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Notebook Computer User Guide

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This manual guides you in setting up and using your new notebook computer. Information in this manual has been carefully checked for accuracy and is subject to change without notice.

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FCC Information to User

Safety and Care Instructions

No matter what your level of experience with computers, please make sure you read the safety and care instructions. This information can help protect you and your computer from possible harm.

Radio and television interference

Warning: Use the specified shielded power cord and shielded signal cables with this computer, so as not to interfere with radio and television reception. If you use other cables, it may cause interference with radio and television reception.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. 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 not cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encourage 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 device and receiver
- Connect the device into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

You may find helpful the following booklet, prepared by the Federal Communications Commission: Interference Handbook (stock number 004-000-00345-4). This booklet is available from the U.S. Government Printing Office, Washington, DC20402

Warning: The user must not modify or change this computer without approval. Modification could void authority to this equipment.

Canadian Department of Communications Compliance Statement

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

Shielded Cables Notice

All connections to other computing devices must be made using shielded cables to maintain compliance with FCC regulations.

Peripheral Devices Notice

Only peripherals (input/output devices, terminals, printers, etc) certified to comply with Class B limits may be attached to this equipment. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

CD-ROM Notice

The CD-ROM is a Class One Laser Product.

Caution

Changes or modifications not expressly approved by the manufacturer may void the user's authority, which is granted by the Federal Communications Commission, to operate this computer.

Use Conditions

This part complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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Notebook User Guide

1 Introduction



Your Notebook PC is a fully IBM compatible portable personal computer. With the latest features in mobile computing and multimedia technology, this notebook makes a natural traveling companion. Lightweight and compact, your Notebook PC runs on a whole wide range of general business, personal productivity, entertainment, and professional applications. It is ideal for use in the office, at home, and on the road.

With its all-in-one design, full functionality is built-in with no need to change external devices. Your Notebook PC makes an ideal choice for use in the office, the schoolroom, at home, on the road and all other occasions.

1.1 Feature Highlight

Before we go to identify each part of your Notebook PC, we will first introduce you to other notable features of your computer.

Processing Unit

- Your notebook runs on Intel μ PGA2 Mobile Pentium III microprocessor, featured with SpeedStep technology, with integrated 256KB L2 Cache; or Intel μ PGA2 Mobile Celeron microprocessor, with integrated 128KB L2 Cache. Check with your dealer on the CPU type and speed.
- Fully compatible with an entire library of PC software based on operating systems such as MS-DOS, Windows 98/Me, and Windows NT/2000. It also runs on future versions of Windows.

Memory

This notebook provides two memory slots for installing 144-pin SODIMM modules up to 256MB using 64MB, or 128MB SDRAM modules.

PCMCIA

Provides two PCMCIA slots that allow you to insert either two Type II or one Type III cards.

AGP Local Bus Architecture

- AGP 2X video local bus and 2D/3D Graphic Engine with 8MB VRAM.

PCI Local Bus Architecture

- 32-bit PCI Enhanced IDE optimizes the data transfer between the CPU and hard disk drives. Support ultra DMA33/66 PIO Mode up to PIO Mode 4, bus mastering for LBA Scheme.
- 32-bit PCMCIA CardBus PCI technology that is also backward compatible with 16-bit PC cards.

Audio System

Full-duplex 16-bit stereo audio system with wavetable function and Plug-and-Play features. Sound Blaster and Sound Blaster Pro compatible.

Flash BIOS allows you to easily upgrade the System BIOS using the Phoenix Flash utility program.

Power and System Management

- Integrated SMM (System Management Mode) on system chipset that shuts down components not in use to reduce power consumption. To execute power management, you can set up the parameter in power options properties by pointing your mouse to Control Panel.
- Auto Suspend hot-key allows you to suspend the system operation instantly and resume at the press of the power button.
- System Password for User and Supervisor included on the BIOS SETUP Program to protect unauthorized use of your computer.

1.2 Unpacking the Computer

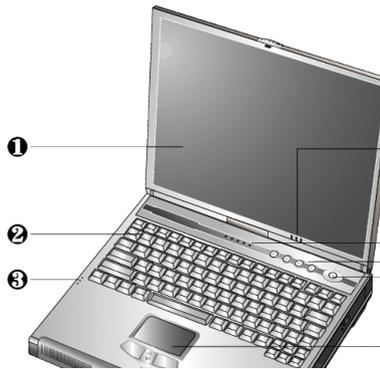
Your computer comes securely packaged in a sturdy cardboard shipping carton. Upon receiving your computer, open the carton and carefully remove the contents. In addition to this User Guide, the shipping carton should also contain the following items:

- The Notebook Computer
- An AC Adapter and AC Power Cord
- Li-Ion/Ni-MH Battery Pack
- Utility Diskettes/CD
- Hardcopy User Guide/E-book
- Quick Setup Manual

Carefully inspect each component to make sure that nothing is missing and/or damaged. If any of these items is missing or damaged, notify your dealer immediately. Be sure to save the shipping materials and the carton in case you need to ship the computer or if you plan to store the computer away sometime in the future.

1.3 The Inside of the Notebook

The notebook computer is compact with features on every side. First, look at the inside of the system. The following sections describe inside features.



- Color LCD Display
- Integrated Microphone
- Status LED Indicator
- Power On/Resume Button
- Keyboard
- Power Status LED Indicator
- Easy Buttons
- Touchpad Pointing Device

- Color LCD Display

The notebook computer comes with a color LCD that you can adjust for a comfortable viewing position. The LCD can be a 12.1" TFT (Thin Film Transistor) color LVDS with 800x600 SVGA (Super Video Graphics Array) resolution panels, or 13.3" or 14.1" TFT color LVDS with 1024x768 XGA (Extended Graphics Array) resolution panels. The features of the Color LCD Display are summarized as follows:

- TFT color LVDS with 800x600 SVGA or 1024x768 XGA resolution panels.

- Capable of displaying 16M colors (32-bit true color) on either SVGA or XGA LVDS panels.
- LVDS display control hot-keys allows you to adjust the brightness of the LCD.
- Simultaneous display capability for LCD and external desktop computer monitor.
- LCD display can be upgraded from 12.1” TFT to 13.3” or 14.1” TFT.
- Keyboard
 - Standard QWERTY-key layout and full-sized 87/88 keys keyboard with Windows system hot-keys, embedded numeric keypad, 7 hot keys, inverted “T” cursor arrow keys, and separate page screen control keys.
 - Wide extra space below the keyboard panel for your wrist or palm to sit-on comfortably during typing.
- Integrated Microphone

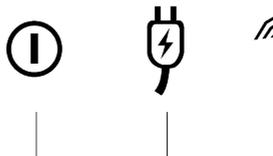
Integrated mono microphone for instant voice recording and simultaneous voice conversation.
- Power Status LED Indicator

Keeps you informed of your notebook computer’s current power status. Descriptions of the status icons appear in the latter part of this section.
- Status LED Indicator

Keeps you informed of your notebook computer’s current operating status. Descriptions of the status icons appear in the latter part of this section.

- **Easy Buttons**
There are four easy buttons, two use for accessing Internet and e-mail functions instantly and easily, the other two let you define certain functions by yourself. Descriptions of the easy buttons appear in the latter part of this section.
- **Power On/Resume Button**
Switches the computer power on and off, or resumes whenever it is in Suspend mode.
- **Touchpad Pointing Device**
Microsoft and IBM PS/2 mouse compatible with three select buttons as one Scroll button and two Touchpad click buttons. These three buttons array below the Glide pad. The middle one is located with the Scroll button that lets you execute the scroll page function. The two click buttons located at each side support tapping selection and dragging functions. These buttons work like a standard computer mouse. Simply move your fingertip over the Glide Pad to control the position of the cursor. Use the selection buttons below the Glide Pad to select menu items.

POWER STATUS ICONS



Power Indicator

Battery Charging LED

Mail LED

- **Power Indicator**

Lets you know that power to the system is turned on. This LED is positioned so that you can see the power state whether the LVDS panel is opened or closed.

 - Lights green when the system is powered on using the AC adapter or battery.
 - Lights green blinking when in Suspend to RAM (or Suspend to Disk if you already created Save to Disk partition in HDD by using PHDISK utility in the MS-DOS) mode and critically low battery power. We strongly recommend that users create the partition "Save to Disk" as this will prevent your data from loss when power is critically low.
- **Battery Charging LED**

Lights to indicate battery in charging status.

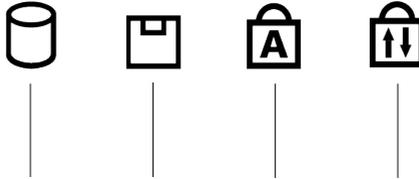
 - Lights green to indicate that the battery is in charging.
 - Lights off to indicate the battery is fully charged or no battery installed.
- **Mail LED**

Lights green to indicate that a new mail is arrived.

The notebook computer uses status lights marked with icons to communicate system status. See the following figure and list for each icon's meaning.

STATUS LED ICONS

The Status LED Panel keeps you informed of the notebook's current operating status. Each LED is marked with an icon to designate the system status.



- | | |
|---------------------------------------|--|
| <input type="checkbox"/> Drive Access | <input type="checkbox"/> Diskette Drive Access |
| <input type="checkbox"/> Caps Lock | <input type="checkbox"/> Scroll Lock |
| <input type="checkbox"/> Num Lock | |

Status LED Icons

- **Drive Access**
When LED in green light indicates that the system is accessing either the Hard Disk or CD-ROM/DVD-ROM.
- **Diskette Drive Access**
When LED in green light indicates that the system is accessing data from or is retrieving data to the floppy diskette drive.
- **Caps Lock**
When LED in green light indicates that the Caps Lock key on the keyboard is activated. When activated, all alphabet keys typed in will be in uppercase or capital letters.

- Scroll Lock
When LED in green indicates that the Scroll Lock key on the keyboard is activated. The Scroll Lock key has different functions depending on the software you are using.
- Num Lock
When LED in green light indicates that the Num Lock key on the keyboard is activated. When activated, the embedded numeric keypad will be enabled.

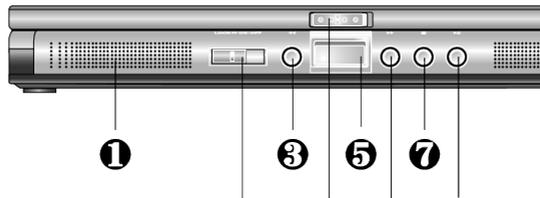
THE FUNCTION OF EASY BUTTONS



- | | |
|--|--|
| <input type="checkbox"/> E-Mail Button | <input type="checkbox"/> Internet Button |
| <input type="checkbox"/> User-Defined Button | <input type="checkbox"/> User-Defined Button |
- E-mail Button
This is the most convenient way to access the outlook utility just by pressing this button. You can omit several procedures in entering into Outlook environment.
 - Internet Button
This technology is designed specifically for providing a very convenient way in connecting Internet only by pressing Internet button as shown in the graphics. For more understanding and interesting, you can refer Section 2.5 to recognize the driver installation procedures in activating Internet button.

- User-Defined Button
You can define the specific function by yourself to activate the program.

1.4 The Front Side of the Notebook



- | | |
|---|---|
| <input type="checkbox"/> Built-in Stereo Speakers | <input type="checkbox"/> Lock Switch |
| <input type="checkbox"/> Rewind Button | <input type="checkbox"/> Cover Switch |
| <input type="checkbox"/> Audio DJ Display | <input type="checkbox"/> Forward Button |
| <input type="checkbox"/> Stop Button | <input type="checkbox"/> Play Button |

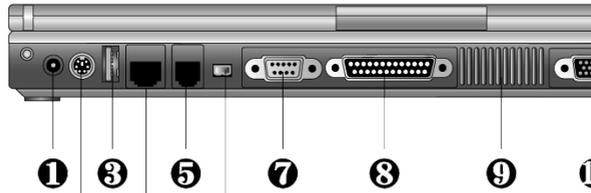
- Built-in Stereo Speakers
Integrated left and right mini stereo speakers for sound and audio output for your multimedia presentations or listening pleasure.
- Lock Switch
Use this switch to lock the status of your Audio DJ. If you lock this switch when the music is playing, the music will continue to play no matter what button is pressed. Audio DJ will not allow it to activate. The function of this switch is to prevent you from touching any button accidentally.
- Rewind Button
Press the button for reverting to previous music. Press and hold this button to fast rewind the audio CD

- **Cover Switch**
The cover (LCD panel) is locked when it is closed. Slide the button right aside to release the latch for opening the cover of the computer.
- **Audio DJ Display**
The display shows the number of the music currently playing
- **Forward Button**
Press the button for playing the next music. Press and hold this button to fast forward the audio CD
- **Stop Button**
Press the button to stop the music and power off the audio DJ simultaneously
- **Play Button**
Press the button to power on the audio DJ with starting to play music

□ *The function of Audio DJ can be workable either in Windows system or operate it without powering on the computer. For execute this function, you should first install the EZsystem driver. Please refer to Section 5 of Chapter 2 for installation procedures. However, if your OS is Windows 98, you should download and install the "Windows Media Player 7" from Microsoft's Website to activate this function.*

1.5 The Rear Side of the Notebook

You'll find system ports for connecting optional devices (like a printer or external monitor) to the back of your notebook computer. The ports are described after the figure.



- | | | |
|---|---|---|
| <input type="checkbox"/> 1. AC Power Port | <input type="checkbox"/> 6. PS/2 Port | <input type="checkbox"/> 12. USB Port |
| <input type="checkbox"/> 2. LAN Port | <input type="checkbox"/> 7. Modem Port | <input type="checkbox"/> 13. 1394 Port |
| <input type="checkbox"/> 3. COM Port | <input type="checkbox"/> 8. Print Port | <input checked="" type="checkbox"/> 9. Air Inhalant |
| <input checked="" type="checkbox"/> 4. CRT Port | <input checked="" type="checkbox"/> 11. TV Port | <input checked="" type="checkbox"/> 12. USB Port |

- **AC Power Port**
Lets you connect the AC power adapter in supplying continuous power to your notebook and recharging the battery.
- **PS/2 Port**
Lets you connect an external PS/2-style mouse, PS/2-style keyboard, or PS/2-style numeric keypad to the system. With an optional Y-cable adapter, you also can connect any combination on two of these devices simultaneously.
- **USB Port**
The Universal Serial Bus (USB) port allows you to connect up to 127 USB-equipped peripheral devices (for example, printers, monitors, scanners and so on) to your notebook computer.
- **LAN Port**
If you purchase an internal 10Base-T/100Base-TX LAN module, it connects your computer to other computers/networks through a local area network (LAN).

- **Modem Port**
If you purchase an internal fax modem, a 56K internal fax/data modem is installed. It keeps you connected to the outside world through networks. Built-in Modem and LAN modules are available as option.
- **1394 Port**
IEEE 1394 port is a high speed I/O port that can transfer high levels of data in real-time, such as external hard disk, Digital Video Camera.
- **COM Port**
Lets you connect a 9-pin external serial device such as a modem, mouse, or other serial devices.
- **Print Port**
Use this port to connect a parallel printer or other parallel device. The parallel port supports Enhanced Capabilities Port (ECP) standard. The standard provides you with a greater processing speed than the conventional parallel port. The port also supports bi-directional and uni-directional protocols.

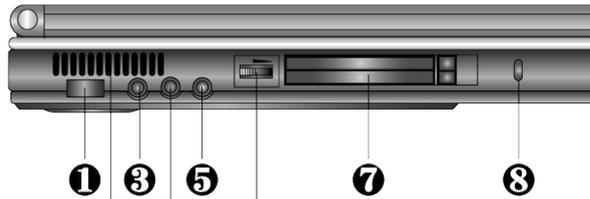
□ *The default setting for the parallel port on your notebook computer is set to Enhanced Capabilities Port (ECP). Some older parallel devices may not function with the ECP default setting. You may need to adjust the setting to accommodate your parallel device by changing the BIOS setting.*

- **Air Inhalant**
Inhale the air into your computer to keep it within operating temperature.
- **CRT Port**
Lets you attach an external CRT monitor for wider display. You can run the LCD display and the external CRT monitor simultaneously or switch it to CRT only using the display hot-key.

