

# **SD02**

# **User Guide**

# Notice

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Rev 1.0

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## *Preface*

### **Using This Manual**

This User's Manual contains general information about the hardware and software setup, troubleshooting, and technical specifications of the XPC computer.

### **Symbols and Conventions**

The following conventions and symbols are used in this manual:

- When a series of clicking actions is needed in Windows O/S, [ ] and > symbols are used. For instance, [Start > Settings > Control Panel > Display] means clicking the Start icon first, then the Settings, then the Control Panel, then the Display icon.
- When you need to make a selection with the mouse, you will be asked to 'select' or 'click' or 'double-click', 'right-click' the item.



**Note:** Text in this format and symbol means specific instructions, commentary, sidelights, or any additional information or notes that you should be aware of.

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**Warning:** Text in this format and symbol means that failures to comply with the given instructions or information could result in damage to your computer or could cause bodily harm or loss of life.

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## **Protecting Your Computer - Avoid Abusive Handling and Adverse Environment**

Follow the advice below will help ensure that you get the most out of your Investment.

Your computer will serve you well if you take good care of it.

- Do not expose the computer to direct sunlight or place it near sources of heat.
- Do not subject it to temperatures below 0oC (32oF) or above 30oC (86oF).
- Do not expose the computer to magnetic fields.
- Do not expose the computer to moisture or rain.
- Do not spill water or liquid on the computer.
- Do not subject the computer to adverse shock and vibration.
- Do not expose the computer to dust and dirt.
- Do not place objects on top of the computer to avoid damaging the computer.
- Do not place the computer on rocky surfaces.
- Here are some ways of taking care of your AC adapter.
- Do not connect the adapter to any devices other than your computer.
- Do not let water get into the adapter.
- Do not block the ventilation airway of the adapter.
- Keep the adapter in a cool and ventilated place.
- Do not step on the power cord or place heavy objects on top of it.
- Carefully tuck away the power cord and any cables away from pedestrian traffic.
- When unplugging the power cord, do not pull on the cord itself but pull on the plug.
- Keep the adapter away from children.

- The total ampere ratings of the equipment plugged in should not exceed the ampere rating of the cord if you are using an extension cord.
- The total current rating of all equipment plugged into a single wall outlet should not exceed the fuse rating.
- Do not connect other AC adapter to your XPC. This Computer uses exclusively the AC adapter: ENG 78W

When cleaning the computer, observe these steps:

1. Power off the computer and remove the battery pack.
2. Disconnect the AC adapter.
3. Use a soft cloth dampened with water. Do not use liquid or aerosol cleaners.

Contact your dealer or see your service technician if any of the following occurs:

- Computer has been dropped or the body has been damaged.
- Liquid has been spilled into the product.
- The computer does not operate normally.

Cleaning the Ventilation Grills:

It is suggested that you clean the ventilation grills regularly to maintain optimal thermal regulation of the XPC Computer.

To do this, you may use a soft brush or a vacuum cleaner (with appropriate head adapter) to remove the dust buildup on the ventilation grills.

## **Chapter Summaries**

The following is a summary of the available chapters and appendices in this manual.

### **Chapter 1: Getting to Know the Basics**

In this chapter, you will learn the basic operations and features of your XPC Computer. It gives you a general understanding of the components of your computer.

### **Chapter 2: BIOS Setup**

In this chapter, you will learn how to change various firmware settings and what the settings mean.

### **Chapter 3: Trouble-Shooting**

In this chapter, you will learn how to solve common hardware and software problems.

### **Appendix A: Product Specification**

In this section, you will find a list of the computer's system specifications.

### **Appendix B: Agency Regulatory Notices**

In this section, you will find the general electro-magnetic and safety regulatory information.

# C H A P T E R O N E

## GETTING TO KNOW THE BASICS

This chapter introduces the features and components of the XPC computer.

## Performance Features

### ■ High Performance Processor with the 945GM Chipset

The XPC Computer is equipped with a powerful Intel Core Duo, Core Solo, or Celeron M four Series processor. Together with the latest Intel 945GM chipset and technologies, the system offers very advanced PC performances.

### ■ Integrated Graphic Engine GMA950

The new Intel Graphics Media Accelerator 950 (Intel GMA 950) graphics core creates visual excitement with smooth, high-quality video playback, advanced 3D capabilities and support for all your display needs.

### ■ Built-in Multiple Card Reader

There is built-in 4-in-1 card reader to access many of the portable media formats (SD Card, MS Card, MMC Card, and MS-Pro Card).

### ■ Ethernet Port

The system provides built-in 10/100Mbps Ethernet network adapter for high bandwidth network connection.

### ■ USB2.0 ports

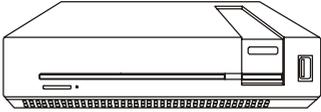
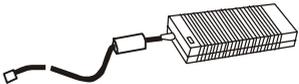
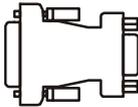
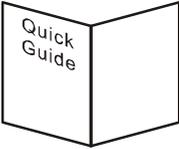
In addition to a full array of built-in I/O ports, the computer offers USB2.0 ports to connect to any USB-based peripheral devices.

### ■ Wireless LAN

The internal Wireless LAN module allows your computer to connect wirelessly to other 802.11-enabled systems, devices, or network.

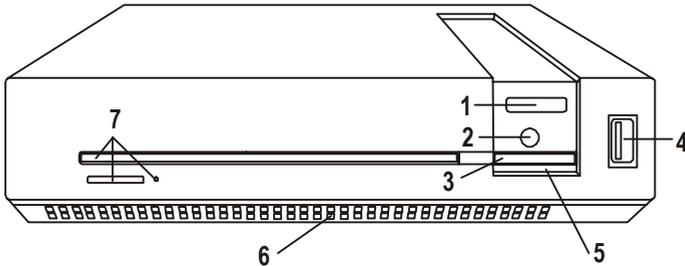
## Package Content

Please take a moment to make sure you have the following content in the box.

	
<p>XPC</p>	<p>Vertical Stand</p>
	
<p>AC Adapter</p>	<p>DVI-to-D-sub VGA Converter</p>
	
<p>AC Adapter Cable</p>	<p>CD Driver</p>
	
<p>Quick Guide</p>	<p>Dual Monitor Cable(option)</p>

## System At A Glance

### Front View



**Warning:** Do not place any heavy objects on the top of computer. This may damage the unit

#### 1. Power / Suspend Button

The power/suspend button turns the computer on and off and it also acts as a system suspend key. Press momentarily to turn on the system. Press and hold for at least 4 seconds to turn off the system. How this key behaves can be defined in [Start > Settings > Control Panel > Power Options > Advanced] menu. Press the power / suspend button again to return from the suspend mode.

#### 2. IR Receiver for MCE remote controller (Option)

To use the remote control, just point it at the XPC and press a button. Use the remote control at a maximum distance of 26 feet (8 meters) from the remote sensor and at a maximum of 45 degrees (90 degrees total) from the center of the remote sensor.

**3. 4-in-1 Card Reader**

The 4-in-1 Card Reader supports SD Card, MS Card, MMC Card, and MS-Pro Card.

**4. USB2.0 Port (x1)** 

The Universal Serial Bus (USB2.0-compliant) port allows you to connect a wide variety of devices to your computer at a rate of up to 480 Mbps. This port conforms to the latest USB2.0 plug-and-play standards.

**5. Power Status LED Lamp**

The LED displays the power status of the system. The steady blue light indicates that the computer is powered on. The blinking blue light indicates that the computer is in suspending mode.

**6. Ventilation Grill**

The fan grill is where air is exchanged to dissipate the internal heat. Do not block this airway completely.

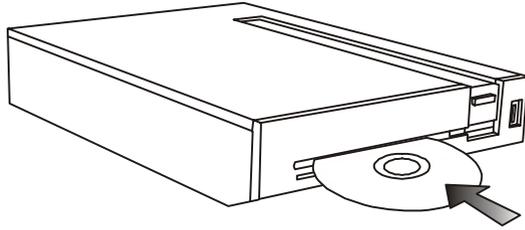
**7. Optical Drive, Disk Eject Button and Disk status LED Lamp**

If your computer comes with the Combo drive, DVD-RW, DVD+RW, or DVD-Dual drive, you may save data onto a CD-R / CD-RW or DVD RW disc. Press the eject button to eject the disk tray.

This is a tray-less (slot-in) type of Optical Drive.

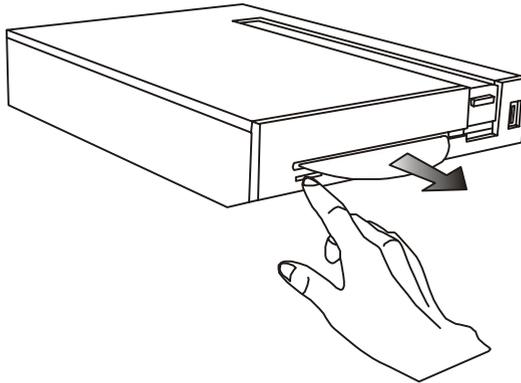
To Load a CD:

Gently insert the disc into the slot opening and XPC will automatically load-in the rest of the disc.

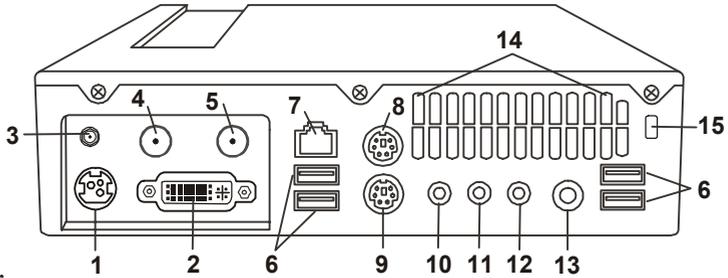


To Eject a CD:

Push the Eject Button and the disc will be ejected automatically.



## Rear View



**Warning:** Do not block the Fan Grill outlet. Place the machine on hard surface only. The bottom case may get very hot.

### 1. Power Jack (DC-in)

The DC-out jack of the AC Adapter connects here and powers the computer.

### 2. DVI Port



The DVI video output port is for connecting the external LCD monitor or projector.

You may use the DVI-to-D-sub VGA converter to connect to any monitor or projector that has the VGA input connector.

Support Dual monitor Display (option): By using Dual Monitor Cable (see package content), you can use the DVI and D-sub port connect to two monitors at the same time.

### 3. Wireless Router Internet Connection (Option)

You can connect the Shuttle Digital Hub to a 802.11/b/g wireless network.

**4. TV Cable Port (Option)**

Plug the connector of a coaxial cable from your TV cable (wall) into the Cable/Ant connector on the back of XPC.

