



P6300 NOTEBOOK PC SERIES

USER'S MANUAL

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Product Name:	ASUS P6300
Manual Revision:	1.03
Release Date:	December 1997

Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

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

WARNING! The use of a shielded-type power cord is required in order to meet FCC emission limits and to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used. Use only shielded cables to connect I/O devices to this equipment. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

For use with AC Adaptor Model ADP-45GB (Pour Utiliser Avec Modele ADP-45GB)

Nordic Caution Texts Concerning Lithium Batteries

CAUTION! Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions. (English)

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

(Japanese)

ADVARSELI! Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren. (Danish)

ADVARSEL! Eksplosjonsfare ved feilaktig skifte av batteri. Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten. Brukte batterier kasseres i henhold til fabrikantens instruksjoner. (Norwegian)

WARNING! Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion. (Swedish)

VAROITUS! Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suositteluun tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti. (Finnish)

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CHAPTER 1

WELCOME TO THE NOTEBOOK PC

Congratulations on your purchase of the Notebook PC. The Notebook PC is modular design supports Intel Mobile Module architecture, providing maximum expandability and serviceability without any compromise.

The Notebook PC delivers breakthroughs in portable PC technology that offers the desktop-level processor power and memory bandwidth. With its unique system management, long-lasting “Warm-swap” battery pack, and the superior heat ventilation solutions, the Notebook PC saves energy, time and leave a plenty of headroom to upgrade to the latest processors, graphics/video modules, and devices technologies. That means not just buy now, but you own a reliable and portable PC with investment-protection consideration which makes it could be upgradeable just like a desktop!

This User’s Manual describes all the features of the Notebook PC in an easy-to-read yet thorough manner.

The primary goals of this chapter are to identify the Notebook PC’s external components and to provide a quick reference of the Notebook PC functions for experienced computer users.



Unpacking the Notebook PC

The Notebook PC comes securely packaged in a sturdy cardboard shipping carton. Before unpacking the Notebook PC, prepare a clean, stable surface on which to place the contents of your Notebook PC shipping carton. Open the carton and carefully remove the contents. If anything is missing or damaged, please contact your Notebook PC dealer immediately.

The shipping carton should contain the following items:

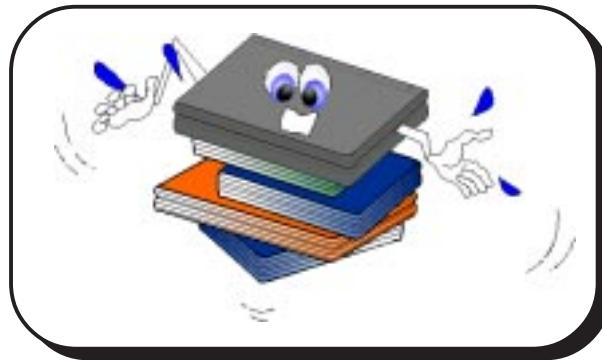
- The Notebook PC Main Unit (with one Hard Disk Module installed)
- One Floppy Disk Drive Module
- One External Floppy Disk Drive Cable
- One CD-ROM Drive Module (Optional)
- One Li-Ion Battery Pack (Ni MH optional)
- One AC Adapter
- One AC Power Cord
- One PS/2 Y-cable
- One S-Video to RCA Composite Video Cable
- Microsoft Windows 95/NT Backup Diskette/CD-ROM (Optional)
- Microsoft Windows 95/NT User's Manual (Optional)
- Warranty Card (Provided by distributor or dealer)
- A Carrying Case
- Software Drivers and Utility CD
- Driver & Utility Installation Guide
- This User's Manual



Do not throw the packaging materials away. You may need them later if you have to ship the computer or send it in for service.

Taking Care of Your Notebook PC

Follow these safety precautions and you will increase the working lifetime of your Notebook PC. You will also reduce the chance of damage to your computer and personal injury to yourself.



DO NOT place the Notebook PC on uneven or unstable work surfaces.



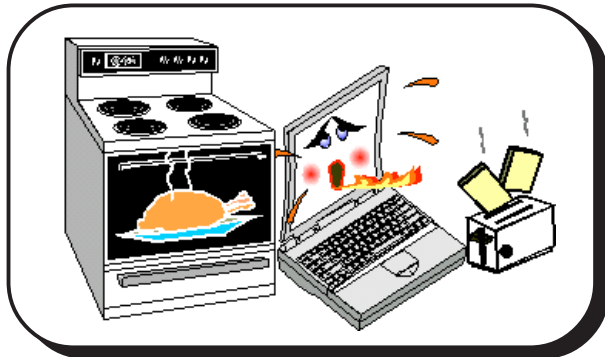
DO NOT place or drop objects on top of the Notebook PC.



***DO NOT** expose the Notebook PC to direct sunlight. Never leave the Notebook PC in a car on a sunny day*



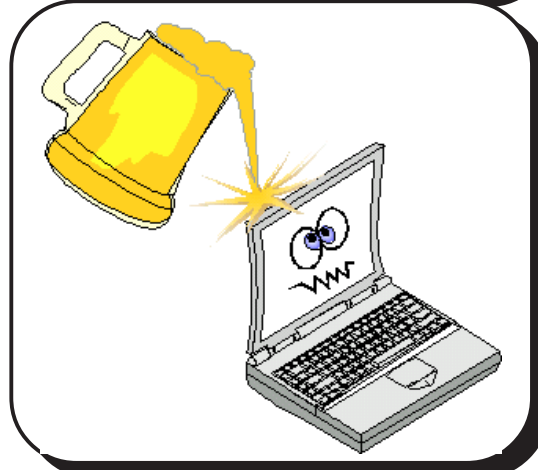
***DO NOT** expose the Notebook PC to cold temperatures (below 32°F or 0°C)*



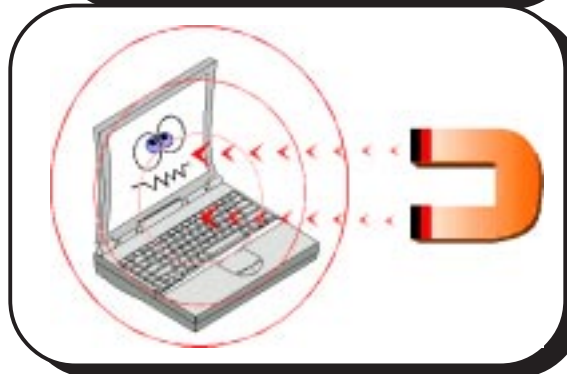
***DO NOT** expose the Notebook PC to hot temperatures (over 122°F or 50°C)*



***DO NOT** use the Notebook PC in a dusty or dirty work area. Dust can cause contamination of the unit that can result in malfunction or damage.*



***DO NOT** expose the Notebook PC or its accessories to liquids, rain or moisture.*



***DO NOT** operate or store the Notebook PC near magnetic devices or TVs.*

***DO NOT** place floppy disks near or on the speakers or else data may be erased.*



Warning! To avoid shock hazards:

- Follow all cautions and instructions that may be marked on the Notebook PC.
- Except as described elsewhere in this manual, refer all servicing to qualified personnel. Immediately shut off the Notebook PC and refer for servicing under the following conditions:
 - When the power cord or plug is damaged or frayed
 - If liquid has been spilled on the Notebook PC
 - If the Notebook PC has been dropped or the cabinet has been damaged
- Never push any objects of any kind into cabinet openings. They may touch dangerous voltage points or short parts that could result in fire or electrical shock.
- Turn off the Notebook PC before installing or removing a peripheral device.
- Turn off the Notebook PC and disconnect the AC adapter before cleaning.

Cleaning the Notebook PC

1. Use a clean cellulose sponge or chamois cloth dampened with a solution of detergent and warm water to clean. Do not use too much water.
2. Remove any extra moisture with the same cloth or a dry one.



Never use strong solvents such as thinner, benzene or other chemicals on or near surface as they might damage the surface .



Opening the LCD Display

At the front of the Notebook PC you will find two retaining latches on the display panel which lock the display in closed position when the Notebook PC is not in use. Follow these steps to raise the LCD display cover: Slide the display panel latch until the display panel releases, and then raise the LCD screen. Tilt the display to a comfortable viewing position.



Figure 1-1: Opening the LCD Display

Keyboard Auto-Tilt-Up Feature

This ergonomic feature automatically tilts up the keyboard to a comfortable angle that reduces stress to the hands and wrists while at the same time providing proper ventilation of the Notebook PC.



Figure 1-2: Auto-tilt-up keyboard Mechanison



Overview of the Notebook PC's Hardware Features

This section provides an overview of the Notebook PC's features. The Notebook PC hardware includes the following features:

- **Processor** - The Notebook PC is equipped with Intel Pentium Processor with MMX technology or next Pentium II Processor using the state-of-the-art Intel Mobile Module architecture. The Mobile Pentium family CPUs operate at lower voltage therefore consume less energy and generate less heat than regular desktop-used CPUs. The MMX multimedia enhancement technology was designed specifically for faster processing of multimedia and communications tasks. Contact your Notebook PC dealers for more system upgradeability information.
- **Internal Cache** - Supports 32KB internal cache.
- **External Cache**- 256/512KB Level-2 cache with Pipeline Burst mode enhances more system performance.
- **Main Memory** - 64-bit memory bus with 16MB of SDRAM on board. Memory can be easily expanded by using one or two 16, 32 or 64MB 144-pin SO-DIMMs. (The expansion slots support one double-bank and another one should be single-bank type or just use two single-bank type SO-DIMMs please.)
- **Display** - 13.3" TFT XGA LCD, 1024 x 768 resolution, with 64K colors.
- **Graphics and Video Accelerator** - The Graphics & Video subsystem includes embedded 2MB of video memory and a high performance 128-bit graphics controller with support for MPEG-1 video playback, simultaneous display, ZV (Zoomed Video) port and Advanced Power Management. (The unique modular design can be upgradeable into next 3D Graphics & MPEG-2/DVD video playback engine.)



- **Removable FDD Module** - The 3.5" FDD (Floppy Disk Drive) module can be removed from the unit and replaced with a CD-ROM drive module, a LS-120 SuperDisk module, or other optional devices.
- **Removable CD-ROM Module** - The 20 speed or higher CD-ROM drive allows you to take advantage of the wide array of multimedia titles available.
- **Auto-Tilt-Up with Win 95 Enhanced Keyboard** - The keyboard uses a “qwerty” layout with the addition of specific function keys and an embedded numeric keypad for number intensive data entry. The unique auto-tilt-up mechanism goes with 19mm full-size desktop keypads add comfort for typing. This auto-tilt-up mechanism also help the system ventilation reserved for next Pentium II processors. Two Windows 95 keys will be able for you to access and take advantage of many of the time-saving features of Windows 95 software.
- **Touchpad** - The Touchpad is a pressure-sensitive pointing device which allows you to move the cursor around the screen and make selections just as one would with a conventional mouse.
- **PC Cards** - The stack type PC Card socket supports two Type II cards, or one Type III card. With PCMCIA 2.1, 32-bit CardBus and Zoom Video port compliance (lower socket only), the Notebook PC is able to accommodate a number of expansion options, including memory cards, modems, hard disks, and high-speed network adapters.
- **IR Communication Port** - The Notebook PC features both IrDA compatible Fast Infrared (FIR) and Standard Infrared (SIR) communication modes. It enables you to make serial communication between the Notebook PC and other IR equipped devices such as a printer or another computer.
- **16-bit Stereo Audio** - The Notebook PC provides Sound Blaster Pro compatible 16-bit stereo audio with 3D effect and supports full duplex.



- **Audio Jacks & Devices** - Three audio jacks on the backside are used for Line-in, Mono Microphone-in and Earphone-out. Integrated in-front microphone and stereo speakers provide convenience with high quality audio access.
- **Game/MIDI Port** - The Notebook PC is equipped with a 15-pin D-sub connector to connect to a Joystick,, Gamepad, or MIDI instruments.
- **External PS/2 Keyboard and Mouse Port** - A Mini-DIN connector for PS/2 compatible keyboard or mouse, one Y-cable provided for using both simultaneously.
- **VGA Port** - A 15-pin Mini-D-sub VGA connector for connecting a CRT monitor.
- **S-video Composite TV-out Port** - An S-video composite connector for connecting a TV set or a VCR. One S-video to RCA composite video cable is provided.
- **Serial Port** - A 9-pin D-sub RS-232 and 16550 compatible serial port.
- **Parallel Port** - A 25-pin D-sub parallel/printer port which is most commonly used to connect a printer or Floppy Disk Drive Module through the equipped External FDD cable. This parallel port also supports both EPP and ECP capabilities.
- **USB Port** - A Universal Serial Bus (USB) receptacle connector is provided on the left side.
- **Docking Connector** - A 240-pin docking connector support the connection to the optional Port Replicator with LAN function built-in.
- **Battery and AC Power System** - The Notebook PC can operate on two power sources, an AC Adapter or a rechargeable battery pack. The system's internal charger will automatically recharge the battery pack in the Notebook PC when is connected to an specific AC adapter. By using the power management features described in Chapter 5, the Notebook PC can operate on battery power for approximately 4 to 5 hours. The battery pack takes approximately 2.5~3 hours to recharge when the Notebook PC is turned off. It takes 3.5 hours to recharge when the computer is in use. For extending battery-powered operation, additional specific battery packs may be purchased through our dealers.



- **Keyboard Controls** - The Notebook PC provides a host of hot key features that are a permanent part of the Notebook PC's operation. Some affect the LCD video display, while others control the sound volume. A complete list of the Notebook PC's hot key functions is provided in the Chapter 2.
- **Power Management** - The Notebook PC features APM 1.2 power management built into the BIOS Setup. These features are designed to conserve power and extend the working hours.

Optional Devices

To further enhance the utility of your Notebook PC computer, there are several optional products available from your dealer.

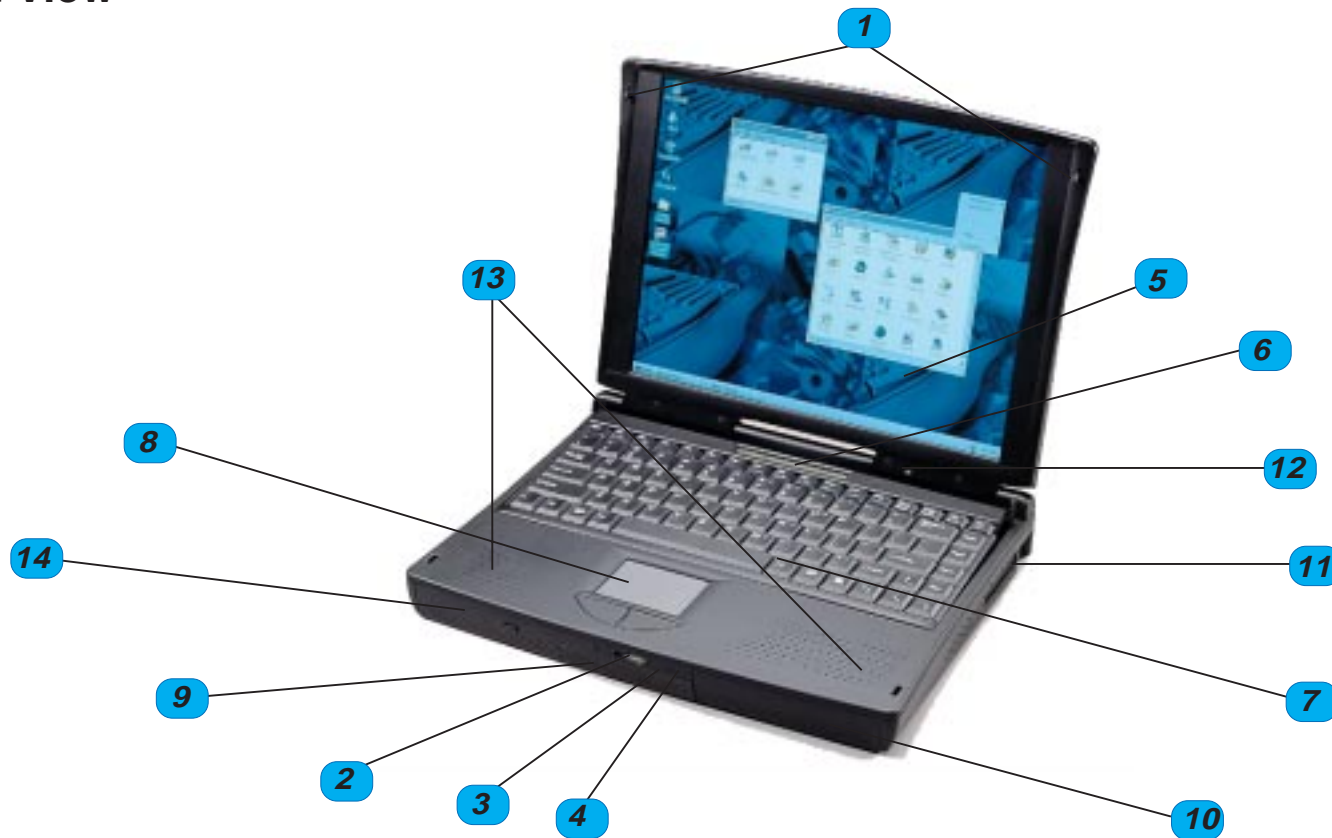
- High-speed CD-ROM Module
- LS-120 SuperDisk Drive Module
- DVD-ROM/RAM Drive Module
- Additional Battery Pack
- SO-DIMM Memory Module (16MB/32MB/64MB)
- Port Replicator with 10/100 Base-T LAN
- Luxury Carrying Bag



Touring the Notebook PC

Please refer to the text and diagrams below to identify all external components and accessories of the Notebook PC.