- TV Port
Lets you connect to a RCA TV connector for presentation or VCD, DVD watching.

1.6 The Left Side of the Notebook

The left side of your notebook computer provides the features shown in the following figure.



- | | |
|--|---|
| <input type="checkbox"/> IR Port | <input type="checkbox"/> Air-Outlet Vent |
| <input type="checkbox"/> Microphone Jack | <input type="checkbox"/> Stereo Line-In Jack |
| <input type="checkbox"/> Headphone Jack | <input type="checkbox"/> Thumb Wheel Volume Control |
| <input type="checkbox"/> PC Card Slots | <input type="checkbox"/> Locking Device Keyhole |

Left Side Features

- IR Port
Wireless data transfer of files between your notebook computer and an IR-equipped device or notebook computer. You can also print to an IR-equipped printer without using cables. The FIR mode provides up to 4Mbps of data transfer rate. The SIR mode provides up to 115.2Kbps of data transfer rate.
- Air-Outlet Vent
Emits the heat out of your computer and keeps it within operating

temperature.

□ Do not block the fan while the notebook is in use.

- Audio Ports

From left to right, the three audio jacks are Microphone, Line-In, and Headphone which are described as follows:

- Microphone Jack

Allows you to connect an external microphone for monophonic recording through the unit. Plugging in an external microphone disables the built-in microphone. Lets you connect an external microphone to record monophonic sound directly into your notebook computer.

- Stereo Line-In Jack

Lets you connect an external audio device such as CD player, a tape deck, or a synthesizer as an input source for recording purpose.

- Headphone Jack

Lets you plug in a stereo headphone, powered speakers, or earphone set with 1/8 inch phono plug for personal listening.

- Thumb Wheel Volume Control

Allows you to control the speaker volume.

- PCMCIA Slot

- Lets you connect various PC cards such as Modem cards, Ethernet LAN cards, and SCSI cards.

- Double-deck PCMCIA slots that support two Type II PC cards at the same time, or one Type III PC card in the bottom slot.

- Supports both 3V, 5V, and 12V 32-bit CardBus and 16-bit PC cards.

- **Locking Device Keyhole**
Lets you attach a Kensington security system or a compatible lock to secure your notebook computer.

1.7 The Right Side of the Notebook

The right side of the notebook computer offers the features shown in the following figure.



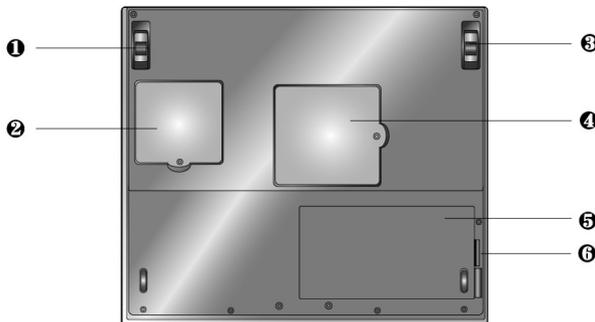
- Blue Tooth Switch
- Blue Tooth LED
- Diskette Drive
- CD-ROM/DVD-ROM/CD-RW

Right Side Features

- **BlueTooth Switch**
Slide the switch to enable or disable the Bluetooth function.
- **BlueTooth LED**
The LED is light when you activate on the Bluetooth function.
- **Diskette Drive**
A 3.5-inch floppy diskette drive comes installed in the notebook computer. The drive accepts 1.44MB floppy diskettes.
- **CD-ROM/DVD-ROM/CD-RW**
Allows you to load and start programs from a compact disc (CD) or a digital video disc (DVD) and play conventional audio CDs.

1.8 The Underside of the Notebook

The bottom of the notebook computer offers the following features.



- | | |
|--------------------------------------|---|
| <input type="checkbox"/> Tilt Foot | <input type="checkbox"/> Modem/LAN Card Compartment |
| <input type="checkbox"/> Tilt Foot | <input type="checkbox"/> Memory Compartment |
| <input type="checkbox"/> Battery Bay | <input type="checkbox"/> Battery Release Latch |

Bottom of the System

- Tilt Foot
Provides flexible keyboard angle.
- Modem/LAN Card Compartment
Provides optional built-in Modem/LAN card or Combo card inserted into this compartment for executing relative functions.
- Memory Compartment
Remove the screw to find two DIMM slots. One is inserted with SDRAM memory board configured by the factory. The other is empty for upgrade use.

- **Battery Bay**
Equipped with a choice of Lithium-Ion (Li-Ion) or Nickel Metal-Hydride (NiMH) battery pack.
- **Battery Release Latch**
Push the latch to the right end to remove the battery pack.

1.9 Notebook Accessories

AC Adapter

The AC Adapter supplies external power to your notebook computer and charges the internal battery pack simultaneously. The AC adapter has an auto-switching design that can connect to any 100VAC ~ 240VAC power outlets. You just change the power cord if you are going to use your notebook in other countries with different connector outlets.

When you connect the AC adapter, it charges the battery whether or not the notebook computer is powered on.

Battery Pack

Aside from the AC adapter, your computer can also be powered through the internal battery pack. The battery pack uses rechargeable Nickel Metal-Hydride (NiMH) or Lithium-Ion (Li-Ion) battery cells that provide long computing hours when fully charged and power management enabled. You should always leave the battery inside your computer even when using the AC adapter as it also acts as a back-up power supply in case power from the AC adapter is cut off. It is also very important to have the battery pack always charged to prevent battery cell degradation.

Car Cigarette Power Cable

This accessory allows you to power your notebook computer in your car by plugging into the cigarette socket and the other end to the DC-IN port. This gadget, however, does not charge the notebook internal battery pack.

1.10 Notebook Options

DVD-ROM Device Pack

This device pack option plugs into the Device Bay and used for reading DVD or playing DVD titles. DVD-ROM drives are also backward compatible with CD-ROM, so you can also use any audio CDs, video CDs, photo CDs, and CD-R.

CD-RW Device Pack

This device pack can write data to CD-R or CD-RW CD for you to backup the data.

Audio DJ

This notebook comes with optional built-in Audio DJ panel. It can play your Audio CD like the CD player without powering on the whole computer

Internal Ethernet LAN module

This notebook comes with an optional 10/100Base-T LAN module that supports data transfer rates at 10Mbps and can be up to 100Mbps.

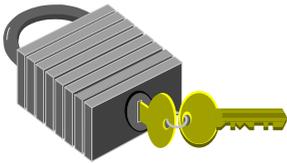
Internal Modem module

This notebook comes with a 56K internal fax/data modem module that keeps you connected to the outside world through networks.

Bluetooth Module

This notebook is ready for Bluetooth technology. This is a wireless connection standard in a short-range radio technology. It aims at simplifying communication between Net-enabled devices and the Internet. Bluetooth is in essence a “personal-area network” technology for connecting computers to peripherals and mobile phones.

2 Getting Started



Your Notebook is designed and pre-configured for easy setup and use. This chapter describes the installation steps you should follow to get the notebook up and running as quickly as possible. Contact your dealer if they have pre-installed all the needed drivers to fully operate your computer or if there is an update on the driver installation of the notebook.

2.1 Using the Battery Pack

The notebook is designed to operate with one of the following power sources:

- With AC power using the AC adapter connected to an electrical outlet.
- With a Nickel Metal-Hydride (NiMH) or a Lithium-Ion (Li-Ion) battery pack.

You should use the AC adapter whenever possible, relying on the battery pack only when AC power is unavailable.

Before you use your notebook computer, install and recharge the battery pack first. The rechargeable Li-Ion battery pack allows you to operate the notebook without an external power source. When you connect the AC power adapter, the battery immediately starts to recharge. Normal battery charging time is 2 ~ 2.5 hours for Lithium-Ion (Li-Ion) battery pack when your computer is turned off.

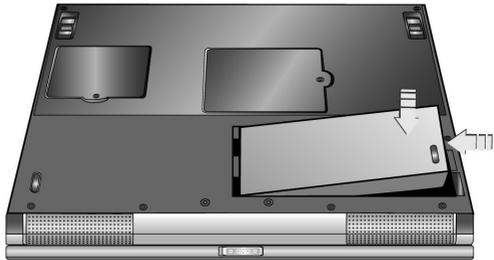
For maximum battery performance, fully discharge the battery first before recharging it when you start to use it first time. To do so, unplug the AC adapter, turn off power management features (through Setup and Windows), and turn on the system. Once the battery is fully discharged, plug in the AC adapter and recharge the battery.

If you do not discharge the battery completely, it fails to accept a full recharge.

□ *Li-Ion battery is vulnerable, do not charge it with other power adapter, or it may cause fire or explosion.*

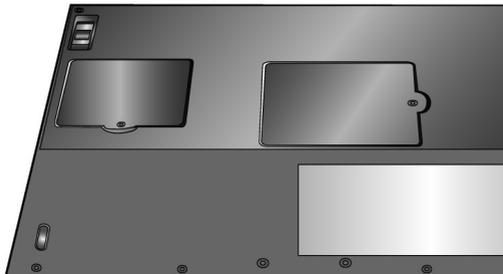
Installing the Battery Pack

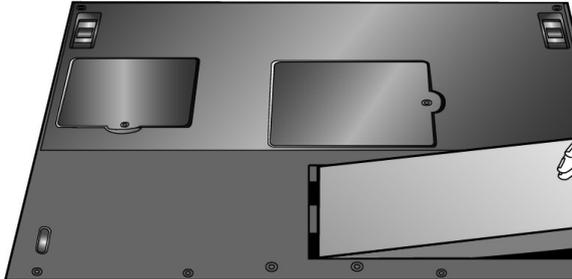
This notebook provides the most convenient way to install the battery pack into your computer. With the extended nose directed toward the compartment, insert and push the battery pack.



Removing the Battery Pack

To remove the battery pack, slide the latch and take out the battery pack with your finger.





Replacing the Battery Pack

When your notebook estimates that the battery only has enough charge to continue for a few minutes, it will alert you with a battery low warning beep. If you are consuming a lot of power by using the audio system, the PCMCIA slots, the hard, floppy disk drives, and CD-ROM drive (or DVD ROM drive), your notebook might run out of charge much sooner than you expect. You should always respond to the battery low indication by connecting to AC power or turning off your notebook, or suspending your notebook to disk. If you do not do so, the notebook will automatically suspend to disk and turn off. The contents of the memory will store in the Suspend-to-Disk partition. You will be unable to restart the notebook until you have connected to the AC adapter or installed a charged battery. To replace the battery pack, refer to the previous sections on “Installing the Battery Pack” and “Removing the Battery Pack.”

□ If you do not have a “Suspend-to-Disk” partition or file prepared beforehand and the battery is running low, the system will not be able to enter suspend to disk mode, but would rather enter suspend to RAM mode. The contents will be saved to the memory instead and you need to connect the AC adapter.

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

EXTENDING BATTERY LIFE

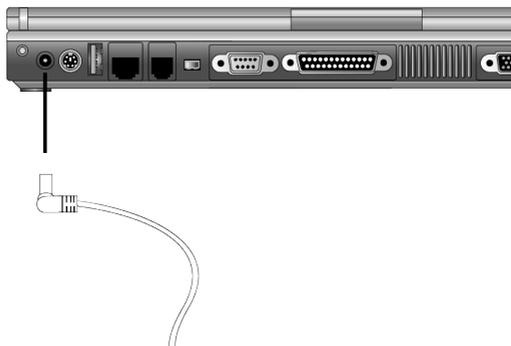
It is important to be aware of the simple things for extending the life of the system main battery while you are on the road. You should find a working place where the external lighting is not too bright and turn down the screen brightness. Also, you can choose the available mode on the Power Management item of the Control Panel in Windows.

2.2 Connecting the AC Power Source

The AC adapter provides external power source to your computer and charges the internal battery pack at the same time. The AC adapter also has an auto-switching design that can connect to any 100VAC ~ 240VAC power outlets.

To connect the power adapter:

1. Plug the AC power cord into the power socket of the AC power adapter.
2. Plug the other end of the AC power cord to a live AC wall outlet.

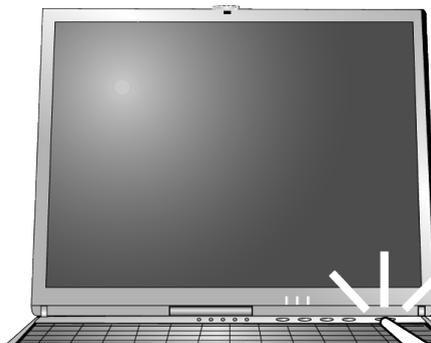


3. Plug the connector of the AC adapter to the DC-IN port found at the back of the computer.

- *Whenever possible, it is advisable to always have the AC adapter connected to the notebook and the battery pack installed. This ensures continuous power supply and prevents any data loss incurring from sudden power breakdown.*
- - *For the power supply of this equipment, an approved power cord has to be used.*
 - *Make sure the socket and any extension cord(s) you use can support the total current load of all the connected devices.*
 - *Before cleaning the computer, make sure it is disconnected from any external power supplies (i.e. AC adapter).*

2.3 Starting Your Computer

The Power/Resume button is found on the top of the base unit. Press the Power/Resume button to start your computer and check that if the Power LED turns on.



After a few seconds, the computer's display will turn on and your computer will begin to execute the Power On Self Test or POST to check if all system components are running properly. Any error found during the test will be displayed on the screen and may generate short beep sound as well.

After the test, the screen will also display a message “**press <F2> to enter SETUP**”. You don't need to run this program at the moment as your dealer already made the necessary settings for your computer • optimal operation. Refer to Chapter 6 on running the SETUP program later.

After the test has completed, your computer will start to search and boot up the operating system from your hard drive. The notebook computer normally comes with a Windows 98/Me/2000 operating system pre-installed in your hard drive. Consult the Windows 98/Me/2000 manual on how to use the program. If not, contact your dealer for assistance.

2.4 Adjusting the Display Controls

The LCD brightness adjustment is controlled by <Fn> +<F8> and <Fn> + <F9> keys respectively. You need to press these hot-key controls after powering on your notebook to suit your viewing pleasure.

The Brightness hot-key control adjusts the brightness on the LCD. The brightness hot-key control will not set the LCD completely dark or bright; it provides sufficient lighting to the LCD to match the external lighting of the surrounding. The brighter the room, the more you need to increase the brightness of the LCD.

2.5 Installing the Notebook Device Drivers

If you already have an operating system installed into your notebook computer, it is best to install the needed device drivers for using the built-in devices of your computer. Before installing the drivers, check with your dealer first if they have already installed all the drivers along with the operating system. If not, follow the procedures below:

RUNNING THE PHDISK SUSPEND UTILITY

The PHDISK utility of the notebook allows you to create a suspend-to-disk (STD) partition or file that is used to save the opened files when you activate STD mode and power off the computer. If you want to make use of the STD feature, you need first to run the PHDISK utility. There are two options for executing this utility:

1. **PHDISK/Create/Partition** - you can choose to run Suspend-to-Disk and save your work into an allocated fixed disk partition. This option should be done before partitioning and formatting your hard disk. The advantage of this option is that it is more secure since the files are saved in a separate partition and has no risk of being deleted. The disadvantage of this is that you need to allocate enough disk partition for future memory upgrade. The STD partition should always be larger than the system memory RAM.
2. **PHDISK/Create/File** - you can also choose to run Suspend-to-Disk and save your work into a STD file. You do not need to allocate an extra disk partition when running this option. The advantage of this is that you do not need to allocate or waste extra disk partition. The disadvantage of this option is that it is less secure since there is risk of deleting the STD file although the file is hidden.

