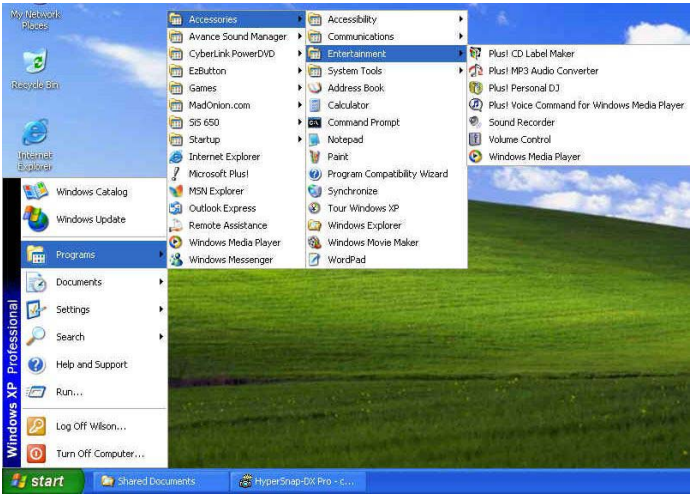


Figure 4-1 Entertainment Programs Group

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 speakers or earphone jack using an external speakers, 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 Line-in audio
- 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.

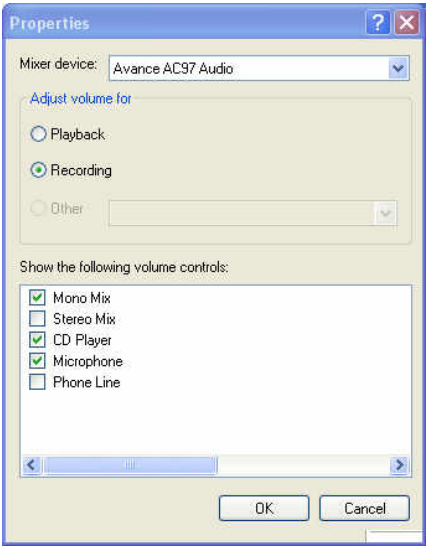


Figure 4-3 Audio Properties

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.

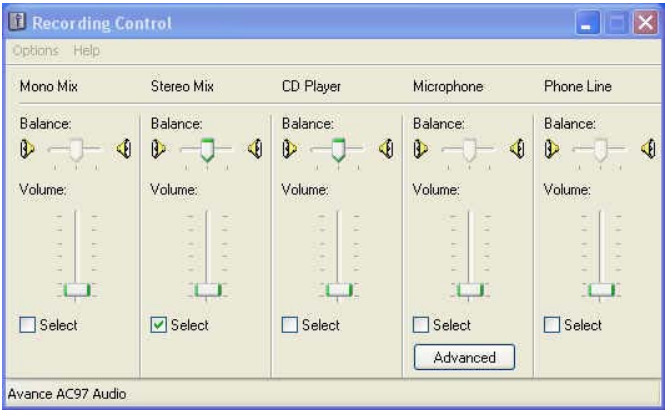


Figure 4-4 Recording Volume Control

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 left 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

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

4.6 Playing Audio and Sound

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

For more quality sound output, you can choose to connect an external amplified speakers 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 DVD

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

To playback DVD titles, you would need a software MPEG-2 program and the optional DVD/CD-RW combo or DVD+RW Device Pack.

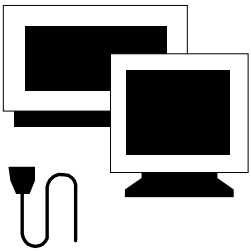
☞ ***For best DVD playback, please enable the DMA function of this notebook, for how to enable the DMA channel on both optical disk drive and Hard Disk, please refer to driver installation on section 6 of chapter 2. Moreover, you can enable Hardware Accelerator if the software MPEG-2 player you are using has supported this function.***

4.9 Using rewritable optical disk drive

CD-RW/DVD combo or DVD+RW combo drive is a device that can write digital data to CD-R and CD-RW or DVD+R and DVD+RW media. 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, optical disk drive, modems, keyboards, games devices and acting as additional plug-in sites, or hubs.

