



Congratulations on your new purchase of **SOYO P4X400 Series** motherboard for the Intel platform!

This new motherboard offers support for ultra fast DDR400 memory. However, since DDR400 is not a JEDEC (The Joint Electron Device Engineering Council) approved memory specification, some users might experience DDR400 incompatibilities as a result of discrepancy in memory manufacturing.

In an effort to provide our customers the highest product quality and performance, SOYO has tested a number of memory modules to ensure compatibility. Please visit our web site at <http://www.soyousa.com/products/proddesc.php?id=159> for information on Recommended Memory.

In some cases BIOS upgrade might be required to take advantage of this new feature. Please refer to our Support section on the web site for more information.



# **SY-P4X400 DRAGON Lite Motherboard**

\*\*\*\*\*

mPGA Socket 478 Processor supported

VIA P4X400 AGP/PCI

400/533 MHz Front Side Bus supported

ATX Form Factor

\*\*\*\*\*

## **User's Manual**

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**About This Guide:**

This Quick Start Guide can help system manufacturers and end users in setting up and installing the Motherboard. Information in this guide has been carefully checked for reliability; however, to the correctness of the contents there is no guarantee given. The information in this document is subject to amend without notice.

For further information, please visit our **Web Site** on the Internet. The address is "<http://www.soyo.com.tw>".

**Edition: September 2002**

**Version 1.0**

**P4X400 DRAGON Lite SERIAL**

**FC** Tested To Comply  
With FCC Standards  
FOR HOME OR OFFICE USE

**100%** POST CONSUMER  
RECYCLED PAPER

## Table of Contents

<b>CHAPTER 1</b>	<b>MOTHERBOARD DESCRIPTION.....</b>	<b>1</b>
1-1	INTRODUCTION.....	1
1-2	UNPACKING THE MOTHERBOARD .....	1
1-3	KEY FEATURES .....	2
1-4	HANDLING THE MOTHERBOARD .....	6
1-5	ELECTROSTATIC DISCHARGE PRECAUTIONS.....	6
1-6	SY-P4X400 DRAGON Lite MOTHERBOARD LAYOUT .....	7
1-7	SY-P4X400 DRAGON Lite MOTHERBOARD COMPONENTS .....	8
<b>CHAPTER 2</b>	<b>HARDWARE INSTALLATION .....</b>	<b>10</b>
2-1	PREPARATIONS.....	10
2-2	INSTALLATION GUIDE .....	11
2-3	QUICK BIOS SETUP.....	35
<b>CHAPTER 3</b>	<b>BIOS SETUP UTILITY.....</b>	<b>37</b>
3-1	SOYO COMBO SETUP .....	40
3-2	STANDARD CMOS SETUP .....	47
3-3	ADVANCED BIOS FEATURES .....	51
3-4	ADVANCED CHIPSET FEATURES .....	55
3-5	INTEGRATED PERIPHERALS.....	59
3-6	POWER MANAGEMENT SETUP .....	65
3-7	PNP/PCI CONFIGURATIONS.....	70
3-8	PC HEALTH STATUS.....	73
3-9	LOAD FAIL-SAFE DEFAULTS .....	75
3-10	LOAD OPTIMIZED DEFAULTS.....	76
3-11	SET SUPERVISOR PASSWORD .....	77
3-12	SET USER PASSWORD .....	78
<b>CAHPTER 4</b>	<b>DRIVERS INSTALLATION.....</b>	<b>80</b>
<b>CAHPTER 5</b>	<b>AUDIO DRIVER INSTALLATION.....</b>	<b>89</b>
<b>CAHPTER 6</b>	<b>REALTEK LAN DRIVER INSTALLATION.....</b>	<b>90</b>



**APPENDIX A TROUBLE SHOOTING AT FIRST START .....91**

**APPENDIX B CONTACT INFORMATION.....98**

# Chapter 1

## MOTHERBOARD DESCRIPTION

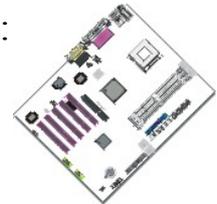
### 1-1 INTRODUCTION

The **SY-P4X400 DRAGON Lite** AGP slot/PCI Motherboard is a high-performance Socket 478 processor supported ATX form-factor system board. The **SY-P4X400 DRAGON Lite** uses VIA Chipset technology and supports Socket 478 class processors. This Motherboard is fully compatible with industry standards and adds many technical enhancements.

### 1-2 UNPACKING THE MOTHERBOARD

When unpacking the Motherboard, check for the following items:

- 
- ◆ The SY-P4X400 DRAGON Lite AGP slot/PCI Motherboard
- 



- 
- ◆ The user manual
- 



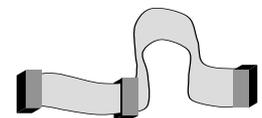
- 
- ◆ The Installation CD-ROM
- 



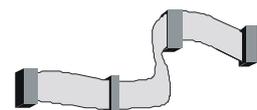
- 
- ◆ SOYO Bonus Pack CD-ROM
- 



- 
- ◆ One IDE Device ATA 100 Flat Cable
- 



- 
- ◆ One Floppy Disk Drive Flat Cable
- 



- 
- ◆ One SPDIF Audio Connector Card (optional)
- 



- 
- ◆ One Heat Sink Compound



- 
- ◆ One Back Panel



---

**Warning:** Do not unpack the Motherboard from its anti-static packaging until you are ready to install it.

---

Like most electronic equipment, your Motherboard may be damaged by electrostatic discharge. To avoid permanent damage to components ground yourself while working by using a grounding strap. Otherwise, ground yourself frequently by touching the unpainted portion of the computer chassis to drain the static charges.

Handle the Motherboard carefully, holding it by the edges.

You are now ready to start the installation.

## 1-3 KEY FEATURES

### ➤ CPU SUPPORT

Supports Intel® mPGA Socket 478 processors

- Pentium® 4 Northwood or Willamette (400MHz /533MHz FSB)
- Pentium® 4 Celeron

### ➤ CPU SETTINGS

The SY-P4X400 DRAGON Lite provides the user with a very complete and convenient CPU setting environment. The CPU settings are all adjusted through the special SOYO COMBO page in the BIOS, therefore rendering the use of jumpers obsolete.

#### ■ CPU FSB Frequency

The SY-P4X400 DRAGON Lite supports a wide range of CPU FSB frequency settings:

100~132MHz, 133~255MHz. (CPU FSB Frequency can be setup by 1MHz increment)

This ensures that the SY-P4X400 DRAGON Lite has an overwhelming overclocking potential.

■ **CPU Multiplier**

The SY-P4X400 DRAGON Lite supports a wide range of multipliers: 10X ~ 24X depend on CPU.

➤ **MEMORY SUPPORT**

The SY-P4X400 DRAGON Lite supports PC1600, PC2100 and PC2700 DDR Memory module.

➤ **EXPANDABILITY**

The SY-P4X400 DRAGON Lite provides all the standard expansion slots, and many more additional expansion features:

◆ **Expansion slots**

- 1 x 32-bit bus master AGP slot, supports 4x, 8x with 1.5v only.
- 5 x 32-bit bus master PCI slots

◆ **Enhanced IO**

- Floppy disk controller
- 2x EIDE controllers with support for up to 4 Ultra DMA 33/66 /100/133 devices
- Standard EPP/ECP parallel port
- 2x 16550 compatible serial ports
- IrDA compatible infrared port
- 6x USB2.0 (Universal Serial Bus) connectors
- PS/2 mouse connector
- PS/2 keyboard connector

➤ **USB Support**

Supports 6 x USB 2.0 connectors for USB port.

➤ **C-MEDIA HARDWARE AUDIO**

Supports 2/4/5.1 speakers and DLS based wave table music. Also provides professional SPDIF IN/OUT non-distortion digital interface. Uses the C-Media CMI8738-MX chipset.

➤ **LAN ON-BOARD**

Supports 10/100 Mbps base-T Ethernet. Use the Realtek RTL8100B chipset.

➤ **ADVANCED FUNCTIONS**

The SY-P4X400 DRAGON Lite supports advanced functions such as:

■ **Wake-On-LAN**

Supports Wake-On-LAN (*Some advanced network cards can wake the system up over the network, the WOL connector is provided by the SY-P4X400 DRAGON Lite to support this function*).

■ **Multiple boot**

The SY-P4X400 DRAGON Lite supports booting from devices such as CD-ROM, LS-120, etc.

■ **Power on by modem or alarm**

If the SY-P4X400 DRAGON Lite system is in suspend mode, it can be switched back on through the modem or RTC alarm through this function. This opens a lot of possibilities, such as remote access that switches the system on only after the modem receives a call.

➤ **FAIL SAFE**

The SY-P4X400 DRAGON Lite comes with added functionality to make managing the system easy and safe

◆ **Hardware Monitor**

The integrated Hardware Monitor IC and Hardware doctor software enables the user to monitor system voltages, temperatures and FAN speeds. This makes sure that the user is full control of the system

◆ **Power Failure Resume Function**

This function can be set in the BIOS, and determines whether the system will automatically turn on again after a power failure. This function is indispensable for server systems that need to always be on line.



➤ **SOYO Bonus Pack CD-ROM**

➤ **COMPLIANCE**

The SY-P4X400 DRAGON Lite complies with all important industry standards. The following underlines the reliability of the SY-P4X400 DRAGON Lite, a motherboard to trust.

- PC99, ACPI compliant

➤ **WARRANTY**

All SOYO motherboards are back with one-year manufacturer's warranty from the date of purchase. Please retain your original receipt for future warranty inquiries.

➤ **USER FRIENDLY**

- SOYO COMBO Setup
- Jumperless design
- You can set up the following options through the BIOS setup
  - CPU FSB frequency
  - CPU multiplier
  - CPU Vcore voltage
  - DDR RAM Clock
  - AGP Voltage
  - DDR Voltage

## 1-4 HANDLING THE MOTHERBOARD

To avoid damage to your Motherboard, follow these simple rules while unpacking:

- Before handling the Motherboard, ground yourself by grasping an unpainted portion of the system's metal chassis.
- Remove the Motherboard from its anti-static packaging. Hold the Motherboard by the edges and avoid touching its components.
- Check the Motherboard for damage. If any chip appears loose, press carefully to seat it firmly in its socket.



**Warning:** Do not apply power if the Motherboard appears damaged. If there is damage to the board, contact your dealer immediately.

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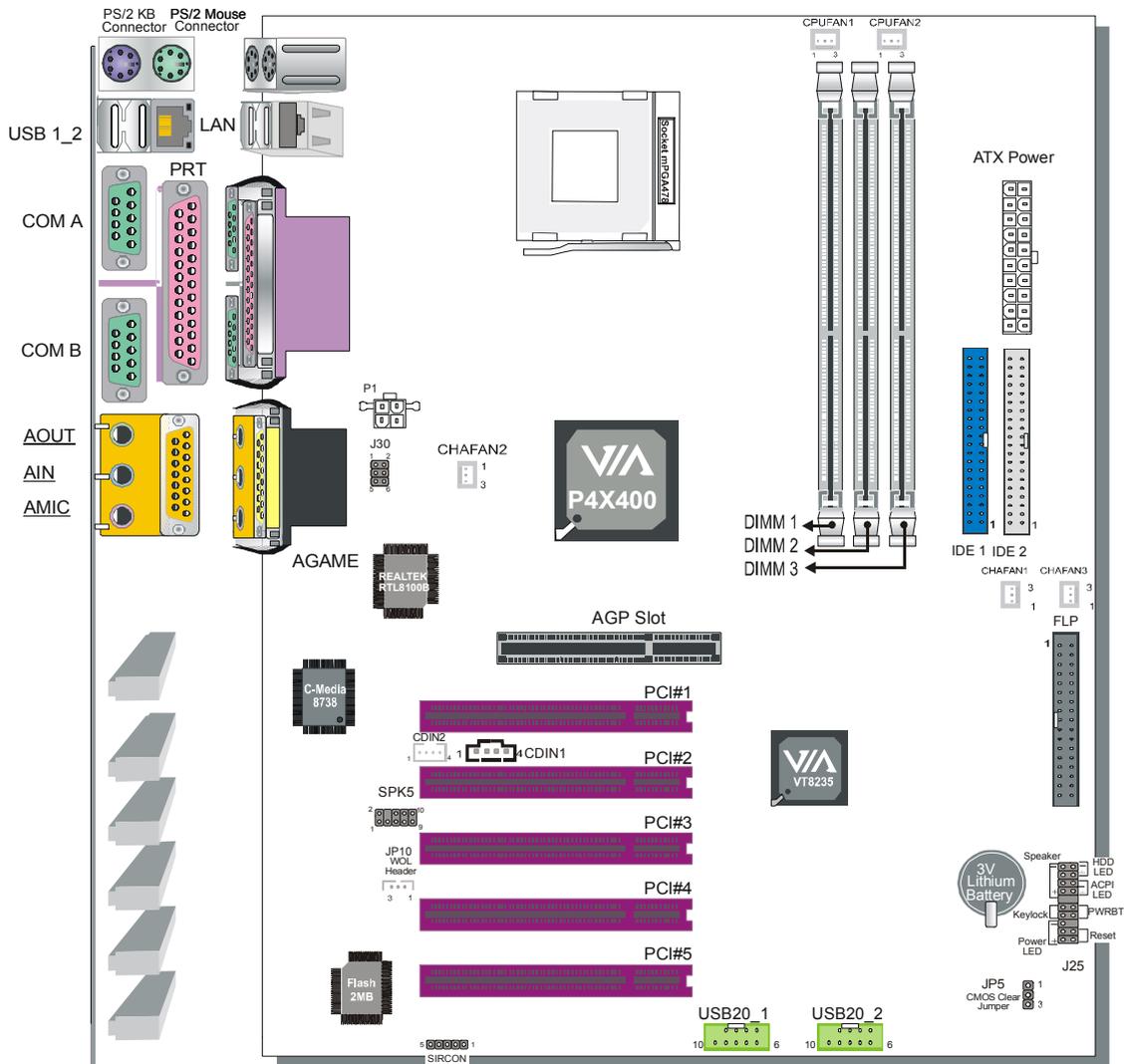
## 1-5 ELECTROSTATIC DISCHARGE PRECAUTIONS

Make sure to ground yourself before handling the Motherboard or other system components. Electrostatic discharge can easily damage the components. Note that you must take special precautions when handling the Motherboard in dry or air-conditioned environment.

To protect your equipment from electrostatic discharge, take the following precautions:

- Do not remove the anti-static packaging until you are ready to install.
- Ground yourself before removing any system component from its protective anti-static packaging. (To ground yourself, grasp the expansion slot covers or other unpainted portions of the computer chassis.)
- Frequently ground yourself while working or use a grounding strap.
- Handle the Motherboard by its edges and avoid touching its components.

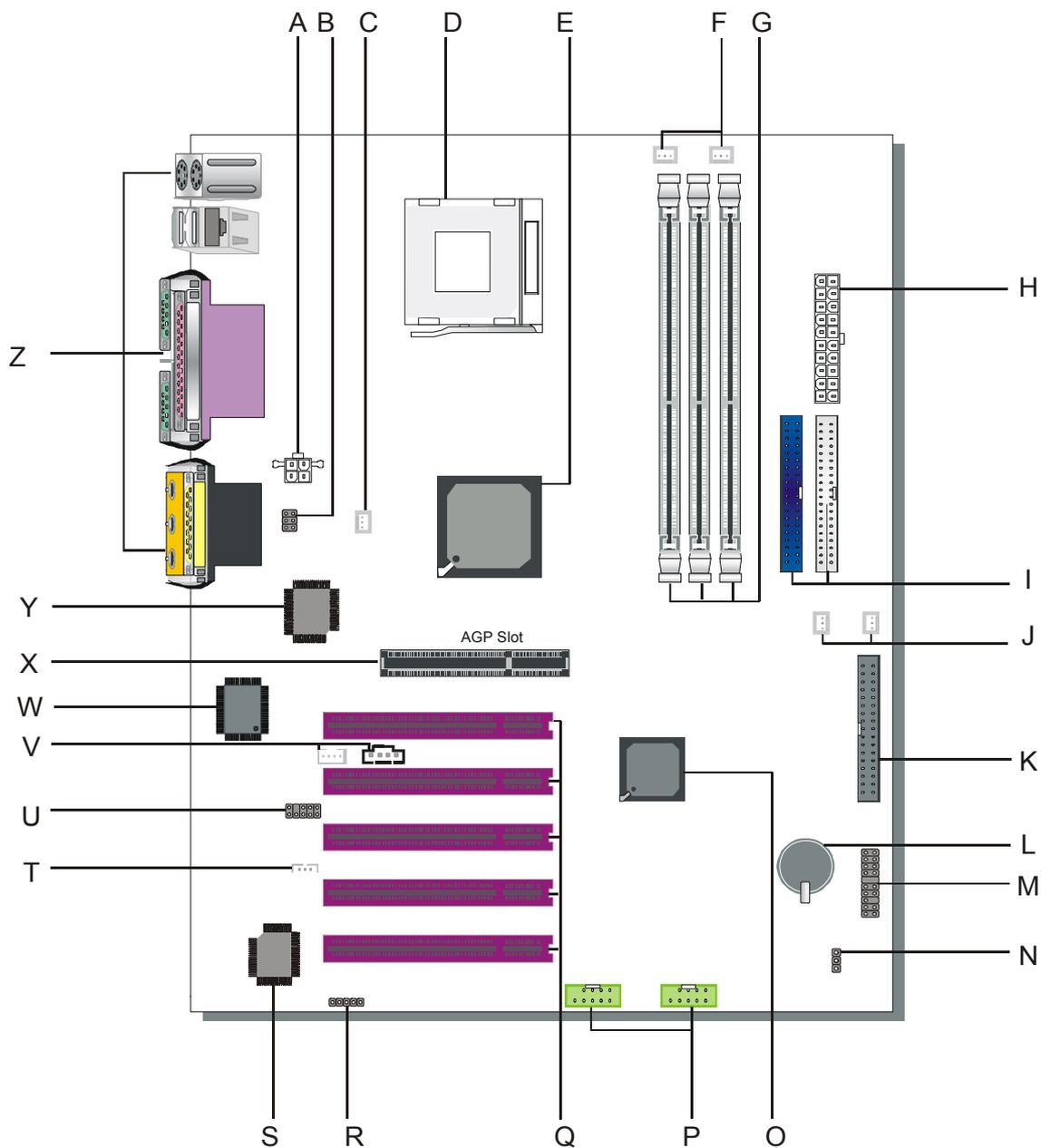
## 1-6 SY-P4X400 DRAGON Lite MOTHERBOARD LAYOUT



**Back Panel**

**SY-P4X400 DRAGON Lite Platform**

**1-7 SY-P4X400 DRAGON Lite MOTHERBOARD COMPONENTS**





- A +12V Power Connector**
- B Front panel Connectors**
- C Chassis Cooling Fan Connector**
- D Socket 478 Connector**
- E VIA P4X400 North Bridge Chip**
- F CPU Cooling Fan Connector**
- G DIMM Banks**
- H ATX Power Supply Connector**
- I Bus Mastering EIDE/ATAPI Ports**
- J Chassis Cooling Fan Connector**
- K Floppy Disk Drive (FDD) Port**
- L 3V Lithium Battery**
- M Front Panel connectors**
- N CMOS Clear Jumper**
- O VIA VT8235 South Bridge Chip**
- P USB 2.0 Connector**
- Q 32-bit PCI Slots**
- R Serial Infrared (IrDA) Device Header**
- S Flash BIOS**
- T Wake-On-LAN (WOL) Header**
- U SPK5 Connector**
- V CD-IN Connector**
- W C-Media Onboard Audio Chip**
- X AGP slot**
- Y Realtek LAN Chip**
- Z Back panel Connectors**

## Chapter 2

# HARDWARE INSTALLATION

Congratulations on your purchase of **SY-P4X400 DRAGON Lite** Motherboard. You are about to install and connect your new Motherboard.



---

**Note:** Do not unpack the Motherboard from its protective anti-static packaging until you have made the following preparations.

---

### 2-1 PREPARATIONS

Gather and prepare all the following hardware equipment to complete the installation successfully:

1. Socket mPGA 478 processor with built-in CPU cooling fan (boxed type)



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**Note:** This Motherboard supports non-boxed type CPUs. The heavier CPU cooling fan requires the installation of a CPU support stand.

---

2. DDR RAM memory module (s)
3. Computer case and chassis with adequate power supply unit
4. Monitor
5. PS/2 Keyboard
6. Pointing Device (PS/2 mouse)
7. Speaker(s) (optional)
8. Disk Drives: HDD, CD-ROM, Floppy drive...
9. External Peripherals: Printer, Plotter, and Modem (optional)
10. Internal Peripherals: Modem and LAN cards (optional)

## 2-2 INSTALLATION GUIDE

We will now begin the installation of the Motherboard. Please follow the step-by-step procedure designed to lead you to a complete and correct installation.

