SY-KT600 DRAGON Ultra

Platinum Edition

Motherboard

****

AMD Athlon & Duron Processors Supported

VIA KT600 AGP/PCI Motherboard

100/133/166/200 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".**

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KT600 DRAGON Ultra SERIES

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

100% POST CONSUMER RECYCLED PAPER

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Chapter 1

MOTHERBOARD DESCRIPTION

1-1 INTRODUCTION

The **SY-KT600 DRAGON Ultra** AGP/PCI motherboard is a high performance Socket A, ATX form-factor system board. The **SY-KT600 DRAGON Ultra** uses VIA Chipset technology and supports AMD Socket class processors. This motherboard is fully compatible with industry standards and adds many technical enhancements.

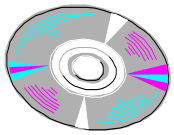
1-2 UNPACKING THE MOTHERBOARD

When unpacking the motherboard, check for the following items:

- The SY-KT600 DRAGON Ultra AGP/PCI motherboard

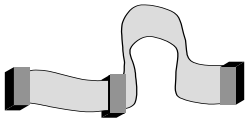
- The user manual

- The Installation CD-ROM

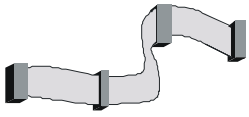


- SOYO Bonus Pack CD-ROM

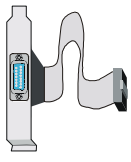
- One IDE Device ATA 66 Flat Cable



- One Floppy Disk Drive Flat Cable



- One Gameport Cable



- Two Serial ATA cables

- One plastic bag with Heat Sink Compound

- ∑BOX

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	Supports AMD 462 pins Socket A processors : ➢ Athlon XP (Palomino/Thoroughbred) (200/266/333/400 MHz FSB) ➢ Duron/Morgarn ➢ SOYO COMBO Setup CMOS setup menu for complete and easy changing of your CPU settings in CMOS setup, making jumpers obsolete.
Chipset	AMD® KT600A/ 8237 Chipset
Memory	➢ Supports PC2100, PC2700 and PC3200 DDR (non-registered and ECC) memory modules. ➢ SOYO COMBO Setup menu, to fully configure your memory settings.
AGP	1x AGP master 4x/8x slot (1.5v only)
PCI	5x 32-bit bus master PCI slots
I/O	ITE IT8705F Super I/O controller supporting: ➢ Floppy disk controller ➢ Parallel port (SPP, EPP and ECP compliant) ➢ 2x 16550A compatible RS232 serial ports ➢ IrDA compatible infrared port ➢ PS/2 Keyboard and mouse ➢ 1x gameport pin connector ➢ Hardware monitor for monitoring temperatures, voltages and fan speeds in the system.
Storage	➢ 8237 Integrated Parallel ATA controller supporting up to 4x UDMA 33/66/100/133 Parallel ATA devices. ➢ 8237 Integrated Serial ATA controller supporting up to 2x UDMA 150 hard disks in normal or RAID 0,1 mode ➢ Silicon Image Sil3112 Serial ATA RAID controller supporting up to 2x UDMA 150 hard disks in normal or RAID (0 or 1) mode.

USB 2.0	8x USB 2.0 compliant ports (4x on rear IO panel, 4x motherboard connectors.
IEEE 1394	Onboard VIA VT6306 IEEE1394 Firewire controller with 1x rear I/O panel connector, 2x motherboard connectors
Sound	Onboard CMedia CM8738 6 channel PCI Hardware Audio
Network	10/100 MBps 100Base-T and 1000BASE-T (Gigabit) Ethernet controller, supporting Wake-On-Lan (WOL)
BIOS	➢ Power Failure resume function to allow the system to turn on or off after a power failure, which is indispensable for server systems. ➢ Wake On Ring and Power On by Alarm to allow your system to wake up from suspend or power on through the modem or RTC alarm. ➢ Multiple boot, allowing your system to boot from for example CD-ROM

1-4 HANDLING THE MOTHERBOARD

To avoid damage to your motherboard, please 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 set 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.

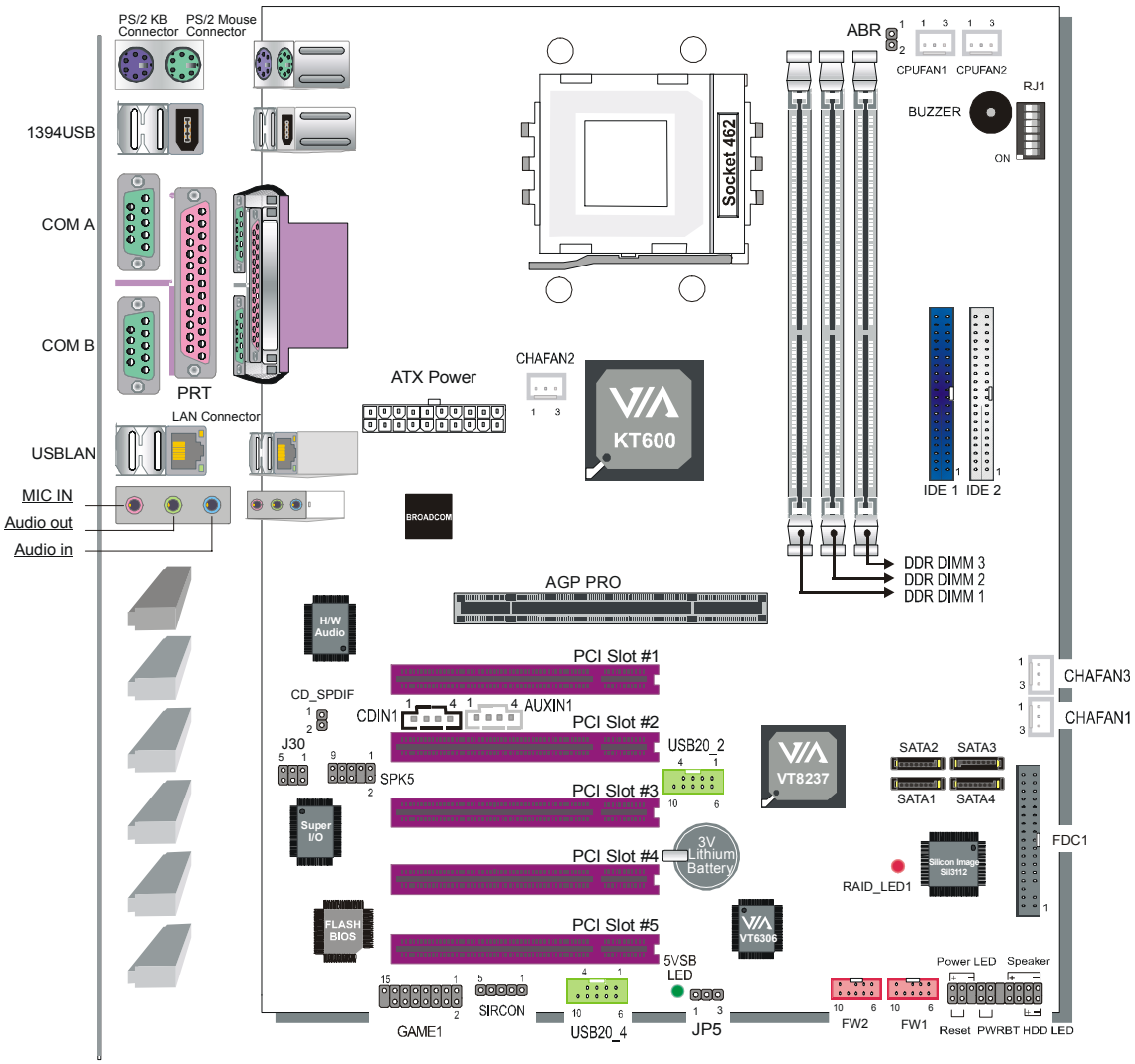
1-5 ELECTROSTATIC DISCHARGE PRECAUTIONS

Be 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-KT600 DRAGON Ultra MOTHERBOARD LAYOUT



Back Panel **SY-KT600 DRAGON Ultra Platform**

Chapter 2

HARDWARE INSTALLATION

Congratulations on owning a-**SY-KT600 DRAGON Ultra**. 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 A processor with built-in CPU cooling fan (boxed type)
2. DDR RAM 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 process. 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.

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

BEGIN THE INSTALLATION

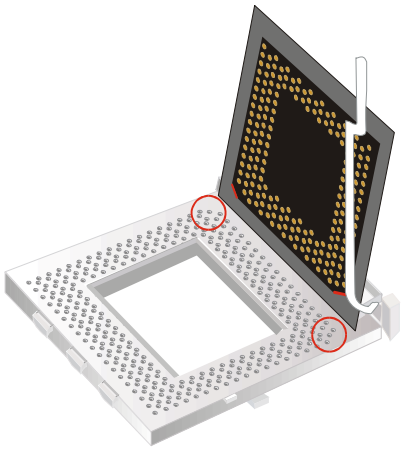
Step 1 Install the CPU

CPU Mount Procedure: To mount the AMD® K7 Athlon & Duron™ processor that you have purchased separately, follow these instructions.

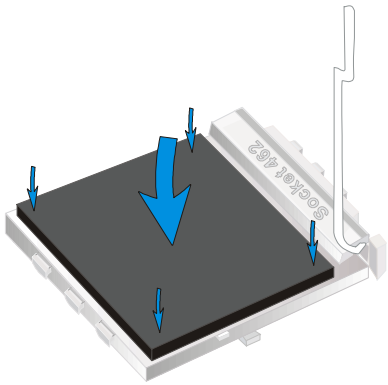
1. Lift the socket handle up to a vertical position.

2.

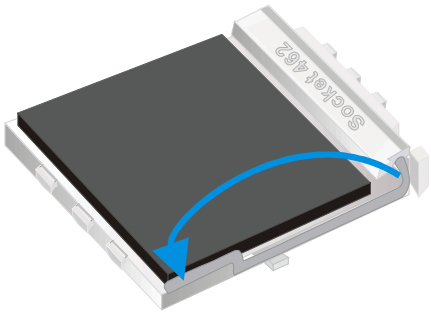
Align the blunt edge of the CPU with the matching pinhole distinctive edge on the socket.

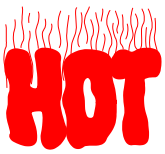


3. Seat the processor in the socket completely and without forcing.



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. It prevents overheating, therefore prolonging the life of your CPU.

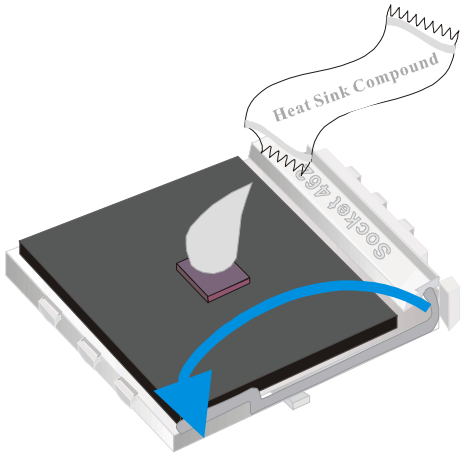
CPU Fan Installation

Your Socket A 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.

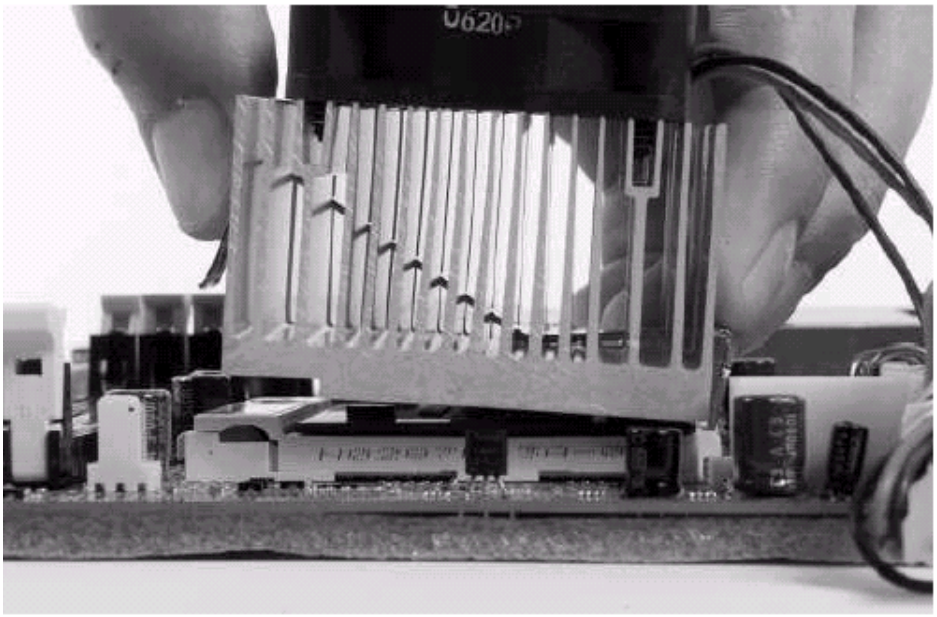
Note: Remember to connect the fan to the appropriate power source.

CPU Fan Mount Procedure: To prevent scratch or damage on the motherboard, please follow the instructions on how to mount the CPU fan properly.

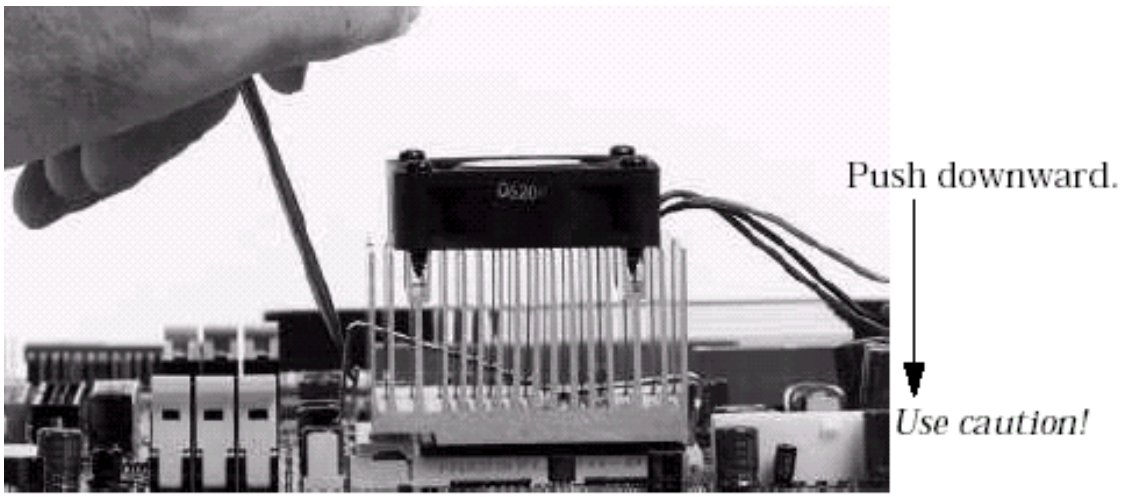
1. Apply thermal paste to the die of the CPU.



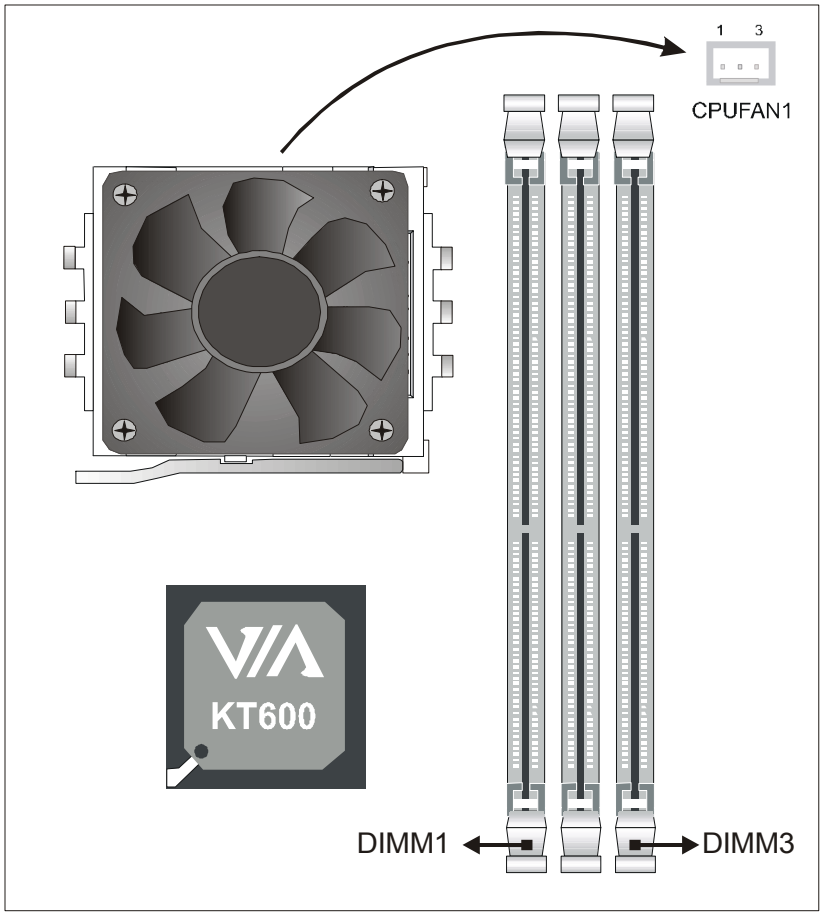
2. Make sure that the retaining clip is in this position before trying to install the heatsink. Notice that the clip is *not* symmetrical. The long end always attaches to the top of the socket (the end that reads “Socket 462”), while the short end engages the bottom of the socket. No matter which heatsink is used, the clip is always installed in the same manner.



3. To install this clip, push firmly only on the end of the clip. To install the clip, typically requires 12 to 24 pounds of force.



4. The fans power connector should be connected to CPUFAN1.



Note: If the fan is defective or Power connector is not connected to CPUFAN1, the system will enable Fan Off Control function. See below for more information on FOC function.

When the CPU temperature exceeds the temperature set in the CPU Temp. Protection in the BIOS setup, SOYO's Anti burn Regulator (ABR) will automatically shutdown the system and beep until the power button is press for one time. For more info about ABR, check pages 16.

FOC (Fan-Off Control)

The newly designed SOYO "FOC" is based on the concept of total protection for CPU, which is very different from currently seen on the market. The H/W control function is used to see a passive security system of monitoring and warning. S/W Simultaneous Signal Follow-ups techniques and Auto Power Off System are included to prevent all possible damage

caused by the malfunctioning of the CPU fan. With the help of "O/S On Time Monitoring And Warning" function, provided by the H/W monitoring system, the double-protection purpose is achieved.

"FOC" includes the following functions:

(1) Simultaneous Signal Follow Ups**:** Before the system enters the O/S, H/W will detect the signals of the CPU fan pins, get their revolution information and send it to the BIOS.

(2) Auto Power Off System: If the BIOS receives the information of CPU fan revolution, it continues to function normally. If no signal is received, it will inform the system and disconnects the power supply immediately to protect the CPU from overheating.

***Note*:** The following must be observed to secure the normal functioning of "Fan-Off Control":

1. FOC only works on CPUFAN 1.

2. CPU fan with sensor pins must be used.

3. CPU fans approved by AMD are strongly recommended.

The "HOT KEY" function is provided for the CPU fans without sensor pins, to avoid the power off. Users may press the "Insert" key to jump over the "Power Off" mode; go to the BIOS and disable "FOC". Now system can be booted normally.

We provide the following user-friendly protection features:

1. Fan-Off Control: The motherboard detects the status of the CPU fan and protects the CPU by automatically disconnecting the power supply. The default value of this function is Enable. After booting up, the user may disable it.
2. Heat Dissipation Paste: Heat Dissipation Paste is included for all Socket-A motherboards, to enhance the heat dissipation capability.

