# 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 Understanding the Keyboard Functions

Your notebook computer is equipped with an 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.
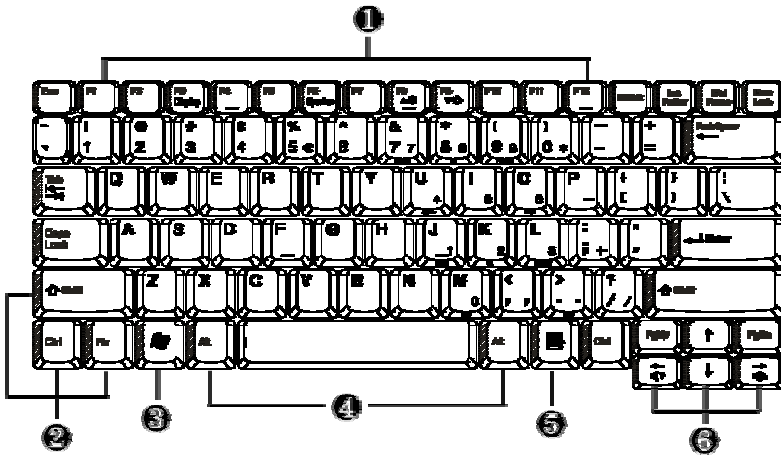
1. Function Keys
2. Control Keys
3. Windows Start Menu Key
4. Control Keys
5. Windows Shortcut Key
6. Cursor Control Keys

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
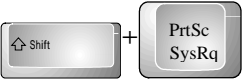   Provides quick access to shortcut menus. This key acts like a right
    mouse button.
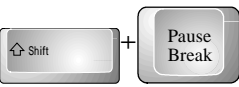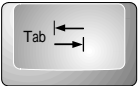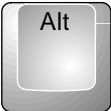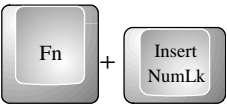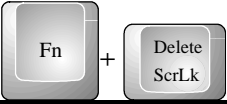
- **Cursor Control keys**
  Cursor control keys let you position the cursor on the screen where you
  want. In the screen, the cursor is a blinking underline, block, or vertical
  bar depending on the application. The cursor indicates where the next text
  typed is inserted.

- **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
Enter	<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.
Esc	<Esc> key. Press this key to cancel or escape from a command or function.
Insert NumLk	<Ins> key. Known as the Insert key. Press this key to toggle the keyboard data entry from insert to type over mode.
Shift + PrtSc SysRq	Shift +<PrtSc> key. Known as the Print Screen key. Press this key to map the whole screen to share memory for your specific usage.
Delete ScrLk	<Del> 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.
Shift + Pause Break	Shift +<Pause> key. Press this key to temporarily halt execution of a command. Pressing any other key to resume execution of a command.
Backspace	<Backspace> key. Press this key to delete the character to the left of the cursor.
Shift	<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

Keypad	Function Description
	combination with other keys to execute a certain command.
Tab	<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	<Ctrl> key. Known as the Control key. Used in most application program in combination with other keys to execute a certain command.
Alt	<Alt> key. Known as the Alternate key. Used in most application program in combination with other keys to execute a certain command.
Fn + Insert NumLk	Fn +<Num Lock> key. Activates the embedded 15-key numeric keypad. The keys are color coded blue.
Caps Lock	<Caps Lock> key. Used in most application program to always activate uppercase alphabet characters.
Fn + Delete ScrLk	Fn +<Scroll Lock> key. Used in most application program to scroll the screen without having to move the cursor.