RUNNING THE PHDISK/CREATE/PARTITION

Before you run this option, you should carefully consider how much disk size you need to allocate for the STD partition. The STD partition should be larger than the installed system memory RAM. If you are planning to install more memory in the future, it is recommended to allocate more disk space. Run FDISK under **Safe mode command prompt only** in windows system and leave a disk space that is larger then the system memory RAM for Non-DOS partition. This will later be used by the PHDISK for creating the STD partition.

If you already run FDISK before, you need to delete the original partition of the hard disk.

Load the notebook driver CD and look for the PHDISK program file. Run “**PHDISK/Create/Partition**” or “**PHDISK/C/P**”. The PHDISK utility program will automatically assign a disk size in reference to the installed system RAM to be allocated for the STD partition. After PHDISK has completed the STD partition, you will be prompted to reboot the system.

RUNNING THE PHDISK/CREATE/FILE

Creating a STD file is much simpler since you do not need to allocate an extra disk partition. Load the notebook driver CD and look for the PHDISK program file. Run “**PHDISK/Create/File**” or “**PHDISK/C /F**”. PHDISK will create the **SAVE2DSK.BIN** file on Drive C. The size of this file will depend on the installed RAM memory of your computer. Make sure that there is enough space in Driver C for you to create this file. This file also is hidden and has read-only attributes. You must not delete this file.

- *During power on or restart, the system will detect if STD partition or file is present. If not, it will show a red colored dialog box informing you that “Save to Disk Partition Not Present” and “Save to Disk Feature Disabled”. This warning message can be disable from "Advanced", "Save to Disk Warning" in BIOS setting by pressing F2 during system boot.*

- *Whenever you upgrade the memory, you need to delete the existing STD partition or file and create a new one according to the new memory size. Run PHDISK/Delete/Partition or PHDISK/Delete/File to delete existing STD partition or file.*

Installing Windows 2000 from CD-ROM or DVD ROM

To install Windows 2000/NT directly from your CD-ROM or DVD-ROM, please go to **Boot** menu of **BIOS** setup menu. Use arrow key to select "ATAPI CD-ROM Drive", then use "+" or "-" to move it to the top. Go to **Exit** menu and select “**Exit Saving Changes**”. Accordingly, insert the Windows 2000 installation CD into CD-ROM drive with following the instructions on the screen to finish the installation.

Installing Windows 98/Me from CD-ROM or DVD-ROM

The easiest way to install Windows 98/Me is to boot from Windows 98 start-up disk. With Windows 98/Me start-up disk, you don't need to install CD-ROM driver since the start-up disk can support virtually all CD-ROM device. Insert Windows 98/Me Installation CD into CD-ROM drive and run "setup.exe".

If you don't have Windows 98/Me start-up disk, you need to install CD-ROM /DVD-ROM driver under DOS. Then, insert Windows 98/Me Installation CD into CD-ROM drive and run "setup.exe"

INSTALLING THE VGA DEVICE DRIVER

Following is the procedure for installing the ATI Video Accelerator 3D Adapter (English) VGA driver to your computer:

Installing VGA device driver for Windows 98/Me/2000

1. Insert the CD containing the VGA driver for Windows into CD-ROM drive.
2. Click the **Start** button and then click **Run**. In the Run dialog box, click **Browse** button and specify the directory as "E:\Drivers\win98\VGA\setup".

For Windows Me/2000, please change the "Win98" in the directory "E:\Drivers\Win98\VGA\setup.exe" to Win2K or WinMe for fitting the operating system you are using.

3. Select the language you want to appear in the **Welcome** message box. Click **Next** for proceeding.
4. Select **Yes** to follow the "License Agreements". The **Select Components** box appears.
5. Click **Next** to execute the installation.
6. Click **Finish** to complete the VGA driver Installation.

INSTALLING THE MODEM DEVICE DRIVER

Following is the procedure for installing the Lucent Data Fax Modem driver to your computer:

Installing Modem driver for Windows 98/Me/2000

1. Boot Windows from your hard disk and insert the disc containing the Modem driver for Windows.
2. Click the **Start** button and then click **Run**. In the Run dialog box, click **Browse** button and navigate to the directory as "**E:\Drivers\Win98\modem\setup.exe**" where the modem driver is located.

For Windows Me/2000, please change the "**Win98**" in the directory "**E:\Drivers\Win98\modem\setup.exe**" to **Win2K** or **WinMe** for fitting the operating system you are using.

3. The system may prompt you the message to restart the computer to finish the installation.

INSTALLING THE LAN DEVICE DRIVER

Following is the procedure for installing the LAN driver to your computer:

Installing LAN driver for Windows 2000

1. Click the **Start** button, then point to **Settings**, and click **Control Panel**.
2. Double-click on the **System** icon, **Hardware** and then click on the **Device Manager** folder tab.
3. Under the **Other Devices** line, you will find the **Ethernet Controller**, click **Uninstall**, **OK**, then **Scan for hardware changes** buttons to appear the **New Hardware Found** Message Box.
4. In the Found New Hardware Wizard message box which shows searching **Ethernet Controller** driver. Click **Next** to proceed to the next step.
5. Select "**Search for a suitable driver for my device**", and click **Next**.

6. Tick on "**Specify a location box**". Then, click **Next** and **Browse** buttons and navigate to the LAN driver location as "**E:\Drivers\Win2K\LAN**". Click **OK** and **Next** to begin searching the driver.
7. The Add New Hardware will found **Intel (R) PRO 100B PCI Adapter**. Click **Yes** to continue installing the driver.
8. Click **Finish** button to finish installing LAN driver.

Installing LAN driver for WinMe

1. Boot WinMe from your hard disk and insert the disc containing the LAN driver for WinMe. The **New Hardware Found** Message box appears.
2. You will find the message stated **searching PCI Ethernet Controller Device driver** showed in the **Add New Hardware Wizard** message box.
3. Select "**Specify the location of the driver**", and click **Next**.
4. Tick on "**Specify a location box**". Then, click **Browse** button and navigate to the LAN driver location as "**E:\Drivers\WinMe\LAN**". Click **Next** to begin searching the driver.
5. The Add New Hardware will found **Intel PRO PCI Adapter...** Click **Next** to continue the driver installation.
6. Click **Finish** button to finish installing LAN driver.
7. Click **Yes** to restart the computer

Installing LAN driver for Windows 98

1. Boot Windows 98 from your hard disk and insert the disc containing the LAN driver for Windows 98.
2. Click the **Start** button, then click **Settings**, and **Control Panel**. Double

click **System** and click **Device Manager** tab. Under **Other devices**, you'll see **PCI Ethernet Controller**. Select it and click **Remove** button.

3. Click **Refresh** button. The **Add New Hardware Wizard** will detect PCI Ethernet Controller. Click **Next** to search for the driver.
4. Click **Next** to continue.
5. Tick **Specify a location** and click **Browse** button. Then, navigate to "**E:\Drivers\Win98\LAN**" and click **Next**.
6. Click **Next** to accept the updated driver for Intel 82559 Fast Ethernet LAN driver.
7. Click **Next** to continue with LAN driver installation.
8. Insert the disk labeled "**Windows 98 Second Edition CD-ROM**", and then click **OK**.
9. Type "**E:\Win98**", then click "**OK**".
10. Click **Finish** to complete installation.
11. Restart Computer to finish setting up LAN.

INSTALLING THE COMBO DEVICE DRIVER (LAN AND MODEM)

Following is the procedure for installing the 3Com 10/100 Mini PCI Ethernet LAN driver and PCI modem driver to your computer:

Installing LAN of Combo driver for Windows 2000

1. Click the **Start** button, then point to **Settings**, and click **Control Panel**.
2. Double-click on the **System** icon, **Hardware** and then click on the **Device Manager** folder tab.

3. Under the **Other Devices** line, you will find the **Ethernet Controller**, click **Uninstall**, **OK**, then **Scan for hardware changes** buttons to appear the **New Hardware Found** Message Box.
4. In the Found New Hardware Wizard message box which shows searching **Ethernet Controller** driver. Click **Next** to proceed to the next step.
5. Select "**Search for a suitable driver for my device**", and click **Next**.
6. Tick on "**Specify a location box**". Then, click **Next** and **Browse** buttons and navigate to the LAN driver location as "**E:\Drivers\Win2K\Combo\LAN**". Click **OK** and **Next** to begin searching the driver.
7. The Add New Hardware will found **3Com 10/100 Mini PCI....** Click **Yes** to continue installing the driver.
8. Click **Finish** button to finish installing LAN driver.

Installing LAN of Combo driver for WinMe

1. Boot WinMe from your hard disk and insert the disc containing the LAN driver for WinMe. The **New Hardware Found** Message box appears.
2. You will find the message stated **searching PCI Ethernet Controller Device driver** showed in the **Add New Hardware Wizard** message box.
3. Select "**Specify the location of the driver**", and click **Next**.
4. Tick on "**Specify a location box**". Then, click **Browse** button and navigate to the LAN driver location as "**E:\Drivers\WinMe\Combo\LAN**". Click **Next** to begin searching the driver.
5. The Add New Hardware will found **3Com 10/100 Mini PCI...** Click **Next** to continue the driver installation.

6. Click **Finish** button to finish installing LAN driver.
7. Click **Yes** to restart the computer

Installing LAN of Combo driver for Windows 98

1. Boot Windows 98 from your hard disk and insert the disc containing the LAN driver for Windows 98.
2. Click the **Start** button, then click **Settings**, and **Control Panel**. Double click **System** and click **Device Manager** tab. Under **Other devices**, you'll see **PCI Ethernet Controller**. Select it and click **Remove** button.
3. Click **Refresh** button. The **Add New Hardware Wizard** will detect PCI Ethernet Controller. Click **Next** to search for the driver.
4. Click **Next** to continue.
5. Tick **Specify a location** and click **Browse** button. Then, navigate to "**E:\Drivers\Win98\Combo\LAN**" and click **Next**.
6. Click **Next** to accept the updated driver for **3Com 10/100 Mini PCI Ethernet LAN** driver.
7. Click **Next** to continue with LAN driver installation.
8. Insert the disk labeled "**Windows 98 Second Edition CD-ROM**", and then click **OK**.
9. Type "**E:\Win98**", then click "**OK**".
10. Click **Finish** to complete installation.
11. Restart Computer to finish setting up LAN.

Installing Modem of Combo driver for Windows 2000

1. Click the **Start** button, then point to **Settings**, and click **Control Panel**.

2. Double-click on the **System** icon, **Hardware** and then click on the **Device Manager** folder tab.
3. Under the **Other Devices** line, you will find the **PCI Simple communication**, click **Uninstall**, **OK**, then **Scan for hardware changes** buttons to appear the **New Hardware Found** Message Box.
4. In the Found New Hardware Wizard message box which shows searching **PCI Simple communication Controller** driver. Click **Next** to proceed to the next step.
5. Select "**Search for a suitable driver for my device**", and click **Next**.
6. Tick on "**Specify a location box**". Then, click **Next** and **Browse** buttons and navigate to the modem driver location as "**E:\Drivers\Win2K\Combo\Modem**". Click **OK** and **Next** to begin searching the driver.
7. The Add New Hardware will found **3Com Mini PCI 56K Modem**. Click **Yes** to continue installing the driver.
8. Click **Finish** button to finish installing Modem driver.

Installing Modem of Combo driver for Windows Me

1. Boot WinMe from your hard disk and insert the disc containing the modem driver for WinMe. The **New Hardware Found** Message box appears.
2. You will find the message stated **searching PCI Communication Device driver** showed in the **Add New Hardware Wizard** message box.
3. Select "**Specify the location of the driver**", and click **Next**.
4. Tick on "**Specify a location box**". Then, click **Browse** button and navigate to the modem driver location as

"E:\Drivers\WinMe\Combo\Modem". Click **Next** to begin searching the driver.

5. The Add New Hardware will found **3Com Mini PCI 56K Modem**. Click **Next** to continue the driver installation.
6. Click **Finish** button to finish installing modem driver.
7. Click **Yes** to restart the computer

Installing Modem of Combo driver for Windows 98

1. Boot Windows 98 from your hard disk and insert the disc containing the modem driver for Windows 98.
2. Click the **Start** button, then click **Settings**, and **Control Panel**. Double click **System** and click **Device Manager** tab. Under **Other devices**, you'll see **PCI Simple Communication Controller**. Select it and click **Remove** button.
3. Click **Refresh** button. The **Add New Hardware Wizard** will detect **PCI Communication Device**. Click **Next** to search for the driver.
4. Click **Next** to continue.
5. Tick **Specify a location** and click **Browse** button. Then, navigate to **"E:\Drivers\Win98\Combo\Modem"** and click **Next**.
6. Click **Next** to accept the updated driver for **3Com Mini PCI 56K Modem** driver.
7. Click **Next** to continue with Modem driver installation.
8. Insert the disk labeled **"Windows 98 Second Edition CD-ROM"**, and then click **OK**.
9. Type **"D:\Win98SE\Setup\Win98"**, then click **"OK"**.

10. Click **Finish** to complete installation.

INSTALLING THE AUDIO DEVICE DRIVER

Your notebook computer uses the ESS PCI Audio controller.

Installing Audio Driver for Windows 98/2000/Me

1. Boot Windows from your hard disk and insert the disc containing the Audio driver for respective Windows version.
2. Click the **Start** button, then click **Run**. In the Run dialog box, click the **Browse** button and navigate to the directory as "**E:\Drivers\Win98\Audio**" or "**Win2k**", "**WinMe**" path according to your Operating System and run "**EsSetup**".
3. Click **Next** to proceed with the next step.
4. Select **Upgrade Drivers** or **Install** and click **Next** to begin installing the audio driver.
5. Select "**Yes, I want to restart my computer now**" and click **Finish** to complete the audio installation.

INSTALLING EASY SYSTEM DRIVER

Following is the procedure for installing the Internet and e-mail button keys.

Installing Easy System driver for Windows 2000

1. Boot Windows from your hard disk and insert the disc containing the EZ System driver.
2. Click the **Start** button, then point to **Settings**, and click **Control Panel**.
3. Click **Add/Remove Hardware** and follows the steps below, **Next** ->

Add/Troubleshoot a device -> Next -> Add a new device -> Next -> No, I want to Select the hardware from a list -> Next ->Other devices -> Next ->Have Disk

4. Then, Browse the path to **"E:\Drivers\Win2k\EZsystem\Genport.inf"** and follows the description of the system to finish and restart the computer.
5. After it is restarted, click the **Start** button, then click **Run**. In the Run dialog box, click **Browse** button and navigate to the directory as **"E:\Drivers\Win2k\EZsystem\EzsystemA550V1.00.exe"**.
6. Run the command and finish the installation.

Installing Easy System driver for Windows 98/WinMe

1. Boot Windows from your hard disk and insert the disc containing the Easy System button driver.
2. Click the **Start** button, then click **Run**. In the Run dialog box, click **Browse** button and navigate to the directory as **"E:\Drivers\Win98\EZsystem\EzsystemA550V1.00.exe"**, **"E:\Drivers\WinMe\EZsystem\EzsystemA550V1.00.exe"**
3. Run the execution file for installing the EZsystem driver, and then click **Finish** after complete the installing procedure.

Installing Snaptics - Touch Pad driver for Windows 98/Me/2000

1. Click the **Start** button, then point to **Run** to appear the Run dialog box.
2. Click the **Browse** button to specify the directory as **"E:\Drivers\Win98\Touch Pad\Setup.exe"**
"E:\Drivers\WinMe\Touch Pad\Setup.exe"
"E:\Drivers\Win2000\Touch Pad\Setup.exe"

3. Execute the setup program and then the **Welcome** dialog box appears.
4. Click **Next** continuously three times when the screen appears the **Next** button.
5. Click **OK** to restart your system.

2.6 Turning off Your Computer

If you are not going to use the computer for awhile, it is best to turn off the power of the computer for longer use. Before turning off the power, you need to close first all application programs and shutdown the operating system. Then, press the power button to switch off the power of your computer. If you are using Windows 98 or its newer version, the system will power off by itself whenever you shut down the operating system.

