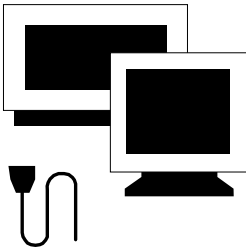# 5   Connecting to Peripherals

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 Port

Your computer has one 9-pin male serial port for connecting an external serial GPS, mouse or PDA. The serial (RS232) port of your computer is normally referred to as COM1.

For advanced system like Windows XP, the system can detect and install suitable driver for the serial mouse automatically when you plug the mouse connector to the computer. If the system you are using does not support this function, please install the driver as follows

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   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.
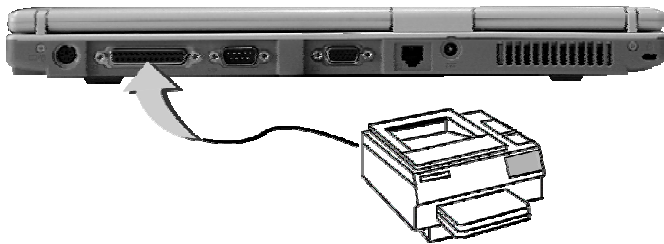
☞ *When you connect a printer, be sure to install the appropriate printer driver through the Windows Control Panel.*

☞ *Check that the device is online before you try to use it. See the instructions that came with the device for more information.*
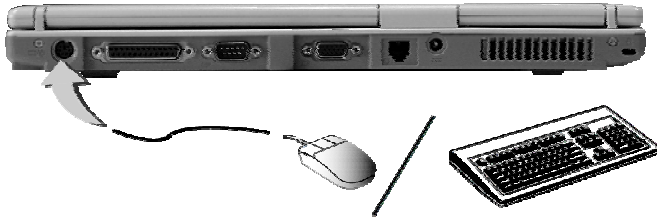
5.3 Using an External Keyboard (PS/2)

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.

For advanced system like Windows XP, the system can detect and install suitable driver for the PS/2 mouse automatically when you plug the mouse connector to the computer. If the system you are using does not support this function, please install the driver as follows

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.*

5.4   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.*

5.5   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.
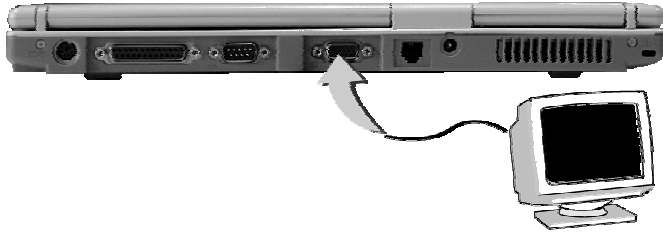

☞ *Refer to Chapter 3 regarding the possible External CRT resolutions and how to change the display properties.*

5.6   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.
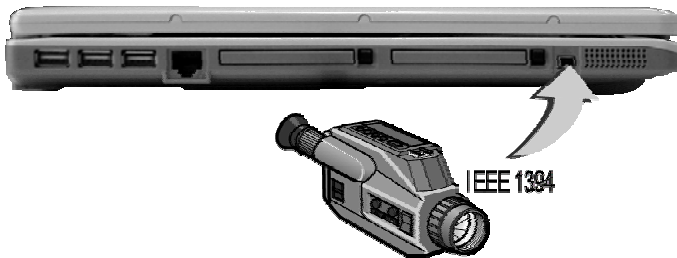
☞ **Please make sure that the external IEEE 1394 HDD box you purchase on local electronic store should provide external power adapter. There are different types of IEEE1394 HDD box and hard disk from different manufactures, the power consumption has varied range. If the power of the external IEEE 1394 HDD is supplied from the USB of this notebook, it may not run properly.**

5.7 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.*

5.8   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.

5.9   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.

