1. **Please read the users guide before proceeding with your installations. Serious damage may occur if the procedure is not followed properly.**
2. Remove AC power before installing memory modules. (This means unplug the power cord in the power outlet) Failure to do so will damage your memory module.
3. Please make sure that your memory modules are inserted correctly. They can go in only one way, and should fit completely in the socket without sticking out.
4. If you have a Pentium 4 motherboard, you need to use an ATX12V power supply (power supply for Pentium 4 system) is required for the system to operate normally. (preferably 350 watts for minimal loading or 400 watts for fully loaded system)
5. If you have any problem getting your system to work, please follow the troubleshooting tips in your user manual.
6. On some mainboards, the actual chipset cooler may differ from the chipset cooler as shown on the picture or on the box. However, the chipset fan on the mainboard is of the same quality and will work just as well as the one shown in the picture. (The chipset cooler is as sufficient as the chipset fan based on different design.)
7. For immediate Technical questions, please visit SOYO tech support link at http://www.soyousa.com/support and http://www.soyousa.com/kb.

SY-P4VGA

Motherboard

****

mPGA Socket 478 Processor supported

VIA P4M266A AGP/PCI

533/400 MHz Front Side Bus supported

ATX Form Factor

****

User's Manual

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Please be advised that some SOYO motherboards are designed with overclocking features and may allow users to run the components beyond manufacturer's recommended specifications. Overclocking beyond manufacturer's specifications is not recommended nor endorsed by SOYO, Inc. and will void your manufacturer's warranty. Overclocking beyond manufacturer's specifications is not encouraged and should be assumed at the user's own risk. Unsafe overclocking can damage the user's system or cause serious personal injury. If the user is unsure or in doubt about overclocking, please seek professional advise. SOYO, Inc. is not responsible for any direct or indirect damage resulting from overclocking.

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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".**

Edition: April 2003
Version 1.0
P4VGA SERIAL

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

100% POST CONSUMER RECYCLED PAPER

Table of Contents

Chapter 1

MOTHERBOARD DESCRIPTION

1-1 INTRODUCTION

The **SY-P4VGA** AGP/PCI Motherboard is a high-performance Socket 478 processor supported ATX form-factor system board. The **SY-P4VGA** uses VIA Chipset technology and supports Socket 478 class processors. This Motherboard is fully compatible with industry standards and adds many technical enhancements.

1-2 UNPACKING THE MOTHERBOARD

When unpacking the Motherboard, check for the following items:

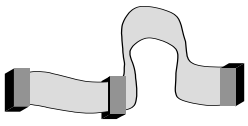
- The SY-P4VGA P4M266A AGP/PCI Motherboard

- This Quick Start Guide

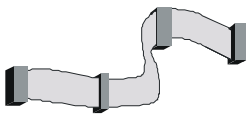
- The Installation CD-ROM

- SOYO Bonus Pack CD-ROM

- One IDE Device ATA 100 Flat Cable



- One Floppy Disk Drive Flat Cable



- One Back Panel

- One plastic bag with Heat Sink Compound

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

Like most electronic equipment, your Motherboard may be damaged by electrostatic discharge. To avoid permanent damage to components ground yourself while working by using a grounding strap. Otherwise, ground yourself frequently by touching the unpainted portion of the computer chassis to drain the static charges.
Handle the Motherboard carefully, holding it by the edges.
You are now ready to start the installation.

1-3 KEY FEATURES

➢ CPU SUPPORT

Supports Intel® mPGA Socket 478 processors
- Pentium® 4 With or without Hyperthreading, Northwood, Willamette (400/533 MHz FSB)
- Pentium® 4 Celeron

➢ CPU SETTINGS

The SY-P4VGA provides the user with a very complete and convenient CPU setting environment.

➢ EXPANDABILITY

The SY-P4VGA provides all the standard expansion slots, and many more additional expansion features:

- **Expansion slots**
  - 1 x 32-bit bus master AGP slot
  - 5 x 32-bit bus master PCI slots

◆ **Enhanced IO**

- Floppy disk controller
- 2x EIDE controllers with support for up to 4 Ultra DMA 33/66 /100/133 devices
- Standard/EPP/ECP parallel port
- 1x 16550 compatible serial ports
- IrDA compatible infrared port
- 6x USB (Universal Serial Bus) connectors
- PS/2 mouse connector
- PS/2 keyboard connector

➢ SMART CARD READER

Compliant with Personal Computer Smart Card (PC/SC) Working Group standard.

➢ ADVANCED FUNCTIONS

The SY-P4VGA supports advanced functions such as:

- Wake-On-LAN

Supports Wake-On-LAN *(Some advanced network cards can wake the system up over the network, the WOL connector is provided by the SY-P4VGA to support this function)*.

- Multiple boot

The SY-P4VGA supports booting from devices such as CD-ROM.

- Power on by modem or alarm

If the SY-P4VGA system is in suspend mode, it can be switched back on through the modem or RTC alarm through this function. This opens a lot of possibilities, such as remote access that switches the system on only after the modem receives a call.

➢ FAIL SAFE

The SY-P4VGA comes with added functionality to make managing the system easy and safe

◆ **Hardware Monitor**

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

◆ Power Failure Resume Function

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

➢ SOYO Bonus Pack CD-ROM

A CDROM containing free bonus software.

➢ COMPLIANCE

The SY-P4VGA complies with all important industry standards. The following underlines the reliability of the SY-P4VGA, a motherboard to trust.

- PC99, ACPI compliant

➢ USER FRIENDLY

- Jumperless design

1-4 HANDLING THE MOTHERBOARD

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

- Before handling the Motherboard, ground yourself by grasping an unpainted portion of the system's metal chassis.
- Remove the Motherboard from its anti-static packaging. Hold the Motherboard by the edges and avoid touching its components.
- Check the Motherboard for damage. If any chip appears loose, contact your dealer or our tech support immediately.