Front View





Rear View Descriptions

- 1 **Display Panel Latches** - The latches are used to release the display panel from its locked position.
- 2 **Power Button** - Press this button to turn the computer on or off.
- 3 **Power LED** - Shows system on status when lit, and standby or suspend when blinking
- 4 **Battery Charging LED** - Orange LED indicator blinks when the system battery is charging.
- 5 **LCD Display**
- 6 **System Status Panel**
- 7 **Auto-Tilt-Up Keyboard**
- 8 **Touchpad Pointing Device & Click Buttons**
- 9 **Removable Hard Drive Module** - The HDD module can be easily removed and replaced with a second hard drive for the purpose of data backup or expansion. Do not attempt to remove the HDD while the Notebook PC is on. Please ask your dealers for expansion, not permitted to do by end-users.
- 10 **Removable Battery Module** - Could be released for changing to another additional battery pack by moving the unlock knob on the bottom side.
- 11 **PC Cards Slots**
- 12 **Built-in Microphone**
- 13 **Built-in Stereo Speakers**
- 14 **Removable Storage Devices Bay**
















Rear View

Please refer to Figure 1-3 and the descriptions that follow to identify the components on the left side and the rear side of the Notebook PC.





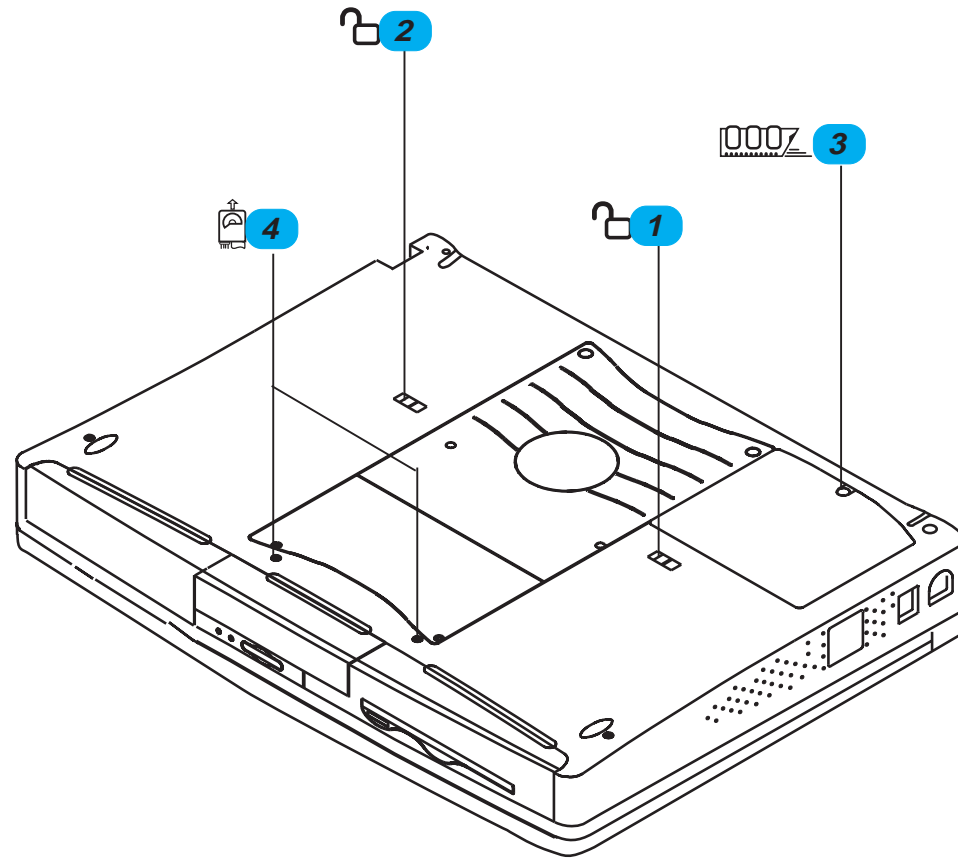
Rear View Descriptions

-  **1. PS/2 Keyboard or Mouse Port** - This port is for connecting an external PS/2 mouse or a keyboard to the Notebook PC.
-  **2. USB Port**
- 3. Cooling Fan**
-  **4. External Microphone-in Jack** - This mono microphone jack is used to connect an external microphone.
-  **5. Audio Line-in Jack** - This stereo jack is used to connect external audio sources.
-  **6. Earphone Jack** - This stereo jack is used to connect external stereo speakers or a headphone.
-  **7. DC-in Jack** - Connect the AC Adapter power lead to this jack.
-  **8. Serial Port**
-  **9. Parallel Port**
-  **10. Game/MIDI Port**
-  **11. VGA Port** - This port is used to connect an external monitor .
-  **12. TV Video Out Port**
-  **13. Docking Connector**
- IR 14. IR Port**
-  **15. Kensington Lock**







Bottom View

Please refer to Figure 1-4 and the descriptions that follow to identify the components on the bottom of the Notebook PC.





Bottom View Descriptions

-  **1 Storage Devices Module Release Knob**
-  **2 Battery Pack Release Knob**
-  **3 Memory Module Expansion Sockets Cover & Fixed Screw**
-  **4 The fixed Screws of Removable Hdd Module**

Preparing the Notebook PC for Transport

To prepare the computer for transport, you should first disconnect all peripherals. Make sure the computer is turned off before you do this. The Notebook PC's hard disk head is with self-parking. Close the LCD panel and check that it is latched securely to the computer.

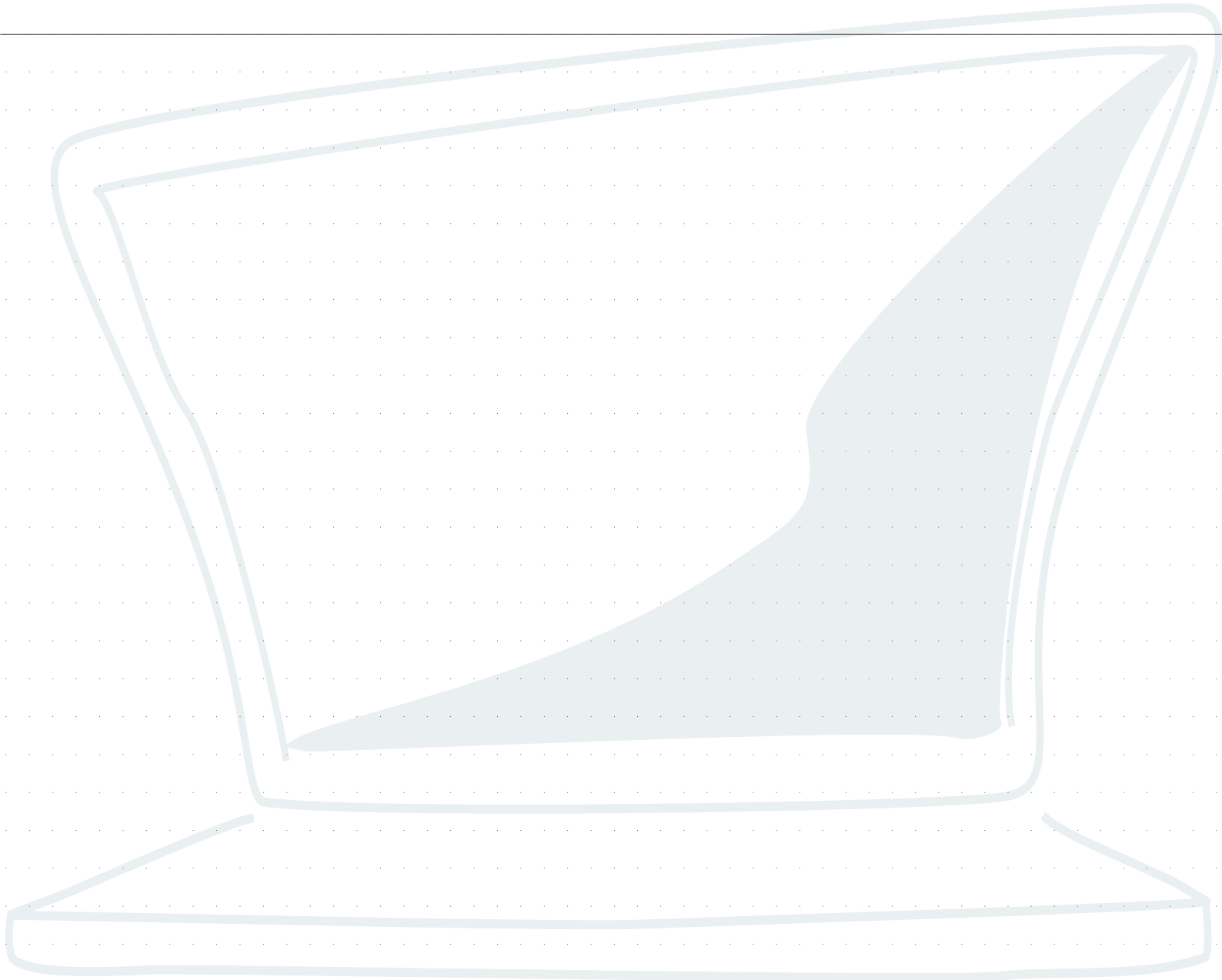
Make sure the floppy drive does not contain a diskette. When a diskette is inserted in the floppy drive the eject button pops out. If you attempt to transport the Notebook PC with a diskette in the drive, you risk damaging the eject button.

The computer has an soft carrying case. It will keep out dirt and dust and protect your Notebook PC's casing from becoming scratched or cracked.

If you intend to use battery power, be sure to fully charge the battery pack and any spares. Remember the AC adapter charges the battery pack as long as it is plugged into the computer and an AC power source.

This concludes Chapter 1. The next chapter provides important information for getting the Notebook PC up and running for the first time.







CHAPTER 2

GETTING STARTED

This chapter explains what you need to do after turning on your Notebook PC. Experienced computer users may need only read through this chapter and Chapter One while using the rest of the manual merely as a reference.

Powering Up the Notebook PC for the First Time

To connect the Notebook PC to an AC power source, please refer to Figure 2-1 and the following directions:

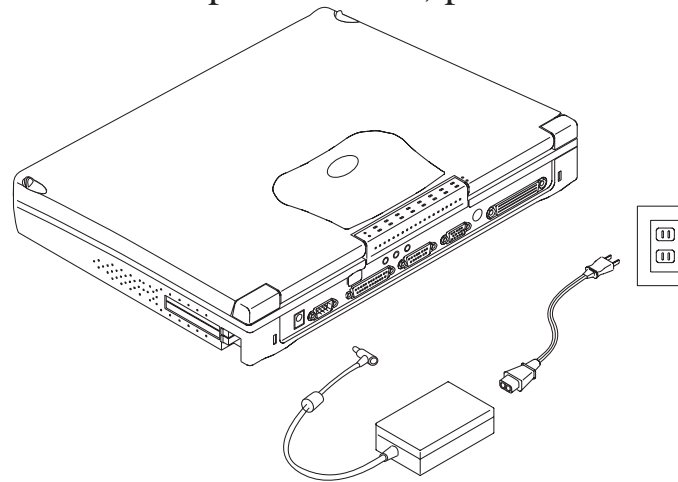


Figure 2-1: Connecting the Notebook to the AC power source



By pressing the power button, the Notebook PC's sign-on message should appear on the screen and you will hear a short beep. You may need to adjust the brightness by using the hot key to attain a clear display. If you need to run the BIOS Setup to set or modify the system configuration, please press [F2] to enter the BIOS Setup. Push and hold down the power button to turn off the system.



Using a power strip with a built-in surge protector is better for shock protection. The Notebook PC comes with its own AC adapter. Do not use a different adapter to power the computer, and do not use the AC adapter to power other electrical devices. Never turn off or reset your Notebook PC while the hard disk or floppy disk is in use and the FDD and/or HDD status icon is lit; doing so can result in loss or destruction of your data. Always wait at least 5 seconds after turning off your Notebook PC before turning it back on.

The Power On Self Test (POST)

When you turn on the Notebook PC, it will first run through a series of software-controlled diagnostic tests called the Power On Self Test (POST). The software that controls the POST is installed as a permanent part of the Notebook PC's architecture. The POST includes a record of the Notebook PC's hardware configuration which is used to make a diagnostic check of the system. This record is created by using the BIOS Setup program. If the POST discovers a difference between the record and the existing hardware, it will display a message on the screen prompting you to correct the conflict by running the BIOS Setup. Refer to Chapter 3 for instructions on how to run the BIOS Setup. In most cases the record should be correct when you receive the Notebook PC. When the test is finished, you should only get a message reporting "none operating system found" if the hard disk was not pre-loaded with an operating system. This indicates that the hard disk is ready to be prepared for use with the operating system you intend to use or not.



Installing an Operating System

When starting the Notebook PC for the first time, please be aware that you must have an Operating System installed on the hard drive. You might have the Windows 95, Windows NT or MS-DOS already installed on your Notebook PC. If your dealer did not install an operating system for you, please consult your Operating System manual for instructions on how to install it well.

Hard Disk Reserved for Save-to-Disk Use

The Notebook PC supports the Advanced Power Management version 1.2 to save battery power and extend the working hours. For executing one of the power saving suspend modes-”Save-to-Disk”, a reserved space of hard disk is needed for saving the system status for resume before you start to format and install the operating system onto your hard disk. Please follow the instructions listed below to make a reserved space in your hard disk if you want the Notebook PC to support “Save-to-Disk” mode : (The utility-”PHDISK.EXE” is included in the bundled Driver & Utility CD-ROM)

1. Boot the system with a Floppy diskette with DOS or Windows 95 booting system.
2. Locate the phdisk’s sub-directory of the Driver & Utility CD-ROM.
3. Run the “phdisk/create”.
4. Instructions covering installation will be displayed. Follow the instructions to finish and check the reserved space with FDISK.EXE under DOS.

The PHDISK.EXE” will automatically define the space to be reserved for “Save-to-Disk” according to the system memory size.



Resetting the System

After installing a software application package on your hard disk drive, you may be prompted to reset the system to load the changed operating environment. To reset the system, or reboot, please press the [Ctrl] + [Alt] + [Del] keys simultaneously. This is known as a “Warm boot”. When you encounter hardware or software problems which lock up the system, the same way to do the “Warm-boot” to reset. If this “Warm boot” does not shut down the Notebook PC, you can reset the Notebook PC by pushing the Notebook PC’s power button, OFF then ON.

LED Indicators

The following table summarizes the functions of the Notebook PC’s front-end LED indicators.

LED STATUS	MEANING
Solid Green LED	The Notebook PC is powered on.
Flashing Green LED	The Notebook PC is in Stand-by or Suspend Mode
Flashing Amber LED	The Notebook PC’s battery is charging.
Solid Amber LED	The Notebook PC’s battery is fully charged.