CURSOR CONTROL KEYS

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

Keypad	Function Description
↓	**Down arrow key.** Moves the cursor down one line at a time.
←	**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
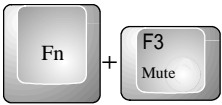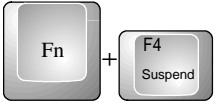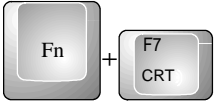
Keypad	Function Description
Home	<Home> key. Moves the cursor to the beginning of a screen or line.
PgUp	<PgUp> key. Moves the cursor up one screen at a time
PgDn	<PgDn> key. Moves the cursor down one screen at a time
End	<End> key. Moves the cursor to the end of a screen or line.
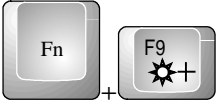
WINDOWS HOT KEYS

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
Fn + F3 Mute	Enable or Disables the built-in system speaker.
Fn + F4 Suspend	Press this key to activate the system into the suspend mode.
Fn + F7 CRT	Switches display between LCD, CRT, or LCD and CRT simultaneously.
Fn + F8	Increases the brightness of LCD display incrementally.

Keypad	Function Description
Fn + F9 ☀+	Decreases the brightness of LCD display incrementally.

3.3 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 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.
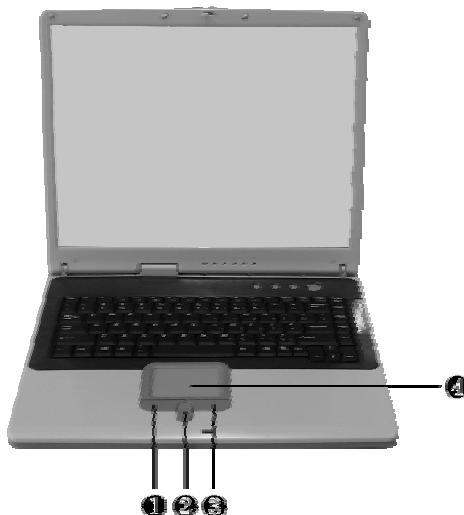
1. Left Selection Button   2. Scroll Button
3. Right Selection Button   4. Glide Pad

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.*

3.4　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 1024x768 as well as 1280x1024 LCD 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
1024x768 XGA LCD	640x480	16 million colors
	800x600	16 million colors
	1024x768	16 million colors
1280x1024 SXGA+ LCD	640x480	16 million colors
	800x600	16 million colors
	1024x768	16 million colors
	1280x1024	16 million colors
CRT Only	640x480	16 million colors
	800x600	16 million colors
	1024x768	16 million colors
	1152 x 768	16 million colors
	1280x1024	16 million colors
	1400x1050	16 million colors
	1800x1440	

☞ *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> + <F7> 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 VGA driver.*

3.5   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.

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 Hibernate (Windows 2000/XP) mode on the Power Management function of the Control Panel in Windows. To resume full-on state, you can press the power button.

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.

3.6　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. 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 (up to 60 GB), 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 of 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.*

3.7   How to Access the Optical Disk Drive

Your system ships with an optical disk drive installed on the right side of your computer. You would normally use the 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 optical disk 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 optical disk drive, simply push the CD tray inside. The optical disk drive LED will activate when the disc is detected. Wait until the LED has turned off and then start to read the disc.

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 either side of the CD.
- Do not write with the hard ball-point pen or apply labels on 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 other optical storage media.

☞ ***The optical disk drive is a Class 1 Laser Product.***

3.8   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.

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 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. The GPRS card is an example. The extended part is for additional electronics and antenna.

- Communication Cards
  Both network PC cards and fax/modem cards can use with your notebook computer. However, if you use built-in LAN/Modem module of this computer, it is not necessary to use those cards.

- Storage Cards
  When you insert a storage PC card, PC card Adapter for other memory card (i.e. Compact Flash card, Smart Media card...) or small hard drive card in the notebook computer, it appears as a unique drive depending on the type of card 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/DVD/RW/optical disk drive
F:	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. This notebook does not support Type III Card.

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 the PC card slot. Aside from 3.3V CardBus PC cards, you can also insert 5V 16-bit PC cards that can also be detected and used by your computer.

INSERTING AND REMOVING A PCMCIA CARD

Your computer 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.

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. Double click the **PC card** icon on the right bottom side of the task bar.

2. Select the socket from the list that you want to remove, and click **Stop** button. The system then disables the function of PCMCIA card.

3. Then you can remove the inserted PC card, push the button found on the right side of the PC slot to release the eject button. Then push it again to release the PC card.

