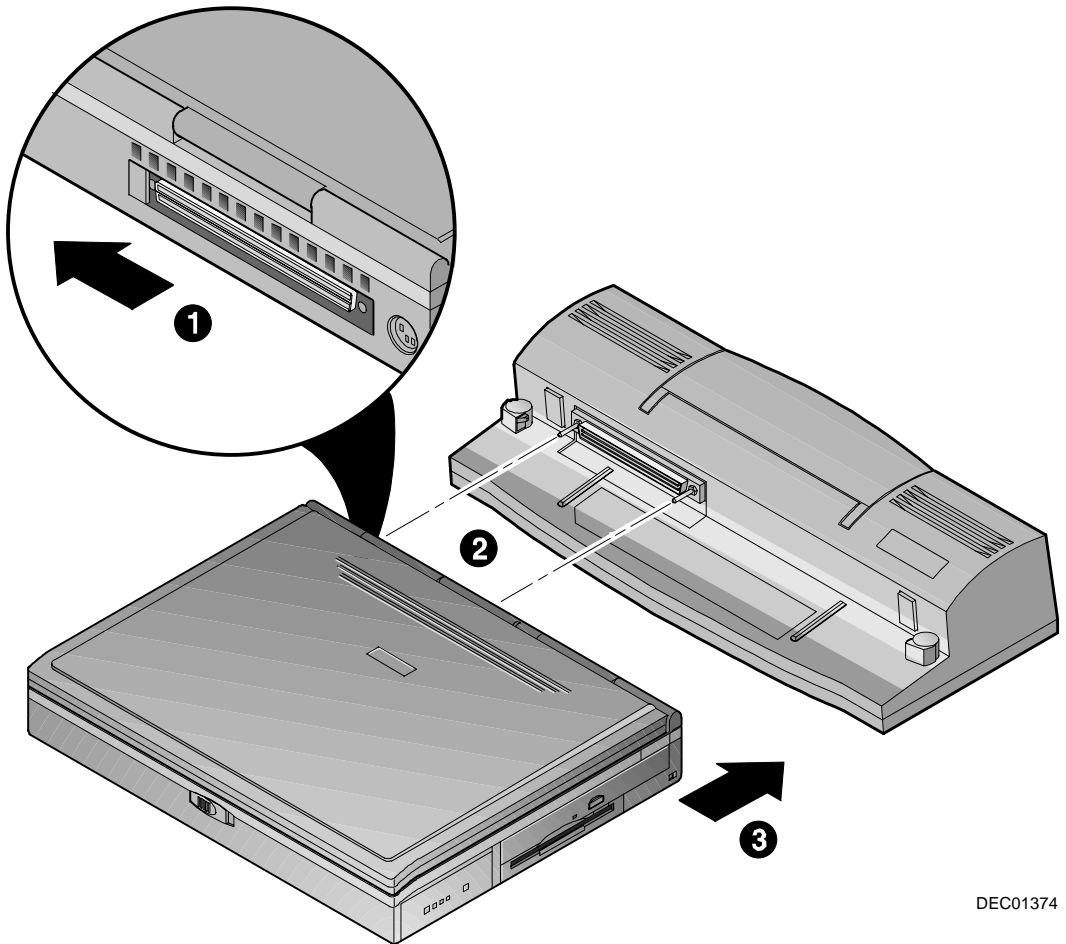
Although you may be able to insert other notebook computers into the Minidock, it is strongly recommended you do not use the Minidock with any other notebooks before checking with your Digital notebook dealer. This could result in severe electrical damage to the Minidock and your notebook.

Refer to figure 6-15 as you read these instructions for a visual guide to docking the notebook to the Minidock.