**Step 1-** Install the Central Processing Unit (CPU)

**Step 2-** Install memory modules

**Step 3-** Install expansion cards

**Step 4-** Connect cables, case wires, and power supply

**Step 5-** Power on and enter BIOS setup

**Step 6-** Install supporting software tools. See Chapter 4 for more info.



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**Warning:** Turn off the power to the Motherboard, system chassis, and peripheral devices before performing any work on the Motherboard or system.

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**BEGIN THE INSTALLATION**

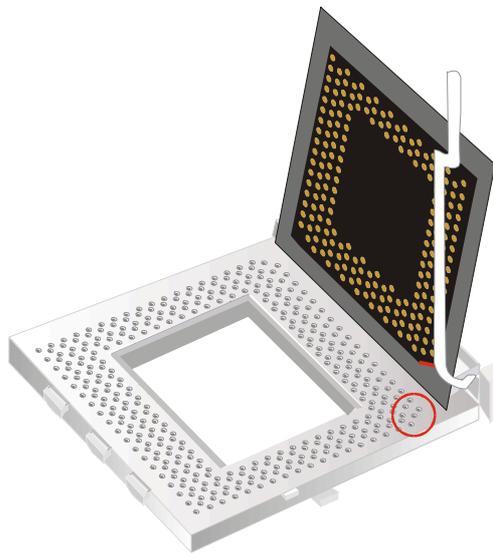
## STEP 1 Install the CPU

**CPU Mount Procedure:** To mount the Pentium® 4 Socket mPGA478 processor that you have purchased separately, follow these instructions.

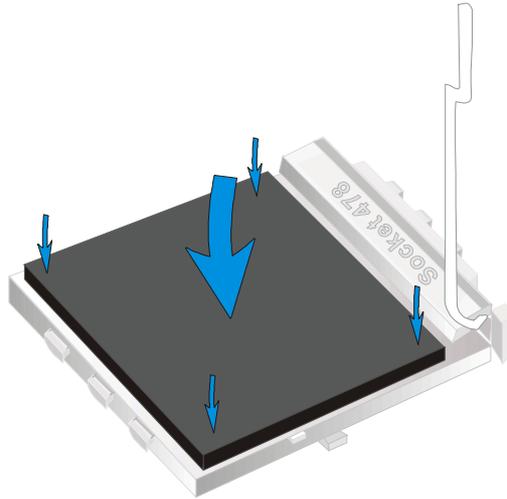
1. Lift the socket handle up to a vertical position.



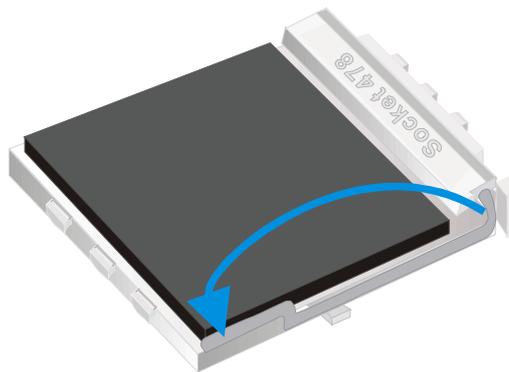
2. Align the blunt edge of the CPU with the matching pinhole distinctive edge on the socket.



3. Seat the processor in the socket completely and without forcing.



4. Then close the socket handle to secure the CPU in place.



---

Remember to connect the CPU Cooling Fan to the appropriate power connector on the Motherboard. *The fan is a key component that will ensure system stability. The fan prevents overheating, therefore prolonging the life of your CPU.*

---

### CPU Fan Installation

Your Socket 478 processor kit comes with a cooling fan. Mount the fan on the processor according to the instructions provided by the manufacturer. The fan is a key component that will ensure system stability. The fan prevents overheating, therefore prolonging the life of your CPU.

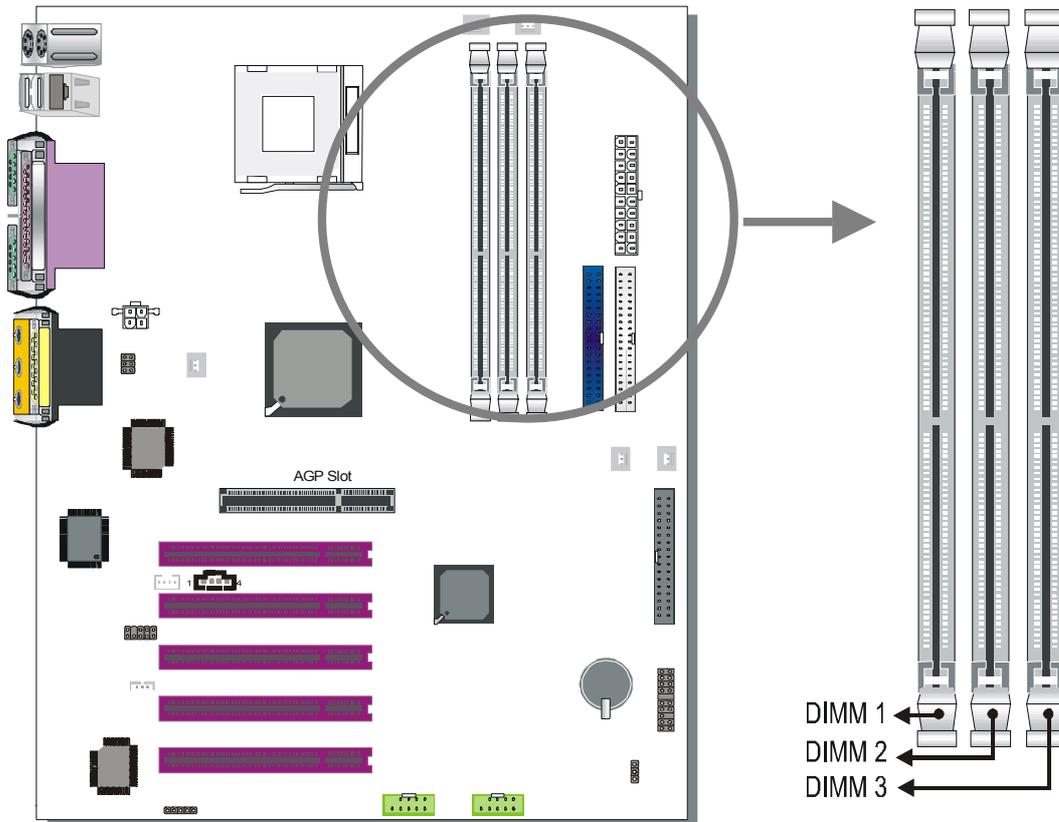


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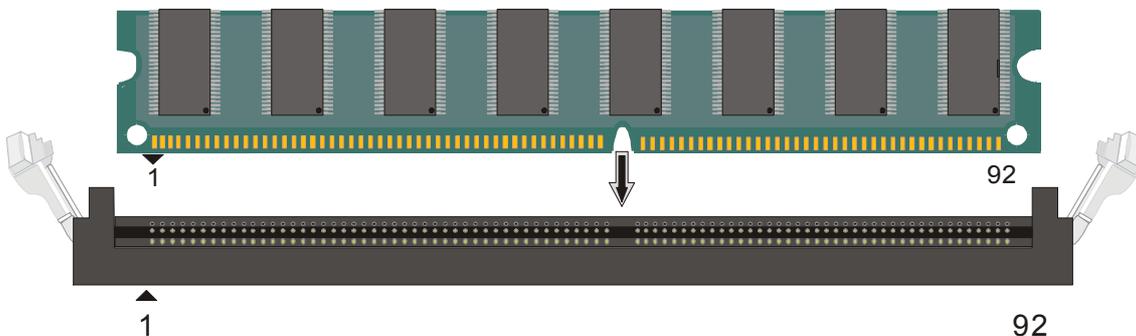
**Note:** Remember to connect the fan to the appropriate power source.

---

## Step 2 Install Memory Module



Your board comes with three DIMM sockets, providing support for up to 3GB of main memory using unbuffered and non-ECC DIMM modules from 64MB to 1GB. On this motherboard, DRAM speed can be set independent from the CPU front side bus speed. Depending on the DRAM clock speed setting in the BIOS setup, appropriate memory modules must be used. For 100MHz DRAM speed, use PC1600 memory; for 133MHz DRAM speed, use PC2100 memory; for 166MHz DRAM speed, use PC2700 memory.





### ***Memory Configuration Table***

Number of Memory Modules	DIMM 1	DIMM 2	DIMM 3
RAM Type	DDR SDRAM (Un-buffered and Non-ECC)		
Memory Module Size (MB)	64/128/256/512 MB/1 GB		

### **Step 3 Install Expansion Card**

The motherboard has 1 AGP slot and 5 PCI slot.

1. Read the related expansion card's instruction document before inserting the expansion card into the computer.
2. Press the expansion card firmly into expansion slot in motherboard.
3. Be sure the metal contacts on the card are indeed seated in the slot.
4. Replace the screw to secure the slot bracket of the expansion card.
5. Install related driver from the operating system.



## AGP Slot

This motherboard supports AGP 4x/8x VGA CARD.

When 8x VGA card is used, “AGP mode” option in the BIOS will be disabled and the “DBI Output for AGP Trans” option will appear.



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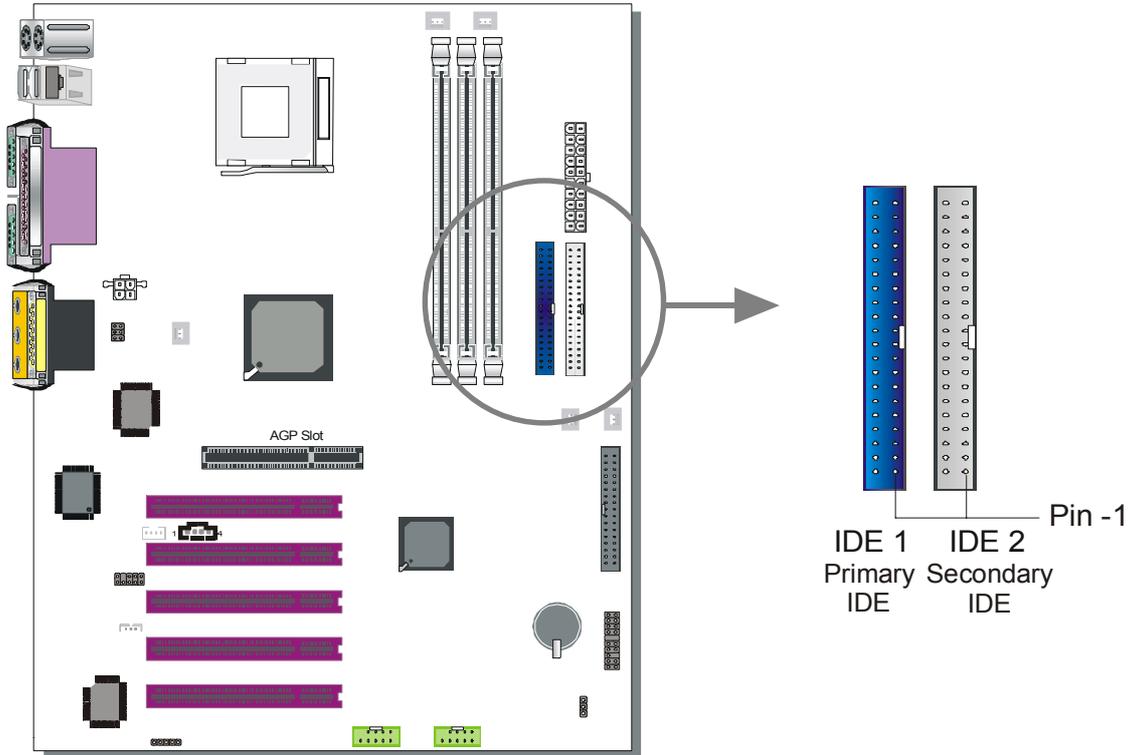
**Note:** This Motherboard supports only 1.5 volts AGP card. Using 3.3v AGP card might damage your M/B.

---

## PCI Device Assigned Interrupt Table

Device	INT
AGP	INT A
PCI slot 1/5	INT A
PCI slot 2	INT B
PCI slot 3	INT C
PCI slot 4	INT D
On-board Audio	INT A
On-board LAN	INT C

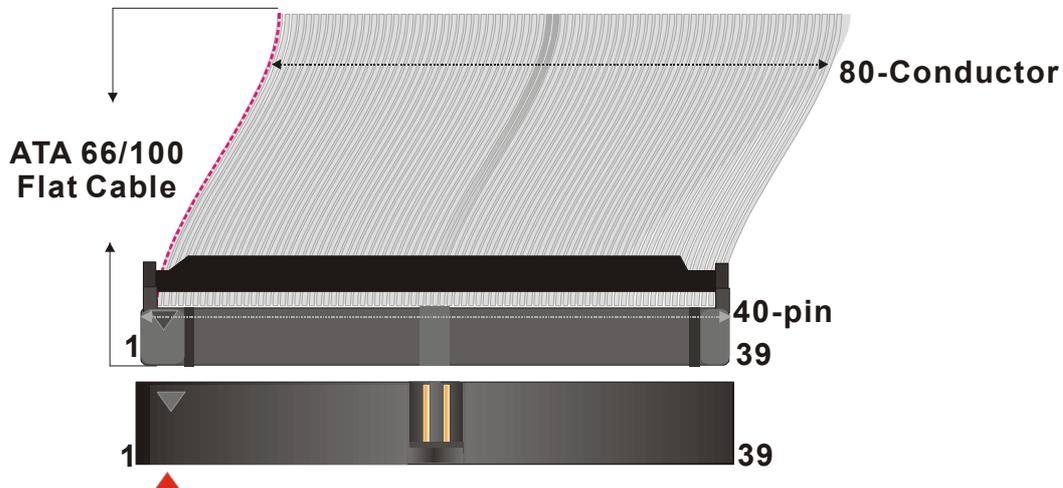
**Step 4 Connect cables, case wires, and power supply**  
**A. IDE Device Installation (HDD, CD-ROM)**



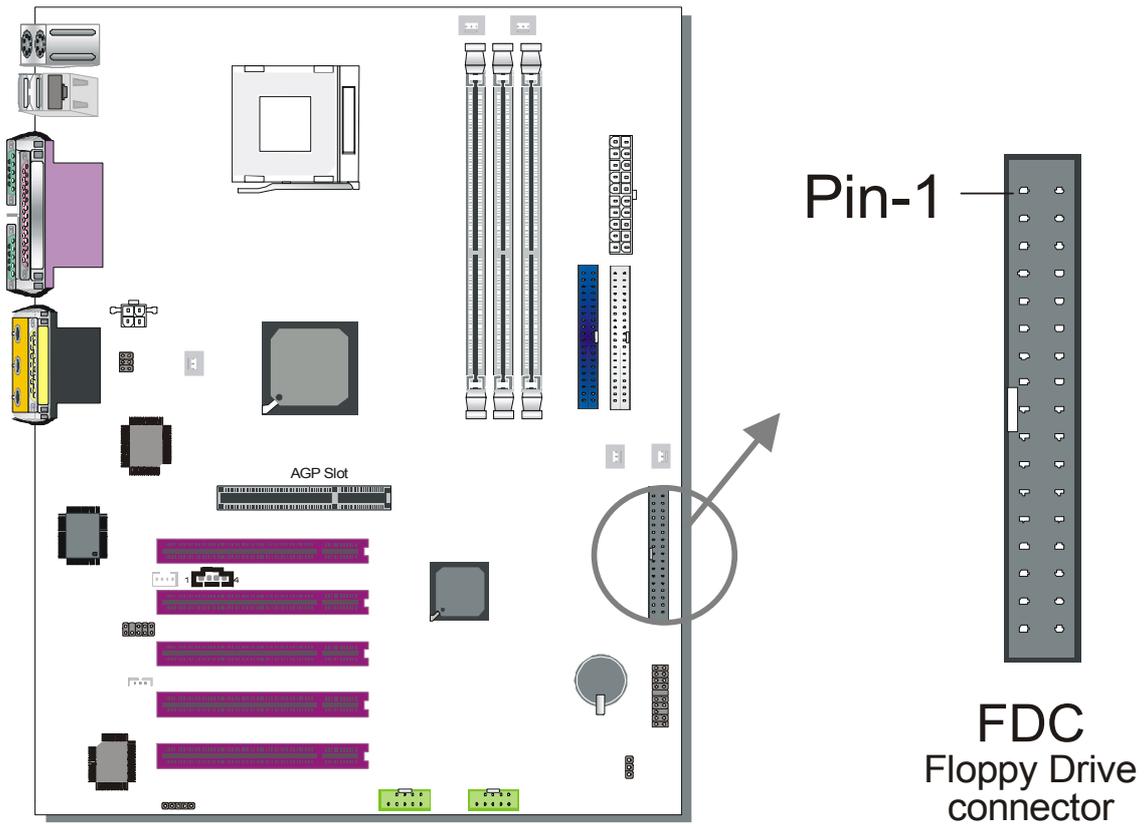
This Motherboard offers two primary and secondary IDE device connectors (IDE1, IDE2). It can support up to four high-speed Ultra DMA 33/66/100/133 HDD or CD-ROM.

Connect one side of the ATA66/100 flat cable to the IDE device (HDD or CD-ROM) and plug the other end to the primary (IDE1) or secondary (IDE2) directionally keyed IDE connector on the Motherboard. The ATA66/100 cable is backward compatible with ATA33 HDDs.

This Motherboard can support up to 4 HDDs.



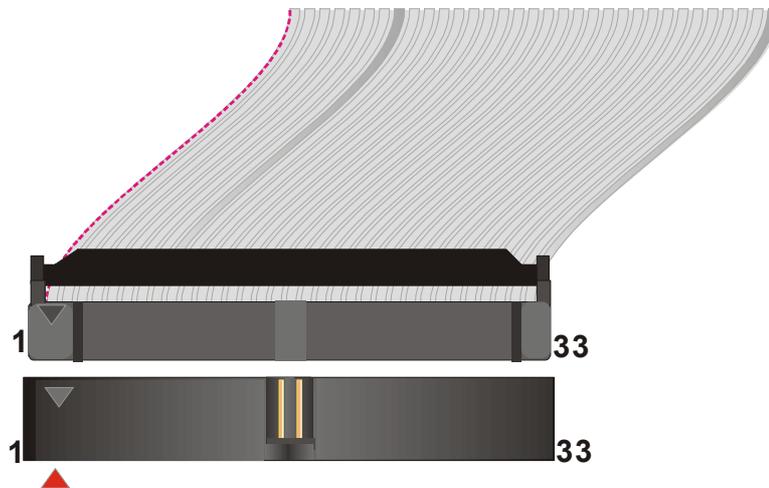
## B. Floppy Drive Installation



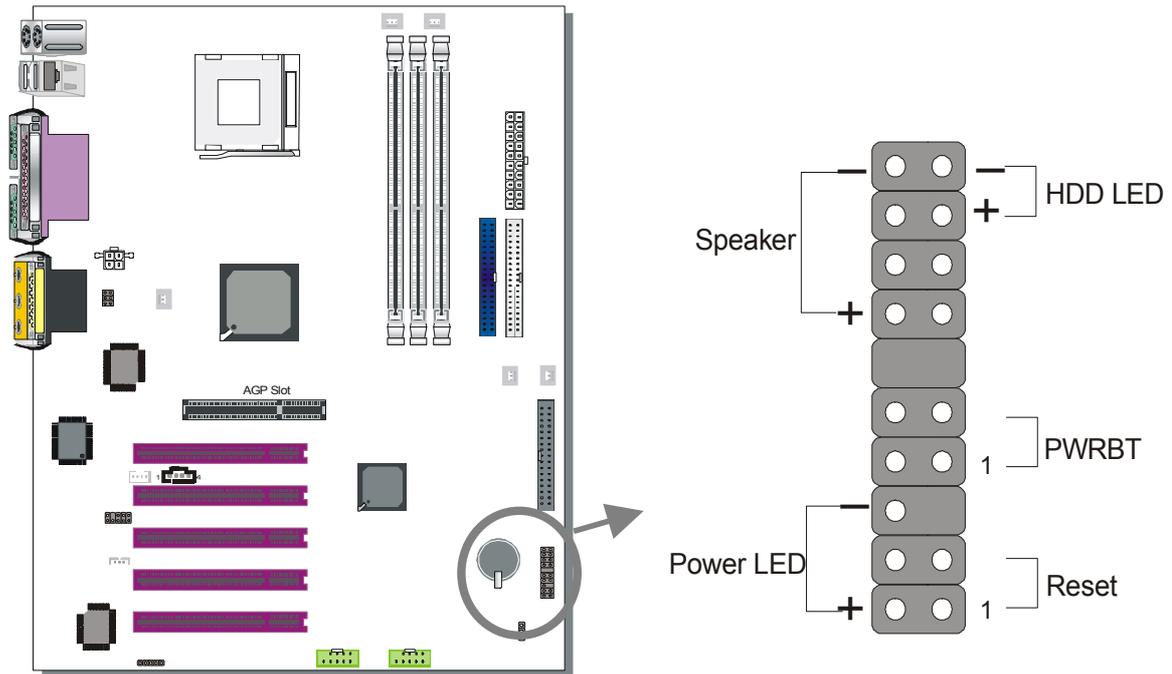
The system supports 5 possible floppy drive types: 720 KB, 1.2 MB, 1.44 MB, 2.88 MB, and LS-120.