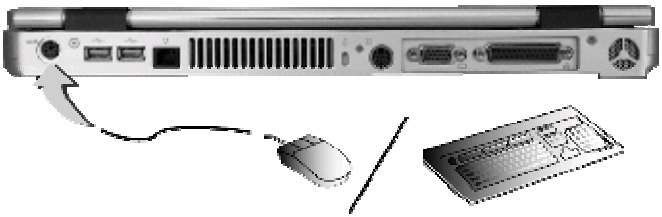
☞ ***Depending on your operational requirements, you may need to disable other ports in order to release system resource for the USB port.***

5.2 Using an External Keyboard (PS/2)

At the rear side 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. 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.***

5.3 Using an External Monitor Port

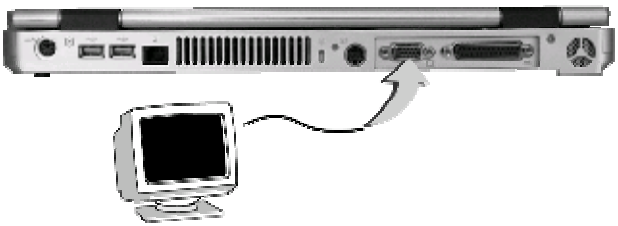
Your computer has a 15-pin Monitor port for supporting any external CRT or LCD color monitor. You need a display signal cable (usually provided with the monitor). One end of the cable must have a 15-pin connector for the system.

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



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

5.4 Using the IR Port

Your computer can equip with an industry standard IR port that allows enhanced wireless connection with infrared built-in devices like PDAs, printers, and portable computers. The IR port is Infrared Data Association (IrDA) compatible that makes use of the second COM port or COM2 of your computer. The transfer rate for SIR is 115.2Kbit/sec. The transfer rate for FIR is 4Mbit/sec.

To connect to another IR equipped device:

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

5.5 Using the TV Port

You can setup the detail by operating the computer as follows.

Also found at the back of your computer is one S-Video port.

To display your computer screen on the TV, please connect the TV port of this notebook to the Video Input of the TV set. You can press <**Fn**> + <**F3**> key continually to switch between TFT, external monitor, TFT+external monitor (display simultaneously), and TV only. Keep pressing the hot-key until you get the display to external TV only.

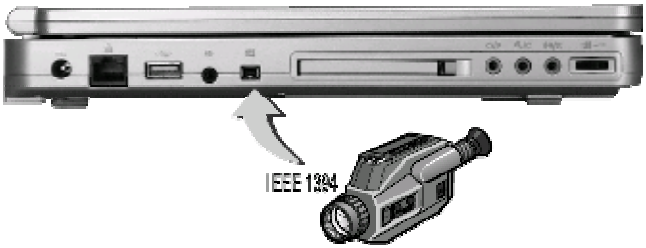
1. Turn off your computer and plug one end of the S-Video jack cable to the end to the input video jack of your television set.
2. Turn on your computer and your television set.
3. Click the **Start** button, then point to **Settings**, and click **Control Panel**.
4. Double-click on the **Display** icon and point to **Setting** tab.
5. Click **Advanced** button and point to **Displays** tab. You can see the **TV** icon on the screen.
6. Please click the red button above the TV icon. Click **OK**, Windows now automatically detect the TV port and enable this function.

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 side of the notebook. IEEE 1394 becomes an ideal for devices that need to transfer high speed data in real-time.

With built-in IEEE 1394 port, this computer enables the peripheral devices in transmitting digital video data or data backup. The Windows system will automatically recognize it in installing a suitable driver for 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 left side of your computer, you will find the built-in audio ports. You can connect SPDIF port, audio line-in jack, Microphone jacks, earphone or powered speakers.

To connect to a audio jack:

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

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

5.8 Using the LAN Port

This notebook comes with a 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.

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 (BTO)

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, fast food shop...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 mini-PCI 802.11b wireless LAN module. 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 2.6 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.