System Status Panel

Located under the LCD display panel, the System Status Panel informs you of the Notebook PC’s current operating status at a glance. Upon activating a certain function, a symbol or icon corresponding to that function appears in the window indicating that the particular function is engaged. The icon will remain in the window until you deactivate that function. Figure 2-2 shows the System Status Panel with all the displayable icons.

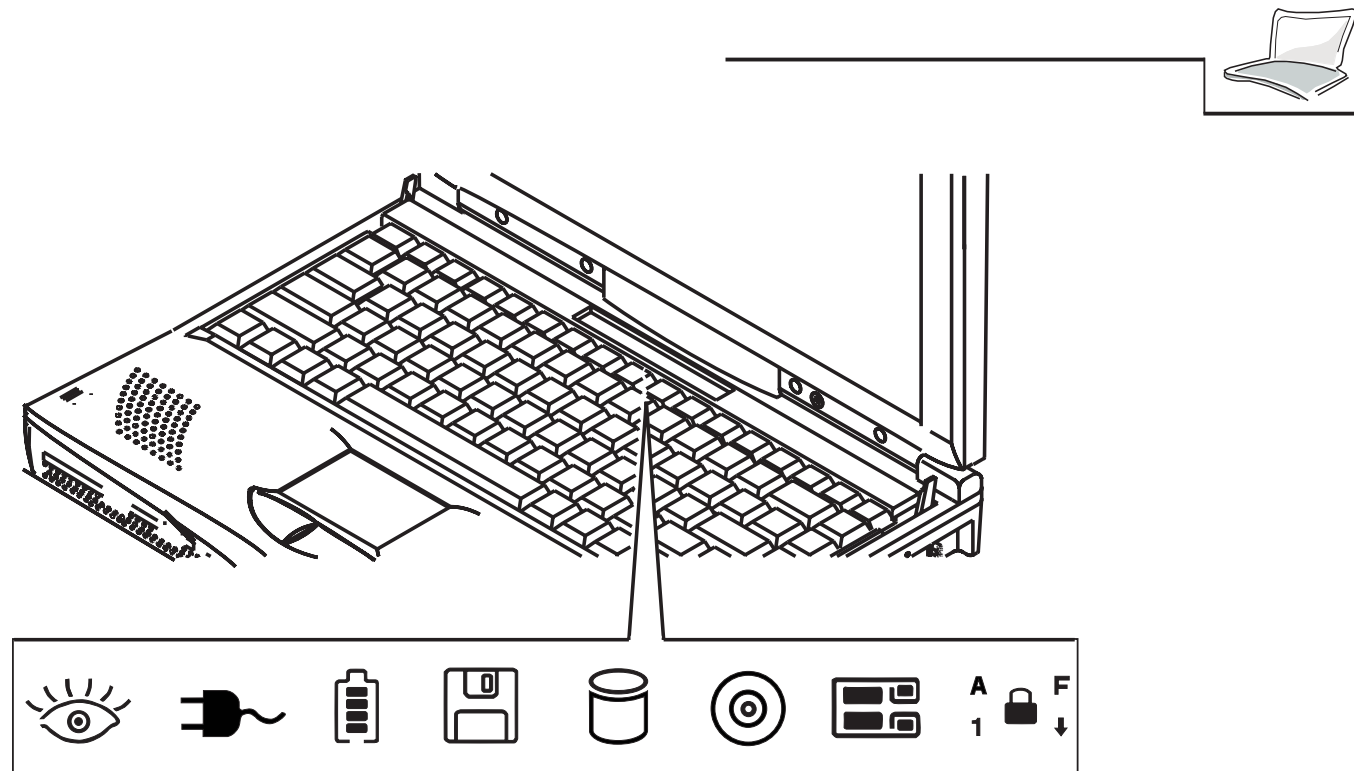


Figure 2-2: System Status Panel

CD-ROM or Storage Device Activity

Ⓞ Indicates when lit that the CD-ROM or storage device is being accessed.

HDD Activity

Ⓜ Indicates when lit that the hard disk is being accessed.

FDD Activity

Ⓛ Indicates when lit that the system is accessing the floppy disk drive.

PC Cards Activity

Ⓜ Indicates when lit that insert card to the PC Cards lower slots.

Ⓜ Indicates when lit that no cards inside of the PC cards slots.



Caps Lock

 Indicates that [Caps Lock] is activated

Scroll Lock

 Indicates that [Scroll Lock] is activated

Number Lock

 Indicates that [Num Lock] is activated


Embedded Numeric Keypad Lock

 Embedded numeric keypad is engaged

Power Management Status

 This icon indicates that the system is in the on state

Stand-by or Suspend Mode

 This icon indicates that the power management system is enabled and the system is in Standby or Suspend Mode. The power management system is set using the system BIOS during boot-up. Refer to Chapter 3 for information on setting up Power Management

AC Power-in

 System operating on AC power

Battery Gauge & Charging Status










 4-level-bar gauge displays remaining battery power

 Battery charging when blinking



Specific Hot Keys

The following table lists the hot key functions for the Notebook PC computer .



Fn	Increases display brightness
Fn 	Decreases display brightness
Fn 	Enter into the “Suspend Mode”
Fn 	Toggles Embedded keypad lock off and on
Fn 	Toggles LCD display off and on
Fn 	Toggles among LCD and external displays.
Fn 	Switches to TV video output display likes a TV set.
Fn 	Toggles the speakers off and on
Fn 	Decreases the audio volume output.
Fn 	Increases the audio volume output.
Fn NumLk	Toggles the numeric keypad off and on
Fn ScrLk	Toggles the “ Scroll Lock “ off and on

Embedded Numeric Keypad

The embedded numeric keypad consists of 15 keys that make number intensive input more convenient. Like the [Num Lock] key, these keys are labeled in blue on the keycaps. Numeric assignments are located at the higher right of each key as shown in **Figure 2-3**.



2

When the numeric keypad is engaged by pressing [**Fn**]+[], the system status panel will come on with  ^F. If an external keyboard is connected, pressing the [**NumLk**] key on either the Notebook PC or external keyboard will enable/disable NumLock of both keyboards in unison. To disable the Notebook PC numeric keypad while keeping the keypad on an external keyboard activated, use the [**Fn**] + [**NumLk**] hot key on the Notebook PC keyboard.

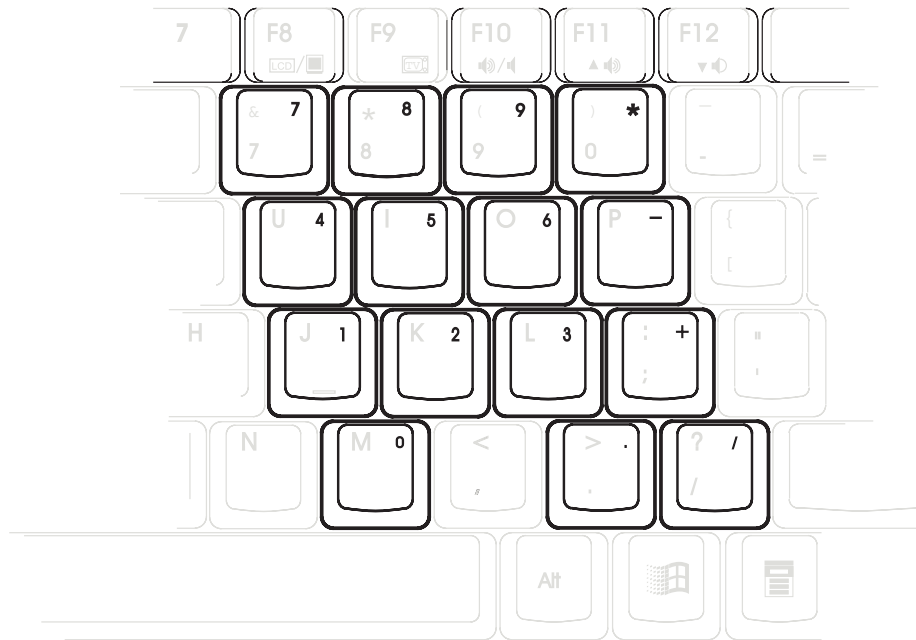




Figure 2-3: The embedded numeric keypad



Operating the Numeric Keypad

The keyboard has some keys that, when enabled, work as if they were a 10-key numeric keypad. The numeric keypad on the keyboard is not active when the external keyboard or the external numeric keypad is attached to the computer. To enable numeric keypad, press [**Fn**]+[]. The Embedded Numeric Keypad icon,  , appears on system status panel.

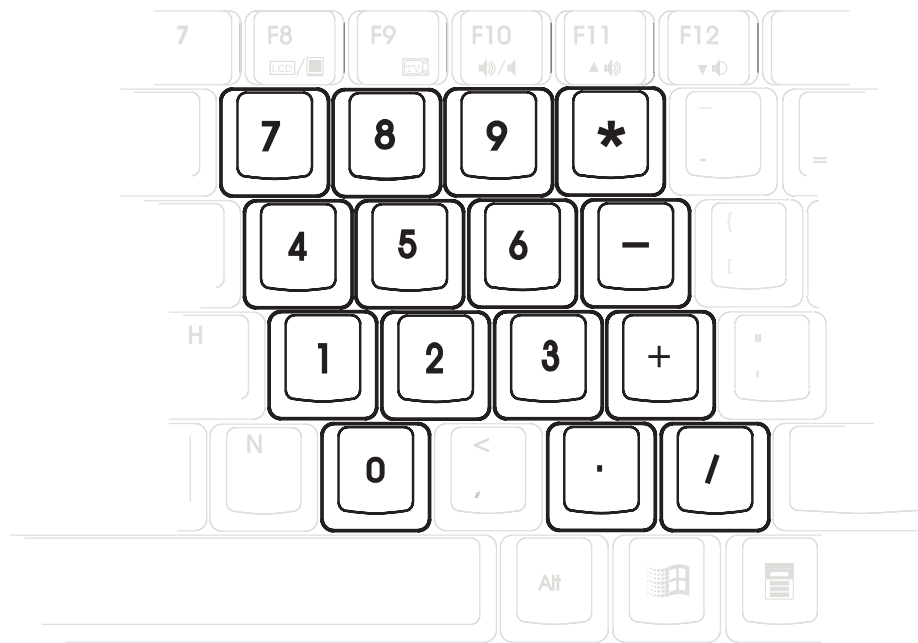


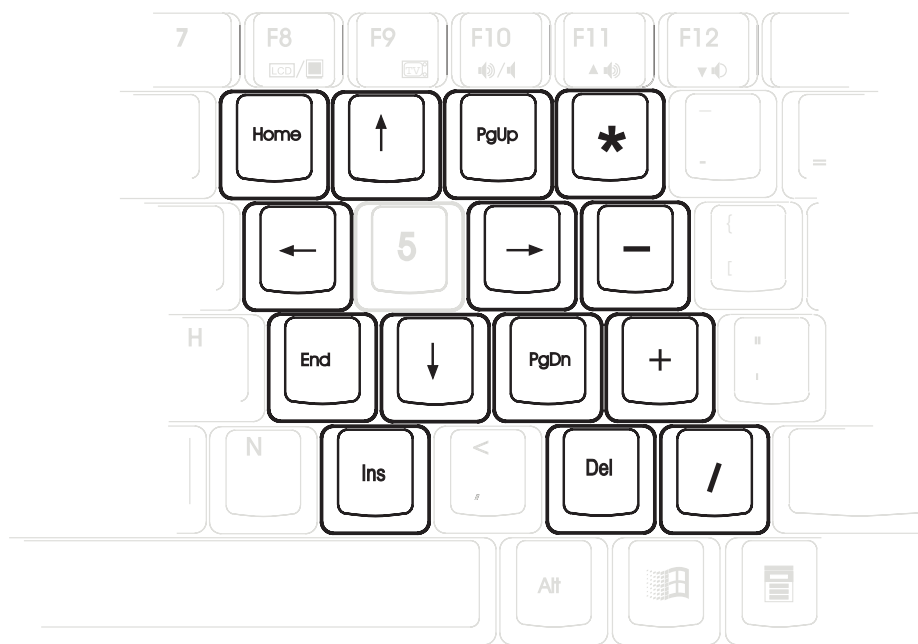


Figure 2-4: The embedded numeric keypad works as a numeric keypad



Operating as a Cursor Keypad

To enable cursor keypad, press [Fn]+[] and then [Fn]+[NumLk] to enable embedded numeric keypad and disable the NumLock . The icon  appears on system status panel.






Windows 95 Keys

There are two special Windows95™ keys on the keyboard. A brief description of each key is given below.

 The key with the Windows95™ Logo activates the Start menu button on the bottom left of the screen.

 The other key which looks like a menu with a small arrow activates the properties menu and is equivalent to pressing the right mouse button while pointing at any object on the Windows desktop.

This concludes Chapter 2. The next chapter provides a detailed description of the Notebook PC's BIOS Setup.



2





CHAPTER 3

THE BIOS SETUP

Introduction

The BIOS (Basic Input and Output System) Setup is a menu driven software utility that enables you to make changes to the system configuration and tailor your Notebook PC to reflect installed hardware, alter performance and setup power saving functions. It is a ROM-based program and also can be flashed with the latest version update through executing a specific BIOS flashing utility program bundled in the Driver & Utility CD-ROM. (Please see the Chapter 7 for details.)

A battery backed-up CMOS RAM is used to record some basic system hardware information, clock, date, time, the error handling, and etc., even when the power is off. When the Notebook PC is turned back on, the system is configured with the values stored in the CMOS RAM.

With easy-to-use menus, you can configure such items through BIOS Setup as:

- Date, time, and clock setting
- Hard disk drives and peripherals
- System-booting Sequence
- Password protection setting
- Power management features



The settings made in the BIOS Setup program intimately affect how the Notebook PC performs. It is important, therefore, to first try to understand all the Setup options, and second, to make settings appropriate for the way you use the Notebook PC.

This chapter will guide you through the Setup by providing clear explanations for all options. A default configuration has already been set. If you are either installing new devices or expanding main memory, you will need to enter the BIOS Setup to reconfigure your Notebook PC.

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

Navigating through the BIOS Setup Program

The Setup program has been designed to make it as easy to use as possible. It is a menu driven program, which means you can scroll through the various sub-menus and make your selections among the various predetermined choices. If you accidentally make a setting and do not know which one to switch back to, the Setup program has a hot key that allows you to return to the previous value. The hot keys are discussed in more detail later in this chapter.

When turning on the Notebook PC for the first time you may get a message prompting you to enter run the BIOS Setup by pressing [F2]. A warning message may appear on the screen if the hardware configuration is changed or the POST fails. This message will inform you of any errors or invalid settings and prompt you to run the BIOS Setup to correct the problem.

Even if you are not prompted by a message instructing you to use the Setup program, at some time in the future you may want to change the configuration of your computer. For example, you may want to enable the Security Password Feature or make changes to the power management settings. It will then be necessary to reconfigure your system using the Setup program so that the computer can recognize these changes and record them in CMOS RAM.



Accessing the BIOS Setup Program

To access the BIOS Setup program, press the [F2] key after the Notebook PC has boot through its POST.

The Menu Bar

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

- Main** Use this menu to make changes to the basic system configuration.
- Advanced** Use this menu to enable and make changes to the advanced features available on your system.
- Security** Use this menu to set a password. The password allows bootup and controls access to the BIOS setup menu.
- Power** Use this menu to configure and enable Power Management features.
- Boot** Use this menu to configure the default system device used to locate and load the Operating System and for booting up the Notebook PC.
- Exit** Use this menu to exit the current menu or specify how to exit the Setup program.

To access the menu bar items, press the right or left arrow key on the keyboard until the desired item is highlighted.



The 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 the various setup menus. The following table lists the keys found in the legend bar with their corresponding alternates and functions.