Connect one side of the 34-pin flat cable to the floppy drive and plug the other end to the floppy drive connector on the Motherboard.

This Motherboard can support up to 1 floppy drives.



### C. Front Panel Connections



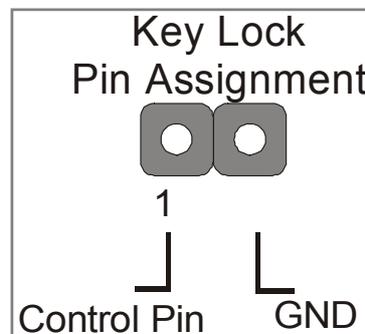
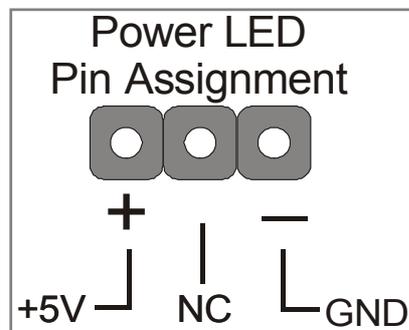
Plug the computer case's front panel devices to the corresponding headers on the Motherboard.

#### 1. Power LED & KeyLock

Plug the Power LED cable into the 5-pin Keylock header.

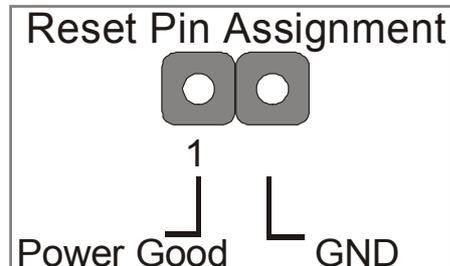
Some systems may feature a KeyLock function with a front panel switch for enabling or disabling the keyboard. Connect the KeyLock switch to the 5-pin Keylock header on the Motherboard.

Please install according to the following pin assignment: pin 1,3 are for Power LED and pin 4,5 are for Keylock.



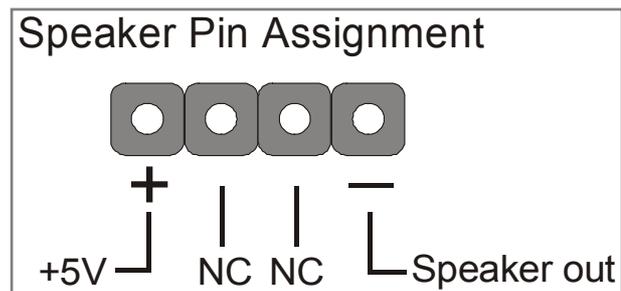
## 2. Reset

Plug the Reset push-button cable into the 2-pin Reset header on the Motherboard. Pushing the Reset button on the front panel will cause the system to restart the boot-up sequence.



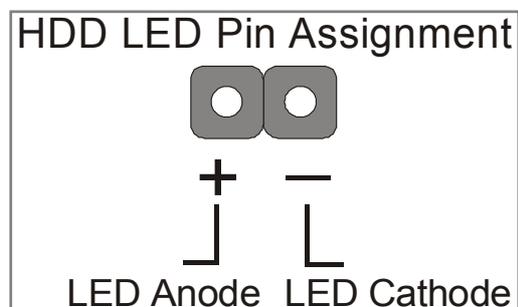
## 3. Speaker

Attach the 4-pin PC speaker cable from the case to the Speaker header on the Motherboard.



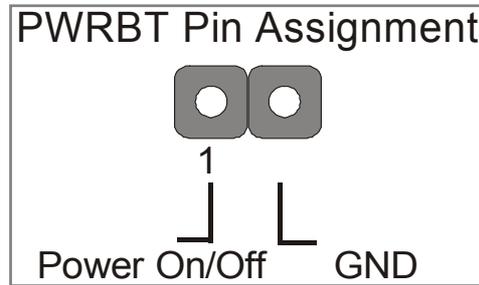
## 4. IDE LED

Attach the 2-pin IDE device LED cable to the corresponding IDE LED header on the Motherboard. This will cause the LED to lighten when an IDE (HDD, CD-ROM) device is active.



### 5. ATX Power On/Off Switch

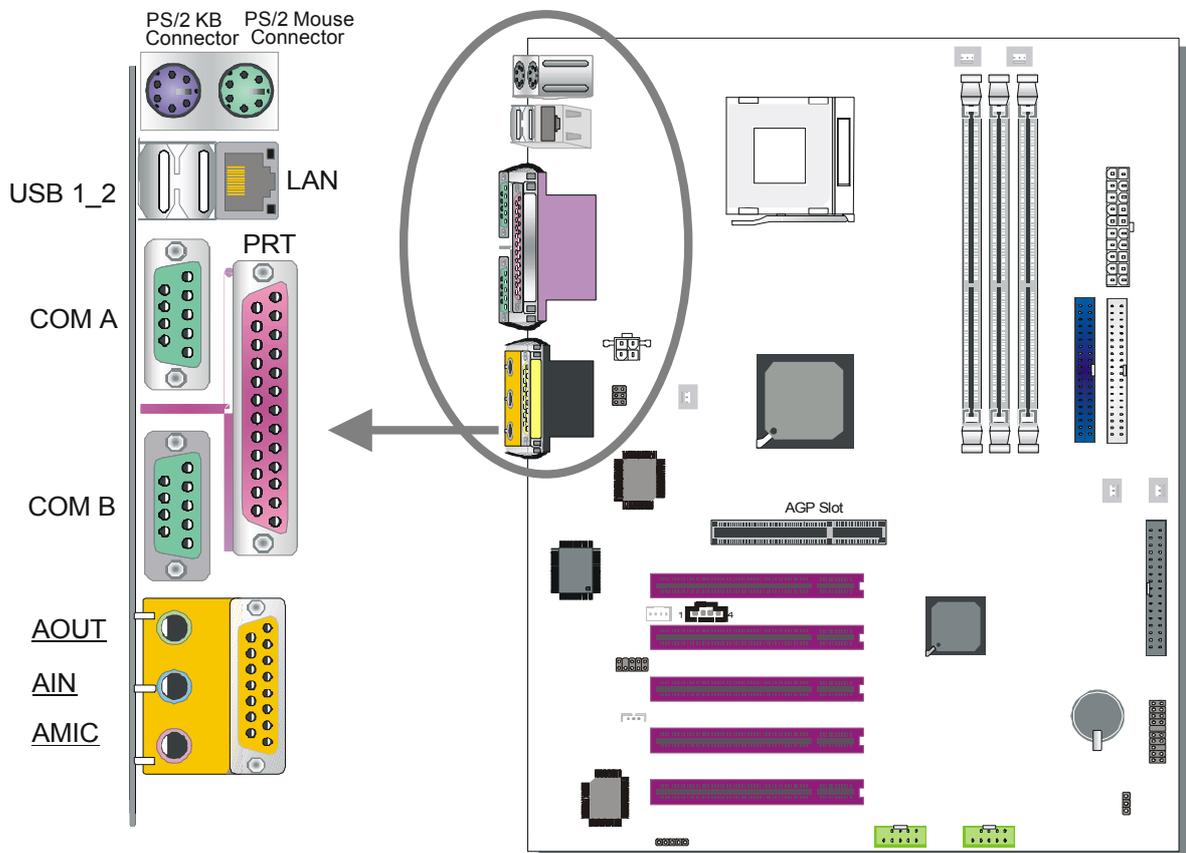
Attach the 2-pin momentary type switch to the PWRBT header for turning On or Off your ATX power supply.



### D. Back Panel Connections

All external devices such as the PS/2 keyboard, PS/2 mouse, printer, modem, USB can be plugged directly onto the Motherboard back panel. Only after you have fixed and locked the Motherboard to the computer case can you start connecting the external peripheral devices.

When connecting an external device, use the following figure to locate and identify which back panel connector to plug the device to.



## 1. Onboard Serial Ports COMA/COMB

External peripherals that use serial transmission scheme include:

- serial mouse,
- and modem.

Plug the serial device cables directly into the COMA/COMB 9-pin male connectors located at the rear panel of the Motherboard.

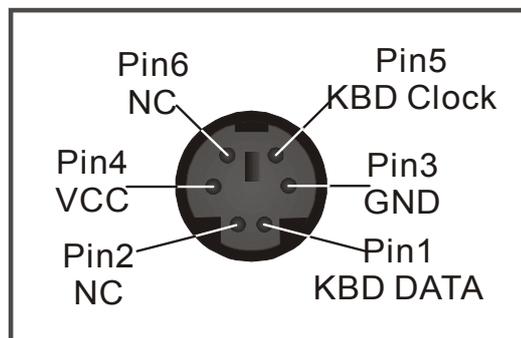
## 2. Parallel Port PRT

This parallel port is used to connect the printer or other parallel devices.

Plug the parallel device cable into the 25-pin female connector located at the rear panel of the Motherboard.

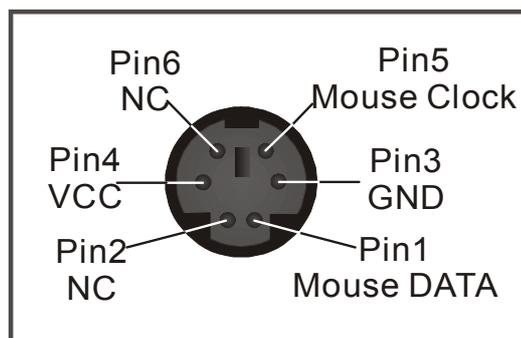
## 3. PS/2 Keyboard

Plug the keyboard jack directly into the 6-pin female PS/2 keyboard connector located at the rear panel of the Motherboard.



## 4. PS/2 Mouse

Similarly, plug the mouse jack directly into the 6-pin female PS/2 mouse connector.



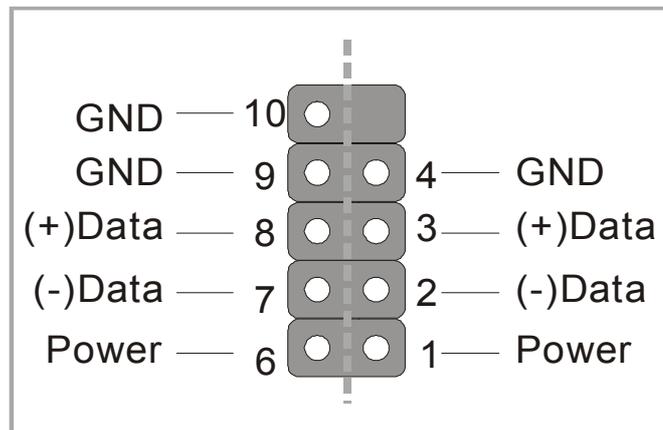
## 5. Universal Serial Bus (USB1/USB2, USB20\_1/USB20\_2)

This Motherboard provides four USB ports for your additional devices.

Plug the USB device jack into the available USB connector USB1 or USB2.

- Standard device drivers come with the Win98 for commonly used USB devices.
- With Win95, use the flow UHCI specifications. To use USB devices under Win95, usually you have to install the device that driver comes with the USB device you have purchased.

USB20\_1 and USB20\_2 are available. To make use of these USB ports, purchase a USB cable from your dealer. The lay-out of USB20\_1 and USB20\_2 are as follows:



USB1, USB2, USB20\_1 and USB20\_2 support USB2.0 devices.

USB20\_1 and USB20\_2 support USB2.0 devices.

## 6. Onboard Game port/audio

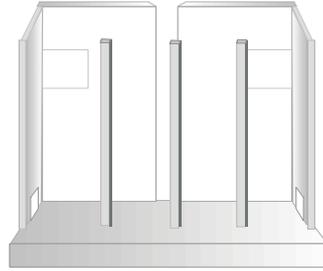
This Motherboard provides Joystick port and audio.

- Attach the joystick cable to the 15-pin GAME port at the rear panel of you motherboard.
- This Motherboard features three built-in audio-stereo ports (labeled line-in, line-out, and mic jack) convenient to directly plug-in all your external audio devices.

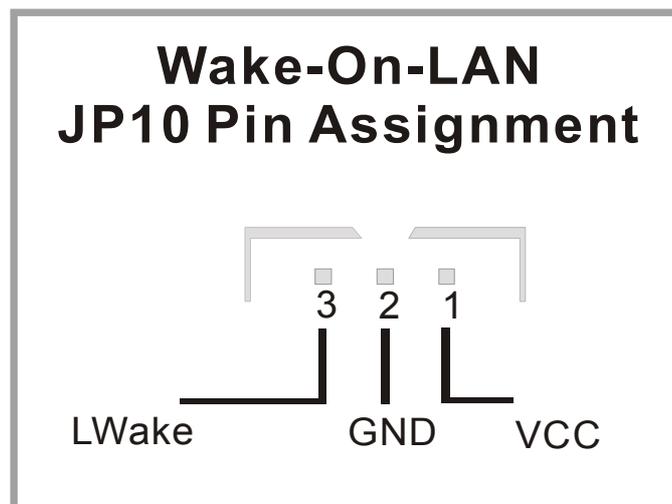
## E. Other Connections

### 1. Wake-On-LAN (WOL)

Attach the 3-pin connector from the LAN card which supports the Wake-On-LAN (WOL) function to the JP10 header on the Motherboard. This WOL function lets users wake up the connected computer through the LAN card.

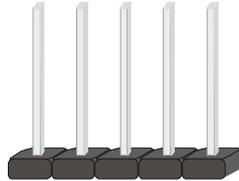


Please install according to the following pin assignment:



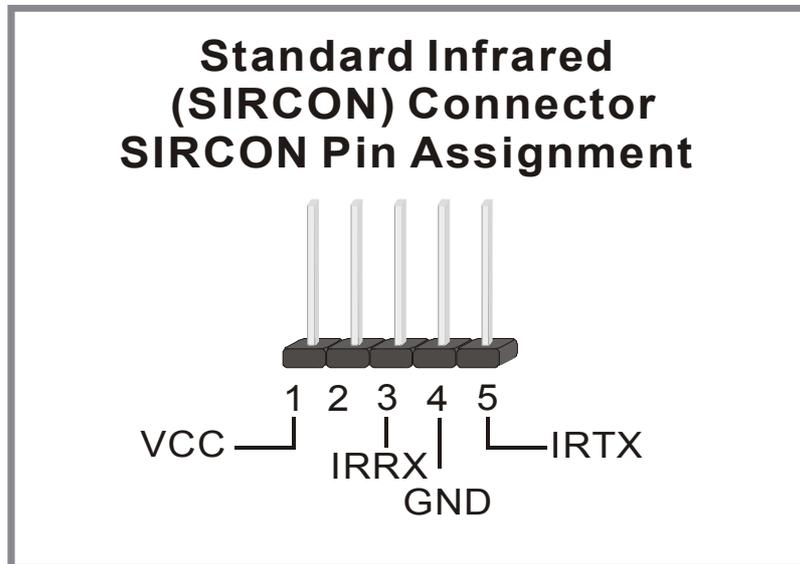
## 2. Standard Infrared (SIRCON)

Plug the 10-pin infrared device cable to the SIRCON header.

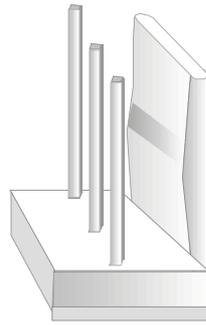


This will enable the infrared transfer function. This Motherboard meets both the ASKIR and HPSIR specifications.

Please install according to the following pin assignment:



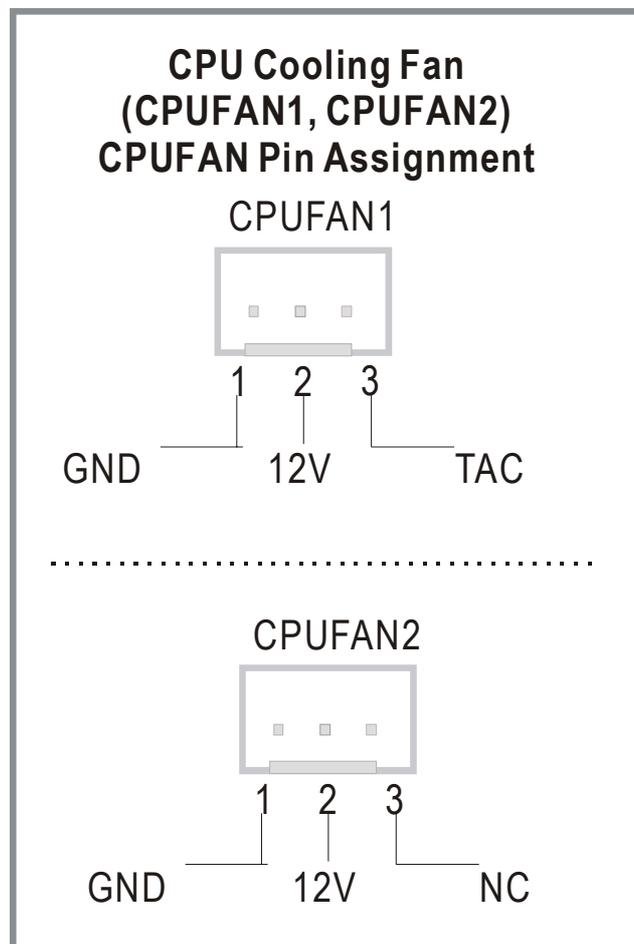
### 3. Cooling Fan Installation



#### (1) CPU Cooling Fan (CPUFAN1, CPUFAN2)

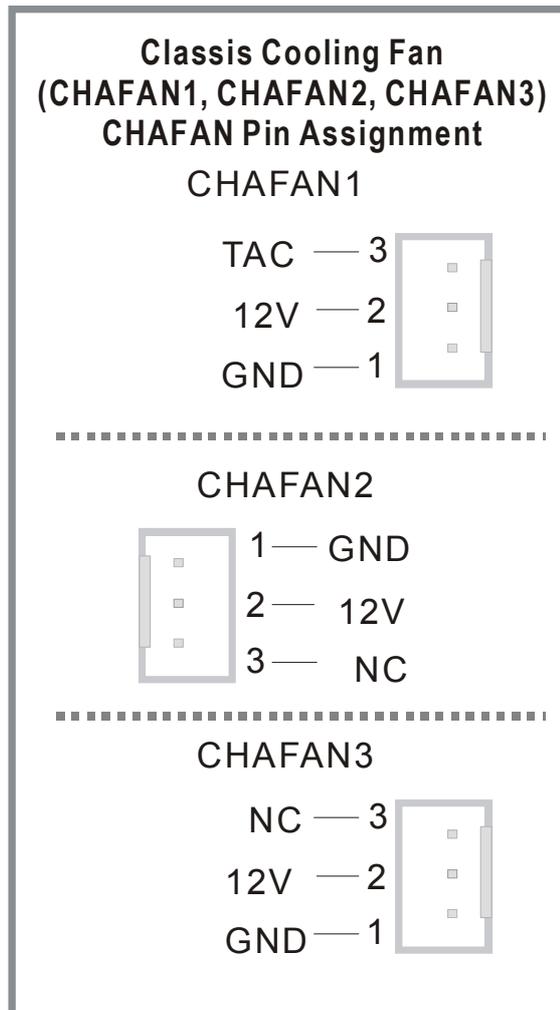
After you have seated the CPU properly on the processor, attach the 3-pin fan cable to the CPUFAN connector on the Motherboard. The fan will stop when the system enters into Suspend Mode. (Suspend mode can be enabled from the BIOS Setup Utility, [POWER MANAGEMENT] menu.)