4. When the PC card has moved out a space out of the slot, hold the edges of the card and slowly slide it out.
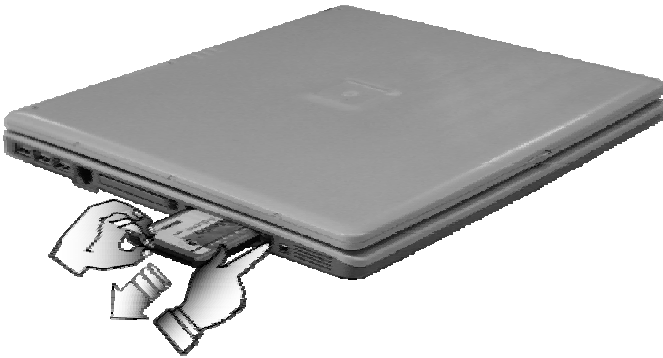
MAKING PC CARDS WORK

Since PC cards come in different types and brands, making every card work on your computer may not that be 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 provided by the PC card manufacturer into the optical 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 there are no conflicts of resource amount those devices.*

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.

☞ *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.*

4   Fun with Multimedia
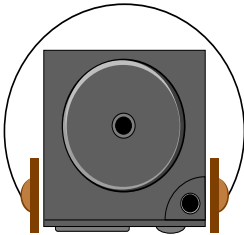
This chapter lets you make full use of all the multimedia features of your computer in having fun and excitement during work or leisure. You will learn how to mix and match the built-in sound system, use optical disk drive in creating an exciting full multimedia presentation.

4.1   Notebook Multimedia Features

Your notebook computer is rich in multimedia features that make your computing fun, comfortable, exciting and easy. Your computer is well able to perform all multimedia tasks through the following:

- Intel® Pentium® M microprocessor powered by Intel® Centrino™ Mobile Technology

- Up to 1GB DDR SDRAM

- Optical disk drive for DVD/CD watching/playing and CD making

- Integrated Intel graphics engine.

- 16-bit Audio Sound System with built-in speaker and microphone.

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 right 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.

- 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, **Programs**, **Accessories**, then **Entertainment**, you will find the Multimedia programs group. (The section below use Window XP as examples)

Figure 4-1   Entertainment 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 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 comprise of the Fast Rewind, Fast Forward, Play, Stop, and Record buttons. 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 external microphone

- From the optical disk drive

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. If you want to record from the optical disk drive with audio music, you must click on CD Player.

Figure 4-4 Recording Volume Control

USING AN EXTERNAL MICROPHONE

Your computer allows you to connect an external microphone for high quality recording. The external microphone jack is found on the right side of your computer. Use only microphone with 1/8-inch mini-jack connector. Follow the same procedure for recording voice.

USING THE BUILT-IN OPTICAL DISK DRIVE

You would normally use the optical disk drive for recording audio music from the Audio CD. Follow these steps:

1. Activate CD Player volume on the Recording Control as discussed earlier.

2. Run the Sound Recorder program.

3. Insert the audio CD into the optical disk 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.

Figure 4-5 Play Audio CD by Windows Media Player

4. Select the starting point where you want to start recording.

5. Switch to the Sound Recorder and press the Record button.

6. 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.

4.6   Playing Audio and Sound

Your computer has 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 right 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 **Windows Media Player** to start program.

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.
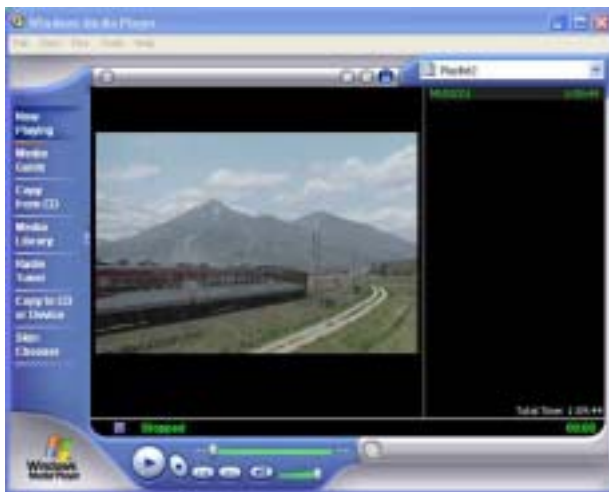
Figure 4-6 Windows Media Player