3

LEGEND KEY	ALTERNATE	FUNCTION
F1	Alt + H	Displays the General Help screen from anywhere in the BIOS Setup
Esc	Alt + X	Jumps to the Exit menu or returns to the main menu from a sub-menu
←	keypad arrow	Selects the menu item to the left
→	keypad arrow	Selects the menu item to the right
↑ or ↓	keypad arrows	Moves the cursor up and down between fields
Tab	Enter	Moves the cursor to the next position available in the field. If there is only one field, the Tab key will move the highlight down to the next field
Shift + Tab	(none)	Moves the cursor to previous position available in the field. If there is only one field, the Tab+Shift keys will move the highlight up to the previous field
- (minus key)	F5	Scrolls backward through the values for the highlighted field
+ (plus key)	F6, Space Bar	Scrolls forward through the values for the highlighted field
Home	PgUp	Moves the cursor to the top field
End	PgDn	Moves the cursor to the bottom field
F9	(none)	Sets current menu items to default values
F10	(none)	Saves changes and exits Setup



Launching Sub-menus

Note that a right pointer symbol appears to the left of certain fields. This pointer indicates that a sub-menu can be launched from this field. A sub-menu contains additional options for a field parameter. To call up a sub-menu, simply move the cursor to highlight the field and press the [Enter]. The sub-menu will then immediately appear. Use the legend keys to enter values and move from field to field within a sub-menu just as you would within a menu. Use the [Esc] key to return to the main menu.

Take some time to familiarize yourself with each of the legend keys and their corresponding functions. Practice navigating through the various menus and sub-menus. If you accidentally make unwanted changes to any of the fields, use the set default hot key. While moving around through the Setup program, note that explanations appear in the Item Specific Help window located to the right of each menu. This window displays the help text for the currently highlighted field.

General Help

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



Saving Changes and Exiting the Setup Program

Refer to the Exit Menu section of this chapter for detailed information on saving changes and exiting the setup program.

When a scroll bar appears to the right of a help window, this indicates that there is more information to be displayed that won't fit in the window. Use the [PgUp] and [PgDn] keys or the up and down arrow keys to scroll through the entire help document. Press the Home key to display the first page, press End to go to the last page. To exit the help window, press the [Enter] or the [Esc] key.

3

The Main Menu

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

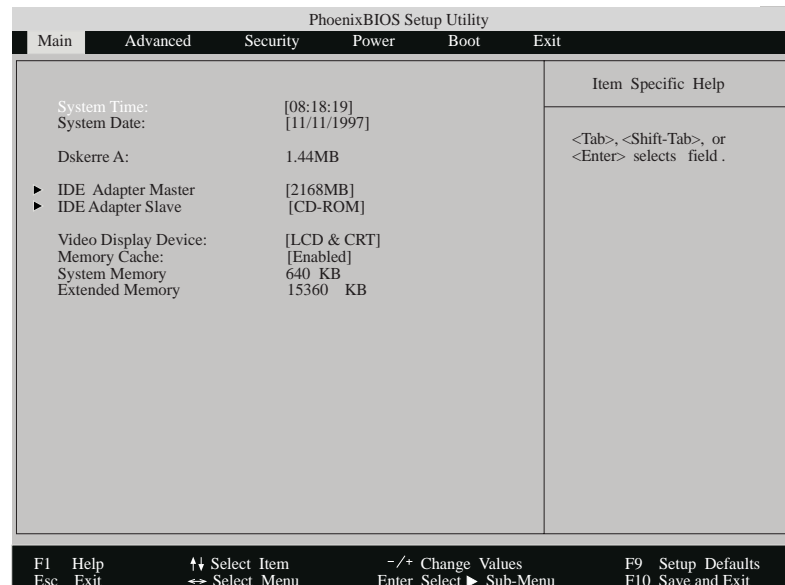


Figure 3-1: The Main Menu



This is the Main menu of the BIOS Setup program. Changes to the Notebook PC basic system configuration can be made from this menu. Each of the fields displayed in this menu are covered below in detail.

System Time

Sets your system to the time that you specify (usually the current time). The format is hour, minute, second. Insert the appropriate information. Use the [Tab] or [Shift] + [Tab] keys to move between the hour, minute, and second fields.

System Date

Sets your system to the date that you specify (usually the current date). The format is month, day, year. Type in the appropriate information. Use the [Tab] or [Shift] + [Tab] keys to move between the month, day, and year fields.

Diskette A

This is a display-only field. The information is set for type of floppy drive installed.

IDE Adapter Master

This field is used to configure the IDE Hard Disk installed in the system. To configure a hard disk drive, move the cursor to highlight the Primary Master field:

IDE Adapter Master [2168MB]

Pressing the [Enter] at this point will reveal the IDE Adapter Master sub-menu:



Before attempting to configure a hard disk drive, make sure you have the configuration information supplied by the manufacturer of the drive. Incorrect settings may cause your system can not recognize the installed hard disk. Or just select [AUTO] to let BIOS to detect the drive type automatically.



Type

Select Auto to automatically detect an IDE type drive. This option only works with the built-in standard IDE drives. If automatic detection is successful, the correct values will be filled in for the remaining fields on this sub-menu.

To configure a drive select User. Manually enter the number of cylinders, heads and sectors per track for your drive. Refer to your drive documentation or look on the drive if you need to obtain this information. If no drive is installed or if you are removing a drive and not replacing it, select None. The type can be set to CD-ROM in this field to support an inserted CD-ROM drive module. The type can be set to Removable ATAPI in this field to support an inserted storage device module with IDE interface as the primary master.

Cylinders

This field configures the drive number of cylinders. Refer to your drive documentation to determine the correct value to enter for this field. In order to make changes to this field, the Type field must be set to User.

Heads

This field configures the drive number of read/write heads. Refer to your drive documentation to determine the correct value to enter for this field. In order to make changes to this field, the Type field must be set to User.

Sectors

This field configures the drive number of sectors per track. Refer to your drive documentation to determine the correct value to enter for this field. In order to make changes to this field, the Type field must be set to User.



Maximum Capacity

This field shows the drive's maximum capacity which is automatically calculated by the BIOS referring to the drive information you set to determine.

Multi-Sector Transfers

This option automatically sets the number of sectors per block to the highest number supported by the drive. This field can also be configured manually. Note that when this field is automatically configured, the set value may not always be the fastest value for the drive. Refer to the documentation that came with your hard drive to determine the optimal value and set it manually. In order to make changes to this field, the Type field must be set to User.

Configuration options are:

- Disabled
- 2 Sectors
- 4 Sectors
- 8 Sectors
- 16 Sectors

LBA (Logical Block Access) Mode Control

When enabled, this option uses 28-bit addressing of the hard drive without regard for cylinders, heads, and sectors. Note that Logical Block Access may decrease the access speed of the hard disk. However, LBA Mode is necessary to use drives with greater than 528MB in storage capacity. In order to make changes to this field, the Type field must be set to User. Configuration options are:

- Disabled
- Enabled



32 Bit I/O

When enabled, this option speeds up communication between the CPU and the IDE controller. This option supports PCI local bus only. ISA bus is not supported. In order to make changes to this field, the Type field must be set to User. Configuration options are:

- Disabled
- Enabled

Transfer Mode

When enabled, this option speeds up communication between the system and the IDE controller by using enhanced I/O transfer modes (PIO Modes). In order to make changes to this field, the Type field must be set to User. Configuration options are:

- Standard
- Fast PIO 1
- Fast PIO 2
- Fast PIO 3
- Fast PIO 4

After using the legend keys to make your selections to this sub-menu, press the [Esc] key to exit back to the Main menu. When the Main menu appears, you will notice that the drive letter and the drive size appear in the Primary Master field for the hard drive you just configured

IDE Adapter Slave

In this field, indicate the size of disk drive or the device type of connecting your Notebook PC primary slave IDE such as a CD-ROM drive or a 2nd hard disk drive. The arrow head icon indicates that this field contains a sub-menu. The sub-menu is used to configure an IDE Hard Disk installed in the system.



To configure a hard disk drive, move the cursor to highlight the Primary Slave field, and press the [Enter]. The Primary Slave sub-menu screen will appear. The fields and options on this sub-menu are the same as the Primary Master sub-menu described above. The type can be set to CD-ROM in this field to support an inserted CD-ROM drive module. The type can be set to Removable ATAPI in this field to support an inserted storage device module with IDE interface as the primary slave. After using the legend keys to make your selections to this sub-menu, press the [Esc] key to exit back to the Main menu.

Video Display Device

This field allows you to select to enable video display devices like LCD panel, external CRT/LCD monitor, or both.

- LCD & CRT
- CRT
- LCD

Memory Cache

This field allows you to enable the Notebook PC L2 memory cache. The configuration options are:

- Disabled
- Enabled (as default)



Disabling the external cache will cause overall system performance to decrease substantially.



System Memory

This field displays the amount of conventional memory detected by the system during bootup. You do not need to make changes to this field. This is a display only field.

Extended Memory

This field displays the amount of extended memory detected by the system during bootup. You do not need to make changes to this field. This is a display only field.

The Advanced Menu

Selecting Advanced from the menu bar displays the Advanced menu. Please see Figure 2-4.

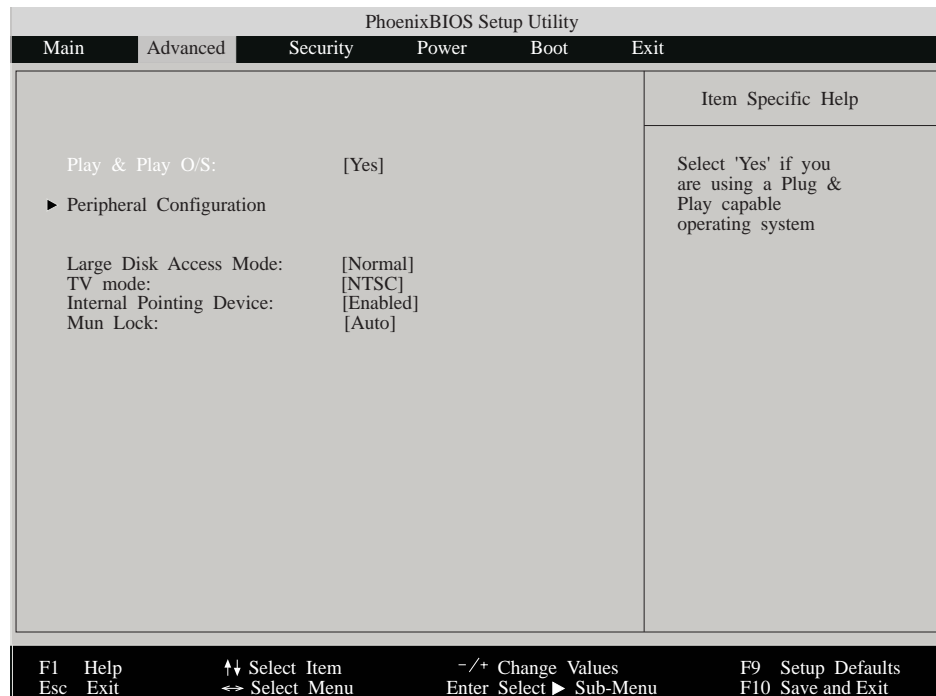


Figure 3-2: Advanced Menu



Plug & Play O/S

Specifies whether a Plug & Play capable operating system such as Windows 95 is in use. Only enable this option if the system is using a Plug & Play capable operating system. Available configurations are:

- No
- Yes (default)

Peripheral Configuration

Pressing the [Enter] when this field is highlighted calls up the following sub-menu: This menu allows you to configure the Notebook PC's serial and parallel ports. Each field on this sub-menu is covered below.

Serial Port A

This field allows you to configure the Notebook PC serial COM1 port. The following options are available:

- Auto (default)
- User
- Disabled
- PnP OS

When User is selected, the Base I/O Address menu item appears as following : The "Base I/O Address" field becomes available and you can set the serial port IRQ and I/O address as you like. The following options are available:

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



IR Port

This field allows you to configure the Notebook PC's serial IR port. The following options are available:

- Auto(as default)
- User
- Disabled
- PnP OS

When Enabled is selected, the Base I/O Address menu item appears. This “ Mode “ field allows you to enable or disable the Notebook PC Fast Infrared (FIR) communication module. The following configuration options are available:

- SIR
- FIR



When FIR is selected, the DMA channel menu item appears. The COM2 serial port is available for system use only if the serial IR is Disabled. SIR enables standard IrDA IR support on COM2.

The “Base I/O Address” field becomes available and you can set the serial port IRQ and I/O address as you like. The following options are available:

- 3F8, IRQ 4
- 2F8, IRQ 3
- 3E8, IRQ 4
- 2E8, IRQ 3(as default)

52 This field is only available when the Infrared port is set to Enabled.



The “DMA Channel” field allows you to configure the DMA Channel used by Fast Infrared port. The following options are available:

- DMA 1
- DMA 3 (default)

This field is only available when the Infrared Port Mode field is set to FIR.

Parallel Port

This field allows you to configure the Notebook PC parallel port. The following options are available:

- PnP OS
- User
- Disabled
- Auto



Changing the default address and IRQ settings for COM1, COM2 and the LPT Port can cause conflicts with other system devices or installed peripherals.

The “Mode” field allows you to configure the Notebook PC parallel port transmission mode. The following options are available:

- Output Only
- Bi-directional (default)
- ECP
- EPP



“Output only” mode allows data output only. However, EPP and ECP are Bi-directional modes, allowing both data input and output. The EPP and ECP modes are only supported with EPP and ECP aware peripherals.

EPP Mode: When the EPP mode is selected the standard and bi-directional modes are also available. The EPP operates on a two phase cycle. First the host selects the register within a device for subsequent operations. Second, the host performs a series of read and/or write byte operations to the selected register. There are four operations supported by EPP: Address Write, Data Write, Address Read and Data Read. All operations are performed asynchronously.

ECP Mode: The port is software and hardware compatible with existing parallel ports so that it may be used as a standard printer mode if ECP is not required. ECP mode provides an automatic high burst-bandwidth channel that supports DMA for ECP in both the forward (host to peripheral) and reverse (peripheral to host) direction.

These options in the field of “Base I/O Address” are used to choose the I/O (port) address for the Parallel port. The available options are:

- 378 / IRQ7
- 378 / IRQ5
- 278 / IRQ7
- 278 / IRQ5

This field is only available when the Parallel port is set to User.

The “DMA Channel” allows you to configure the Parallel port DMA Channel for selecting ECP mode. The following options are available:



The “DMA Channel” allows you to configure the Parallel port DMA Channel for selecting ECP mode. The following options are available:

- DMA 1 (default)
- DMA 3

This field is only available when the Parallel Port Mode field is set to ECP.

After using the legend keys to make your selections for the Peripheral Configuration sub-menu, press the [Esc] key to exit back to the Advanced menu.

Large Disk Access Mode

Specifies the type of operating system in use on the Notebook PC. The default, DOS, should be always used unless UNIX or Novell Netware is being used. Available configurations are:

- Large
- Normal(as default)



Large Disk Access mode controls how the disk controller accesses the disk volume. Setting the option to Other may cause the hardware not to recognize DOS, Windows or other DOS based operating system disk formats.

TV Mode

Specifies the type of TV video output format for connecting to TV set. Available formats are:

- NTSC(as default)
- PAL



Internal Pointing Device

This field allows you to enable or disable the internal pointing device such as TouchPad or a factory optional TrackPoint

- Enabled(as default)
- Disabled

NumLock

Specifies the number lock function of keypad when power is on.

- Auto (default, keeps the last status during shutdown)
- On
- Off



The Security Menu

The Notebook PC's advanced system of security allows you to set a password to prevent unauthorized access to system resources, data, and the BIOS Setup Program. This section covers each parameter of the Security Setup. Selecting Security from the menu bar displays the following menu:

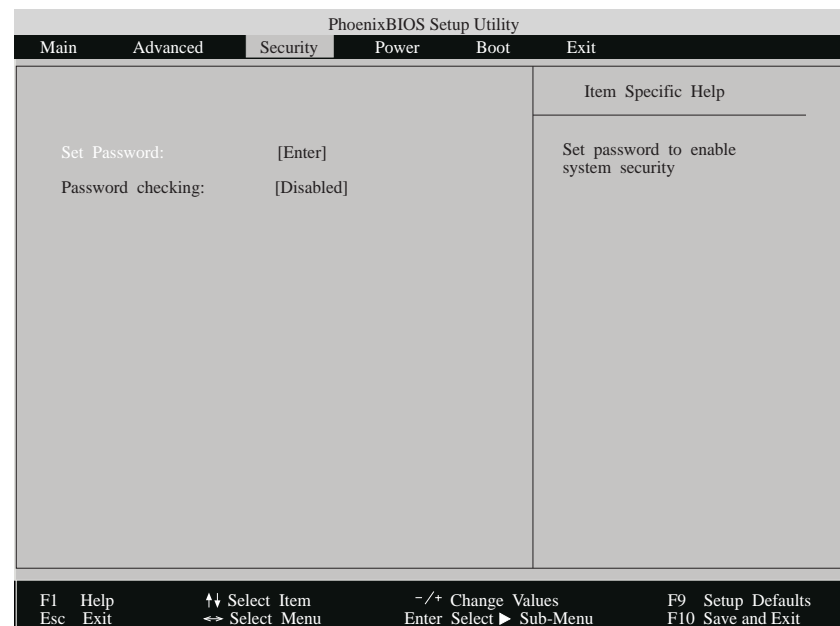


Figure 3-3: Security Menu

A Note about Passwords

The BIOS Setup program allows you to specify passwords in the Security menu. The passwords control access to the BIOS and certain Security menu options during system startup. The passwords are not case sensitive. In other words, a password can be entered using either upper or lower case letters; it makes no difference.