To avoid damage to the system, install according to the following pin assignment:



## (2) Chassis Cooling Fan (CHAFAN1, CHAFAN2, CHAFAN3)

Some chassis also feature a cooling fan. This Motherboard features a CHAFAN connector to provide 12V power to the chassis fan. Connect the cable from the chassis fan to the CHAFAN 3-pin connector. Install according to the following pin assignment:

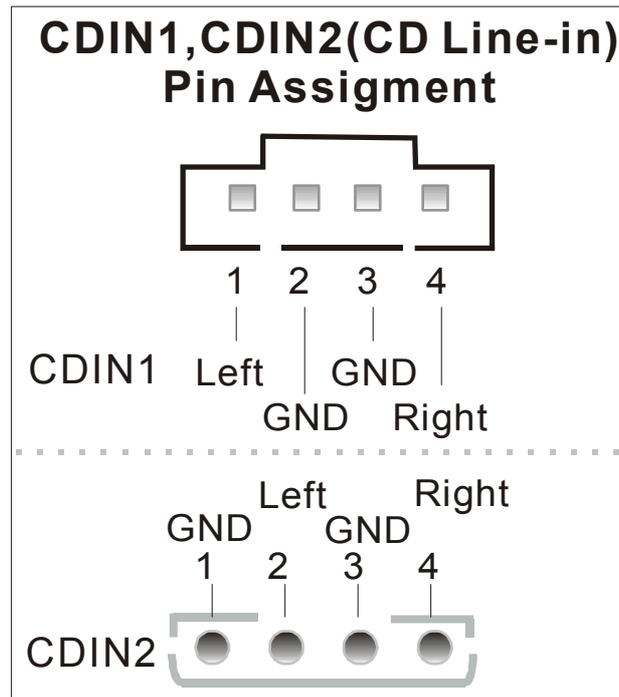


**Note:** CPUFAN must be installed for this Motherboard, CHAFAN is optional.

#### 4. CD Line-in (CDIN1,CDIN2)

This Motherboard provides one CD-Line in connectors. Please connect the 4-pin audio cable from your CD-ROM drive to either CDIN2. (It fits in only one, depending on the cable that came with your CD-ROM drive)

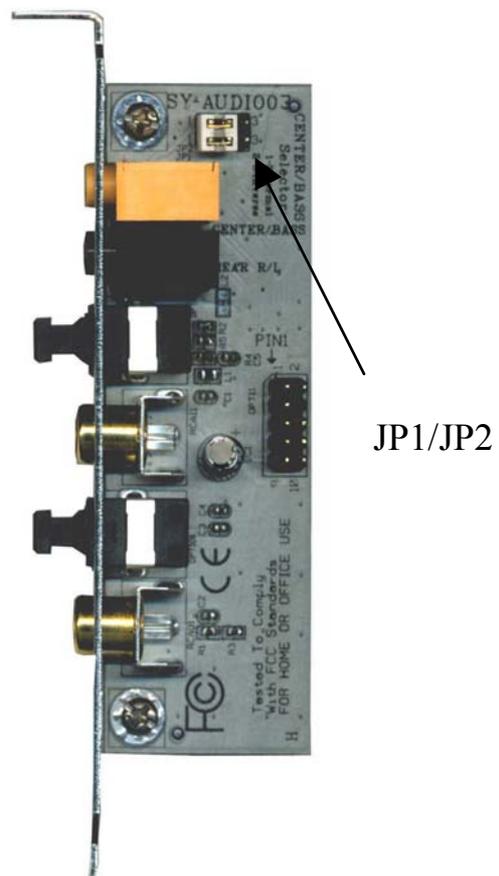
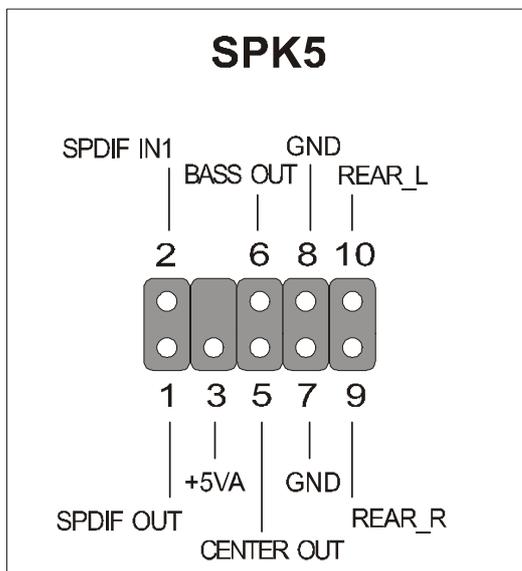
Please install according to the following pin assignment:



## 5. SPK5(optional)

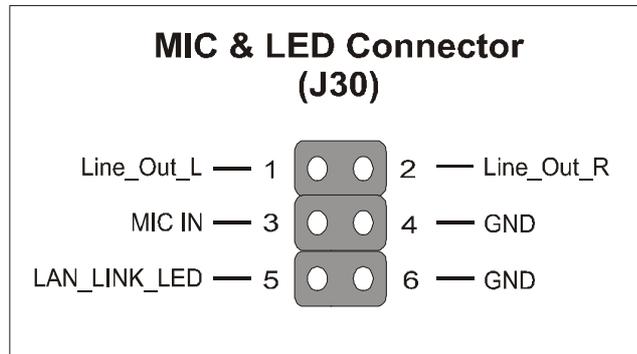
Connect one end of the Audio flat cable to SPK5 connector in the motherboard, and the other end to the small audio connector. (See unpacking the motherboard in Chapter 1 for more info on the audio flat cable)

Please refer to Appendix B C-Media sound solution for more information on AUDIO function.



**Note:** Some 5.1 speaker have different center/base assignment. Please use the C-media Multi-Channel Audio demo software to check if sounds coming from the center/base speaker are correct. If not, short pin 2-3 of JP1 and JP2.

## 6. MIC & LED Connector (J30)

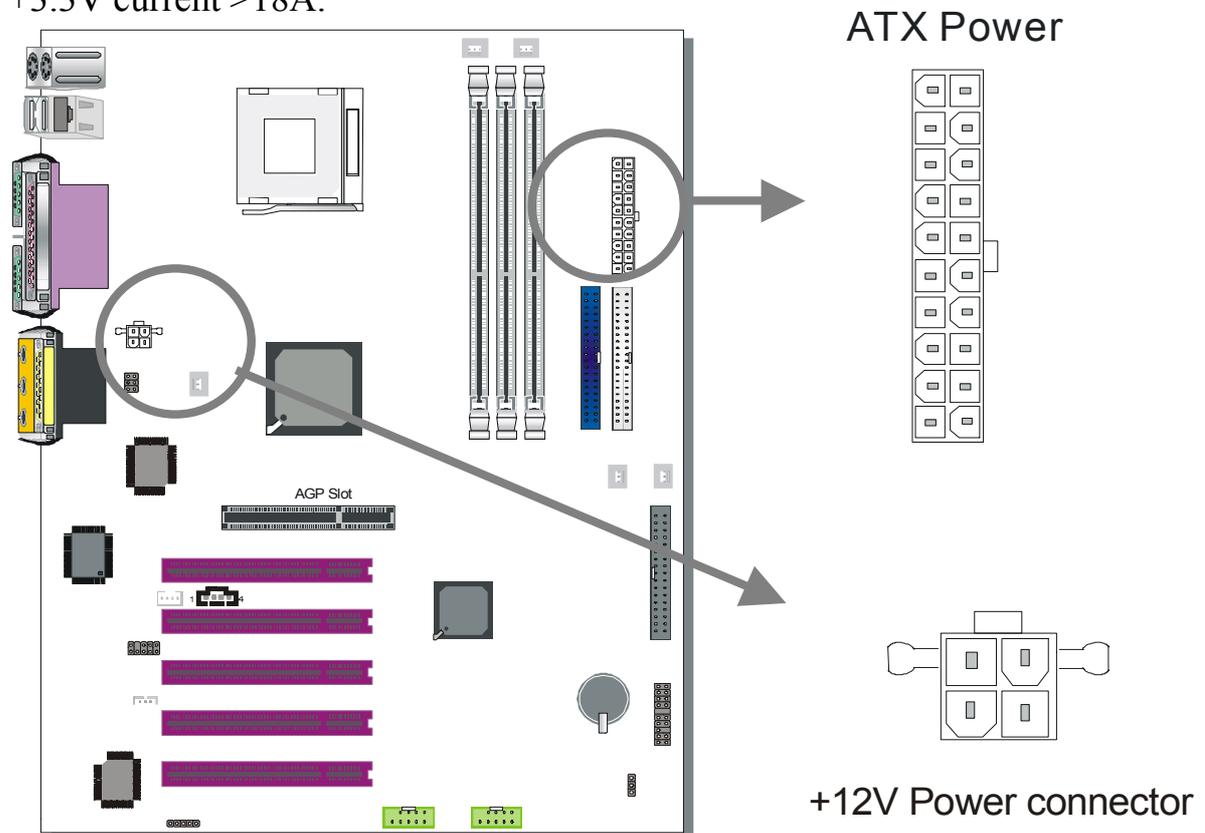


You can connect the Line-out /MIC in/LAN LED to the front panel of your PC case. (If this option is available in your PC case.)

## F. ATX Power Supply

*Use power supply specifically for P4 M/B. (ATX 12V power supply)*

The ATX12V power supply includes a 20-pin ATX connector that comply with the ATX specification, Version 2.03 for M/B specification, a new 4-pin receptacle/header combination--the +12V power connector--has been defined. The presence of the +12V power connector indicates that a power supply is ATX12V; the absence of the +12V power connector indicates that a supply is ATX. To allow for greater than +3.3V current, the Aux power connector is recommended for ATX and ATX12V power supplies with +3.3V current >18A.





### G. CMOS Clear (JP5)

In some cases the CMOS memory may contain wrong data, follow the steps below to clear the CMOS memory.

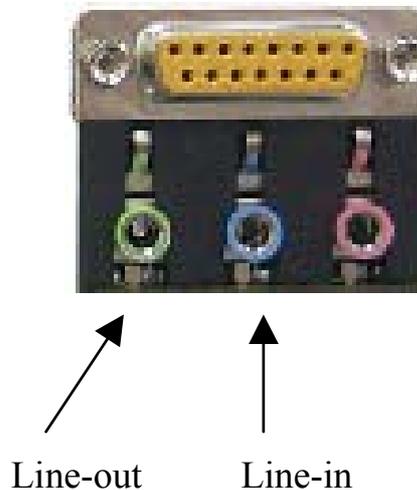
1. Clear the CMOS memory by momentarily shorting pin 2-3 on jumper JP5. This jumper can be easily identified by its white colored cap.
2. Then put the jumper back to 1-2 to allow writing of new data into the CMOS memory.

CMOS Clearing	Clear CMOS Data	Retain CMOS Data
JP5 Setting	Short pin 2-3 for at least 5 seconds to clear the CMOS 	Short pin 1-2 to retain new settings 
<i>Note: You must unplug the ATX power cable from the ATX power connector when performing the CMOS Clear operation.</i>		

### Audio Speakers connections

When using 2 channel speaker, connect the speaker cable to line-out.

If you're using 4 channel speaker, connect the front L/R speakers to line-out and rear L/R speakers to Line-in. make sure to set the audio software for 4 channel speaker system. Don't forget to set the Audio Rack software to 4 channel system.





## **Audio Upgrade**

The standard configuration of P4X400 DRAGON Lite motherboard supports 2 or 4-channel audio. To upgrade your DRAGON Plus on-board audio to 5.1-channel and enjoy digital sound quality, simply add a SPDIF audio connector to the motherboard.

## **Step 5 Power On**

You have now completed the hardware installation of your Motherboard successfully.

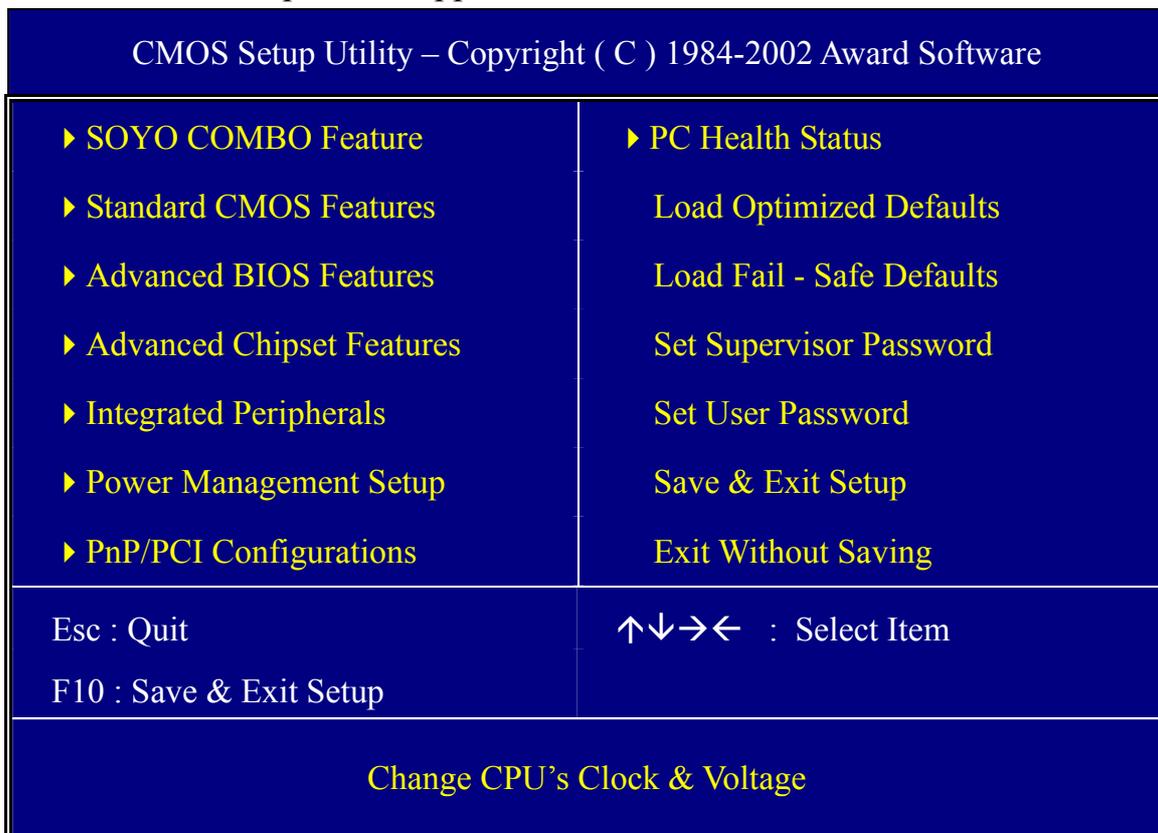
1. Turn the power on
2. To enter the BIOS Setup Utility, press the <DEL> key while the system is performing the diagnostic checks,



**Note:** If you have failed to enter the BIOS, wait until the boot up sequence is completed. Then push the RESET button and press <DEL> key again at the beginning of boot-up, during diagnostic checks.

Repeat this operation until you get the following screen.

3. The BIOS Setup screen appears:



## 2-3 QUICK BIOS SETUP

This Motherboard does not use any hardware jumpers to set the CPU frequency. Instead, CPU settings are software configurable with the BIOS [SOYO COMBO FEATURE]. The [SOYO COMBO FEATURE] combines the main parameters that you need to configure, all in one menu, for a quick setup in BIOS.

After the hardware installation is complete, turn the power switch on, then press the <DEL> key during the system diagnostic checks to



enter the Award BIOS Setup program. The CMOS SETUP UTILITY will be shown on the screen. Then, follow these steps to configure the CPU settings.

**Step 1. Select [STANDARD CMOS FEATURE]**

Set [Date/Time] and [Floppy drive type], then set [Hard Disk Type] to “Auto”.

**Step 2. Select [LOAD OPTIMIZED DEFAULTS]**

Select the “LOAD OPTIMIZED DEFAULTS” menu and type “Y” at the prompt to load the BIOS optimal setup.

**Step 3. Select [SOYO COMBO FEATURE]**

Move the cursor to the [CPU Frequency Select], [CPU Ratio] field to set CPU Clock/Ratio.

*Note:* Set the [CPU Frequency Select] field to “Manual”, to be able to change the CPU frequency 1 MHz stepping..

**Step 4. Select [SAVE & EXIT SETUP]**

Press <Enter> to save the new configuration to the CMOS memory, and continue the boot sequence.

You are now ready to configure your system with the BIOS setup program. Go to *Chapter 3: BIOS SETUP*

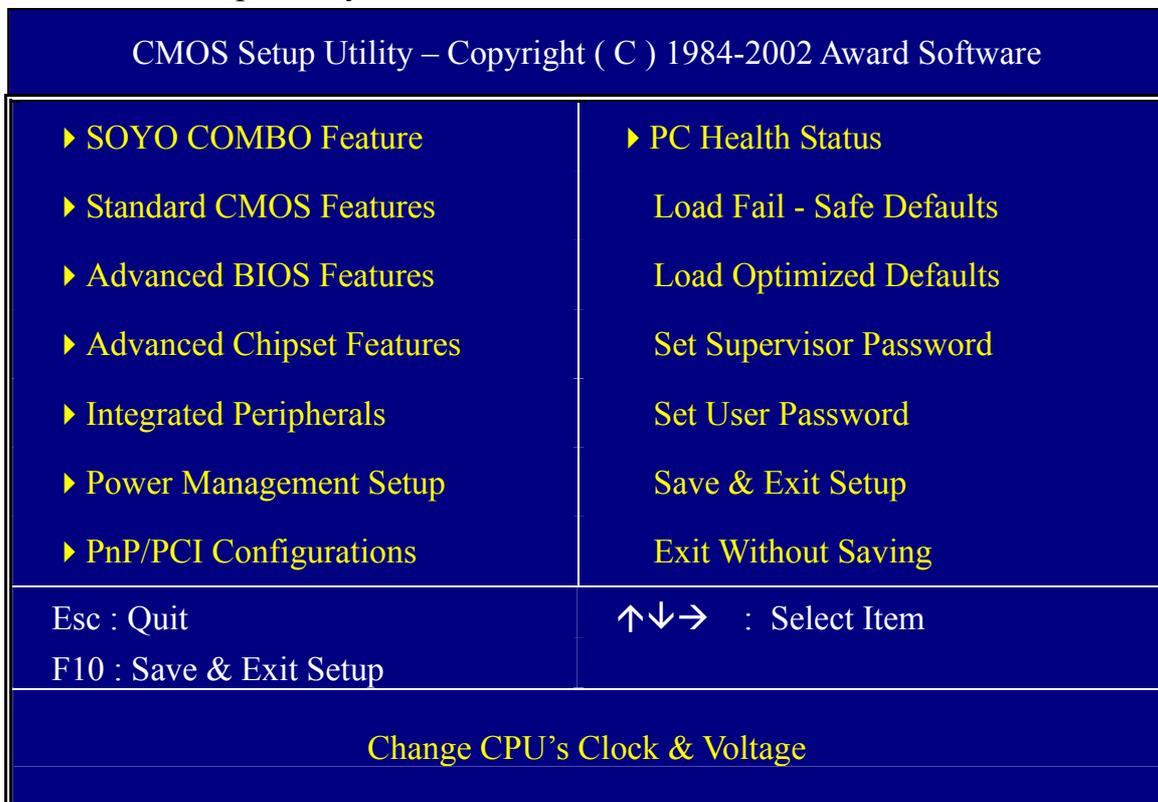
## Chapter 3

# BIOS SETUP UTILITY

This Motherboard's BIOS setup program uses the ROM PCI BIOS program from Award Software Inc.

To enter the Award BIOS program's Main Menu:

1. Turn on or reboot the system.
2. After the diagnostic checks, press the [Del] key to enter the Award BIOS Setup Utility.



### Selecting items

- Use the arrow keys to move between items and select fields.
- From the Main Menu press arrow keys to enter the selected submenu.

### Modifying selected items

- Use the [Up]/[Down] keys to modify values within the selected fields. Some fields let you enter values directly.

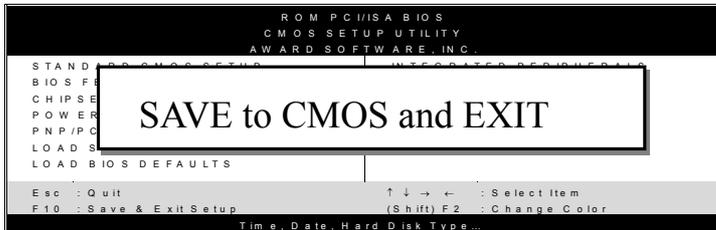


**Hot Keys:** Function keys give you access to a group of commands throughout the BIOS utility.

<b>Function</b>	<b>Command</b>	<b>Description</b>
<b>F1</b>	General Help	Gives the list of options available for each item.
<b>F5</b>	Previous Values	Restore the old values. These are the values that the user started the current session with.
<b>F6</b>	Load Fail-Safe Defaults	Loads all items with the most conservative values.
<b>F7</b>	Load Optimized Defaults	Loads all options with the optimize values.
<b>F10</b>	Save	Saves your changes and reboots the system.
<b>[Esc]</b>	Exit	Returns at anytime and from any location to the Main Menu.
<b>[Enter]</b>	Select	Will display a overlapping window with all options for the current item.
<b>[+/-/PU/PD]</b> <b>↓</b>	Value	Using the +, -, Page Up and Page Down keys the user can toggle the value of the current item.