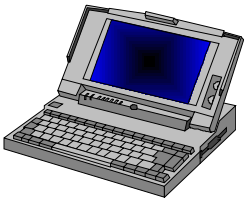
To connect the analog phone cable to your modem:

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 Internet 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 is 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
```

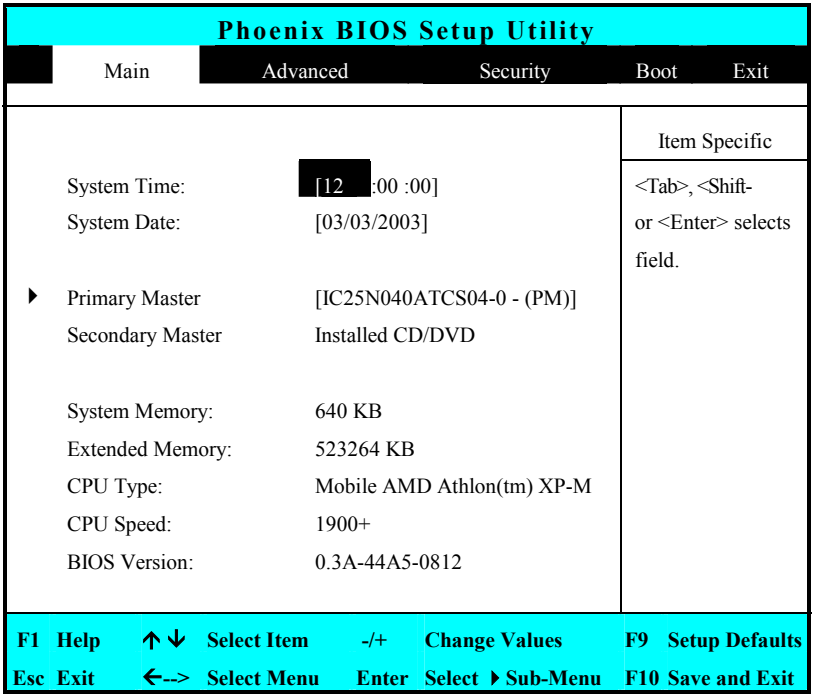
Press the <**F2**> key to run the BIOS Setup program. The BIOS Setup program is organized into five menus which you can select using the <-- and --> keys. To move from one option to another, you use the up and down arrow keys while using the <F5> and <F6>, or <+>and <–> keys to change the settings. On 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



- 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.

- 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 can be edited.

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

- System Memory
  This field reports the amount of base (or conventional) memory found by the BIOS during Power-On Self-Test (POST).

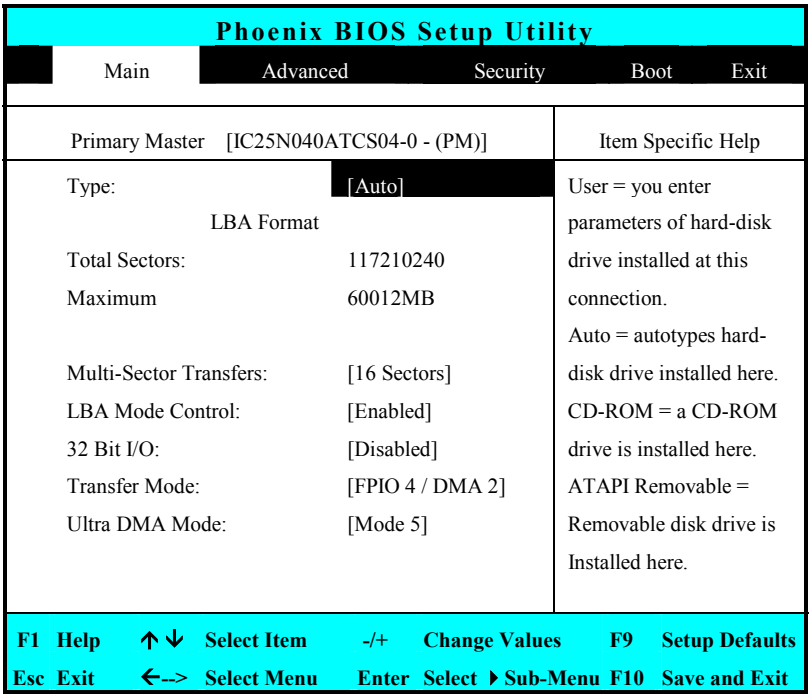
- Extended Memory
  This field reports the amount of extended memory found by the BIOS during Power-On Self-Test (POST).

- 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).

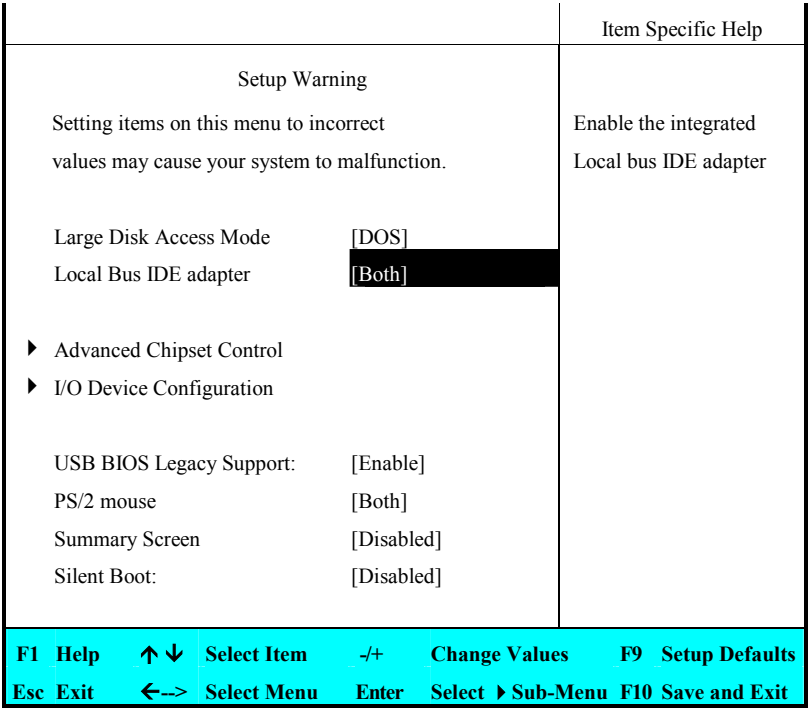
- BIOS Version
  This field is for information only as the BIOS displays the BIOS version during the Power-On Self-Test (POST).

6.2.1 INTERNAL HDD SUB-MENU



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

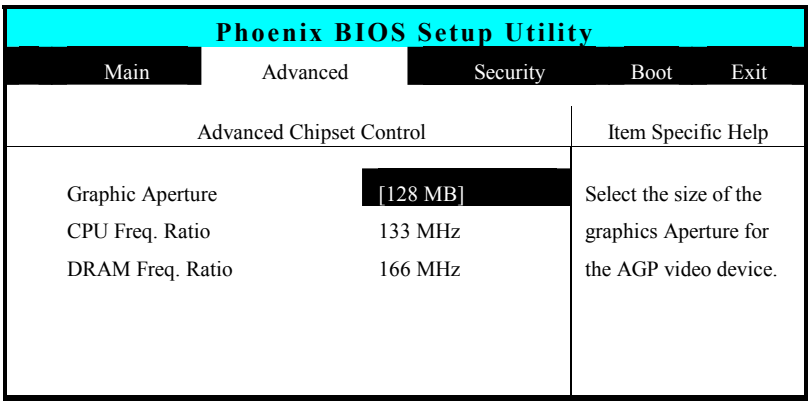


- Large Disk Access Mode
  Allows you to set the Disk Access Mode for different operating system. For Windows system, please select [DOS]. For system other than Windows system, for example, UNIX, Novell NetWare, please select [Other]. If the drive fail when you install a new operating system, please change it to different selection and try again.

- Local Bus IDE adapter
  Lets you specify Enabled or Disabled for activating or inactivating Local Bus IDE when system is booting. Local Bus IDE is the transmission bus for HDD and optical disk drive.

- Advanced Chipset Control
  Allows you to set or view the parameter of Chipset.
- I/O Device Configuration