The BIOS Setup program allows you to specify two separate passwords: a Supervisor password and a User password. When disabled, anyone may access all BIOS Setup program functions. When enabled, the Supervisor password is required for entering the BIOS Setup program and having full access to all Security menu options.

Set Password

This field allows you to set the User password. To set the User password, highlight this field and press the [Enter]. The following dialog box appears:

<i>Set User Password</i>	
<i>Enter New Password :</i>	[]
<i>Confirm New Password:</i>	[]

Type the password and press the [Enter]. You can type up to eight alphanumeric characters. Symbols and other keys are ignored. To confirm the password, type the password again and press the [Enter]. The User password is now set. This password allows full access to the BIOS Setup menus.

To clear the password, highlight this field and press the [Enter]. The same dialog box as above will appear. Press the [Enter] twice. The password is now cleared.

Password checking

This option requires prior setting of the User password to function. When enabled, the system will then require the User password before the system can bootup. When set to always, the system will then require either the User password before allowing access to the system when resuming from Save to Disk. Furthermore, boot from diskette or CD-ROM will be disabled. The options for this field are:

- Disabled(as default)
- On boot
- Always



The Power Menu

The Power menu of the Setup program allows you to enable and adjust the advanced features of the Notebook PC designed to conserve power. Enabling these features will extend the life of the battery pack between charges. To make changes to power management settings, select Power Savings from the menu bar. The following menu appears:

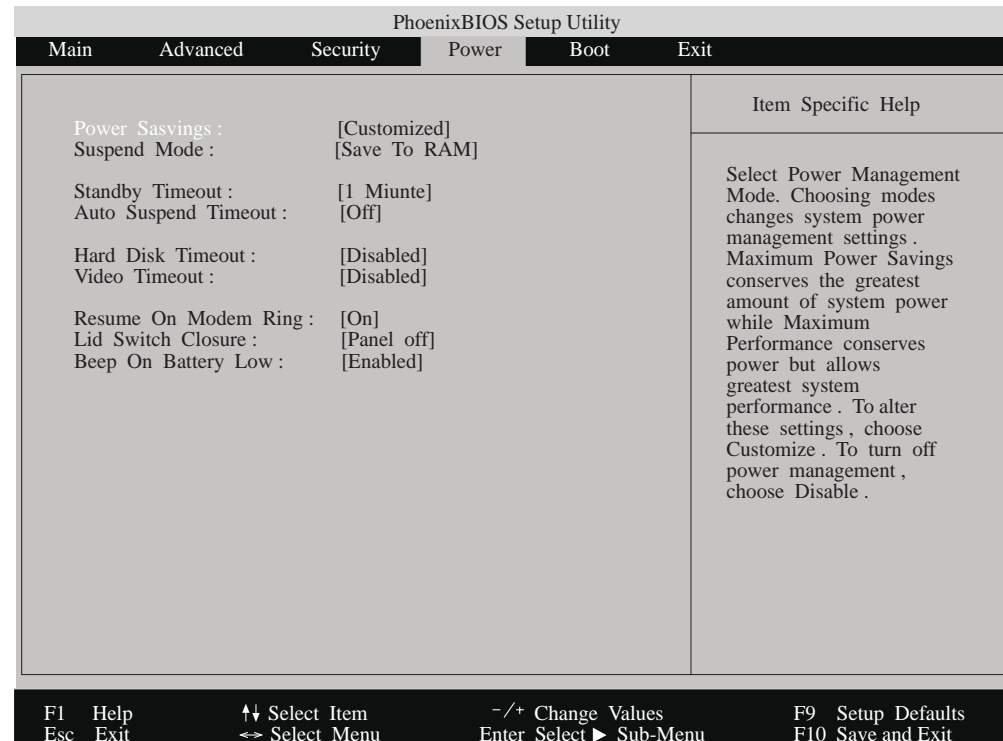


Figure 3-4: Power Savings Menu



Power Savings

This option must be enabled to use any of the automatic power saving features. The options for this field are:

- Disabled
- Customized (as default)
- Maximum Power Savings
- Maximum Performance

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

The Customized option allows you to make your own selections from the following fields within the Power Menu.

When set to Maximum Power Savings, system power will be conserved to its greatest amount. The remaining fields within the Power Menu will be set to pre-defined values that ensure maximum power savings.

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

Suspend Mode

This field determines the mode of suspend when the Notebook PC entering power saving. Available options for this field are:

- Save To RAM (as default)
- Save To Disk



Standby Timeout

This option is only enabled when Customized is selected in the Power Savings field. This field allows you to specify how much time of inactivity must elapse before the system automatically transits to Standby mode. In Standby mode various devices are powered off including the LCD backlight and the system enters a low power CPU state but for quick wakeup. Available options for this field are:

- Off
- 1 Minutes
- 2 Minutes
- 4 Minutes
- 6 Minute
- 8 Minutes
- 12 Minutes
- 16 Minutes

If APM is installed, this function will be controlled by APM and may function differently depending on the APM settings.

Auto Suspend Timeout

This field determines how much system idle time must pass before the system enters Suspend mode. When set to Off, the system cannot enter Suspend mode which is the lowest power state for the Notebook PC. The possible settings for this field are as follows:

- Off
- 5 Minutes
- 10 Minutes
- 15 Minutes
- 20 Minutes
- 30 Minutes
- 40 Minutes
- 60 Minutes



Hard Disk Timeout

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

- Disabled
- 1 Minute
- 2 Minutes
- 4 Minutes
- 6 Minutes
- 8 Minutes
- 10 Minutes
- 15 Minutes

Video Timeout

This field allows you to specify the period of inactivity required before the LCD display turns off. The possible options for this field are:

- Disabled
- 2 Minutes
- 4 Minutes
- 6 Minutes
- 8 Minutes
- 10 Minutes
- 15 Minutes



Resume On Modem Ring

When this field is set On, a modem ring will cause the system to resume from Suspend mode.

- Off (default)
- On

Lid Switch Closure

This option allows you to set the power management function when the lid switch is closed. The possible options are:

- Panel off (default)
- Disabled

Beep on battery low

This option allows you to enable or disable the battery low warning beep.

- Disabled
- Enabled (default)



The Boot Menu

The Boot menu allows the user to specify the order in which the Notebook PC is to check for a device to boot the system. To make changes, select Boot from the menu bar and the following screen appears:

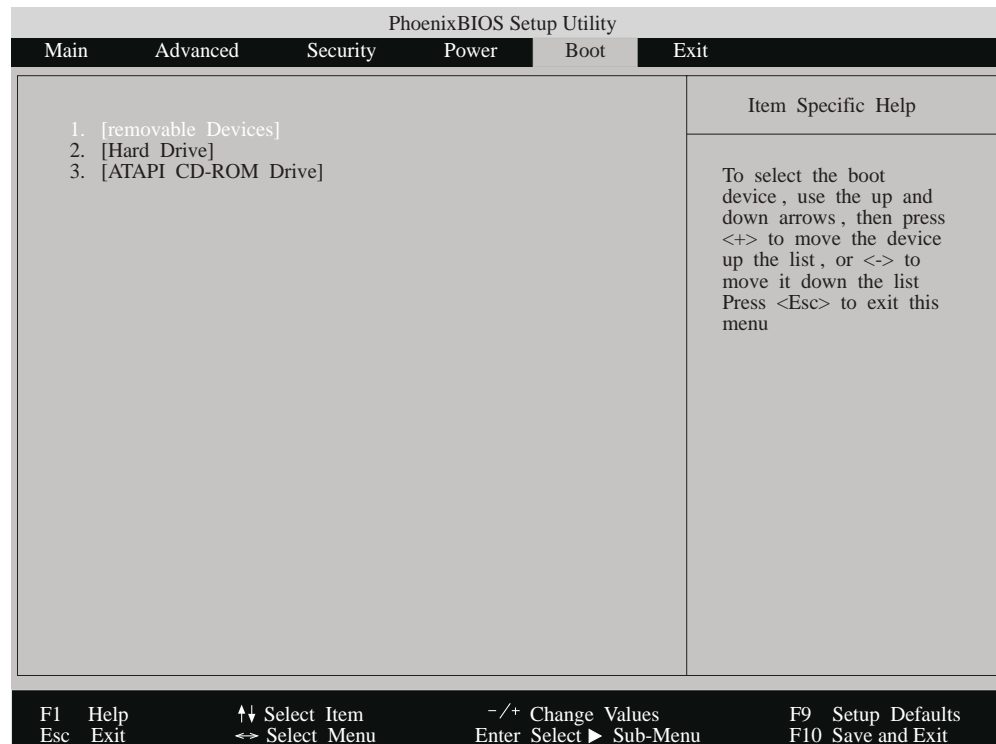


Figure 3-5: Boot Menu

Boot Sequence

The Boot Menu allows you to use the up and down arrow keys to select among the three possible boot devices listed. By using the [+] or [Space] and [-] keys, it is possible to alter the priority the system uses to search for the boot device on system power up in numerical order.



The Exit Menu

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

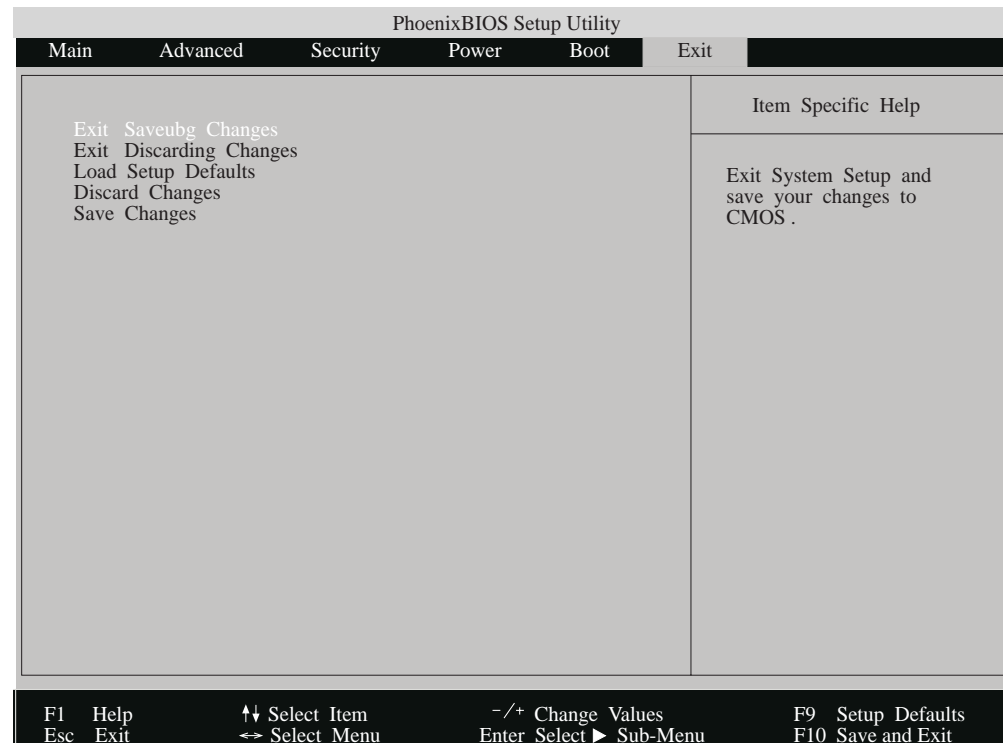


Figure 3-6: Exit Menu



Pressing the [Esc] key does not exit this menu. You must select one of the options from this menu or a menu bar item to exit this menu.



Each of the options on this menu is described below.

Exit Saving Changes

Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved to the CMOS RAM. The CMOS RAM is sustained by an on-board backup battery and stays on even when the Notebook PC is turned off. Once this option is selected, the Setup program displays the following message.

<i>Setup Confirmation</i>	
<i>Save configuration changes and exit now?</i>	
<i>[Yes]</i>	<i>[No]</i>

Select Yes to save changes and exit.



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

Exit Discarding Changes

This option should only be used if you do not want to save the changes you have made to the Setup program. If you have made changes to the fields other than system date, system time and password, the system will ask for confirmation when choosing Discard Changes and Exit.

Load Setup Defaults

This option allows you to load the default values for each of the parameters on the Setup menus. When this option is selected or by pressing [F9], the following message is displayed:



<i>Setup Confirmation</i>	
<i>Load default configuration now?</i>	
<i>[Yes]</i>	<i>[No]</i>

Select Yes to load default values. You can now select Exit Saving Changes or make other changes before saving the values to Non-Volatile RAM.

Discard Changes

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

<i>Setup Confirmation</i>	
<i>Load previous configuration now?</i>	
<i>[Yes]</i>	<i>[No]</i>

Select Yes to discard any changes and load the previously saved values.

Save Changes

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



<i>Setup Confirmation</i>	
<i>Save configuration changes now?</i>	
<i>[Yes]</i>	<i>[No]</i>

3

Select Yes to save any changes to Non-Volatile RAM.

This concludes Chapter 3. The next chapter covers operation of the Notebook PC.



CHAPTER 4

USING THE NOTEBOOK PC

This chapter describes the basic features and procedures for using your Notebook PC. Topics covered include the floppy drive, CD-ROM drive, Touchpad, and other input and output devices.

4

Removable Storage Device Modules



Due to the BIOS booting process and for concern of power station, a hot or warm-swapping is not permitted when you attempt to exchange the modules. Always verify the system power is off first ! Do not touch the connector pin modules for preventing damage by static-discharge.

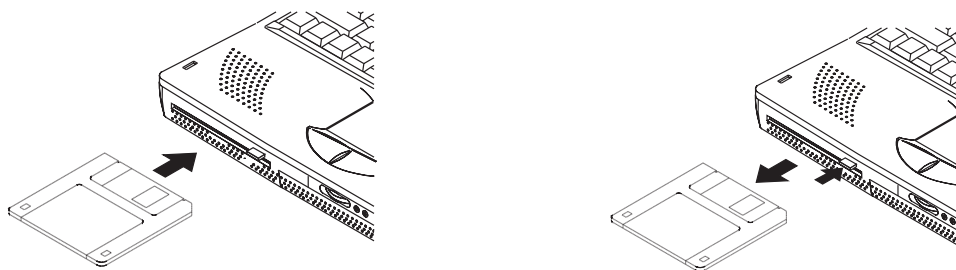
Data storage and retrieval are two of the most fundamental tasks you will perform when working with your computer. The Notebook PC is equipped with a 3.5" floppy drive, a hard disk drive and a optional high speed CD-ROM drive as usual. All of the storage devices are designed as removable modules. The module also can be equipped with an optional LS-120 Superdisk drive, a 2nd hard disk drive, or a DVD-ROM/RAM drive. (For more detail, contact your authorized dealer please.) The floppy drive can coexist with CD-ROM drive through a specific external cable(PACB-FD01) connecting to the parallel port. The following sections will cover instructions for operating each of these drives.



The Floppy Drive Module


Your Notebook PC features a removable 3.5 inch floppy drive module. It can use both the double density-720KB and the high-density 1.44MB format floppy diskettes. The modular design provide you convenience to put into the device bay for carry out. One specific external cable(PACB-FD01) is offered. You can use both FDD and CD-ROM through connecting FDD module to the parallel port and insert CD-ROM drive module into the storage device bay. Due to the BIOS booting process, a hot or warn-swapping and to attempt connecting external cable when system on are not acceptable, please turn off system power first.