Furthermore, we strongly recommend our users to enable the function of H/W monitoring in the BIOS. This function, together with the FOC, provides the total protection to the CPU and allows it to maximize its performance.

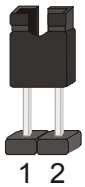
ABR (Anti Burn Regulator)

SOYO's ABR (Anti Burn Regulator) is specially designed hardware circuits that works hand in hand with the CPU's internal sensor in monitoring the temperature of the CPU and prevent it from overheating.

Once the heat accumulated in the CPU is over the set limit. ABR will automatically shut down the system power and warns you with a beeping sound. To de-activate the beeping sound, **un-plug the AC power cord.** We recommend you to check the cause of the overheating and let the processor cool down before powering on the system.

Note: **ABR supports AMD XP and Morgan CPU. Thunderbird CPU is not supported**

Some early versions of the 2400+ and 2600+ XP CPUs when used in this motherboard will automatically activate the ABR function, thus making a beeping sound and shut down your system. If this compatibility issue arises, you need to disable the ABR function via the ABR hardware jumper.

	Enabled	Disabled
ABR Jumper	 1 2	 1 2

RJ1 Dipswitch

This dipswitch sets the ratio of your CPU. Note that this switch will only work if you have an unlock CPU.

SW： OFF=1
ON=0

RATIO UNDER 12.5

FID Codes **for SW 1 ~ 7**

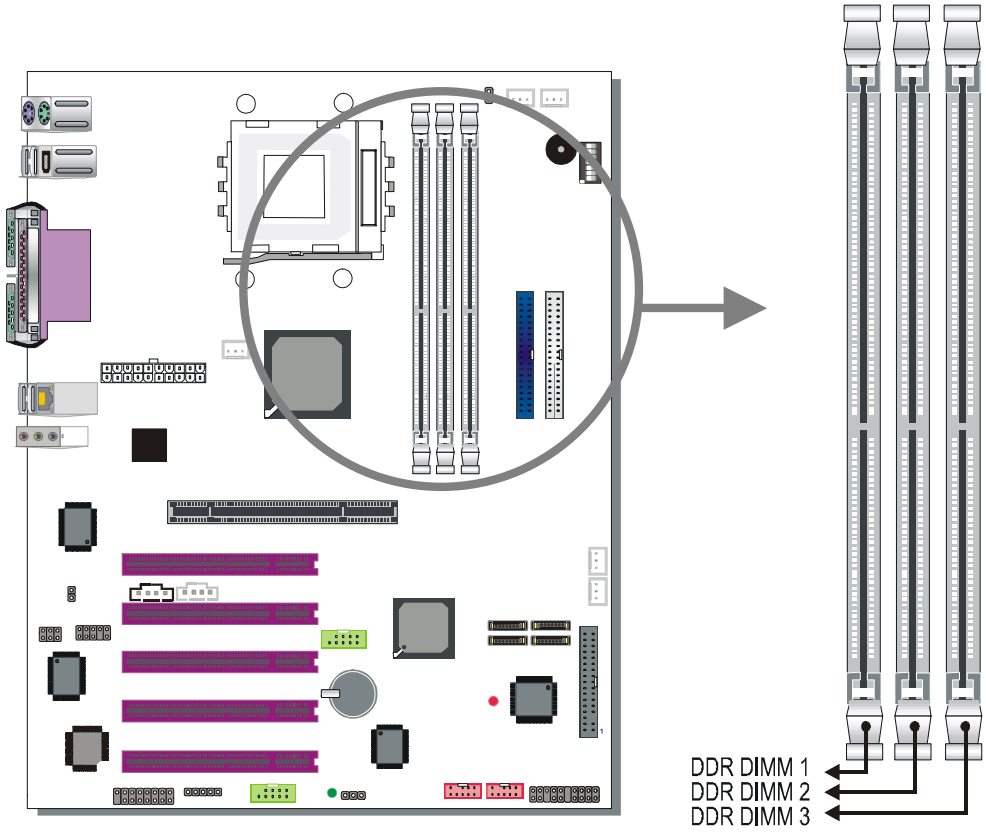
Four-Bit FID	Clock Multiplier	Four-Bit FID	Clock Multiplier
0000000	11.0	0000010	7.0
0010000	11.5	0010010	7.5
0001000	12.0	0001010	8.0
0011000	12.5	0011010	8.5
0000100	5.0	0000110	9.0
0010100	5.5	0010110	9.5
0001100	6.0	0001110	10.0
0011100	6.5	0011110	10.5

RATIO OVER 12.5

FID Codes **for SW 1 ~ 7**

Four-Bit FID	Clock Multiplier	Four-Bit FID	Clock Multiplier
1000101	13.0		
1010101	13.5		
1001101	14.0		
1000011	15.0		
1001011	16.0		
1000111	17.0		

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 128MB 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, for 200MHz DRAM speed use PC3200 memory.

Memory Configuration Table

Number of Memory Modules	DIMM 1	DIMM 2	DIMM 3
RAM Type	DDR RAM (non-register & non-ECC)		
Memory Module Size (MB)	64 / 128 / 256 / 512 / 1024 MB		

Step 3 Install Expansion Card

The motherboard has 1 AGP PRO slot and 5 PCI slots.

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 Pro Slot

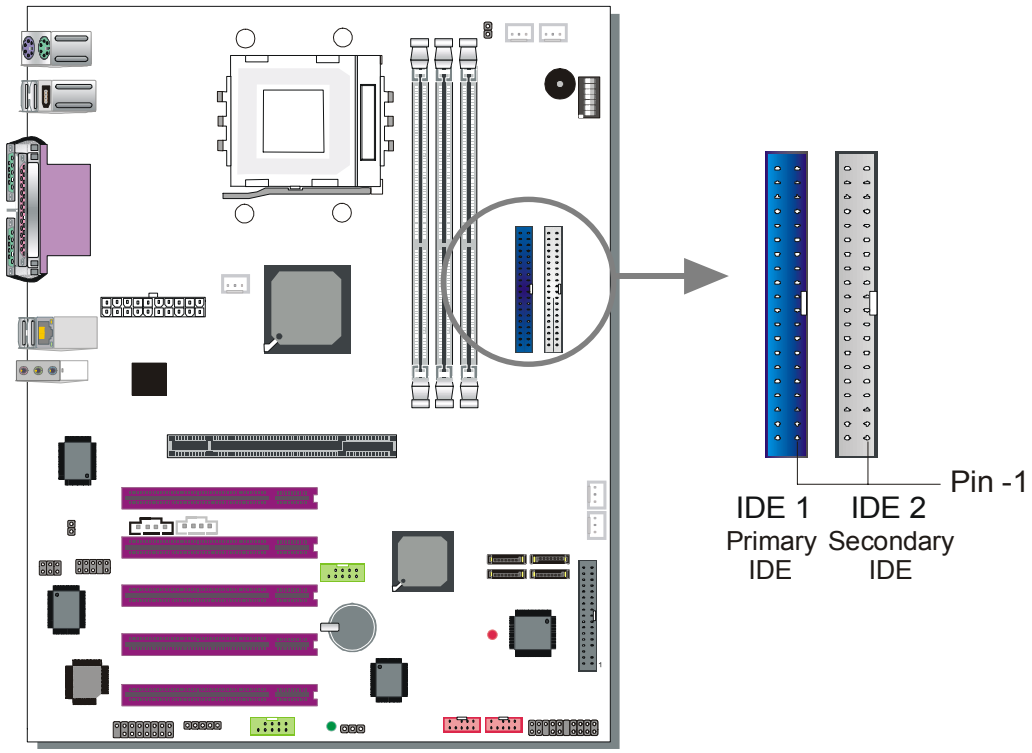
This motherboard supports AGP 2x/4x/8x/Pro VGA CARD.

DO NOT remove the safety tab underneath it if you will be using an AGP card without a retention notch. Removing may cause the card to shift and may cause damage to your card, slot, and motherboard. Remove ONLY when you will be using an AGP Pro card. You can use a pen tip to remove the tab from the bay.

Note: This Motherboard supports only 1.5 volts AGP card. .

Step 4 Connect cables, case wires, and power supply

A. IDE Device Installation (HDD, CD-ROM)

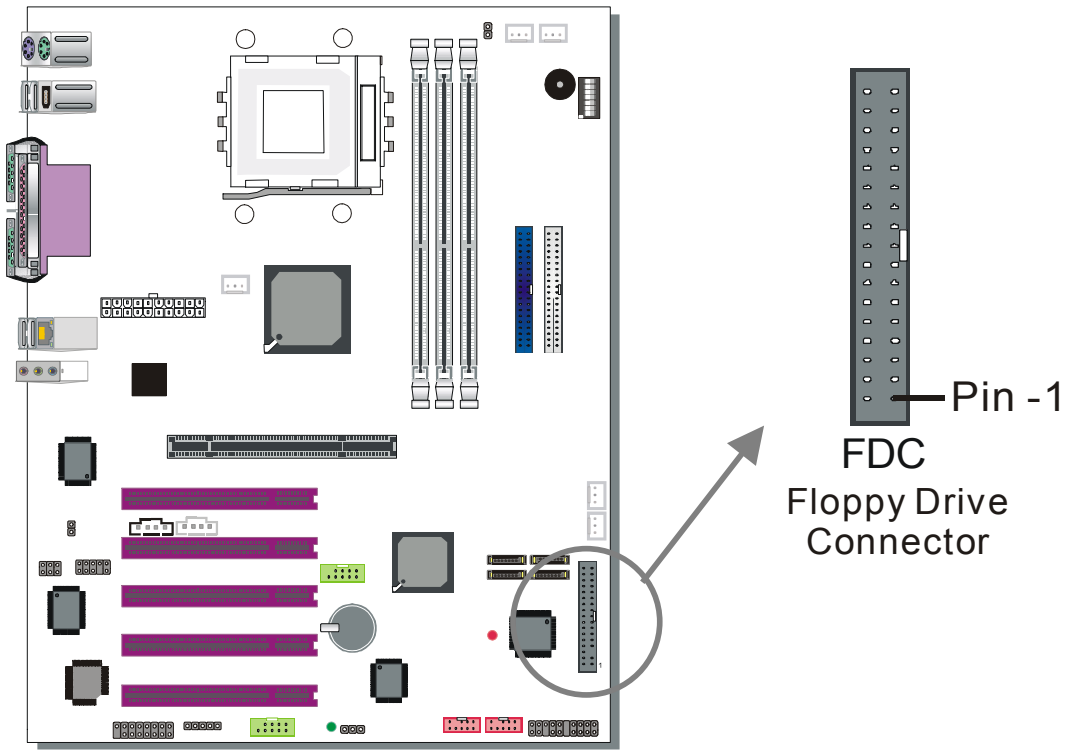


This motherboard offers two primary and two secondary IDE device connectors (IDE1, IDE2), can support up to four high-speed Ultra DMA 33/66/100/133 HDD or CD-ROM. SATA1/2/3/4 can support up to 4 ATA 150 SATA hard disks..

IDE1,2/ SATA1,2 are controlled by the 8237 South bridge chip, and SATA3,4 are controlled by the Silicon Image Sil3112 controller..

There are 4 parallel ATA HDD connectors (IDE1, IDE2) and 4 serial ATA connectors on the motherboard. SATA1, SATA2, SATA 3 and SATA4 are provided for SATA RAID or standard SATA function. This Motherboard can support up to 8 HDDs.

B. Floppy Drive Installation

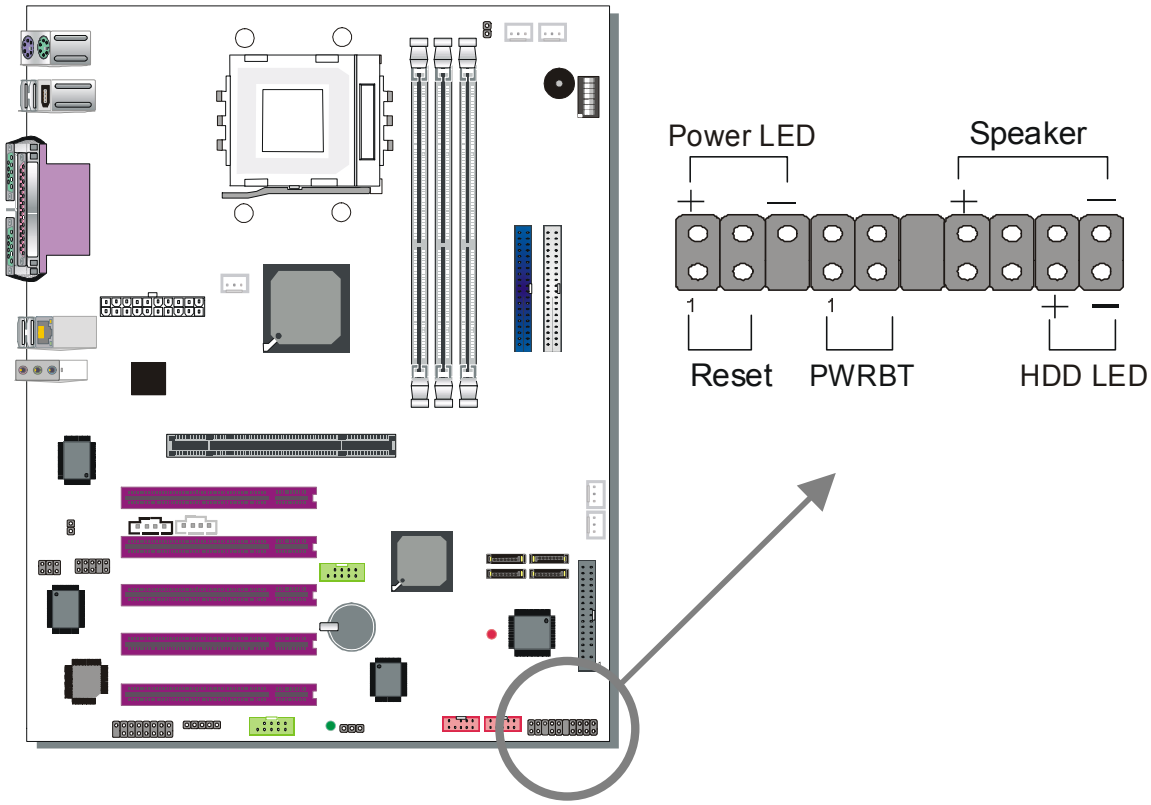


The system supports 5 possible floppy drive types: 720 KB, 1.2 MB, 1.44 MB, 2.88 MB, and LS-120.

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.

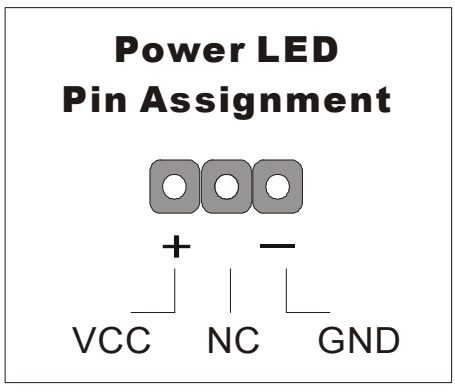
C. Front Panel Connections



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

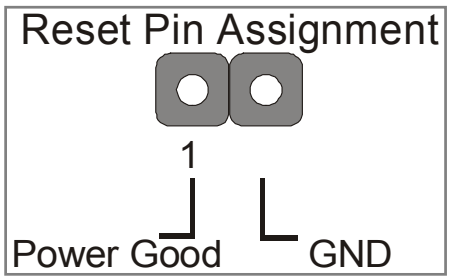
1. Power LED

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



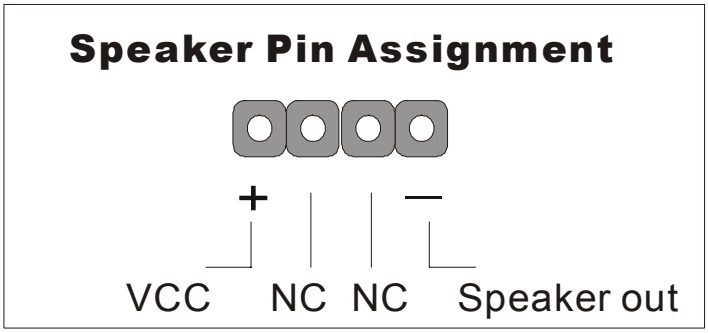
2. Reset

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.



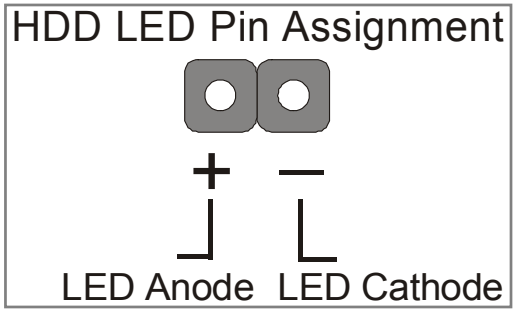
3. Speaker

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



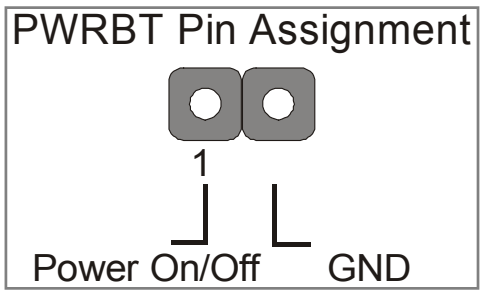
4. IDE LED

Attach the 2-pin IDE device LED cable to the corresponding IDE LED header on the motherboard. This will cause the LED to light up 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.

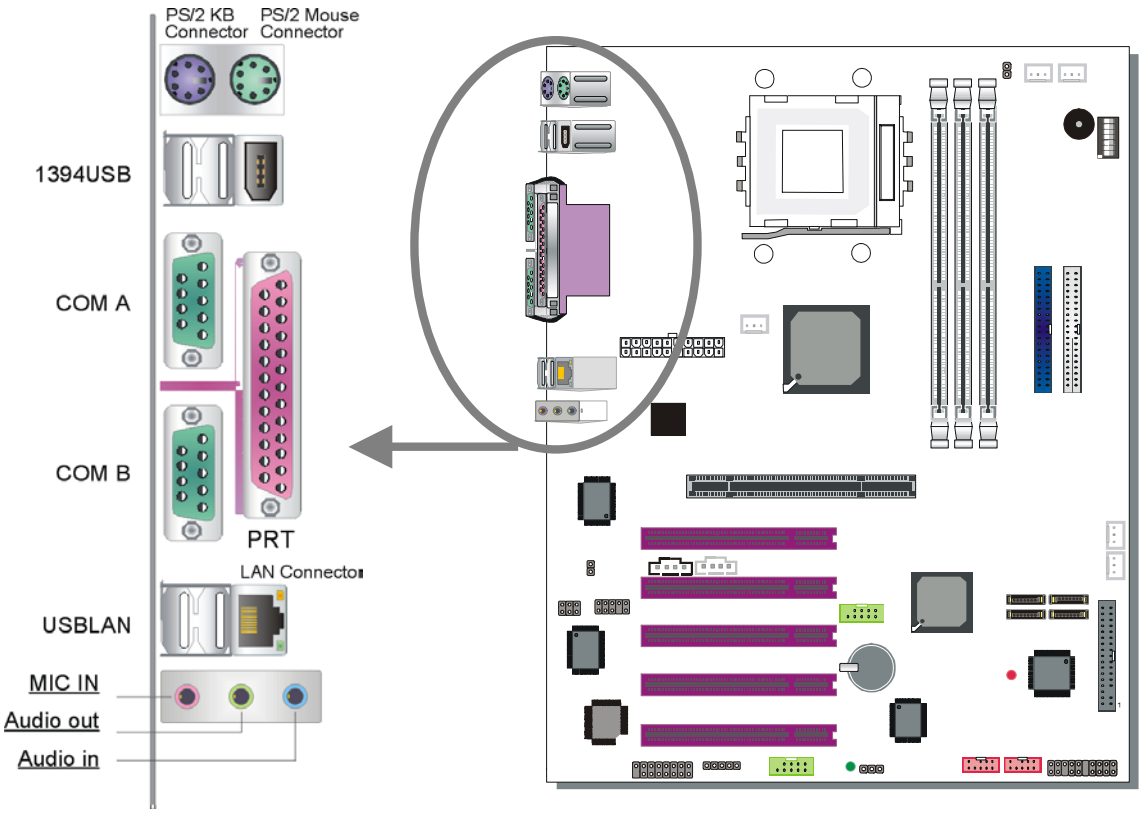


D. Back Panel Connections

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 COM1/COM2

External peripherals that use serial transmission scheme include:

- serial mouse
- modem

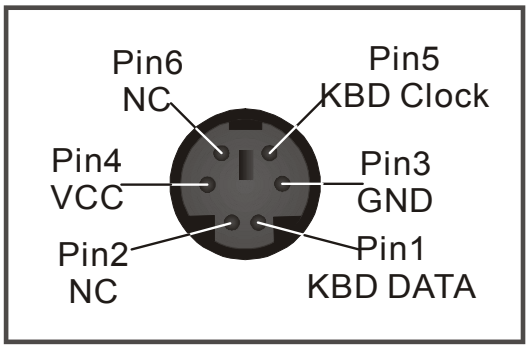
Plug the serial device cables directly into the COM1/COM2 9-pin male connectors located at the rear panel of the motherboard.