Before connecting the notebook, first connect the desired peripheral devices to the Minidock

If you are using Windows 95 and no peripheral devices are connected to the notebook, there is no need to turn off the notebook since it can be hot-plugged into the Minidock. However, it is recommended that you save your data and close the LCD lid. If you are using Windows NT 4.0, you will need to completely power off you notebook before docking to the Minidock. (Figure 6-15)

1. Locate the Minidock's 240-pin port found on the front left side of the Minidock. Find the 240-pinned connector on the rear side of the notebook. It is concealed by a plastic door. Slide the door into its open position.
2. 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 Minidock's docking platform, aligning the rails with the grooves.
3. With your hand placed directly in front of the Minidock connector, gently slide the notebook along the rails on the docking platform until the notebook is secured between the two docking tabs. Do not force the connection. Forcing a connection can seriously damage either or both the port and the connector. If you are unable to make a smooth connection, realign the notebook and try again.



DEC01374

Figure 6-15: Docking the Notebook to the Minidock

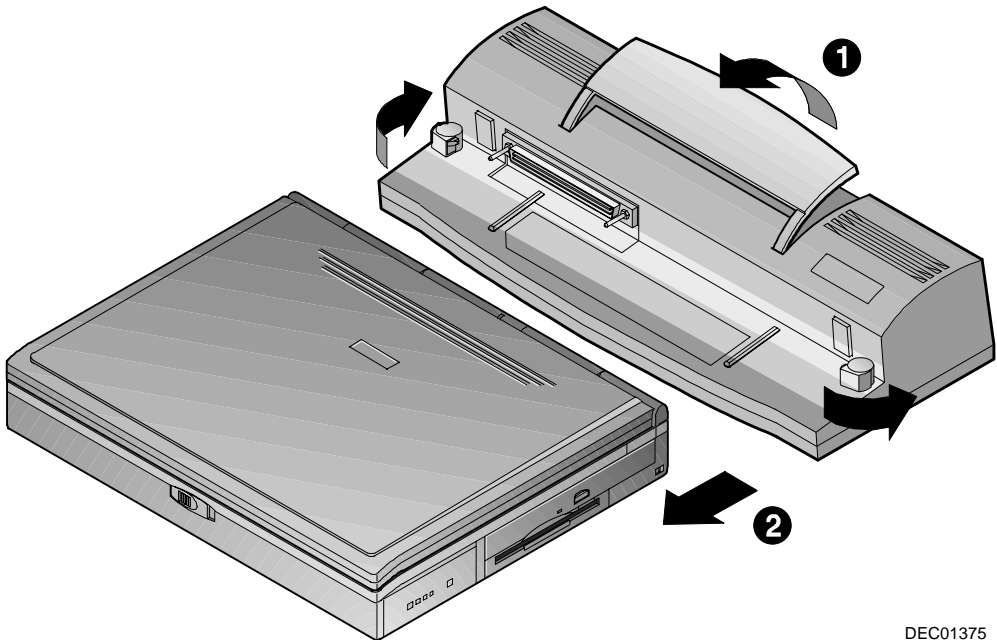
4. Open the notebook's LCD cover and press the Suspend/Resume button. Use the AC adapter to power the Minidock to conserve battery run time. The AC adapter attaches to the Minidock the same way it attaches to the notebook.

Undocking the Notebook

If the notebook's battery has ample charge and your operating system supports hot-plugging, you do not need to turn off the notebook before removing it from the Minidock. If you are using Windows NT 4.0, you will need to completely power off your notebook before undocking from the Minidock.

To perform a hot undock:

1. Slide the Undocking Request button towards the front of the Minidock.
2. Windows will prepare the system for undocking.
3. Raise the Release latch in the direction of the arrow shown. (Figure 6-16, step 1)
4. Slide the notebook away from the Minidock. (Figure 6-16, step 2)
5. Secure the Minidock's Release latch back to its original position.



DEC01375

Figure 6-16: Undocking the Notebook from the Minidock

Caring for Your Notebook

General Maintenance

The best maintenance you can perform yourself is preventive. Try to keep the notebook as clean as possible. Avoid using the notebook in dirty or dusty environments if possible. Be careful to avoid getting dirt and dust in the floppy disk drive. Use a clean carrying bag when you transport the notebook. Your Digital notebook dealer will be able to provide purchasing information on the optional Digital notebook carrying case.

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 adapter is disconnected before you clean the unit. 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 notebook. Always spray cleaning solutions onto a cloth and then wipe the computer with that.

Cleaning The LCD Display

Clean the LCD the 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.