**5. FM Radio Antenna Port (Option)**

You can connect the FM radio antenna.

**6. USB2.0 Port (x4)**



The Universal Serial Bus (USB2.0-compliant) port allows you to connect a wide variety of devices to your computer at a rate of up to 480 Mbps. This port conforms to the latest USB2.0 plug-and-play standards.

**7. Ethernet / LAN Port**



The port connects to a network hub via the RJ-45 cable and also conforms to 10/100Base-TX transmission protocol.

**8. PS/2 Mouse Port**



**& 9. PS/2 Keyboard Port**



The PS/2 Mouse port is situated at the top of the PS/2 Keyboard port. Plug the PS/2 keyboard and mouse jacks into their corresponding ports.

**10. Stereo Headphone**



**/ Line-out Jack**



The stereo headphone jack (3.5-mm diameter) is where you connect to the headphones or external speakers.

**11. Audio Line-in Jack** 

The Audio Line-in jack (3.5-mm diameter) is where you connect an external audio input source such as a CD Player.

**12. Microphone Jack** 

The microphone jack (3.5-mm diameter) is where you connect a microphone.

**13. S/PDIF-out Jack** 

You may connect the coaxial output to an external DTS, AC3, or PCM sound processor / decoder in your home stereo system.

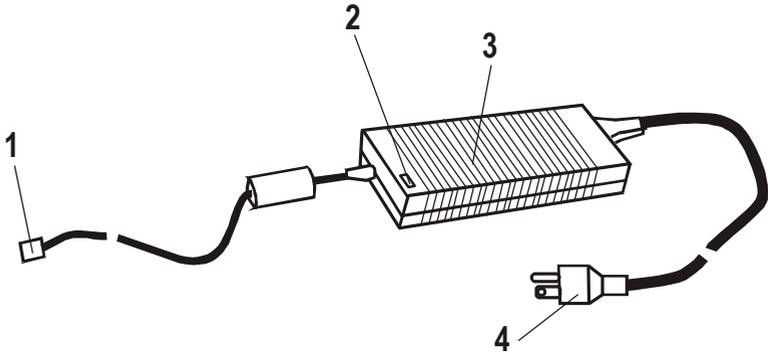
**14. Ventilation Grill**

The fan grill is where air is exchanged to dissipate the internal heat. Do not block this airway completely.

**15. Safe-Lock**

When you want to move this machine, please make the safety-lock be locked in order to keep it from damage by inner collision.

## AC Adapter



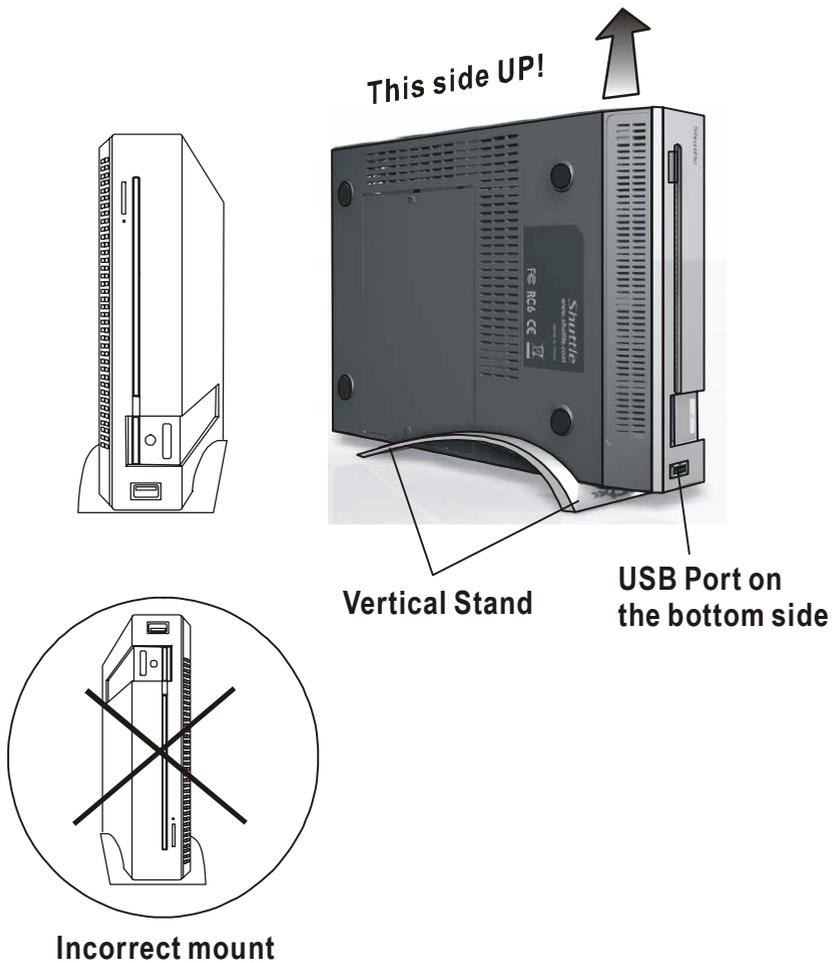
1. **DC-out Connector**  
The DC-out connector docks to the power jack (DC-in) on the computer.
2. **LED Lamp**  
The LED lamp appears green when the unit is plugged into a valid AC source.
3. **Adapter**  
The adapter converts alternating current into constant DC voltage for the computer.
4. **AC Plug**  
Plug the AC plug to the AC wall outlet.



**Warning:** Make sure that you are using a standard 3-prong AC plug with a ground pin. If not, you may feel a slight tingling sensation when you touch the computer's metal parts such as the I/O ports. This is caused by a leakage current when the AC adapter is not properly grounded via the ground pin. However, the amount of leakage current is within the safety regulation and is not harmful to the human body.

## Using the Vertical Stand

The vertical stand allows you to mount the system vertically; however, you must position the system in a correct manner to prevent thermal-related issue. The following illustration shows you how to correctly position the system onto the stand.

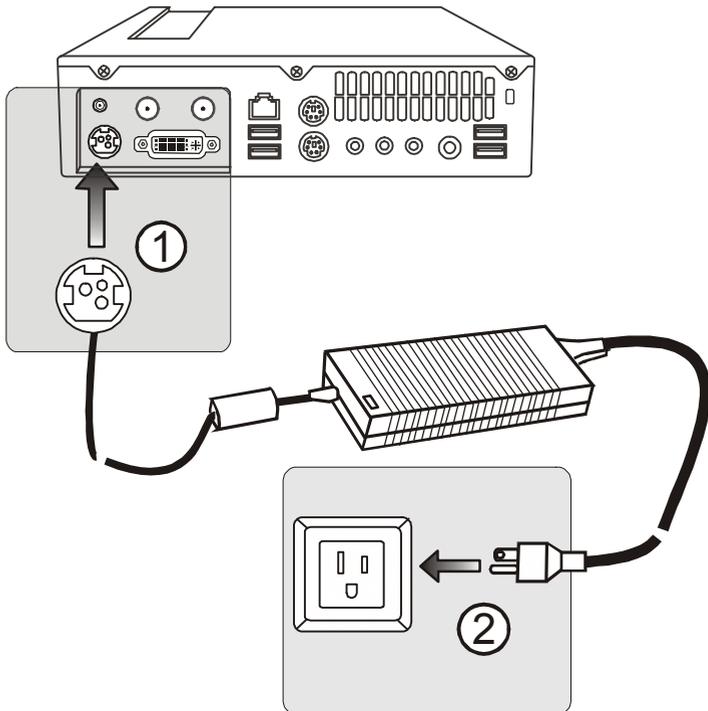


## Connecting the System

Before turning on the system, you need to connect the following devices to the XPC first. Please follow the steps according to the illustrations.

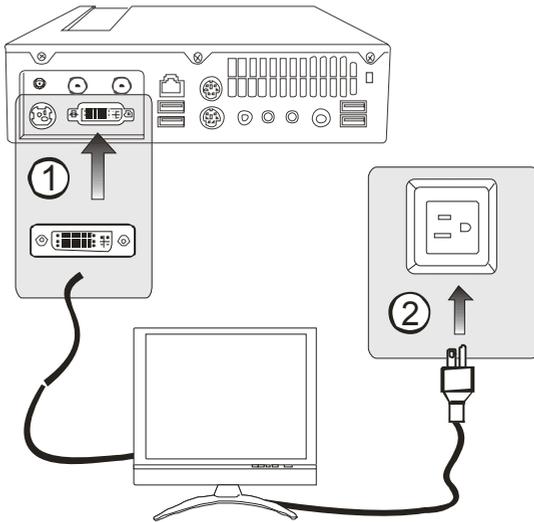
### 1. Connecting Power

Note: The DC-in connector will only fit in a certain orientation. Make sure the LED on the AC Adapter is lit. Do not press the Power (ON) button yet.

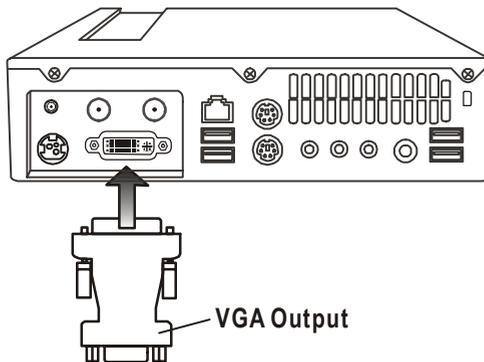


## 2. Connecting Monitor

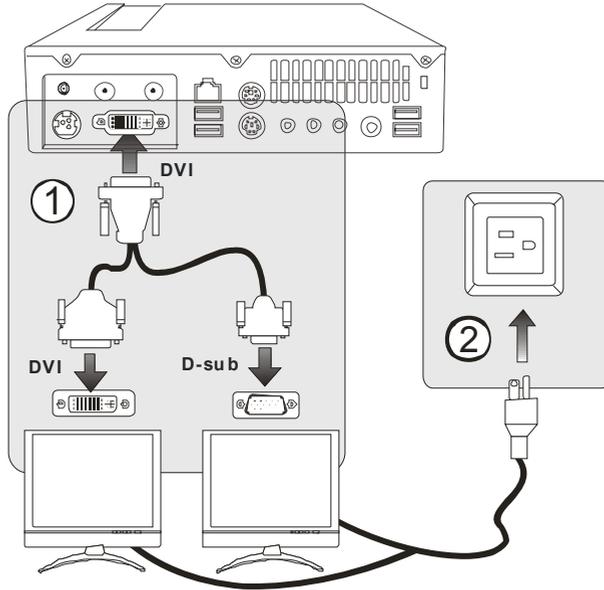
Note: The DVI connector will only fit in a certain orientation.



Note: If your monitor only has the VGA input connector, you may plug-in the DVI-to-D-sub VGA connector to get VGA output from the computer.