After turning off the computer, make it a habit to leave the LVDS panel open for a while whenever used for an extended period of time. This allows the inside parts of the computer to cool off. Closing the panel will force the heat up against the LCD screen, which may degrade the LCD when done regularly. More importantly, never close the LVDS panel for a long period of time when computer is on and power saving features are disabled.

3 Using Your Notebook



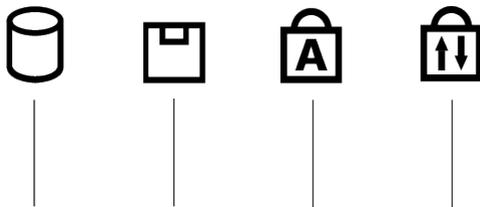
This chapter describes how to operate the standard built-in features of the notebook that you normally would use in your day-to-day computer work. If you are new to computers and to your operating system, you also need to read the manual for the operating system on how to work with your computer. It is very important to familiarize yourself well with the operating system. The succeeding chapters not only guide you to go beyond the basics, but also try other exciting features.

3.1 Starting Your Operating System

The operating system is a must ingredient in using your computer. Without an operating system, it is like playing chess without the chessboard. It is the platform for all your software application programs to run on. The most popular operating system today is Microsoft Windows. You should have installed one operating system by your dealer unless you are an expert computer user and would need a more powerful operating system. If you have an operating system already installed in your computer, then you would be up and running after you power on your computer and boot up the system. Check your operating system manual on how to run it.

3.2 Knowing the Status of Your Computer

The Status LED Panel, located at the top of the base unit, provides you with several graphical icons with LEDs (Light Emitting Diode) in representing your system's activity and status. You will glance it from time to time as you use your computer.



Drive Access

Diskette Drive Access

Caps Lock

Scroll Lock

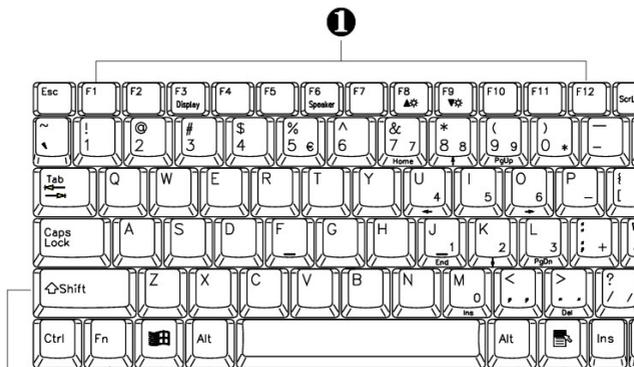
Num Lock

Status LED Icons

- **Drive Access**
The drive folder icon indicates that the system is accessing the HDD or CD-ROM/DVD-ROM/CD-RW.
- **Diskette Drive Access**
The drive folder icon indicates that the system is accessing FDD. When this LED lights, the notebook writes data to or retrieves data from the floppy diskette drive.
- **Caps Lock**
The Caps Lock icon indicates that the Caps Lock key on the keyboard is activated. When activated, all alphabet keys typed in will be in uppercase or capital letters.
- **Scroll Lock**
The Scroll Lock icon indicates that the Scroll Lock key on the keyboard is activated. The Scroll Lock key has different functions depending on the software you are using.
- **Num Lock**
The Num Lock icon indicates that the Num Lock key on the keyboard is activated. When activated, the embedded numeric keypad LED will be enabled.

3.3 Understanding the Keyboard Functions

Your notebook computer is equipped with an 87/88 keys keyboard that provides all the functionality of a full-sized 101 or 102-key IBM keyboard. Aside from the standard typewriter-layout keyboard of your computer, there are a number of extra features and function controls on the built-in keyboard including Windows system hot keys.



- Function Keys
- Windows Start Menu Key
- Windows Shortcut Key
- Control Keys
- Control Keys
- Cursor Control Keys

Keyboard

Key features and operations are described below:

- **Function Keys**
Function keys are application-driven, like **F1** through **F12** can be found on the keyboard. These keys work together with the **Fn** key to activate special functions. Some keys (printed in blue on keypad) are preprogrammed with dual functions.
- **Control keys** — **Ctrl**, **Alt**, **Fn**, and **Shift** are controls used in conjunction with other keys to change their functions. To use control keys, press and hold the control key while pressing another key. For example, “Press **Ctrl-C**” means to hold down the **Ctrl** key and type the letter **C**. Key combinations work especially to the application you are running.
- **Windows keys**
Use the following two keys to facilitate your work:

- Start Menu key
Displays the Start menu.
- Shortcut/Application key
Provides quick access to shortcut menus. This key acts like a right mouse button.
- **Cursor Control keys**
Cursor control keys let you position the cursor on the screen where you want. In the screen, the cursor is a blinking underline, block, or vertical bar depending on the application. The cursor indicates where the next text typed is inserted.
- **Typewriter keys**
Typewriter keys (also called *alphanumeric* keys) are used to enter text and characters. Keys with blue print on them behave differently when combined with control keys.

BASIC KEYBOARD FUNCTIONS

Keypad	Function Description
 The image shows a rectangular key with a small icon of a carriage return and the word "Enter" to its right.	<Enter> key. Execute a command. Within many text editing application programs, the <Enter> key inserts a hard carriage return, just like what ordinary typewriter does.
 The image shows a square key with the letters "Esc" in the center.	<Esc> key. Press this key to cancel or escape from a command or function.
 The image shows a rectangular key with "Prt Sc" on the top half and "SysRq" on the bottom half.	<PrtSc> key. Known as the Print Screen key. Press this key to map the whole screen to share memory for your specific usage. <SysRq> key. Used for multitasking operating system.
 The image shows a rectangular key with "Pause" on the top half and "Break" on the bottom half.	<Pause Break> key. Press this key to temporarily halt execution of a command. Pressing any other key to resume execution of a command.
 The image shows a square key with the letters "Ins" in the center.	<Ins> key. Known as the Insert key. Press this key to toggle the keyboard data entry from insert to type over mode.
 The image shows a square key with the letters "Del" in the center.	 key. Known as the Delete key. Press this key to delete the character to the right of the cursor, or delete marked texts or items.
 The image shows a rectangular key with the word "Backspace" and a small icon of a left-pointing arrow.	<Backspace> key. Press this key to delete the character to the left of the cursor.
 The image shows a rectangular key with a small icon of an upward-pointing arrow and the word "Shift" to its right.	<Shift> key. Press this key in combination with alphabet letters to produce uppercase letters in typing. Use this key in combination with those two-character keys (found on the second row of the keyboard) to produce the upper marked keys. Also used in most application program in combination with other keys to execute a certain command.

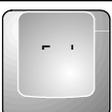
Keypad	Function Description
	<Tab> key. Press this key to move the cursor to the next tab stop on the right. This key works much the same as in ordinary typewriter.
	<Ctrl> key. Known as the Control key. Used in most application program in combination with other keys to execute a certain command.
	<Alt> key. Known as the Alternate key. Used in most application program in combination with other keys to execute a certain command.
	<Scroll Lock> key. Used in most application program to scroll the screen without having to move the cursor.
	<Num Lock> key. Activates the embedded 15-key numeric keypad. The keys are color coded blue.
	<Caps Lock> key. Used in most application program to always activate uppercase alphabet characters.

CURSOR CONTROL KEYS

Keypad	Function Description
	Up arrow key. Moves the cursor up one line at a time.
	Down arrow key. Moves the cursor down one line at a time.

Keypad	Function Description
	Left arrow key. Moves the cursor to the left one space at a time.
	Right arrow key. Moves the cursor to the right one space at a time.

SCREEN CONTROL KEYS

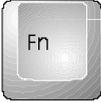
Keypad	Function Description
	<Home> key. Moves the cursor to the beginning of a screen or line.
	<PgUp> key. Moves the cursor up one screen at a time
	<PgDn> key. Moves the cursor down one screen at a time
	<End> key. Moves the cursor to the end of a screen or line.

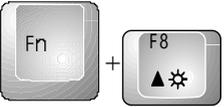
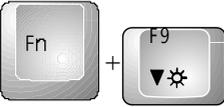
WINDOWS HOT KEYS

Keypad	Function Description
	<Start> key. Pulls up the Windows Start menu.
	<Right Click> key. Performs a mouse right-click function for Windows system.

SPECIAL FUNCTION KEYS

The notebook has special system function keys that activate key serving dual functions. When pressed in conjunction with the <Fn> key, these keys set specific system parameters and are sometimes referred to as “hot keys”.

Keypad	Function Description
 + 	Switches display between LCD, CRT, or LCD and CRT simultaneously.
 + 	Switch the LCD display mode in expanded or non-expanded view. These combination keys only work in a 640x480 and 800x600 resolution mode.

Keypad	Function Description
	Enable or Disables the built-in system speaker.
	Increases the brightness of LCD display incrementally.
	Decreases the brightness of LCD display incrementally.

3.4 Using the Glide Pad Pointing Device

Your computer comes with a built-in Glide Pad pointing device that is found on the center of the palm-rest surface.

The Glide Pad offers a number of options that let you customize how it functions. To access these options, locate the **Control Panel** and double click on the **Mouse** icon. The options let you control the size and color of the cursor, cursor speed, the accepted double-click speed, and selection button orientation.

The Glide Pad works a mouse pointing device replacement that is used under Windows-based operating system. You can use the standard Microsoft or IBM PS/2 driver that is compatible with the Glide Pad device and is normally used under Windows-based operating system. However, if you want to utilize the added features of the Glide Pad, you may want to try installing its own device driver that comes with added utilities for enhancing the function of the device.



□. Left Selection Button

□. Right Selection Button

③. Glide Pad

④. Scroll Button

Glide Pad Features

Here how to use the Glide Pad pointing device:

1. The rectangular surface acts like a miniature duplicate of your display screen. To move the mouse cursor, place the finger lightly on the sensor pad and move in the desired direction. If you reach the end of the pad, lift your finger and place it back down on the other side of the pad.
2. To select an item, click on the item by pressing the left button control or by simply tapping on the surface once. A light, quick tap always works best. To execute an item, click the left button twice or do a quick double tap on the surface.

3. To simulate holding the mouse button down (dragging an icon or selection), use the tap-and-drag gesture. This feels much like a double-click, except that the finger remains on the pad after the second tap: Tap, lift, tap, hold and move. The simulated button remains held as long as the finger remains on the pad.
4. To scroll up or down the screen, just slide up or down the scroll button to move the screen up or down.

□ *Avoid spilling any liquid on the Glide pad surface and always keep the Glide pad surface and pointing finger dry from sweat built-up. Also do not expose Glide pad to any magnetic source object.*

3.5 Configuring Your Screen Display

The VGA display function of your notebook is based on a high performance AGP local bus controller and is fully IBM VGA compatible. This controller offers a large set of extended functions and higher resolutions especially useful when you are connecting an external high-resolution and high-frequency CRT or LCD.

Please Refer to Section 5 “Installing the Notebook Device Drivers” of Chapter 2 in this manual for the procedures on how to install the VGA device driver under Windows. After installing the VGA driver, you would then configure the display resolution or screen size to match your LCD display panel. This notebook computer model provides 800x600 as well as 1024x768 LVDS panels. You would also probably want to set the amount of color output to display sharper images and photos.

POSSIBLE DISPLAY CONFIGURATIONS

The table below shows you the possible display resolution you can set when using either the LCD display or the external monitor (CRT):

Display	Possible Resolution	Maximum Colors
800x600 SVGA LCD	640x480	16 million colors
	800x600	16 million colors
	1024x768*	16 million colors
1024x768 XGA LCD	640x480	16 million colors
	800x600	16 million colors
	1024x768	16 million colors
CRT Only	640x480	16 million colors
	800x600	16 million colors
	1024x768	16 million colors
	1280x1024	16 million colors
Both	640x480	65,536 colors
	800x600	65,536 colors
	1024x768* (SVGA LCD)	65,536 colors
	1024x768 (XGA LCD)	65,536 colors

□ ** - denotes special panning feature that allows higher resolution modes to be displayed on the LCD or CRT. This feature will show a section of a larger screen, and will automatically pan or scroll the screen horizontally and vertically when the mouse reaches the edge of the display.*

□ *65,536 or 64K colors is also equivalent to 16-bit high color while 16 million or 16M colors is equivalent to 32-bit true color.*

□ *You can use the <Fn> + <F3> hot-key to switch the display between LCD only, CRT only, or both LCD and CRT display.*

CHANGING THE DISPLAY PROPERTIES UNDER WINDOWS

To change the display properties of your screen under Windows system, just right-click on the desktop area and select Properties or go to the Control Panel and click on the Display icon. The Display Properties dialog box will appear on your screen. Click on the Settings tab to set your desired configuration. Make sure to follow the configuration table above.

□ *If you cannot configure the display properties, change the display driver first as mentioned on Section 5 “Installing the Notebook Device Drivers” of Chapter 2 in this manual. Consult your dealer for the latest Windows-AGP VGA driver.*

3.6 Knowing the Power Saving Features

One of the great features in your notebook computer aside from its superior performance is the ability to save energy power. Your computer is designed to incorporate intelligent and advanced power management functions that turn off power of most components when system is idle or not in use. This does not affect the performance of your system as it monitors the activity of your computer and resumes power and operating speed when activity is detected. This feature not only gives you longer battery hours but cooler systems and components as well. For more information on how to control the power management features of your computer, refer to Power Management function in Control Panel of Windows.

The definitions of power management mode are depicted as follows:

Full-On Mode

No device in the system is executed in power management, the system can respond to all applications at maximum performance.

Doze Mode

When no system activity executes, the CPU clock is slow down while all other devices are in full-on state. This mode is controlled by the system itself.

Standby Mode

When the CPU clock stops, the LCD and HDD will also be turned off and all other devices are in low power state. To resume full-on state, just press any key.

Suspend to RAM mode

All devices are powered off except the other supporting components and system memory where your working files are stored. You can activate this either pressing the power button or setting the Suspend timer on the Power Management function of the Control Panel in Windows. To resume full-on state, press the power button.

Suspend to Disk mode

When this mode is activated, the context of the entire system is saved to disk and all components and devices are powered off, while all clocks are also stopped (except Real Time Clock or RTC). You can activate this by setting the Suspend mode on the Power Management function of the Control Panel in Windows. To resume full-on state, you can press the power button.

□ *You must have the PHDISK utility installed first before you can activate Suspend-to-Disk.*

Soft off mode

This mode is similar to Suspend to Disk mode, except the context of memory is not saved to disk. The system only can resume from Soft Off mode by executing the hard reset in the system.

Mechanical off Mode

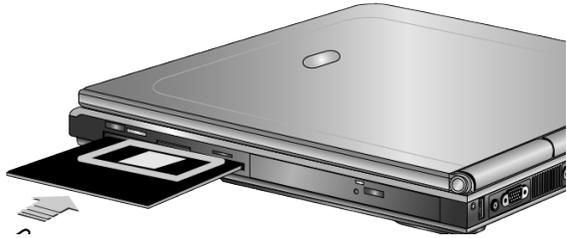
All power, except the RTC (real time clock), has been turned off from the system. This includes external AC power source and battery power source.

3.7 Using the FDD

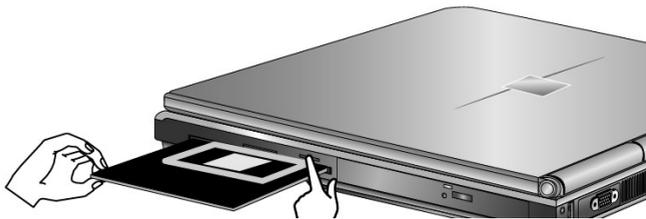
Your system ships with a standard 3.5-inch 1.44-MB diskette drive already installed in the right side of the system. The other disk drives on your computer are the hard disk drive and the CD-ROM, CD-RW or DVD-ROM drive. Disk drives are designated with drive letters, the floppy drive usually assigned as Drive A: and the hard drive and CD-ROM, CD-RW or DVD-ROM drive as Drive C: and Drive D: respectively. (Drive letter may change if you had more than one partition in your hard disk)

The floppy disk drive (FDD) is a 3.5" diskette drive that can read and write to high-density 1.44MB diskettes or double-density 720KB diskettes. The diskette has an imprinted arrow on the front upper left corner, and a sliding write-protect tab on the bottom left corner of the diskette. When opened, the write-protect tab prevents any data from being written to or erased from the diskette. This also protects your diskette from getting infected by virus when used on other computers.