Caring for Diskettes

Under normal conditions a diskette's rigid plastic case will protect it from damage. However, data stored on floppy diskettes are easily corrupted. Follow the protective measures listed below to preserve the integrity of data stored on floppy diskettes.



Never touch the magnetic surface of the disk.
When handling diskettes, take care that you don't drop them.



Never turn off, reboot, or reset the computer when a diskette is in the drive and the drive activity light is on. Do not transport the computer with diskettes inserted in the drive.



Do not expose diskettes to extreme temperatures.



Keep diskettes away from magnetic fields generated by power supplies, monitors, magnets, etc.



Don't smoke in the same room where diskettes are used or stored. Particles from cigarette smoke are large enough to scratch the surface of the disk. Store diskettes in a dry, dust-free environment.



Troubleshooting

This chapter will try to anticipate potential problems that you may encounter in the day-to-day use of your notebook. 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 notebook, nothing happens. What's the matter?

Answer:

1. If your system is running on battery power, the batteries may be completely drained. Attach the AC adapter and recharge the batteries.
2. If you are running on the AC or DC adapter, check to make sure that it is plugged into a live power source. If the power LED is on, it indicates that the power source is good and that the adapter is functioning properly.
3. If there is a battery in the computer, remove the battery, connect to AC power and then turn on the computer. If there is still no response, consult your dealer for an appraisal of the problem.

Question: The computer is continually emitting a beep. Have I done something wrong?

Answer:

1. The computer is most likely trying to tell you that battery power is low. Save your work, close your applications and connect the AC Adapter.
2. If AC/DC power is not available, turn off the notebook and replace the battery.

Question: When I turn on the notebook, the system starts POST then turns itself off. What's wrong?

Answer:

1. If your system is running on battery power, the batteries may be completely drained. Attach the AC adapter and recharge the batteries.
2. If you are running on the AC or DC adapter, check to make sure that it is plugged into a live power source. If the power LED is on, it indicates that the power source is good and that the adapter is functioning properly.
3. If there is a battery in the computer, remove the battery, connect to AC power and then turn on the computer. If there is still no response, consult your dealer for an appraisal of the problem.

CMOS Battery

Question: When I turned on the notebook, I received a CMOS Checksum Error message. What should I do?

Answer: If the system has been off for more than one year, the CMOS battery is probably drained and the ROM data has been lost. During bootup, if the CMOS battery is completely drained, you will be prompted with a CMOS Checksum Error message and given the choice of choosing F1 for help or choosing F2 to enter the Setup Program. Choose F2, then reset the System Time and System Date fields, and load the default settings from the Exit menu. Then select Save Changes and Exit to save the new configuration and exit the Setup Program. Connect the AC adapter to the notebook for 24 hours to recharge the CMOS battery.

LCD Status Display

Question: I am receiving questionable readings from the battery gas gauge. Is it broken?

Answer: Most likely the battery is in poor condition and needs to be formed. Please see Chapter 2 for detailed information on forming the battery.

Question: The lock frame for cap lock, scroll lock, num lock, and embedded key pad lock doesn't appear in the LCD status display. Should it?

Answer: No. The lock frame will only appear if one of the above locks is enabled.

Battery

Question: I used to get better battery run time. My operating habits have not significantly changed, is it time to buy a new battery?

Answer: The battery is probably showing signs of memory effect and needs to be formed. Please see Chapter 2 for detailed information.

The LCD Display

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

Answer:

1. Check your brightness and contrast (DSTN only) adjustments.
2. Use the hot key combination [fn + F4] to ensure that the video mode is not set to CRT.
3. The system may have entered the Standby or Suspend mode. Press the space bar first to see if the computer is in Standby. If the screen image doesn't come back, press the Suspend/Resume button.

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: The [fn + F8] hot key combination will cause the notebook's embedded keypad to act as a cursor control keypad. If you wish to enable the numeric functions, press [fn + F8] and then press [fn + F9].

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 + F9] hot key combination.

I/O Connections

External Monitor

Question: I connected an external monitor, but it is not working.