Note: Dual Display mode (option)

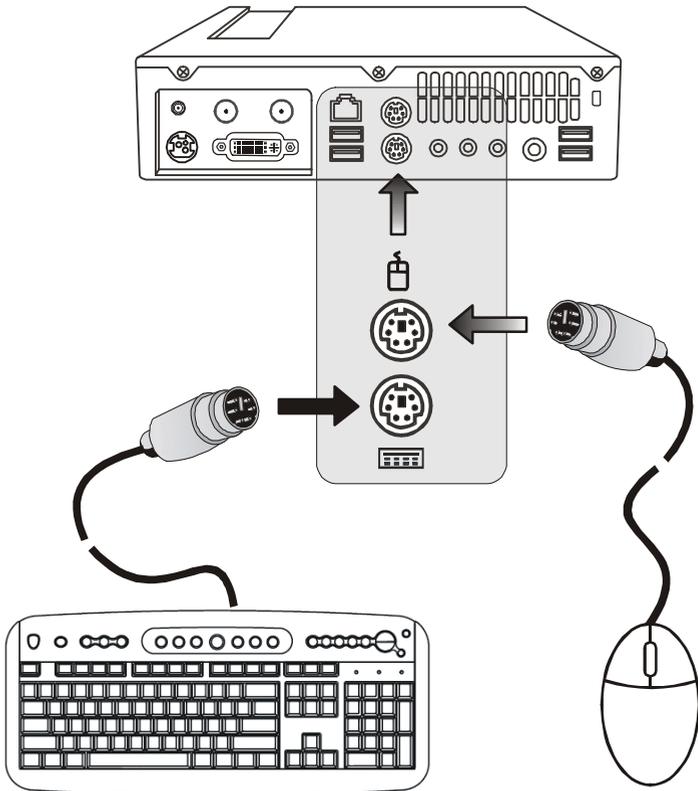


### 3. Connecting Keyboard and Mouse

#### PS/2Keyboard and PS/2Mouse

Note: You may plug the Mouse and keyboard to the PS/2 Mouse & PS/2 Keyboard ports on the system.

Note: The computer does not come with the keyboard and mouse.

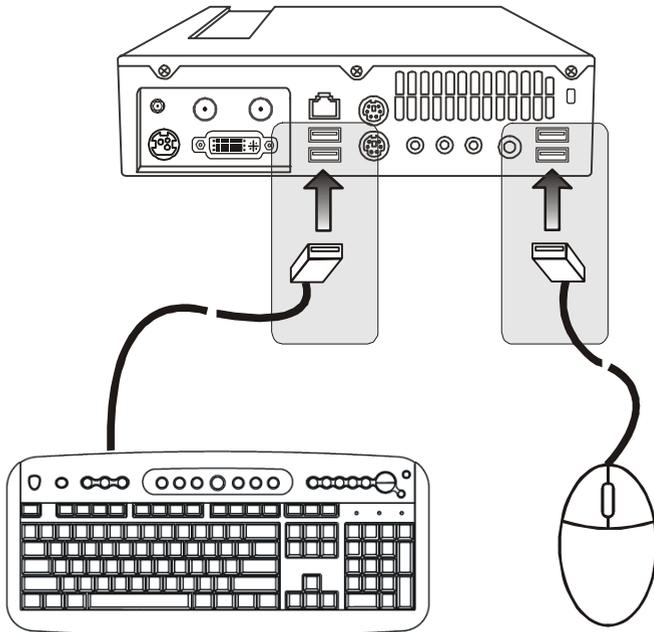


## USB Keyboard and USB Mouse

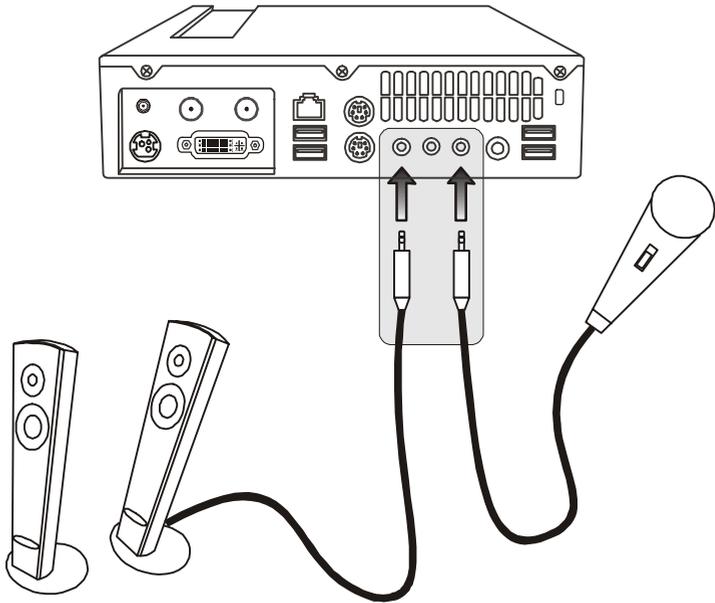
Note: You may plug the USB keyboard and Mouse to any of the available USB port on the system.

Note: The computer does not come with the keyboard and mouse.

Note: The USB Keyboard does not support the Power-On and Wake-Up functions.



## 4. Connecting Speaker and Microphone



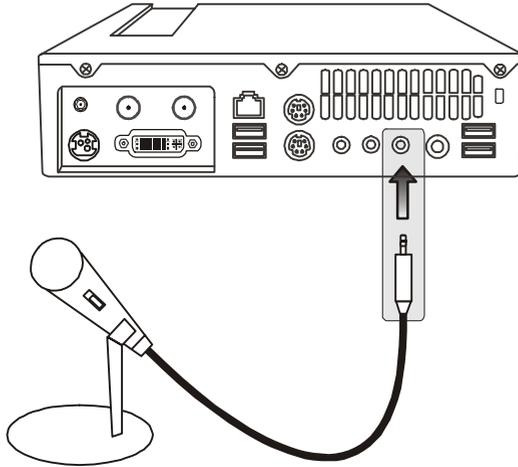
Note: Please make sure that the external speaker is connected to a proper power source.

### Adjusting the Audio Volume in Windows

1. Click the speaker symbol in the task tray in Windows.
2. Drag the volume control bar up or down to adjust the volume.
3. To temporarily silence the speaker without changing the volume setting, click Mute.

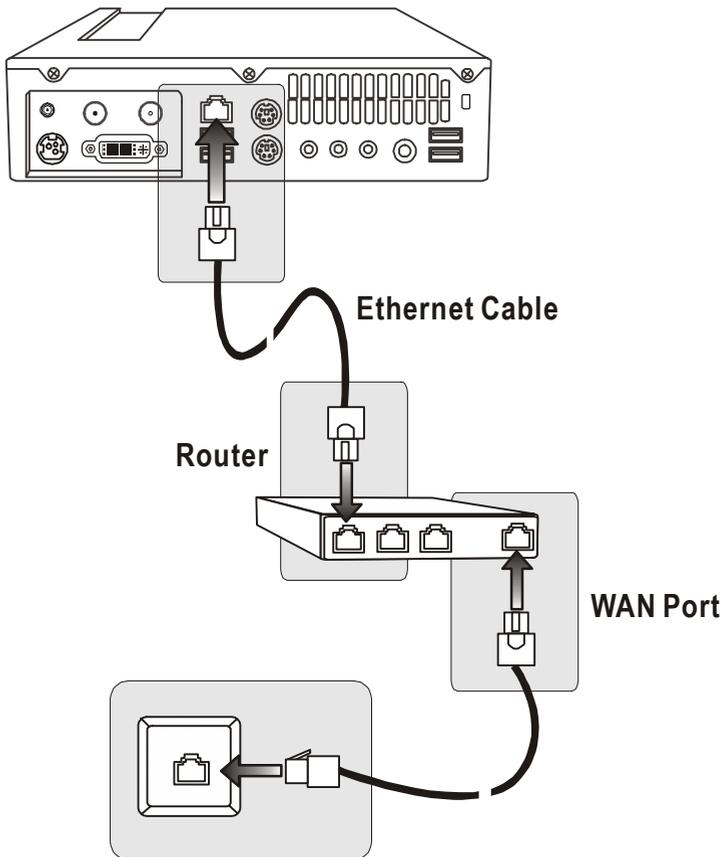
## Voice Recording

You will need an external microphone to record sound. You will need to use audio processing software to enable the built-in microphone. For example, you may use Microsoft Sound Recorder.



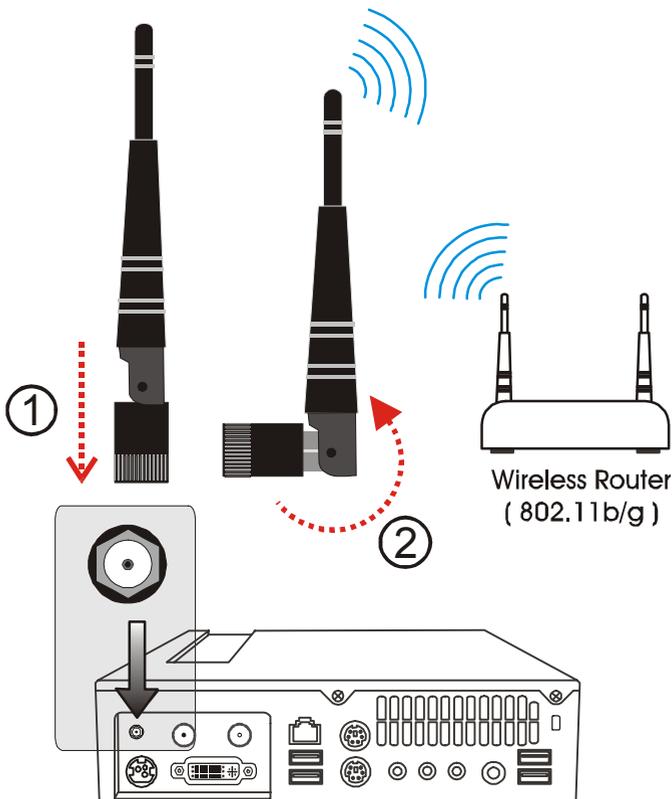
## 5. Connecting to LAN

Note: The following illustration shows you how XPC may be connected to the Network via a Router. If you do not have a Router and/or do not need one, you may connect the Ethernet Port directly to the Network Ethernet Port via an Ethernet (RJ45-type) cable. Please refer to the *Ethernet Section* later in this chapter to learn more about cabling restrictions.