Insert the diskette with the arrow and label facing up and the shutter cover towards the drive. Slide the diskette into the drive until it is totally inserted and the eject button pops out.



To eject or remove the diskette, make sure that the system is not accessing the diskette drive. Check the Status LED Indicator panel if the Drive Folder icon is activated or not. If not, then press the eject button on the drive to release the diskette.



- *Always remove the diskette whenever you are placing the notebook computer into the carrying case for transport.*
- *Always check the inserted diskette for virus before using it.*

3.8 Working with the Built-in HDD

Your notebook computer is equipped with a built-in large capacity 2.5 inch IDE hard disk drive where you store or install your computer • operating system and all application software programs. The hard disk unit is located on the center of your computer. You need to format the hard disk before using. The internal hard disk is normally assigned as Drive C after formatting. Sometimes divided into two partitions, adding a Drive D. Since your computer supports different hard disk capacities (to 10 GB or above), you also need to setup the disk type first on your computer's BIOS SETUP program before formatting the disk drive. Your computer supports Auto-detect hard disk type, so you do not need to set it manually. Your dealer should already have done all this for you. You can refer to **Chapter 6** on how to run the BIOS SETUP program.

You can increase the system's storage capacity by replacing the standard hard disk drive with a drive of greater storage capacity.

- If you wish to replace your hard disk, contact your local dealer for more information about this dealer-installable device.*
- Always turn off your computer first before removing the hard disk drive. Failure to do so will damage the computer and the hard disk. Avoid jarring or moving the computer while the hard disk is still being accessed.*

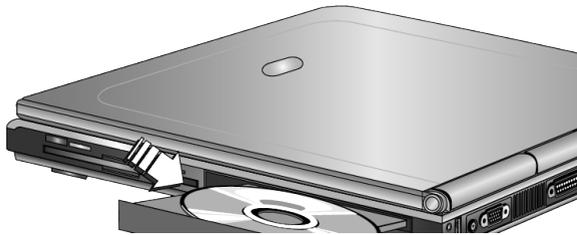
3.9 How to Access the CD-ROM/DVD-ROM/CD-RW Drive

Your system ships with either a 24X or above CD-ROM, 4X or above CD-RM, or 8X or above DVD-ROM drive installed on the right side of your

computer. You would normally use the CD-ROM drive for installing operating system and software application programs.

To insert and remove a disc on the drive:

1. Make sure the computer is turned on. Press the eject button found on the door cover of the CD-ROM drive. The CD tray mechanism will pop-out slightly and slowly pull out the whole length of the tray.
2. Place the disc on top of the CD tray with the label side facing up. Gently press the compact disc onto the center spindle to secure the disc.



3. To remove the disc, press on the center spindle and pull up the disc from the side until the disc snaps out of the spindle lock.

□ *If the eject function is disabled by software or a power failure occurs, the Emergency Eject Hole allows you to manually remove a CD from the reader.*

4. To close the CD-ROM drive, simply push the CD tray inside. The CD-ROM LED will activate when the disc is detected. Wait until the LED has turned off and then start to read the disc.

The above procedures also apply to CD-RW or DVD-ROM.

How to care the CD

When you handle CDs, pay attention to the following guidelines:

- Always pick up the CD by its edges.
- Avoid scratching or soiling the side of the CD that has no printing or writing on it.
- Do not write on or apply labels to either side of the CD.
- Keep the CD away from direct sunlight or high temperatures.
- Clean fingerprints or dust from the CD by wiping it with a soft cloth.

The above points also apply to CD-RW or DVD-RW.

□ *The CD-ROM reader is a Class 1 Laser Product.*

3.10 Using PCMCIA Cards

WHAT IS PCMCIA?

PCMCIA or Personal Computer Memory Card International Association is a non-profit trade association that defines the industry standard for the PC Card technology. The goal of PCMCIA is to ensure that any PC Card can work in any mobile computer built with a PCMCIA slot.

A PC Card is a peripheral device that can add a wide variety of capabilities to your computer including memory, mass-storage, LAN, fax/modem, wireless communications, and multimedia. The PCMCIA standardized PC Card is roughly the dimension of a credit card, and has a standardized 68-pin connector at one end. The main benefits of the PC Card are its low-power consumption, small size and ruggedness.

Today, PCMCIA card also uses in such diverse products as digital cameras, set-top boxes, and automobiles.

To allow manufacturers to add functions and technologies in the PC Card form factor, PCMCIA has defined two PC Card types:

Type	Thickness	Sample Devices
Type II	5.0 mm	Fax/Modem & Network Cards
Type III	10.5 mm	Hard Disks (ATA Cards)

Type II Cards

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

- **Type II Extended Cards**
Many PC cards are Type II extended cards. The extended card has an additional physical component that protrudes beyond the traditional card size. The extension can be as large as 40 mm deep by 9.65 mm high. This extension provides room for additional electronics as well as a location for external connectors.
- **Communication Cards**
Both network PC cards and fax/modem cards can use with your notebook computer. However, if you use built-in LAN/Modem options of this computer, it is not necessary to use those cards. If you start the LAN/Modem application without inserting the fax/modem card or had the built-in LAN/Modem options installed, the application typically does not find the card.

- Storage Cards

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

The following table provides sample drive designations.

Sample Drive Designations	
Drive letter	Location/Device
C:	Internal hard disk
D:	Internal hard disk, 2nd partition
E:	CD-ROM reader
F:	Slot 1, IDE/ATA hard drive
G:	Slot 0, high-speed memory card

Type III Cards

Type III cards are thicker (10.5 mm) than Type II cards and allow no extensions. Type III card uses include advanced function I/O cards with added features such as multimode cards (cards with more than one function) and small hard drive cards.

Other Cards

Other kinds of PC cards are available to notebook computer users.

- Global Positioning System (GPS)
enable the tracking of remote units that equipped with the GPS device. (For example, delivery trucks) This device is useful in searching city map when driving.
- Paging
receiving paging messages and control the notebook remotely

- Multimedia
combining animation and sound
- Video
recording, displaying, and capturing full-motion video

□ *For more PCMCIA information on the Internet, visit the PCMCIA home page at <http://www.pc-card.com>*

WHAT IS CARDBUS?

CardBus is the high-performance 32-bit PCI bus master interface from PCMCIA. It runs up to 33MHz clock speed and operates at only 3.3V. Your notebook computer incorporates the CardBus inside with a double deck PCMCIA slot that supports one Type III card or two Type II cards at the same time. Aside from 3.3V CardBus PC cards, you can also insert existing 5V 16-bit PC cards that can also be detected and used by your computer.

SETTING UP THE PCMCIA CONTROLLER

In order for your computer to identify inserted PC cards and configure them to work, you need first to make sure that you have the Card and PCMCIA driver software loaded properly into your operating system.

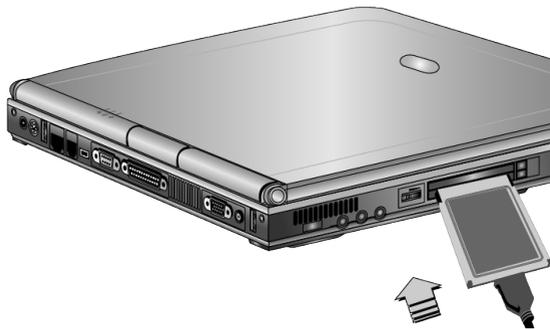
INSERTING AND REMOVING A PCMCIA CARD

The double-deck PCMCIA slot built in at your computer supports either two PCMCIA Type II cards at the same time or one Type II card and one Type III card at the same time. The double-deck PCMCIA slot compartment includes a top slot and a bottom slot. Your computer also includes hot swapping capability, that allows you to exchange cards while the computer is turn on and start using it immediately.

Inserting PC Cards

To insert a PC card into the PCMCIA slot:

1. Locate the PC card slot cover on the left side of the computer.
2. Insert the side of PC card with the 68-pin socket into the PC slot. The face label of the card should also be facing up. You can insert either two Type II or one Type III card into the slots.
3. When the full length of the card is almost inside the slot, push firmly but slowly, to ensure full connection with the computer. The PC card will be detected and once the needed driver is installed, it will generate a beep sound to indicate that the card is detected.

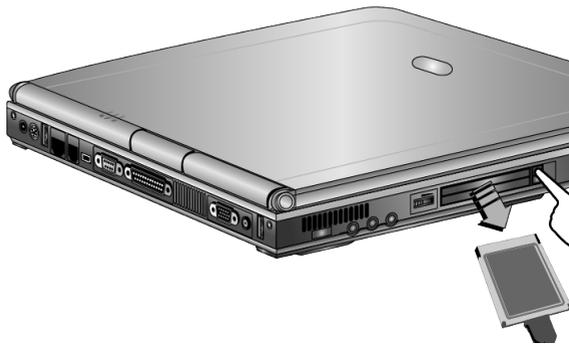


Removing PC Cards

To remove a PC card from the PCMCIA slot, you should first disable the PCMCIA card setting in the system as described followings:

1. Click the **Start** button, then point to **Settings**, and click **Control Panel**.
2. Double-click on **PC Card** icon to appear the **PC Card Properties** box.

3. Select the socket from the list that you want to remove on the **Socket Status** folder tab, and click **Stop** button. The system then disables the function of PCMCIA card.
4. Then you can remove the inserted PC card, push the button found on the left side of the PC slot to release the eject button. Then push it again to release the PC card. The upper right button releases the card on the top slot while the lower right button releases the card on the bottom slot.
5. When the PC card has moved out a space out of the slot, hold the edges of the card and slowly slide it out.



MAKING PC CARDS WORK

Since PC cards come in different types and brands, making every card work on your computer may not be that easy. PC cards like network, SCSI or multifunction cards (MFC) need additional driver installation and configuration in making the card work. This additional driver may already be built-in under Windows that Windows will try to detect and prompts you if you want to install the driver. If the driver is not included under Windows, you will need to insert the driver CD or driver diskette provided by the PC card manufacturer into the CD-ROM drive or floppy disk drive and install to Windows system.

You need to read the manual guide of the PC card on how to configure and operate the card.

□ *Some PC cards require additional system resources. Before inserting a PC card you may have to disable either the USB port, or the 56K internal modem. Check the Windows device manager to ensure that one of these devices is disabled before inserting a PC card.*

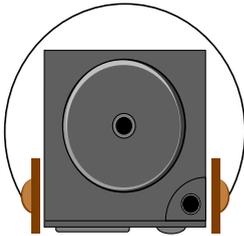
HOT SWAPPING PC CARDS

Just like floppy disk drive, your PCMCIA slots allow you to replace one PC card with another even while your computer is on. However, you need to remember the rule that if the PC card is in use, you must not remove it. Below are some examples on how to handle PC cards when in hot swapping:

- Do not remove a network card while your system is connected to the network.
- Do not remove fax/modem card while the card is transferring data into or from your computer.
- Do not remove a hard disk or ATA card while your computer is accessing the card.

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

4 Fun with Multimedia



This chapter lets you make full use of all the multimedia features of your computer in having fun and excitement during work or leisure. You will learn how to mix and match the built-in sound system, play CD via the Audio DJ without powering on the computer, use CD-ROM, DVD-ROM, or CD-RW in creating an exciting full multimedia presentation.

4.1 Notebook Multimedia Features

Your notebook computer is rich in multimedia features that make your computing fun, comfortable, exciting and easy. Exceeding the specification set for the Multimedia Personal Computer or MPC, your computer is well able to perform all multimedia tasks through the following:

- Intel Pentium III/Intel Celeron
- 64MB RAM or more
- 24X or above speed CD-ROM Drive, 8X or above speed DVD-ROM Drive, or 4X or above speed CD-RW
- AGP 2X VGA Graphics Controller
- 16-bit Plug-and-Play Audio Sound System with built-in speaker and microphone
- Audio DJ panel that can play CD without powering on the computer

4.2 Audio Sound System Features

Your computer has a built-in 16-bit stereo sound controller that allows you to record, store, and playback voice, music and other sound effects with built-in mixer controls. An integrated full-duplex microphone and twin mini-speakers are also built-in into your computer to allow you to record and playback sound anytime and anywhere.

On the left side of your computer, you will find the audio ports that include the following:

- External 1/8-inch microphone jack that connects external microphone for recording purpose.
- Line-in jack for connecting external audio devices like CD audio player, tape deck or synthesizer
- Earphone or headphone jack for personal listening
- External thumb-wheel volume control

4.3 Setting Up the Audio Driver Properties

Before you can start using the audio capabilities of your computer, you need first to setup properly the audio driver after installing Windows. If you bought your computer with Windows pre-installed, it is most likely that your dealer have configured the sound driver for you. If not, you must refer to Chapter 2 on how to setup the sound drivers for Windows.

4.4 Windows Multimedia Programs

Windows provides several multimedia programs that you can run with the built-in features of your computer. Pointing the **Start** button and clicking the right-mouse button to select **Open** option, when **Start Menu** box appears, double-click **Programs, Accessories**, then **Entertainment**, you will find the Multimedia programs group.

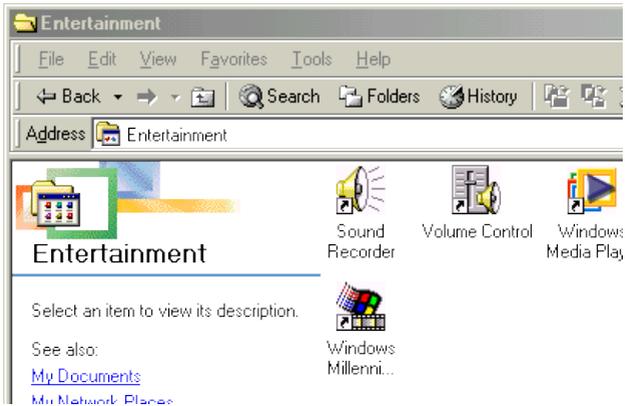


Figure 4-1 Multimedia Programs Group

The standard multimedia components are as follows:

- Windows Media Player - for playing sound, video and animation files
- Sound Recorder - for recording sounds and playback
- Volume Control - for adjusting the volume of mixer

□ For more information on how to operate these multimedia components, run the program and click on the Help menu.

4.5 Recording Sounds

Your computer allows you to record voice and other sounds in several ways and stores them as files on your hard disk. These voice or sound files can then be played back through the internal speaker or earphone jack using either an external speaker, headphone, or earphone set. You can also use the files as voice annotations on many applications for more real presentation. This

section will describe briefly how you can record sounds under Windows operating system.

To record sounds, you need to run the Sound Recorder program from the Multimedia program groups. The control buttons of the Sound Recorder are simple to understand which comprises of the Rewind, Forward, Play, Stop, and Record button. Click the Help menu on how to operate the Sound Recorder.



Figure 4-2 Sound Recorder

The Sound Recorder also allows you to record sound from different input audio source like the following:

- From the built-in microphone
- From the external microphone
- From the CD-ROM/DVD-ROM/CD-RW drive
- From the Line-In audio jack

Since you could record sound from different input sources, you must first set the proper audio input recording device under the Recording Control panel. To do this:

1. Double-click on the Volume Control on the taskbar or click Start button, then point to Programs, Accessories, Entertainment and then click on Volume Control.
2. Click **Properties** in the Options main menu.
3. Click the round button for Recording and tick off each component that list in the "Shows the following Volume Controls" box.