Answer:

1. Check all cable connections, including AC power.
2. The notebook's video mode may be in LCD only. Use the [fn + F4] key combination to switch to CRT or Simul (simultaneously viewing both LCD and CRT) mode.

Question: I connected an external monitor and keyboard. When the notebook's LCD lid is open everything is fine, but when I close the notebook's LCD lid, the monitor screen goes blank.

Answer: You have probably entered the notebook into suspend by closing the LCD lid. You must enter the Setup Program to set the Lid Switch Action field to CRT mode. Chapter 3 describes this process in detail.

Question: I connect a printer (or serial device), but I can not print even though the printer is ready. What should I do?.

Answer:

1. Check all cable connections.
2. The notebook's parallel (or serial) port may be disabled. Enter the Setup Program and enable the port. Chapter 3 describes this process in detail.

Question: Using the Infrared module and an ECP parallel device simultaneously, causes system conflicts. Is something wrong?

Answer: The infrared module, when set to FIR mode, and the parallel port, when set to ECP mode, both use DMA channel 3. Use only one device and disable the other. Chapter 3 describes how to configure the infrared and parallel ports in detail.

Audio

Question: The notebook's internal speakers do not seem to be working. Are they broken?

Answer: Probably not. Try the following:

1. Press the [fn+F7] hot key combination to enable the audio. When audio is enabled the system will emit a beep.
2. Press the [fn+↑] hot key combination to increase the audio volume.
3. It could also be that IRQ5, which is required by the sound device, is being used by another device such as a PC Card.



System Configuration

CPU

- Intel MMX Pentium 166MHz or greater.

SYSTEM MEMORY

- 16MB on-board SDRAM for system memory
- Upgradeable up to 144 MB using combinations of 16 MB, 32 MB, and 64 MB SDRAM DIMMS.

HARD DISK DRIVE

Easily upgradeable 2.5 inch, 2.1 GB or higher capacity hard disk

CD-ROM/FDD COMBINATION MODULE

20X CD-ROM, 3.5" 1.44 MB floppy disk combination removable module

DISPLAY

- 64K-color DSTN LCD with a 1024x768 XGA back-lit display
- 64K-color TFT LCD with a 1024x768 XGA back-lit display

KEYBOARD

Enhanced PC/AT compatible keyboard with embedded numeric keypad and special hot key functions.

CACHE

- 32 KB L1 Cache
- 256 KB or 512 KB L2 Cache, depending on model selected.

EXTERNAL INTERFACES

- One 9-pin serial port
- One 25 pin parallel port (Normal, bi-directional, ECP, and EPP modes)
- One 15 pin external display port
- One 6-pin external PS/2 keyboard or PS/2 mouse port
- One external Mic port
- One line-in port
- One line-out port
- Built-in microphone
- Built-in Fast Infrared transmitter/receiver with support for IRDA
- 240-pin Connector supporting the Minidock
- One 2-pin AC adapter jack
- Two PC Card Bus sockets supporting two Type I or Type II PC Cards or one Type III PC Card
- Two built-in stereo speakers
- One Universal Serial Bus port

AC ADAPTER

- International AC Adapter
- Supports 90-264 volt, 47-63 cycle power supply

LCD STATUS DISPLAY

- Battery Status
- FDD in use
- HDD/ CD-ROM in use
- PC Card socket in use
- Key Pad Lock
- Scroll Lock
- Num Lock
- Caps Lock

LEDs

Power/Charge LED

STANDARD ACCESSORIES

- AC adapter and AC cables
- PS/2 Y-connector

BATTERY

- One Rechargeable Enhanced NiMH main battery or one LiIon main battery pack
- 2 operation hours with PMU disabled (depending on operating temperature, battery condition, and power management features.)
- **Charge time, NiMH**
4 hours charge when power is on, 2 hours when off (May vary depending on operating temperature, battery condition, and power management features).
- **Charge time, LiIon**
4 hours charge when power is on, 1.6 hours when off (May vary depending on operating temperature, battery condition, and power management features).

O/S SOFTWARE

Factory installed with either:

- Microsoft Windows 95 operating system
- Microsoft Windows NT 4.0 operating system

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