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.

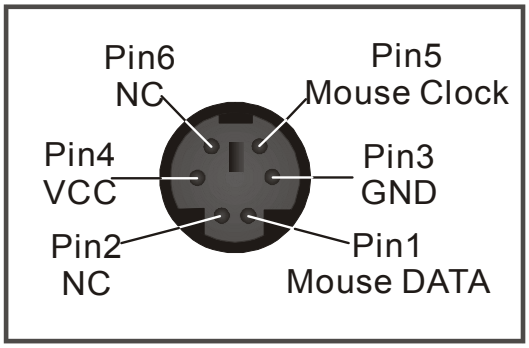
3. PS/2 Keyboard

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.

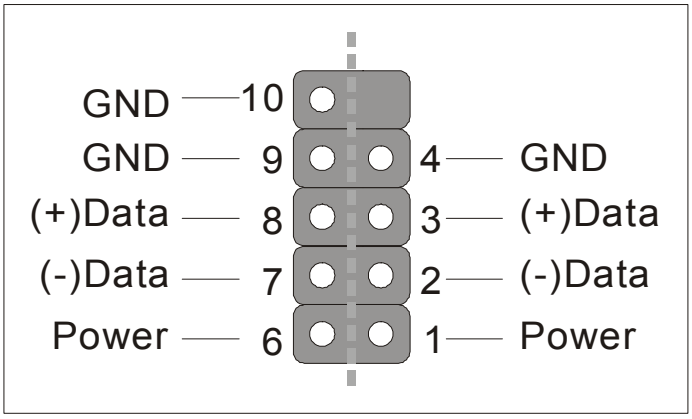


5. Universal Serial Bus (USB1/USB2, USB20_2/USB20_4)

This motherboard provides eight 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_2 and USB20_4 are available. To make use of these USB ports, purchase a USB cable from your dealer. The lay-out of USB20_2, USB20_4 are as follows:

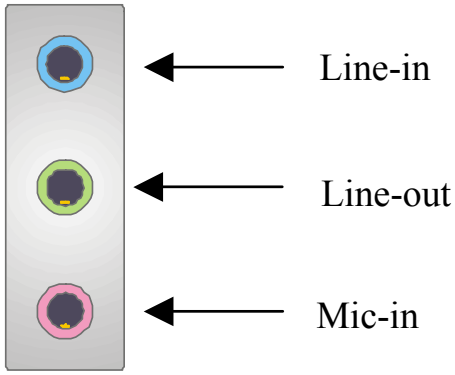


USB1, USB2, USB20_2 and USB20_4 supports USB 2.0 devices.

6. Onboard Game port/audio (Audio Speakers connections)

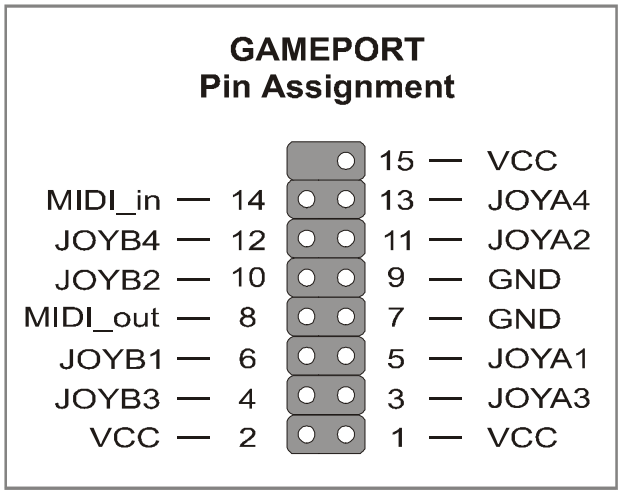
When using 2-channel speaker, connect the speaker cable to Line-out.

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 that the audio software is set for 4 channel speaker system.



Use the SPDIF Card to use 6-channel speaker.

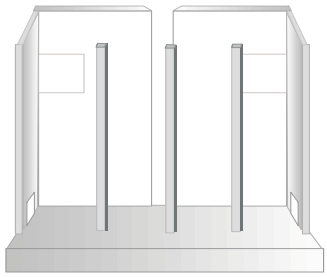
The Gameport has the following lay-out :



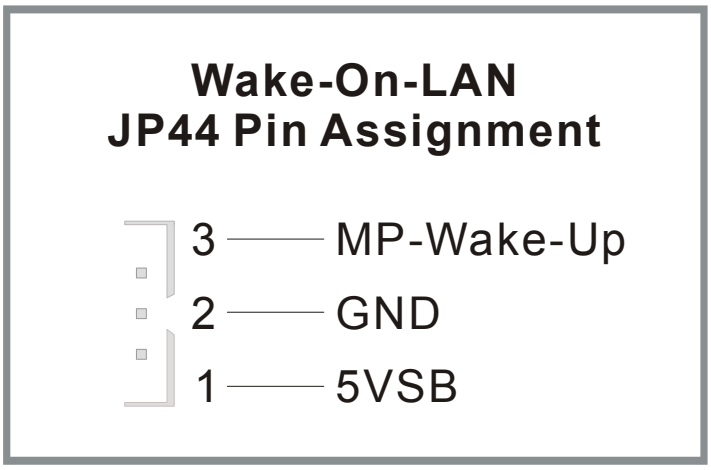
E. Other Connections

1. Wake-On-LAN (WOL)

Attach the 3-pin connector from the LAN card that supports the Wake-On-LAN (WOL) function to the JP44 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:

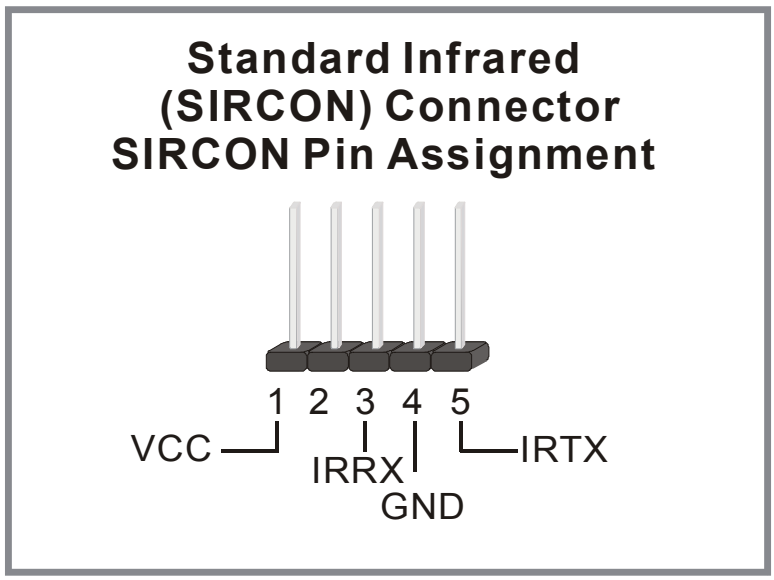


2. Standard Infrared (SIRCON)

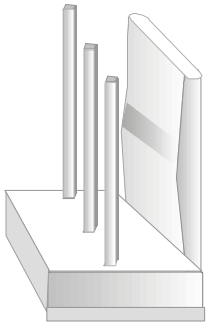
Plug the 5-pin infrared device cable to the SIRCON header.

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

Please install according to the following pin assignment:



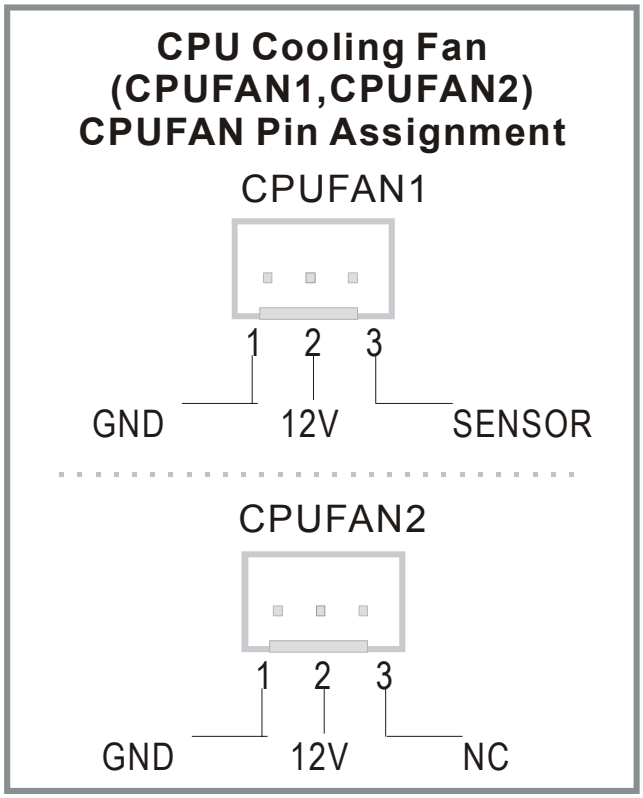
3. Cooling Fan Installation



(1) CPU Cooling Fan (CPUFAN1,CPUFAN2)

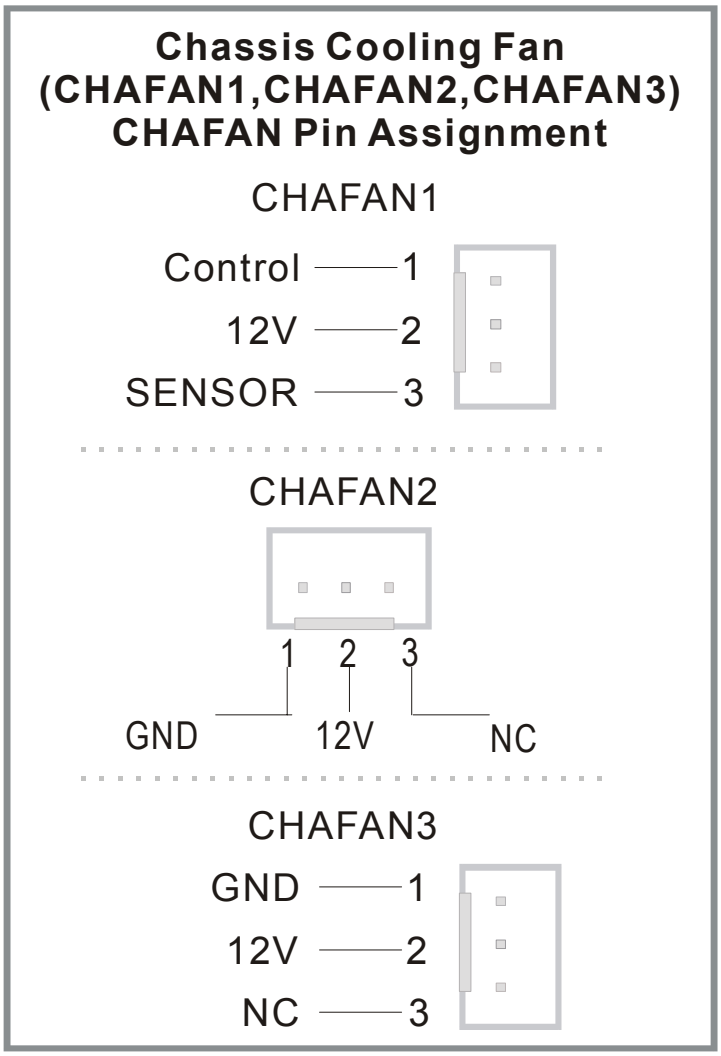
After you have seated the CPU properly on the processor, attach the 3-pin fan cable to the CPUFAN connector on the motherboard. The fan will stop when the system enters into Suspend Mode. (Suspend mode can be enabled from the BIOS Setup Utility, [POWER MANAGEMENT] menu.)

To avoid any 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:

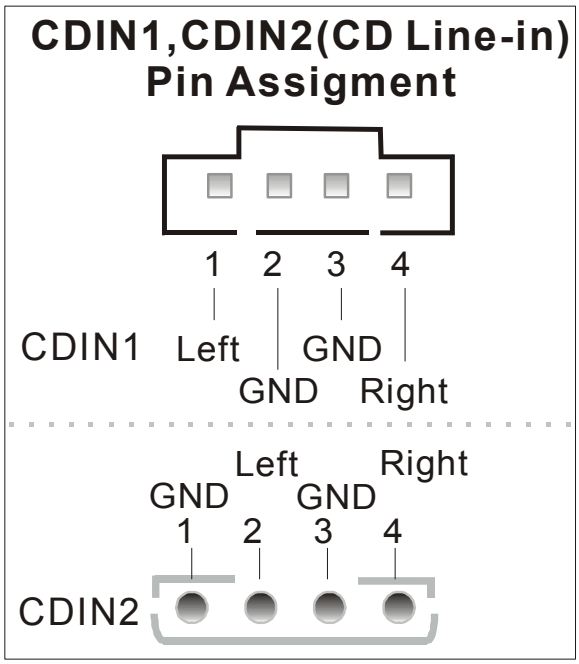


Note: CPUFAN must be installed on this motherboard, while CHAFAN is optional.

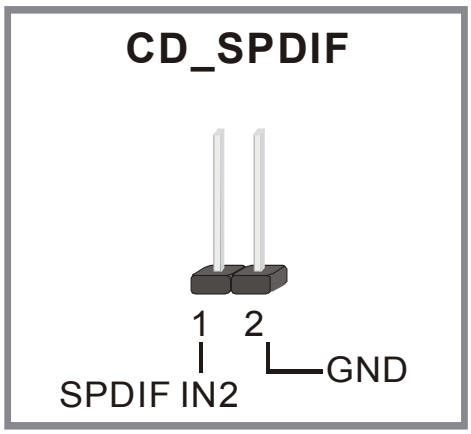
4. CD Line-in (CDIN1,CDIN2)

This motherboard provides two CD-Line in connectors. Please connect the 4-pin audio cable from your CD-ROM drive to either CDIN1 or 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:



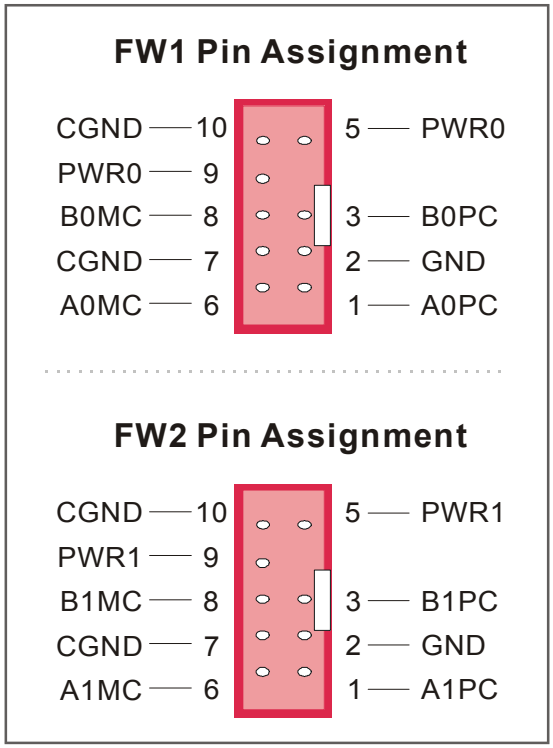
5. CD_SPDIF



6. IEEE 1394 (Firewire) Connector (FW1/FW2)

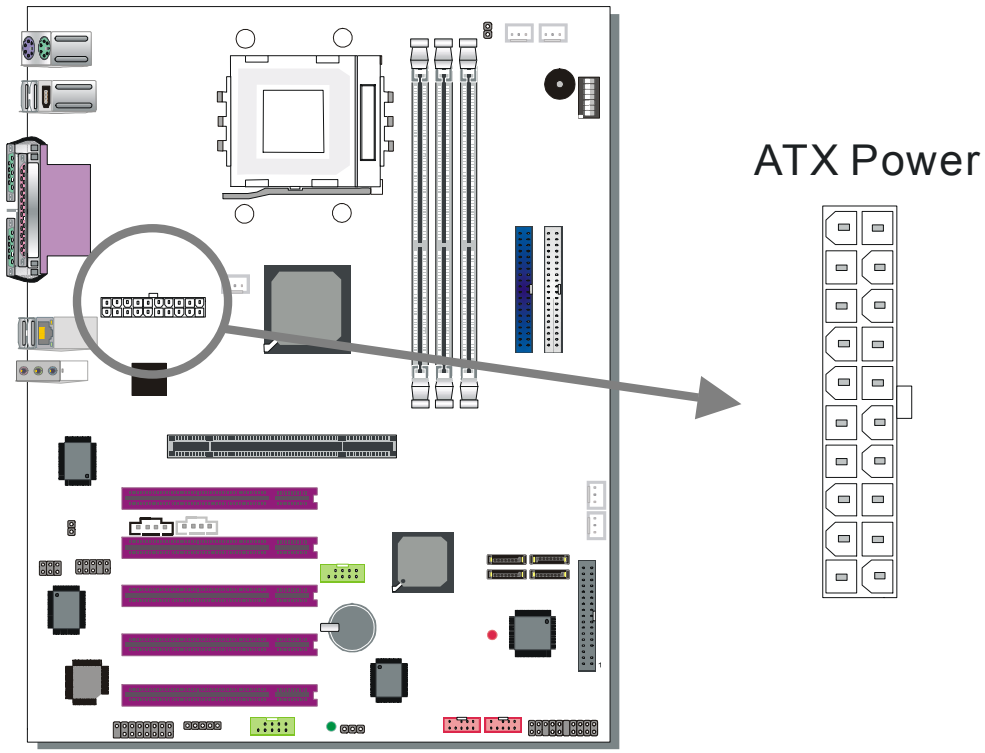
This motherboard provides 3 IEEE 1394 ports for your Firewire devices. Standard drivers are supplied with the operating system for commonly used Firewire devices.

FW1 and FW2 are available. You can connect them to a 1394 bracket or ∑BOX to use them. The layout out of the FW1 and FW2 Firewire connector is as follows:



F. ATX Power Supply

Plug the connector from the power directly into the 20-pin male ATX PW connector on the motherboard, as shown in the following figure.