## 6. Connecting the Wireless Network Antenna (Option)

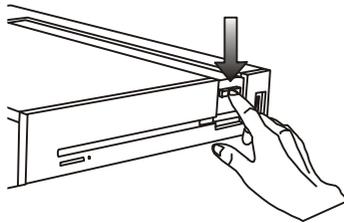
Note: The 802.11 b/g wireless LAN allows you to connect to the Internet from other devices that are compatible with the 802.11 b/g wireless LAN. You can establish a wireless network using your XPC as a Wireless Access Point or you can use your XPC as a client if you already have a wireless network functioning. You need an existing wireless LAN network with an Internet connection (please consult your ISP for further information).



## 7. Powering on the system

You may now turn on the system by pressing the Power (ON) button.

After the system has successfully booted to Windows, you may connect additional devices such as a USB printer, PC camera to the system. Once you plug in the device, Windows will search for its driver. If Windows can not find the driver, you may need to provide the device's Factory Installation CD to complete the installation process. Check the device's user manual for detailed instruction.

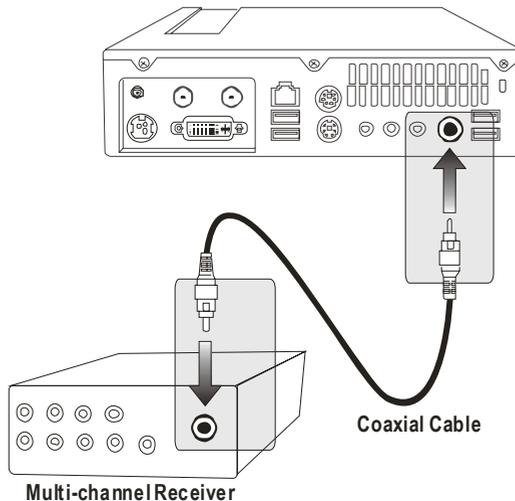


## Audio Subsystem – How to Enable the 7.1 Multi-channel Surround Sound System

The system only has a stereo mini-jack that provides line-out signal to a two-speaker configuration. However, if you have the Home Theater Receiver with 7.1 Multi-channel speaker output, you may use the following illustration to build a 7.1-channel entertainment system.

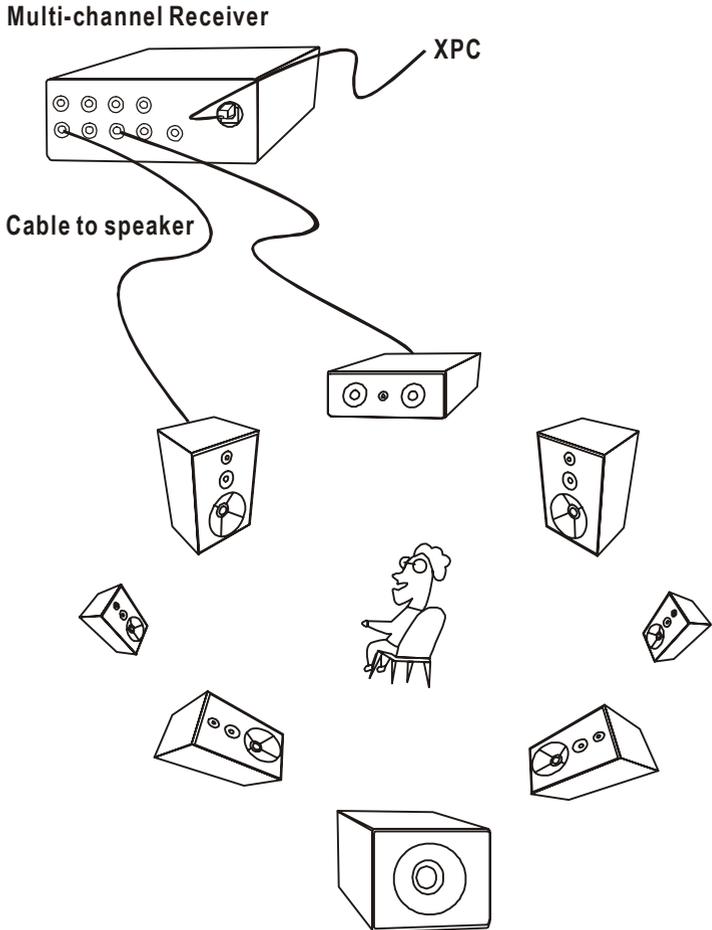
### 1. Connecting to the multi-channel Receiver via the S/PDIF Coaxial cable

Note: You may need to purchase a Coaxial Cable to make connection. Make sure that the Receiver also has the same type of S/PDIF Coaxial input jack.



## 2. Connecting the Speakers to the Receiver

Note: The following illustration assumes that your Receiver has 7.1-channel speaker output. You may need to refer to the Receiver's user manual for speaker connection and the correct settings.

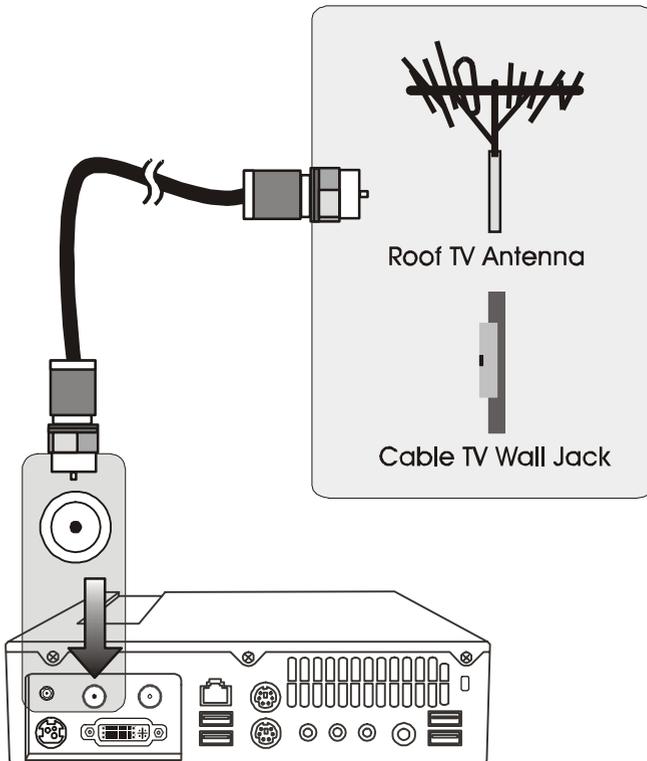


## TV Cable Connection (Option)

### TV signal source (Cable)

If you want to watch TV shows, do the following to connect the TV signal source:

- (1) Plug the connector of a coaxial cable from your TV cable (wall) into the Cable/Ant connector on the back of the XPC.
- (2) Turn the connector to tighten it.

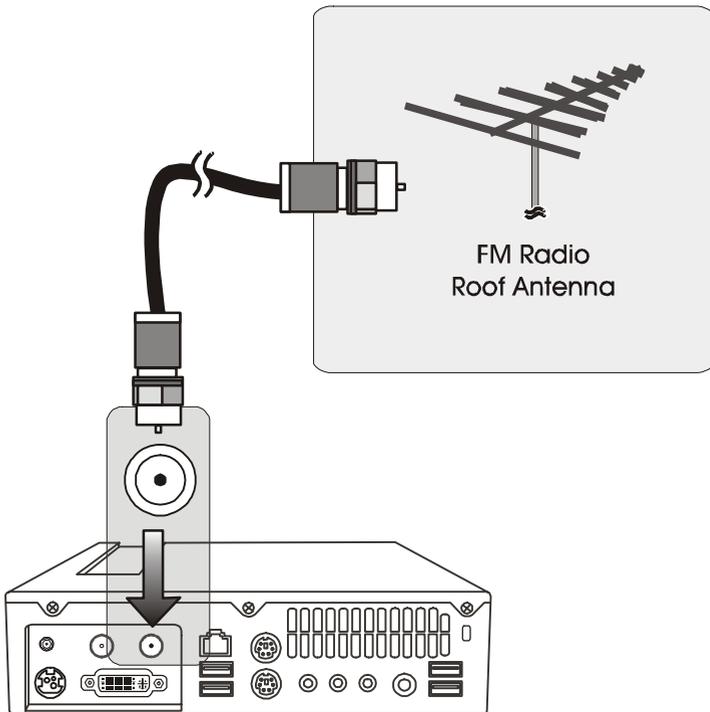


## FM Radio Antenna (Option)

**The XPC includes an FM radio tuner.**

To connect the FM radio antenna:

- (1) Plug the FM radio antenna cable into the FM (Tuner) In connector on the back panel (75-Ohm Coaxial).
- (2) You may want to extend the ends of the cable to improve your FM radio signal reception.



## 10/100 Ethernet

Your computer is equipped with a 10/100Base-TX Fast Ethernet network adapter. Connect the active LAN cable to the RJ-45 LAN port located on the left side of the computer. This allows you to access and transmit data in the local area network.

### Connecting to the Network

Use Unshielded Twisted Pair (UTP) Ethernet cable only.

1. Insert one end of the UTP cable into the network connector until the connector snaps securely into the receptacle.
2. Either connects the other end of the cable to an RJ-45 jack wall outlet or to an RJ-45 port on a UTP concentrator or hub in the network.

### Cabling Restriction for Networks

The following restrictions should be observed for 10/100BASE-TX networks:

- The maximum cable run length is 100 meters (m) (328 feet [ft]).
- For 100Mbps operations, use Category 5 wiring and connections.



**Note:** Consult Windows manual and / or Novell Netware user's guide for the software installation, configuration, and operation of the network.

---



## BIOS Settings

The SD02X BIOS ROM has a built-in Setup program that allows users to modify basic system configuration. This information is stored in battery-backed RAM so that it retains Setup information even if the system power is turned off.

The system BIOS manages and executes a variety of hardware related functions including:

System date and time

Hardware execution sequence

Power management functions

Allocation of system resources

## Enter the BIOS

To enter the BIOS (Basic Input / Output System) utility, follow these steps:

**Step1.** Power on the computer. The system will perform its POST (Power-On Self Test) routine checks.

**Step2.** Press the <Del> key immediately, or at the following message: Press DEL to enter SETUP.

**Note 1.** If you miss trains of words mentioned in step2 (the message disappears before you can respond) and you still wish to enter BIOS Setup, restart the system and try again by turning the computer OFF and ON again. You may also reboot by simultaneously pressing the <Ctrl>,<Alt>, <Del> keys simultaneously.