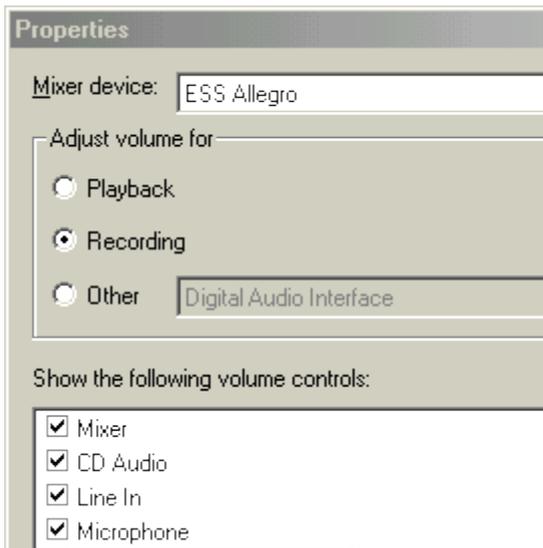


Figure 4-3 Audio Properties

4. Click OK and the Recording Control dialog box will appear. Here, you will select the input device for the recording source. The default is the microphone that will record sound from the microphone only. If you want to record from the CD-ROM/DVD-ROM/CD-RW drive with audio music, you must click on CD Audio.

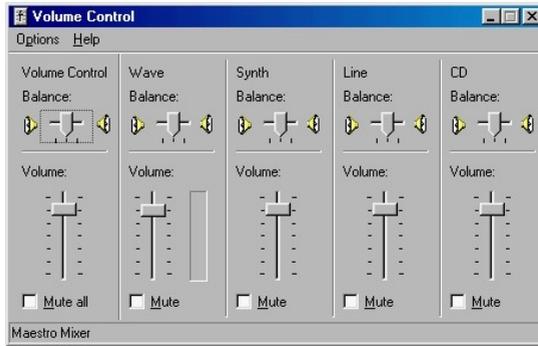


Figure 4-4 Recording Volume Control

USING THE BUILT-IN MICROPHONE

You would normally use the microphone for recording voice and save the file for voice annotations in your application programs. Your computer comes with a built-in microphone located on the left bottom corner of your keyboard.

To start recording from the built-in microphone:

1. Enable microphone volume on the Recording Control as discussed previously.
2. Run the Sound Recorder program and press the Record button.
3. Start to speak towards the built-in microphone and press the Stop button when you want to stop recording.
4. Press the Play button to hear what you have recorded.
5. To save to file, click Save from the File menu.

USING AN EXTERNAL MICROPHONE

Your computer also allows you to connect an external microphone for higher quality recording. The external microphone jack is found on the left side of your computer and automatically disables the built-in microphone when connected. Use only microphone with 1/8-inch mini-jack connector. Follow the same procedure for recording voice.

USING THE BUILT-IN CD-ROM/DVD-ROM/CD-RW DRIVE

You would normally use the CD-ROM/DVD-ROM/CD-RW drive for recording audio music from the compact disc. Follow these steps:

1. Activate CD Audio volume on the Recording Control as discussed earlier.
2. Run the Sound Recorder program.
3. Insert the audio CD into the CD-ROM/DVD-ROM/CD-RW drive. Unless you have disabled the CD auto-insertion notification for supporting Suspend mode, the CD Player should automatically run after you have inserted an audio compact disc and will start playing the audio CD.
4. Click on the Windows media player (use WinMe as an example) as shown in following figure, then press the CD Audio.



Figure 4-5 CD Player

5. Select the starting point where you want to start recording.
6. Switch to the Sound Recorder and press the Record button.
7. Switch immediately to the Windows Media Player and press the **Play** button. You can adjust the volume control so you can also hear the music while in recording.

USING AN EXTERNAL AUDIO INPUT DEVICE

You can also record sound from an external audio device such as stereo amplifier or tape recorder by connecting them to the Line-In audio jack

Use the same procedure as above by setting the Recording Control to enable the line-in volume. Run the Sound Recorder and press the Record button. Start playing the external audio device to begin recording.

4.6 Playing Audio and Sound

Your computer has a built-in twin speakers to playback audio and sound. You can also adjust the volume manually by adjusting the thumb-wheel volume control found on the left side of your computer.

For more quality sound output, you can choose to connect an external amplified speaker or earphone from headphone jack. Always minimize the volume first before placing the phone set to your ear.

USING THE WINDOWS MEDIA PLAYER

The easiest way to playback multimedia media files is to run the Windows Media Player. Follow these steps:

1. Click on Start, point to Programs, Accessories, and then Entertainment.
2. Click on Media Player to start program.



Figure 4-6 Media Player

3. Click on the File menu and select the file you want to play.
4. When the file is recognized and open, click on the Play button to start playback.

4.7 Playing Video and MPEG Files

Your computer is capable of running video motion files as well as MPEG (Motion Picture Expert Group) files on CD, DVD, or CD-RW. By using software MPEG program, you can watch real full-motion picture on your computer. You can also run the Windows Media Player under the Entertainment programs group as well to show all media device programs.

4.8 Using DVD

DVD is the breakthrough in superb full-motion picture playback. One disc can contain at least 4.7GB of information, capable of holding one full-length movie with soundtracks, subtitles, and different languages. Much more, the DVD-ROM drive of your computer is backward compatible with CD-ROM drive so it allows you to use any CD as well. It also works the same as the CD-ROM.

To playback DVD titles, you would need a software MPEG-2 program and the optional DVD-ROM Device Pack.

For software MPEG-2 program, the performance in media playing will be implemented successfully only when this computer is complied with Intel Pentium II - 266MHz CPU or above. Otherwise, any computer that equipped

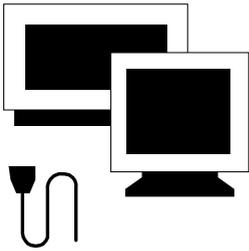
under Intel Pentium II - 266MHz CPU cannot guarantee the performance in media playing.

4.9 Using CD-RW

CD-RW drive is a device that can write digital data to CD-RW and CD-R compact disk (CD). With this device, you can backup your own data to CD-R or CD-RW disc for mass data storage and safely retaining. The CD-R disc can be written several times until the CD-R is full; the CD-RW disc, furthermore, can write and erase data repeatedly. Please refer to the related user manual about the CD-RW software.

⚠ Please pay attention to the copyright of the software or data you want to backup. Backup or distribute the software or data might be illegal according the restriction of the law.

5 Connecting to Peripherals



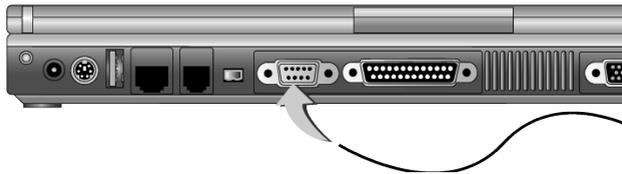
This chapter describes how you attach peripheral devices to your notebook. You can attach a printer or mouse; connect an external monitor and keyboard, or any other peripheral device. You will learn how to use these peripheral devices with the step-by-step instructions depicted in this chapter.

5.1 Using a Serial Mouse

Your computer has one 9-pin male serial port for connecting an external serial mouse, modem or PDA. The serial (RS232) port of your computer is normally referred to as COM1. When working with your computer on the desktop, you may want to use an external serial mouse instead of the Glide Pad. If you want to use a modem as well, we recommend using an optional built-in modem module or a fax/modem PC card through the PCMCIA slot.

To install an external serial mouse:

1. Turn off your computer.
2. Plug the serial mouse connector to the serial port at the back of your computer. Secure the connection with the screws provided.



3. Turn on the computer.
4. Click the **Start** button, then point to **Settings**, and click **Control Panel** when there is another mouse connects to PS/2 port.
5. Double-click on the **Add New Hardware** icon to appear the **Add New Hardware Wizard**.
6. Follow the relative steps when screen shows up to guide you in executing the specific procedures.

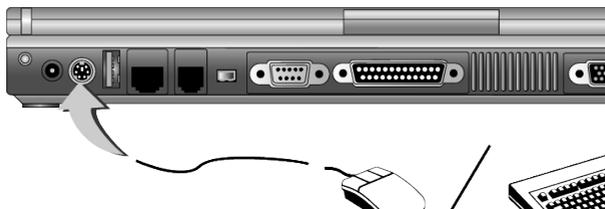
7. When system has rebooted, Windows will automatically detect the serial mouse.

5.2 Using an External Keyboard (PS/2)

At the back of your computer, you will find the 6-pin mini-DIN PS/2 keyboard and mouse port. This port allows you to connect an external full-sized PS/2 desktop keyboard as well as an external PS/2 mouse. It is recommended to use an external PS/2 mouse only if you are not using an external PS/2 keyboard. Otherwise, you must use the serial port for connecting a serial mouse as discussed earlier. If you want to use both the external PS/2 mouse and keyboard, you would need to buy a PS/2 Y-cable.

You can also purchase a keyboard adapter from your computer dealer that allows you to connect standard 5-pin DIN-type desktop keyboards. To connect the external keyboard:

1. Turn off your computer.
2. Connect the PS/2 keyboard directly to the PS/2 port. If you are using 5-pin DIN-type keyboard, plug the keyboard to the keyboard adapter first and then to the PS/2 port. Windows keyboard are also supported.
3. Turn on your computer. Both the built-in keyboard and the external keyboard are active and can be used simultaneously.



□ *Do not disconnect or connect the external keyboard when power is on. Turn off the computer first. You can connect an external keyboard or keypad only while the system is in Suspend mode.*

To connect an external PS/2 mouse, follow the same procedures as above. If you set the **PS/2 Mouse** field to **Both** in **Advanced** menu of BIOS setting, both the PS/2 mouse and the built-in Glide Pad will work at the same time

5.3 Using the USB Port

USB or Universal Serial Port is a peripheral bus standard developed by Compaq, DEC, IBM, Intel, Microsoft, NEC and Northern Telecom. Personal computers equipped with USB will allow computer peripherals to automatically configure as soon as they are physically attached - without the need to reboot or run setup. USB will also allow multiple devices to run simultaneously on a computer, with peripherals such as digital cameras, scanners, printers, CD-ROM drives, modems, keyboards, games devices and monitors acting as additional plug-in sites, or hubs.



□ *Depending on your operational requirements, you may need to disable other ports in order to release system resource for the USB port.*

5.4 Connecting a Parallel Printer

The parallel (LPT1) port has a 25-pin female connector at the back of your computer. You would always connect to this whenever you are going to print out to a parallel printer.

To connect to a printer:

1. Connect the printer to the parallel port using the 25-pin male connector cable of the printer. Secure the cable with the screws provided.
2. Align and connect the other end of the cable to the parallel port on the device. Lock the connector clips.
3. Connect the power cable to the device and a properly grounded wall outlet.
4. Power on both computer and printer.
5. Check the printer by doing a self-test operation.
6. Set the printer type of your software to recognize the connected printer.
7. If your printer is not listed in the software you are using, consult your printer dealer for available drivers or any compatible ones.
8. Press the Online button of the printer.



- *When you connect a printer, be sure to install the appropriate printer driver through the Windows Control Panel.*
- *Check that the device is online before you try to use it. See the instructions that came with the device for more information.*

5.5 Using an External Monitor Port

Your computer has a 15-pin Monitor port for supporting any external CRT or LCD color monitor with maximum display resolution of 1024x768 16M colors or 32-bit true colors. You need a display signal cable (usually provided with the monitor). One end of the cable must have a 15-pin connector for the system.

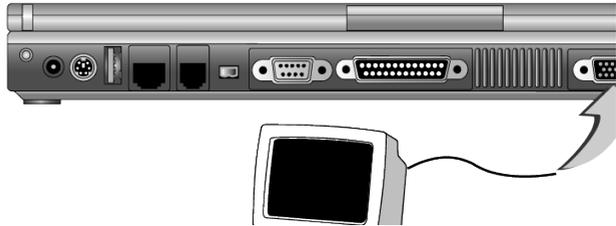
To connect an external monitor:

1. Turn off your computer and make sure the monitor power switch is turned off.

□ *The notebook computer must be powered off or suspended while the monitor is being connected.*

2. Connect the connector cable of the monitor to the VGA port at the back of your computer. Secure the cable connection with the screws provided.
3. Connect the monitor power cable and plug it into a properly grounded wall outlet.

4. Turn the power of the monitor.
5. Turn on your computer. Both the LCD panel and the monitor screen will show the display. Your computer is set at default to run at simultaneous display mode.
6. If you only want to show the display on the external monitor (CRT/LCD) and shut off the LCD display, you can use the <Fn> + <F3> hot-key to switch display type between LCD and CRT. Keep pressing the hot-key until you get the display to external CRT/LCD only.



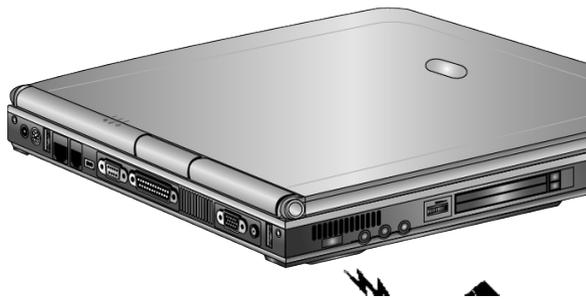
□ *Refer to Chapter 3 regarding the possible External CRT resolutions and how to change the display properties.*

5.6 Using the IR Port (Option)

Your computer can equip with an industry standard IR port that allows enhanced wireless connection with infrared built-in devices like PDAs, electronic organizers, printers, and portable computers. The IR port is Infrared Data Association (IrDA) compatible which makes use of the second COM port or COM2 of your computer. The transfer rate for FIR is 4Mbit/sec.

To connect to another IR equipped device:

1. Properly position both your computer and the target device. Place the target device in line with your notebook and should be within 80cm (30-inches) from each other. You should refer to the User • Guide of the target device on how to enable its IR function.
2. Turn on your computer.
3. After setting up both devices to enable IR function, run the external device's application that you wanted to connect to the IR port.
4. Set the transmission protocol or device to COM2 or specified by Windows system. Make sure that this does not conflict with any pre-installed fax/modem PC.



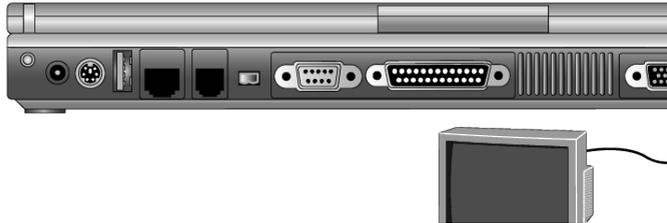
5.7 Using the TV Port

Also found at the back of your computer is one RCA port.

To display your computer screen on the TV:

1. Turn off your computer and plug one end of the RCA jack cable to the end to the input video jack of your television set.
2. Turn on your computer and your television set.

3. Click the **Start** button, then point to **Settings**, and click **Control Panel**.



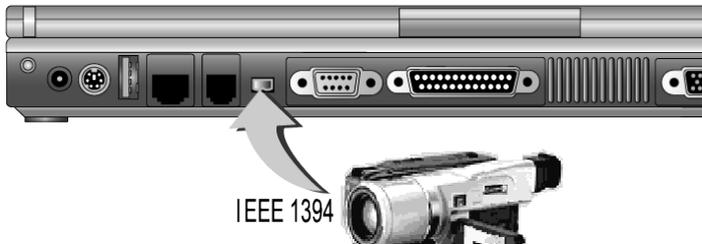
4. Double-click on the **Display** icon and point to **Setting** tab.
5. Double-click **Advanced** button and point to **Displays** tab.
6. Choose the **TV** button then click **OK**. Windows now automatically detect the TV port and enable this function.

5.8 Using the IEEE 1394 Port

IEEE 1394 is a new I/O standard that is supported by Win98 (second edition) or later Windows version. With supporting high-speed transmission and delivering data at a guaranteed rate, you can record digital video clips and download them directly via a super-speed IEEE 1394 port at the rear of the notebook. IEEE 1394 becomes an ideal for devices that need to transfer high levels of data in real-time.