  Lets you configure input/output device such as Serial Port, Parallel Port.
- USB BIOS Legacy Support
  Enable or disable support for USB floppy drive.
- PS/2 Mouse
  [Disabled] prevents any installed PS/2 mouse from functioning. [Both] activate both the glide pad and external PS/2 mouse. [Auto] will disable the glide pad function if you had installed the external PS/2 mouse
- Summary Screen
  Displays system configuration on boot.
- Silent Boot
  Lets you specify the boot screen as Logo screen, POST screen by choosing Enabled, Disabled respectively.

6.3.1 I/O ADVANCED CHIPSET CONTROL SUB-MENU



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

- Graphic Aperture
  Select the size of the graphics Aperture for the AGP video device.
- CPU Freq. Ratio
  This field reports the base CPU Frequency Ratio detected by the BIOS during Power-On Self-Test (POST). The real CPU Frequency Ratio is equal to base CPU Frequency Ratio times certain value. So the value here is not the real Frequency of your CPU.
- DRAM Freq. Ratio
  This field reports the base DRAM Frequency Ratio detected by the BIOS during Power-On Self-Test (POST). The real DRAM Frequency Ratio is equal to base DRAM Frequency Ratio times certain value. So the value here is not the real Frequency of your DRAM.

6.3.2 I/O DEVICE CONFIGURATION SUB-MENU

Phoenix BIOS Setup Utility

Main | Advanced | Security | Boot | Exit

I/O Device Configuration		Item Specific Help
Infrared port:	[Auto]	Configure Infrared port using options: [Disabled] No configuration, [Enabled] User configuration, [Auto]
Parallel port:	[Enabled]	
Mode:	[EPP]	

						BIOS or OS chooses configuration,	
F1	Help	↑ ↓	Select Item	-/+	Change Values	F9	Setup Defaults
Esc	Exit	←-->	Select Menu	Enter	Select ▸ Sub-Menu	F10	Save and Exit

- Infrared port
  You can select the Enabled, Disabled, or Auto option for enabled or disabled the port, or automatically sensed by BIOS or OS. If you select Enable, you also need to set the IR mode, Base I/O for the IR device.
- Parallel port:
  You can select the Enabled, Disabled, or Auto option for enabled or disabled the port, or automatically sensed by BIOS or OS. If you select Enable, you also need to set the Parallel port mode (EPP, ECP, Bi-directional).