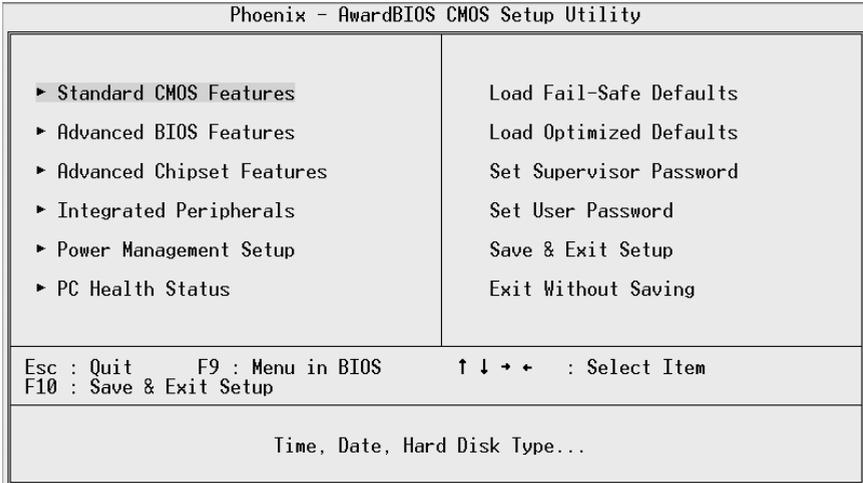
**2.** If you do not press the keys in time and system does not boot, the screen will prompt an error message, and you will be given the following options:

**"Press F1 to Continue, DEL to Enter Setup"**

**Step3.** When you enter the BIOS program, the CMOS Setup Utility will display the Main Menu, as shown in the next section.

## The Main Men

Once you enter the AwardBIOS(tm) CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.



Note that a brief description of each highlighted selection appears at the bottom of the screen.

### Setup Items

The main menu includes the following main setup categories. Recall that some systems may not include all entries.

#### Standard CMOS Features

Use this menu for basic system configuration.

#### Advanced BIOS Features

Use this menu to set the Advanced Features available on your system.

#### Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

## **Integrated Peripherals**

Use this menu to specify your settings for integrated peripherals.

## **Power Management Setup**

Use this menu to specify your power management settings.

## **PC Health Status**

This entry displays the current system temperature, Voltage, and FAN settings.

## **Load Fail-Safe Defaults**

Use this menu to load the BIOS default values for the minimal/stable performance of your system to operate.

## **Load Optimized Defaults**

Use this menu to load the BIOS default values that are factory-set for optimal system operation. While Award has designed the custom BIOS to maximize performance, the factory has the right to change these defaults to meet users' needs.

## **Set Supervisor / User Password**

Use this menu to change, set, or disable password protection. This allows you to limit access to the system and Setup, or only to Setup.

## **Save & Exit Setup**

Save CMOS value changes in CMOS and exit from setup.

## **Exit Without Saving**

Abandon all CMOS value changes and exit from setup.

## Standard CMOS Features

The items in the Standard CMOS Setup Menu are divided into several categories. Each category includes none, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

Phoenix - AwardBIOS CMOS Setup Utility Standard CMOS Features		
Date (mm:dd:yy)	Fri, Sep 8 2006	Item Help
Time (hh:mm:ss)	16 : 33 : 57	Menu Level ▶
▶ IDE Channel 0 Master		Change the day, month, year and century
▶ IDE Channel 0 Slave		
▶ SATA Port-0		
▶ SATA Port-1		
Video	[EGA/VGA]	
Halt On	[All Errors]	
Base Memory	640K	
Extended Memory	1024K	
Total Memory	2048K	
↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

### Date

<Month> <DD> <YYYY>

Set the system date. Note that the 'Day' automatically changes when you set the date.

### Time

<HH : MM : SS>

The time is converted based on the 24-hour military-time clock. For example, 5 p.m. is 17:00:00.

### IDE Channel 0 Master/Slave

Options are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

\*\*\*\*\*

## **IDE Adapters**

The IDE adapters control the hard disk drive. Use a separate sub-menu to configure each hard disk drive.

### **IDE HDD Auto-Detection**

Press <Enter> to auto-detect HDD on this channel. If detection is successful, it fills the remaining fields on this menu.

### **IDE Channel 0 Master/Slave**

Selecting 'manual' lets you set the remaining fields on this screen and select the type of fixed disk. "User Type" will let you select the number of cylinders, heads, etc., Note: PRECOMP=65535 means NONE !

- The choice: None, Auto, or Manual.

### **Access Mode**

Choose the access mode for this hard disk.

- The choice: CHS, LBA, Large, or Auto.

### **Capacity**

Disk drive capacity (Approximated). Note that this size is usually slightly greater than the size of a formatted disk given by a disk checking program.

- Auto-Display your disk drive size.

***The following options are selectable only if the 'IDE Primary Master' item is set to 'Manual', and Access mode set to CHS.***

### **Cylinder**

Set the number of cylinders for this hard disk.

- Min = 0, Max = 65535

## **Head**

Set the number of read/write heads.

- The choice: Min = 0, Max = 255

## **Precomp**

Warning: Setting a value of 65535 means no hard disk.

- The choice: Min = 0, Max = 65535

## **Landing zone**

Set the Landing zone size.

- The choice: Min = 0, Max = 65535

## **Sector**

Number of sector per track.

- Min = 0, Max = 255

\*\*\*\*\*

## **SATA Port-0/1**

Options are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

\*\*\*\*\*

## **IDE Adapters**

The IDE adapters control the hard disk drive. Use a separate sub-menu to configure each hard disk drive.

## **IDE HDD Auto-Detection**

Press <Enter> to auto-detect HDD on this channel. If detection is successful, it fills the remaining fields on this menu.

## **Extended IDE Drive**

- The choice: Auto or None.

## **Access Mode**

Choose the access mode for this hard disk.

- The choice: CHS, LBA, Large, or Auto.

## **Capacity**

Disk drive capacity (Approximated). Note that this size is usually slightly greater than the size of a formatted disk given by a disk checking program.

- Auto-Display your disk drive size.

***The following options are selectable only if the 'IDE Primary Master' item is set to 'Manual', and Access mode set to CHS.***

## **Cylinder**

Set the number of cylinders for this hard disk.

- Min = 0, Max = 65535

## **Head**

Set the number of read/write heads.

- The choice: Min = 0, Max = 255

## **Precomp**

Warning: Setting a value of 65535 means no hard disk.

- The choice: Min = 0, Max = 65535

## **Landing zone**

Set the Landing zone size.

- The choice: Min = 0, Max = 65535

## **Sector**

Number of sector per track.

- Min = 0, Max = 255

\*\*\*\*\*

## **Video**

Select the default video device.

- The choice: EGA/VGA, CGA 40, CGA 80, or MONO.

## **Halt On**

Select the situation in which you want the BIOS to stop the POST process and notify you.

- The choice: All Errors, No Errors or All, But Keyboard,.

## **Base Memory**

Displays the amount of conventional memory detected during boot up.

- The choice: N/A.

## **Extended Memory**

Displays the amount of extended memory detected during boot up.

- The choice: N/A.

## **Total Memory**

Displays the total memory available in the system.

- The choice: N/A.

## Advanced BIOS Features

This section allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing, and security.

Phoenix - AwardBIOS CMOS Setup Utility		Item Help
Advanced BIOS Features		Menu Level ▶
▶ CPU Feature	[Press Enter]	
▶ Hard Disk Boot Priority	[Press Enter]	
First Boot Device	[CDROM]	
Second Boot Device	[Hard Disk]	
Third Boot Device	[USB-ZIP]	
Boot Other Device	[Enabled]	
Bios Write Protect	[Disabled]	
Virus Warning	[Disabled]	
Hyper-Threading Technology	[Enabled]	
Quick Power On Self Test	[Enabled]	
Boot Up NumLock Status	[Off]	
Gate A20 Option	[Fast]	
Typematic Rate Setting	[Disabled]	
x Typematic Rate (Chars/Sec)	6	
x Typematic Delay (Msec)	250	
Security Option	[Setup]	
APIC Mode	[Enabled]	
MPS Version Control For OS	[1.4]	

↑↓←→: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help  
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

### CPU Feature

Option are in its sub-menu.

Press<Enter>to enter the sub-menu of detailed options.

#### Delay Prior to Thermal

This item is select Delay Prior to Thermal.

- The choice: Enabled, or Disabled

#### C1E Function

This item is select CPU C1E Function.

- The choice: Auto, or Disabled

#### Execute Disable Bit

When disabled, forces the XD feature flag to always return 0.

- The choice: Enabled, or Disabled

## **CPU L1&L2 Cache**

All processors that can be installed in this mainboard use internal level1(L1) and external 2(L2) cache memory to improve performance. Leave this item at the default value for better performance.

- The choice: Enabled, or Disabled

## **Hard Disk Boot Priority**

This item allows you to select Hard Disk Book Device Priority.

## **First/Second/Third Boot Device**

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.

- The choice: Hard Disk, CDROM, USB-FDD, USB-ZIP, USB-CDROM, LAN or Disabled.

## **Boot Other Device**

If BIOS can't load O.S. from First/Second/Third boot device you select above, BIOS will search other devices and attempt to load O.S..

The choice: Enabled or Disabled.

## **Bios Write Protect**

This item allows you to enable or disable the Bios Write Protect. If you want to flash BIOS, you must set it [Disabled].

- The choice: Enabled or Disabled.

## **Virus Warning**

Allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enables and someone attempts to write data into this area, BIOS will show a warning message on screen, and an alarm beep.

**Enabled** Activates automatically when the system boots up, causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.

**Disabled** No warning message will appear when anything attempts to access the boot sector or hard disk partition table.

- The choice: Enabled or Disabled.

### **Quick Power On Self Test**

This item speeds up Power-On Self Test (POST) after you power on the computer. If it is set to enabled, BIOS will shorten or skip some check items during POST.

- The choice: Enabled or Disabled.

### **Boot Up NumLock Status**

Selects power on state for NumLock.

- The choice: Off or On.

### **Gate A20 Option**

This entry allows you to select how the Gate A20 is handled. The gate A20 is a device used for above 1MByte of address memory. Initially, the gate A20 was handled via a pin on the keyboard. Today, while a keyboard still provides this support, it is more common and much faster in setting to fast for the system chipset to provide support for gate A20.

- The choice: Normal or Fast.

### **Typematic Rate Setting**

Keystrokes repeat at a rate determined by the keyboard controller. When this controller enabled, the typematic rate and typematic delay can be selected.

- The choice: Enabled or Disabled

### **Typematic Rate (Chars/Sec)**

This item sets how many times the keystroke will be repeat in a second when you hold the key down.

- The choice: 6, 8, 10, 12, 15, 20, 24, or 30.

## **Typematic Delay (Msec)**

Sets the delay time after the key is held down before it begins to repeat the keystroke.

- The choice: 250, 500, 750, or 1000.

## **Security Option**

Select whether the password is required every time the system boots or only when you enter setup.