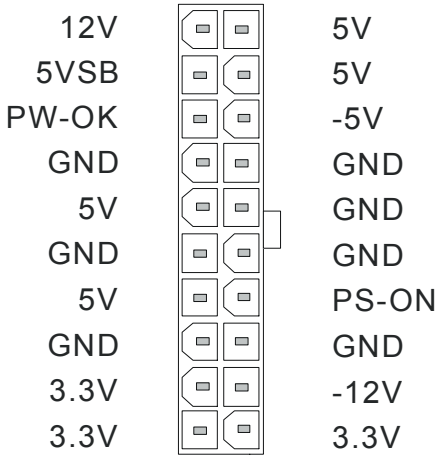
Warning: Follow these precautions to preserve your motherboard from any remnant currents when connecting to ATX power supply:

Turn off the power supply and unplug the power cord of the ATX power supply before connecting to ATX PW connector.

The KT600 DRAGON Ultra requires a power supply that is approved by AMD. Go to www.amd.com for more info on approved power supply. Make sure the ATX power supply can take at least 720 mA * load on the 5V Standby lead (5VSB) to meet the standard ATX specification.

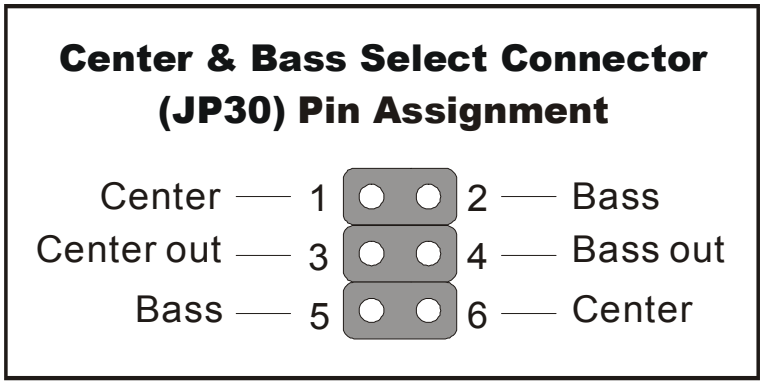
**** Note:*** If you use the Wake-On-LAN (WOL`) function, make sure the ATX power supply can support at least 720 mA on the 5V Standby lead (5VSB). Please install the ATX power according to the following pin assignment:

ATX Power

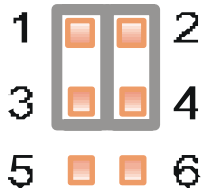
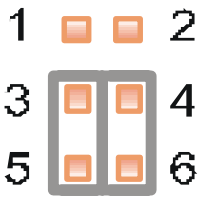


- **Pay special care to the directionality.**

G. Center & Bass Select Connector (JP30)



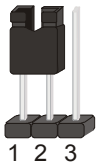
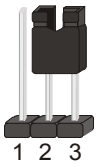
The 4 pin block jumper can be set to 1,2,3,4 or 3,4,5,6. The position this jumper block should be set to depends on your speakers. If during usage you find that your center and base channels are swapped set this jumper to the other position.

Center & Bass select	Normal	Reverse (Default)
JP30 Setting	Short pin 1-3/2-4 	Short pin 3-5/4-6 

H. CMOS Clear (JP5)

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

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

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

Step 5 Power On

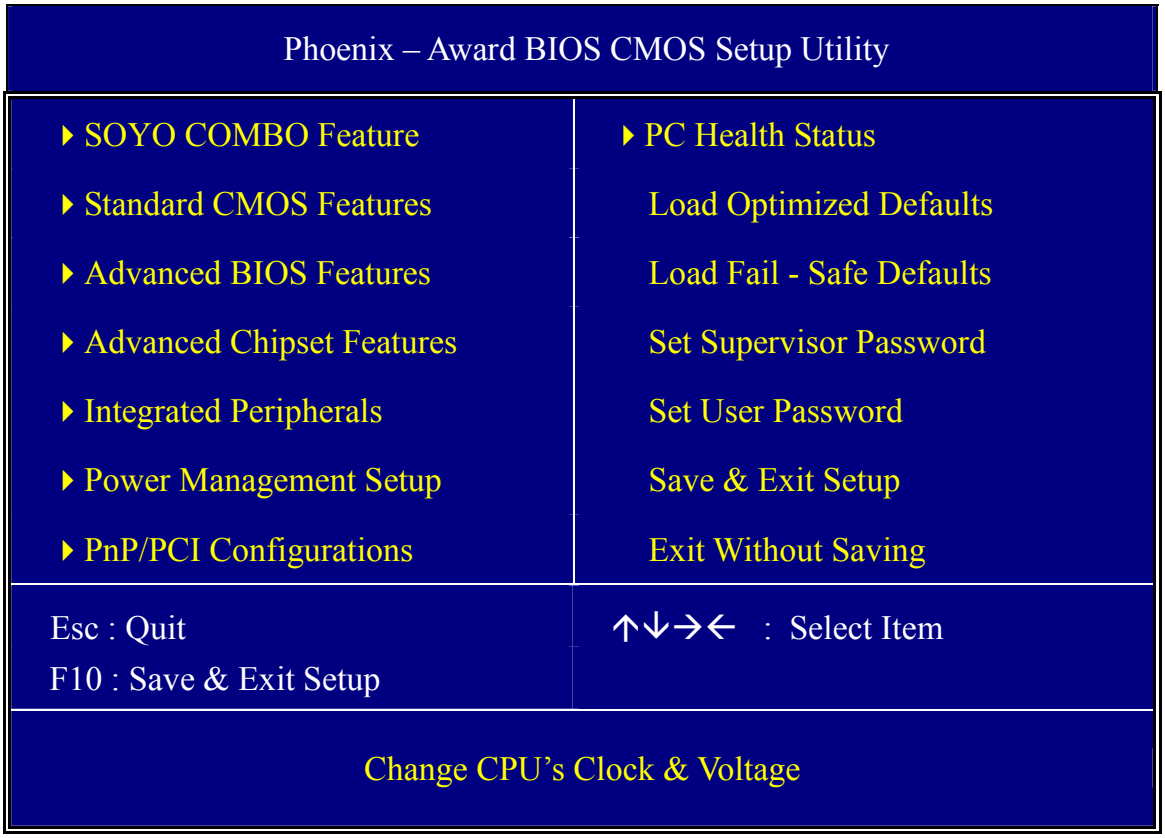
You have now completed the hardware installation of your KT600 DRAGON Ultra successfully.

1. Turn the power on.
2. It takes awhile to boot-up to the system. You will hear 3 beeps before seeing a display on the screen.
3. 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.

4. 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 completed, 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. Follow these steps to configure the CPU settings.

Step 1. Select [STANDARD CMOS SETUP]

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 [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***

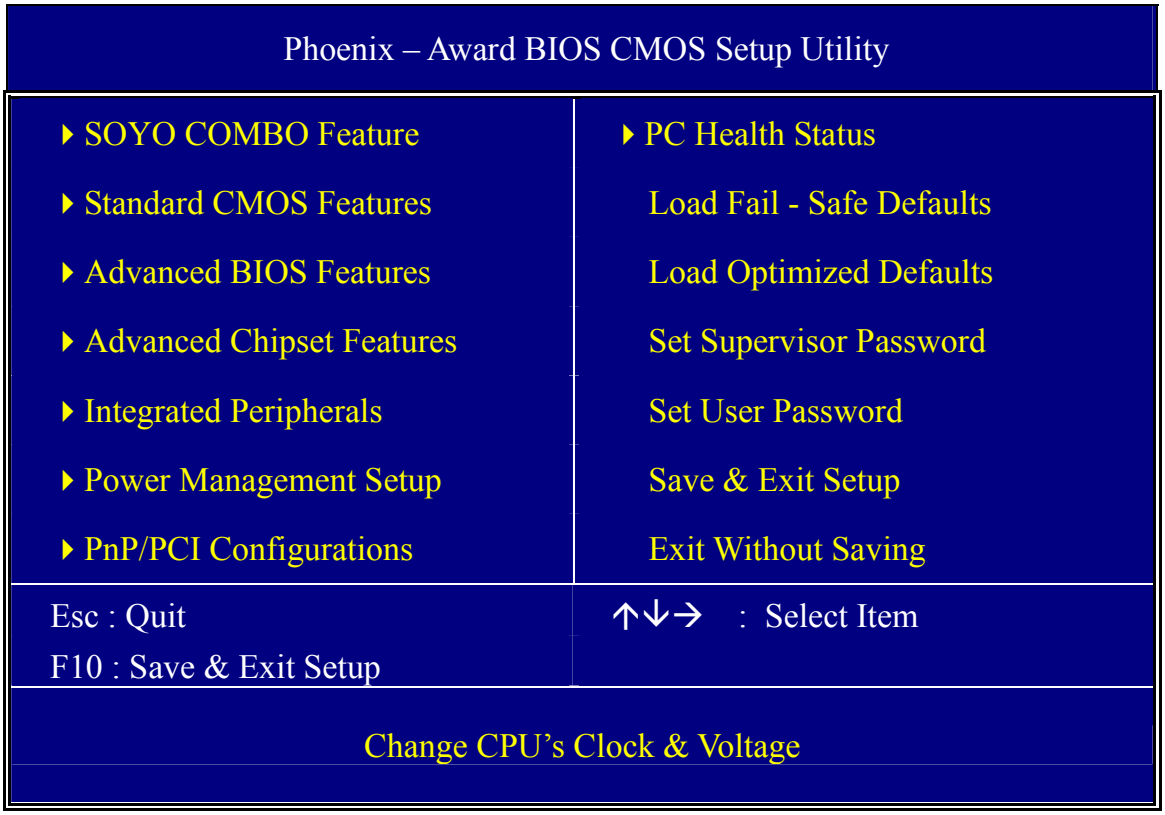
Chapter 3

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

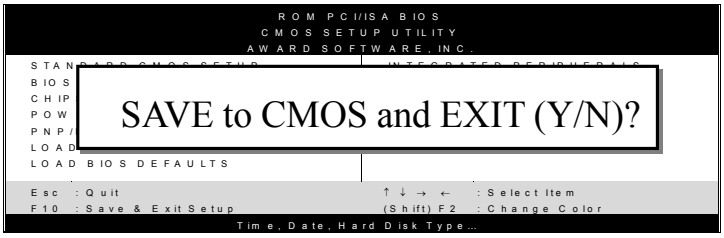
- Use the [Up]/[Down] keys to modify values within the selected fields. Some fields let you enter values directly.

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

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

SAVE AND EXIT SETUP

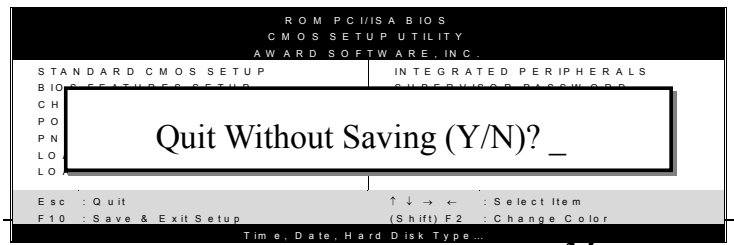
Select the [SAVE & EXIT SETUP] option from the Main Menu to save data to CMOS and exit the setup utility. This option saves all your changes and causes the system to reboot.



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.



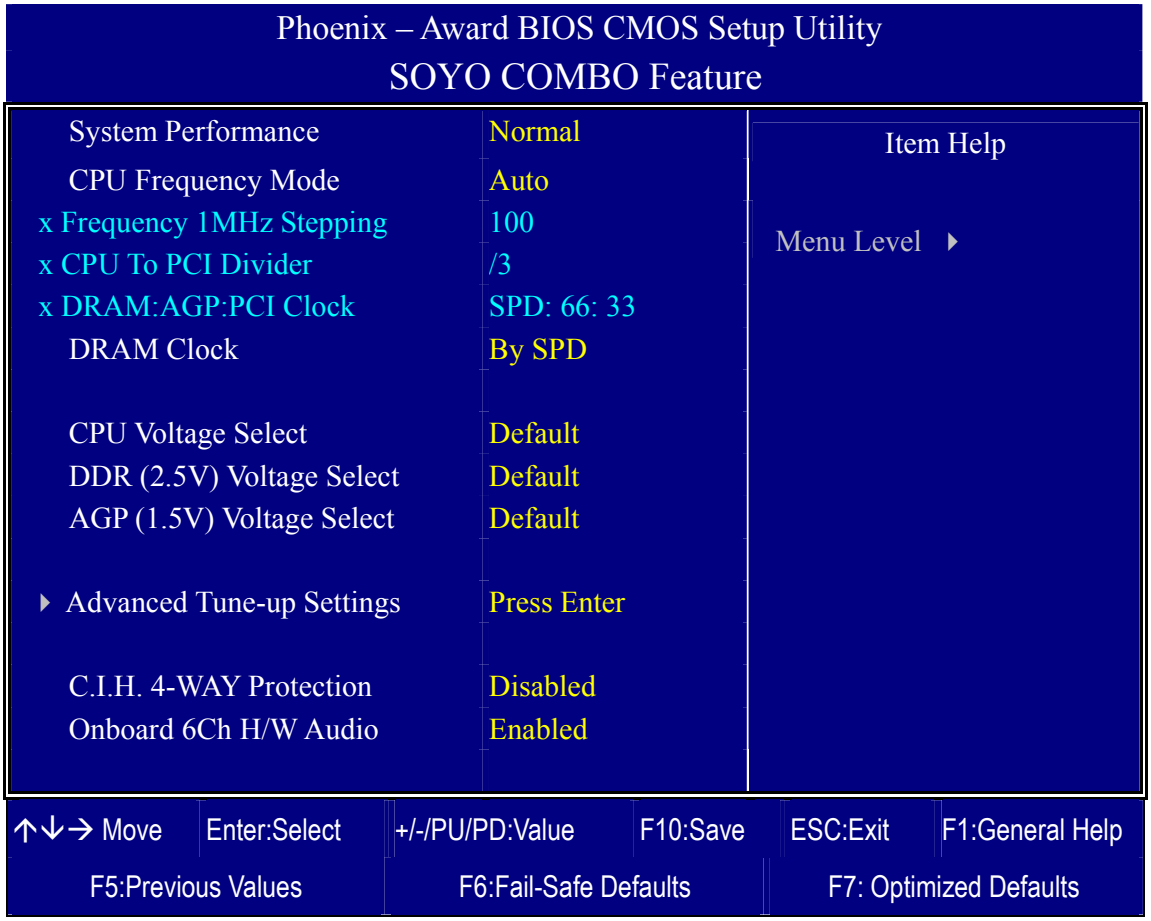
Type [Y] to abandon changes and exit or [N] to return to the Main Menu and keep current

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.



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
System Performance	Normal	Adjust your computer performance.	Default
	Fast		
	Turbo		

SOYO COMBO Feature

	Setting	Description	Note
CPU Frequency Mode	Auto	Choose the pre-defined CPU frequency setting or auto for auto CPU Freq. detects. For experienced overclocker, set the field to "Manual" to overclock the CPU Freq. by 1 MHz stepping. Don't forget to set the correct CPU to PCI divider.	Default
	Manual		
	100		
	120		
	133		
	140		
	150		
	166		
	200		
Frequency 1MHz Stepping	100 ~ 255	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.	
CPU To PCI Divider	/3	This option determines how fast your PCI slot run at; default PCI speed is 33MHz.	Default
	/4		
	/5		
DRAM:AGP: PCI Clock		Shows the current bus speed of DRAM/AGP and PCI	
DRAM Clock	100	This item allows you to control the DRAM speed. DRAM clock should not be lower than CPU Freq.	
	133		
	166		
	200		
	By SPD		Default

CPU Voltage Select	Default		This function allow to adjust the CPU voltage.	Default
	1.475V	1.675V		
	1.500V	1.700V		
	1.525V	1.725V		
	1.550V	1.750V		
	1.575V	1.775V		
	1.600V	1.800V		
	1.625V	1.825V		
	1.650V	1.850V		

DDR Vcore Select

	Setting	Description	Note
DDR Vcore Select	Default	This function allow to adjust the DDR voltage.	Default
	2.6V		
	2.7V		
	2.8V		

AGP Voltage Adjust

	Setting	Description	Note
AGP VOLTAGE SELECT	Default	This function allow to adjust the AGP voltage.	Default
	1.6V		
	1.7V		
	1.8V		

C.I.H. 4-WAY Protection Settings

	Setting	Description	Note
C.I.H. 4-WAY Protection	Disabled	When set to enabled, the BIOS can only be programmed through AWDFLASH, making sure that any virus is unable to program the system BIOS. Set to disable the BIOS can be programmed the traditional way.	Default
	Enabled		

Onboard 6Ch H/W Audio

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

3-1.1 Advanced Tune-up Settings

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

The [DRAM Clock/Drive Control] option changes the values of the chipset registers. These registers control the system options in the computer.

Phoenix – Award BIOS CMOS Setup Utility

Advanced Tune-up Settings

DRAM Timing	Manual	Item Help
DRAM CAS Latency	2.5	
Bank Interleave	Disabled	Menu Level ▸
Precharge to Active(Trp)	3T	
Active to Precharge (Tras)	7T10T	
Active to CMD (Trcd)	3T	
DRAM Burst Length	4	
DRAM Command Rate	2T Command	
DRAM Access Time	3T	
DRAM Queue Depth	4 Level	
DRAM tWTR	3T	
Write Recovery Time	3T	
AGP Performance	Normal	
AGP Fast Write	Disabled	

↑↓→: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.