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

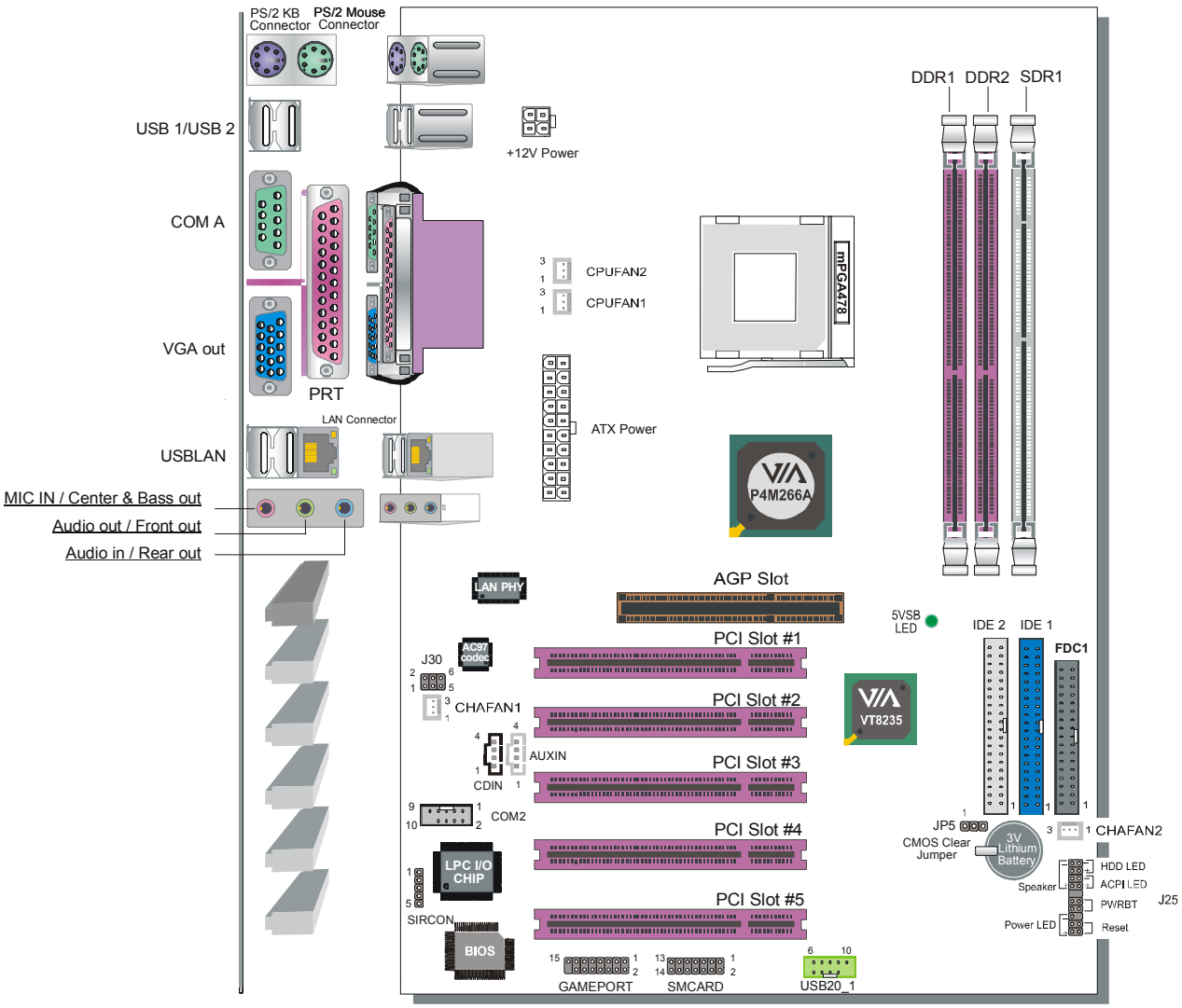
1-5 ELECTROSTATIC DISCHARGE PRECAUTIONS

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

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

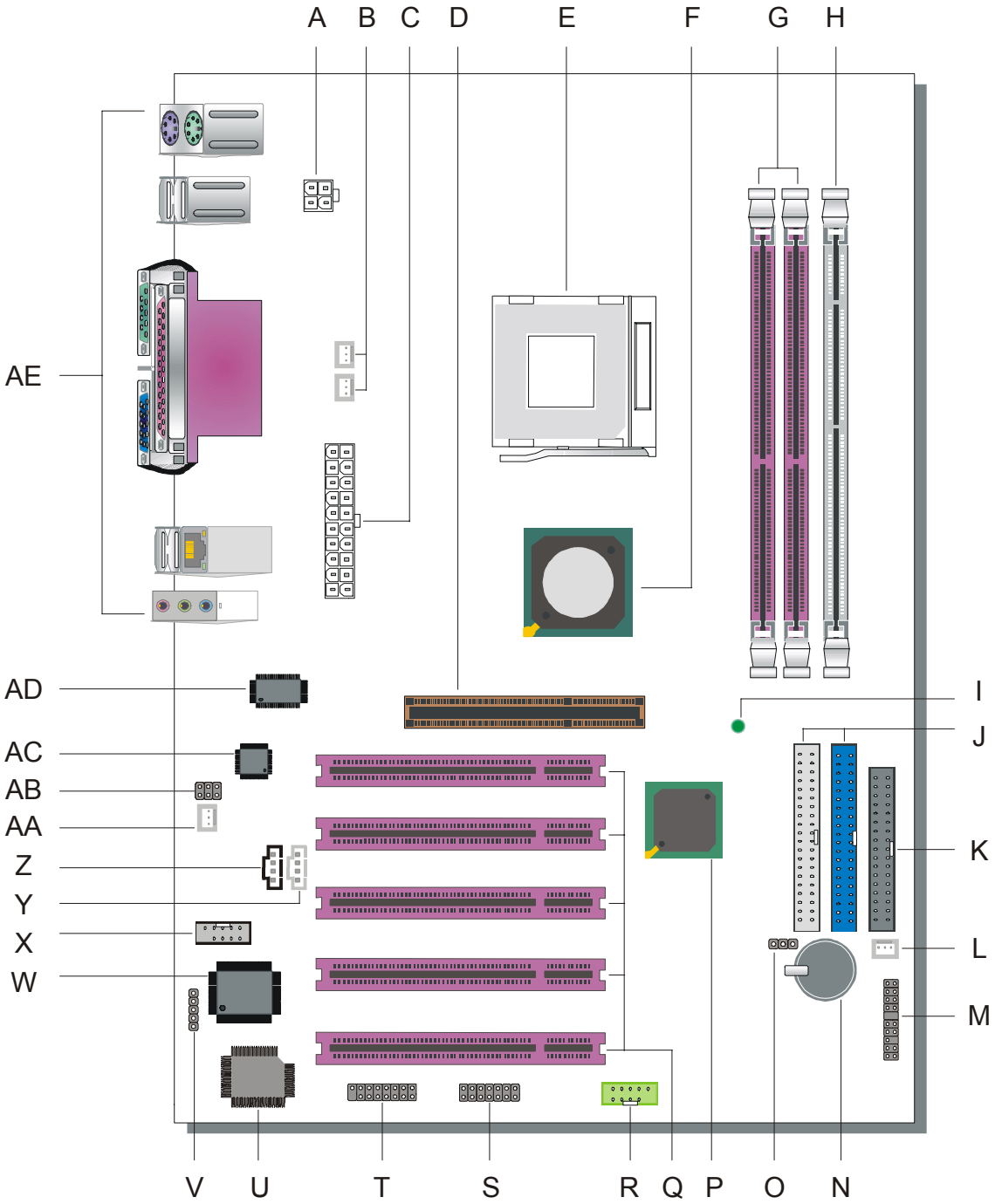
- Do not remove the anti-static packaging until you are ready to install.
- Ground yourself before removing any system component from its protective anti-static packaging. (To ground yourself, grasp the expansion slot covers or other unpainted portions of the computer chassis.)
- Frequently ground yourself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

1-6 SY-P4VGA MOTHERBOARD LAYOUT



Back Panel **SY-P4VGA Platform**

1-7 SY-P4VGA MOTHERBOARD COMPONENTS



A	**ATX12V 4-Pin (+12V) Connector**
B	**CPU Cooling Fan Connector (CPUFAN1,2)**
C	**ATX Power Supply Connector**
D	**32-bit AGP Slot**
E	**Socket 478 Connector**
F	**VIA P4M266A North Bridge Chip**
G	**DDR DIMM Banks**
H	**SDRAM DIMM Bank**
I	**5V Stand-By Indicator LED**
J	**Bus Mastering EIDE/ATAPI Ports**
K	**Floppy Disk Drive (FDD) Port**
L	**Chassis Cooling Fan Connector (CHAFAN 2)**
M	**Front Panel Connectors (J25)**
N	**3V Lithium Battery**
O	**CMOS Clear Jumper (JP5)**
P	**VIA VT8235 South Bridge Chip**
Q	**32-bit PCI Slots**
R	**USB 2.0 Connector**
S	**Smart Card Reader Connector**
T	**GAMEPORT Connector**
U	**Flash BIOS**
V	**Serial Infrared (IrDA) Device Header**
W	**ITE I/O Chip**
X	**COM2 Connector**
Y	**AUX-IN Connector**
Z	**CD-IN Connector**
AA	**Chassis Cooling Fan Connector (CHAFAN 1)**
AB	**MIC & LED Connector (JP30)**
AC	**Onboard Audio Chip**
AD	**VIA LAN Chip**
AE	**Back panel Connectors**

Chapter 2

HARDWARE INSTALLATION

Congratulations on your purchase of **SY-P4VGA** Motherboard. You are about to install and connect your new Motherboard.

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

2-1 PREPARATIONS

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

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

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

2. DDR or SDRAM memory module (s)
3. Computer case with adequate power supply unit (350W for minimally loaded systems or 400W for fully loaded systems).
4. Monitor
5. PS/2 Keyboard
6. Pointing Device (mouse)
7. Speaker(s) (optional)
8. Disk Drives: HDD, CD-ROM, Floppy drive…
9. External Peripherals: Printer and Modem (optional)
10. VGA Card (optional)

2-2 INSTALLATION GUIDE

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

Step 1- Install the Central Processing Unit (CPU)

Step 2- Install memory modules

Step 3- Install expansion cards

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

Step 5- Power on and enter BIOS setup

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

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

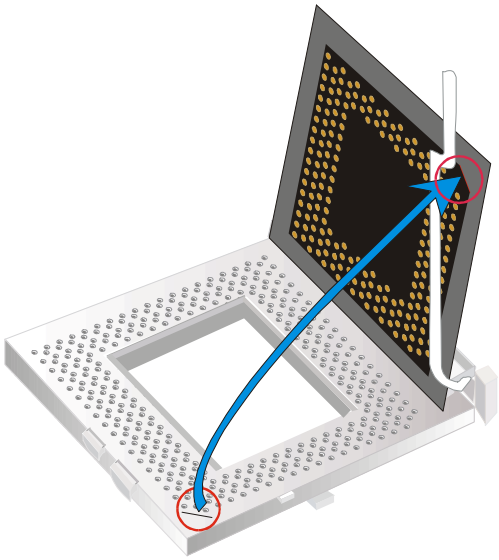
STEP 1 Install the CPU

To perform the installation of your new **SY-P4VGA** Motherboard, follow the steps below:

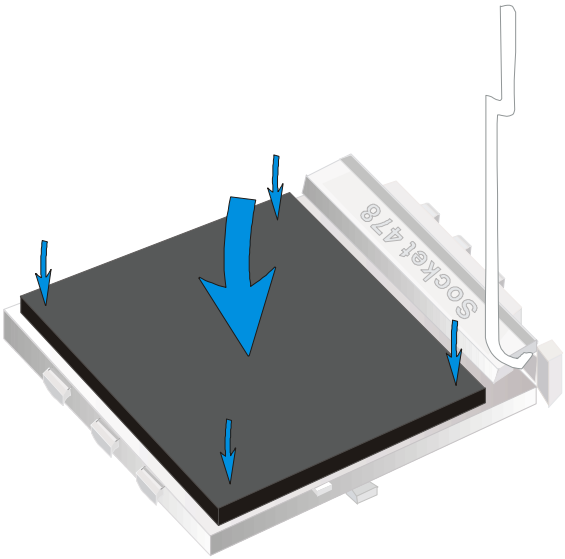
CPU Mount Procedure: To mount the Pentium® 4 Socket mPGA478 processor that you have purchased separately, follow these instructions.