4.8 Using Rewritable Optical Disk Drive Function

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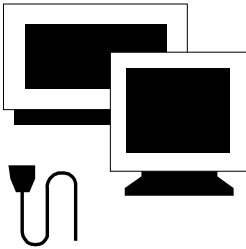
This chapter describes how you attach peripheral devices to your notebook. You can attach a printer or mouse; connect an external monitor and keyboard, or any other peripheral device. You will learn how to use these peripheral devices with the step-by-step instructions depicted in this chapter.

5.1   Using 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 floppy drive, mouse, digital cameras, scanners, printers, CD-RW drives, modems, keyboards, games devices and 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.*

5.2   Using an External Monitor Port

Your computer has a 15-pin Monitor port for supporting any external CRT or LCD color monitor. 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. Although you can connect the external Monitor without power off the computer and the external monitor, however, it is harmful to both devices and it shortens the life of these devices.*

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 on 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 or projector and shut off the LCD display, you can use the <**Fn**> + <**F3**> hot-key to switch display type between LCD and external monitor. Keep pressing the hot-key until you get the display to external monitor only.
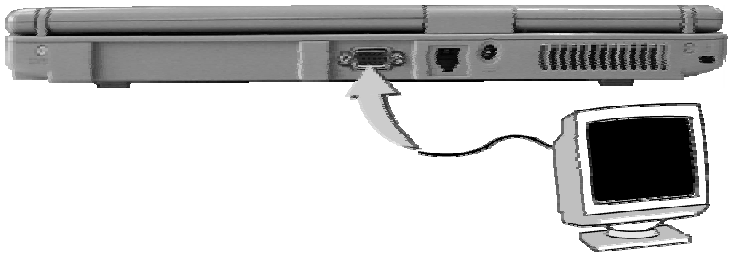
☞ *Refer to Chapter 3 regarding the possible External CRT resolutions and how to change the display properties.*

5.3   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 left of the notebook. IEEE 1394 becomes an ideal for devices that need to transfer high speed 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.

☞ *Please make sure that the external IEEE 1394 HDD box you purchase on local electronic store should provide external power adapter. There are different types of IEEE1394 HDD box and hard disk from different manufactures, the power consumption has varied range. If the power of the external IEEE 1394 HDD is supplied from the USB of this notebook, it may not run properly.*

5.4 Using the External Audio System

At the right side of your computer, you will find the built-in audio ports. You can connect Microphone jacks, earphone or powered speaker.

To connect to a audio jack:

1. Locate the audio port (Microphone, Headphone) that you want to use to the target device.

2. Plug the jack into the port on the right 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.*

5.5 Using the LAN Port

This notebook comes with an 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.

The built-in LAN module provides a standard RJ-45 connector.

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.

5.6   Using the Wireless LAN

Wireless LAN is the major breakthrough in computer communication technology. It lets user connect to the LAN environment without using any wire to traditional RJ-45 jack. User can enjoy the wireless connection within the range of Access Point (AP) of LAN.

Access Point (AP) is the wireless transmission and receiving device, it generally connects to the server of a LAN environment or act as a LAN hub with wireless connection. Access point can be set in an office environment, airport, major railway station, etc. that depends on the construction of each country. In

most case, you probably can use it at office, please consult with the network department of your company for more details.

This computer integrates built-in IEEE 802.11b or 802.11 a/b wireless LAN module, with using Intel ® PRO/Wireless network solution by Intel ® Centrino™ mobile technology. IEEE 802.11b standard supports 11 Mbps wireless connection speed. You can connect to the wireless LAN Access Point without insert extra wireless LAN card into the PCMCIA slot.

Wireless LAN module is similar to LAN module. You need to install software driver before using it. Please refer to chapter 2.5 on how to install the driver.