## SAVE AND EXIT SETUP

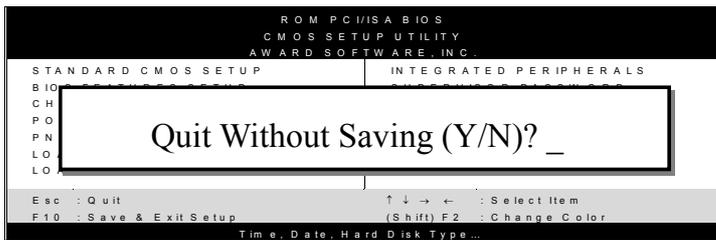
Select the [SAVE & EXIT SETUP] option from the Main Menu to save data to CMOS and exit the setup utility. This option saves all your changes and causes the system to reboot.



Type [Y] to save the changes and exit or [N] to return to the Main Menu and keep current values.

## EXIT WITHOUT SAVING

Selecting the [EXIT WITHOUT SAVING] option allows you to abandon all data and exit setup, therefore ignoring all your changes.



Type [Y] to abandon changes and exit or [N] to return to the Main Menu and keep current values.

### 3-1 SOYO COMBO SETUP

This Motherboard does not use any hardware jumpers to set the CPU frequency. Instead, CPU settings are software configurable with the BIOS [SOYO COMBO SETUP].

After the hardware installation is complete, turn the power switch on, then press the <DEL> key during the system diagnostic checks to enter the Award BIOS Setup program. The CMOS SETUP UTILITY will display on screen. Then, select the [SOYO COMBO SETUP] option from the main menu and press the <Enter> key.

CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software SOYO COMBO Feature		
System Performance	Normal	Item Help Menu Level ▶
Frequency 1MHz Stepping	100 MHz	
CPU Ratio Select	8X	
DRAM Clock	By SPD	
Auto Detect PCI/Dimm Clk	Disabled	
Spread Spectrum	Disabled	
CPU Vcore Select	Default	
AGP(1.5) Voltage Select	Default	
DDR(2.5) Voltage Select	Default	
▶ Advance Tune-Up Settings	Press Enter	
Onboard 6Ch H/W Audio	Enabled	
Onboard (10/100) Lan	Enabled	
Quick Power On Self Test	Enabled	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	LS120	
Boot Other Device	Enabled	

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

The [SOYO COMBO SETUP] menu combines the main parameters that you need to configure, all in one menu, for a quick setup in BIOS.

## System Performance

	Setting	Description	Note
<b>System Performance</b>	Normal	Adjust your computer performance.	Default
	Fast		
	Turbo		

## SOYO COMBO Feature

	Setting	Description	Note
<b>Frequency 1MHz Stepping</b>	100 MHz	Press “Page Up” / “Page Down” key to Over Clock the CPU Front Side Bus in 1MHz increment or Press “Enter” key, then type the desired CPU Front Side Bus.	
	~ 132 MHz		
<b>CPU Clock Ratio</b>	Auto	The available CPU ratio you can select will depends on your CPU ID.	Default
	10X ~ 24X		
<b>DRAM Clock</b>	By SPD	This item allows you to control the DRAM speed.	
	100 MHz		
	133 MHz		Default
	166 MHz		
<b>Auto Detect PCI/DIMM Clk</b>	Disabled	When enabled, this item will auto detect if the DIMM and PCI socket have devices and will send clock signal to DIMM and PCI devices. When disabled, it will send the clock signal to all DIMM and PCI socket.	Default
	Enabled		
<b>Spread Spectrum</b>	Disabled	This item allows you to Disabled / Enabled the spread spectrum modulate.	Default
	Enabled		

### CPU Vcore Select

	Setting	Description	Note
<b>CPU Vcore Select</b>	Default	This function adjust the CPU voltage.	Default
	1.100V, 1.125V,		
	1.150V, 1.175V,		
	1.200V, 1.225V,		
	1.250V, 1.275V,		
	1.300V, 1.325V,		
	1.350V, 1.375V,		
	1.400V, 1.425V,		
	1.450V, 1.475V,		
	1.500V, 1.525V,		
	1.550V, 1.575V,		
	1.600V, 1.625V,		
	1.650V, 1.675V,		
	1.700V, 1.725V,		
1.750V, 1.775V,			
1.800V, 1.825V,			
1.850V			

### AGP Voltage Adjust

	Setting	Description	Note
<b>AGP (1.5V) Voltage Select</b>	Default	This function allow to adjust the AGP voltage.	Default
	1.6V		
	1.7V		
	1.8V		

### DDR Voltage Adjust

	Setting	Description	Note
<b>DDR (2.5V) Voltage Select</b>	Default	This function allow to adjust the DDR voltage.	Default
	2.6V		
	2.7V		
	2.8V		

**Onboard 6Ch H/W Audio**

	Setting	Description	Note
<b>Onboard 6Ch H/W Audio</b>	Enabled	Enabled/Disabled Onboard 6Ch H/W Audio.	Default
	Disabled		

**Onboard (10/100) LAN**

	Setting	Description	Note
<b>Onboard (10/100) LAN</b>	Enabled	Enabled/Disabled Onboard LAN.	Default
	Disabled		

**Quick Power On Self Test**

	Setting	Description	Note
<b>Quick Power On Self Test</b>	Disabled		
	Enabled	Provides a fast POST at boot-up.	Default

### System Boot Control Settings

	Setting	Description	Note
<b>First /Second/Third Boot Device</b>	Floppy	Select Your Boot Device Priority	
	LS120		
	HDD-0		
	SCSI		
	CDROM		
	HDD-1		
	HDD-2		
	HDD-3		
	ZIP100		
	USB-FDD		
	USB-ZIP		
	USB-CDROM		
	USB-HDD		
	LAN		
	Disabled		
<b>Boot Other Device</b>	Disabled	Select Your Boot Device Priority	
	Enabled		Default

### 3-1.1 Advance Turn-up Settings



**Caution:** Change these settings only if you are already familiar with the Chipset.

The [Advanced Turn-up Settings] option changes the values of the chipset registers. These registers control the system options in the computer.

CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software Advance Turn-up Settings					
Current FSB Frequency	100 MHz	Item Help			
Current DRAM Frequency	133 MHz				
DRAM Timing	By SPD				
x SDRAM CAS Latency	3				
x Bank Interleave	Disabled				
x Precharge to Active (Trp)	3T				
x Active to precharge (Tras)	7T				
x Active to CMD (Trcd)	3T				
x DRAM Command Rate	2T Command				
DRAM Burst Len	4				
Write Recovery Time	3T				
Dram Access Time	3T				
↑↓→:Move	Enter:Select		+/-/PU/PD:Value	F10:Save	ESC:Exit
F5:Previous Values		F6:Fail-Safe Defaults		F7: Optimized Defaults	

After you have completed the changes, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

## DRAM Timing/Drive Control

	Setting	Description	Note
<b>DRAM Timing</b>	By SPD	If enable the DRAM will auto detect the DRAM timing.	Default
	Manual		
<b>SDRAM CAS Latency</b>	2.5	When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system designer.	Default
	2		
<b>Bank Interleave</b>	Disabled	Increase DRAM performance.	Default
	2 Bank		
	4 Bank		
<b>Precharge to Active(Trp)</b>	2T	Increase DRAM performance.	
	3T		Default
<b>Active to Precharge(Tras)</b>	6T	Increase DRAM performance.	
	7T		Default
<b>Active to CMD(Trcd)</b>	3T	Increase DRAM performance.	Default
	2T		
<b>DRAM Command Rate</b>	1T Command	Increase DRAM performance.	
	2T Command		Default
<b>DRAM Burst Len</b>	4	Increase DRAM performance.	Default
	8		

### 3-2 STANDARD CMOS SETUP

Select the [STANDARD CMOS SETUP] option from the Main Menu and press [Enter] key.

CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software Standard CMOS Features		
Date (mm:dd:yy) Time (hh:mm:ss)	Mon, Jan 1 2002 1 : 1 : 8	Item Help
▶ IDE Primary Master ▶ IDE Primary Slave ▶ IDE Secondary Master ▶ IDE Secondary Slave	None None None None	Menu Level ▶ Change the day, month, year and century.
Drive A Drive B Floppy 3 Mode Support	1.44M, 3.5 in. None Disabled	
Video Halt On	EGA/VGA All Errors	
Base Memory Extended Memory Total Memory	640K 130048K 131072K	
↑↓→ Move	Enter:Select	+/-/PU/PD:Value
F5:Previous Values	F6:Fail-Safe Defaults	F10:Save
		ESC:Exit
		F1:General Help
		F7: Optimized Defaults

This screen allows you to modify the basic CMOS settings.

After you have completed the changes, press [Esc] key to return to the Main Menu.

This Main Menu function automatically detects the hard disk type and configures the [Standard CMOS Features] accordingly.

**CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software**  
**IDE Primary Master**

IDE HDD Auto-Detection  IDE Primary Master Access Mode  Capacity  Cylinder Head Precomp Landing Zone Sector	Press Enter  Auto Auto  0 MB  0 0 0 0 0	Item Help  Menu Level ▶  To auto-detect the HDD's size, head... on this channel
--	--	--

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



**Note:** This function is only valid for IDE type of hard disk drives.

### Date & Time

	Display	Setting	Please Note
<b>Date</b>	mm/dd/yyyy	Type the current date	You can also the PUp/PDn keys to toggle
<b>Time</b>	hh:mm:ss	Type the current time	24-hour clock format 3:15 PM is displayed as 15:15:00

## Hard Disks Type & Mode

Choose the type and mode for the hard disks that you have already installed.

Primary (Secondary) Master & Slave	Setting	Description	Note
<b>IDE HDD Auto-Detection</b>	Press Enter	To auto-detect the HDD's size, head... on this channel	
<b>IDE Primary Slave (User Type)</b>	Auto	BIOS detects hard disk type automatically.	Default
	User	User defines the type of hard disk.	
	None		
<b>Access Mode</b>	CHS	Normal IDE hard disk	<528MB
	LBA	Enhanced IDE hard disk	>528MB
	Large	Large IDE hard disk (for certain hard disk)	
	Auto	BIOS detects hard disk mode automatically.	Default



**Note:** If you have any questions on your hard disk type or mode, ask your hard disk provider or previous user for details.

## Floppy Drives

Floppy Drives	Setting	Description	Note
<b>Drives A</b>	360KB, 5.25 in.		Default
	1.2MB, 5.25 in.		
	720KB, 3.5 in.		
	1.44MB, 3.5 in.		
	2.88MB, 3.5 in.		
	None	Not installed	
<b>Floppy 3-Mode Support</b>	Disabled		Default
	Drive A, Drive B, Both	Supports 3-mode floppy diskette: 740KB/1.2MB/1.44MB on selected disk drive.	Special disk drive commonly used in Japan

**Others Optional**

	<b>Setting</b>	<b>Description</b>	<b>Note</b>
<b>Video</b>	EGA/VGA	Select the video mode.	Default
	CGA 40		
	CGA 80		
	MONO (Monochrome)		
<b>Halt On</b>	ALL Errors	When the BIOS detects system errors, this function will stop the system. Select which type of error will cause the system halt.	Default
	No Errors		
	All, But Keyboard		
	All, But Diskette		
	All, But Disk/Key		

### 3-3 ADVANCED BIOS FEATURES

Select the [Advanced BIOS Features] option from the Main Menu and press [Enter] key.

CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software  
 Advanced BIOS Features

Virus Warning CPU L1 & L2 Cache CPU L2 Cache ECC Chicking Swap Floppy Drive Boot Up Floppy Seek Boot Up NumLock Status Gate A20 Option Typematic Rate Setting x Typematic Rate (Chars/Sec) x Typematic Delay (Msec) Security Option APIC Mode x MPS Version Control For OS OS Select For DRAM > 64MB HDD S.M.A.R.T. Capability Video BIOS Shadow Full Screen LOGO Show EPA LOGO SELECT Small Logo (EPA) Show	Disabled Enabled Enabled Disabled Enabled On Fast Disabled 6 250 Setup Enabled 1.1 Non-OS2 Disabled Enabled Enabled LOGO-0 Enabled	<div style="background-color: #000080; color: white; padding: 5px; text-align: center;">Item Help</div> Menu Level ▶  Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.
--	--	---

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

After you have completed the changes, press [Esc] key and follow the instructions on your screen to save your settings or exit without saving.

#### Virus Warning

	Setting	Description	Note
<b>Virus Warning</b>	Disabled	If set to enabled, the Paragon Anti-Virus. Function will scan your boot drive for boot virusses. If a boot virus is detected, the BIOS will display a warning message.	Default
	Enabled		

### Cache Memory Options

	Setting	Description	Note
<b>CPU L1 &amp; L2 Cache</b>	Disabled		
	Enabled	Enables the CPU's L1 & L2 cache.	Default
<b>Swap Floppy Drive</b>	Disabled		Default
	Enabled		

### Boot Up Floppy Seek

	Setting	Description	Note
<b>Boot Up Floppy Seek</b>	Disabled	Seeks disk drives during boot up. Disabling speeds boot up.	
	Enabled		Default

### Boot Up NumLock Status

	Setting	Description	Note
<b>Boot Up NumLock Status</b>	On	Puts numeric keypad in NumLock mode at boot-up.	Default
	Off	Puts numeric keypad in arrow key mode at boot-up.	

### Gate A20 Options

	Setting	Description	Note
<b>Gate A20 Options</b>	Normal	Lets chipset control GateA20.	
	Fast	A pin in the keyboard controller controls GateA20.	Default

### Typematic Settings

Typematic Settings	Setting	Description	Note
<b>Typematic Rate Setting</b>	Disabled	Keystrokes repeat at a rate determined by the keyboard.	Default
	Enabled	When enabled, the typematic rate and typematic delay can be selected.	
The following [Typematic Rate] and [Typematic Delay] fields are active only if [Typematic Rate Setting] is set to [Enabled]			
<b>Typematic Rate (Chars/sec)</b>	6 (Char/sec)	Choose the rate at which a character is repeated when holding down a key.	Default
	8 (Char/sec)		
	10 (Char/sec)		
	12 (Char/sec)		
	15 (Char/sec)		
	20 (Char/sec)		
	24 (Char/sec)		
30 (Char/sec)			
<b>Typematic Delay (Msec)</b>	250 (msec)	Choose how long after you press a key down the character begins repeating.	Default
	500 (msec)		
	750 (msec)		
	1000 (msec)		

### Security Option

Use this feature to prevent unauthorized system boot-up or use of BIOS Setup. The following table describes the security settings.

	Setting	Description	Note
<b>Security Option</b>	Setup	If a password is set, the password prompt only appears when you attempt to enter the BIOS Setup program.	Default
	System	Each time the system is booted, the password prompt appears.	

## Security Option(Continue)

	Setting	Description	Note
<b>ACPI Mode</b>	Disabled	Enabled the Advanced Programmable Interrupt Controller (APIC) mode.	Default
	Enabled		
<b>MPS Version Control for OS</b>	1.1	Allows you to choose the Multi Processor Specification (MPS) version.	Default
	1.4		

## Other Control Options

	Setting	Description	Note
<b>OS Select for DRAM&gt;64MB</b>	OS2	When using an OS2 operating system.	Default
	Non-OS2	When using another, non-OS2 operating system.	
<b>HDD S.M.A.R.T. Capability</b>	Disabled	Enabled this field when your HDD supports the S.M.A.R.T. function. Consult your HDD provider for details.	Default
	Enabled		
<b>Video BIOS Shadow</b>	Disabled	The BIOS is shadowed in a 16K segment if it is enabled and if it has BIOS present. These 16 segments can be shadowed from ROM to RAM. BIOS shadow copies BIOS code from slower ROM to faster RAM. BIOS can then execute from RAM.	Default
	Enabled		
<b>Full Screen LOGO Show</b>	Disabled	Set Enabled to Show Logo (Dragon).	Default
	Enabled		
<b>EPA LOGO SELECT</b>	LOGO-0	Allows user to display SOYO logo or own logo. Logo-0 Shows SOYO logo. Logo-1 Shows user logo (Default Blank).	Default
	LOGO-1		
<b>Small Logo(EPA) Show</b>	Disabled	Set Enabled to Show Logo(EPA).	Default
	Enabled		

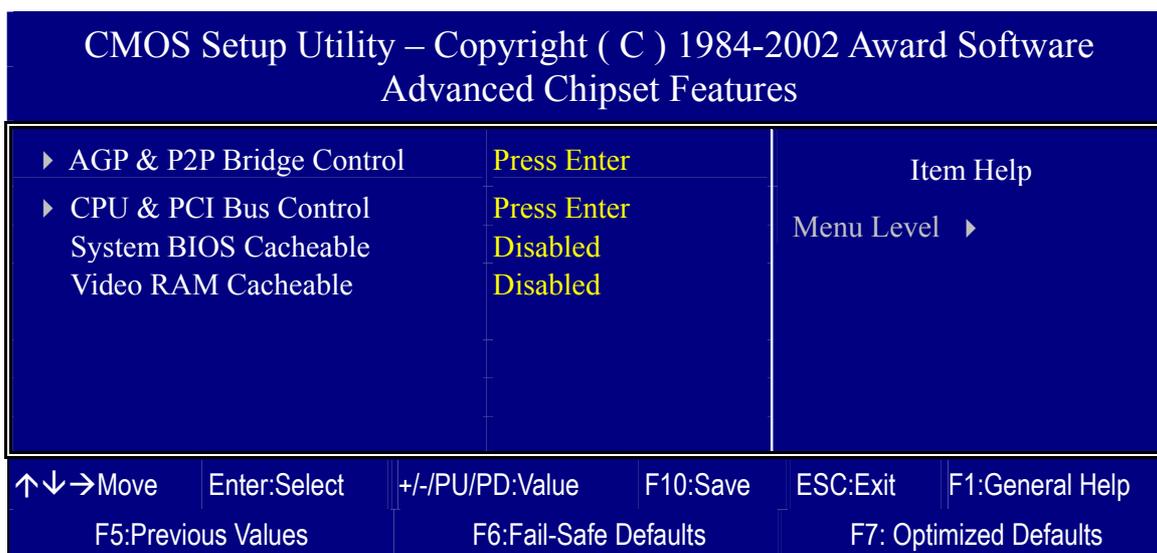
### 3-4 ADVANCED CHIPSET FEATURES

Select the [Advanced Chipset Features] option from the Main Menu and press [Enter] key.



**Caution:** Change these settings only if you are already familiar with the Chipset.

The [Advanced Chipset Features] option changes the values of the chipset registers. These registers control the system options in the computer.



After you have completed the changes, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

The following table describes each field in the Advanced Chipset Features Menu and how to configure each parameter.

#### CHIPSET FEATURES SETUP

	Setting	Description	Note
<b>System BIOS Cacheable</b>	Disabled		Default
	Enabled	The ROM area F0000H-FFFFFFH is cacheable.	
<b>Video RAM Cacheable</b>	Disabled	When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system designer	Default
	Enabled		

### 3-4.1 AGP & P2P Bridge Control



**Caution:** Change these settings only if you are already familiar with the Chipset.

The [AGP & P2P Bridge Control] option changes the values of the chipset registers. These registers control the system options in the computer.

CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software  
 AGP & P2P Bridge Control

AGP Aperture Size AGP Mode AGP Driving Control x AGP Driving Value AGP Fast Write AGP Master 1 WS Write AGP Master 1 WS Read DBI Output for AGP Trans	64M 4X Auto DA Disabled Disabled Disabled Disabled	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			

After you have completed the changes, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

#### AGP & P2P Bridge Control

	Setting	Description	Note
<b>AGP Aperture Size</b>	256M	Select the size of Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range	
	128M		
	64M		Default
	32M		
<b>AGP Mode</b>	1X	This item allows you to your AGP mode, if 8X AGP Card is used, this option will disappear.	
	2X		
	4X		Default



## AGP & P2P Bridge Control (Continue)

	Setting	Description	Note
<b>AGP Driving Control</b>	Auto	This item allows you to adjust the AGP driving force. Choose <i>Manual</i> to key in a AGP Driving Value in the next selection. This field is recommended to set in Auto for avoiding any error in your system.	Default
	Manual		
<b>AGP Driving Value</b>	Min=0000 ~ Max=00FF	This item allows you to adjust the AGP driving force.	
<b>AGP Fast Write</b>	Disabled	Enabled/Disabled AGP fast write capability.	Default
	Enabled		
<b>AGP Master 1 WS Write</b>	Disabled	When <i>Enabled</i> , writes to the AGP(Accelerated Graphics Port) are executed with one wait states.	Default
	Enabled		
<b>AGP Master 1 WS Read</b>	Disabled	When <i>Enabled</i> , read to the AGP (Accelerated Graphics Port) are executed with one wait states.	Default
	Enabled		
<b>DBI Output for AGP Trans</b>	Disabled	This option will appear if 8X AGP Card is used.	Default
	Enabled		

### 3-4.2 CPU & PCI Bus Control



**Caution:** Change these settings only if you are already familiar with the Chipset.

The [CPU & PCI Bus Control] option changes the values of the chipset registers. These registers control the system options in the computer.

CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software  
**CPU & PCI Bus Control**

CPU to PCI Write Buffer PCI Master 0 WS Write PCI Delay Transaction VLink 8X Support	Enabled Enabled Disabled Enabled	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			

After you have completed the changes, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

#### CPU & PCI Bus Control

	Setting	Description	Note
<b>CPU to PCI Write Buffer</b>	Disabled		
	Enabled	Enabled the CPU to PCI Write Buffer.	Default
<b>PCI Master 0 WS Write</b>	Disabled	This item allows you to enabled/disabled the PCI post write.	Default
	Enabled		
<b>PCI Delay Transaction</b>	Disabled	The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select <i>Enabled</i> to support compliance with PCI specification version 2.1.	Default
	Enabled		
<b>VLink 8X Support</b>	Disabled	Enabled item can support Quad Data Transfer interconnect to the VT8235 South Bridge.	Default
	Enabled		

### 3-5 INTEGRATED PERIPHERALS

Select the [Integrated Peripherals] option from the Main Menu and press [Enter] key.



**Caution:** Change these settings only if you are already familiar with the Chipset.

The [INTEGRATED PERIPHERALS] option changes the values of the chipset registers. These registers control the system options in the computer. The following screen shows setup default settings.

CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software  
 Integrated Peripherals

▶ VIA OnChip IDE Device	Press Enter	Item Help
▶ SuperIO Device	Press Enter	
Init Display First	AGP	Menu Level ▶
OnChip USB Controller	All Enabled	
USB Keyboard Support	Disabled	
USB Mouse Support	Disabled	
IDE HDD Block Mode	Enabled	

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

After you have completed the changes, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

### INTEGRATED PERIPHERALS

	Setting	Description	Note
<b>Init Display First</b>	PCI Slot	Choose which card – AGP Display card or PCI VGA card – to initialize first.	
	AGP		Default



## INTEGRATED PERIPHERALS (Continue)

	Setting	Description	Note
<b>OnChip USB Controller</b>	All Disabled	This should be enabled if your system has a USB installed on the system board and you want to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature.	Default
	All Enabled		
<b>USB Keyboard Support</b>	Disabled	Select <i>Enabled</i> if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.	Default
	Enabled		
<b>USB Mouse Support</b>	Disabled	Select Disabled if your system contains a Universal Serial Bus (USB) controller and have a USB Mouse.	Default
	Enabled		
<b>IDE HDD Block Mode</b>	Disabled	Invokes multi-sector transfer instead of one sector per transfer. Not all HDDs support this function.	Default
	Enabled		

### 3-5.1 VIA OnChip IDE Device



**Caution:** Change these settings only if you are already familiar with the Chipset.

The [VIA OnChip IDE Device] option changes the values of the chipset registers. These registers control the system options in the computer.

The following screen shows setup default settings.

CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software		
VIA OnChip IDE Device		
OnChip IDE Channel0	Enabled	Item Help  Menu Level ▶
OnChip IDE Channel1	Enabled	
IDE Prefetch Mode	Enabled	
Primary Master PIO	Auto	
Primary Slave PIO	Auto	
Secondary Master PIO	Auto	
Secondary Slave PIO	Auto	
Primary Master UDMA	Auto	
Primary Slave UDMA	Auto	
Secondary Master UDMA	Auto	
Secondary Slave UDMA	Auto	

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

After you have completed the changes, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

**VIA OnChip IDE Device**

	Setting	Description	Note
<b>On-Chip PCI IDE</b> ➤ <b>Primary</b> ➤ <b>Secondary</b>	Disabled	Turn off the on-board IDE.	
	Enabled	Use the on-board IDE.	Default
<b>IDE</b> ➤ <b>Primary Master PIO</b> ➤ <b>Primary Slave PIO</b> ➤ <b>Secondary Master PIO</b> ➤ <b>Secondary Slave PIO</b>	mode 0-4	0 is the slowest speed 4 is the fastest speed	
	Auto	For better performance and stability, we suggest you use the Auto setting to set the HDD control timing.	Default
<b>IDE</b> ➤ <b>Primary Master UDMA</b> ➤ <b>Primary Slave UDMA</b> ➤ <b>Secondary Master UDMA</b> ➤ <b>Secondary Slave UDMA</b>	Disabled		
	Auto	Select Auto to enable Ultra DMA Mode support.	Default

### 3-5.2 SuperIO Device



**Caution:** Change these settings only if you are already familiar with the Chipset.

The [SuperIO Device] option changes the values of the chipset registers. These registers control the system options in the computer.

The following screen shows setup default settings.

CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software SuperIO Device		
Onboard FDC Controller	Enabled	Item Help  Menu Level ▶
Onboard Serial Port 1	3F8/IRQ4	
Onboard Serial Port 2	2F8/IRQ3	
UART Mode Select	Normal	
x RxD , TxD Active	Hi, Lo	
x IR Transmission Delay	Enabled	
x UR2 Duplex Mode	Half	
x Use IR Pins	IR-Rx2Tx2	
Onboard Parallel Port	378/IRQ7	
Parallel Port Mode	SPP	
x EPP Mode Select	EPP1.7	
x ECP Mode Use DMA	3	

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

After you have completed the changes, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

**SuperIO Device**

	<b>Setting</b>	<b>Description</b>	<b>Note</b>
<b>Onboard FDC controller</b>	Disabled	Turn off the on-board floppy controller.	
	Enabled	Use the on-board floppy controller.	Default
<b>Onboard Serial Port 1 / Serial Port 2</b>	Disabled		
	3F8/IRQ4	Choose serial port 1 & 2's I/O address.	Default (port 1)
	2F8/IRQ3	Do not set port 1 & 2 to the same address except for Disabled or Auto.	Default (port 2)
	3E8/IRQ4		
	2E8/IRQ3		
	Auto		
<b>UART Mode</b>	IrDA	The second serial port offers these InfraRed interface modes.	
	ASKIR		
	Normal		Default
If [UART Mode Select] is set to [IrDA]/[ASKIR]			
<b>UR2 Function Duplex</b>	Half	Choose [Half] or [Duplex] to set UR2 in half duplex mode or full duplex mode respectively. Refer to your IR device specifications to select the suitable mode.	Default
	Full		
<b>Onboard Parallel Port</b>	Disabled	Choose the printer I/O address.	
	378/IRQ7		Default
	278/IRQ5		
	3BC/IRQ7		
<b>Parallel Port Mode</b>	SPP	The mode depends on your external device that connects to this port.	Default
	EPP		
	ECP		
	ECP+EPP		
	Normal		
If [Parallel Port Mode] is set to [ECP] or [ECP+EPP] mode			
<b>EPP Mode Select</b>	EPP1.9		
	EPP1.7		Default
<b>ECP Mode use DMA</b>	3	Choose DMA3	Default
	1	Choose DMA1	

### 3-6 POWER MANAGEMENT SETUP

The [POWER MANAGEMENT SETUP] sets the system's power saving functions.

CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software  
Power Management Setup

ACPI Suspend Type	S1 (POS)	Item Help Menu Level ▶
Power Management Option	User Define	
HDD Power Down	Disable	
Suspend Mode	Disable	
Video Off Option	Suspend -> Off	
Video Off Method	V/H SYNC+Blank	
MODEM Use IRQ	3	
Soft-Off by PWRBTN	Instant-Off	
Run VGABIOS if S3 Resume	Auto	
PWRON After PWR-Fail	Off	
▶ IRQ/Event Activity Detect	Press Enter	

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

CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software  
IRQ/Event Activity Detect

PS2KB Wakeup Select	Hot key	Item Help Menu Level ▶
PS2KB Wakeup from S3/S4/S5	Disabled	
VGA	OFF	
LPT & COM	LPT/COM	
HDD & FDD	ON	
PCI Master	OFF	
PowerOn by PCI Card	Disabled	
Modem Ring Resume	Disabled	
RTC Alarm Resume	Disabled	
x Date (of Month)	0	
x Resume Time (hh:mm:ss)	0 : 0 : 0	
▶ IRQs Activity Monitoring	Press Enter	

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

After you have completed the Power Management Setup, press [Esc] to return to the Main Menu.



## Power Management Controls

	Setting	Description	Note
<b>ACPI Suspend Type</b>	S1(POS)	The system will enter the S1 state during suspend. (Low latency wake up)	Default
	S3(STR)		
	S1 & S3		
<b>Power Management Option</b>	User Define	Lets you define the system power down times.	Default
	Min Saving		15 Min
	Max Saving		1 Min
<b>HDD Power Down</b>	Disabled	Lets you define the system power down times.	Default
	1Min, 2Min, 3Min, 4Min, 5Min, 6Min, 7Min, 8Min, 9Min, 10Min, 11Min, 12Min, 13Min, 14Min, 15Min		
<b>Suspend Mode</b>	Disabled	Lets you define the system power down times.	Default
	1Min, 2Min, 4Min, 6Min, 8Min, 10Min, 20Min, 30Min, 40Min, 1Hour,		
<b>Video Off Option</b>	Always On	When enabled, this feature allows the VGA adapter to operate in a power saving mode.	
	Suspend --> Off		Default
<b>Video Off Method</b>	Blank screen	Selects the method by which the monitor is blanked.	
	V/H Sync+Blank		Default
	DPMS Support		



### Power Management Controls (Continue)

	Setting	Description	Note
<b>MODEM Use IRQ</b>	3	Assigns an IRQ# to the modem device.	Default
	4-11, NA		
<b>Soft-Off by PWR-BTTN</b>	Delay 4 Sec.	Turns off the system power 4 seconds after pushing the power button.	
	Instant-off		Default
<b>Run VGABIOS if S3 Resume</b>	Auto	Some OS (win xp/2k) requires to load VGA BIOS after resume from S3.	Default
	Yes		
	No		
<b>PWRON After Power Failure</b>	On	The system will switch on when power comes back after a power failure.	
	Off	The system will remain off when power comes back after a power failure.	Default
	Former-Sts	The system will return to the state it was in before the power failure when power returns. (i.e: If the system was on, it will switch on again, if it was off, it will remain off)	
<b>IRQ/Event Activity Detect</b>	Press Enter	Select items that will wake up your system when in one of sleep modes. Press enter to go the select item page.	

## IRQ/Event Activity Detect

	Setting	Description	Note
<b>PS2KB Wakeup Select</b>	Hot key	You can boot-up your system by PS/2 K/B	Default
	Password	VIA hotkey or password.	
<b>PS2KB Wakeup from S3/S4/S5</b>	Disabled	You can set the following hotkey :	Default
	Ctrl+F1 ~ F12	1. Disable	
	Power	2. Choose CTRL+F1 up to F12	
	Wake	3. The power key in the K/B. (if available)	
	Any Key	4. The wake-up key in the K/B. (if available) 5. Any key in the K/B.	
<b>VGA</b>	ON	When <i>On of</i> VGA, any activity from one of the listed system peripheral devices or IRQs wakes up the system.	Default
	OFF		
<b>LPT &amp; COM</b>	LPT/COM	When <i>On of</i> LPT & COM, any activity from one of the listed system peripheral devices or IRQs wakes up the system.	Default
	NONE, LPT, COM		
<b>HDD &amp; FDD</b>	OFF	When <i>On of</i> HDD & FDD, any activity from one of the listed system peripheral devices wakes up the system.	Default
	ON		
<b>PCI Master</b>	OFF	When <i>On of</i> PCI Master, any activity from one of the listed system peripheral devices wakes up the system	Default
	ON		
<b>PowerOn by PCI Card</b>	Disabled	If enabled any PCI interrupt will wake up the system.	Default
	Enabled		
<b>Wake Up On LAN/Ring</b>	Disabled	An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem/LAN) awakens the system from a soft off state.	Default
	Enabled		
<b>RTC Alarm Resume</b>	Disabled	The system ignores the alarm.	Default
	Enabled	Set alarm to power on the system by the date (1-31) or time (hh:mm:ss). If the date is set to [0], the system will self-power on by alarm everyday at the set time.	

### 3-6.1 IRQs Activity Monitoring

This option sets the IRQs Activity Monitoring.

CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software  
 IRQs Activity Monitoring

Primary INTR IRQ3 (COM 2) IRQ4 (COM 1) IRQ5 (LPT 2) IRQ6 (Floppy Disk) IRQ7 (LPT 1) IRQ8 (RTC Alarm) IRQ9 (IRQ2 Redir) IRQ10 (Reserved) IRQ11 (Reserved) IRQ12 (PS/2 Mouse) IRQ13 (Coprocessor) IRQ14 (Hard Disk) IRQ15 (Reserved)	ON Disabled Enabled Enabled Enabled Enabled Disabled Disabled Disabled Disabled Enabled Enabled Enabled Disabled	Item Help <hr/> 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		

After you have completed the changes, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

### IRQs Activity Monitoring

Wake Up Events	Setting	Description	Note
<b>Primary INTR</b>	ON	When set to <i>On</i> , any event occurring at will awaken a system which has been powered down.	Default
	OFF		
<b>IRQs Activity Monitoring (Press Enter)</b>	Enabled	IRQ4(COM1), IRQ5(LPT2), IRQ6(Floppy Disk), IRQ7(LPT1), IRQ12(PS/2 mouse), IRQ13(Coprocessor), IRQ14(HardDisk)	
	Disabled	IRQ3(COM2), IRQ8 (RTC Alarm), IRQ9(IRQ2 Redir), IRQ10( Reserved), IRQ11(Reserved), IRQ15 (Reserved)	

### 3-7 PNP/PCI CONFIGURATIONS

This option sets the Motherboard's PCI Slots.

CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software  
 PNP/PCI Configurations

PNP OS Installed Reset Configuration Data	NO Disabled	Item Help  Menu Level ▶  Select Yes if you are using a Plug and Play capable operating system Select No if you need the BIOS to configure non-boot devices.
Resources Controlled By x IRQ Resources	Auto (ESCD) Press Enter	
PCI/VGA Palette Snoop	Disabled	
Assign IRQ For VGA	Enabled	
Assign IRQ For USB	Enabled	
INT Pin 1 Assignment	Auto	
INT Pin 2 Assignment	Auto	
INT Pin 3 Assignment INT Pin 4 Assignment	Auto Auto	

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



**Note:** Starred (\*) items will disappear when the [Resources Controlled By] option is set to [Auto].

After you have completed the PCI Slot Configuration, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

### PNP/PCI Configuration Controls

PNP/PCI Controls	Setting	Description	Note
<b>PNP OS Installed</b>	Yes	Set this field to [Yes] if you are running Windows 95, which is PnP compatible.	
	No	If the OS you are running does not support PnP configuration.	Default (If there is any doubt, set this field to [No])
<b>Reset Configuration Data</b>	Disabled	Retain PnP configuration data in BIOS.	Default
	Enabled	Reset PnP configuration data in BIOS.	
<b>Resources Controlled By</b>	Manual	BIOS does not manage PCI/ISA PnP card IRQ assignment. Requires to assign IRQ-# to PCI or ISA PnP manually. IRQ-3,4,5,7,9,10,11,12,14,15 assigned to: _ DMA-0,1,3,5,6,7 assigned to: _	
	Auto (ESCD)	The Plug-and-Play BIOS auto manages PCI/ISA PnP card IRQ assignment automatically.	Default (Recommended)
If [Resources Controlled By] is set to [Manual]			
<b>IRQ Resource (Press Enter)</b>	PCI Device	Choose IRQ-# assigned to PCI/ISA PnP card.	Default (IRQ-3,4,5,7,9,10,11,12,14,15)
	Reserved	Reserved IRQ	
<p>Under this item the user can assign an IRQ to a PCI slot. However, there under some conditions the IRQ will not be assigned as selected under this item:</p> <ol style="list-style-type: none"> <li>1. IRQs 0, 1, 2, 6, 8, 13 can NOT be assigned, because they are fixed.</li> <li>2. IRQs 5, 9, 10, 11 are available</li> <li>3. IRQs 3,4,7,12,14 and 15 will only be assigned if they are free. See the table below on how to free them:</li> </ol>			

## PNP/PCI Configuration Setup (Continue)

PNP/PCI Setup	Setting	Description	Note
Interrupt Line	How to set the BIOS to release the IRQ to the PnP Interrupt pool:		
	PnP / PCI configuration	Integrated Peripherals	
IRQ 15	IRQ 15: <b>PCI / ISA PnP</b>	On-Chip Secondary PCI IDE: <b>disabled</b>	
IRQ 14	IRQ 14: <b>PCI / ISA PnP</b>	On-Chip Primary PCI IDE: <b>disabled</b>	
IRQ 12	IRQ 12: <b>PCI / ISA PnP</b>	<i>Interrupt 12 will be released by the PnP BIOS automatically if the PS/2 Mouse Port is not used.</i>	
IRQ 7	IRQ 7: <b>PCI / ISA PnP</b>	Onboard parallel port: <b>disabled</b>	
IRQ 4	IRQ 4: <b>PCI / ISA PnP</b>	Onboard Serial port 1: <b>disabled</b>	
IRQ 3	IRQ 3: <b>PCI / ISA PnP</b>	Onboard Serial port 2: <b>disabled</b>	
4. Your OS may reassign another interrupt to a PCI slot after BIOS passes control to the OS, especially if you use Windows 95, 98 or NT.			
<b>Assign IRQ For VGA/USB</b>	Disabled	BIOS will assign IRQ for VGA/USB port.	
	Enabled	BIOS won't assign IRQ for VGA/USB port.	Default

## MULTI I/O ADDRESSES

Default settings for multi-I/O addresses are as follows:

Port	I/O Address	IRQ	Status
<b>LPT1</b>	378H	7	ECP/EPP
<b>COM1</b>	3F8H	4	
<b>COM2</b>	2F8H	3	



**Warning:** If a default I/O address conflicts with other I/O cards such as sound card, you must change one of the I/O addresses to remedy to this address conflict. (I/O addresses can be adjusted from the BIOS Setup Utility)

### 3-8 PC HEALTH STATUS

This option sets the Motherboard's PC Health Status.

CMOS Setup Utility – Copyright ( C ) 1984-2002 Award Software  
 PC Health Status

<b>Shutdown Temperature</b>	<b>Disabled</b>	Item Help
Vcore	1.77 V	Menu Level ▶
+ 3.3 V	3.24 V	
+ 12 V	12.16 V	
DDR Voltage	2.48 V	
AGP Voltage	1.48 V	
Current CPU Temp.	67 ° C / 152 ° F	
Current CHA Temp.	29 ° C / 84 ° F	
Current CPUFAN1 Speed	4856 RPM	
Current CHAFAN1 Speed	4411 RPM	

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

After you have completed the changes, press [Esc] key and follow the instructions on your screen to save your settings or exit without saving.

### CPU Device Monitoring

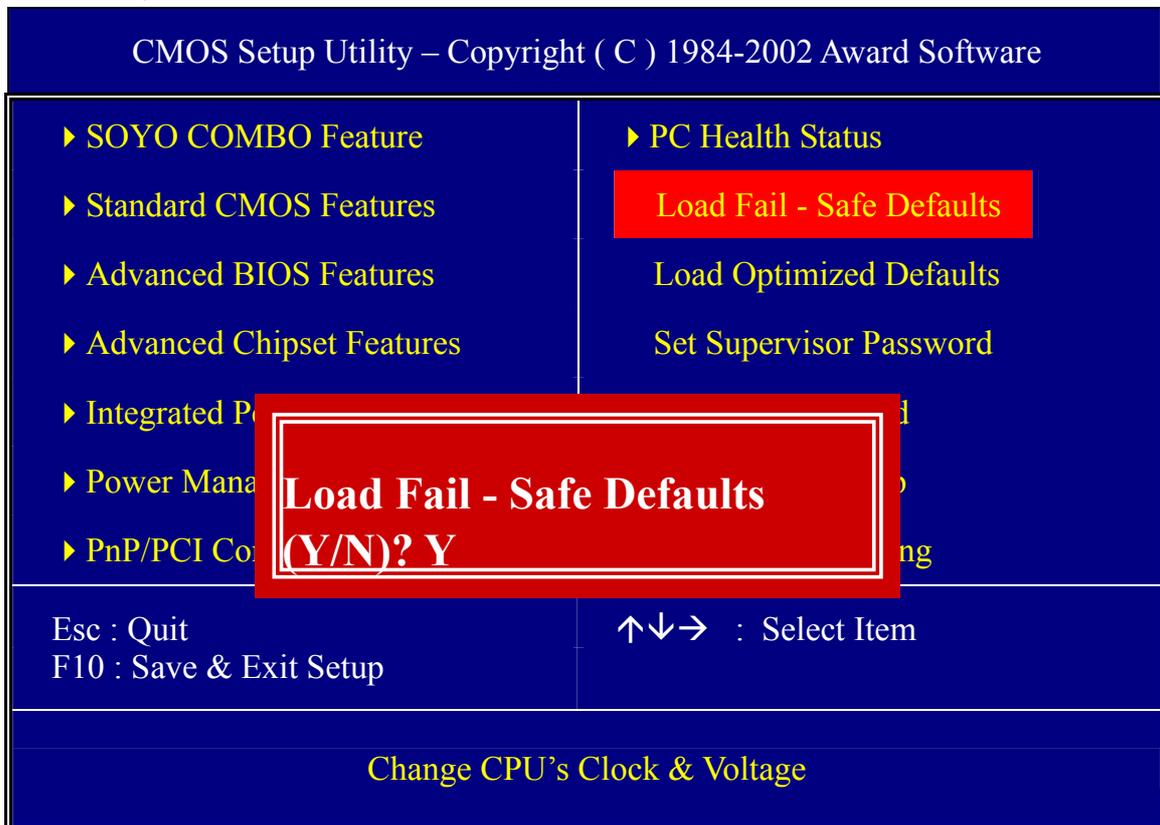
	Setting	Description	Note
<b>Shutdown Temperature</b>	Disabled	This item allows you to set up the CPU shutdown Temperature. This item only effective under Windows 98 ACPI mode.	Default
	45°C/113°F,		
	50°C/122°F,		
	55°C/131°F,		
	60°C/140°F,		
	65°C/149°F,		
70°C/158°F			

**CPU Device Monitoring (Continue)**

	Setting	Description	Note
<b>Vcore, +3.3V, +12V</b>	V	Show the current voltage status.	
<b>CPU Temperature</b>	°C/°F	Show the current status of CPU temperature.	
<b>CHA Temperature</b>	°C/°F	Show the current status of the System temperature.	
<b>CPUFAN1/ CHAFAN1 Speed</b>	RPM	Show the current status of CPU/CHA Fan.	