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

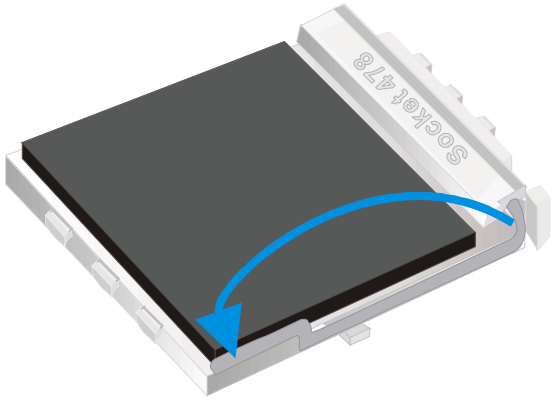
2. Align the blunt edge of the CPU with the matching pinhole distinctive edge on the socket.

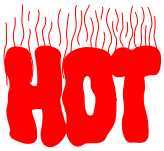


3. Seat the processor in the socket completely and without forcing.



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





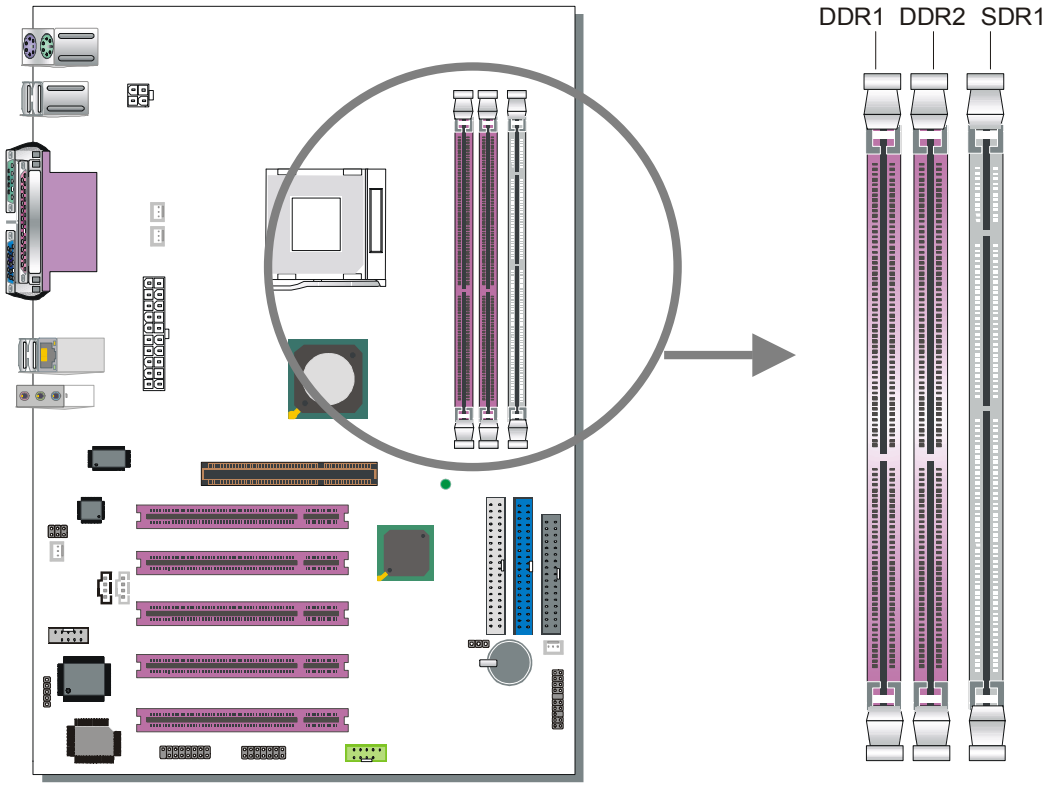
Remember to connect the CPU Cooling Fan to the appropriate power connector on the Motherboard. *The fan is a key component that will ensure system stability. The fan prevents overheating, therefore prolonging the life of your CPU.*

CPU Fan Installation

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

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

Step 2 Install Memory Modules



The P4VGA mainboard supports non ECC and non registered DDR and SDRAM modules.

The largest possible memory size is 2GB when using DDR module or 1GB using SDRAM.

Note1: **Before installing or removing any memory modules system, power should be removed from the power supply (Remove AC cord from the power outlet).**

Note2: **SDRAM and DDR modules cannot be used at the same time. Doing so can damage your hardware.**

Note3: **This motherboard only support PC1600 and PC2100, PC2700 or PC3200 is not supportd.**

Note4: **Please make sure that your memory modules are inserted correctly. They can go in only one way, and should fit completely in the socket without sticking out. Failure to do so will damage your mainboard and memory module.**

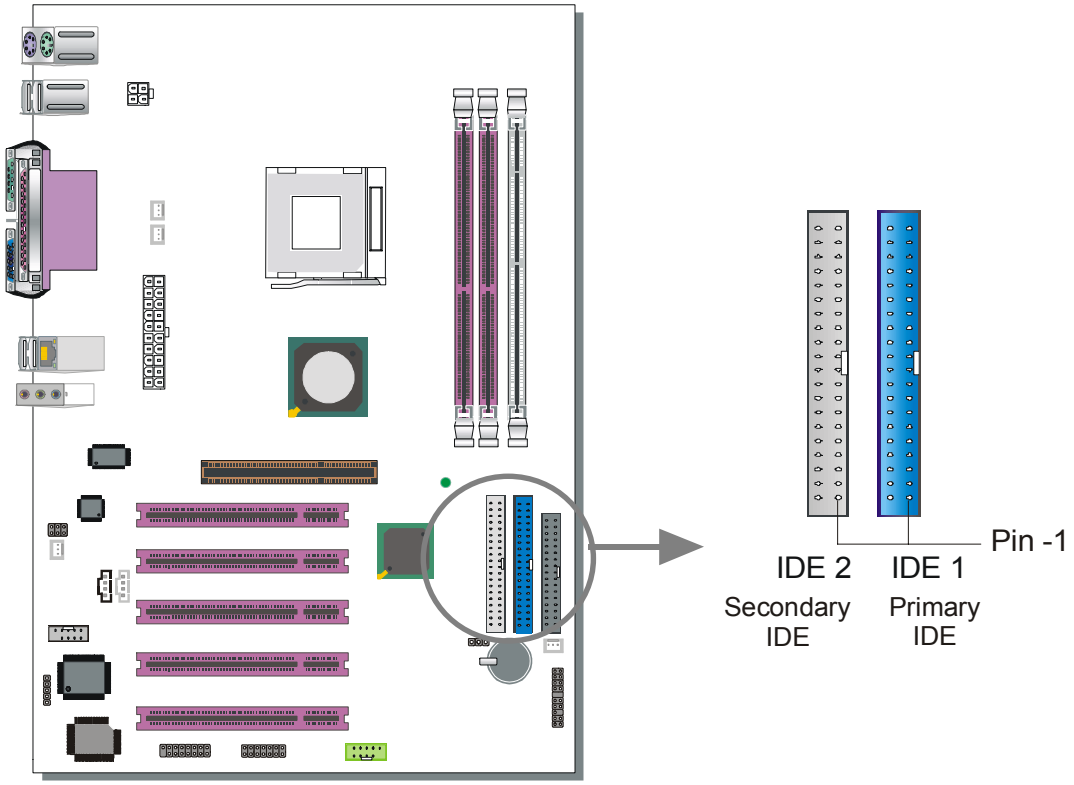
Step 3 Install Expansion Cards

The motherboard has 1 AGP slot and 5 PCI slot.

1. Read the related expansion card's instruction document before inserting the expansion card into the computer.
2. Press the expansion card firmly into expansion slot in motherboard.
3. Make sure the metal contacts on the card are 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.