5.7   Using the Modem Port

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 built-in fax/data modem provides on standard phone connector.

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.*

6 Customizing Your Notebook
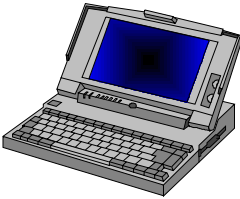
Your computer uses the Phoenix BIOS Setup program that allows you to set several system configuration in changing the way your computer performs. This includes your system time and date, disk drive configuration and password setup. This information is then stored in the CMOS RAM and will remain permanent 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 is 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

Phoenix BIOS Setup Utility					
	Main	Advanced	Security	Boot	Exit

		Item Specific Help
System Time:	[12 :00 :00]	<Tab>, <Shift-Tab>, or <Enter> selects field.
System Date:	[02/19/2003]	
LAN MAC Address	00-40-CA-C3-9A-07	
Boot Display Device:	[Both]	
▶ Primary Master	[30006MB]	
Secondary Master	Installed CD/DVD	
System Memory:	640 KB	
Extended Memory:	112640 KB	
CPU Type:	Intel Pentium-M Processor	
CPU Speed:	1300 MHz	
BIOS Version:	A.1A-2973-0812	

F1	**Help**	**↑ ↓**	**Select Item**	**-/+**	**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 reach 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 reach 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.

- LAN MAC Address
  This field reports the MAC address of the LAN module on your
  notebook.

- Boot Display Device
  Lets you select the display device.

- Primary Master
  This field display 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 and other value can be edited.

- Secondary Master
  This field is for information only as the BIOS automatically detects the
  optical drive.

- 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

Phoenix BIOS Setup Utility				
Main	Advanced	Security	Boot	Exit

Primary Master: [30006MB]		Item Specific Help
Type:	[Auto]	Select the drive type
	LBA Format	corresponding to the
Total Sectors:	[58605120]	fixed disk installed
Maximum Capacity:	30006MB	in your system.
		If type USER is
Multi-Sector Transfers:	[16 Sectors]	selected, Cylinders,
LBA Mode Control:	[Enabled]	Heads & Sectors are
32 Bit I/O:	[Disabled]	Edited directly.
Transfer Mode:	[FPIO 4/DMA 2]	
Ultra DMA Mode:	[Mode 5]	

F1	Help	↑ ↓	Select Item	-/+	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

Phoenix BIOS Setup Utility				
Main	Advanced	Security	Boot	Exit

		Item Specific Help
NumLock	[.ockOn]	Selects Power-on state for NumLock
Embedded Share Memory	[16MB]	
Quiet Boot	[Enabled]	
Screen Expansion	[Disabled]	
Legacy USB Support	[Enabled]	
USB 2.0	[Enabled]	
PXE OPROM	[Disabled]	
Wake on LAN from S5:	[Enabled]	
▶ I/O Device Configuration		

F1	Help	↑ ↓	Select Item	-/+	Change Values	F9	Setup Defaults
Esc	Exit	←-->	Select Menu	Enter	Select ▶ Sub-Menu	F10	Save and Exit

- Num-Lock
  Lets you specify Enabled or Disabled for activating or inactivating Num-Lock function when system is booting.

- Embedded Share Memory
  Lets you specify the sharing memory size of the Video chip from DDR SDRAM. The Default sharing size is 32MB. You should carefully specify the value, since while the set value is too high, the memory size of your software application will be reduced.

- Quiet Boot
  Lets you specify the boot screen to Logo screen or POST screen by choosing Disabled or Enabled, respectively.

- Screen Expansion
  Lets you choose full-size screen or reduced size screen for viewing the display mode.

- Legacy USB Support
  Lets you specify Enabled or Disabled for activating or inactivating Legacy USB Device function when system is booting.

- USB 2.0
  Lets you specify Enabled or Disabled for activating or inactivating USB 2.0 Device function when system is booting.

- PXE OPROM
  Lets you specify Enabled or Disabled for activating or inactivating PXE OPROM Device function when system is booting. Please set it to default value

- Wake on LAN from S5
  Lets you activate or inactivate the LAN function when system is booting by specifying Enabled or Disabled option. Wake on LAN is a function that you can boot the system from LAN remotely.