DRAM Control

	Setting	Description	Note
DRAM Timing	By SPD	If enable the DRAM will auto detect the DRAM timing.	
	Manual		Default
DRAM CAS Latency	3	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.	
	2.5		Default
	2		
	1.5		
Bank Interleave	Disabled	Increase DRAM performance.	Default
	2 Bank		
	4 Bank		
Precharge to Active(Trp)	2T	Increase DRAM performance.	
	3T		Default
Active to Precharge(Tras)	6T	Increase DRAM performance.	
	7T		Default
Active to CMD (Trcd)	2T	Increase DRAM performance.	
	3T		Default
DRAM Burst Length	4	Increase DRAM performance.	Default
	8		
DRAM Command Rate	2T Command	Increase DRAM performance.	Default
	1T Command		
DRAM Access Time	2T	Increase DRAM performance.	
	3T		Default
DRAM Queue Depth	2 Level	Increase DRAM performance.	
	4 Level		Default
	3 Level		
DRAM tWTR	1T	Increase DRAM performance.	
	3T		Default

DRAM Control (Continue)

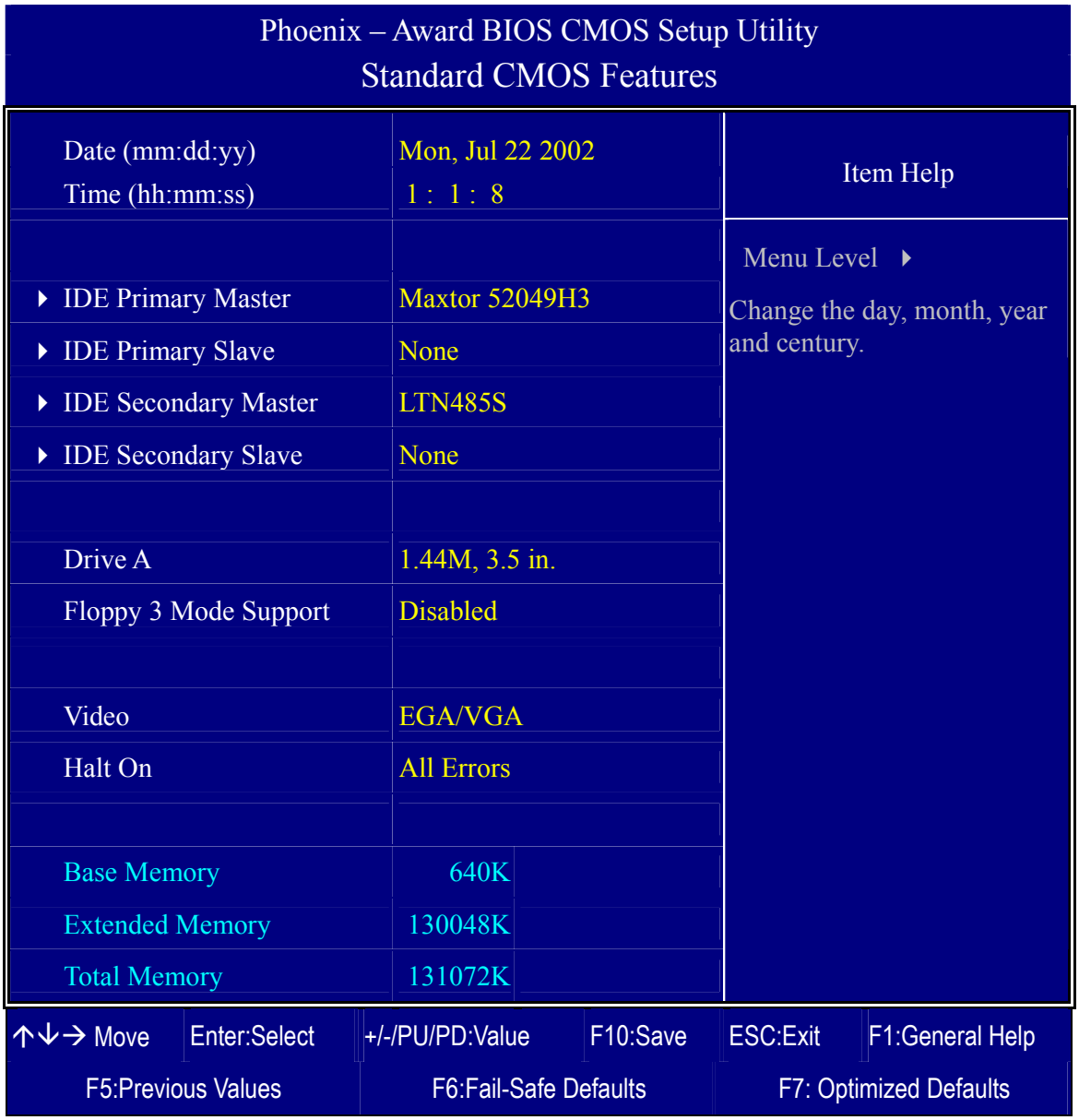
	Setting	Description	Note
Write Recovery Time	2T	Increase DRAM performance.	
	3T		Default

AGP Control

	Setting	Description	Note
AGP Performance	Normal	Increase AGP performance.	Default
	Fast		
AGP Fast Write	Disabled	The VIA chipset will use fast write to AGP if this item is enabled. Not all AGP cards support fast write.	Default
	Enabled		

3-2 STANDARD CMOS SETUP

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



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.

Phoenix – Award BIOS CMOS Setup Utility
IDE Primary Master

IDE HDD Auto-Detection	Press Enter	Item Help
IDE Primary Master	Auto	Menu Level ▸
Access Mode	Auto	To auto-detect the HDD's size, head… on this channel
Capacity	20492 MB	
Cylinder	39704	
Head	16	
Precomp	0	
Landing Zone	39703	
Sector	63	

↑↓→: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
Date	mm/dd/yyyy	Type the current date	You can also the PUp/PDn keys to toggle
Time	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.

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

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

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

Others Optional

	Setting	Description	Note
Video	EGA/VGA	Select the video mode.	Default
	CGA 40		
	CGA 80		
	MONO (Monochrome)		
Halt On	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.

Phoenix – Award BIOS CMOS Setup Utility
Advanced BIOS Features

Virus Warning	Disabled	Item Help
CPU Internal Cache	Enabled	
External Cache	Enabled	Menu Level ▸
CPU L2 Cache ECC Checking	Enabled	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.
Quick Power On Self Test	Enabled	
RAID/ATA & SCSI Boot Order	RAID/ATA, SCSI	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	LS120	
Boot Other Device	Enabled	
Boot Up Floppy Seek	Enabled	
Boot Up NumLock Status	On	
Gate A20 Option	Fast	
Typematic Rate Setting	Disabled	
x Typematic Rate (Chars/Sec)	6	
x Typematic Delay (Msec)	250	
Security Option	Setup	
APIC Mode	Enabled	
MPS Version Control For OS	1.1	
OS Select For DRAM > 64MB	Non-OS2	
HDD S.M.A.R.T. Capability	Disabled	
Video BIOS Shadow	Enabled	
Full Screen LOGO Show	Enabled	
EPA LOGO SELECT	LOGO-0	
Small Logo (EPA) Show	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] key and follow the instructions on your screen to save your settings or exit without saving.

Virus Warning

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

Cache Memory Options

	Setting	Description	Note
CPU Internal Cache	Disabled		
	Enabled	Enables the CPU's internal cache.	Default
External Cache	Disabled		
	Enabled	Enables the external memory.	Default
CPU L2 Cache ECC Checking	Disabled	Disabled/Enabled L2 cache error checking.	
	Enabled		Default

Quick Power On Self Test

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

System Boot Control Settings

	Setting	Description	Note
RAID/ATA & SCSI Boot Order	RAID/ATA, SCSI	Select Your RAID/ATA & SCSI Boot Device Priority.	Default
	SCSI, RAID/ATA		

System Boot Control Settings (Continue)

	Setting	Description	Note
First /Second/Third Boot Device	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		
Boot Other Device	Disabled	Select Your Boot Device Priority	
	Enabled		Default

Boot Up Floppy Seek

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

Boot Up NumLock Status

	Setting	Description	Note
Boot Up NumLock Status	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
Gate A20 Options	Normal	Lets chipset control GateA20.	
	Fast	A pin in the keyboard controller controls GateA20.	Default

Typematic Settings

	Setting	Description	Note
Typematic Rate Setting	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]			
Typematic Rate	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)		
Typematic Delay	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
Security Option	System	Each time the system is booted, the password prompt appears.	
	Setup	If a password is set, the password prompt only appears when you attempt to enter the BIOS Setup program.	Default

Other Control Options

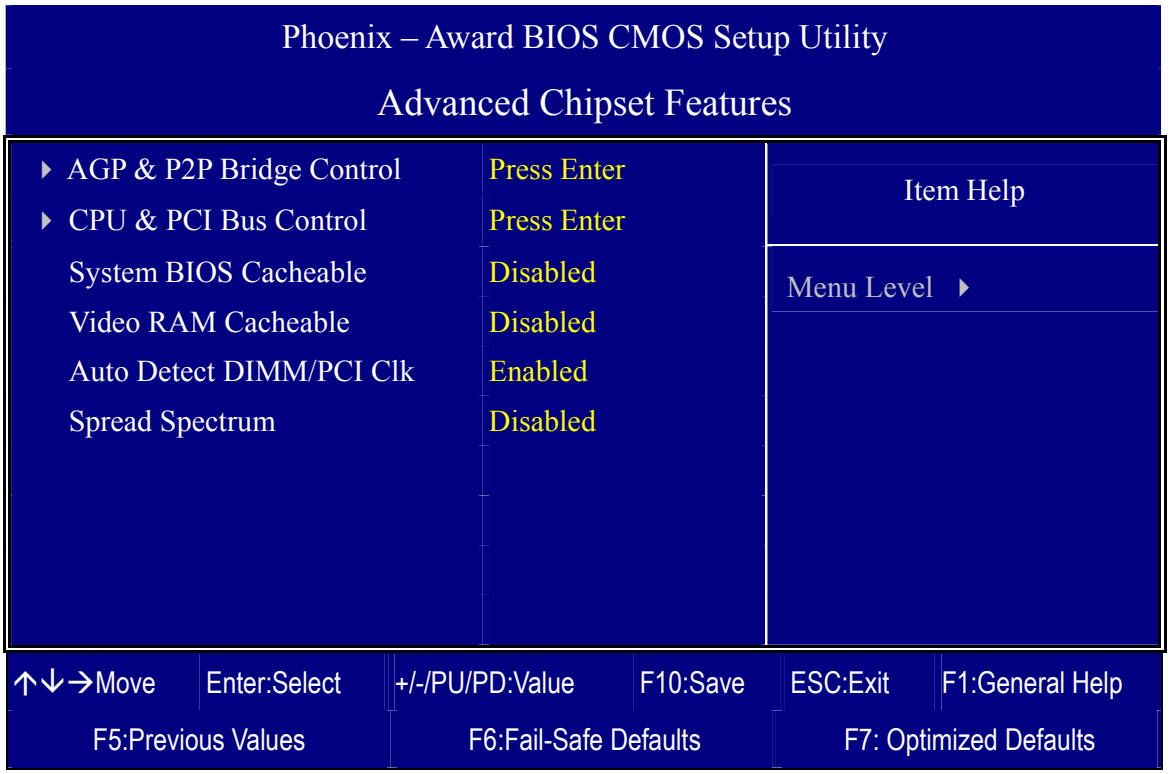
	Setting	Description	Note
APIC Mode	Disabled	Disabled/Enabled advanced programmable interrupt controller (APIC) mode.	
	Enabled		Default
MPS Version Control For OS	1.1	Allows you to choose the multi processor specification (MPS) version.	Default
	1.4		
OS Select for DRAM>64MB	OS2	When using an OS2 operating system.	
	Non-OS2	When using another, non-OS2 operating system.	Default
HDD S.M.A.R.T Capability	Disabled	Enable this field when your HDD supports the S.M.A.R.T. function. Consult your HDD provider for details.	Default
	Enabled		
Video BIOS Shadow	Disabled		
	Enabled	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
Full Screen LOGO Show	Enabled	Enable/Disable DRAGON Logo during Boot-up.	Default
	Disabled		
EPA LOGO SELECT	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		
Small Logo(EPA) Show	Disabled	Set Enabled to Show Logo (EPA).	
	Enabled		Default

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
System BIOS Cacheable	Disabled		Default
	Enabled	The ROM area F0000H-FFFFFH is cacheable.	

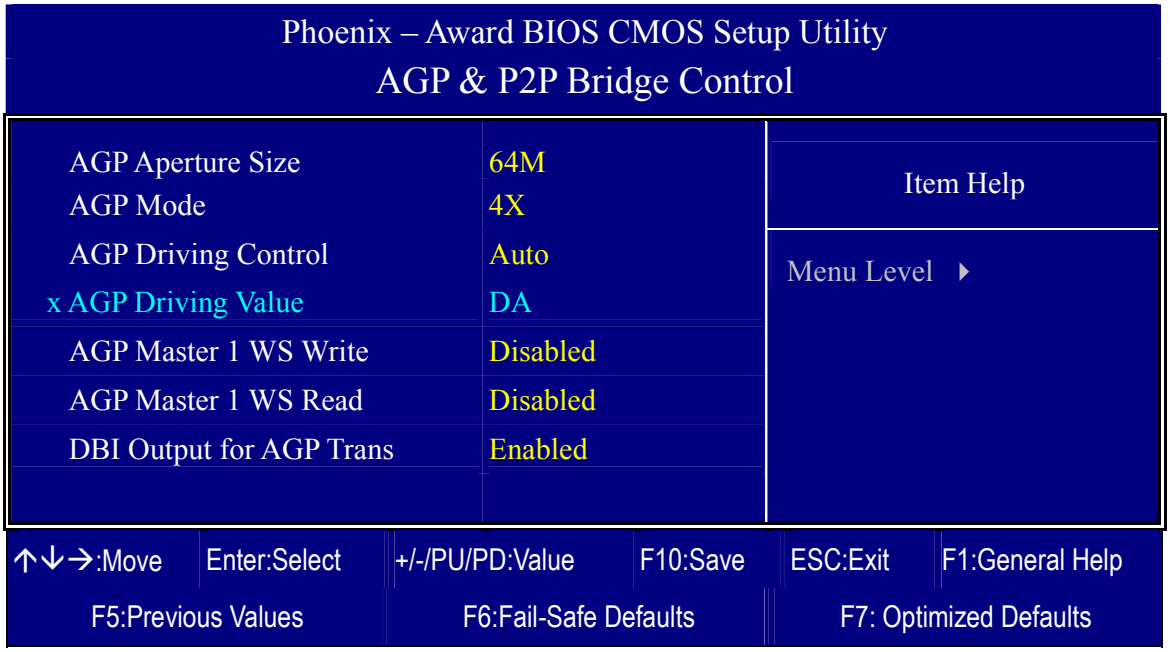
CHIPSET FEATURES SETUP (Continue)

	Setting	Description	Note
Video RAM Cacheable	Disabled Enabled	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
Auto Detect DIMM/PCI Clk	Disabled Enabled	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
Spread Spectrum	Disabled Enabled	This item allows you to Disabled / Enabled the spread spectrum modulates.	Default

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.



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
AGP Aperture Size	64M	Select the size of Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.	Default
	32M		
	128M		
	256M		
AGP Mode	1X	This item allows you to enable / disable the AGP-4X Mode.	
	2X		
	4X		Default

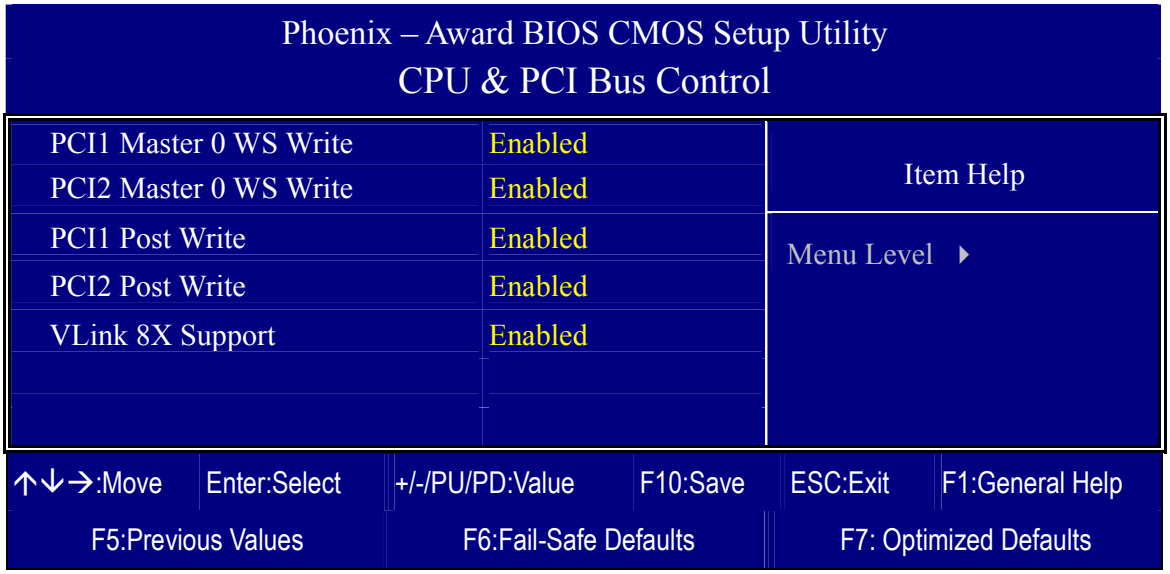
AGP & P2P Bridge Control (Continue)

	Setting	Description	Note
AGP Driving Control	Auto	This item allows you to adjust the AGP driving force. Choose *Manual* 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		
AGP Driving Value	Min=0000 ~ Max=00FF	This item allows you to adjust the AGP driving force.	
AGP Master 1 WS Write	Disabled		Default
	Enabled	When *Enabled,* writes to the AGP(Accelerated Graphics Port) are executed with one wait states.	
AGP Master 1 WS Read	Disabled		Default
	Enabled	When *Enabled,* read to the AGP (Accelerated Graphics Port) are executed with one wait states.	
DBI Output for AGP Trans	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.



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

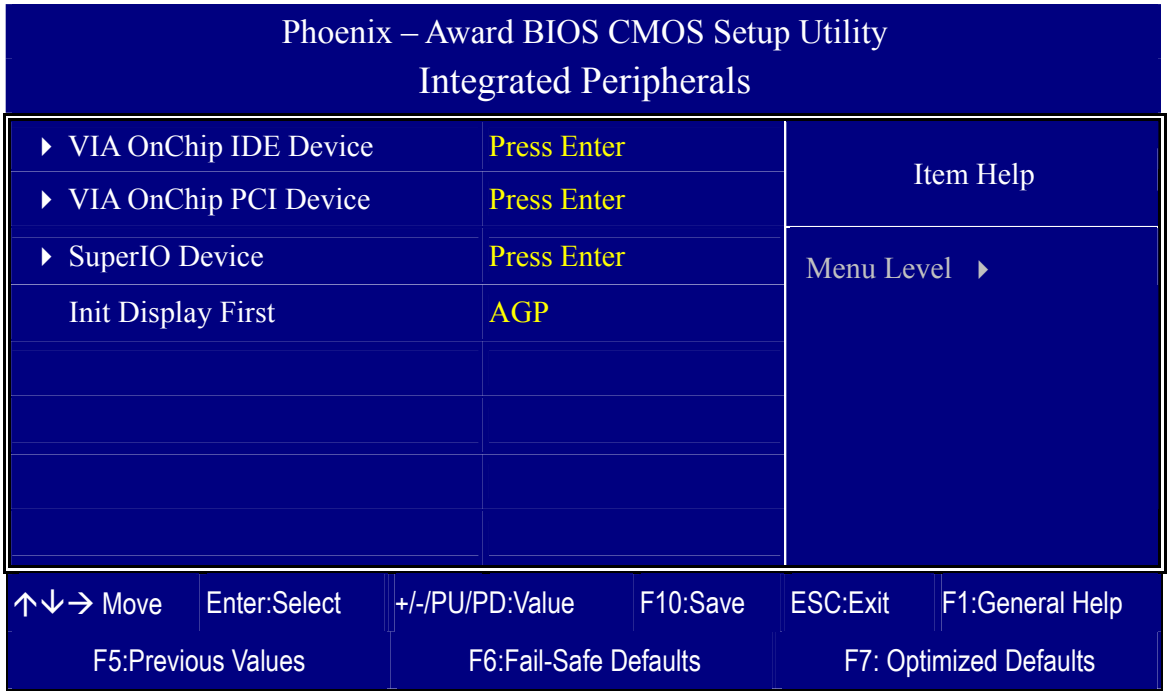
	Setting	Description	Note
PCI1/2 Master 0 WS Write	Disabled		
	Enabled	When *Enabled,* writes to the PCI bus are executed with zero wait states.	Default
PCI1/2 Post Write	Disabled	This item allows you to enabled/disabled the PCI post write.	
	Enabled		Default
VLink 8X Support	Disabled	Increase system performance.	
	Enabled		Default

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.



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
Init Display First	PCI Slot	Choose which card – AGP Display card or PCI VGA card – to initialize first.	
	AGP		Default

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.

Phoenix – Award BIOS CMOS Setup Utility
VIA OnChip IDE Device

		Item Help
Onboard SATA 1,2	Enabled	
SATA Mode	IDE	
OnChip IDE Channel0	Enabled	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	
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.