Step 4 Connect cables, case wires and power supply

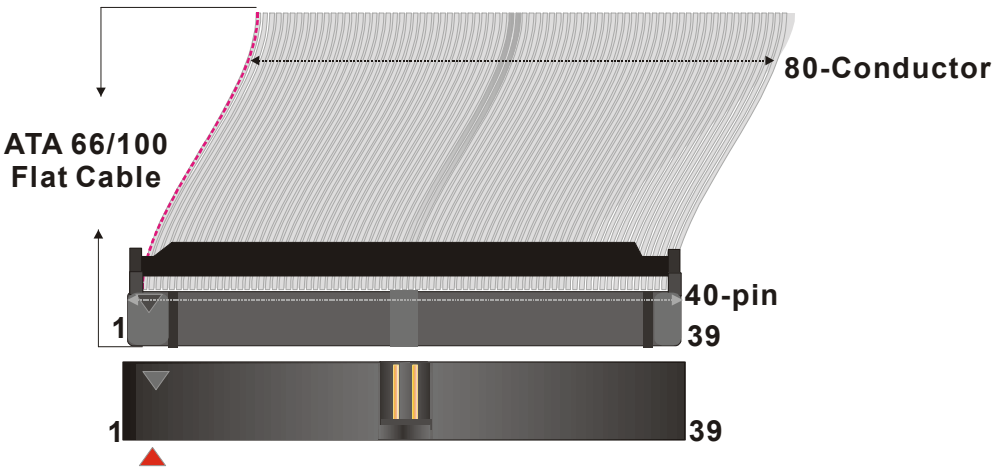
A. IDE Device Installation (HDD, CD-ROM)



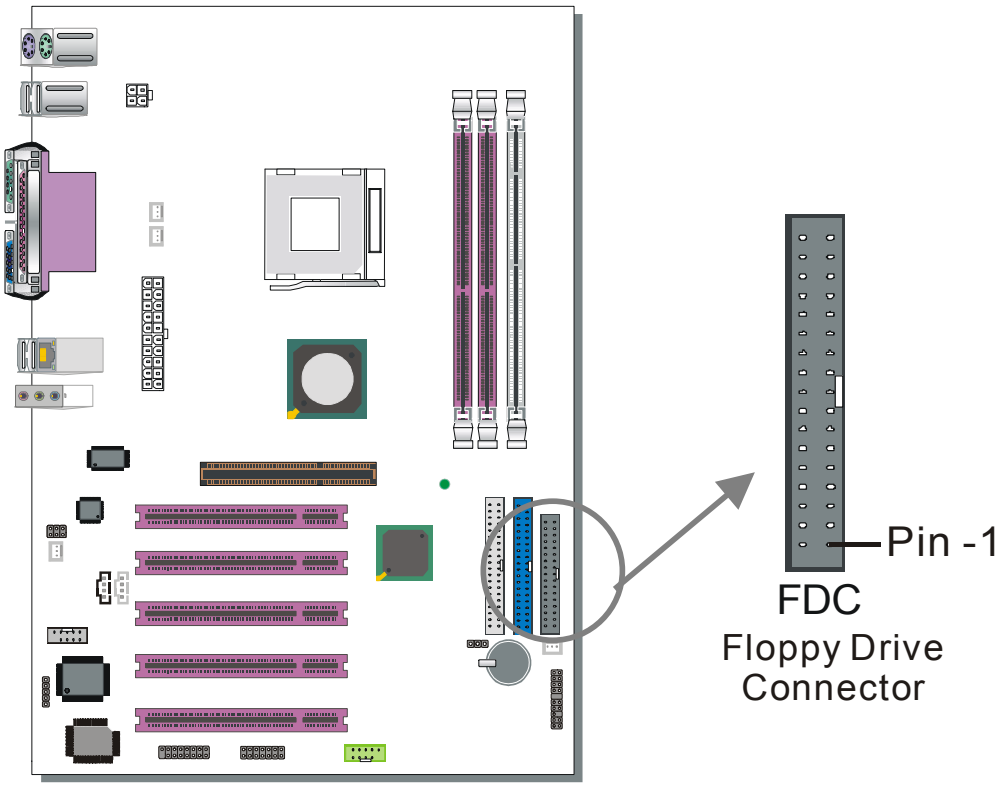
This Motherboard offers two primary and secondary IDE device connectors (IDE1, IDE2). It can support up to four high-speed Ultra DMA 33/66/100/133 HDD or CD-ROM.

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

This Motherboard can support up to 4 HDDs.



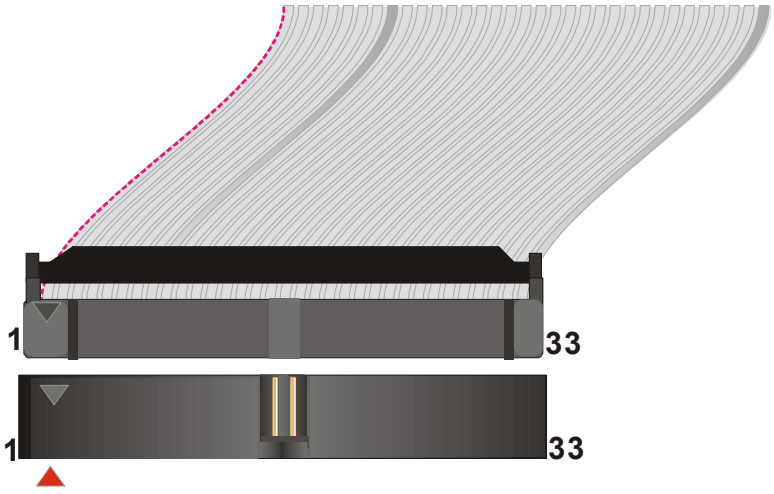
B. Floppy Drive Installation



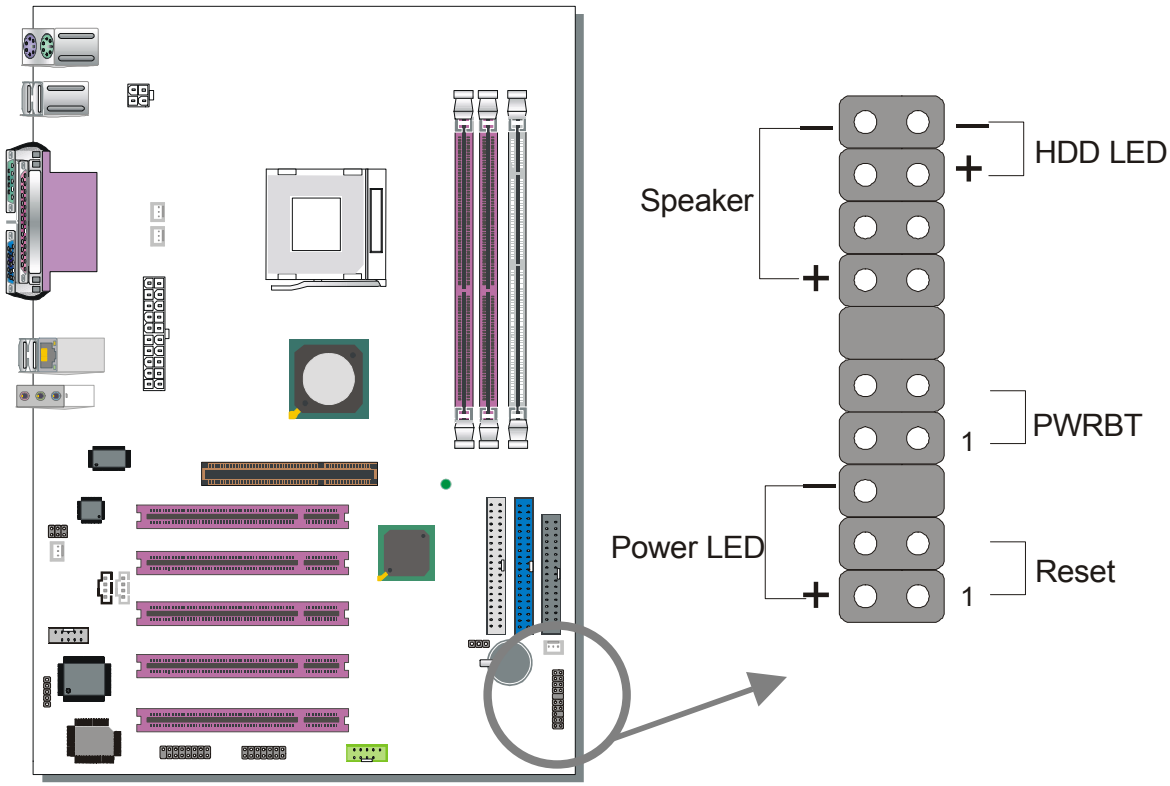
The system supports 5 possible floppy drive types: 720 KB, 1.2 MB, 1.44 MB, 2.88 MB, and LS-120.

Connect one side of the 34-pin flat cable to the floppy drive and plug the other end to the floppy drive connector in the Motherboard. The end of the cable that goes into the motherboard is not twisted. The twisted end of the cable goes into the floppy drive.

This Motherboard can support only one floppy drive.