Inserting and Ejecting Diskettes



Removing the Floppy Drive Module

The Notebook PC is shipped with the Floppy Drive Module already inserted in the device bay. To remove the floppy drive module from the device bay, please refer to the following instructions.

1. Turn off the Notebook PC's power.
2. Turn the Notebook PC so that its underside is facing up and its front is facing you.
3. Locate the device module knob marker with  on the bottom side of the Notebook PC. Slide the knob to the left to eject the module.
4. Gently pull the module out of its bay.



The CD-ROM Drive Module

In recent years, CD-ROM discs have become increasingly popular as a mass storage medium for PCs. One reason is clearly their large storage capacity; CD-ROM disks can store a large variety of information, including audio and video data, as well as text files and programs up to 650MB in maximum.

The Notebook PC comes with a built-in high speed CD-ROM drive module. The CD-ROM drive allows you to run the latest multimedia CD titles providing a new multimedia dimension to your personal computing experience.

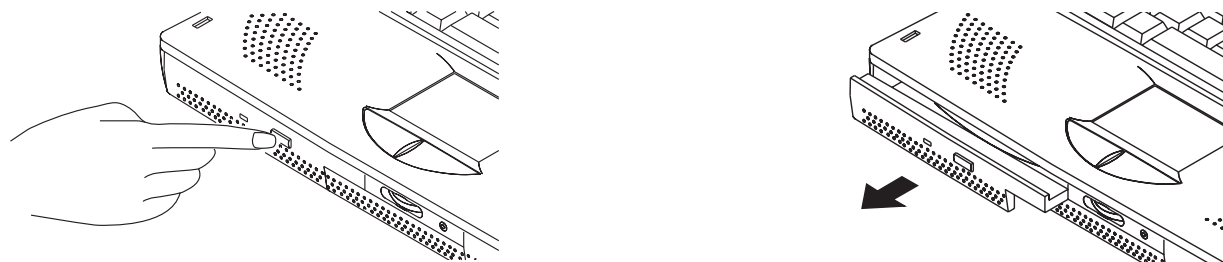
Supported CD's Formats

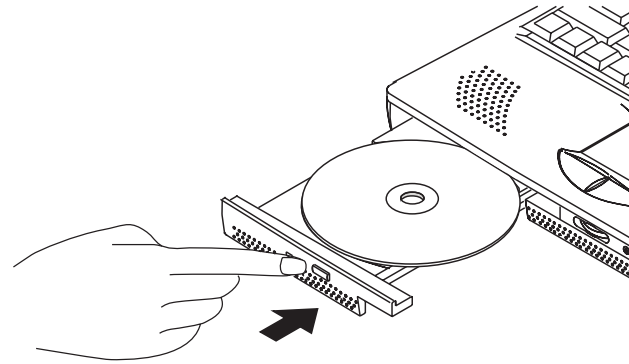
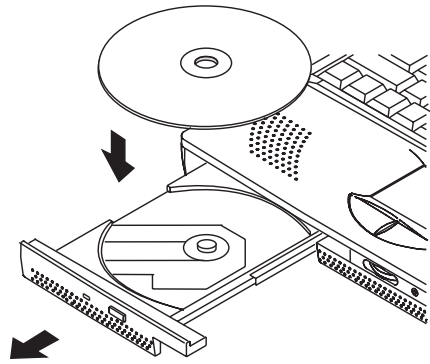
The formats can be supported by the CD-ROM drive are listed below :

- The Audio/Music CD's .
- The Photo CDs.
- MS-DOS MSCDEX compatible CD-ROM, mode 1 and mode 2.
- The CD-ROM/XA, CD-I, and Video CD's.

Inserting and Removing CD-ROM Discs

The illustration below shows how to insert a CD-ROM disc into your CD-ROM drive and remove. Handle your CD-ROM discs with care, please keep the important safety instructions attached from your CD-ROM disc suppliers in mind.





Manually Opening the Tray

An Emergency Ejection Hole beside the Front Eject Button is for you to open the tray manually if can not properly eject the CD-ROM disc by pushing the Front Eject Button or when power is off. Use a straightened paper clip, locate the hole, then push gently but firmly until the tray is released. Turn off the system before you attempt to do.

The Removable Hard Disk Drive Module

Hard disk drives have higher capacities and operate at much faster speeds than floppy disk drive or CD-ROM drives. Your Notebook PC comes equipped with a hard disk drive already installed and prepared for operation. It is commonly referred to as an ATA/Enhanced IDE drive with a form factor of 3.5 inches wide and 1.8 inches high. The ATA/Enhanced IDE drives provide a reliable, fast, and cost-effective mass storage solution in the PC storage industry.

Important Handling Note

- 72** Improper handling during transit may cause serious problems from HDD side, please handle the Notebook PC carefully and keep the HDD module away from both static-inducing area and irregular shock..



The High Speed Transfer Modes

The high speed transfer modes supported are shown as below :

- Ultra DMA/33 up to 33MB/sec
- PIO mode 4 up to 16.6MB/sec

Remove and Upgrade the HDD Module

The Notebook PC is shipped with the HDD module already inserted in the HDD module bay. Please contact with your authorized dealers for how to remove the HDD module from the bay and upgrade it for a higher capacity HDD.

The Touchpad Pointing Device

The Notebook PC's integrated Touchpad pointing device is fully compatible with the two-button PS/2 mouse. The Touchpad is pressure sensitive and without any moving parts; therefore, mechanical failure are eventually non-existent. A device driver is still required for working with some application software. See the Driver & Utility CD-ROM that were bundled with the device drivers of applications which require a mouse driver, and utilities that provide added features when using supported applications.

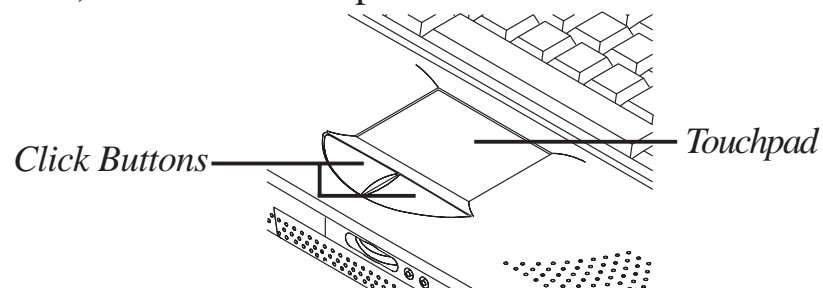


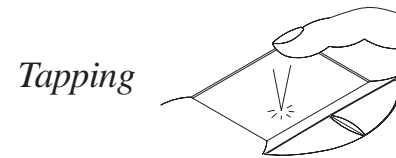
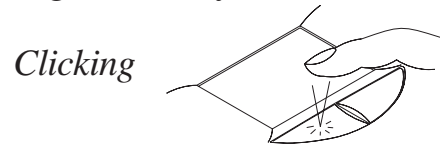
Figure 4-1 : The Touchpad Pointing Device



Using the Touchpad

A light pressure with the tip of your finger is all that is required to operate the Touchpad. Please do not use pen, or other items with a sharp tip, they may make scratch on the pad and defect. Its primary function is to move the cursor around the screen using your finger tip to touch and move on the pad. The illustrations shown below describe how to use the Touchpad with other extra skills under Windows operating systems.

1. Clicking/Tapping- Press button or just use the finger tip to touch the pad lightly and then leave for selecting the item you want.



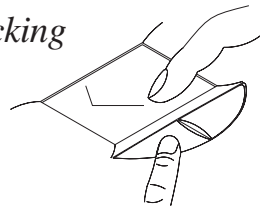
2. Double-clicking/Double-tapping- A common skill for launching program directly from the relative icon you select. Move the cursor over the icon you wish to execute, press the left button or tap the pad twice in rapid succession, system will prompt the relative program. If the interval between clicks or taps is too long, this operation will not be executed.



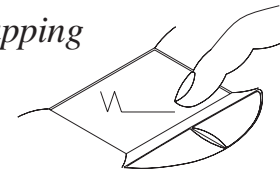
3. Dragging- Means to pick up a item and place somewhere on the screen you wish. You can move the cursor over the item you select, and while keeping the left button depressed, moving the cursor to the desired location, then release the button, or just done by double-tapping on the pad to select and pick the item you wish to move.



Dragging-Clicking



Dragging-Tapping



The Touchpad is a pressure sensitive device. If not properly cared for , it can be easily damaged. Please take note of the following precautions.

- Make sure the Touchpad does not come into contact with dirt, liquids or grease.
- Do not touch the Touchpad if your fingers are dirty or wet.
- Do not rest heavy objects on the Touchpad or the Touchpad buttons.



The Touchpad responds to movement not force. Do not tap the surface too hard. Tapping too hard does not increase the responsiveness of the Touchpad. The Touchpad responds best to a light press

Touchpad Installation for DOS & Win31

To install for DOS & Win31:

1. Insert the Driver & Utility CD and into the CD-ROM drive and locate the /Touchpad/DOS sub-directory
2. Run the “Inst31.exe”.
3. Instructions covering installation will be displayed. Follow the instructions to install the Touchpad drivers and utilities.



Trackpoint Pointing Device Model

The optional models go with integrated Trackpoint pointing device. It is fully compatible with the two-button PS/2 mouse. The functions supported by the Trackpoint are the same as Touchpad but except for tapping, double-tapping, and dragging by tapping on the pad.






4

The Display

The Notebook PC comes with a 13.3" color Thin-Film-Transistor (TFT) Active Matrix LCD display panel that outputs XGA 1024 x 768 resolution with 64K Hi-color. You also can hook up an external CRT or LCD monitor through the Mini-D-sub 15-pin VGA connector or just connect a TV video device such as TV set through the S-video composite connector on the back side.

Display Hot Key Controls

The following hot key combinations control the Notebook PC's display.

Fn + 	Increases display brightness
Fn + 	Decreases display brightness
Fn + 	Toggles LCD display off and on
Fn + 	Toggles between LCD and external CRT/LCD monitors. (simultaneous display is supported)
Fn + 	Switches to TV output devices (NTSC or PAL video format selectable by BIOS Setup or VGA driver)



LCD Care

The LCD screen is verly delicate and require careful handling. Pay attention to the following precautions:

- When not in use, keep the LCD display panel closed to prevent dust accumulation.
- Do not use chemical cleaners on the screen, wipe only with a dry cloth or tissue.
- Do not put your fingers or any objects directly on the screen.
- Do not press on, or lay any objects on the machine when it is closed.

External Display

With a monitor or TV set connected, you can use the toggle hot key to switch the display output. Two modes are available as below:

- Simultaneous display of both LCD and external monitor.
- TV video output to TV set or VCR. (in NTSC or PAL/SECAM)

For details on connecting an external display, please refer to the illustration in Chapter 6.

LCD Display Size under DOS and BIOS Setup

To keep the compatibility with the DOS applications including the BIOS Setup screen, the LCD display supports VGA 640 x 480 resolution display shown as below :





PC Cards

The Notebook PC has two PC Card sockets designed to interface with two Type I or Type II cards, or stacked to accommodate one Type III card. It allows you to expand and customize your computer to meet a wide range of application needs. The PC Cards standard accommodates a number of function, communication or data storage expansion options such as Memory/Flash Cards, FAX/Modems, Hard Disks, and Networking Adapters. The Notebook PC fully supports PCMCIA 2.1, 32-bit CardBus, and Zoomed Video Port. The lower one is called socket 1, upper one is socket 2.



Figure 4-2 : The PC Cards Sockets

32-bit CardBus & Zoomed Video Port



The Zoomed Video feature is only supported by the lower socket 1.

The CardBus allows PC Cards and their hosts to use 32-bit bus mastering and operate at speeds of up to 33MHz, transferring data in burst modes comparable with PCI's 132MB per second. By comparison, the standard 16-bit PC Card bus can handle only 20MB per second. The Notebook PC is equipped with CardBus' broader, faster data pathway will be able to handle bandwidth-hungry operations that are cutting-edge even for desktop systems, such as 100Mbps Fast Ethernet, Fast SCSI peripherals, and ISDN-based video conferencing. The CardBus peripherals must be hot-swappable and support plug and play too.



The CardBus socket is backward-compatible with 16-bit PC Cards serving at 5 volts operation while CardBus operates at 3.3 volts to reduce power consumption.

As part of the Notebook PC's advanced architecture, the Zoomed Video specification provides for full frame-rate video display channel for applications like MPEG decoders for movies and games, TV tuners, live video input, video capturing, and video conferencing. ZV Port allows video data on a PC Card to be transferred directly into the VGA frame buffer bypassing the CPU and PCI system bus. It can promise a high quality real-time full-motion video playback without any suffering from CPU and system bus performance.

Inserting and Removing a PC Card

Follow these instructions and refer to Figure 4-7 to insert a PC Card :

1. Find the specific notched edge of PC Card to make sure the connector side toward the socket.
2. Insert the PC Card into an appropriate socket according to the card's type and press until it locks into place firmly and the eject lever will pop out.
3. The eject lever can be folded to the right to lock and prevent breaking.

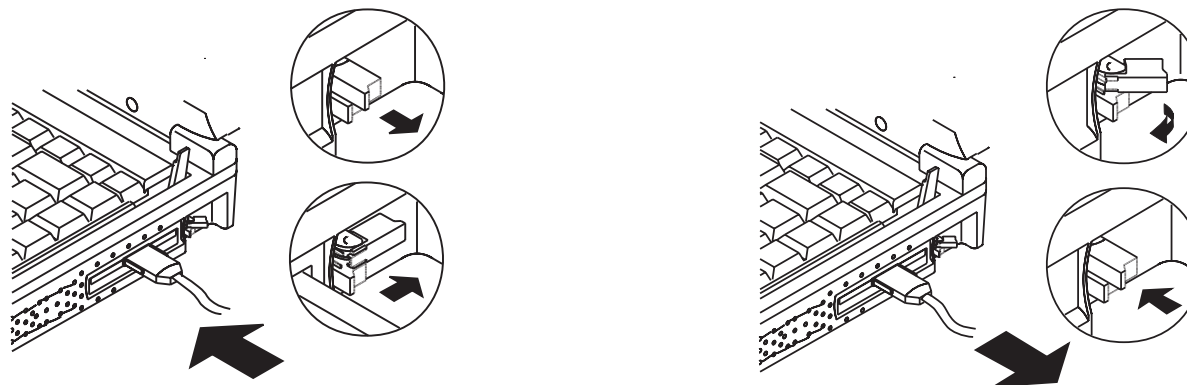


Figure 4-3: PCMCIA Card Installation and Removal



Follow these instructions and refer to Figure 4-7 to remove a PC Card :

1. Raise the tip of eject lever of the card which you want to remove.
2. Press tip of the lever and remove the card out.

4

The Driver Support

The Windows 95 operating system (since OSR 2.1 release on 10/19/'96) comes already equipped with the drivers that allows your PC to recognize PC cards and provide PC Cards service. However, new PC cards may need software driver upgrades. Please contact your authorized dealers for more information.



When inserting a Type III PC card, make sure the connector is inserted in the lower socket 1. Before ejecting a PC card, ensure that it is not being accessed by the system, especially when using a hard disk drive PC card.

Multimedia Sound System

The Notebook PC's built-in audio capabilities allow you to take advantage of a wide range of education and entertainment multimedia software available on today growing market. The multimedia sound system features a integrated digital audio controller that produces rich, vibrant sound in high quality 16-bit and stereo. With a pair of integrated stereo speakers, a built-in microphone, and both input and output audio jacks for external audio devices, the Notebook PC brings you convenience to fulfill most of the portable multimedia computing use. All audio features are software controlled.



The Notebook PC's multimedia sound system includes the following features:

- Built-in OPL3 FM-synthesizer
- Supports Sound Blaster Pro compatibility
- Supports Windows Sound System compatibility
- Full Duplex operation
- Built-in MPU401 Compatible MIDI/Game port
- 3D sound effect supported
- 16-bit digitized audio playback
- A built-in microphone for convenient recording
- Two integrated stereo speakers
- Digitized audio recording through the Notebook PC's built-in microphone or external source

Audio Volume Control

The Notebook PC's audio output volume is easily controlled by the following:

KEY COMBINATION	DESCRIPTION
Fn ▼ 🔊	Increases audio output volume.
Fn ▲ 🔊	Decreases audio output volume.
Fn 🔊/🔇	Mute



IR Wireless Communication

The Notebook PC is equipped with an Infrared (IR) Communication Port located on the rear side. The IR port comes with IrDA Serial Infrared Data Link Standard Version 1.1 compliance which allows you to perform point-to-point wireless communication. You can use a SIR/FIR-specified application to transmit or receive data files with other systems equipped with a infrared port. The following table briefly describes each of the IR modes available. You must set these modes in BIOS before you start to install the IR driver and file-transferring applications. Please refer to Chapter 3 for information on the BIOS Setup.