**System** The system will not boot and access to Setup will be denied if the correct password is not entered promptly.

**Setup** The system will boot, but access to Setup will be denied if the correct password is not entered promptly.

- The choice: System or Setup.

**Note :** To disabled security, select **PASSWORD SETTING at Main Menu, and then you will be asked to enter password. Don't type anything and just press <Enter>; it will disable security. Once the security is disabled, the system will boot, and you can enter Setup freely.**

## **APIC Mode**

Via the routing, I/O APIC support a total of 24 interrupts. We recommend to choose [Enabled] for Windows XP and Windows 2000.

- The choice: Enabled or Disabled

## **MPS Version Control For OS**

Selects the operating system multiprocessor support version.

- The choice: 1.1 or 1.4

## Advanced Chipset Features

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. It states that these items should never need to be altered.

The default settings have been chosen because they provide the best operating conditions for your system. If you discovered that data was being lost while using your system, you might consider making any changes.

Phoenix - AwardBIOS CMOS Setup Utility		Item Help
Advanced Chipset Features		Menu Level ▶
DRAM Timing Selectable	[By SPD]	
× CAS Latency time	Auto	
× DRAM RAS# to CAS# Delay	Auto	
× DRAM RAS# Precharge	Auto	
× Precharge dealy (tRAS)	Auto	
× System Memory Frequency	Auto	
System BIOS Cacheable	[Enabled]	
Memory Hole At 15M-16M	[Disabled]	
** VGA Setting **		
PEG Force X1	[Disabled]	
On-Chip Frame Buffer Size	[ 8MB]	
DVMT Mode	[DVMT]	
DVMT/FIXED Memory Size	[ 128MB]	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help  
 F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

### DRAM Timing Selectable

The value in this field depends on performance parameters of the installed memory chips (DRAM).

- The choice: Manual or By SPD.

### CAS Latency Time

This item defines the timing delay in clock cycles before SDRAM starts a read command after receiving it.

- The choice: Auto, 3, 4, 5 or 6.

### **DRAM RAS# to CAS# Delay**

This item defines the timing of the transition from RAS (row address strobe) to CAS (column address strobe) as both rows and columns are separately addressed shortly after DRAM is refreshed.

- The choice: Auto or 2~6.

### **DRAM RAS# Precharge**

This item defines the timing delay for DRAM precharge.

- The choice: Auto or 2~6.

### **Precharge dealy <tRAS>**

This item allows you to set the Precharge dealy.

- The choice: Auto or 4~15.

### **System Memory Frequency**

This item allows you to set the System Memory Frequency.

- The choice: Auto, 533MHz or 667MHz.

### **System BIOS Cacheable**

Selecting Enabled allows caching of the system BIOS ROM at F0000h~FFFFFh, resulting in better system performance. However, if any program is written to this memory area, a system error may result.

- The choice: Enabled or Disabled.

### **Memory Hole At 15M-16M**

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it can't be cached. The user information of peripherals that need to use this area of system memory usually discusses their memory requirements.

- The choice: Enabled or Disabled.

\*\*\*\*\* **VGA Setting** \*\*\*\*\*

**PEG Force X1**

This item allows you to force PEG link X1.

- The choice: Enabled, or Disabled.

**On-Chip Frame Buffer Size**

This item allows you to set the onboard VGA share memory size.

- The choice: 1MB or 8MB.

**Note: When use On-chip VGA, On-Chip Frame Buffer Size item appear.**

**DVMT Mode**

This item allows you to set the DVMT Version.

- The choice: DVMT, BOTH or FIXED.

**Note: When use On-chip VGA, DVMT Mode item appear.**

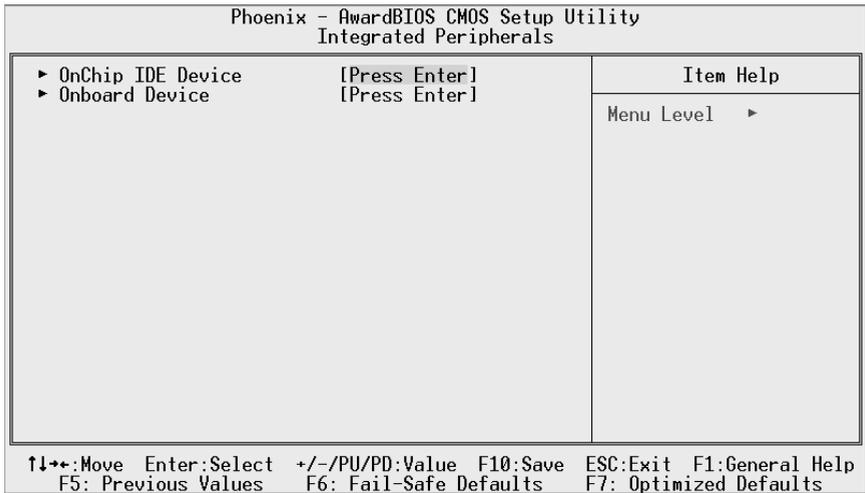
**DVMT/FIXED Memory Size**

This item allows you to set the DVMT/FIXED Memory Size.

- The choice: 64MB, 128MB or 224MB.

**Note: When use On-chip VGA, DVMT/FIXED Memory Size item appear.**

## Integrated Peripherals



### On-Chip IDE Device

Option are in its sub-menu.

Press<Enter>to enter the sub-menu of detailed options.

### IDE HDD Block Mode

If your IDE hard disk drive supports block mode (most new drives do), select Enabled to automatic detect the optimal number of block read and writes per sector that the drive can support and improves the speed of access to IDE devices.

- The choice: Enabled, or Disabled

### IDE DMA transfer access

Improve IDE HD/CDROM transfer performance.

- The choice: Enabled, or Disabled

\*\*\*\*\* **On -Chip Serial ATA Setting** \*\*\*\*\*

## **SATA Mode**

This item allows you to set the SATA Mode.

**Disabled** Disabled SATA Controller.

**Enhanced Mode** Enables both SATA and PATA. Max. of 6 IDE drives are supported.

**Combined Mode** PATA and SATA are combined. Max. of 2 IDE drives in each channel.

**SATA-Only** SATA is operating in legacy mode.

## **On-Chip Serial ATA**

➤ The Choice: Disabled, Enhanced Mode or SATA Only.

## **PATA IDE Mode**

Secondary.

## **SATA Port**

P0, P2 is Primary.

## **Onboard Device**

Option are in its sub-menu.

Press<Enter>to enter the sub-menu of detailed options.

## **USB Controller**

Select Enabled if your system contains a Universal Serial Bus (USB) port on this mainboard.

➤ The choice: Enabled, or Disabled

## **USB 2.0 Controller**

Select Enabled if your system contains a Universal Serial Bus (USB) 2.0 controller and you have USB peripherals.

➤ The choice: Enabled, or Disabled

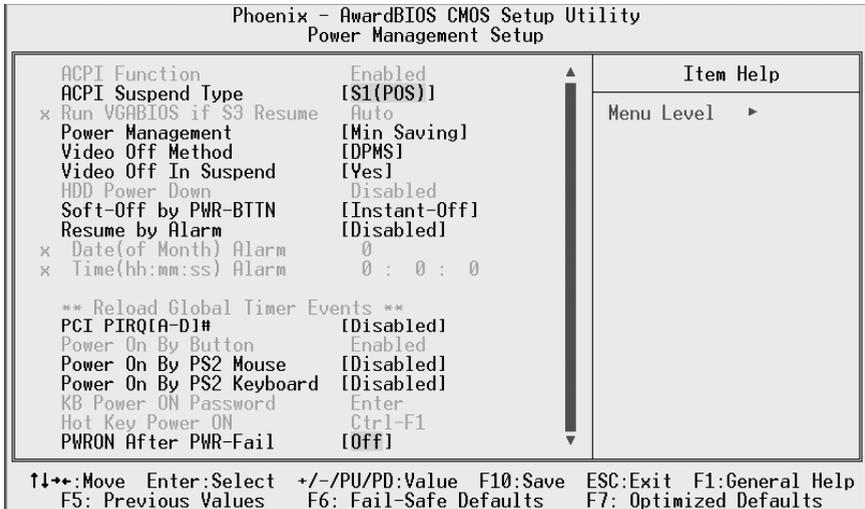
## **Onboard LAN Boot ROM**

Decide whether to invoke the boot ROM of the onboard LAN chip.

The choice: Enabled, or Disabled

## Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save energy while operating in a manner consistent with your computer usage.



### ACPI Function

This item allows you to enable/disable the Advanced Configuration and Power Management (ACPI).

- Always "Enabled".

### ACPI Suspend Type

This item allows you to select sleep state when suspend.

- The choice: S1(POS) or S3(STR).

### Run VGABIOS if S3 Resume

This item allows the system to initialize the VGA BIOS from S3(Suspend to RAM) sleep state.

- The choice: Auto, Yes or No.

## **Power Management**

This item allows you to decide the timing to enter suspend mode.

- The choice: User Define, Min Saving, Max Saving.

## **Video Off Method**

This determines the manner in which the monitor is blanked.

**V/H SYNC+Blank** This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

**Blank Screen** This option only writes blanks to the video buffer.

**DPMS** Initial display power management signaling.

- The choice: V/H SYNC+Blank, Blank Screen, or DPMS.

## **Video Off In Suspend**

This item determines the manner in which the monitor is blanked.

- The choice: Yes or No.

## **HDD Power Down**

When this item enabled and after the set up time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

- The choice: Disabled or 1 Min~15 Min.

## **Soft-Off by PWR-BTTN**

Under ACPI you can create a software power down. In a software power down, the system can be resumed by Wake UP Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay4 Sec. then you have to hold the power button down for 4 seconds to cause a software power down.

- The choice: Instant-Off or Delay 4 Sec.

## **Resume by Alarm**

When this item enabled, you can set the date (day of the month) and time to turn on your system.

- The choice: Disabled or Enabled.

## **Date(of Month) Alarm**

This item selects the alarm Date (day of the month).

- Key in a DEC number: Min=0, Max=31.

## **Time(hh : mm : ss) Alarm**

This item selects the alarm Time.

- [hh]      ➤ Key in a DEC number: Min=0, Max=23.

- [mm/ss] ➤ Key in a DEC number: Min=0, Max=59.

## **\*\*\*\*\* Reload Global Timer Events \*\*\*\*\***

Global Timer (power management) events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such as a mode. In effect, the system remains alert for anything that occurs to a device that is configured as Enabled, even when the system is in a power-down mode.

## **PCI PIRQ [A-D] #**

When this item is disabled, any PCI device set as the Master will not power on the system.

- The choice: Disabled or Enabled.

## **Power On By Button**

This item allows you to set the Button Power On function..

- The choice: Enabled.

### **Power On PS2 Mouse**

This item allows you to set the PS2 Mouse Power On function.