VIA OnChip IDE Device

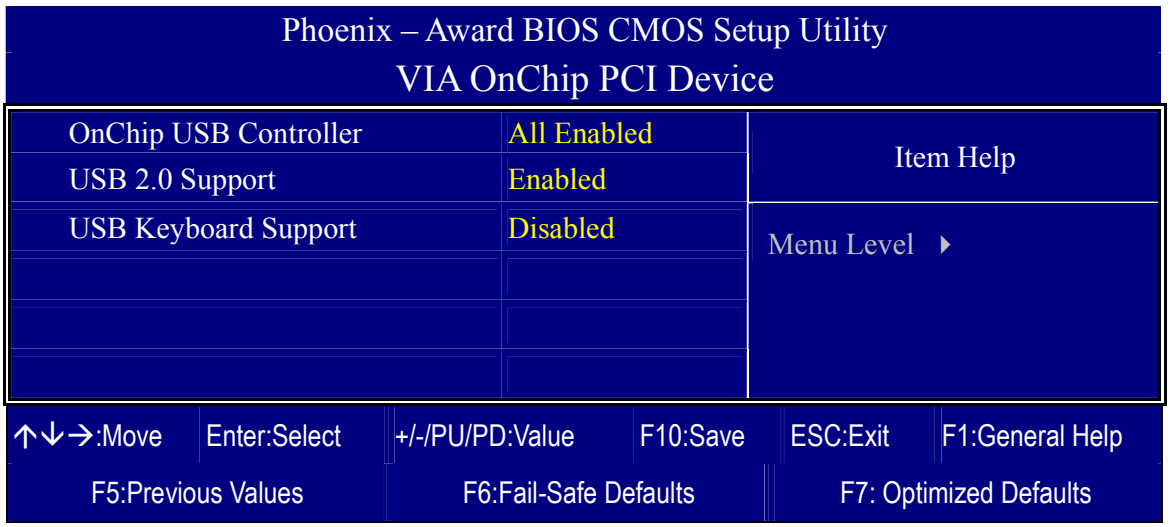
	Setting	Description	Note
ONBOARD SATA 1,2	Disabled	Enabled/Disabled 8237 SATA1, 2.	
	Enabled		Default
SATA MODE	RAID	Define SATA1, 2 as RAID or IDE function.	
	IDE		Default
On-Chip IDEChannel 0 /IDE Channel 1 ➢ **Primary** ➢ **Secondary**	Disabled	Turn off the on-board IDE	
	Enabled	Use the on-board IDE	Default
IDE ➢ **Primary Master PIO** ➢ **Primary Slave PIO** ➢ **Secondary Master PIO** ➢ **Secondary Slave PIO**	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
IDE ➢**Primary Master UDMA** ➢**Primary Slave UDMA** ➢**Secondary Master UDMA** ➢**Secondary Slave UDMA**	Disabled		
	Auto	Select Auto to enable Ultra DMA Mode support.	Default
IDE HDD Block Mode	Disabled	Invokes multi-sector transfer instead of one sector per transfer. Not all HDDs support this function.	
	Enabled		Default

3-5.2 VIA OnChip PCI Device

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

The [VIA OnChip PCI 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.



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

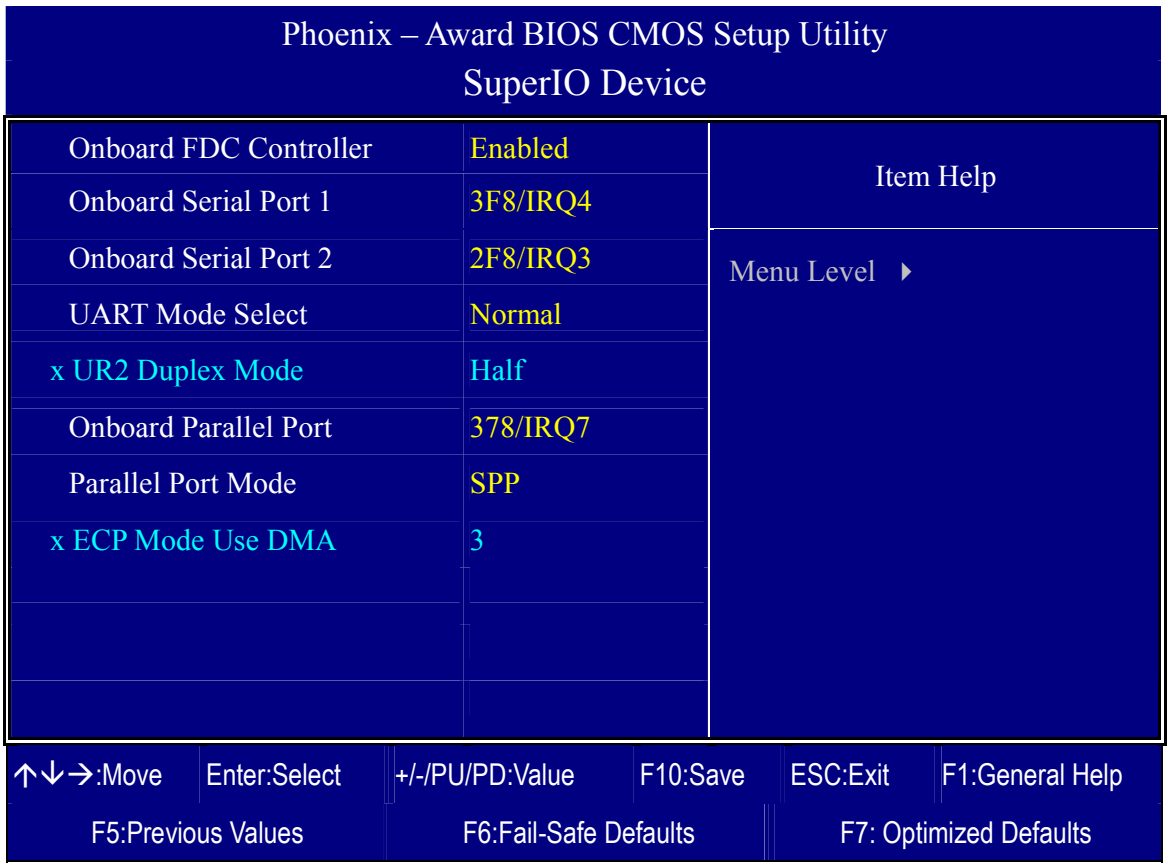
	Setting	Description	Note
OnChip USB Controller	All Disabled	This should be enabled if your system has a USB installed on the system board and you want to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature.	
	All Enabled		Default
USB 2.0 Support	Disabled	Select Enabled if you have USB 2.0 peripherals.	
	Enabled		Default
USB Keyboard Support	Disabled	Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.	Default
	Enabled		

3-5.3 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.



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

	Setting	Description	Note
Onboard FDC Controller	Disabled	Turn off the on-board floppy controller	
	Enabled	Use the on-board floppy controller	Default

SuperIO Device (Continue)

	Setting	Description	Note
Onboard Serial Port 1 / Serial Port 2	Disabled		
	3F8/IRQ4	Choose serial port 1 & 2's I/O address. Do not set port 1 & 2 to the same address except for Disabled or Auto.	Default (port 1)
	2F8/IRQ3		Default (port 2)
	3E8/IRQ4		
	2E8/IRQ3		
	Auto		
UART Mode	IrDA	The second serial port offers these InfraRed interface modes.	
	ASKIR		
	Normal		Default
	SCR	SCR mean Smart Card Reader.	
If [UART Mode Select] is set to [IrDA]/[ASKIR]			
UR2 Duplex Mode	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		
Onboard Parallel Port	Disabled	Choose the printer I/O address.	
	378/IRQ7		Default
	278/IRQ5		
	3BC/IRQ7		
Parallel Port Mode	SPP	The mode depends on your external device that connects to this port.	Default
	EPP		
	ECP		
	ECP+EPP		
If [Parallel Port Mode] is set to [ECP] or [ECP+EPP] mode			
ECP Mode use DMA	3	Choose DMA3	Default
	1	Choose DMA1	

3-6 POWER MANAGEMENT SETUP

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

Phoenix – Award BIOS CMOS Setup Utility
Power Management Setup

▸ ACPI Suspend Type	S1 (POS)	Item Help
Power Management Option	User Define	Menu Level ▸
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	
AC Loss Auto Restart	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

Phoenix – Award BIOS CMOS Setup Utility
IRQ/Event Activity Detect

PS2KB Wakeup Select	Hot key	Item Help
PS2KB Wakeup from S1-S5	Disabled	Menu Level ▸
PS2MS Wakeup from S1-S5	Disabled	
VGA	OFF	
LPT & COM	LPT/COM	
HDD & FDD	ON	
PCI Master	OFF	
PowerOn by PCI Card	Disabled	
Wake Up On LAN/Ring	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
ACPI Suspend Type	S1(POS)	The system will enter the S1 states during suspend. (Low latency wake up)	Default
	S3(STR)		
	S1&S3		
Power Management Option	User Define	Lets you define the system power down times.	Default
	Min Saving		15 Min
	Max Saving		1 Min
HDD Power Down	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		
Suspend Mode	Disabled	Lets you define the system power down times.	Default
	1Min, 2Min, 4Min, 6Min, 8Min, 10Min, 20Min, 30Min, 40Min, 1Hour		
Video Off Option	Suspend -->Off	When enabled, this feature allows the VGA adapter to operate in a power saving mode.	Default
	Always On		
Video Off Method	V/H Sync+Blank	Selects the method by which the monitor is blanked.	Default
	Blank screen		
	DPMS Support		
MODEM Use IRQ	3	Assigns an IRQ# to the modem device.	Default
	3-11, NA		

Power Management Controls (Continue)

	Setting	Description	Note
Soft-Off by PWR-BTTN	Instant-off		Default
	Delay 4 Sec.	Turns off the system power 4 seconds after pushing the power button.	
Run VGABIOS if S3 Resume	Auto	Some OS (win xp/2k) requires to load VGA BIOS after resume from S3.	Default
	Yes		
	No		
AC Loss Auto Restart	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
	Auto	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)	
IRQ/Event Activity Detect	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

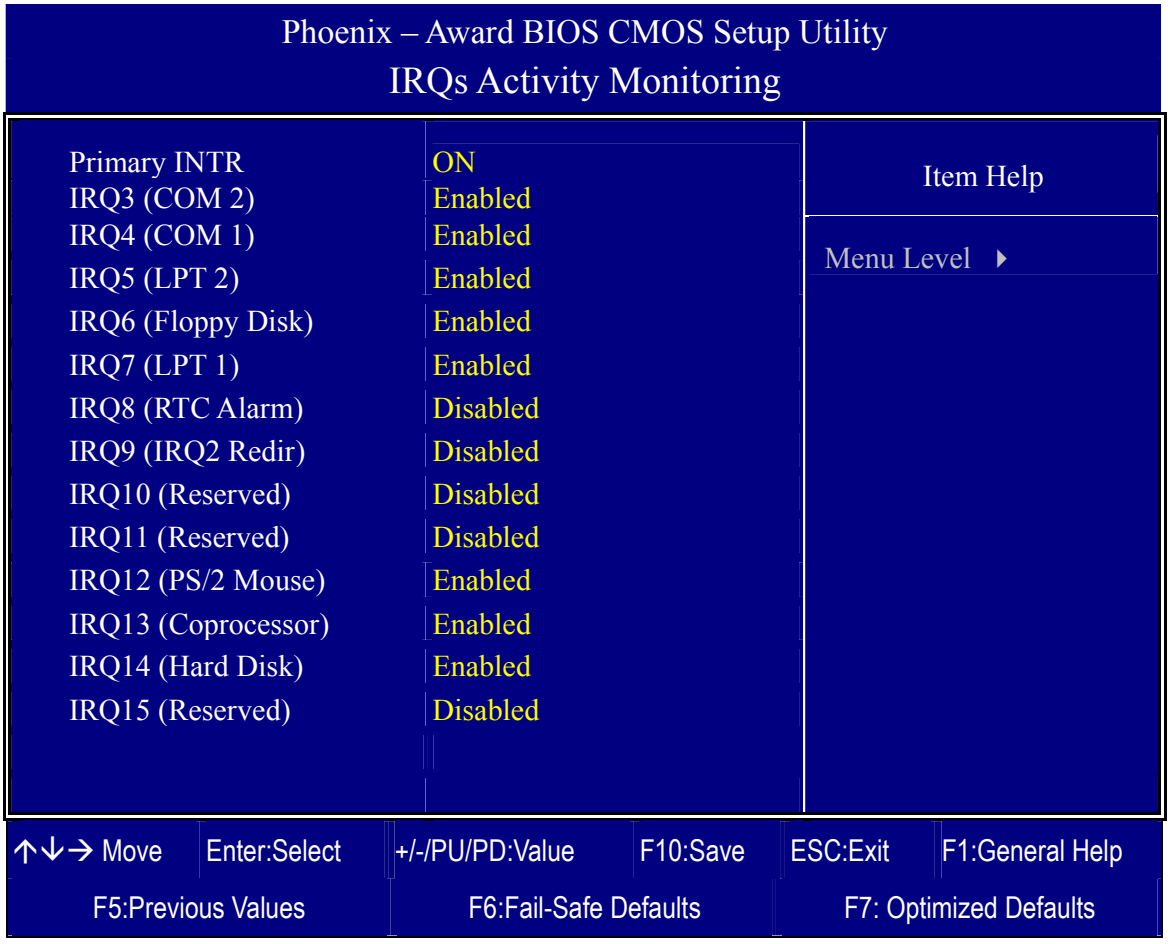
	Setting	Description	Note
PS2KB Wakeup Select	Hot key	You can boot-up your system by PS/2 K/B VIA hotkey or password.	Default
	Password		
PS2KB Wakeup from S1-S5	Disabled	You can set the following hotkey : 1. Disable 2. Choose CTRL+F1 up to F12 3. The power key in the K/B. (if available) 4. The wake-up key in the K/B. (if available) 5. Any key in the K/B.	
	Ctrl+F1~F12		
	Power		
	Wake		Default
	Any Key		

IRQ/Event Activity Detect (Continue)

	Setting	Description	Note
PS2MS Wakeup from S1-S5	Enabled	You can boot-up your system by PS/2 mouse.	Default
	Disabled		
LPT & COM	LPT/COM	When *On of* LPT & COM, any activity from one of the listed system peripheral devices or IRQs wakes up the system.	Default
	NONE, LPT, COM		
HDD & FDD	OFF	When *On of HDD* & FDD, any activity from one of the listed system peripheral devices wakes up the system.	
	ON		Default
PCI Master	OFF	When *On of PCI Master*, any activity from one of the listed system peripheral devices wakes up the system	Default
	ON		
PowerOn by PCI Card	Disabled	If enabled any PCI interrupt will wake up the system.	Default
	Enabled		
Wake Up On LAN/Ring	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		
RTC Alarm Resume	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.



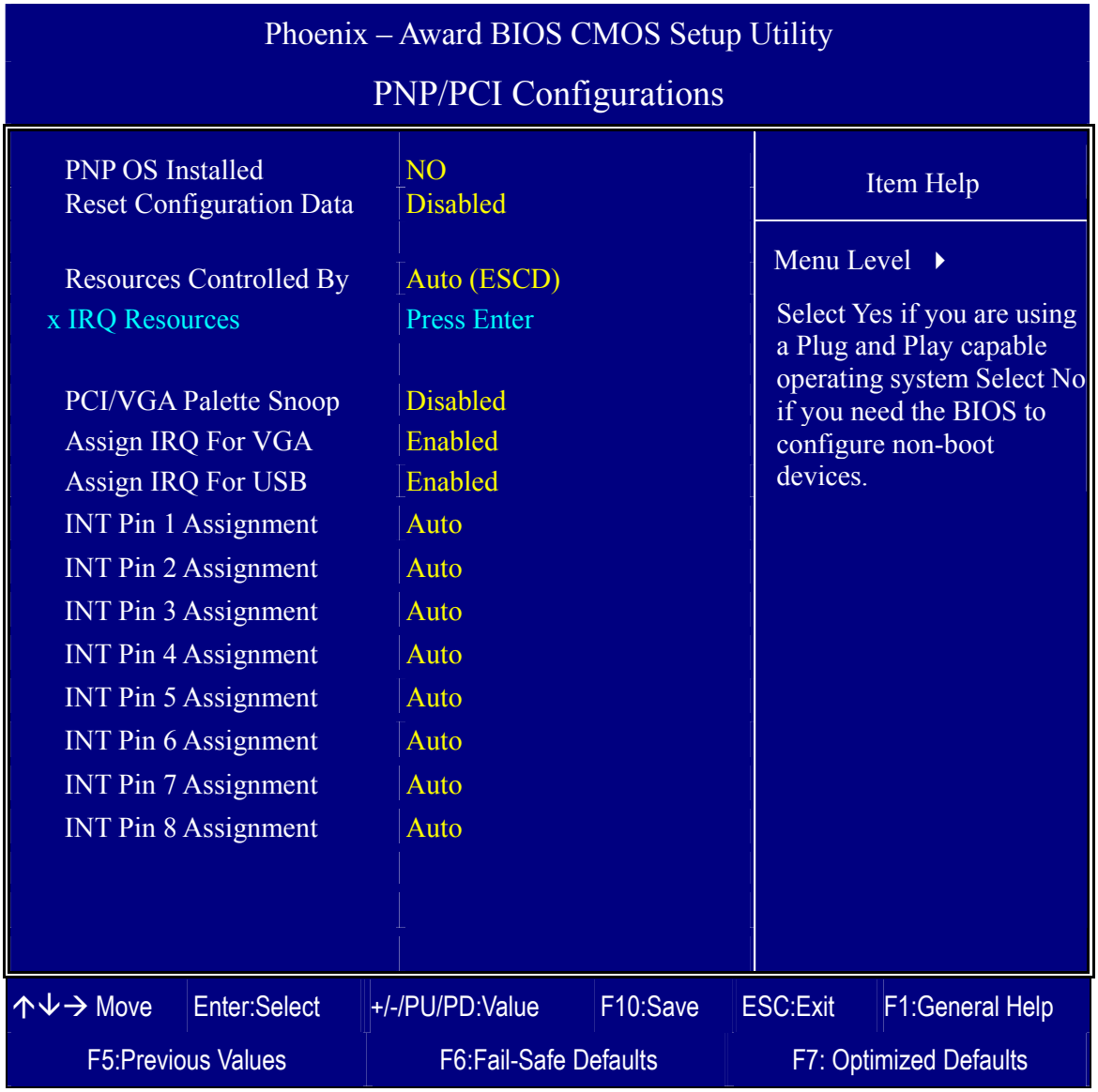
After you have completed the changes, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

IRQs Activity Monitoring

	Setting	Description	Note
Primary INTR	ON	When set to *On*, any event occurring at will awaken a system which has been powered down.	Default
	OFF		
IRQs Activity Monitoring (Press Enter)	Enabled	IRQ3(COM2), IRQ4(COM1), IRQ5(LPT2), IRQ6(Floppy Disk), IRQ7(LPT1), IRQ12(PS/2 mouse), IRQ13(Coprocessor), IRQ14(HardDsik)	
	Disabled	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.