With built-in IEEE 1394 port, this computer enables the peripheral devices in transmitting digital video data or data backup. To install the IEEE 1394 port driver, please refer to Win98 (second edition) or later Windows version. The Windows system will automatically recognize it in installing a suitable driver for it. For other version of Windows, please visit Microsoft's web site for more information about it.

Moreover, you should install the driver of peripheral device to connect with the IEEE 1394 port, for details please refer to the manual that comes with your peripheral device.



5.9 Using the External Audio System

At the left side of your computer, you will find the built-in audio ports. You can connect audio input jacks with stereo device; and headphone jack with external speakers, earphone, or headphone for recording and playing sound.

To connect to a audio jack:

1. Locate the audio port (Microphone, Line-in or Headphone) that you want to use to the target device.
2. Plug the jack into the port on the left side of the system.

□ *If you use external speakers and experience the sound distortion or feedback, please lower the volume. Some factors is caused by too close locating the microphone and speakers from each other, moving away the external audio option from the unit may also help.*

6 Customizing Your Notebook



Your computer uses the Phoenix BIOS Setup program that allows you to set several system configuration in changing the way your computer performs. This includes your system time and date, disk drive configuration and password setup. This information is then stored in the CMOS RAM and will remain permanent unless you change it again. This chapter discusses on how you will activate the BIOS Setup program and change the system configuration to suit your desired operation. You must be careful to set the configuration properly in order for your computer to run smoothly. If you are not sure of any settings, contact your dealer.

6.1 Running the BIOS Setup Program

Your computer is likely to have been properly setup and configured by your dealer prior to delivery. However, you may find it necessary to use the computer's BIOS (Basic Input-Output System) Setup program to change system configuration information, such as the current date and time, or your hard disk drive type. The Setup program can be accessed when you power on the system and pressing the <F2> function key.

The settings that you specify within the Setup program are recorded in a special area memory called the **CMOS RAM**. This memory is backed up by a battery so that it will not be erased when you turn off or reset the system. Whenever you turn on the computer, the system will read the settings stored in the CMOS RAM and compare them to the equipment check conducted during the Power On Self Test (POST). If an error occurs, an error message will be displayed on the screen, and you will then be prompted to run the Setup Program.

As the POST (Power-On Self Test) executes during the boot up process, the screen will display the following message:

Press <F2> to Enter SETUP

Press the <F2> key to run the BIOS Setup program. The BIOS Setup program is organized into five menus which you can select using the ← and → keys. To move from one option to another, you use the up and down arrow keys while using the <F5> and <F6>, or <+> and <-> keys to change the settings. On the right hand side of the screen are some brief help descriptions of each item you want to change.

On the BIOS Setup program, you will find the following parts on the screen:

- **Item Specific Help**
The right side of the screen. This area describes each parameter and its available settings.
- **Menu Bar**
The top line of the screen. Each of the five selections displays its own screen.
- **Parameters**
The left side of the screen. This area lists the parameters and their current settings.
- **Key Status Bar**
The bottom part of the screen. These lines display the keys available to move the cursor, select a particular function and so forth.

To exit the BIOS Setup program, simply press the <Esc> key and select from the Exit menu whether you want to Save changes and exit; Discard Changes and exit.

6.2 Using the Main Menu Setup

PhoenixBIOS Setup Utility				
Main	Advanced	Security	Boot	Exit
				Item Specific Help
System Time:	[12 :00 :00]			<Tab>, <Shift-Tab>, or <Enter> selects field.
System Date:	[08/10/2000]			
Diskette A:	[1.44MB, 3½"]			
▶ Internal HDD	[20004MB]			
Internal CD/DVD	[CD/DVD]			
Boot Display Device:	[Both]			
System Memory:	640 KB			
Extended Memory:	262143 KB			
CPU Type:	Pentium ® III			
CPU Speed:	850 MHz			
BIOS Version:	0.2B-0220-0713			
F1 Help	↑ ↓ Select Item	F5/F6 Change Values	F9 Setup Defaults	
Esc Exit	← → Select Menu	Enter Select ▶ Sub-Menu	F10 Save and Exit	

- **System Time**
Allows you to change the system time using the hour:minute:second format of the computer.
Enter the current time for each field and use the <Tab>, <Shift>+<Tab>, or <Enter> key to move from one field or back to another.
You can also change the system time from your operating system.
- **System Date**
Allows you to set the system date using the month/date/year format.
Enter the current time for each field and use the <Tab>, <Shift>+<Tab>, or <Enter> key to move from one field or back to another.
You can also change the system time from your operating system.
- **Diskette A**
This item enables or disables the floppy disk drive by pressing the <Enter> key.
- **Internal HDD**
This field displays various parameters for the hard disk drive. If type [Auto] is selected, the system automatically sets these parameters. If type [User] is selected, Cylinders, Heads and Sectors can be edited.
- **Internal CD/DVD**
This field is for information only as the BIOS automatically detects the CD-ROM.
- **Boot Display Device**
Lets you select the display device.
- **System Memory**
This field reports the amount of base (or conventional) memory found by the BIOS during Power-On Self-Test (POST).

- **Extended Memory**
This field reports the amount of extended memory found by the BIOS during Power-On Self-Test (POST).
- **CPU Type**
This field reports the CPU type information detected by the BIOS during Power-On Self-Test (POST).
- **CPU Speed**
This field reports the CPU speed information detected by the BIOS during Power-On Self-Test (POST).
- **BIOS Version**
This field is for information only as the BIOS displays the BIOS version during the Power-On Self-Test (POST).

6.2.1 INTERNAL HDD SUB-MENU

PhoenixBIOS Setup Utility				
Main	Advanced	Security	Boot	Exit
Internal HDD: [12073MB]		Item Specific Help		
Type:	[Auto]	User = you enter parameters of hard-disk drive installed at the Connection.		
Cylinders:	[16383]	Auto = autotypes Hard-disk drive installed here.		
Heads:	[16]	None = no device is installed here.		
Sectors:	[63]	CD-ROM = a CD-ROM drive is installed here.		
Maximum Capacity:	20004MB			
Multi-Sector Transfers:	[16 Sectors]			
LBA Mode Control:	[Enabled]			
32 Bit I/O:	[Disabled]			
Transfer Mode:	[Fast PIO 4]			
SMART Monitoring:	Enabled			
Ultra DMA Mode:	[Mode 2]			
F1 Help	↑↓ Select Item	F5/F6 Change Values	F9 Setup Defaults	
Esc Exit	←→ Select Menu	Enter Select	▶ Sub-Menu F10 Save and Exit	

Use the Type field to select the drive type installed. You can select different drive types as CD-ROM, User, Auto or None by pressing <Space> bar. Set this option to Auto so your computer will automatically detect the drive type during power on. Set this option to None when your computer is not installed any devices. Press <Esc> to return to the Main Menu.

6.3 Using the Advanced CMOS Setup

PhoenixBIOS Setup Utility				
Main	Advanced	Security	Boot	Exit
			Item Specific Help	
NumLock on Boot:	[Auto]	'Disabled' prevents any installed PS/2 mouse from functioning, but frees up IRQ12. 'Enabled' allows the operating system to determine whether to enable or disable		
PS/2 Mouse:	[Auto]			
LCD Panel View Expansion:	[Enabled]			
Suspend Warning Tone:	[Enabled]			
Save to Disk Warning	[Disabled]			
Summary Screen	[Disabled]			
Silent Boot:	[Enabled]			
Intel(R)SpeedStep(TM)technology	[Automatic]			
▶ I/O Device Configuration				
F1 Help ↑↓ Select Item F5/F Change Values F9 Setup Defaults 6				
Esc Exit ←→ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit				

- NumLock on Boot
Locks or unlocks the Num-Lock key during the system booting up procedure.
- PS/2 Mouse
[Auto] allows the OS to enable the PS/2 mouse when it is detected.
[Disabled] prevents any installed PS/2 mouse from functioning. [Both] activates both the touch pad and external PS/2 mouse

- **LCD Panel View Expansion**
Expands or keeps the original LCD Screen View during the booting procedure. Expands may get full screen LCD display, however, it degrades the graphic/text quality.
- **Suspend Warning Tone**
Enabled or disabled the Suspend warning tone when the system goes into the Suspend mode.
- **Save to Disk Warning**
Displays warning message when the Save to Disk file (save2disk.bin) does not exist. The file "save2disk.bin" is used to save the data when your computer goes into suspend to disk mode.
- **Summary Screen**
Displays system configuration on boot.
- **Silent Boot**
Lets you specify your boot screen to Logo screen, POST screen, or Black screen by choosing Enabled, Disabled, or Black option, respectively.
- **Intel® SpeedStep™ Technology**
Automatically increase or decrease the CPU frequency to high or low speed by selecting appropriate mode to Automatic, Battery Optimized, or Disabled. For example, if the high speed and low speed of CPU are 900MHz and 750MHz, then you will get the following result via setting to different options:
 - For Automatic, system will automatically detect whether the AC adapter is connected or not, if it is connected, system will set CPU speed to 900MHz (high speed), otherwise it will set to 750MHz (low speed).
 - For Maximum, system will always set CPU speed to 900MHz (high speed).

- For Conserved, system will always set CPU speed to 750MHz (low speed).
- I/O Device Configuration
Lets you configure input/output device such as Serial Port, Parallel Port, and Floppy disk controller.

6.3.1 PERIPHERAL SUB-MENU

PhoenixBIOS Setup Utility				
Main	Advanced	Security	Boot	Exit
I/O Device Configuration			Item Specific Help	
Serial port A:	[Auto]	Configure serial port A		
Parallel port:	[Auto]	[Disabled]		
Mode:	[Bi-directional]	No configuration,		
Floppy disk controller:	[Enable]	[Enabled]		
		User configuration,		
		[Auto]		
		BIOS or OS chooses configuration,		
F1 Help	↑↓ Select Item	F5/F6 Change Values	F9 Setup Defaults	
Esc Exit	←→ Select Menu	Enter Select ▶ Sub-Menu	F10 Save and Exit	

- Serial port A
You can select the Enabled, Disabled, or Auto option for enabled or disabled the port, or automatically sensed the address assignment by BIOS or OS.
- Parallel port
Allows you to select the Enabled, Disabled, or Auto option for enabled or disabled this port, or automatically sensed the address assignment by BIOS or OS.
- Mode
Allows you to select a parallel mode as Output only, Bi-directional, EPP or ECP when the parallel port is configured. When you set the configured

parallel port to Enabled, you need to set the parameter of Base I/O address for this port.

- Floppy disk controller
Allows you to select the Enabled or Disabled option for configured or not configured the floppy disk controller.

6.4 Security Menu Setup

PhoenixBIOS Setup Utility				
Main	Advanced	Security	Boot	Exit
			Item Specific Help	
Set Supervisor Password:	[Enter]	Supervisor Password controls access to the setup utility.		
Set User Password:	[Enter]			
Password on boot:	[Disabled]			
Fixed disk boot sector:	[Normal]			
Diskette access:	[Supervisor]			
F1 Help	↑↓ Select Item	F5/F6 Change Values	F9 Setup Defaults	
Esc Exit	←→ Select Menu	Enter Select ▶ Sub-Menu	F10 Save and Exit	

- Set Supervisor Password
Supervisor password gives you the authority in accessing the setup utility. You also need to enter this password in system booting and resuming from suspend mode. When you press <Enter> in this field, the Set Supervisor Password dialog box appears. Enter a new password with up to 8 alpha-numeric characters, and then re-enter it for confirmation.

- **Set User Password**

This field is only available when Supervisor Password has set. Enter the user password when boot the system or resume from suspend mode. But if the Write Protect is set in the Fixed disk boot sector field, you should enter a supervisor password to access the fixed disk when boot the system or resume from suspend mode.
- **Password on Boot**

If you set this field to Enabled, your computer will always ask for the password every time you boot your computer.
- **Fixed Disk Boot Sector**

If you set this field to Write Protect, the write protect boot sector on hard disk will protect against viruses. In this situation, only the supervisor can access the Boot Sector of fixed disk.
- **Diskette Access**

If you set this field to Supervisor, only the supervisor can access to the diskette drives. If you set to User, both the supervisor and user can access to the diskette drives.

6.5 Using the Boot Setup

This item allows you to set the search drive sequence where the system will try to boot up first.

PhoenixBIOS Setup Utility				
Main	Advanced	Security	Boot	Exit
ATAPI CD-ROM Drive		Item Specific Help		
+Diskette Drive		Use <↑> or <↓> to		
+Hard Drive		select a device, then		
		press <+> to move it		
		up to the list, or <-> to		
		move it down to the		
		list. Press <ESC> to		
		exit from this menu.		
F1 Help	↑↓ Select Item	F5/F6 Change Values	F9 Setup Defaults	
Esc Exit	←→ Select Menu	Enter Select ▶ Sub-Menu	F10 Save and Exit	

To select the boot device, you can use the up or down arrow key, then press <+> to move up the device in the list or press <-> to move down the device in the list. To exit from this menu, press <Esc>.

6.6 How to Exit the Setup Program

There are two choices to escape from the Setup program.

PhoenixBIOS Setup Utility							
Main	Advanced	Security	Boot	Exit			
Exit Saving Changes Exit Discarding Changes Load Setup Defaults Discard Changes Save Changes Battery Refresh			Item Specific Help Exit System Setup and save your changes to CMOS.				
F1	Help	↑↓	Select Item	F5/F6	Change Values	F9	Setup Defaults
Esc	Exit	←→	Select Menu	Enter	Execute Command	F10	Save and Exit

- **Exit Saving Changes**
Saves all changes to CMOS while running the BIOS setup program and exit from the system setup program.
- **Exit Discarding Changes**
Allows you to discard all changes made while running the BIOS setup program and exit from the system setup program.
- **Load Setup Defaults**
Lets you load the default values for all setup items.

- Discard Changes
Reverts to previously selected settings.
- Save Changes
Saves Setup data to CMOS.
- Battery Refresh
Conditions the battery so that the battery can be fully charged. The function applies to NiMH battery only.

6.7 How to Upgrade the BIOS

Your computer uses EPROM Flash BIOS chip that allows you to easily upgrade the BIOS program. When you update the BIOS, any customized settings you made are lost.

To upgrade the BIOS:

1. Insert the BIOS Update diskette into the diskette drive.
2. Power on the system with the diskette in the diskette drive.
3. On the DOS prompt, type the following command.

```
A:\>Phlash XXXXXX.ROM (BIOS filename)
```

4. Press <Enter> to run this BIOS utility. After the system has been successfully run this program, a message similar to the following appears:

```
Flash memory has been successfully programmed,  
press any key to restart the system. If the  
system does not restart, turn it off, then turn  
on again.
```

5. Press any key to restart this system.

Contact your dealer for the latest BIOS update file.

7 Using Options



This chapter describes the most advanced features and expandable architecture in your notebook. With the built-in optional internal modem and LAN modules, you can easily execute each function only by connecting the cable to the modem or LAN port. You can also upgrade your memory size to your system for specific requirements.

7.1 LAN Module Option

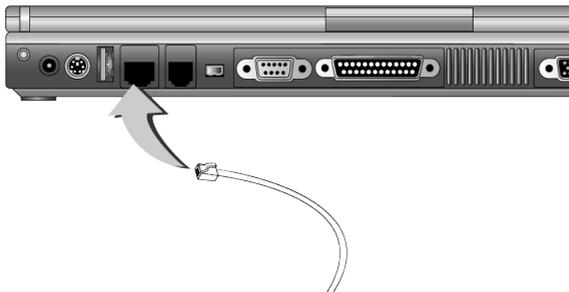
This notebook comes with a built-in optional internal 10Base-T/100Base-TX LAN module that connects your computer to other computers/networks through a local area network (LAN) and supports data transfer rates at 10Mbps and can be up to 100Mbps. The 10Base-T standard also called Twisted Pair Ethernet is connected with RJ-45 connectors. The 100Base-TX is based on the older Ethernet standard. Because it is 10 times faster than Ethernet, it is often referred to as Fast Ethernet.