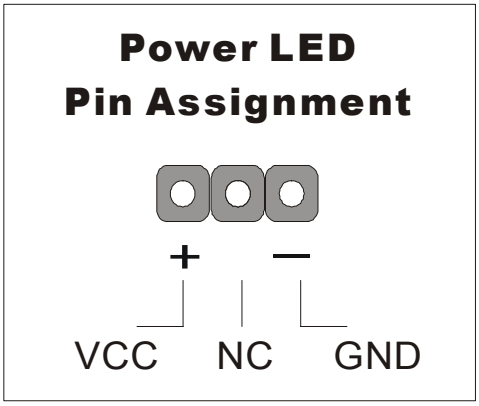
C. Front Panel Connections



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

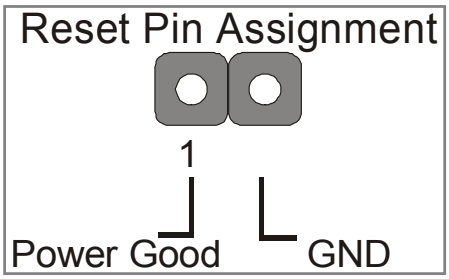
1. Power LED

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.

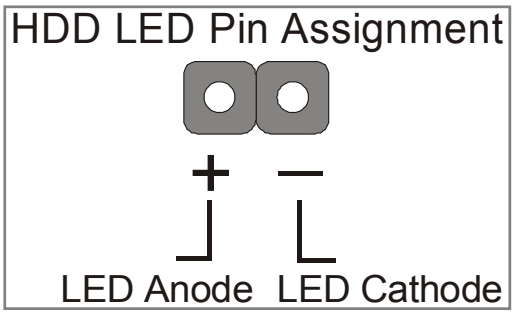


3. Speaker

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

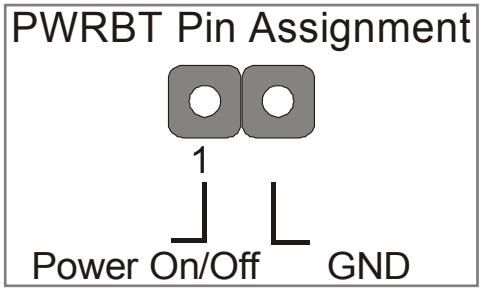
4. IDE LED

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



5. ATX Power On/Off Switch

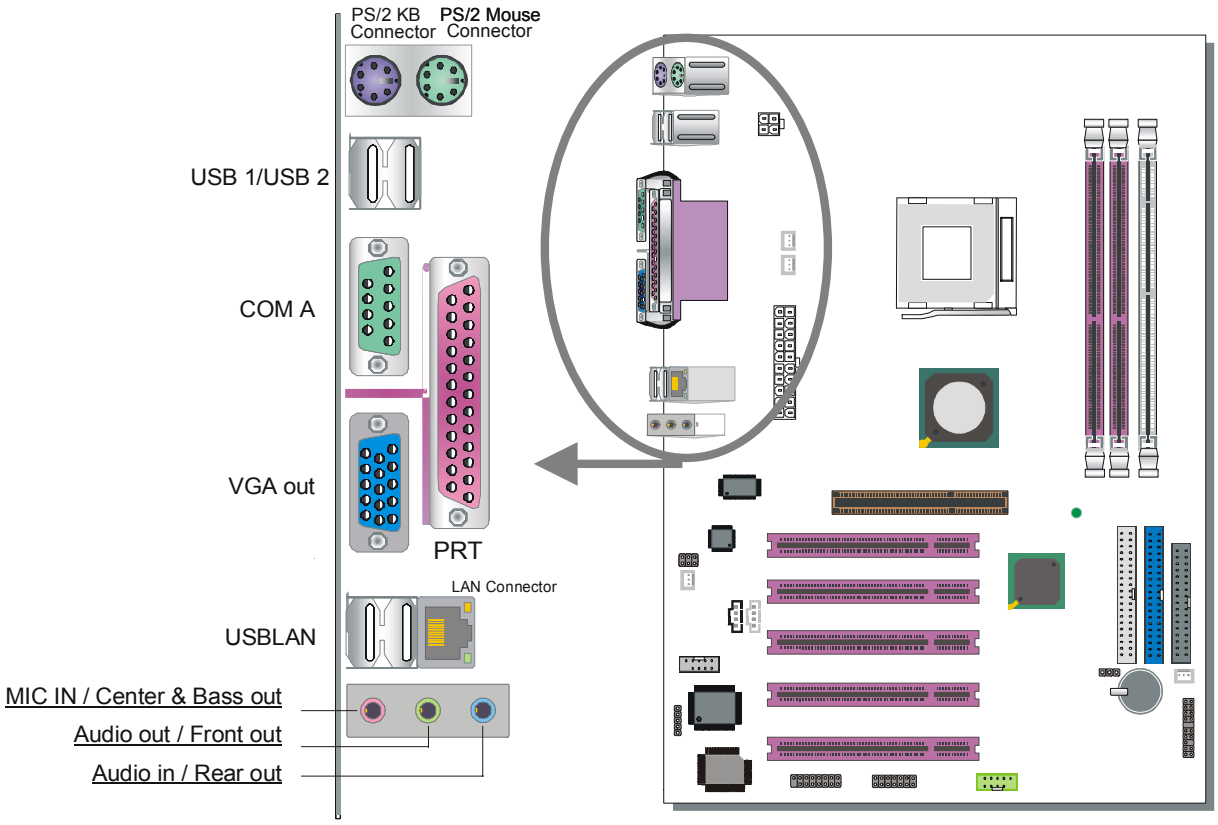
Attach the 2-pin momentary type switch to the PWRBT header for turning On or Off your ATX power supply, so the 5V standby LED will always be lit.



D. Back Panel Connections

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

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



1. Onboard Serial Ports COMA/COMB

External peripherals that use serial transmission scheme include:

- serial mouse
- and modem.

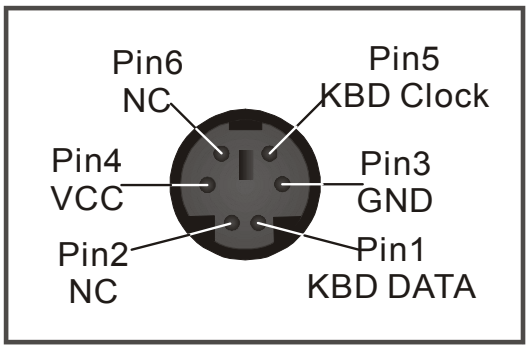
Plug the serial device cables directly into the COMA/COMB 9-pin male connectors located at the rear panel of the Motherboard.

2. Parallel Port PRT

This parallel port is used to connect the printer or other parallel devices. Plug the parallel device cable into the 25-pin female connector located at the rear panel of the Motherboard.

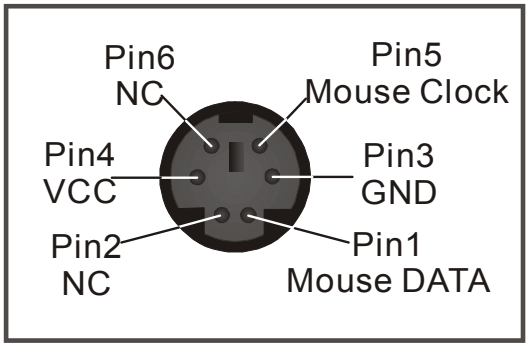
3. PS/2 Keyboard

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



4. PS/2 Mouse

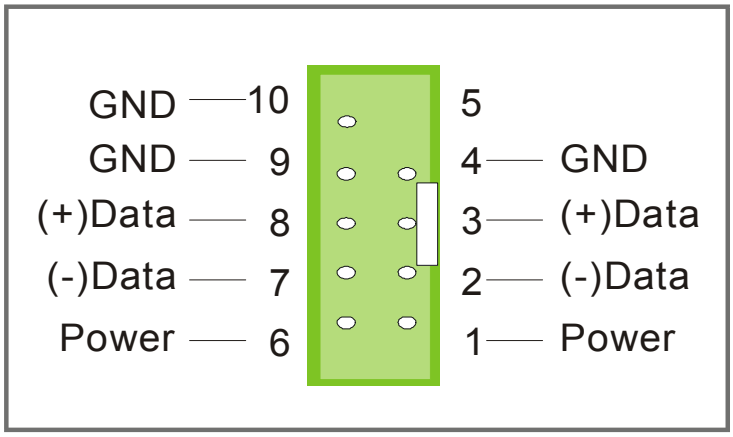
Similarly, plug the mouse jack directly into the 6-pin female PS/2 mouse connector.



5. Universal Serial Bus USB1/USB2,USB3/USB4,USB20_1

This Motherboard provides 6 USB2.0 ports for your additional devices. Plug the USB device jack into the available USB connector USB1, USB2, USB3 and USB4.