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
PnP OS Installed	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])
Reset Configuration Data	Disabled	Retain PnP configuration data in BIOS.	Default
	Enabled	Reset PnP configuration data in BIOS.	
Resources Controlled By	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.	Recommended
If [Resources Controlled By] is set to [Manual]			
IRQ Resource (Press Enter)	PCI Device	Choose IRQ-# assigned to PCI/ISA PnP card.	IRQ-3,4,5,7,9,10, 11,12,14,15
	Reserved	Choose IRQ-# assigned to Legacy ISA card.	IRQ-3,4,5,7,9,10, 11,12,14,15
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: 1. IRQs 0, 1, 2, 6, 8, 13 can NOT be assigned, because they are fixed. 2. IRQs 5, 9, 10, 11 are available 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:			

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: **PCI / ISA PnP**	On-Chip Secondary PCI IDE: **disabled**	
IRQ 14	IRQ 14: **PCI / ISA PnP**	On-Chip Primary PCI IDE: **disabled**	
IRQ 12	IRQ 12: **PCI / ISA PnP**	*Interrupt 12 will be released by the PnP BIOS automatically if the PS/2 Mouse Port is not used.*	
IRQ 7	IRQ 7: **PCI / ISA PnP**	Onboard parallel port: **disabled**	
IRQ 4	IRQ 4: **PCI / ISA PnP**	Onboard Serial port 1: **disabled**	
IRQ 3	IRQ 3: **PCI / ISA PnP**	Onboard Serial port 2: **disabled**	
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.			
Assign IRQ For VGA/USB	Disabled	BIOS will assign IRQ for VGA/USB port.	
	Enabled	BIOS won't assign IRQ for VGA/USB port.	Default
5. 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.			
INT Pin 1/2/3/4/5/6/7/ 8 Assignment	Auto	Set to Auto the BIOS will using IRQs Automatically.	Default

MULTI I/O ADDRESSES

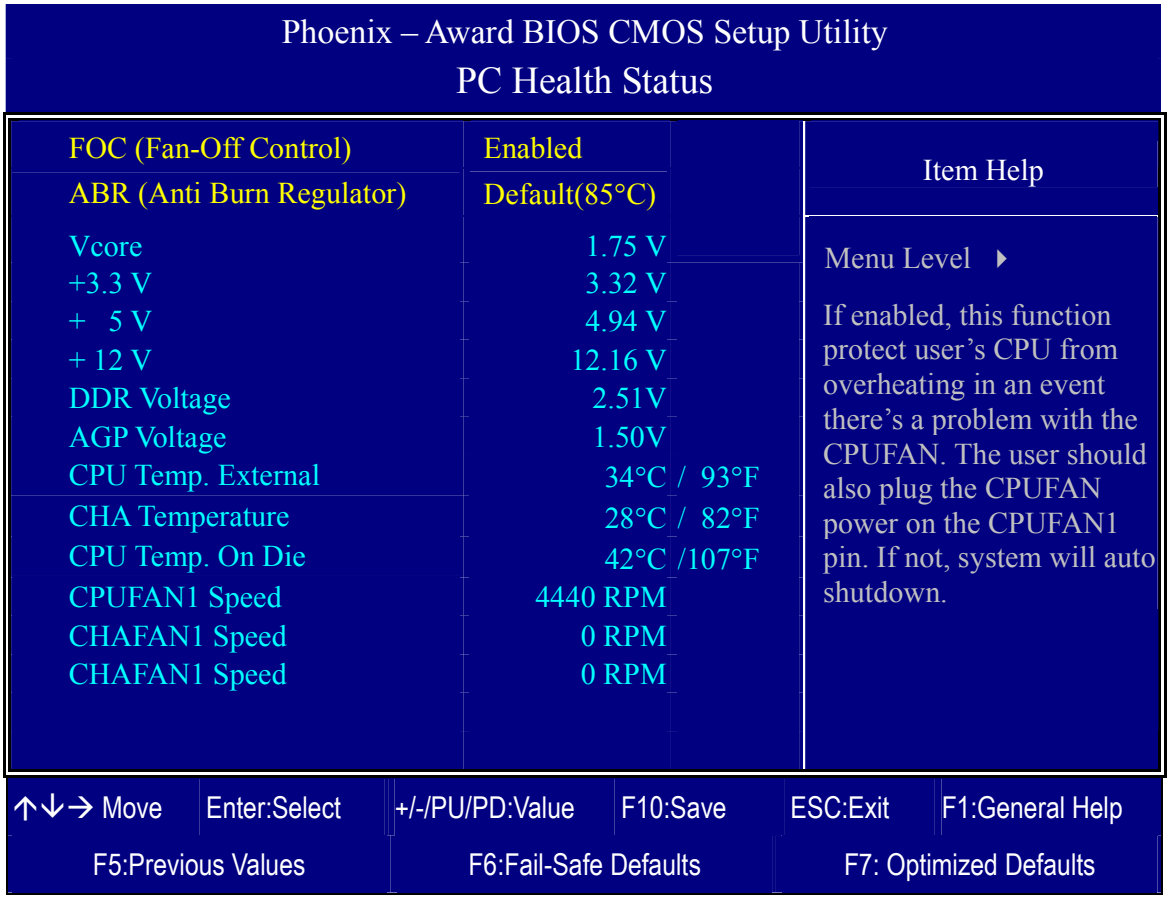
Default settings for multi-I/O addresses are as follows:

Port	I/O Address	IRQ	Status
LPT1	378H	7	ECP/EPP
COM1	3F8H	4	
COM2	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.



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

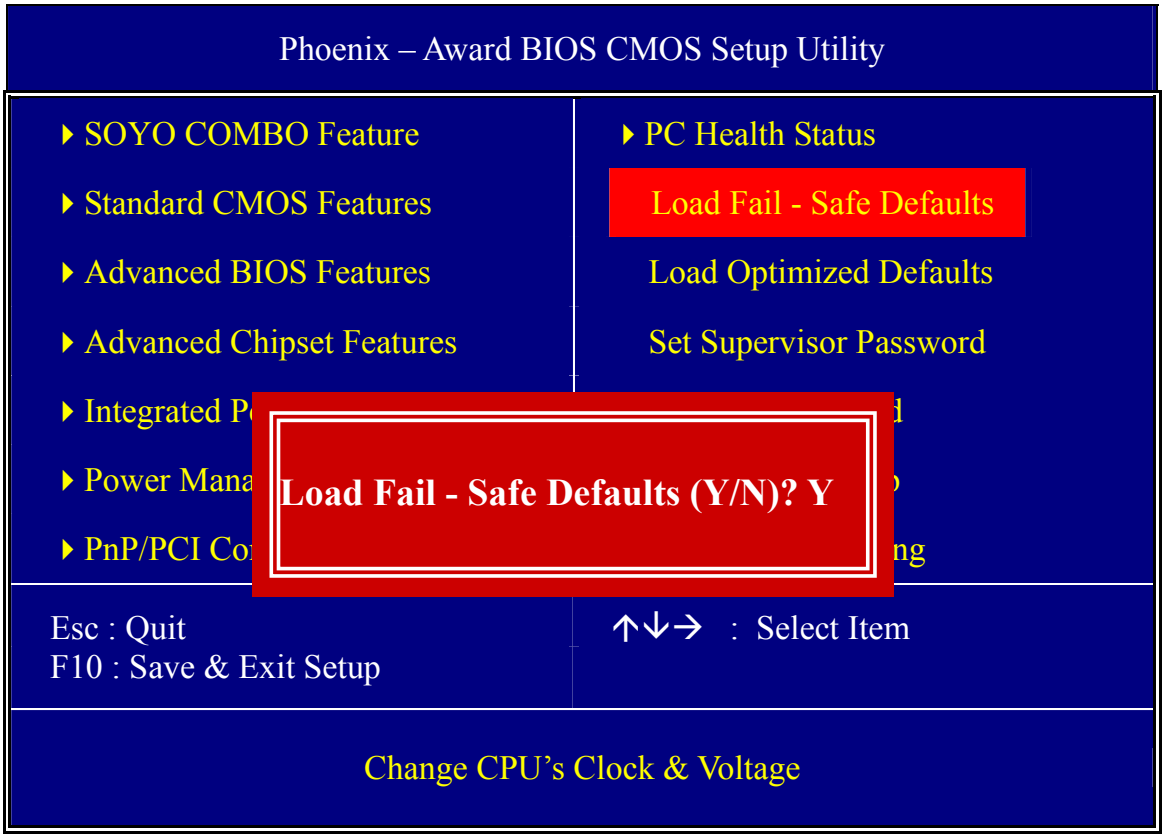
	Setting	Description	Note
FOC (Fan-Off Control)	Disabled	If enable, this function protect user's CPU from overheating in an event there's a problem with the CPU FAN. The user should also plug the CPU FAN power on the CPU FAN1 pin. If not, system will auto shutdown.	
	Enabled		Default

CPU Device Monitoring (Continue)

	Setting	Description	Note
ABR (Anti Burn Regulator)	120°C/248°F	Set the CPU temperature for the system to shutdown.	
	115°C/239°F		
	110°C/230°F		
	105°C/221°F		
	100°C/212°F		
	95°C/203°F		
	90°C/194°F		
	85°C/185°F		
	80°C/176°F		
	75°C/167°F		
	70°C/158°F		
	65°C/149°F		
	60°C/140°F		
	55°C/131°F		
	50°C/122°F		
	Default (85°C)		Default
	Disabled		
CPU Temp. External	°C/°F	Show the current status of CPU temperature.	
CHA Temperature	°C/°F	Show the current status of the System temperature.	
CPU Temp. On Die	°C/°F	Show the current status of CPU Die temperature.	
Current CPUFAN1/ CHAFAN1 Speed	RPM	Show the current status of CPU/CHA Fan.	

3-9 LOAD FAIL-SAFE DEFAULTS

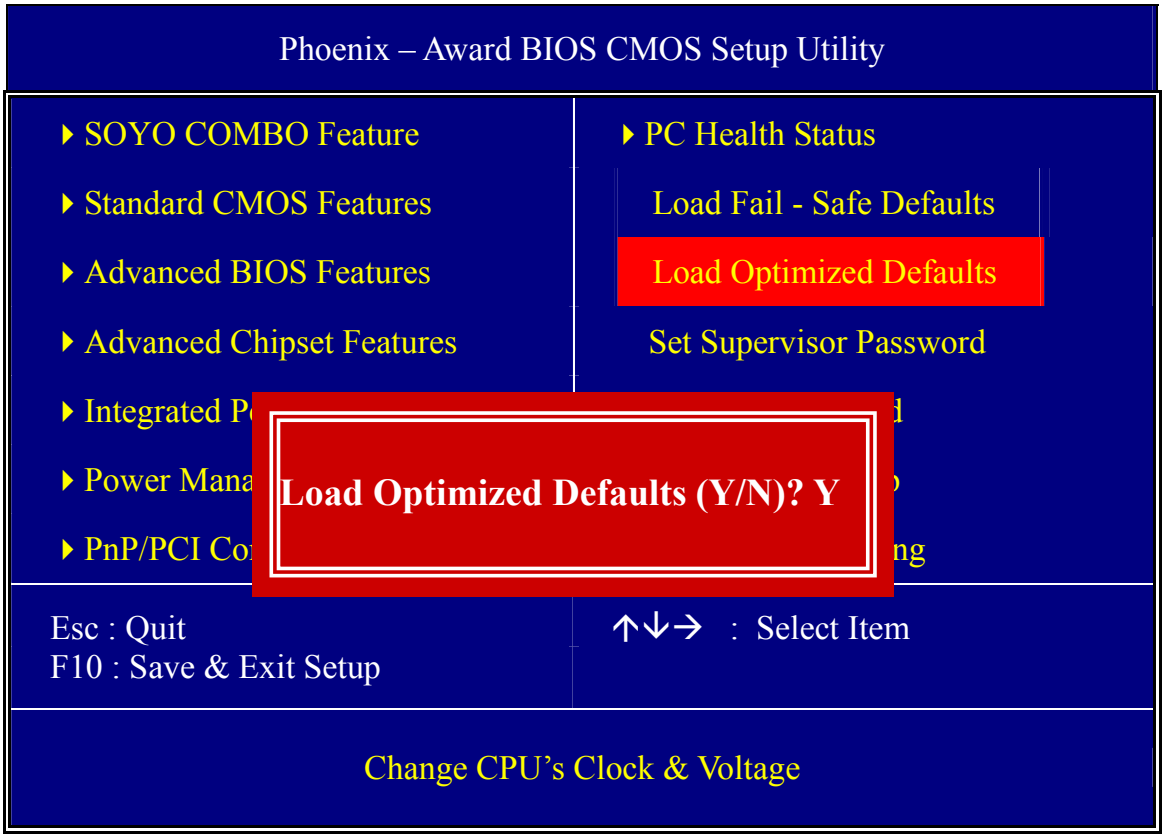
Select the [Load Fail-Safe Defaults] option from the Main Menu to load a pre-defined safe bios settings. This option is recommended if you have instability issue.



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.

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

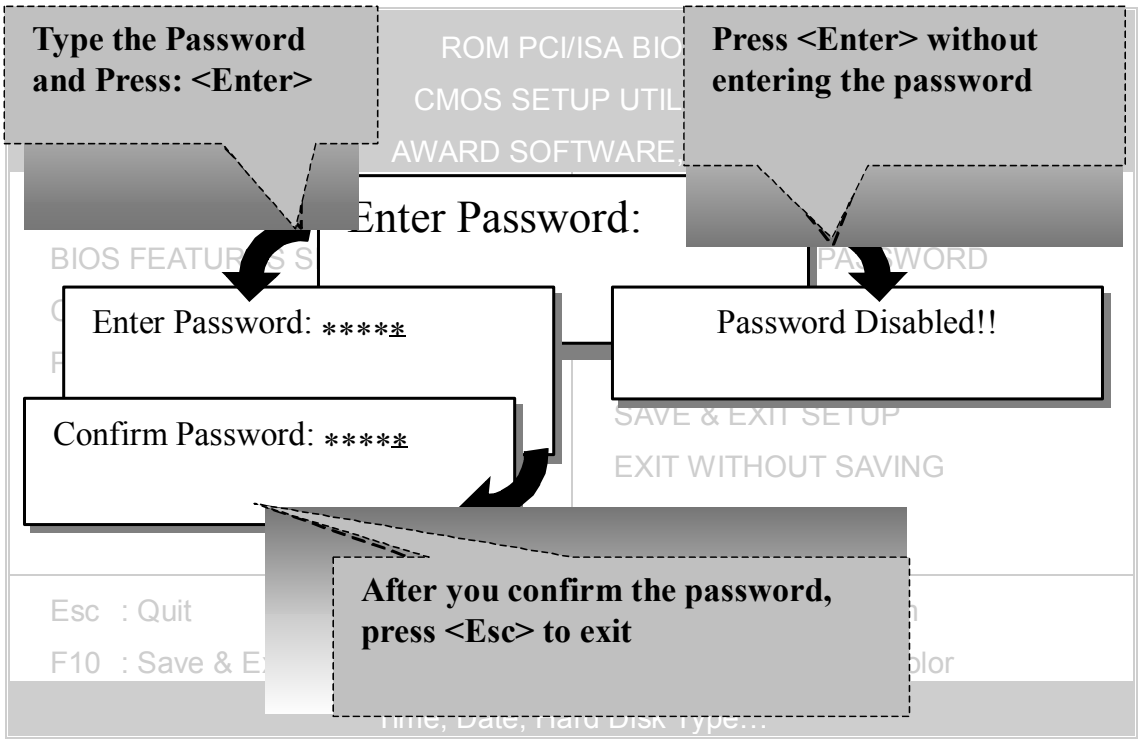
Password Disabled!!

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

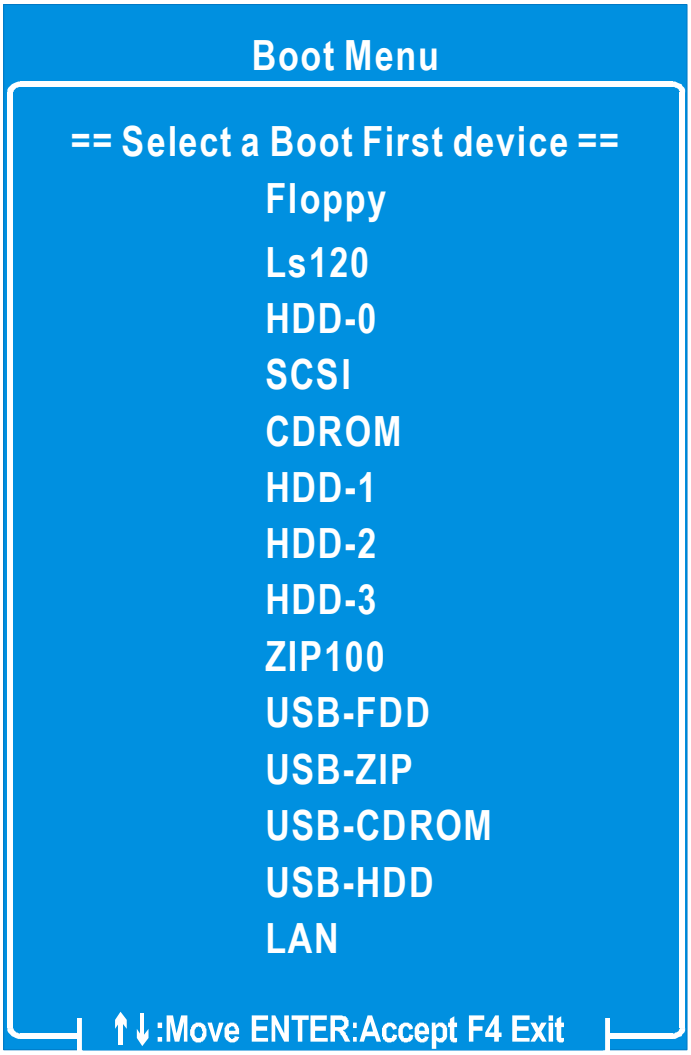
When the user password option is on, you are not allowed to change any setting in the [CMOS SETUP UTILITY] except for changing the user's password.

The password setting procedure is similar to that for the [SUPERVISOR PASSWORD] (Refer to section 3-11).

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-KT600 DRAGON Ultra 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 are running Windows NT/2K/XP, the SOYO-CD will not detect your motherboard type. In that case the following dialog will pop up. Please choose your motherboard model number and press OK.

Now the SOYO-CD Start Up Menu will come up as shown on the following page

(SOYO CD Start Up Program Menu)

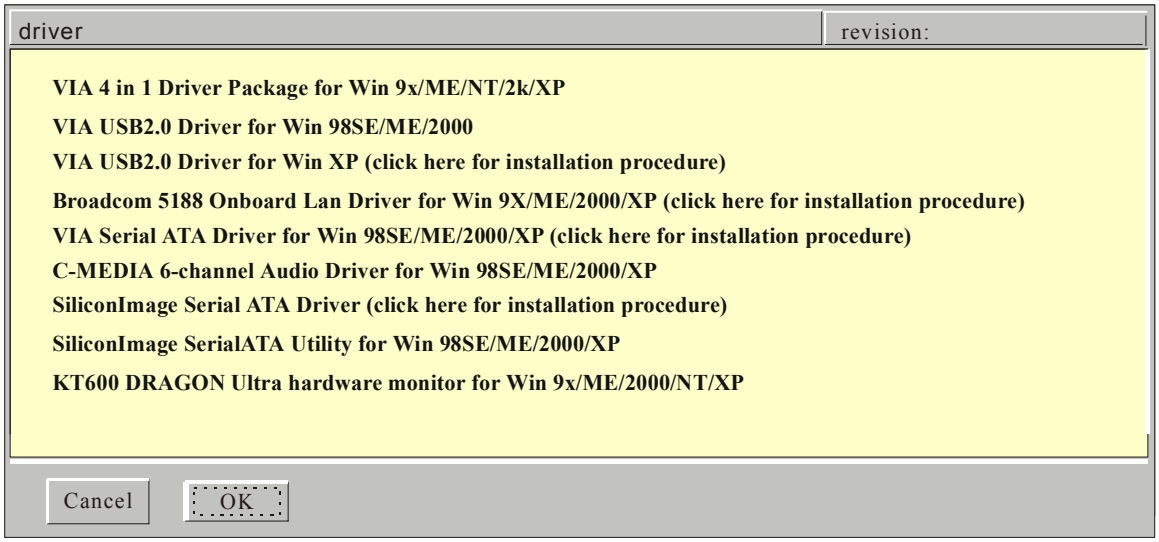
Under Windows 95/98/ME, the SOYO CD Start Up Program automatically detects the SOYO motherboard the system uses and displays the corresponding model name.

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

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/2k/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.

- **C-MEDIA 6-channel Onboard Audio Driver/Application for Wi n 9x/ME/2000/NT/XP**

1. The driver supports 2/4/6 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.

➢ VIA USB2.0 Driver for Win 98SE/ME/2000

This program will install the USB 2.0 driver for Windows 98SE/ME/2000.