- The choice: Disabled, or Mouse Double Click.

### **Power On PS2 Keyboard**

This item allows you to set the PS2 Keyboard Power On function.

- The choice: Disabled, Password, Hot KEY or Any KEY.

### **KB Power ON Password**

This item allows you to set the KB Power On Password.

- Press" Enter" to set Password.

### **Hot Key Power On**

This item allows you to set the Hot Key Power On.

- The choice: Any Key, Ctrl-F1~Ctrl-F12.

### **PS2 Mouse Power ON**

This item allows you to enable or disable the PS2 Mouse Power On.

- The choice: Disabled or Enabled.

### **Pwron After PWR-Fail**

This item defines if the system will be rebooted after the power fails.

- The choice: Off, On, Former-Sts.

## PC Health Status

Phoenix - AwardBIOS CMOS Setup Utility	
PC Health Status	
CPU Fan Setting	[Smart Fan]
CPU Voltage	
ChipSet Voltage	
+3.3V	
+5V	
+12V	
DDR Voltage	
+5VSB	
CPU Temperature	
PWM Temperature	
CPU Fan Speed	
	Item Help
	Menu Level ▶
↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults	

### CPU Fan Speed Control

Here you can set the ICE Fan Speed.

- The choice: Smart Fan, Ultra-Low, Low, Mid, or Full.

**NOTE : Before manually modifying the CPU fan setting, please make sure fan connectors are plugged into the correct fan connector on the mainboard.**

**CPU Voltage**

**ChipSet Voltage**

**+3.3V**

**+5V**

**+12V**

**DDR Voltage**

**+5VSB**

**CPU Temperature**

**PWM Temperature**

**CPU Fan Speed**

**Warning : It is Strongly reco-mmended to disable 'Smart Fan' if you use an alternative fan to the default.**

## Load Fail-Safe Defaults

When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:

Load Fail-Safe Defaults (Y/N) ? N

Pressing 'Y' loads the BIOS default values for the most stable, minimal system performance.

## Load Optimized Defaults

When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N) ? N

Pressing 'Y' loads the default values that are factory-set for optimal system performance.

## Set User Password

This item is to set a supervisor password. Please follow below steps.

### New Password Setting:

1. Press the <Enter> key. A dialog box appears to ask you to "Enter password: ".
2. Key in a new password.  
The password can not be over six characters or numbers.
3. The system will then request you to confirm the new password by asking you to key in the new password again.
4. Once the confirmation is completed, new code is in effect.

**No Password Setting:**

5. If you want to delete the password, just press the <Enter> key instead of typing a new password. Follow the procedure as above.

**If You Forget Password:**

6. If you forget your password, you must turn off the system and clear CMOS.

Please refer to the tech notes at the end of section two for more information.

**Save & Exit Setup**

Press <Enter> on this item to save your changes. The system will ask for confirmation : system

Save to CMOS and EXIT (Y/N)? Y

Pressing "Y" stores the selections made in the menus of CMOS - a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system will restart.

**Exit Without Saving**

Press <Enter> on this item to exit without saving changes. The system will ask for confirmation:

Quit without saving (Y/N)? Y

This allows you to exit from Setup without storing in CMOS any change. The previous selections remain in effect. This exits from the Setup utility and restarts your computer.

# C H A P T E R                      T H R E E

## TROUBLE SHOOTING

In this chapter, you will learn how to solve common hardware and software problems.

**Your** computer has been fully tested and complies with the system specifications before shipping. However, incorrect operations and/or mishandling may cause problems.

This chapter provides a reference for identifying and correcting common hardware and software problems that you may encounter.

When you encounter a problem, you should first try to go through the recommendations in this chapter. Instead of returning the computer and waiting for repair, you may easily solve the problems by considering the following scenarios and possible solutions. If the error continues, contact your reseller for service information.

**Before taking further actions, consider the following suggestions:**

- Check to see if the problem persists when all the external devices are removed.
- Check to see that the green light indicator on the AC adapter is lit.
- Check to see the power cord is properly plugged to the wall outlet and to the computer.
- Check to see the power indicator of the computer is on.
- Check to see if your keyboard is operational by pressing and holding any key.
- Check for any incorrect or loose cable connections. Make sure the latches on the connectors latch securely on to the receptor end.
- Be sure you have not performed an incorrect setting on the hardware devices in the BIOS Setup utility. A faulty setting may cause the system to misbehave. If you are not sure of the changes you made, try to restore all the settings to factory defaults.
- Be sure all the device drivers are installed properly. For example, without the audio driver properly installed, the speakers and microphone will not work.

- If external devices such as USB camera, scanner, printer do not function correctly when connected to the system, it is usually the device's own problem. Consult the device's manufacturer first.
- Some software programs, which have not gone through rigorous coding and testing, may cause problems during your routine use. Consult the software vendor for problem solving.
- Legacy peripheral are not plug-and-play capable. You need to restart the system with these devices powered up and connected first.
- Be sure to go to BIOS SETUP and load DEFAULT SETTING after BIOS re-flash.

## ■ Audio Problems

### **No speaker output -**

- Software volume control is turned down in Microsoft Sound System or is muted. Double-click the speaker icon on the lower right corner of the taskbar to see if the speaker has been muted or turned down all the way.
- Most audio problems are software-related. If your computer worked before, chances are software may have been set incorrectly.
- Go to [Start > Settings > Control Panel] and double-click the Sounds and Audio Devices icon. In the Audio page, make sure that Realtek HD Audio is the default playback device.

### **Sound cannot be recorded -**

- You will need to plug-in an external microphone to the microphone connector to record sound.
- Double-click the speaker icon on the lower right corner of the taskbar to see if the microphone has been muted.
- Click Options and select Properties.
- Select Recording and click the OK button.
- After Click OK button, the recording volume control panel will appear.
- Go to [Start > Settings > Control Panel] and double-click the Multimedia icon (or Sounds and Audio Devices icon). In the Volume or Audio page, make sure that Realtek HD Audio is the default recording device.

## Hard Disk Problems

### **The hard disk drive does not work or is not recognizable -**

- If you had just performed a hard disk upgrade, make sure the hard drive connector is not loose and the hard disk drive is also correctly seated. Remove it and reinsert it firmly, and restart your PC. (Refer to Chapter 4 for details.)
- The new HDD may need to be partitioned and reformatted. O/S and drivers will need to be re-installed as well.
- The new HDD may be defective or is not compatible.
- If your computer has been subjected to static electricity or physical shock, you may have damaged the disk drive.

### **The hard drive is making abnormal whining noises -**

- You should back up your files as soon as possible.
- Make sure the source of noise is indeed from the hard drive and not the fan or other devices.

### **The hard disk drive has reached its capacity -**

- Run Disk Cleanup utility in Windows. [Start > All Programs > Accessories > System Tools > Disk Cleanup] The system will prompt you for what to do.
- Archive files or programs that you had no longer used by moving them to an alternative storage medium (floppy disk, optical record-able disk, etc.) or uninstall programs that no longer use.
- Many browsers store files in the hard drive as a cache to speed up the performance. Check the program's Online Help for instructions on decreasing the cache size or on removing temporary Internet files.

- Empty the Recycle Bin to create more disk space. When you delete files, Windows saves them to the Recycle Bin.

**The hard disk takes longer to read a file -**

- If you have been using the drive for a period, the files may be fragmented. Go to [Start > Programs > Accessories > System Tools > Disk Defragmenter] to perform a disk defragmentation. This operation may take a while.
- Interrupt requests or problems with other hardware devices may have occupied the CPU and therefore slows down the system performance.

**The files are corrupted -**

- Run the Error-checking utility in Windows to check the HDD. Double-click My Computer. Right-click C: and select Properties. Click Check Now in Error-checking in Tools.

## Optical Drive Problems

### **The optical drive does not work -**

- Try rebooting the system.
- The disk is damaged or files are not readable.
- After you have inserted a CD-ROM disk, it may take a moment before you can access its content.

### **The drive dose not read any disc -**

- Try to eject and load the disc again.
- The disk is damaged or not readable.

### **The disk cannot be ejected -**

- Normally, it takes a few seconds to eject the disk.
- If the disk cannot be ejected, it may be mechanically jammed. Straighten out a paper clip and insert it to a tiny hole next to the eject button. This should reject the disk tray. If not, return the unit for repair. Do not forcefully pull on the disk tray.

### **The Combo or DVD Dual or Supermulti drive (optional device) cannot record -**

- You need to purchase and install a burner utility program to record files to a blank media.

## Display Problems

### **The display panel is blank when the system is turned on -**

- Make sure the computer is not in the Standby or Hibernate suspend modes. The display is turned off to conserve energy in these modes.

### **The screen is difficult to read -**

- The display resolution should at least be set to at least 1024x768 for optimal viewing.
- Go to [Start > Settings > Control Panel] and double-click the Display icon.
- Under the Settings page, set screen resolution to at least 1024x768 and choose at least 256 colors.

### **The screen flickers -**

- It is normal if the display flickers a few times during shutting down or powering up.

## CMOS Battery Problem

**A message “CMOS Checksum Failure” displays during the booting process or the time (clock) resets when booting -**

- Try to reboot the system.

## Memory Problems

**The POST does not show an increased memory capacity when you have already installed additional memory -**

- Certain brands of memory module may not be compatible with your system. You should ask your vendor for a list of compatible DIMM.
- The memory module may be defective.

**The O/S issues an insufficient memory error message during operation -**

- This is often a software or Windows-related problem. A program is draining the memory resources.
- Close the application programs you're not using and restart the system.
- You need to install additional memory module. For instructions, go to Chapter 4 Upgrading Your Computer.

## Network Adapter / Ethernet Problems

### **The Ethernet adapter does not work -**

- Go to [Start > Settings > Control Panel > System > Hardware > Device Manager]. Double-click on Network Adapters and check if INTEL 82562GZ Family 10/100 Ethernet NIC appears as one of the adapters. If it does not exist, Windows has not detected the INTEL 82562GZ Family 10/100 Ethernet NIC or the device driver has not been installed properly. If there is a yellow mark or red-cross on the network adapter, it may be a device or resource conflict. Replace or update the device driver from the factory CD-ROM disk or consult Windows manual on how to solve the resource conflict problem.
- Make sure the physical connections on both ends of the cable are good.
- The hub or concentrator may not be working properly. Check to see if other workstations connected to the same hub or concentrator is working.

### **The Ethernet adapter does not appear to operate in the 100Mbps transmission mode -**

- Make sure the hub you are using supports 100Mbps operation.
- Make sure that your RJ-45 cable meets the 100Base-TX requirements.
- Make sure the Ethernet cable is connected to the hub socket that supports 100Base-TX mode. The hub may have both 10Base-TX and 100Base-T sockets.