### 3-9 LOAD FAIL-SAFE DEFAULTS

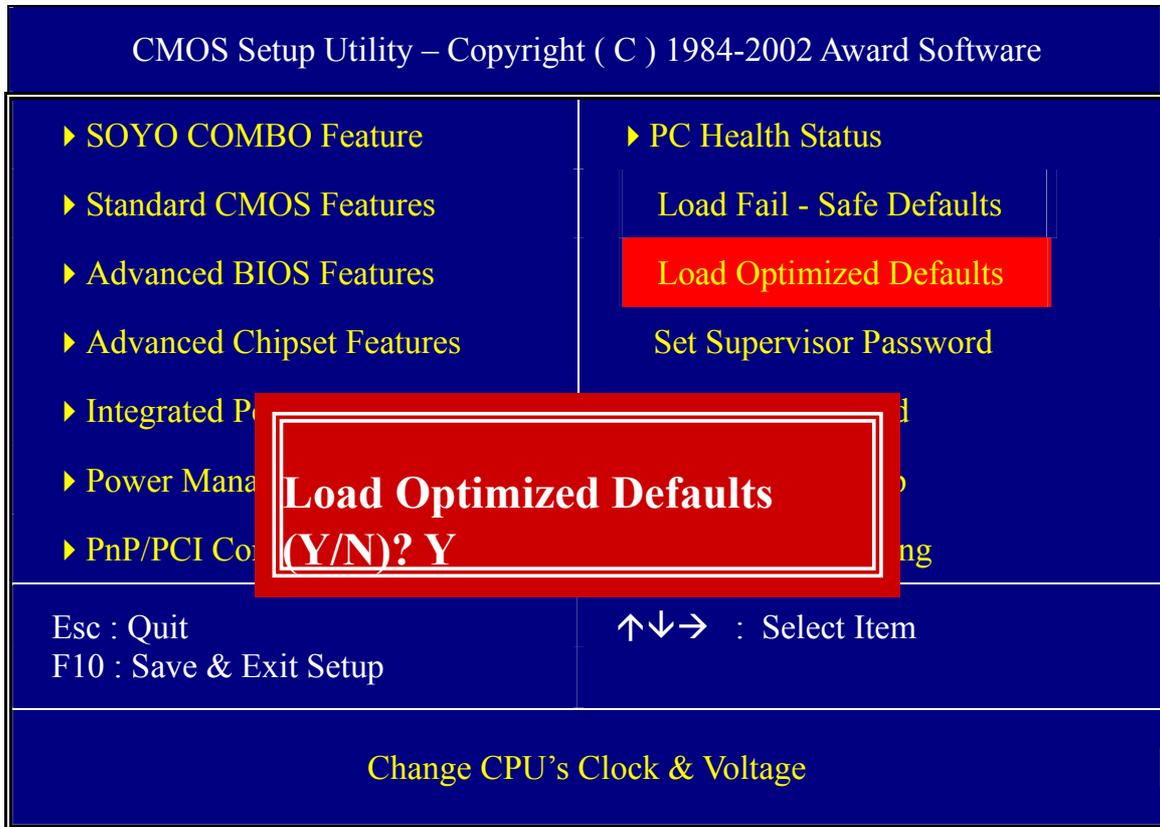
Select the [Load Fail-Safe Defaults] option from the Main Menu to load a pre-defined safe bios settings. This option is recommended if you have instability issue.



Type [Y] to use the Setup Defaults followed by [Enter] or otherwise [N] to return to the Main Menu and keep current values.

### 3-10 LOAD OPTIMIZED DEFAULTS

Select the [Load Optimized Defaults] option from the Main Menu to load a pre-defined optimized BIOS settings.



Type [Y] to use the Setup Defaults followed by [Enter] or otherwise [N] to return to the Main Menu and keep current values.



**Warning:** If you run into any problem after changing the BIOS configuration, please load the fail-safe Defaults for stable performance.

### 3-11 SET SUPERVISOR PASSWORD

Based on the setting you have made in the [Security Option] of the [BIOS FEATURES SETUP] section, the password prevents access to the system or the setup program by unauthorized users. Follow this procedure to set a new password or disable the password:

1. Choose [BIOS FEATURES SETUP] in the Main Menu and press [Enter]. Select the [Security Options] item and set the field to:
  - a. [System]: The password is required every time the system is booted. This means only a person who knows the password can use this computer.
  - b. [Setup]: The password is required only when you attempt to enter the BIOS Setup program.
2. Choose [SUPERVISOR PASSWORD] from the Main Menu and press [Enter]. The following prompt appear:

Enter Password:



---

**Warning:** If you forget or lose the password, the only way to access the system is to set jumper JP5 to clear the CMOS RAM. All setup information is lost and you must run the BIOS setup program again.

---



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**Note:** If you do not wish to use the password function, press [Enter] directly and the following message appears:

Password Disabled!!

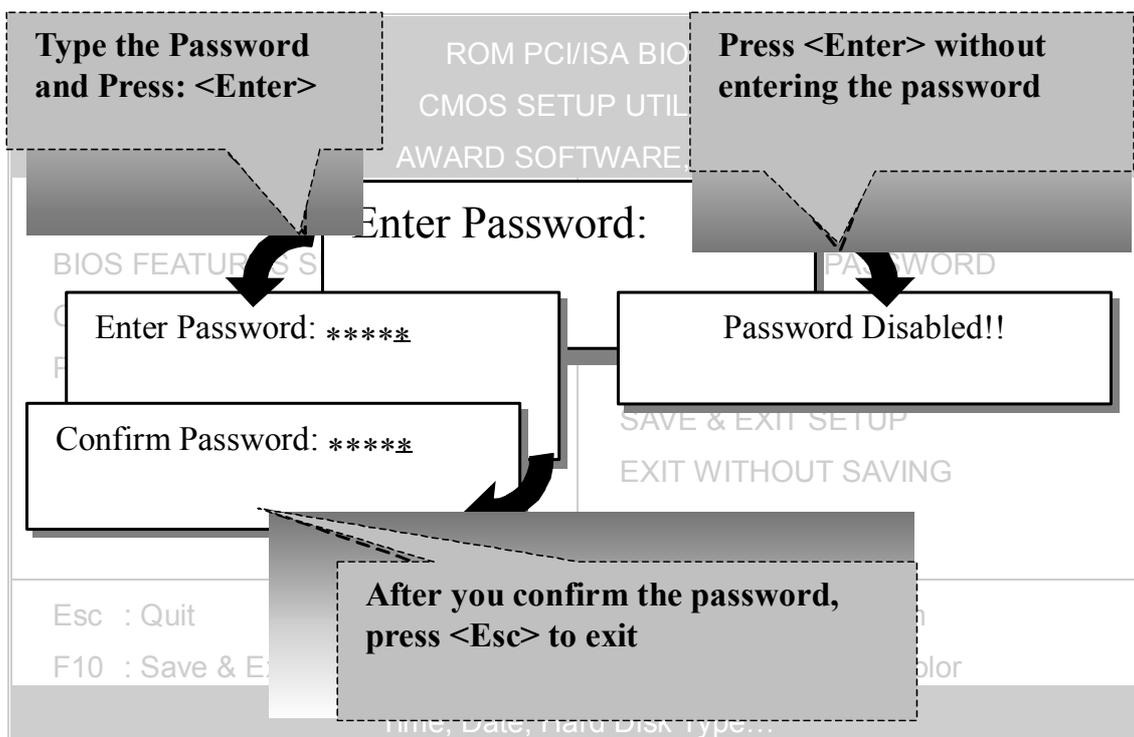
---

3. Enter your new password and press [Enter]. The following message appears, prompting to confirm the new password:

Confirm Password:

4. Re-enter your password and then press [Enter] to exit to the Main Menu.

This diagram outlines the password selection procedure:



### 3-12 SET USER PASSWORD

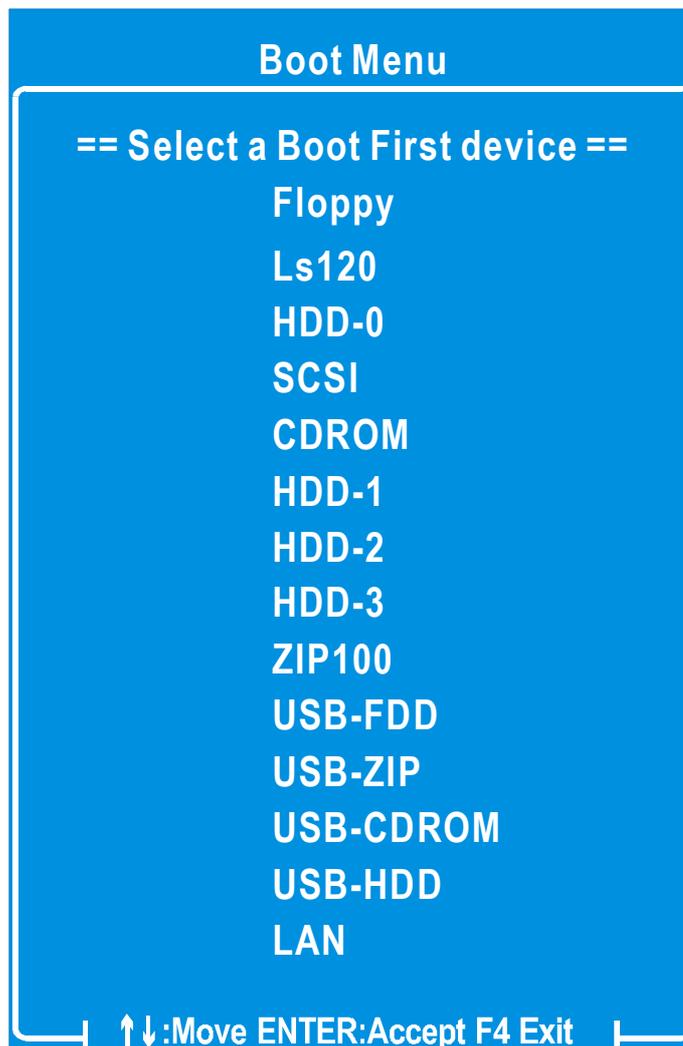
When the user password option is on, you are not allowed to change any setting in the [CMOS SETUP UTILITY] except for changing the user's password.

The password setting procedure is similar to that for the [SUPERVISOR PASSWORD] (Refer to section 3-9).

## BOOT MENU

Boot Menu enables user to boot-up on different boot device without going into the BIOS setup.

*To enable boot Menu, press “ESC” after memory initialization, user will see a device menu, in which user can choose the device they wish to boot from.*



## Chapter 4

### DRIVERS INSTALLATION



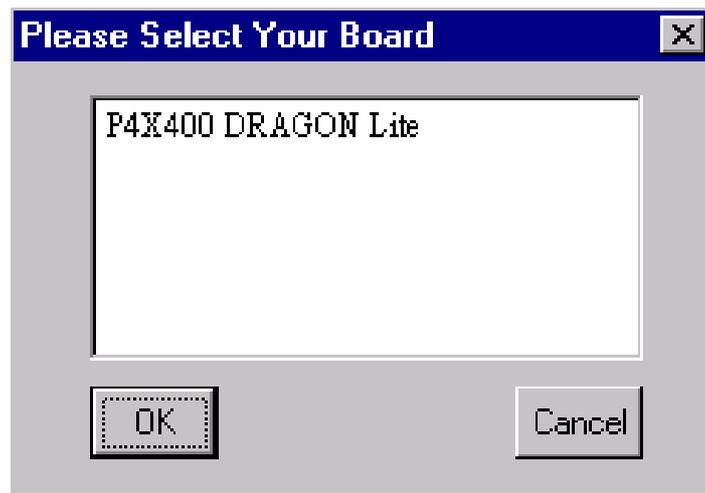
**The SOYO-CD will Auto Run only in Windows Base Operating System.**

Your SY-P4X400 DRAGON Lite Motherboard comes with a CD-ROM labeled "SOYO CD." The SOYO CD contains

- a. The user's manual for your new motherboard – in PDF format,
- b. The drivers software available for installation, and
- c. A database in HTML format with information on SOYO motherboards and other products.

#### **Step 1. Insert the SOYO CD into the CD-ROM drive**

If you use Windows 2000, NT or XP, the SOYO-CD will not detect your motherboard type. In that case the following dialog will pop up, please choose your motherboard and press OK. Now the SOYO-CD Start Up Menu will be shown.



#### **(SOYO CD Start Up Program Menu)**

If you use Windows 95/98/98SE/ME, the SOYO CD Start Up Program automatically detects which SOYO Motherboard you own and displays the corresponding model name.



The user's manual files included on the SOYO CD are in PDF (Postscript Document) format. In order to read a PDF file, the appropriate Acrobat Reader software must be installed in your system.

**Note:** The Start Up program automatically detects if the Acrobat Reader utility is already present in your system, and otherwise prompts you on whether or not you want to install it. You must install the Acrobat Reader utility to be able to read the user's manual file. Follow the instructions on your screen during installation, then once the installation is completed, restart your system and re-run the SOYO CD.

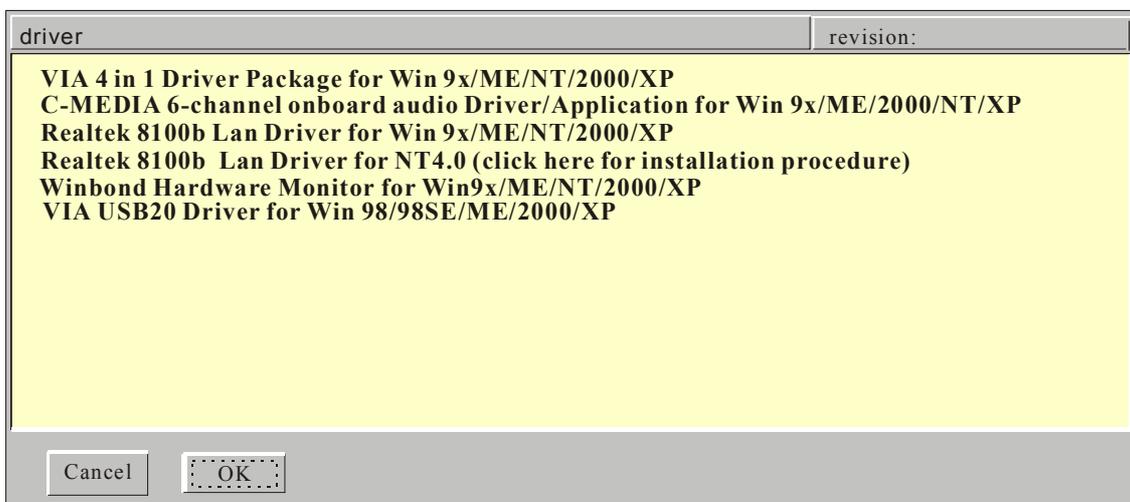
## Step 2. Install Drivers and Utilities

The following drivers need to be installed in order for the system to operate properly

1. VIA 4 in 1 driver.
2. C-Media 8738 audio driver. – Only required if you are using the onboard audio.
3. VIA USB 2.0 driver.
4. Realtek 8100b LAN driver. Should be installed manually.

The rest of the available drivers are optional.

Click the **Install Drivers** button to display the list of drivers software that can be installed with your motherboard. The Start Up program displays the drivers available for the particular model of motherboard you own. We recommend that you only install those drivers.



### (Driver Installation Menu)

A short description of all available drivers follows:

➤ **VIA 4 in 1 Driver Package for Win 9x/ME/NT/2000/XP**

VIA 4 In 1 driver includes four system drivers to improve the performance and maintain the stability of systems using VIA chipsets. These four drivers are:

VIA Registry (INF) Driver, VIA AGP VxD driver, VIA ATAPI Vendor

Support Driver and VIA PCI IRQ Miniport Driver. For Windows NT users, the VIA IDE Bus Mastering driver is the only driver to be installed in your system.

A description of 4 drivers followa:

—**Bus Master PCI IDE Driver**

The ATAPI IDE driver enables the performance enhancing bus mastering functions on ATA-capable Hard Disk Drives and ensures IDE device compatibility.

—**AGP VxD Driver**

VIA AGP VxD Driver is to be installed if you are using an AGP VGA device. VIAGART.VXD will provide service routines to your VGA driver and interface directly to hardware, providing fast graphical access.

—**VIA Chipset Functions Registry**

VIA Registry (INF) Driver is to be installed under Windows. The driver will enable the VIA Power Management function.

—**IRQ remapping utility (This driver is installed automatically)**

VIA PCI IRQ Miniport Driver is to be installed under Windows 98 only, it sets the system's PCI IRQ routing sequence.

➤ **C-MEDIA 6-channel onboard audio Driver/Application for Win 9x/ME/2000/NT/XP**

1. The driver supports 2/4/5.1 speakers 3D positional audio.
2. The application is include *CD Player/MIDI Player/MP3/Wave Player/Mixer* with the control over your PC's audio functions.

➤ **Realtek 8100b Lan Driver for Win 9x/ME/NT/2000/XP**

This Program is for install Driver to use Realtek Lan function.

➤ **Winbond Hardware Monitor for Win 9x/ME/NT/2000/XP**

Your motherboard comes with a hardware monitoring IC. By installing this utility Temperature, Fan speed and Voltages can be monitored. It is also

possible to set alarms when current system values exceed or fall below pre-set values.

➤ **VIA USB2.0 Driver for Win 98/98SE/ME/2000/XP**

This setup program will install the driver for VIA USB 2.0 Host Controller.

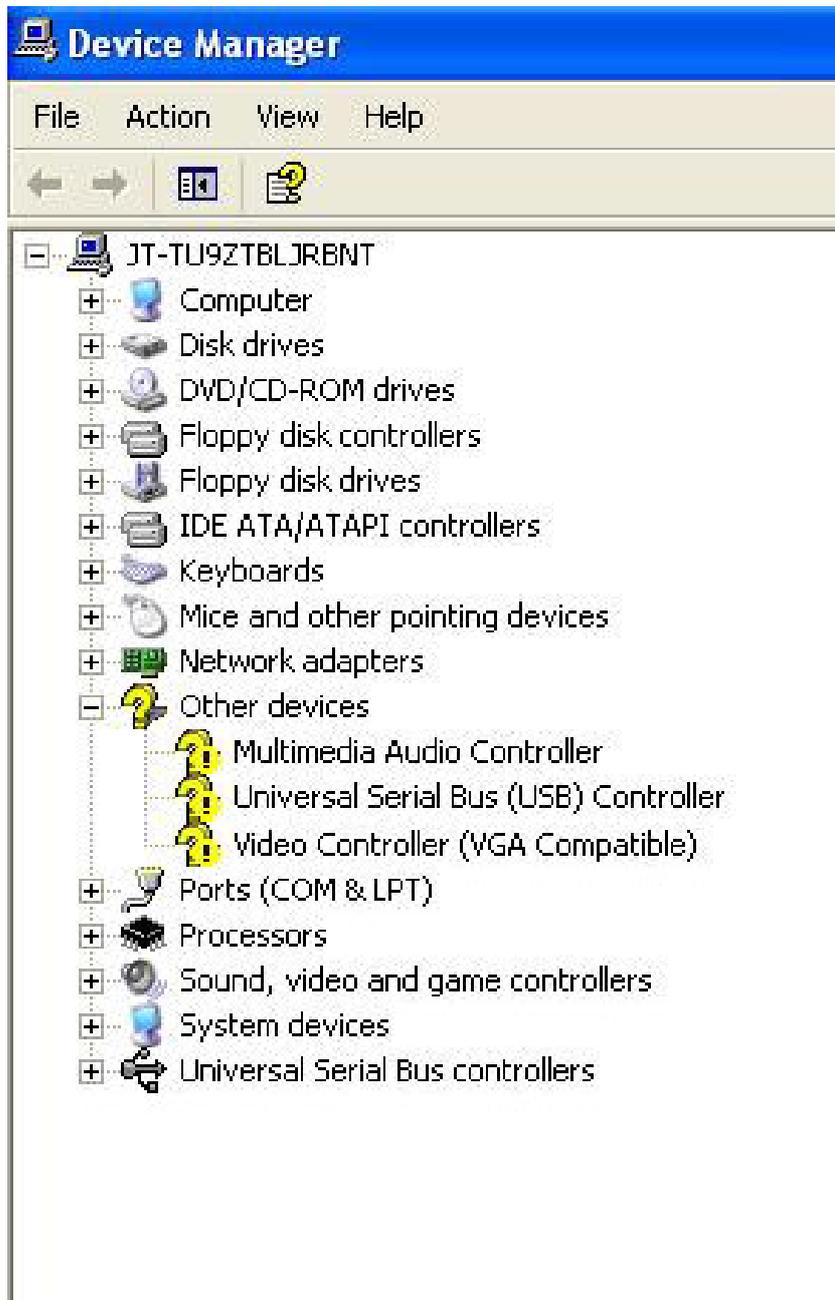
Select which driver you want to install and click **OK**, or click **Cancel** to abort the driver installation and return to the main menu.