➢ VIA Serial ATA Driver for Win 98SE/ME/2000/XP

This program will install VIA Serial ATA driver on your computer.

➢ SiliconImage SerialATA Utility for Win 98SE/ME/2000/XP

This utility will allow you to select which RAID mode you want to use for your configuration. It will only change the RAID configuration for the Silicon Image SATA controller (SATA3 and SATA4 IDE ports), not for any of the other IDE controllers.

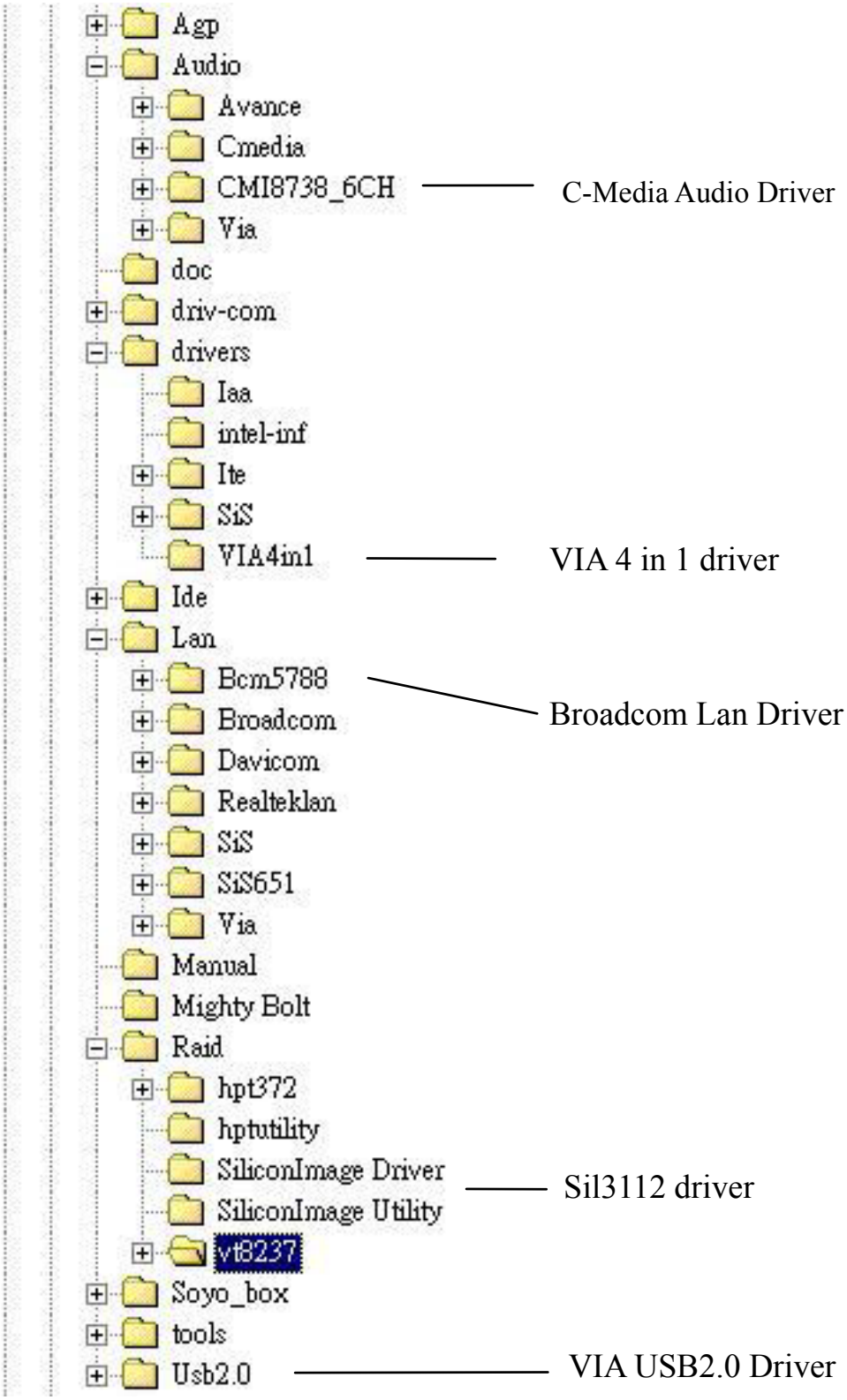
Note: Once you have selected a driver, the system will automatically exit the SOYO CD to begin the driver installation program. When the installation is complete, most drivers require to restart your system before they can become active.

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.

(Internet Explorer is a Microsoft Trademark)*

Drivers directory list in the CD driver



Chapter 5

VIA USB 2.0 DRIVER INSTALLATION

For Windows XP

USB 2.0 drivers are available for download using Windows Update for Windows XP.

For additional information regarding USB 2.0 support in Windows XP, please visit http://www.microsoft.com/hwdev/bus/USB/default.asp

(Windows XP Service Pack1 Include USB2.0 Driver)

After installing service pack1, please do the following:

1) Go into the device manager.

2) Remove " 

"

3) Restart your system.

Next time Windows XP starts up a new USB 2.0 controller will be found.

Chapter 6

Broadcom Onboard LAN Windows driver installation

If Windows can not find new hardware, the driver can be installed through the following steps:

Windows XP

1. Insert SOYO CD into CDROM.
2. Click **Start-->Settings-->Control Panel-->Switch to classic View-->system-->hardware-->device manager.**
3. You will see a **"! Ethernet Controller"** under unknown device.
4. Right click **"! Ethernet Controller"** and then **update driver**.
5. Choose **Install the software automatically (Recommanded)**.
6. Windows will detect the driver automatically. During installation, Win XP will prompt you "The driver has not passed windows logo testing to verify it's compatibility with Windows XP", just click "continue anyway".
7. Follow the system prompt to finish the installation, and restart the computer.

Windows 2000

1. Insert SOYO CD into CDROM.
2. Click **Start-->Settings-->Control Panel-->system-->device manager.**
3. You will see a **"! Ethernet Controller"** under unknown device.

4. Double click **"! Ethernet Controller"-->Reinstall Driver,**click **"Next".**
5. Choose **Search for suitable driver for my device (Recommanded),** click **"Next".**
6. Choose **CD ROM drives**,click **"Next".**
7. Windows will detect the driver automatically.
8. Follow the system prompt to finish the installation, and restart the computer.

Win9x/ME

1. Insert SOYO CD into CDROM.
2. Click **Start-->Settings-->Control Panel-->system-->device manager.**
3. You will see a **"! PCI Ethernet Controller"** under unknown device.
4. Double click **"! PCI Ethernet Controller"-->Reinstall Driver,**click **"Next"**.
5. Choose **Search for better driver than the one your driver is using now(Recommanded)**, click **"Next"**.
6. Choose **Specify a location**, click "**Browse",** Select **"X:\Lan\Broadcom\"** folder. click **"OK".(X: is the drive you put the SOYO Dragon CD)**
7. Windows will detect the driver automatically.
8. Follow the system prompt to finish the installation, and restart the computer.

Chapter 7

Silicon Image Serial ATA Driver Installation

You can use your Sil3112 as

1. Normal IDE function.
2. RAID function. (RAID0, 1)

To use SATA3 and SATA4 as normal IDE, please do the following steps

1. Go to the CMOS setup → SOYO COMBO Feature → Onboard Device →and set the "On-board RAID SATA3,4" to enable.
2. Install the Sil3112 driver, see driver installation instruction below.

To use SATA3 and SATA4 as RAID controller, please do the following steps

1. Go to the CMOS setup → SOYO COMBO Feature → Onboard Device →and set the "Onboard RAID SATA 3,4" to "Enable".
2. Go to the CMOS setup → SOYO COMBO Feature → and set the "First Boot Device" to "Other Device".
3. Set the "Other Device Boot Order" to "SATA3/SATA4,SCSI".
4. Press "Ctrl+S" or F4 when the Silicon Image BIOS summary screen appear.
5. Create RAID set, check appendix A for more info on creating RAID set.

To boot from the Sil3112 controller, (SATA3 or SATA4)

1. Go to the CMOS setup → SOYO COMBO Feature → and set the First Boot Device to "Other Device".
2. Set the "Other Device Boot Order" to "SATA3/SATA4,SCSI".

For more information on the Silicon Image Utility Software, please check the SATA RAID manual located in "d:\doc" folder in the SOYO driver CD.

Installing Driver on an Existing System

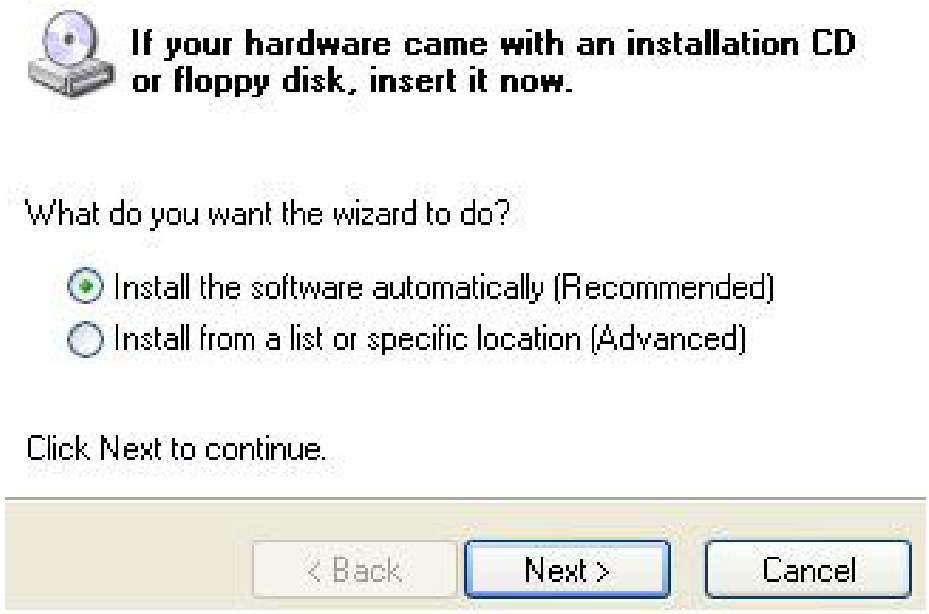
If Windows can not find new hardware, the driver can be installed through the following steps:

Windows XP

1. Click **Start-->Setup-->Control Panel** --> Switch to classic View → system → hardware →device manager.
2. You will see a "! RAID Controller" under unknown device

3. Right click "! RAID controller" and then update driver

4. Choose “Install the software automatically (Recommended)”



5. Windows XP will detect the driver automatically. During installation, Win XP will prompt you "the driver has not passed windows logo testing to verify it's compatibility with Windows XP", just click "continue anyway"
6. Follow the system prompt to finish the installation, and restart the computer.

Windows 2000

1. Insert SOYO CD into CDROM.
2. Click **Start-->Settings-->Control Panel-->system-->device manager.**
3. You will see a **"! RAID Controller"** under unknown device.
4. Double click **"! RAID Controller"-->Reinstall Driver,** click **"Next".**
5. Choose **Search for suitable driver for my device (Recommanded),** click **"Next".**
6. Choose **Specify a location**, click **"Next".**
7. Click **"Browse"**, select **"DragonCD (D:)\Raid\hpt372 \Win_2000"** folder. click **"OK".**

8. Follow the system prompt to finish the installation, and restart the computer.

Windows ME

1. Insert SOYO CD into CDROM.
2. Click **Start-->Settings-->Control Panel-->system-->device manager.**
3. You will see a **"! PCI RAID Controller"** under unknown device.
4. Double click **"! PCI RAID Controller"-->Reinstall Driver-->Next** and then update driver.
5. Choose **Specify the location of the driver(Advanced)**, click **"Next"**.
6. Choose **Specify a location**, click "**Browse".**
7. Select **"DragonCD (D:)\Raid\hpt372\Win98_ME"** folder. click **"OK"**
8. Follow the system prompt to finish the installation, and restart the computer.

Windows 9x

1. Insert SOYO CD into CDROM.
2. Click **Start-->Settings-->Control Panel-->system-->device manager.**
3. You will see a **"! PCI RAID Controller"** under unknown device.
4. Double click **"! PCI RAID Controller"-->Reinstall Driver-->Next** and then update driver.
5. Choose **Search for better driver than the one your driver is using now(Recommanded)**, click **"Next"**.
6. Choose **Specify a location**, click "**Browse".**
7. Select **"DragonCD (D:)\Raid\hpt372\Win98_ME"** folder. click **"OK".**
8. Follow the system prompt to finish the installation, and restart the computer.

Installing Silicon Image SI3112A during OS Installation

Install driver during Windows XP installation

1. Set the folder options to "show hidden files and folders", check Microsoft help for more info on how to set this option.
2. Go to **"d:\raid\siliconimage driver\"** directory, (assuming that your CD-ROM is drive d) copy all the files to a floppy disk. Some files are hidden, so step #1 must be done.
3. Windows XP will start to inspect your hardware configuration.
4. Press "F6" when the message "Press F6 if you need to install a third party SCSI or RAID driver…." Appear. below
5. Press **S** key to specify additional devices when the **Windows XP Setup** window appears.
6. Insert the floppy disk of driver, then press **Enter** to continue
7. In the follow-on window of device type, please select "**Silicon Image Sil 3x12 SATARaid controller for windows XP "** to continue.
8. Win XP will prompt you that a message that the driver is newer than the default driver, press S (use the driver on floppy) to continue.
9. The follow-on interface will list the devices to be installed, in which "**Silicon Image Sil 3x12 SATARaid controller for windows XP"** item should be included. (If users want to install other devices, press "S" at this time.) Press ENTER to continue Windows XP setup.

Install driver during Windows 2000 installation

1. Set the folder options to "show hidden files and folders", check Microsoft help for more info on how to set this option.
2. Go to **"d:\raid\siliconimage driver\",** (assuming that your CD-ROM is drive d) copy all the files and directory to a floppy disk. Some files are hidden, so step #1 must be done.
3. Windows 2000 will start to inspect your hardware configuration
4. Press "F6" when the message "Press F6 if you need to install a third party SCSI or RAID driver…." Appear.
5. Press **S** key to specify additional devices when the **Windows 2000 Setup** window appears.
6. Insert the floppy disk of driver, then press **Enter** to continue
7. In the follow-on window of device type, please select "**Silicon Image Sil 3x12 SATARaid controller for Windows NT and 2000"** to continue
8. Win 2K will prompt you that a message that the driver is newer than the default driver, press S (use the driver on floppy) to continue
9. The follow-on interface will list the devices to be installed, in which "**Silicon Image Sil 3x12 SATARaid controller for Windows NT and 2000"** item should be included. (If users want to install other devices, press "S" at this time.) Press ENTER to continue Windows 2000 setup

Chapter 8

VIA 8237 Serial ATA Driver Installation

You can use your VIA 8237 as

1. Normal IDE function.
2. RAID function. (RAID0, 1)

To use SATA1 and SATA2 as normal IDE, please do the following steps

1. Go to the CMOS setup → SOYO COMBO Feature → Onchip IDE device →and set the "On-board RAID SATA1,2" to enable.
2. Then set the SATA Mode to "IDE"
3. Install the VIA 8237 driver, see driver installation instruction below.

To use SATA1 and SATA2 as RAID controller, please do the following steps

1. Go to the CMOS setup → SOYO COMBO Feature → Onboard Device →and set the "Onboard SATA 1,2" to "Enable".
2. Go to the CMOS setup → SOYO COMBO Feature → and set the "First Boot Device" to "Other Device".
3. Set the "Other Device Boot Order" to "SATA1/SATA2,SCSI".

Installing VIA 8237 SATA during OS Installation

Install driver during Windows XP installation

1. Set the folder options to "show hidden files and folders", check Microsoft help for more info on how to set this option.
2. Go to **"d:\raid\vt8237\driver\SATA"** directory, (assuming that your CD-ROM is drive d) copy all the files to a floppy disk. Some

files are hidden, so step #1 must be done.

3. Windows XP will start to inspect your hardware configuration.
4. Press "F6" when the message "Press F6 if you need to install a third party SCSI or RAID driver…." Appear. below
5. Press **S** key to specify additional devices when the **Windows XP Setup** window appears.
6. Insert the floppy disk of driver, then press **Enter** to continue
7. In the follow-on window of device type, please select "**VIA 8237 SATARaid controller for windows XP "** to continue.
8. Win XP will prompt you that a message that the driver is newer than the default driver, press S (use the driver on floppy) to continue.
9. The follow-on interface will list the devices to be installed, in which "**VIA 8237 SATARaid SATARaid controller for windows XP"** item should be included. (If users want to install other devices, press "S" at this time.) Press ENTER to continue Windows XP setup.

Install driver during Windows 2000 installation

1. Set the folder options to "show hidden files and folders", check Microsoft help for more info on how to set this option.
2. Go to **"d:\raid\vt8237\driver\SATA",** (assuming that your CD-ROM is drive d) copy all the files and directory to a floppy disk. Some files are hidden, so step #1 must be done.
3. Windows 2000 will start to inspect your hardware configuration
4. Press "F6" when the message "Press F6 if you need to install a third party SCSI or RAID driver…." Appear.
5. Press **S** key to specify additional devices when the **Windows 2000 Setup** window appears.
6. Insert the floppy disk of driver, then press **Enter** to continue
7. In the follow-on window of device type, please select "**VIA 8237 SATARaid controller for Windows NT and 2000"** to continue
8. Win 2K will prompt you that a message that the driver is newer than the default driver, press S (use the driver on floppy) to continue
9. The follow-on interface will list the devices to be installed, in which "**VIA 8237 SATARaid controller for Windows NT and 2000"** item should be included. (If users want to install other devices, press "S" at this time.) Press ENTER to continue Windows 2000 setup

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.

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.

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.

I hear 1-2 beeping sound and then the system shutdown, what is the problem?

Make sure to connect the CPU fan to CPUFAN1 connector.

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), 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 awdflash utility to the diskette.
4. Type "awdflash 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.

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).

RAID issue

Windows do not detect the on-board RAID.

1. Enable the on-board RAID function in the BIOS.

2. install the RAID driver, see chapter 6 for more info

Can I use my CD-ROM or other IDE device (except HDD) on IDE 3 & 4?

No, HPT 372 only support Hard disk.

Can I use IDE 3 & 4 as a normal IDE channel?

Yes, no need to change any settings in the BIOS. Just make sure to install the driver, check Chapter 6 for more info.

I cannot get the HDD to boot from IDE 3 or IDE 4, why?

Make sure that the 1st boot device in the BIOS is set to SCSI.

Boot-up from my IDE3/4, I get blue screen upon entering Windows system

Make sure the raid option in the BIOS is enabled.

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.
No. 21 Wu-Kung 5 Rd., Hsing Chuang City, Taipei Hsien, Taiwan, R.O.C.
TEL: 886-2-22903300
FAX: 886-2-22983322
http://www.soyo.com/
Email: info@mail.soyo.com.tw

Hong Kong
SOYO ASIA LTD.
5C, Big Star Centre, 8 Wang Kwong Road, Kowloon Bay, Kowloon, Hong Kong
TEL: 852-2-710-9810
FAX: 852-2-710-9078
http://www.soyo.com.hk/
Email: soyo@hkstar.com

USA
SOYO INC.
41484 Christy Street, Fremont, CA 94538, USA
TEL: 1-510-226-7696
FAX: 1-510-226-9218
http://www.soyousa.com/
Email : sales@soyousa.com

GM
SOYO Deutschland GmbH (SAAT Technology GmbH)
August-Wilhelm-Kuhnholz-Str. 15, D-26135 Oldenburg (Oldb), Germany
TEL: 49-441-209100
FAX: 49-441-203442
http://www.soyo.de/
Email: sales@soyo.de