CONNECTING THE INTERNAL LAN MODULE

The built-in LAN module provides a standard RJ-45 connector. We provide you a twisted-pair cable for your convenience.

To connect the twisted-pair cable to your LAN port:

1. Locate the twisted-pair cable in the accessories box in notebook shipping carton. Each end of the cable has a RJ-45 connector.
2. Connect one end of the cable into the network wall outlet or HUB.
3. Connect the other end of the cable into the computer RJ-45 LAN port.



7.2 Modem Module Option

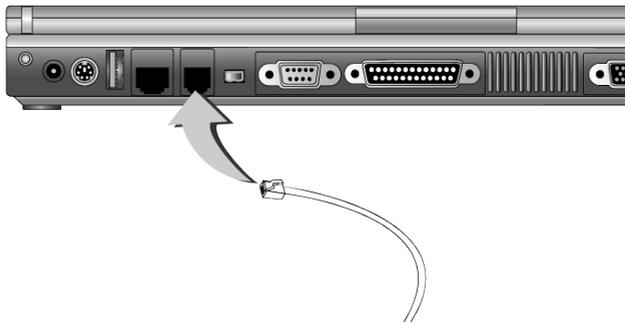
This notebook comes equipped with a 56K internal fax/data modem that allows you to communicate with others via fax, email, or to connect to an online service or bulletin board. The modem module is available as an option.

CONNECTING THE INTERNAL MODEM

The built-in fax/data modem provides on standard phone connector. We provide you one analog cable for your convenience.

To connect the analog phone cable to your modem:

1. Locate the analog phone cable in the accessories box in notebook shipping carton. Each end of the cable has a RJ-11 connector.
2. Connect one end of the cable into a standard wall outlet.
3. Connect the other end of the cable into the computer modem port.



□ *The speed of data transmission is dependent on the quality of telephone lines. Digitally terminated lines improve the speed of data transmission. Contact your service provider for more information.*

- ▣ *The analog phone cable is an industry standard cable. Longer cables are available at your local electronics store.*
- ▣ *If you want to buy the telephone line by yourselves, please be sure that only No. 26 analog phone cable can connect to your computer.*

7.3 System Upgrade

This section provides an easy step in doing system upgrade for your notebook computer. The upgrade procedures include the following:

MEMORY UPGRADE PROCEDURES

Your notebook computer offers two 64-bit memory slots using 144-pin SODIMM (Small Outline Dual Inline Memory Module) at least 64MB and 128MB SDRAM. The memory compartment is located just under your computer.

Based Memory	Installing Memory	Total
64 MB	0 MB	64 MB
64 MB	64 MB	128 MB
64 MB	128 MB	192 MB
128 MB	0 MB	128 MB
128 MB	64 MB	192 MB
128 MB	128 MB	256 MB

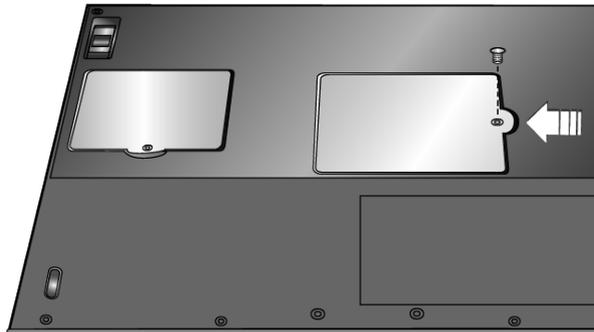
INSTALLING MEMORY MODULE

Your computer comes with standard 64 or 128MB of synchronous DRAM (SDRAM). You can increase system memory to a maximum of 256 MB in the system, by installing one small outline double inline memory modules (SO-DIMMs) with installed base memory in the system.

The 64MB memory module and 128MB memory module are available:

To install the memory module:

1. Make sure the system is powered off, the battery also is removed and that no peripheral devices are attached.
2. Turn the computer upside-down and locate the screw that secures the DIMM door at the underside of the notebook.



3. Remove the screw and open the DIMM cover by your finger.
4. Locate the memory module into the empty memory module sockets. (Your system comes with one memory module already installed in the socket.)

⚠ *Avoid touching the exposed components inside the system. Doing so may damage the system.*

5. Insert the connector of the memory module into the socket. Make sure the notch of the memory module fits the nose of the socket.
 - Hold the memory module at a 30-degree angle and push its connector into the memory socket of the notebook.
 - Press down on the edge of the memory module until the locking tabs on both sides is locked.
6. Put the DIMM door back and secure the screw on the DIMM door.
7. Turn the system over.

To remove a memory module, push the locking tabs aside from the memory module until the module pops up. Then, remove the memory module.

8 Caring for Your Notebook



Your Notebook PC is a fully IBM compatible portable personal computer with the latest features in mobile computing and multimedia technology. Lightweight and compact, your Notebook PC runs on a whole wide range of general business, personal productivity, and professional applications, it is ideal for use in the office, at home, and on the road.

Your Notebook PC also allows you for several levels of customization and expansion that are previously available only on desktop PCs.

8.1 Important Safety Instructions

Portable computers take the most beating from end users. This section gives you detailed information about how to maintain a safe working environment while using the notebook computer. You can maintain its condition and performance by following these guidelines. Please read it carefully to ensure maximum safety.

- Before cleaning the notebook computer, make sure it is disconnected from any external power supplies (i.e. AC adapter, car adapter and so on).
- When cleaning, do not use liquid or sprayed detergent for cleaning. Instead, use moisture sheet or a cloth for cleaning.
- The socket-outlet shall be installed near the notebook computer and shall be easily accessible.
- Please keep the notebook computer from humidity.
- Lay the notebook computer on a reliable surface when installing. A drop or fall may cause injury.
- The openings on the enclosure are for air convection hence the notebook computer can be protected from overheating. **DO NOT COVER THE OPENINGS.**
- Be careful of using power supply. The notebook computer has specific power requirements.
- Use only a power adapter approved for use with this notebook computer.
- The power adapter may have a 2-prong plug. This is an important safety feature. A compatible outlet is required. If it is not available, find a qualified electrician to install one.

- While unplugging the power cord, disconnect it by the plug head, not by its wire.
- Make sure the socket and any extension cords you may use can support the total current load of all the connected devices.
- Though your AC adapter is suitable for universal international voltage, it still requires a stable and continual power supply. Make sure the voltage of the power source when connect the notebook computer to the power outlet. If you are unsure of your local power specifications, consult your dealer or local power company.
- Place the power cord in such a way that people cannot step on it. Do not place anything over the power cord.
- All cautions and warnings on the notebook computer should be noted.
- If the notebook computer is not in use for a long time, disconnect it from mains to avoid possible damage by transient over-voltage.
- Never pour any liquid into openings as this may cause fire or electrical shock.
- Never open the notebook computer. For safety reason, the notebook computer should only be opened by qualified service personnel.
- If one of the following situations arises, have the notebook computer checked by service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated into the notebook computer.
 - The notebook computer has been exposed to moisture.
 - The notebook computer has not worked well or you cannot get it work according to user's manual.

- The notebook computer has dropped and damaged.
- The notebook computer has obvious sign of breakage.
- Do not leave this notebook computer in an environment unconditioned. Storage temperature above 60°C (140°F) may damage the notebook computer.
- An approved power cord has to be used for the notebook computer's power supply. For a rated current up to 6A and equipment weight more than 3 kg, a power cord not lighter than H05VV-F, 2G, 0.75mm², has to be used.
- To avoid any damage happened to the internal device, you should first disconnect the AC adapter and remove the battery pack from the notebook when replacing any internal device.

The sound pressure level at the operators' position according to IEC 60704-1 is equal or less than 70dB(A).

8.2 Cleaning Your Computer

When it is necessary to clean the plastic case and keyboard, use a soft, lint-free cloth, slightly dampened with a mild detergent solution or use the contents of any commercially available computer cleaning kit.

Never use alcohol, petroleum-based solvents, or harsh detergents to clean the notebook. Also never spray any liquids directly on the computer case, keyboard, or screen. If the liquid-crystal display (LCD) screen has become smeared or dusty, clean the screen by first applying a mild glass cleaner to a soft, clean, lint-free cloth, and gently wipe the glass. Never apply liquids directly on the screen surface. Moreover, do not use paper towels to clean the display screen. Paper can scratch the display screen matte.

8.3 Maintaining the LCD Quality

When it comes to screen problems, heat plays a big part. After a good working session, the typical routine is to shut the machine and close the cover. But the display surface - no matter what type it is - and the components inside the computer radiates heat; when you close the cover, you trap the heat against the screen. Leave the computer's cover open for about ten minutes while the heat disperses. Make this a habit.

You should also enable the power management of your computer to turn off the LCD power and display when the system is in inactivity for some time. Adding screen savers is also acceptable.

Follow the safety guidelines mentioned earlier and how to clean your computer.

8.4 Maintaining Your Hard Disk

Losing your data has the same consequences as a system break down. Users must make it a habit of doing hard disk maintenance every week or so. Here is some maintenance you could do:

- Always back up your data files from your hard disk.
- Install a virus-detecting program to monitor virus that could tamper your files.
- Use SCANDISK once in a while to correct any errors found in the directory and File Allocation Table (FAT). This will also free up space from any unused sectors.
- Never move or raise the computer while the hard disk is being accessed, most especially don't jar the hard disk as this may cause a hard disk crash.

- Use hard disk maintenance programs like DEFRAG or Norton Utilities SPEEDISK. These reorganize your hard disk by eliminating fragmentation and improving your hard disk access time.
- Install a system password in your computer so others won't be able to use the hard disk.

8.5 Battery Care Guidelines

The battery pack furnished with the computer requires reasonable care and handling to ensure efficient operation and maximum life. There is a risk of fire and chemical burn if the battery pack is handled improperly.

To ensure that the battery pack endures normal life cycle, always observe the following precautions when handling the battery pack:

- Handle batteries carefully. Do not try to disassemble, crush, puncture, open, drop, mutilate, short external contacts, disposed of in water or fire, or expose it to temperatures higher than 60 C.
- Recharge batteries only as described in this manual and only in ventilated areas. Never use an external charger other than the one supplied with your computer.
- Do not leave batteries in hot locations for more than a day or two.
- Do not leave your battery in your computer for longer than a week without plugging in the power adapter.
- Do not leave battery in storage for more than 6 months without recharging it.
- Dispose dead battery properly to protect the environment. The batteries contain hazardous chemicals and should not be thrown out with household or office trash.

- Discharge completely the battery before recharging to improve battery performance.

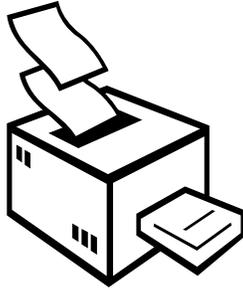
8.6 When You Travel

For safety and convenience when traveling, please follow these instructions:

- Back up all needed files on your hard disk before traveling.
- Recharge your battery overnight to ensure full battery power before you leave.
- Don't forget to bring along the AC adapter and extra battery pack.
- Try to bring backup software as well.
- Check the voltage rating and the outlet type of your destination. If the power cord of the adapter is different, then you need to purchase a suitable one. Consult your dealer.
- Carry your computer in its carrying case or in a briefcase. Never check-in the computer as a luggage.
- Remember to apply those power saving features and techniques to save battery power.

APPENDIX A

Hardware System Information



This appendix gives information on the technical and hardware specifications of your computer. Please note that the information mentioned here may not be exactly the same with your computer as specification is subject to change without notice or modifying this manual.

Designed with an advanced modular architecture, your Notebook PC also allows you for several levels of customization and expansion that are previously available only on desktop PCs.

A.1 System Specification

PROCESSOR UNIT

- Intel Mobile Pentium III μ PGA2/ Intel Mobile Celeron μ PGA2
- Supports CPU clock speed above 900MHz for Pentium III/750MHz for Celeron
- 256KB integrated L2 cache for Pentium III/128KB integrated L2 cache for Celeron

SYSTEM MEMORY

- Two 64-bit 144-pin memory slots
- User-upgradable to maximum 256MB using 144-pin SODIMM 64MB, 128MB and module
- PC100 SDRAM modules

LCD DISPLAY

- XGA (1024x768) or SVGA (800x600) Color LCD
- Maximum 16M true colors on all LCD display

VGA SYSTEM

- 2X AGP Local Bus VGA Accelerator (32-bit internal)
- Simultaneous LCD and external monitor (CRT) display

- Maximum 16 million colors on CRT only display at 800x600 resolution (Non-Interlaced)
- Maximum 1024x768 resolution on CRT display at 16M colors

DISK DRIVES

- 32-bit PCI Enhanced IDE interface with LBA mode
- 24X-speed Enhanced IDE bootable CD-ROM drive module
- Built-in and user-upgradable 2.5-inch IDE hard drive
- Optional DVD-ROM drive that can be replaced with CD-ROM
- Optional CD-RM drive that can be replaced with CD-ROM

AUDIO SYSTEM

- Audio DJ plays audio CD without powering on the computer
- Full-duplex 16-bit stereo audio with wavetable support and Plug-and-Play features
- H/W Audio Sound Blaster 16 compatible
- Built-in dual speakers
- Integrated full-duplex microphone
- Audio input jacks for microphone (MIC) and stereo device (Line-In)
- Audio output jack for external speaker or headphone (Line-Out)
- Earphone or headphone jack for audio output
- Built-in Thumb Wheel Volume Control

PCMCIA

- 32-bit CardBus PCI Local Bus PCMCIA controller
- Double-deck PCMCIA slots supports 2 x Type II PC card at the same time or 1 x Type III PC Card
- Supports 32-bit Cardbus Cards, and 16-bit PC Cards

GLIDE PAD

- Integrated Glide Pad (PS/2 mouse) pointing device with left, right and scrolling buttons.

KEYBOARD

- Full-sized 86/87-keys keyboard with Windows 95/98 hot-keys, inverted T-cursor keys, 7 hot keys, 12 function keys, and embedded numeric keypad
- Provides international language keyboard

FLASH BIOS

- 512K Flash ROM BIOS for easy BIOS upgrade

I/O PORTS

- 2 x Universal Serial Bus (USB)
- 1 x 9-pin RS-232 Serial (COM1)
- 1 x 25-pin Parallel (LPT1)
- 1 x 15-pin VGA (CRT)
- 1 x IEEE 1394 port (option)

- 1 x Bluetooth port (option)

INFRARED PORT

- 1 x IR port (option)

AC/DC POWER SUPPLY ADAPTER

- Universal auto-switching 60W (100V~240V) adapter

BATTERY

- Rechargeable 8 Cells NiMH or Li-ion battery pack with Smart Battery function
- 2 ~ 2.5 hours of usage (when run Battery Mark 4.0 diagnostic program)
- 2.5 ~ 3 hours quick charge (computer turn off)

WEIGHT AND DIMENSION

- 12.1" (W) x 10.5" (D) x 1.41" (H)
- 6.6 lbs (Max Target)

A.2 IRQ Usage Summary

IRQ#	Description
IRQ 0	System Timer
IRQ 1	Keyboard
IRQ 2	[Cascade]
IRQ 3	LAN/MODEM
IRQ 4	Serial Port 1
IRQ 5	Audio/VGA/USB

IRQ 6	Floppy Disk Drive
IRQ 7	Parallel Port
IRQ 8	RTC Alarm
IRQ 9	ACPI
IRQ10	LAN/MODEM/ PCMCIA card
IRQ11	CARDBUS
IRQ12	PS/2 Mouse
IRQ13	FPU
IRQ14	Hard Disk Drive
IRQ15	CD-ROM or DVD-ROM

A.3 DMA Channel Usage Summary

DMA Channel	Device
DMA 0	MODEM
DMA 1	ECP
DMA 2	Floppy Disk
DMA 3	AUDIO
DMA 4	[Cascade]
DMA 5	Unused
DMA 6	Unused
DMA 7	Unused