5.10 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.
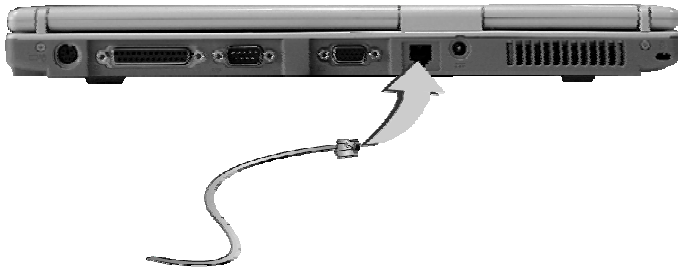
☞ **The speed of data transmission is dependent on the quality of telephone lines. Digitally terminated lines improve the speed of data transmission. Contact your service provider for more information.**

☞ **The analog phone cable is an industry standard cable. Longer cables are available at your local electronics store.**

6   Customizing Your Notebook
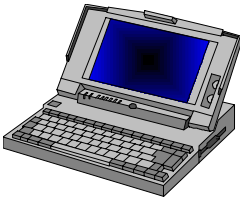
Your computer uses the Phoenix BIOS Setup program that allows you to set several system configuration in changing the way your computer performs. This includes your system time and date, disk drive configuration and password setup. This information is then stored in the CMOS RAM and will remain permanent 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>、
System Date:	[02/19/2003]	or <Enter> selects
LAN MAC Address	00-40-CA-C3-9A-07	field.
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 I/O DEVICE CONFIGURATION 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]	Keys used to view or configure devices:
PXE Boot with WOL: [Disabled]	<Enter> expands or collapses devices with a + or -
Boot Sequence:	<Ctrl+Enter> expands all
+Hard Drive	<Shift + 1> enables or disables a device.
Removable Devices	<+> and <-> moves the device up or down.
CD-ROM Drive	

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 Discarding Changes Load Setup Defaults Discard Changes Save Changes	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.

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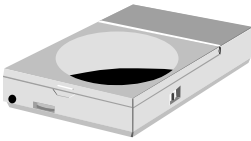
This chapter describes the most advanced features and expandable architecture in your notebook. You can upgrade your memory size to your system for specific requirements.

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.

| 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**
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.
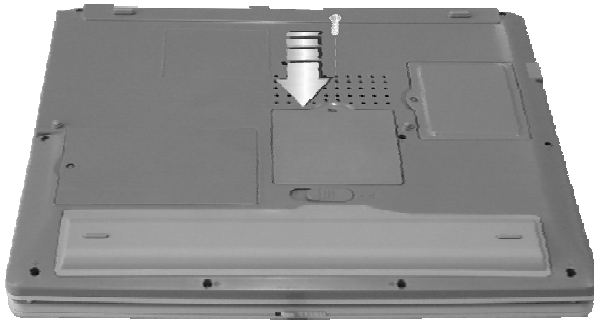
3. Remove the screw and open the DIMM cover by your finger.

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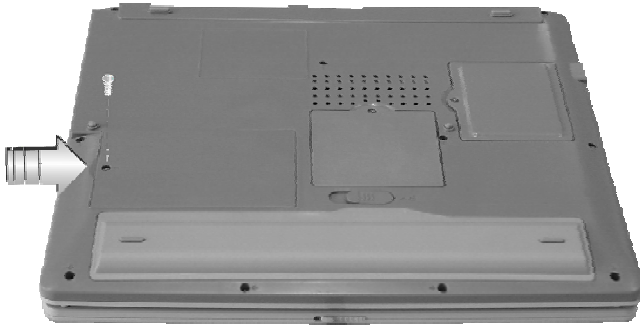
2. Take out the hard disk from the compartment by finger carefully

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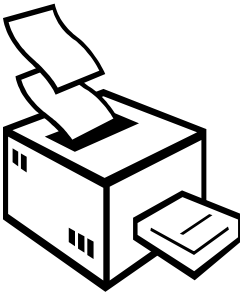
This appendix gives information on the technical and hardware specifications of your computer. Please note that the information mentioned here may not be exactly the same with your computer as specification is subject to change without notice or modifying this manual.

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 200-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 1800 x 1440 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, 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

- 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