## Performance Problems

### **The computer becomes hot -**

- In a 35°C environment, the certain areas of the computer's back case are expected to reach 50 degrees.
- Make sure the air vents are not blocked.
- If the fan does not seem to be working at high temperature (50 degrees Celsius and up), contact the service center.
- Certain programs that are processor-intensive may increase the computer temperature to a degree where the computer automatically slows down its CPU clock to protect itself from thermal damage.

### **The program appears stopped or runs very slowly -**

- Press **CTRL+ALT+DEL** to see if an application is still responding.
- Restart the computer.
- This may be normal for Windows when it is processing other CPU-intensive programs in the background or when the system is accessing slow-speed devices such the floppy disk drive.
- You may be running too many applications. Try to close some applications or increase system memory for higher performance.
- The processor may have been overheated due to the system's inability to regulate its internal heat. Make sure the computer's ventilation grills are not blocked.

## USB2.0 Problems

### **The USB device does not work -**

- Windows NT 4.0 does not support USB protocols
- Check the settings in the Windows Control Panel.
- Make sure you have installed the necessary device drivers.
- Contact the device vendor for additional support.



■ Processor

■ Core Logic

▼ **Processor and Core Logic**

Intel Core Duo, Core Solo, or Celeron M 4 series Processor

Intel 945GM + ICH7-M chipset with audio, and USB2.0 controllers integrated

533 / 667MHz Front Side Bus

533 / 667MHz DDR2 interface

■ Memory Type

■ Default

■ Memory

Expansion

▼ **System Memory**

DDR2 SDRAM 533 / 667

256 / 512 / 1024MB

Two 200-pin DIMM sockets, Max 2 GB

■ Graphic

Accelerator

■ Motion

Playback

■ Other

Features

▼ **Graphic Subsystem**

Intel GMA950

Support Microsoft\* DirectX\* 9 Hardware Acceleration

Features: Pixel Shader 2, Volumetric Textures, Shadow

Maps, Slope Scale Depth Bias, Two-Sided Stenci

support Microsoft\* DirectX\* 9 Vertex Shader 3.0 and

Transform and Lighting supported in SW through highly optimized.

Processor Specific Geometry Pipeline (PSGP)

Support OpenGL\* 1.4 support with ARB extensions

■ Chipset

■ Audio Codec

■ Sound

Capabilities

▼ **Audio**

Intel (ICH7M) integrated HD audio controller

Realtek ALC882

DirectSound 3D, EAX 1.0 & 2.0 compatible

A3D, I3DL2 compatible

AC97 V2.3 compatible

7.1 Multi-channel compatible

Azalia compatible

- Module
- Transmission Protocol

### ▼ Wireless LAN

Shuttle Wireless LAN PN18 module  
support 802.11 B/G

- Chipset
- PnP Function
- Flow Control
- Speed Selection
- Other Features

### ▼ LAN / Ethernet

INTEL 82562GZ Ethernet function for 10/100Base-TX network standards

Windows 2000 / XP Plug and Play compatible  
Automatic Jam and auto-negotiation for flow control  
Auto Negotiation and Parallel detection for automatic speed selection (IEEE 802.3u)

High performance 32-bit PCI bus master architecture with integrated DMA controller for low CPU and bus utilization

Remote Wake-up Scheme supported  
Hot Insertion supported

- Chipset
- 4-in-1 Card Reader Format Support

### ▼ Multiple Card Reader

02 Micro 0Z128 (Card Reader)  
Multimedia Card (MMC), Secure Digital Card (SD),  
Memory Stick (MS), and MS Pro Card

- Hard Drive
- DVD-Dual or DVD-Multi Standards

### ▼ Storage

3.5-inch format hard disk drive  
Trayless-type (slot-in) 5.25-inch format (12.7mm height) fixed module (Optional Purchase)

- Mic-In Port
- Audio-Out
- Audio-In Port
- SPDIF-Out
- USB2.0 Port
- Ethernet
- Power-In
- D-sub VGA Port
- Card Reader
- PS/2 Mouse Port
- PS/2 Keyboard Port

### ▼ Ports and Connectors

One Microphone-in jack  
One Headphone / Line-out jack  
One Line-in jack  
One S/PDIF-out jack  
Five USB2.0-compliant Ports  
One standard network Ethernet Port (RJ-45)  
One DC-in connector  
One DVI-I VGA Port  
One 4-in-1 Card Reader slot  
One PS/2 Mouse Port  
One PS/2 Keyboard Port

- Adapter  
AC-Input /  
DC-Output

### ▼ AC Adapter

Auto sensing AC-in 100~240V, DC-out 12V, 78W

- PnP Function
- Self Test
- Auto  
Detection
- Power  
Management
- Security
- Other  
Features

### ▼ BIOS

Phoenix PnP BIOS  
Power On Self Test  
DRAM auto-detection, auto-sizing  
L2 Cache auto-detection  
Hard disk type auto-detection  
APM 1.2 (Advanced Power Management) &  
ACPI 2.0 (Advanced Configuration Power Interface)  
Two Level Password Protections  
32bit access, Ultra DMA, PIO5 Mode support  
Multi-boot capability

- O/S

### ▼ Operating System

Compatible with Microsoft Windows XP Series  
Operating System

- Dimension
- Weight
- Environmental  
Limits

### ▼ Physical Specification

296 (L) x 210 (W) x 55 (H) mm  
3.24 KG  
Operating Temperature: 5 to 30°C (41 to 86°F)  
Operating Humidity: 20 to 80 percent RH (5 to 35°C)  
Storage Temperature: -15 to 50°C (-5 to 122°F)



### **Federal Communications Commission Notice**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

### **Modifications**

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by the Manufacturer may void the user's authority to operate the equipment.

### **Connections to Peripheral Devices**

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods to maintain compliance with FCC Rules and Regulations.

### **Declaration of Conformity**

This device complies with Part 15(CLASS B)/68 the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### **European Notice**

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) and R&TTE Directive (1999/5/EC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:

- [EN55022 : 1998+A1: 2000+A2: 2003 CLASS B](#)
- [EN61000-3-2 : 2000](#)
- [EN61000-3-3 : 1995+A1: 2001](#)
- [EN55024 : 1998+A1 : 2001+A1: 2003](#)
- [IEC61000-4-2: 2001](#)
- [IEC61000-4-3:2002+A1:2002](#)
- [IEC61000-4-4:1995+A1:2000+A2:2001](#)
- [IEC61000-4-5:2001](#)
- [IEC61000-4-6:2001](#)
- [IEC61000-4-8:2001](#)
- [IEC61000-4-11:2001](#)
- EN50082 (IEC801-2, IEC801-3, IEC801-4) Electro-magnetic Immunity
- EN 300 328-2, EN 300 328-1, EN 301 489-1, EN 301 489-17 (ETSI 300 328, ETSI 301 489) Electro-magnetic Compatibility and Radio Spectrum Matter.
- TBR21 ( ETSI TBR21) Terminal Equipment.
- EN60950 (IEC60950) I.T.E. Product Safety

#### **Canadian Notice**

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le present appareil numerique nemet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de Classe B prescrites dans le reglement sur le brouillage radioelectrique edicte par le Ministere des Communications du Canada.

#### **REN (Ringer Equivalent Numbers) Statement**

**"NOTICE:** The **Ringer Equivalence Number (REN)** assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5."

IC ID: 3409A-M30E10

#### **Attachment Limitations Statement**

**"Notice:** This equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). This is confirmed by marking the equipment with the Industry Canada certification number. The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

**Caution:** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate."

### **Power Cord Requirement**

The power cord supplied with the AC adapter should match the plug and voltage requirements for your local area. Regulatory approval for the AC adapter has been obtained using the power cord for the local area. However, if you travel to a different area and need to connect to a different outlet or voltage, you should use one of the power cords listed below. To purchase a power cord (including one for a country not listed below) or a replacement ac adapter, contact your local dealer.

### **U.S. and Canada**

- The cord set must be UL-Listed and CSA-Certified or C-UL Listed.
- The minimum specifications for the flexible cord are (1) No. 18 AWG, (2) Type SJ, and (3) 3-conductor.
- The cord set must have a rated current capacity of at least 10 A.
- The attachment plug must be an earth-grounding type with a NEMA

5-15P (15A, 125V) or NEMA 6-15P (15 A, 250V) configuration.

### Other Countries

- The cord set fittings must bear the certification mark of the agency responsible for evaluation in a specific country. Acceptable agencies are:
  - BSI (UK)
  - OVE (Australia)
  - CEBEC (Belgium)
  - SEMKO (Sweden)
  - FIMKO (Finland)
  - DEMKO (Denmark)
  - NEMKO (Norway)
  - SETI (Finland)
  - EANSW (Australia)
  - SEV (Switzerland)
  - IMQ (Italy)
  - UTE (France)
  - CCC (China)
  - PSB (Singapore)
  - PSE (Japan)
  - BSMI (Taiwan)
  - B (Polish)
  - VDE (Germany)
  - SASO (Saudi Arabia)
  
- The flexible cord must be of a HAR (harmonized) type HO5VV-F 3-conductor cord with a minimum conductor size of 0.03 square inches.
- The minimum specification for the flexible cord for Class II product are: (1) 2X0.75 mm<sup>2</sup> conductors, (2) 2-conductor cord.
- The cord set must have a current capacity of at least 10 A and a nominal voltage rating of 125 / 250 VAC.

CAUTION: MODEL XPCIAx IS DESIGNED TO USE WITH THE  
FOLLOWING AC ADAPTER MODEL ONLY  
Manufacture: LI SHIN INTERNATIONAL ENTERPRISE CORP.  
Model: 0227A20120 (120W)

### Laser Safety

The optical drive used with this computer is certified as a Class 1 laser device according to the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard and International Standards IEC 825 / IEC 825-1 (EN60825 / EN60825-1). The device is not considered harmful, but the following precautions are recommended:

- Do not open the unit.
- Avoid direct exposure to the laser beam.
- If the unit requires service, contact an authorized service center.
- Ensure proper use by reading and following the instructions carefully.
- Do not attempt to make any adjustment of the unit.

CLASS 1 LASER PRODUCT
APPAREIL A LASER DE CLASSE 1
LASERSCHUTZKLASSE 1 PRODUKT

### Warning!

Do not attempt to disassemble the cabinet containing the laser. The laser beam used in this product is harmful to the eyes. The use of optical instruments, such as magnifying lenses, with this product increase the potential hazard to your eyes. For your safety, have this equipment serviced only by an authorized service provider.

**Die Steckdose muB nahe dem Gerat angebracht und leicht zuganglich sein.**



When you see this symbol, be careful as this spot may be very hot.