- 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	

			using options:
Parallel port:		[Auto]	
Mode:		[Bi-directional]	[Disabled]
			No configuration,
			[Enabled]
			User configuration,
			[Auto]
			BIOS or OS chooses
			configuration,
			(OS Controlled)
			displayed when
			controlled by OS

F1 Help	**↑ ↓**	**Select Item**	**-/+**	**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 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 by BIOS or OS.

- Mode
  Allows you to select a parallel mode as 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 and IRQ for this port.

6.4 Security Menu Setup

Phoenix BIOS Setup Utility				
Main	Advanced	Security	Boot	Exit

		Item Specific Help
Supervisor Password Is	Clear	Supervisor Password
User Password Is	Clear	controls access to the
Set Supervisor Password	[Enter]	setup utility.
Set User Password	[Enter]	
Set Primary Hard Disk Password	[Enter]	
HDD Password Status	Clear	
Password on boot	[Disabled]	
I/O Security		
Modem:	[Enabled]	
LAN:	[Enabled]	
1394/CARDBUS:	[Enabled]	
USB:	[Enabled]	
Wireless LAN:	[Enabled]	

F1	Help	↑ ↓	Select Item	-/+	Change Values	F9	Setup Defaults
Esc	Exit	←-->	Select Menu	Enter	Select ▶ Sub-Menu	F10	Save and Exit

- Supervisor Password Is
  This field will show Set or Clear that means whether this notebook is controlled by Supervisor Password or not.

- User Password Is
  This field will show Set or Clear that means whether this notebook is controlled by User Password or not.

- 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.

- Set Primary Hard Disk Password
  This password gives you the authority in accessing the Hard Disk. 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.

- HDD Password Status
  This field will show Set or Clear that means whether this notebook is controlled by HDD Password or not.

- Password on Boot
  If you set this field to Enabled, your computer will ask for the password each time you boot your computer.

- Modem
  Lets you specify Enabled or Disabled for activating or inactivating Modem Device function when system is booting.

- LAN
  Lets you specify Enabled or Disabled for activating or inactivating LAN
  Device function when system is booting.

- 1394/CARDBUS
  Lets you specify Enabled or Disabled for activating or inactivating
  1394/CARDBUS Device function when system is booting.

- USB
  Lets you specify Enabled or Disabled for activating or inactivating USB
  Device function when system is booting.

- Wireless LAN
  Lets you specify Enabled or Disabled for activating or inactivating
  Wireless LAN Device function when system is booting.

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.

Phoenix BIOS Setup Utility				
Main	Advanced	Security	Boot	Exit

	Item Specific Help

F12 Multi Boot Menu: [Enabled]
 	
PXE Boot with WOL: [Disabled]
 	
Boot Sequence:
          +Hard Drive
          Removable Devices
          CD-ROM Drive
	Keys used to view or configure devices:
	<Enter> expands or collapses devices with a + or -
	<Ctrl+Enter> expands all
	<Shift + 1> enables or disables a device.
	<+> and <-> moves the device up or down.

F1	Help	↑ ↓	Select Item	-/+	Change Values	F9	Setup Defaults
Esc	Exit	←-->	Select Menu	Enter	Select ▶ Sub-Menu	F10	Save and Exit

- F12 Multi Boot Menu
  Lets you specify Enabled or Disabled for activating or inactivating the Multi Boot function by pressing F12 function key when system is booting.

- PXE Boot with WOL
  This field is for information only as whether the BIOS can automatically
  detect the PXE Boot with WOL status or not.

- Boot Sequence
  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.

6.6   How to Exit the Setup Program

There are two choices to escape from the Setup program.

Phoenix BIOS Setup Utility				
Main	Advanced	Security	Boot	Exit

	Item Specific Help
Exit Saving Changes	Exit System Setup
Exit Discarding Changes	and save your
Load Setup Defaults	changes to CMOS.
Discard Changes	
Save Changes	

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.