USB20_1 is available. To make use of these USB ports, purchase a USB cable from your dealer. The lay-out of USB20_1 connector is as follows:

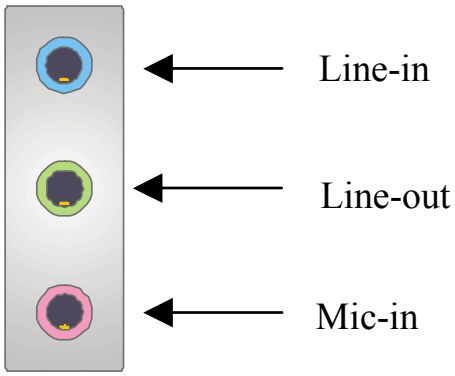


6. Onboard Game port/audio (Audio Speakers connections)

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 to 4 channel speaker system. Line in is an available in 4 channel speaker mode.

If you are using 6 channel speaker, connect the front L/R speaker to line-out, rear L/R speaker to line-in and center/Bass speaker to Mic-in. Make sure that the audio software is set to 6 channel speaker system.

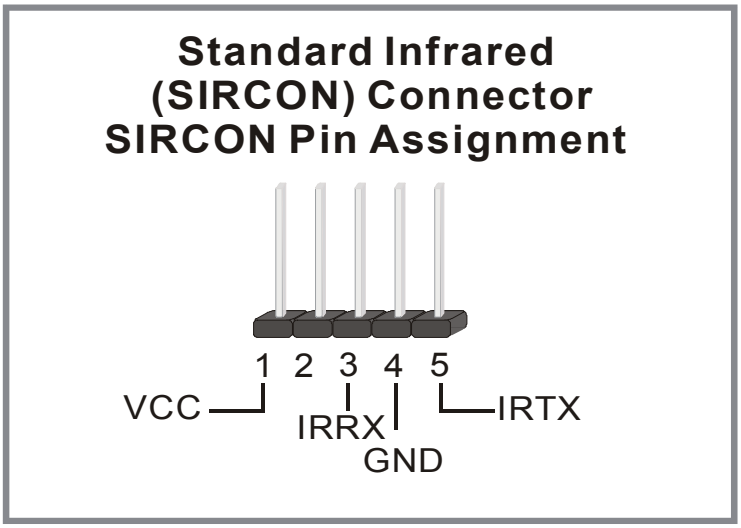


E. Other Connections

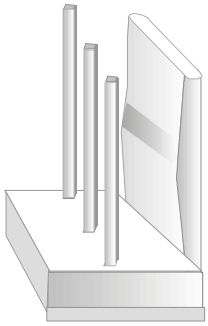
1. Standard Infrared (SIRCON)

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:

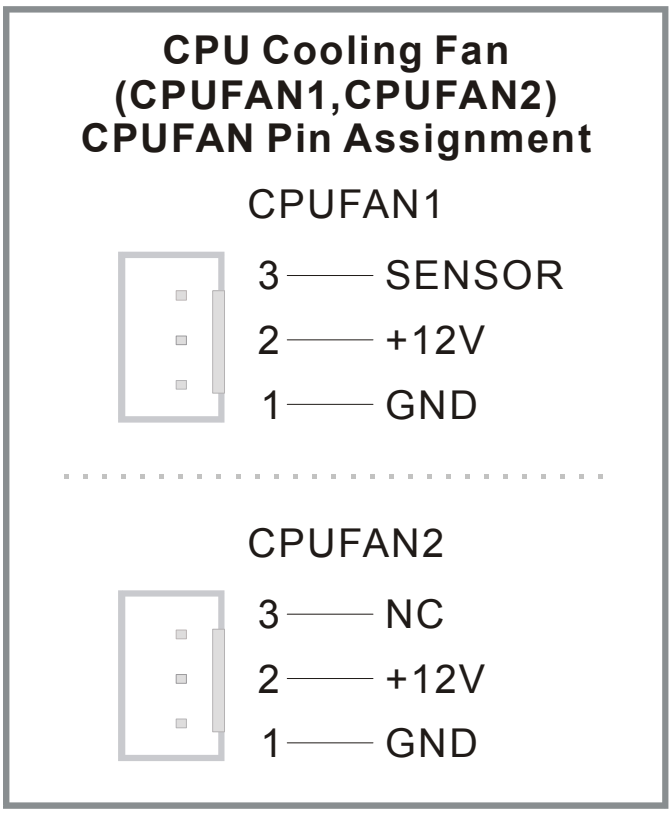


2. Cooling Fan Installation



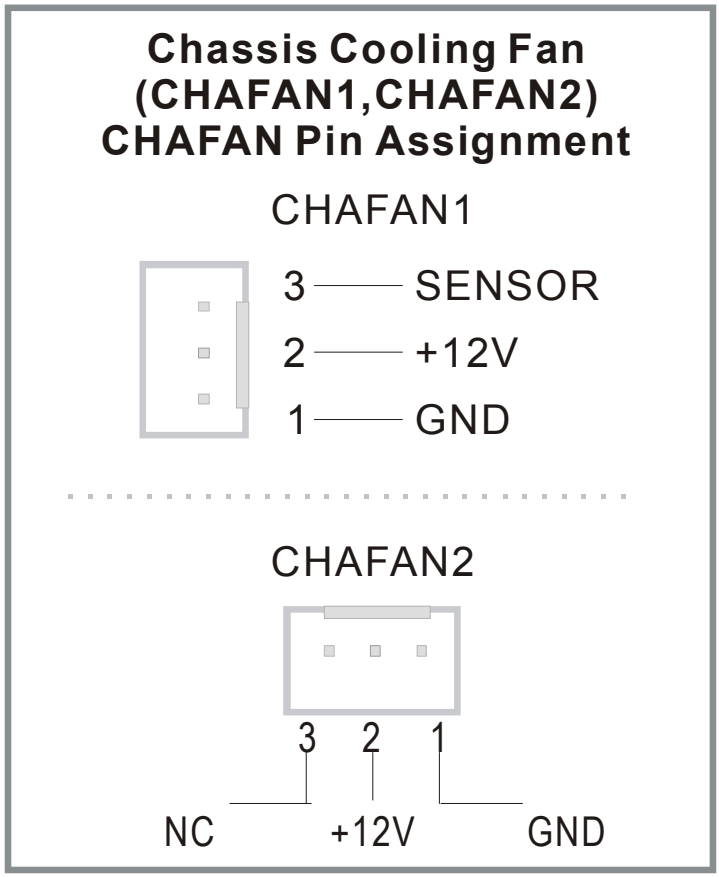
(1) CPU Cooling Fan (CPUFAN)

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



(2) Chassis Cooling Fan (CHAFAN1,CHAFAN2)

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:

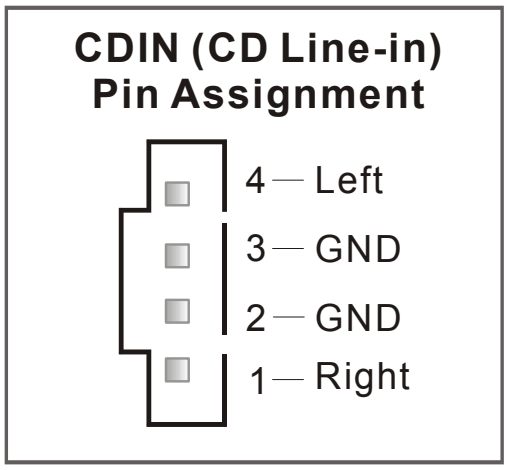


Note: CPU cooling fan must be installed to prevent the CPU from overheating and ensure system stability. Chassis cooling fan is optional, depending on whether there is cooling fan in your chassis.

3. CD Line-in (CDIN)

This Motherboard provides one CD Line-in connector. Please connect the 4-pin audio cable from your CD-ROM drive to CDIN.

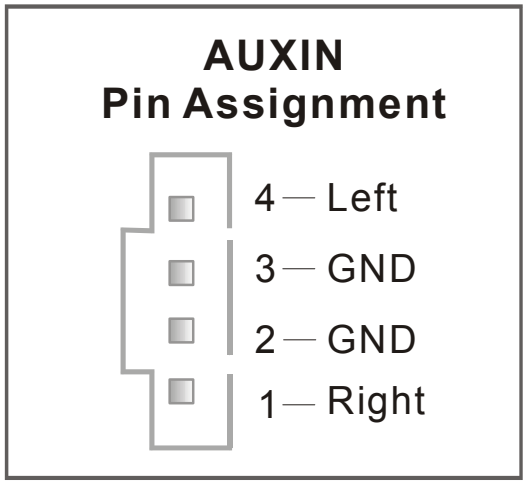
Please install according to the following pin assignment:



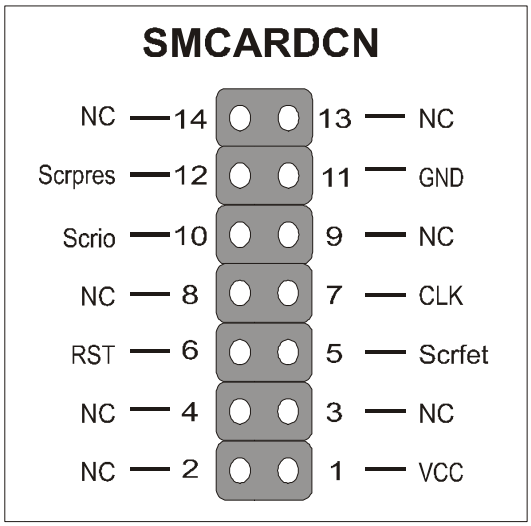
5. AUX-IN (AUXIN)

This Motherboard provides one AUX-IN connector. Please connect the 4-pin audio cable from your second CD-ROM drive to AUX-IN.