6.4 Security Menu Setup

Phoenix BIOS Setup Utility

Main	Advanced	Security	Boot	Exit

		Item Specific Help
Supervisor Password Is	Clear	Supervisor Password controls access to the setup utility.
User Password Is	Clear	
Set Supervisor Password	[Enter]	
Set User Password	[Enter]	
Password on boot	[Disabled]	
Fixed disk boot sector	[Normal]	

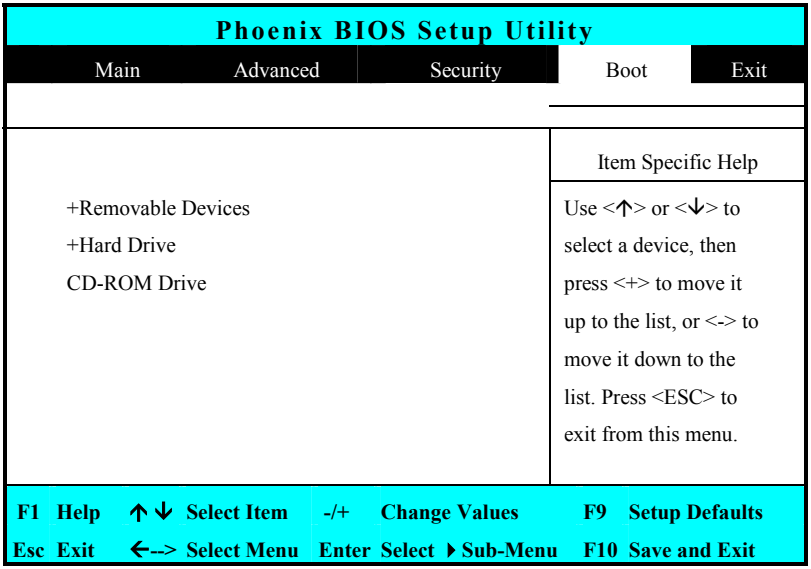
F1	Help	↑ ↓	Select Item	-/+	Change Values	F9	Setup Defaults

Esc Exit	←--> Select Menu	Enter Select ▸ Sub-Menu	F10 Save and Exit

- Supervisor Password Is
  Set/Clear selections show that the notebook is under controlled by Supervisor Password or not.
- User Password Is
  Set/Clear selections show that the notebook is under 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.
- Password on Boot
  If you set this field to Enabled, your computer will always ask for the password every time you boot your computer.
- Fixed Disk Boot Sector
  If you set this field to Write Protect, the write protect boot sector on hard disk will protect against viruses. In this situation, only the supervisor can access the Boot Sector of fixed disk.

6.5 Using the Boot Setup

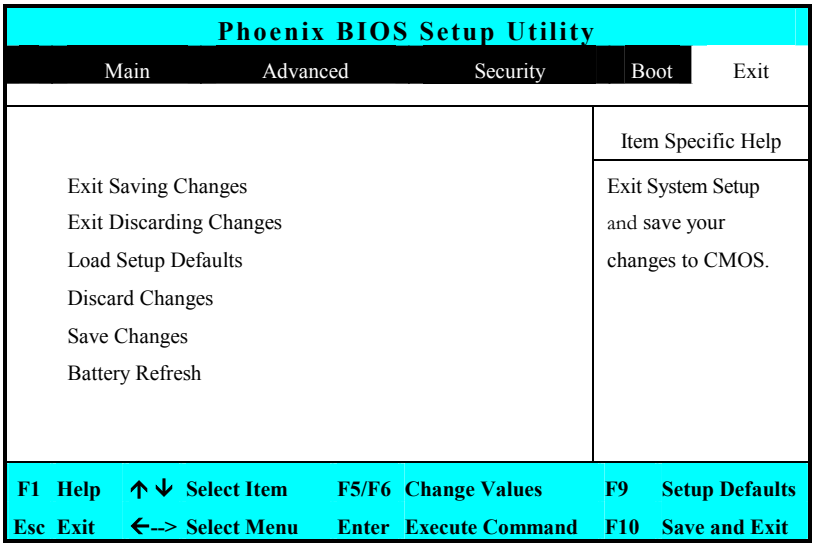
This item allows you to set the search drive sequence where the system will try to boot up first.



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

6.6 How to Exit the Setup Program

There are two choices to escape from the Setup program.



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

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

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 MS-DOS startup diskette with BIOS Update driver into the USB diskette drive.
2. Power on the system with the diskette in the diskette drive.
3. On the DOS prompt, type the following command.

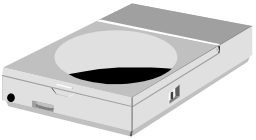
   A:\>Phlash *XXXXXX.ROM (BIOS filename) or*
   A:\>*XXXXXX.BAT (Batch file for BIOS file)*
4. Press <Enter> to run this BIOS utility. After the system has been successfully run this program, a message similar to the following appears:

   ```
   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.