IR MODE	DESCRIPTION
FIR	Fast Infrared Transfer Mode, supports up to 4Mbps
SIR	Serial infrared Transfer Mode, supports up to 115.2Kbps

The Guidelines of using IR communication

Follow the guidelines listed below when using the Infrared Communication :

- Make sure the IR Mode in the BIOS Setup is properly set to the mode you like to use.
- The angle between two Infrared Communication Ports should not exceed ($\pm 15^\circ$).
- Make sure the distance between the Notebook PC's IR port and the other device equipped with IR port does not exceed one meter.
- Do not move either the Notebook PC or the other device during transmission of data.
- An error may occur if IR transmission is conducted in an environment with high levels of noise.



Universal Serial Bus Port

USB(Universal Serial Bus) is a peripheral bus standard developed by PC and telecom industry leaders that will bring plug and play of computer peripherals outside the system, eliminating the need install add-ons into dedicated computer and reconfigure the system.

The Notebook PC is equipped with one USB port using a shielded receptacle connector will allow computer peripherals to be automatically configured as soon as they are physically attached - without the need to reboot or run setup. USB will also allow multiple devices up to 127 to run simultaneously on a computer, with peripherals such as monitors and keyboards acting as additional plug-in sites, or hubs.

The Notebook PC's built-in USB host controller initiates data transfer at full-speed, 12Mbps for digital camera or low-speed, 1.5Mbps for keyboard or mouse. The host also manages the logical connection of devices.

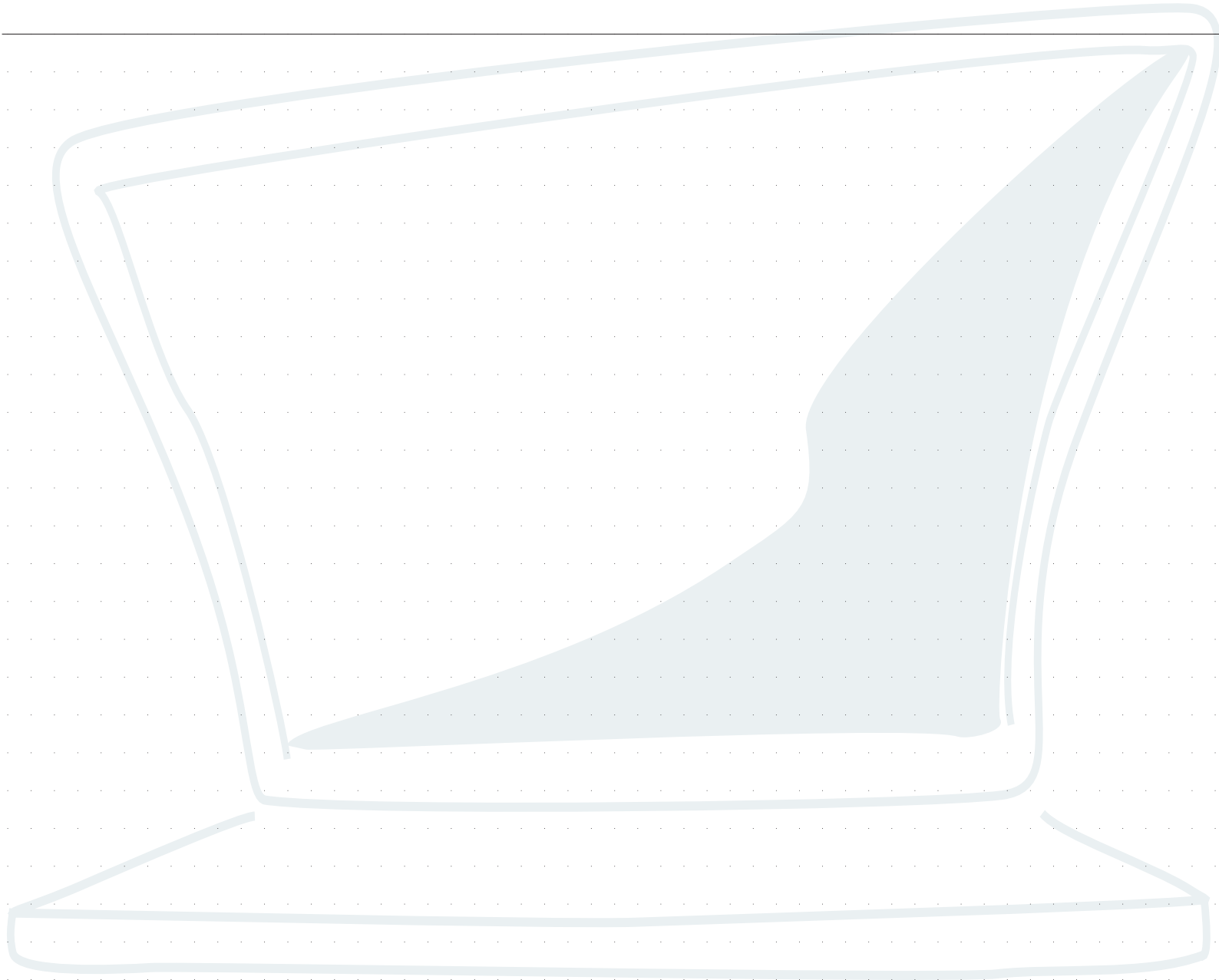
The Driver Support

The Windows 95 operating system (since OSR 2.1 release on 10/29/'96) comes already equipped with a standard driver that allows your Notebook PC to recognize USB peripherals. However, new peripheral products may need software driver upgrades. Please contact your peripheral devices (or HID) authorized dealers for more information. According to the Intel's and Microsoft's technical report, the current version USB driver and patch file under Windows 95 environment might not work properly in Suspend/Resume mode of power management .

This completes Chapter 4. The next chapter covers the Notebook PC's power system.



4





CHAPTER 5

THE NOTEBOOK PC'S POWER SYSTEM

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

The power of Notebook PC is comprised of two parts, the AC Adapter and the battery power system. The AC Adapter converts AC power from a wall outlet to the DC power required by the Notebook PC. The battery pack is a set of Lithium-Ion (Li-Ion) battery cells or optional Nickel-Metal Hydride (NiMH) housed together with a battery gauge in a plastic non-flame case. There is one pack inserted in the power bay of the Notebook PC.

In this section we will go over AC and battery power operation and explain the power saving features that are built into the Notebook PC.



The AC Adapter

The AC Adapter's primary function is to provide power to the Notebook PC. We have already seen how to connect it to the Notebook PC in Chapter 1. When the Adapter is connected to the Notebook PC, it provides power as long as it is plugged into an electrical wall outlet.



Please refer to the rating label of AC adapter for safety information.

5

The Battery Power System

The Notebook PC is designed to work with a removable battery pack. The pack can be found in the compartment here we call "Power Bay". Please see Figure 5-1 if you are having trouble locating the battery pack when put inside the PC.





A fully charged pack will provide approximately 4 to 5 hours of battery . The battery life can be extended by using the power management features. The battery system implements the Smart Batt-ery standard under Windows environment which allows the battery to accurately report on the amount of usable time and charge percentage left in the battery before recharging is required. Additional battery packs are optional and can be purchased separately through your authorized dealers. Before using the Notebook PC on battery power for the first time, check the bars of battery icon in the System Status Panel to make sure the battery is fully charged. Charging the battery takes about 2.5 to 3 hours when power is off. Always charge completely to reduce the “ Memory Effect “or officially called ” Voltage Depressor,” if you use the optional Ni-MH battery pack.


Inserting the Battery Pack

For inserting the battery pack into the power bay, refer to the following instructions.

1. Gently slide the battery pack into the bay.
2. When the pack is fully locked you should hear it click into place.

Removing the Battery Pack

To remove the battery pack from the power bay, please refer to Figure 5-1 and the following instructions :


1. Turn off the Notebook PC’s power.
2. Turn the Notebook PC so that its underside is facing up and its front is facing you.
3. Locate the battery release knob marked with  on the bottom side of the Notebook PC. Slide the knob to the left to eject the battery pack.
4. Gently pull the pack out of its bay.



Warm-swapping the Battery Packs

The Notebook PC's battery power system supports “Warm-swapping” of battery packs. The “Warm-swapping” should work together with either one of suspend modes of power management. (a reserved space of hard disk drive should be available for selecting “Save-to-Disk” mode. Please refer to Chapter 1 or Chapter 7 for how to make a reserved space of “Save-to-Disk”.)

For warm-swapping the battery packs, please follow the instructions as below :

1. Enter into either one of the power management suspend modes (“Save-to-RAM” or “Save-to-Disk”)
2. Turn the Notebook PC so that its underside is facing up and its front is facing you.
3. Locate the battery release knob marked with  on the bottom side of the Notebook PC. Slide the knob to the left to eject the battery pack.
4. Gently pull the pack which you like to replace out of the bay.
5. Gently slide in the other battery pack.
6. When the pack is fully locked you should hear it click into place.
7. Press [Enter] or other key or power button to resume the system.

Battery Pack Charging Function

You can charge the battery pack by using the AC Adapter. When the AC Adapter is plugged in, the inserted battery pack will automatically be recharged while you are working on your Notebook PC or just with the Notebook PC power turned off. It takes 2.5 to 3 hours for full-charged when power is off.

An icon on the system status panel indicates battery pack charging status with the outline of the icon. The battery is under charging when blinking. A 4-level-bar gauge inside indicates the battery power remaining.



An amber LED on the front also indicates the battery pack charging status. The inserted battery pack is under charging when blinking. When lit, battery is fully charged.

Using Battery Power

A full-charged Li-Ion battery pack will provide approximately 4 to 5 hours of working to the Notebook PC. But the actual figure will vary depending on how you use the power saving features, your general work habits, and the type of CPU, main memory size and LCD display your Notebook PC has.

The Low Battery Warning Beep is automatically enabled in Windows 95. However, POWER.EXE must be enabled in order to use the Low Battery Warning Beep function in DOS. In Windows 3.1, W31-APM must be enabled to use the battery warning beep feature. POWER.EXE must be loaded via a DEVICE= line in CONFIG.SYS in order to report the status of the battery while using DOS or Windows 3.x. POWER.EXE is not necessary when running Windows 95. For additional information, please see your DOS and Windows 3.1 User's Manuals for details.

Battery Gauge & Charging Status

The battery status icon on the system status panel indicates the approximate battery via bars in the 4-level-bar gauge and also indicates the charging status of battery pack by the outline of icon when blinking.

When the pack initially reaches the very low battery state approximately 5% of a full-charged battery is left. When the lowest bar of the 4-level-bar gauge start to flash and you can hear an audible beep signal alerting you to the very low battery status for indicating “ Battery Low ”.



Please save your data or plug-in AC adapter power immediately; otherwise, you may lose the data under working.

	Approximately 75 ~ 100% battery power remaining.
	Approximately 50 ~ 75% battery power remaining.
	Approximately 25 ~ 50% battery power remaining.
	Approximately 10 ~ 25% battery power remaining.
	Less than 5% remaining when lowest bar starts to flash.
	The battery pack is charging when icon outline flashes.

On the top of battery pack, a 4-level LED gauge indicator is built-in You can read the battery remaining out by pushing the flat button on the indicator label.

Discharging the Battery Pack

There is a bundled utility to provide you to reduce the “Memory Effect” or officially called “Voltage Depressor ” when using optional NiMH battery packs. Please refer to Chapter 7 for details.



Never attempt removing the battery pack while the power is on or not entering into suspend modes as this may result in working data loss.



Power Management Modes

The Notebook PC has a number of automatic or adjustable power saving features which you can use to maximize battery life. You can control some of these features through the Power menu in the BIOS Setup. Refer to Chapter 3 for a detailed description of the BIOS Setup program.

The power management features are designed to save as much electricity as possible by putting components into a low power consumption mode as often as possible. These low power modes are referred to as “Standby” mode and “Suspend” mode. The “Standby” mode is also commonly known as “System Sleep” mode. When entering into either one of power saving modes, the Power LED will become blinking.

Full Power Mode & Maximum Performance

The Notebook PC operates in Full Power mode when power management function is disabled by configuring BIOS Setup. When the Notebook PC is operating in Full Power Mode, the Power LED remains on. If you are conscious of both system performance and power consumption, we suggest you to select the “Maximum Performance” instead of all power management features disabled.

Standby Mode

In addition to reducing the CPU clock, this mode puts devices in their lower active states including LCD backlight. The Notebook PC enters Standby mode when the system remains idle for a specified amount of time. The timeout is able to be set by BIOS Setup. Press any key to resume system operation.



Suspend to RAM / Suspend to Disk

In Suspend mode the CPU clock is stopped and most of the Notebook PC devices are put in their lowest active states. The suspend mode is the lowest power state of the Notebook PC. The Notebook PC enters Suspend when the system remains idle for a specified amount of time. The timeout setting of both Hard Disk and Video can be set by BIOS Setup. Press any key to resume system operation.

When entering into either one of power saving modes, the Power LED will start blinking.

A Customized Power-saving Example

The timeout settings for System Standby, Auto Suspend, Hard Disk Off, and Video Off specify the amount of time the system must be inactive before the next power management level is enabled. Refer to the Power Menu section in Chapter 3. The example below demonstrates this function. If the Hard Disk Timeout is set to **2** minutes, the Standby Timeout to **8** minutes and Auto Suspend Timeout is set to **10** minutes the following power management events take place:

1. After **2** minutes of system idle the hard disk spins down.
2. After **6** additional minutes (a total of 8 minutes of system idle) the system enters Standby.
3. After **2** additional minutes in the system Standby mode, the system suspends to memory or disk (a total of **10** minutes of system idle)

After the system has suspended, operation can be returned or resumed to the point in your application where it was suspended.

This concludes Chapter 5. The next chapter covers the optional equipment that can be added or connected to the basic Notebook PC.



CHAPTER 6

PERIPHERAL CONNECTIONS & SYSTEM EXPANSION









The Notebook PC is equipped with a set of I/O ports for connecting peripheral devices such as a printer, a keyboard, or an external monitor. This chapter contains information how to connect peripherals and do system expansion in main memory.

Connecting Peripheral Devices

Overview of the Notebook PC's I/O Ports

Before attempting to connect a peripheral device to the computer, make sure you are familiar with the Notebook PC's various I/O ports. Please refer to Chapter 1 to identify the following I/O ports.