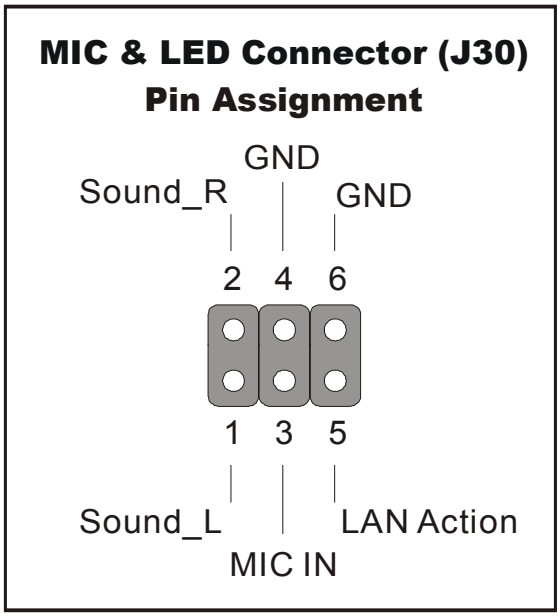
Please install according to the following pin assignment:



4. Smart Card Reader



5. MIC & LED Connector (J30)



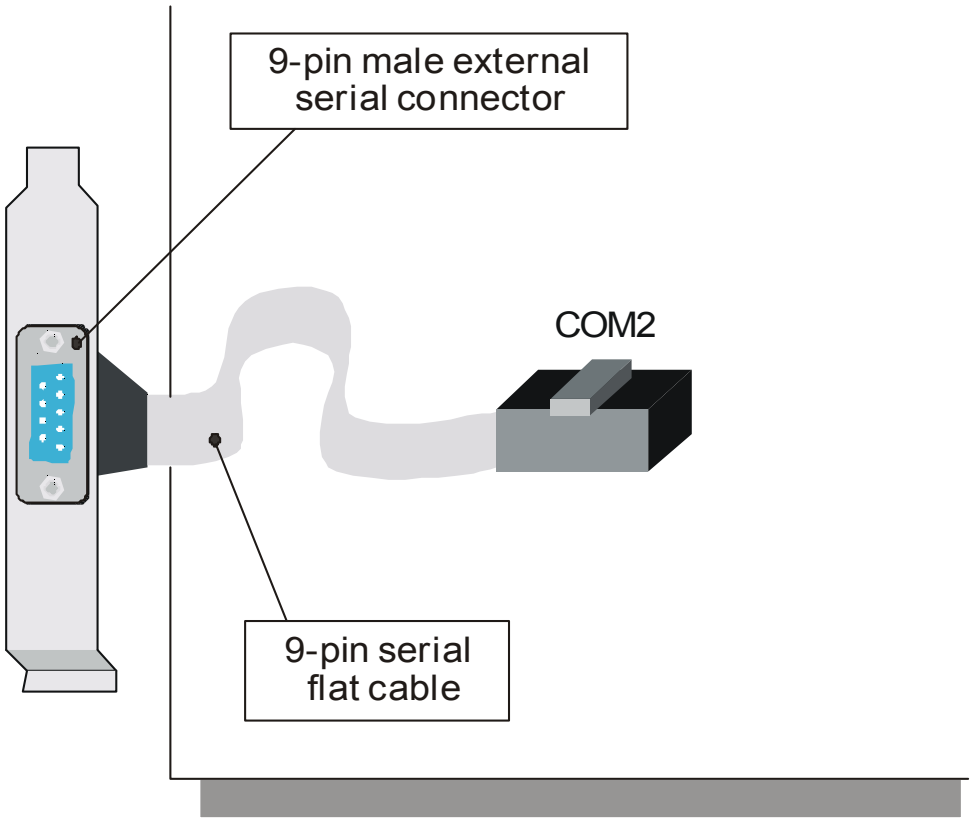
You can connect the Line-out /MIC in/LAN LED to the front panel of your PC case. (If this option is available in your PC case.)

6. Serial Port COM2

In addition to the onboard serial connector COM2 located at the rear panel, your Motherboard comes with a second serial port COM2 equipped with a flat cable and external connector.

The Motherboard package includes one serial port flat cable with a 9-pin connector.

Plug the 9-pin end of the flat cable into the COM1 serial connector on the Motherboard, as shown in the figure below, then fix the external 9-pin connector to the rear panel of the computer case. Then plug your serial device cable directly into this 9-pin male connector located at the back of your computer.

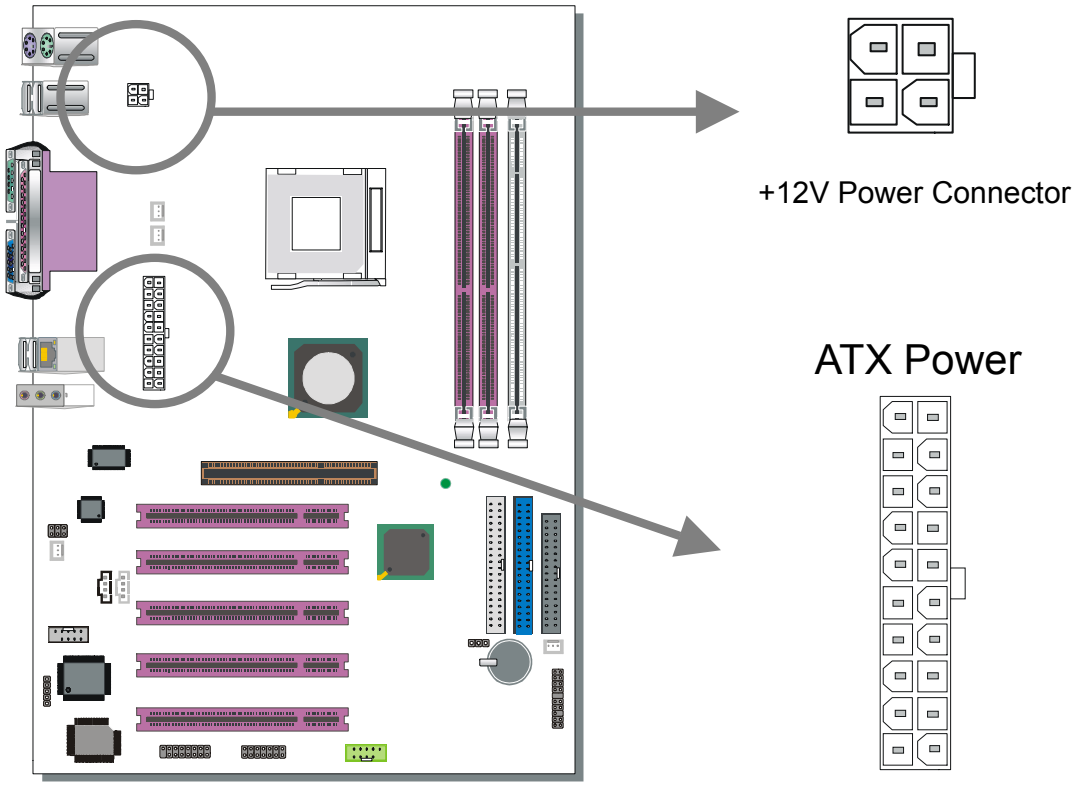


F. ATX12V Power Supply

The power supply connector is the last connection to be made while installing a motherboard. This motherboard requires an ATX 12V power supply (For P4 system), an AT or ATX power supply cannot be used. We recommend a power supply of at least 350W, or 400W under full loading.

Steps:

1. Connect the 20 pin connector to the ATX power connector. See FIG. 1.
2. Connect the 4 pin connector to the +12V power connector. See FIG. 2.

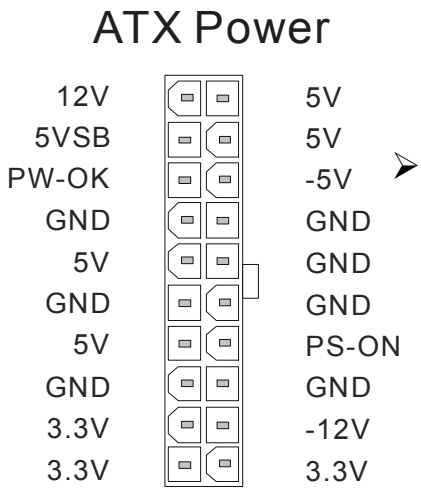


Note1: The presence of the +12 V power connector indicates that a power supply is ATX12V; the absence of the +12V power connector indicates that a supply is ATX.