**Note:** Once you have selected a driver, the system will automatically exit the SOYO CD to begin the driver installation program. When the installation is complete, most drivers require to restart your system before they can become active.

**Step 3. Check the Latest Releases**

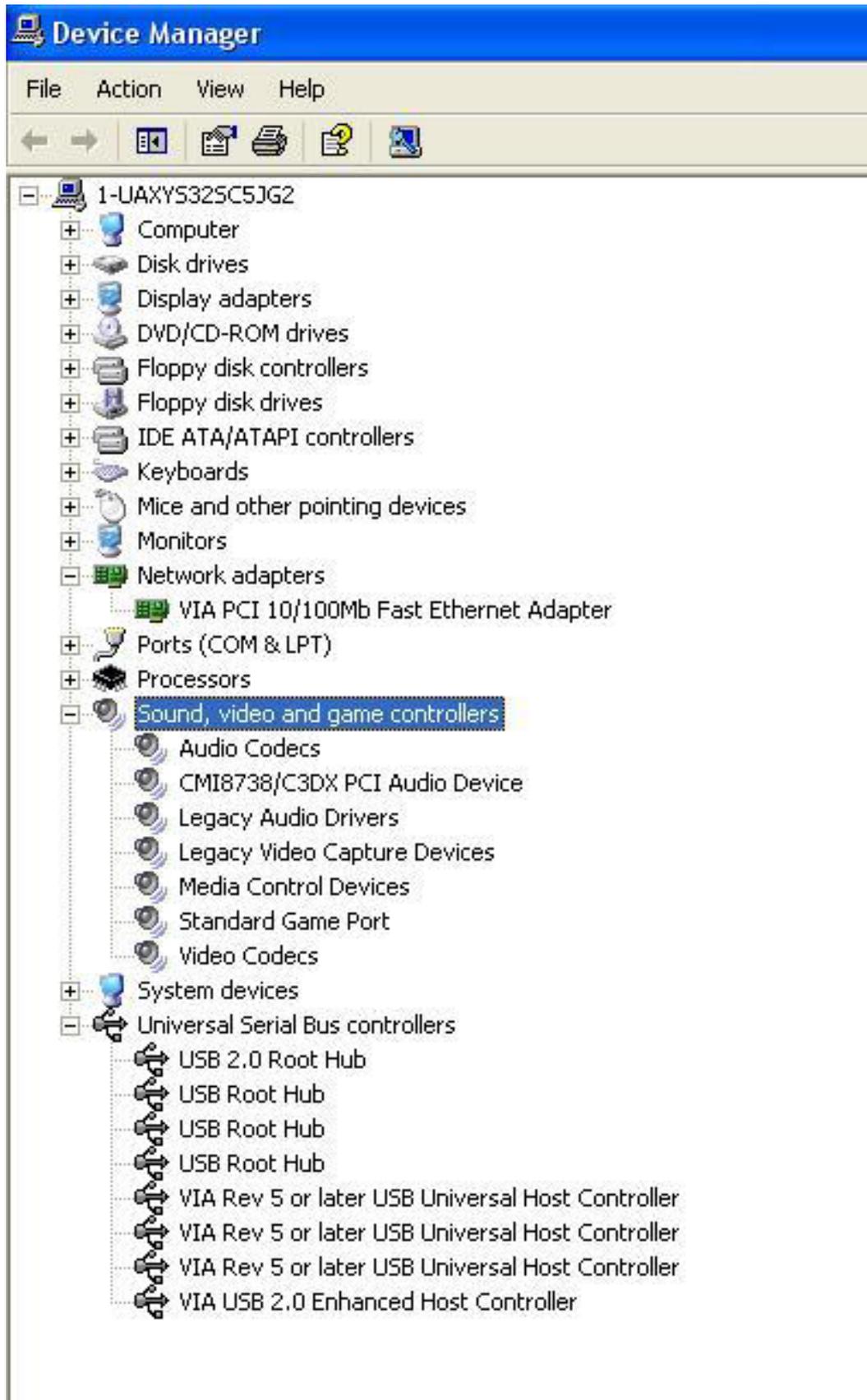
Click the 'Check the latest Releases' button to go the SOYO Website to automatically find the latest BIOS, manual and driver releases for your motherboard. This button will only work if your computer is connected to the internet through a network or modem connection. Make sure to get your modem connection up before clicking this button.

After Windows XP installation, your device manager should look like this:

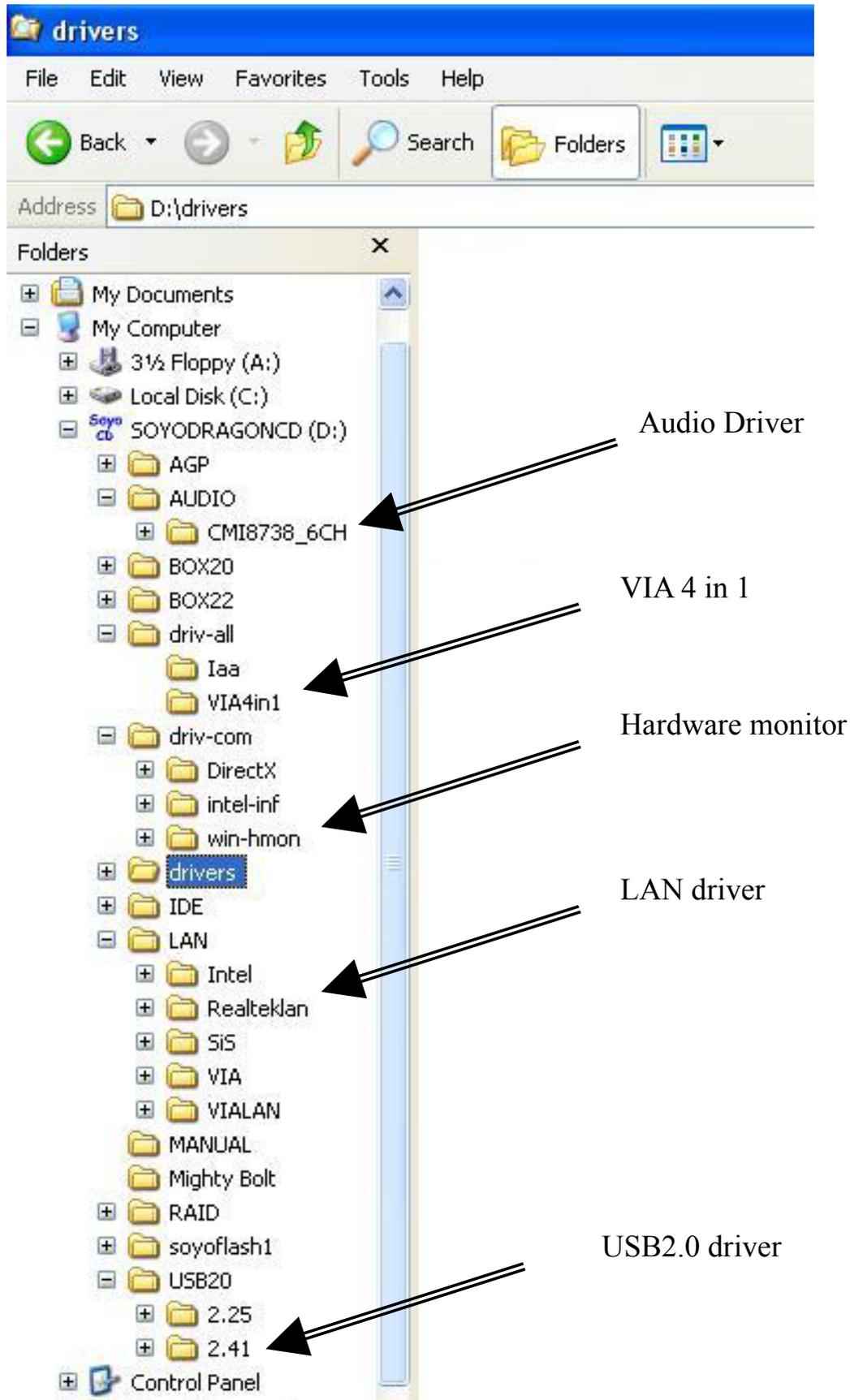




After driver installation, your Windows XP device manager should look like this:



Drivers directory list in the CD driver



## Chapter 5

### Audio Driver Installation

#### **Audio Driver Installation for Windows 98/98se**

After you have installed the audio driver, windows may prompt you to restart your computer.

When your computer restarted it may look for windows driver from your Win98CD and ask you to insert your Win98/98se CD to your CD-drive. At this point you need to insert the Win98 CD to your CD-drive and type in D:\win98 (assuming your CD-ROM in driver D).

#### **Audio Driver Installation for Windows NT**

1. Double click my computer.
2. Double click control panel.
3. Double click multimedia and select devices.
4. Select ADD and select OK.
5. Click on “Browse” then point it to the SOYO CD for the Audio driver.
6. The audio driver path is in “d:\audio\cmi8738\_6ch\Win\_NT40\drv.”  
(where D: is your CD-ROM)

## Chapter 6

# Realtek LAN Driver Installation

### ***Install the Realtek LAN Drivers under windows***

#### ***NT4.0***

1. Double click the Network icon in the control panel. The Network properties windows will appear. Click on the Devices tab and press the Add button.
2. Select “Unlisted or Updated Drivers” from the list of drivers in the Add window by placing the mouse pointer over it and clicking the left mouse button. Press the OK button.
3. The Install Driver dialog box will appear and request the path of the location of the drivers to be installed. Enter “D:\lan\Realteklan\WinNT4”. (where D: is your CDROM drive)
4. After installation, Windows NT will display a dialog box asking you to restart your system.

# APPENDIX A

## Troubleshooting at First Start

### Boot-up Issues

**The system do not power-up, no beeping sound heard and the CPU fan does not turn on.**

1. Check if the power cord is plug to the power source.
2. Check if the power is connected to the M/B.
3. Check if the cable of the case power button is connected to the M/B power button connector (see connectors and plug-ins in the manual for more info).
4. Make sure the power supply is not defective. Change the power supply. The minimum should be 250 watts.
5. Remove the M/B from the case and test the system. The M/B might be shorted to the case.

**The system power-up, no video, no beeping sound heard, but the CPU fan is turning.**

1. Clear CMOS battery. (JP5 connector, see Quick start guide for more info on how to clear the CMOS).
2. Check all the jumper settings on the M/B. (if the M/B have any).
3. Check if the CPU is ok by using another CPU (check the Quick start guide for CPU supported on this M/B).
4. Check if the power supply is ok. The minimum should be 250 watts.
5. Make sure the CPU fan is connected to CPUFAN1 connector.
6. Remove the M/B from the case and test the system. The M/B might be shorted to the case.
7. Change the VGA card. If you have used a 3.3V AGP card, the M/B might be damage.

**The system power-up, no video, beeping heard.**

1. Clear CMOS battery. (JP5 connector, see Quick start guide for

more info on how to clear the CMOS).

2. Check all the jumper settings on the M/B. (if the M/B have any).
3. Check the memory module and the VGA card if inserted properly on the M/B.
4. If yes, change the memory module, it might be defective. Make sure the memory specification is supported by the M/B. (for more info on this, check our FAQ website).
5. Change the VGA card. Make sure the AGP card is 1.5v

**The system turns on for some seconds then shutdown by itself.**

1. Check if the CPU fan is connected to the CPUFAN1 connector.
2. The CPU might be overheating. Check the CPU FAN if it is defective or see if the CPU fan is in contact with the CPU.
3. Clear CMOS battery. (JP5 connector, see Quick start guide for more info on how to clear the CMOS).
4. Make sure the power supply you have on your system support the M/B specification. Example. If you have a P4 M/B, you need to use a P4 power supply.
5. If you already checked the power supply specification, change the power supply it might be defective. The minimum is 250 watts.

**When I boot up my system, everything works fine, it sees my CPU and memory, detects my hard drive, floppy drive and CD-ROM but locks up at "Verify DMI pool data... ". Don't go any further. What should I do?**

1. Clear CMOS battery. (JP5 connector, see Quick start guide for more info on how to clear the CMOS).
2. If still has the problem, remove all other add-on cards except video card see if it move further. Then put peripherals in one by one to identify which one cause the lockup.
3. Change the CPU.

**During Boot-up, my computer says CMOS memory Checksum error.**

**What is the problem?**

1. Clear CMOS memory.

2. Re-flash BIOS. Check on how to flash BIOS on the later part of this book.
3. Change the CMOS battery, the battery might be drained.
4. The BIOS chip might be failing.

## **Stability Issue**

### **My system intermittently locks up, very unstable**

1. Check the CPU Temp, it might be overheating. Change the CPU FAN.
2. Do not over clock your CPU
3. Check the specification of the memory module, maybe the M/B do not support it.
4. Go to BIOS setup and load fail safe settings. Please check if the system performance in the BIOS setup is set to Turbo/Maximum.
5. Check website for latest BIOS update.
6. Check website for FAQ's regarding instability issue.
7. Change the memory module or CPU.
8. The power supply might not have enough wattage to support all the peripherals. If your system has other peripherals connected, like CD-RW, extra HDD, etc. disconnect them.
9. Install VIA 4 in 1 driver.

### **My system intermittently locks up, during Windows installation.**

1. Go to BIOS and load "load optimized default".
2. Check website for any BIOS update.
3. If still has the problem, remove all other add-on cards except CPU/ Memory/ Video card/Hard disk. See if you can finish Windows installation. Then put peripherals in one by one to identify which one cause the lockup.

### **My system will not boot-up when I set my CPU to 133MHz FSB, works with 100MHz FSB**

1. Make sure to put some thermal paste above the CPU.

2. CPU might be defective.

## **BIOS Issue**

### **Where can I find the BIOS revision of my mainboard?**

It will be displayed on the up-left corner on the screen during boot-up. It will show as your board type followed by the revision number, such as kvxa\_2BA1 (meaning BIOS revision 2BA1 for the SY-K7V Dragon plus! board) or 6BA+ IV\_2AA2 which means SY-6BA+ IV motherboard with 2AA2 BIOS.

### **Where can I find the latest BIOS of my motherboard?**

Please go to the technical support page of one of the SOYO websites (Taiwan: [www.soyo.com.tw](http://www.soyo.com.tw)), and look up your motherboard to find the latest BIOS revision.

### **How can I flash the BIOS?**

1. Download the BIOS on our support website.
2. Make a bootable floppy disk with out any memory manager loaded (i.e. himem, emm386, etc...).
3. Copy the BIOS file and awdfash utility to the diskette.
4. Type "awdfash biosname.bin /sn /py".
5. Then reboot.

### **After flashing the BIOS, my system will not boot-up.**

1. Try clearing the CMOS.
2. The BIOS chip is defected due to unsuccessful flash, contact your nearest SOYO branch for re-flashing.

### **Is there a way to reprogram my BIOS after an unsuccessful flash?**

No other way, you need to send back the BIOS ROM to your nearest SOYO branch for re-flashing.

### **I'm using a 133MHz FSB CPU, I cannot find the DDR 100MHz option in the BIOS, why?**

The DDR speed should not be lower than the CPU FSB speed.

## **VGA Issue**

### **I cannot set my VGA to go higher than 16 color (640x 480).**

1. Make sure that you have installed the VIA 4 in 1 driver.
2. Install/ re-install the VGA driver.

**After wake-up from Suspend to RAM or Standby mode, the screen has no display but I can hear the hard disk operating**

1. Install VIA 4 in 1 driver.
2. Check the VGA card manufacturer for driver update, or make sure the VGA card support Suspend to Ram function.

### **Audio Issue**

**How can I disable the on-board Audio?**

Go to the SOYO Combo Feature in the BIOS setup, then set the “onboard 6CH H/W audio” to disable.

**I cannot get the sound working on my system.**

1. Check if the speaker wire is connected to the line out connector in the M/B.
2. Check if the speaker power is powered on.
3. Install the audio driver supplied on our driver disc.
4. Check BIOS setup if “onboard 6CH H/W audio” is enabled.
5. If sound already installed, check our website for audio driver update.

**I cannot get the sound working on the 5.1 channel speaker.**

1. Install the audio driver and application. Check driver installation for more info.
2. Check if the settings in the 5.1 speaker control box are correct, like if you have a SPDIF connector but the setup in the speaker box is set to analog.
3. Check if the speaker connection to the M/B is correct.
4. Make sure the software setup is correct. Check manual for more info.

**The sound is working in my system, but when I play CD music from the CD-ROM, I do not get any sound. What is wrong?**

This is because the 3-wire audio cable from the CD-ROM to the on-board CDIN1 connector in the M/B is not connected. See manual for location of CDIN1.

**The sound from my sound card is distorted when Windows start. What is wrong?**

If you are using an ISA sound card, please make sure the IRQ needed for the sound card is set to 'Legacy ISA' in the BIOS. In other word, if your ISA sound card takes IRQ5, then set IRQ5 to 'Legacy ISA'.

**The sound and everything else works fine except that the recorder and microphone do not work. What is wrong?**

1. Please go to sound properties and check if the recorder and microphone in the are enabled.
2. Check if Microphone is ok.

**The sound coming from my Center and Base speaker is interchange, what should I do?**

Set the JP1 and JP2 of the small audio card to pin2-3.

**Hard disk/FDD/ CD-ROM issue**

**My Western digital HDD is not detected during boot-up**

Change the jumper settings to cable select or single.

**Sometimes the system finds my CD-ROM, sometimes not**

1. Check CD-ROM if it is working properly.
2. The power supply might not have enough wattage to support all the peripherals. If your system has other peripherals connected, like CD-RW, extra HDD, etc. disconnect them.

**When I boot up my new computer I got "floppy boot failure" and the LED on the floppy stays on**

Make sure the red wire of floppy ribbon cable goes to Pin1 on the floppy drive side (don't trust the "key lock" or "notch") and use the end-connector of the cable (don't use middle one).

## **LAN Issues**

**During LAN driver installation, the system hangs on 75%, why?**

Enable the onboard LAN in the BIOS setup.

**For updated FAQs, please check <http://www.soyo.com.tw/faq.htm> or <http://www.soyousa.com/faqs.html>**

## **APPENDIX B**

### **How to contact us:**

- If you are interested in our products, please contact the SOYO sales department in the region you live.
- If you require Technical Assistance, please contact our Technical Support in the region you live.

SOYO prefers Email as communication medium, remember to *always add to the email the country that you live in.*

### **TAIWAN**

SOYO COMPUTER INC.

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No. 21 Wu-Kung 5 Rd., Hsing  
Chuang City, Taipei Hsien,  
Taiwan, R.O.C.

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TEL: 886-2-22903300

FAX: 886-2-22983322

<http://www.soyo.com/>

Email: [info@mail.soyo.com.tw](mailto:info@mail.soyo.com.tw)

### **Hong Kong**

SOYO ASIA LTD.

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5C, Big Star Centre, 8 Wang  
Kwong Road, Kowloon Bay,  
Kowloon, Hong Kong

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TEL: 852-2-710-9810

FAX: 852-2-710-9078

<http://www.soyo.com.hk/>

Email: [soyo@hkstar.com](mailto:soyo@hkstar.com)

### **USA**

SOYO INC.

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41484 Christy Street, Fremont,  
CA 94538, USA

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TEL: 1-510-226-7696

FAX: 1-510-226-9218

<http://www.soyousa.com/support>

Email : [sales@soyousa.com](mailto:sales@soyousa.com)

### **GM**

SOYO Deutschland GmbH  
(SAAT Technology GmbH)

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