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)  or
   A:\>XXXXXX.BAT (Batch file for BIOS file)
   ```

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
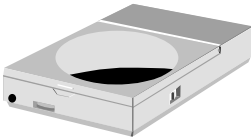
This chapter describes the most advanced features and expandable architecture in your notebook. You can upgrade your memory size to your system for specific requirements.

7.1 System Upgrade

This section provides some steps in doing system upgrade for your notebook computer. The upgrade procedures include the following:

MEMORY UPGRADE

Your notebook computer offers 200-pin SODIMM (Small Outline Dual Inline Memory Module) at least 128MB DDR-SDRAM. The memory compartment is located on the bottom of your computer. The table below lists the possible combinations of different memory module and memory size.

☞ *Please contact dealer for changing or adding DDR-SDRAM module. It is not available for users to change it by themselves.*

Based Memory	Installing Memory	Total
128 MB	0 MB	**128 MB**
128 MB	128 MB	**256 MB**
128 MB	256 MB	**384 MB**
128 MB	512 MB	**640 MB**
256 MB	0 MB	**256 MB**
256 MB	128 MB	**384 MB**
256 MB	256 MB	**512 MB**
256 MB	512 MB	**768 MB**
512 MB	0 MB	**512 MB**
512 MB	128 MB	**640 MB**

Based Memory	Installing Memory	Total
512 MB	256 MB	**768 MB**
512 MB	512 MB	1024 MB

INSTALLING MEMORY MODULE

Your computer comes with standard 128MB, 256MB or 512MB of synchronous DDR SDRAM . You can increase system memory to a maximum of 1024 MB in the system, by installing one small outline double inline memory modules (SO-DIMMs) with installed base memory in the system.

The 128MB, 256MB or 512MB 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.
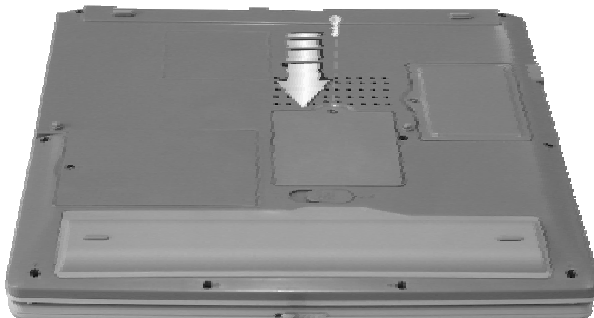
3. Remove the screw and open the DIMM cover by your finger.

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.

7.2   Hard Disk Upgrade

This section provides the steps in upgrading the hard disk for your notebook computer. The upgrading procedures include the following:

UPGRADE HARD DISK

Your notebook computer offers one 2.5" format, 9.5mm height hard disk. If the volume does not fit your need or it is crashed, you can upgrade it by replacing with new hard disk. Please do the following steps to change it.

1. Remove the screws and open the cover by lifting its upper side cover.

2. Take out the hard disk from the compartment by finger carefully

3. Remove the crane screws located at each side of the hard disk.

4. Remove the connector from the hard disk gently.

5. Attach the connector to the new hard disk precisely.

6. Rotate and tighten the crane screws to the new hard disk.

7. Place the hard disk back to the compartment and push the hard disk forward into the connector side of the computer until the hard disk is attached to the computer.

8. Cover the lid, then rotate and tighten the screws.

9. Set the boot device as optical disk drive and Primary Master as Auto on BIOS setup menu. Please refer to Chapter 6 about the setting of BIOS setup menu. Then, boot the system by using WinXP CD-ROM and the system will detect the hard disk automatically and prompt you how to format the new disk.

☞ *Please tighten the screws located at each side of the hard disk before operating the hard disk. Any vibration may cause damage for the running hard disk.*

☞ *Please contact dealer or certified technician for changing the hard disk drive. Any damage that caused by inappropriately adding or changing this HDD will not be under warranty*

7.3 Wireless Module Installation

This computer uses Intel ® PRO/Wireless 802.11b or 802.11 a/b wireless LAN module for wireless connection.

☞ *Please contact dealer for adding or changing this module. Any damage that caused by inappropriately adding or changing this module will not be under warranty*

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 your are unsure of your local power specifications, consult your dealer or local power company.