It is necessary to prepare a USB Floppy Drive by yourself for BIOS upgrading. If you don't have MS-DOS startup disk, please make one. Insert one diskette into the floppy disk drive. Double click **My Computer** on the desktop. Click the right button on the icon of **3 1/2 Floppy (A:)**, and then select **Format** command. In the format windows, tick **Create a MD-DOS startup disk** and then click **Start** bottom to create an MS-DOS startup diskette.

7 System Upgrade



This chapter describes how to upgrade your system. You can upgrade your memory size to your system for specific requirements. This section provides an easy step in doing system upgrade for your notebook computer. The upgrade procedures include the following.

7.1 System Upgrade

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

MEMORY UPGRADE PROCEDURES

Your notebook computer offers two memory slots using 200-pin SODIMM (Small Outline Dual Inline Memory Module) at least 128MB DDR SDRAM. The memory compartment is located just under your computer.

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**
1024 MB	0 MB	**1024 MB**
1024 MB	128 MB	**1152 MB**
1024 MB	256 MB	**1280 MB**
1024 MB	512 MB	**1536 MB**

Based Memory	Installing Memory	Total
1024 MB	1024 MB	**2048 MB**

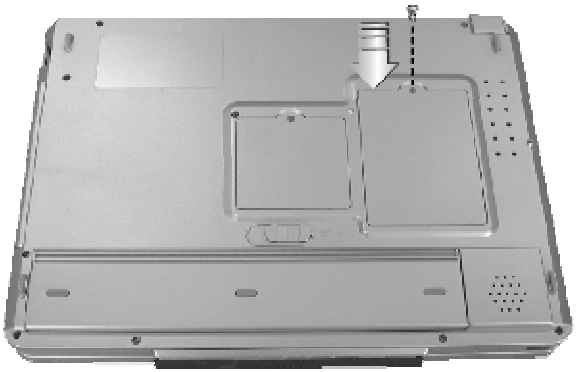
INSTALLING MEMORY MODULE

Your computer comes with standard 128MB, 256 MB, 512MB or 1024MB of synchronous DDR SDRAM. You can increase system memory to a maximum of 2048 MB in the system, by installing two small outline double inline memory modules (SO-DIMMs) with installed base memory in the system.