- IR IR Communication Port** - an Infrared (IR) Communication Port located on the rear side.
-  **Audio Jacks**- There audio jacks located on the rear side are used for Line-in , Mono Microphone-in and Line-out.
-  **Game/MIDI Port** - A 15-pin D-sub connector on the rear side to connect to a Joystick, Gamepad, or MIDI instruments.
-  **VGA Port** - A 15-pin Mini-D-sub VGA connector on the rear side for connecting a CRT monitor.
-  **S-video Composite TV-out Port** - An S-video composite connector on the rear side for connecting a TV set or a VCR. One S-video-to-RCA composite video cable is provided.
- Serial Port** - A 9-pin D-sub serial port on the rear side.
-  **Parallel Port** - A 25-pin D-sub parallel/printer port on the rear side. This port also supports External Floppy Disk Drive Module through the External FDD cable.
-  **USB Port** - A Universal Serial Bus (USB) receptacle connector is provided on the left side.
-  **Docking Connector** - A 240-pin docking connector on the rear side supports the connection to the optional Port Replicator with LAN function built-in.
- 

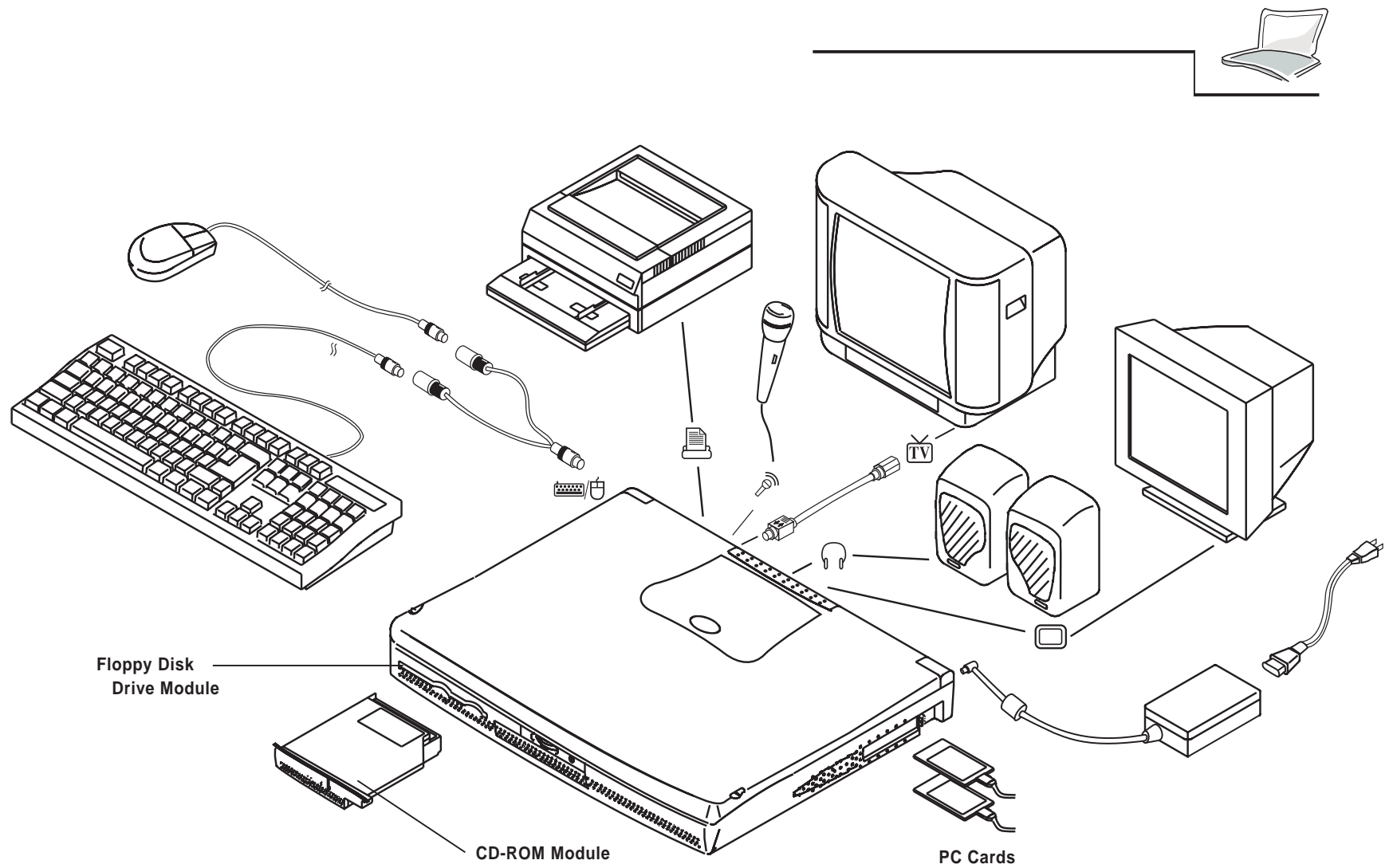


Figure 6-1: Connecting Peripheral Devices



System Expansion

System Memory Expansion

For most circumstances, you may find additional memory is required. This is particularly true as more and more application programs are designed to run under Windows. To expand system memory capacity is one of the effective way to increase the system performance.

The Notebook PC goes with built-in 16MB 64-Bit high speed SDRAM as factory default. Two 144-pin SO-DIMM sockets to reserve the headroom for making system memory expansion. Available memory size options come in 16MB, 32MB or 64MB for each module. The largest size you can expand on the Notebook PC is up to 144MB when using two single-bank 64MB SODIMM modules. We recommend that purchase expansion modules from your authorized dealers for compatibility and stability issues.

The SO-DIMM sockets cover is located on the bottom side of the Notebook PC. A T-screw is provided to fix.



Please note to install two double-bank SO-DIMM modules into both sockets can not be accepted by the Notebook PC's system.



Please care for static-discharge. It is very easy to make damage on memory modules.

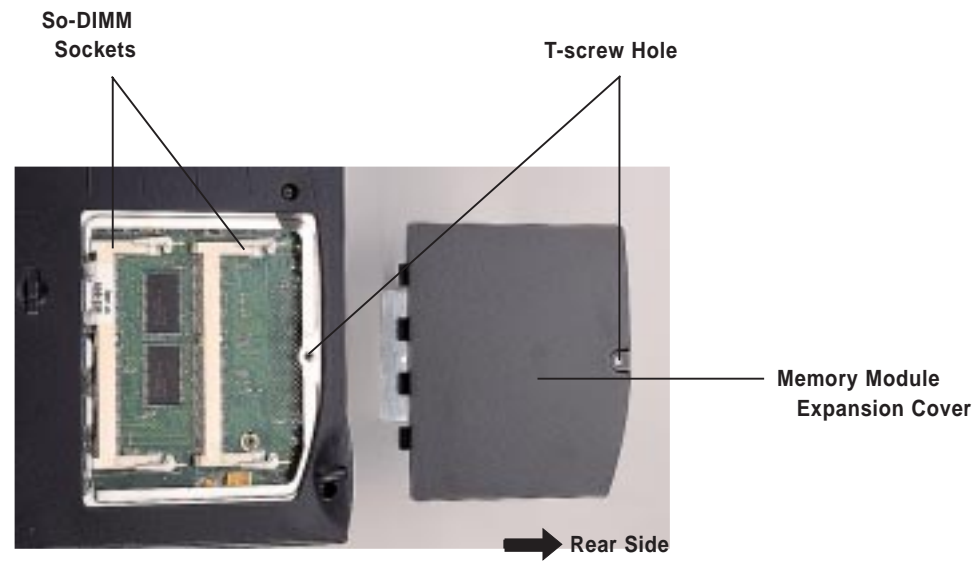


Figure 6-2: Locating the SO-DIMM Sockets

Installing Memory Modules

1. Remove the screw securing the memory socket cover on the bottom side and remove the cover.
2. Carefully insert one SO-DIMM module at an angle of 20° into either of the sockets.
3. Press the SO-DIMM module firmly. Two latches on both edges of the SO-DIMM socket will lock in place.

Removing Memory Modules

1. Remove the screw securing the memory socket cover on the bottom side and remove the cover.
2. Carefully press out on the latches on both edges of the sockets at the same time.
3. Remove the module out.





CHAPTER 7

DRIVER UTILITIES

This chapter describes how to prepare your Notebook PC with the drivers and utilities come from the Driver & Utility CD-ROM that is bundled with the Notebook PC.

(Normally, the Notebook is shipped with the latest version of Windows 95 OEM System Release or Windows NT operating system and relative device drivers and utilities already installed respectively.)

The Driver & Utility CD-ROM

CD-ROM Drive Driver Installation

Before you can use the CD-ROM, you must first install the CD-ROM drive's driver. The manufacturer name and the model No. of CD-ROM drive is shown on the CD-ROM drive module's housing. And the driver comes from the Driver & Utility CD-ROM that is bundled with the Notebook PC. The MS-DOS MSCDEX.exe is required under DOS environment.

About the Driver & Utility CD-ROM

The Driver & Utility CD-ROM provides you convenience to installing the Notebook PC's device drivers and utilities with supporting AutoRun under Windows 95 environment, for other OS, run "SETUP.EXE" please.



Please refer to the ” **Driver & Utility Installation Guide**” for details. Drivers & utilities and their respective installation procedures are described in this guide book.

Power Management Utility

Hard Disk Reserved for Save-to-Disk Use

The Notebook PC supports the Advanced Power Management version 1.2 to save battery power and extend the working hours. For executing one of the power saving suspend modes— “Save-to-Disk”, a reserved space of hard disk is needed for saving the system status for resume. Before you start to format and install the operating system onto your hard disk, please follow the instructions listed below to make a reserved space in your hard disk if you want the Notebook PC to support “Save-to-Disk” mode : (The utility-“PHDISK.EXE” is included in the bundled Driver & Utility (CD-ROM).

1. Boot the system with a floppy diskette with DOS or Windows 95 booting system.
2. Locate the “phdisk” sub-directory of the Driver & Utility CD-ROM.
3. Run the “phdisk/create” or “phdisk/create 160000” to reserve a 160MB space.
4. Instructions covering installation will be displayed. Follow the instructions to finish and check the reserved space with “ fdisk.exe ” under DOS.

The “phdisk.exe” will automatically define the space to be reserved for “ Save-to-Disk” according to the system memory size.



BIOS Updating Utility

BIOS Flashing

The Notebook PC features with a Flash ROM for BIOS. The latest version BIOS release (file name is like DATECODE.rom) can be written into by executing the utility-"phlash.exe" which is included in the bundled Driver & Utility CD-ROM.

1. Boot the system with a floppy diskette with DOS or Windows 95 booting system.
2. Locate the "phlash" sub-directory of the Driver & Utility CD-ROM after DOS prompt.
3. Check the new version BIOS release file : DATECODE.rom, e.g. 980101.rom.
4. Run the "phlash 980101.rom".
5. Instructions covering installation will be displayed. Follow the instructions to finish and reboot your system.

Battery Discharge Utility

The bundled utility to provide you to reduce the " Memory Effect " or officially called " Voltage Depressor " when using optional NiMH battery packs. Please follow the instructions listed below to discharge the inserted battery pack.

1. Boot the system with a floppy diskette with DOS or Windows 95 booting system.
2. Locate the " battery " sub-directory of the Driver & Utility CD-ROM after DOS prompt.
3. Run the " batfresh.exe "
4. Instructions will be displayed. Follow the instructions to start discharging.



APPENDIX A

GLOSSARY

Application

An application is a type of computer program designed to help the user perform a certain kind of job. Applications differ from other types of programs, i.e., operating systems, utilities, and compilers. Operating systems control the access of system resources, utilities perform maintenance tasks and other chores, while a compiler is used by a programmer when writing other programs. Examples of common applications are word processors, spreadsheet programs, and data bases.

AUTOEXEC.BAT

AUTOEXEC.BAT is a special-purpose file that is automatically executed by DOS whenever the computer is turned on or restarted. This file contains important commands that help configure the system to work with the software and other devices installed.

BIOS

This acronym stands for Basic Input/Output System. BIOS is a set of routines that intimately affect the way the computer transfers data between elements of the system such as memory, disks, and the monitor. The BIOS instructions are built into the computer read-only memory. BIOS parameters can be configured by the user through your computer BIOS Setup program, but the basic set of instructions can only be changed by a programmer.

Bit

Bit, short for binary digit, represents the smallest unit of data used by the computer. A bit can have one of two values: 0 or 1.



Boot

Boot means to start the computer operating system by loading it into system memory.

Bus

A bus is an electrical circuit used to transfer data among the various components of the computer.

Byte

Byte is an abbreviation for binary term. One byte is a group of eight contiguous bits. A byte is used to represent a single alphanumeric character, punctuation mark, or other symbol.

COM Port

COM is a logical device name used by to designate the computer serial ports. The Notebook has one physical serial port but this port can be reserved as one of two COM port assignments by the operating system (COM1 or COM3). Likewise, the FIR port can be assigned as COM2 or COM4. Each COM port is configured to use a different IRQ and address assignment.

CPU

CPU is an acronym for Central Processing Unit. The CPU actually functions as the “ brain” of the computer. It interprets and executes a program commands and processes all the data stored in memory.

Cursor

The cursor is the blinking on-screen indicator you see at the DOS prompt or application programs.

Cylinder

A cylinder is an area on a hard drive where data is stored.

Device Driver

A device driver is a special set of instructions that allows the computer system to communicate with a device such as a printer or a FAX/Modem.

DOS

DOS is an acronym for Disk Operating System. DOS is the foundation on which all other programs and software applications operate, including Windows. DOS is responsible for allocating system resources such as memory, CPU time, disk space, and access to peripheral devices. For this reason, DOS constitutes the basic interface between you and your computer.

Hardware

Hardware is a general term referring to the physical components of a computer system, including peripherals such as printers, modems, and pointing devices.

IDE Drives

IDE is an acronym for Integrated Drive Electronics. IDE drives integrate the drive control circuitry directly on the drive itself, eliminating the need for a separate adapter card. The All-In -One PC is equipped with an IDE hard drive.

Joystick

The Joystick is a specially designed pointing device that affords greater manipulation of the cursor. Most computer games are programmed with support for a Joystick.

LPT Port

LPT, an abbreviation for line printer, is a logical device name reserved by DOS for the computer parallel ports. The Notebook has one physical parallel port, but this port can be reserved as one of three LPT port assignments by the operating system: LPT1, LPT2, or LPT3. Each LPT port is configured to use a different IRQ and address assignment.

MIDI Interface

MIDI is an acronym for Musical Instrument Digital Interface. The Notebook MIDI port conforms to serial interface standards defined by the International MIDI Association. The MIDI port allows you to connect keyboards, synthesizers and other MIDI devices to the computer.



Multimedia

Multimedia describes a computer system that combines graphics, sound, animation, and video. The Notebook is a multimedia system.

PCI Bus

PCI is an abbreviation for Peripheral Component Interconnect local bus. PCI bus is a specification that defines a 32-bit data bus interface. PCI is a standard widely used by expansion card manufacturers. The Notebook architecture is designed to comply with the current PCI bus specification.

Peripherals

Peripherals are devices attached to the computer via I/O ports. Peripheral devices allow your computer to perform an almost limitless variety of specialized tasks. The Monitor-Integrated PC is equipped with several I/O ports for connecting peripheral devices such as a printer, a modem, or even a joystick.

POST

POST is an acronym for Power On Self Test. When you turn on the computer, it will first run through the POST, a series of software-controlled diagnostic tests. The POST checks system memory, the motherboard circuitry, the display, the keyboard, the diskette drive, and other I/O devices.

Prompt

A prompt is a message displayed by the system to inform the user to enter data or a command. The DOS prompt appears after the system boots up.

PS/2 Port

PS/2 ports are based on IBM Micro Channel Architecture. This type of architecture transfers data through a 16-bit or 32-bit bus. The Notebook is equipped with one PS/2 port.

RAM

RAM is an abbreviation for Random Access Memory. There are several different types of RAM. The Notebook PC's system memory utilizes Synchronized Dynamic RAM (SDRAM) modules. And the memory cache employs another kind of fast RAM chip called Static RAM (SRAM).

Resolution

Resolution refers to the quality of an image in terms of clarity and fineness of detail attained by a monitor, a scanner or a printer.

Resume

A resume operation returns the computer to full power operation from or Stand-by or Suspend mode.

ROM

ROM is an abbreviation for Read Only Memory. As its name implies, new data cannot be written to ROM; the system can only read data stored in ROM.

System Disk

A system disk contains the core file of an operating system and is used to boot up the operating system.



ABBREVIATIONS

<u>Abbreviation</u>	<u>Meaning</u>
BIOS	Basic Input/Output System
CMOS	Complementary Metal Oxide Semi-conductor
DIMM	Dual In-line Memory Module
DMA	Direct Memory Access
DRAM	Dynamic Random Access Memory
EDO DRAM	Enhanced Data Output DRAM. About 30-50% faster than conventional DRAM
IDE	Integrated Drive Electronics (internal hard disk drive interface)
FIR	Fast Infrared
GB	Gigabyte (1GB = 1,073,741,824 bytes or 1,024MB)
ISA	Industry Standard Architecture
KB	Kilobyte (1KB = 1,024 bytes)
LCD	Liquid Crystal Display
MB	Megabyte (1MB = 1,048,576 bytes or 1,024KB)
MIDI	Musical Instrument Digital Interface
MPEG	Motion Picture Experts Group
MS-DOS	Microsoft Disk Operating System
PCI	Peripheral Component Interconnect
PCMCIA	Personal Computer Memory Card International Association
POST	Power On Self-Test
ROM	Read Only Memory
VGA	Video Graphics Array, means 640 x 480
SVGA	Super Video Graphics Array, mean 800 x 600
XGA	Extended Graphics Array, 1024 x 768