- Place the power cord in such a way that people can not 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 body of 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 can not 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 60ºC (140ºF) 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 an 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 operator's 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 backup your data files from your hard disk.

- Install the 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. 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 **Disk Defragmenter** of Windows. 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 1 month without plugging in the power adapter.

- Do not leave battery in storage for more than 2 months without recharging it to prevent over discharge. Over discharge will hurt the battery

- Dispose dead battery properly to protect the environment. The batteries contain hazardous chemicals and should not be thrown out with household or office trash.

- You should always discharge your battery before recharging it on either of these two conditions: first, this is the first time you start to use your battery; second, you had not charge the battery for more than 2 months. To discharge the battery, please execute the "Battery Refresh" function in the BIOS Setup Utility.

8.6   When You Travel

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

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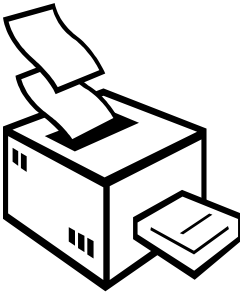
This appendix gives information on the technical and hardware specifications of your computer. Please note that the information mentioned here may not be exactly the same with your computer as specification is subject to change without notice or modifying this manual.

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.

PROCESSOR UNIT

- Intel ® Pentium ® M processor by Intel ® Centrino™ mobile technology

- Above 1.3 GHz Intel ® Pentium ® M CPU

- 1024KB integrated L2 cache for the processor

SYSTEM MEMORY

- Two 200-pin memory slots

- User-upgradeable to maximum 1024MB using 144-pin SODIMM 128MB, 256MB and 512MB modules

- PC-266 DDR SDRAM modules

LCD DISPLAY

- 15" XGA (1024x768) or SXGA+ (1280 X 1024) Color TFT LCD

- Maximum 16M true colors on all LCD display

VGA SYSTEM

- Integrated Intel graphic engine

- Simultaneous LCD and external monitor (CRT) display

- Maximum 16 million colors on LCD display at 1280 x 1024 resolution for 15" LCD

- Maximum 16 million colors on external monitor or projector at 1280 x 1024 resolution (Non-Interlaced)

STORAGE

- 2.5" Format 9.5mm High HDD Module; Bus Mastering, Ultra DMA ATA-100 Support for LBA Scheme

- Enhanced IDE bootable optical disk drive

AUDIO SYSTEM

- Full-duplex 16-bit stereo speaker with wavetable support

- H/W Audio Sound Blaster 16 compatible

- Built-in dual speakers

- Audio input jacks for microphone (MIC)

- Audio output jack for external speaker or headphone (Line-Out)

- Built-in Thumb Wheel Volume Control

PCMCIA

- 32-bit CardBus PCI Local Bus PCMCIA controller

- Supports 2 x Type II PC cards

- Supports 32-bit Cardbus Cards, and 16-bit PC Cards

GLIDE PAD

Integrated Glide Pad (Serial/USB mouse) pointing device with left, right and scroll buttons.

KEYBOARD

- Full-sized 88-keys keyboard with Windows systems hot-keys, inverted T-cursor keys, 6 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

- 3 x Universal Serial Bus (USB 2.0) (1 set for U-Disk only)

- 1 x 15-pin VGA (CRT)

- 1 x IEEE 1394 port

- 1 x LAN port

- 1 x Modem port

WIRELESS DEVICES

- 802.11b or 802.11 a/b Wireless LAN (Intel ® PRO/Wireless network solution by Intel ® Centrino™ mobile technology)

AC/DC POWER SUPPLY ADAPTER

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

BATTERY

- Rechargeable 8 Cells Li-ion battery pack or 4 Cells slim battery pack with Smart Battery function

- Above 4 hours of usage with 8 Cells Li-ion battery pack (when run ZD Battery Mark diagnostic program)

WEIGHT AND DIMENSION

- 330 x 281 x 28.7mm (front) -32.7mm

- 6 lbs, 2.8kg