The 128MB, 256MB, 512MB and 1024MB memory modules 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 Wireless Module Installation

This computer uses mini-PCI wireless LAN module at the bottom of this notebook 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

Notebook computer is very convenience at business, entertainment and many aspects in daily life. Its probability provides you to use it at different environment. Misuses the notebook computer may cause damage, shorten computer's life, or even injure human body. Here is the guideline to take care of your notebook and to operate it safely.

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 3 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. If you had pour liquid (water, coffee...) on the openings (keyboard, for example), please process as following procedures.
  - ➟ Disconnect the AC power and remove battery immediately without shutting down the Windows system.
  - ➟ Turn over the notebook upside-down to emit the liquid
  - ➟ Contacts qualify service personnel to repair it.
  - ➟ Do not try to power on the notebook unless you are sure that the liquid does not penetrate into the electronic devices or the notebook is dry completely (for liquid like water only). Power on the wet notebook will cause serious damage on the computer.

- 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, 0.75mm^2, 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.

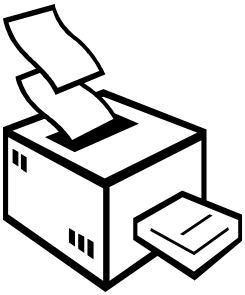
8.6 When You Travel

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
Hardware System Information



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

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

System Specification

PROCESSOR UNIT

- AMD Socket A processor
- Up to 2600+ AMD Mobile AthlonXP CPU 266 MHz FSB
- 512KB integrated L2 cache

SYSTEM MEMORY

- Two 200-pin memory slots
- User-upgradeable to maximum 2048 MB using 200-pin SODIMM 256MB, 512MB and 1024MB module
- DDR 333/400 SDRAM modules

LCD DISPLAY

- 15.4" WXGA (1280x800) Color TFT LCD
- Maximum 16M true colors on all LCD display

VGA SYSTEM

- AGP Local Bus VGA Accelerator.
- Integrated ATI Mobility RADEON 9600 Pro graphic engine with maximum 64MB video memory
- Simultaneous LCD and external monitor (CRT) display

- Maximum 16 million colors on LCD display at 1280x800 resolution on external monitor.

STORAGE

- 32-bit PCI Enhanced IDE interface with LBA mode
- 9.5mm height Ultra DMA 100/133 HDD
- Enhanced IDE bootable CD-ROM drive module
- Optional CD-RW/DVD combo drive that can be replaced with CD-ROM
- Optional DVD+RW combo drive that can be replaced with CD-ROM
- 4 in 1 (SD, MMC, SmartMedia, Memory Stick) card reader
- One U-disk socket for flash memory U-disk

AUDIO SYSTEM

- Full-duplex 16-bit stereo speakers with wavetable support
- H/W Audio Sound Blaster 16 compatible
- Built-in two speakers
- Stereo Line-In Jack for connecting an external audio device.
- Audio input jacks for microphone (MIC)
- Audio output jack for external speakers or headphone (Line-Out)
- Digitized audio SPDIF port for high quality signal transmission.
- Adjusting the volume manually by the thumb-wheel volume control

PCMCIA

- 32-bit CardBus PCI Local Bus PCMCIA controller

- Supports 1 x Type II PC card
- Supports 32-bit Cardbus Cards, and 16-bit PC Cards

POINTING DEVICE

- Integrated Glide Pad pointing device with left, right and scroll buttons.
- RF wireless mouse with left, right buttons and scroll wheel.

KEYBOARD

- Full-sized 88 keys keyboard with Windows systems hot-keys, inverted T-cursor keys, 5 hot keys, 12 function keys, embedded numeric keypad and two easy buttons.
- 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 PS/2 port
- 1 x 15-pin VGA (Monitor)
- 1 x S-Video TV port
- 1 x IEEE 1394 port
- 1 x LAN port
- 1 x Modem port

INFRARED PORT

1 x IR port

820.11b Wireless LAN (BTO)

AC/DC POWER SUPPLY ADAPTER

Universal auto-switching 90W (100V~240V) adapter

LSE0202A1990 power supply adapter

BATTERY

- Rechargeable 8 Cells Li-ion battery pack with Smart Battery function
- 2 hours of usage (when run ZD Battery Mark diagnostic program)
- 2 ~ 2.5 hours quick charge (computer turn off)
- M4 series Li-Ion battery pack

WEIGHT AND DIMENSION

- 357 mm x 255 mm x 28 (front) ~ 34 mm