Note2: When using the Power-On by Keyboard function, please make sure the ATX 12V power supply is able to provide at least 1220mA on the 5V Standby lead (5VSB).

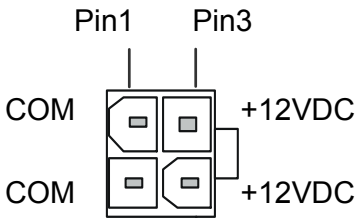
Note3: The minimum recommended wattage is 400W for a fully loaded system or 350W for a fully loaded system. The system might become unstable if power supply is not enough.

Please install the ATX 12V power according to the following pin assignment:



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

FIG. 1



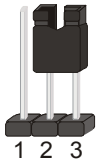
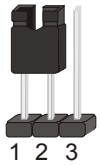
+12V Power Connector

FIG. 2

G. CMOS Clear (JP5)

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

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

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

Step 5 Power On

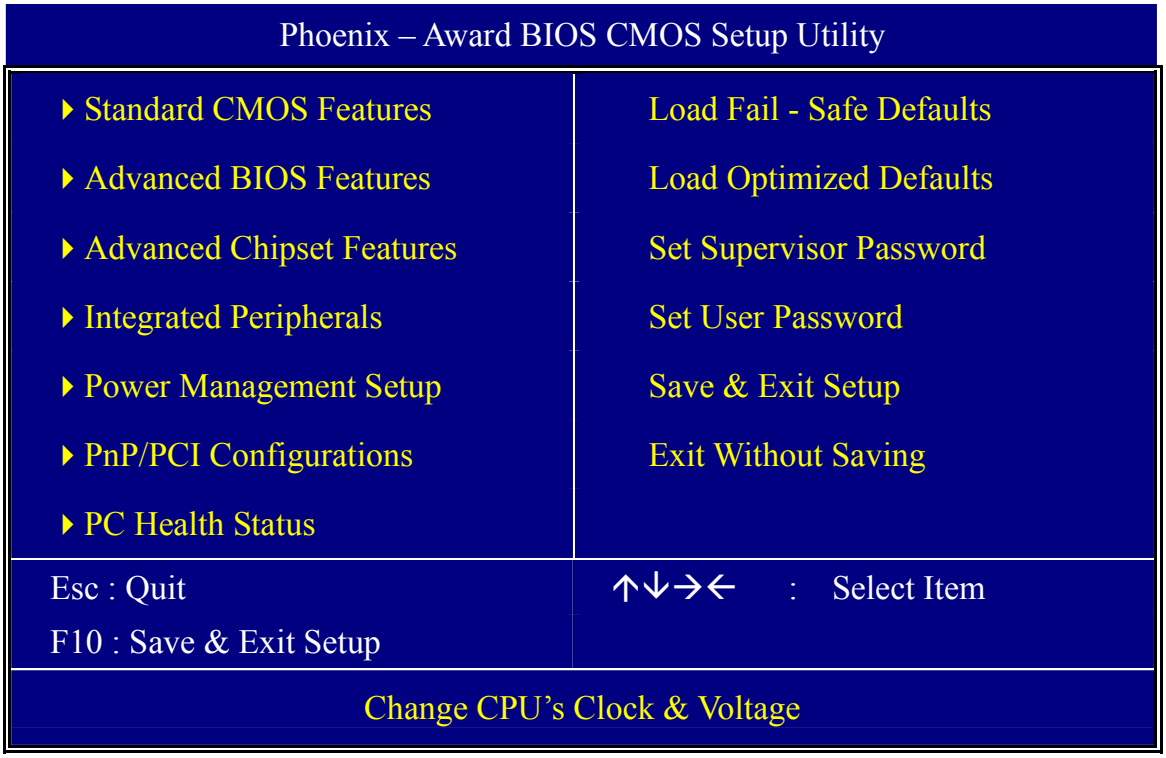
You have now completed the hardware installation of your Motherboard successfully.

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

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

Repeat this operation until you get the following screen.

3. The BIOS Setup screen appears:



2-3 QUICK BIOS SETUP

After the hardware installation is complete, turn the power switch on, then press the **<DEL>** key during the system diagnostic checks to enter the Award BIOS Setup program. The CMOS SETUP UTILITY will be shown on the screen. Then, follow these steps to configure the CPU settings.

Step 1. Select [STANDARD CMOS 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***

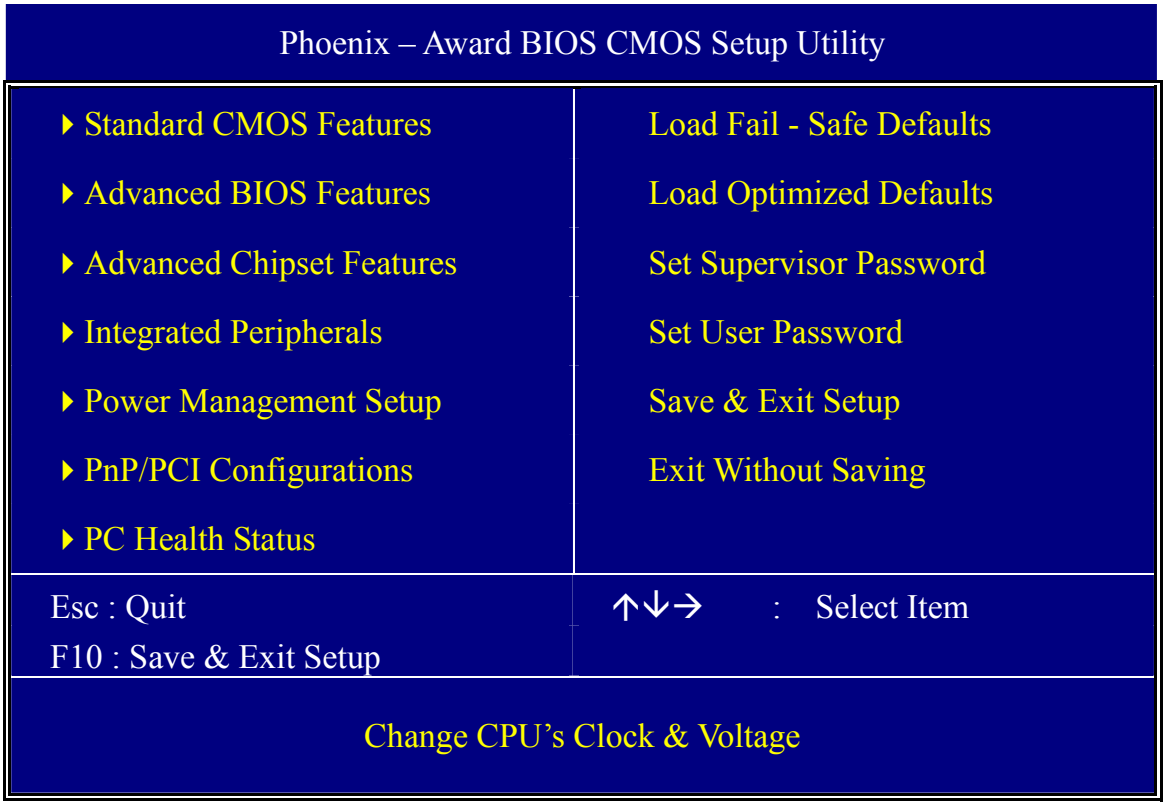
Chapter 3

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

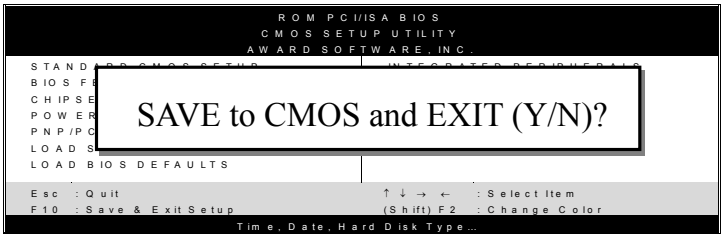
- Use the [Up]/[Down] keys to modify values within the selected fields. Some fields let you enter values directly, others will let you press Enter then select the value.

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 to the previous 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

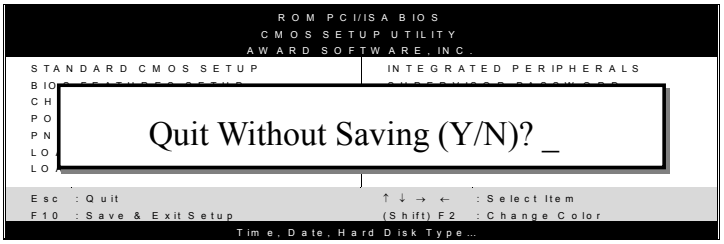
Select the [SAVE & EXIT SETUP] option from the Main Menu to save data to CMOS and exit the setup utility. This option saves all your changes and causes the system to reboot.



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

EXIT WITHOUT SAVING

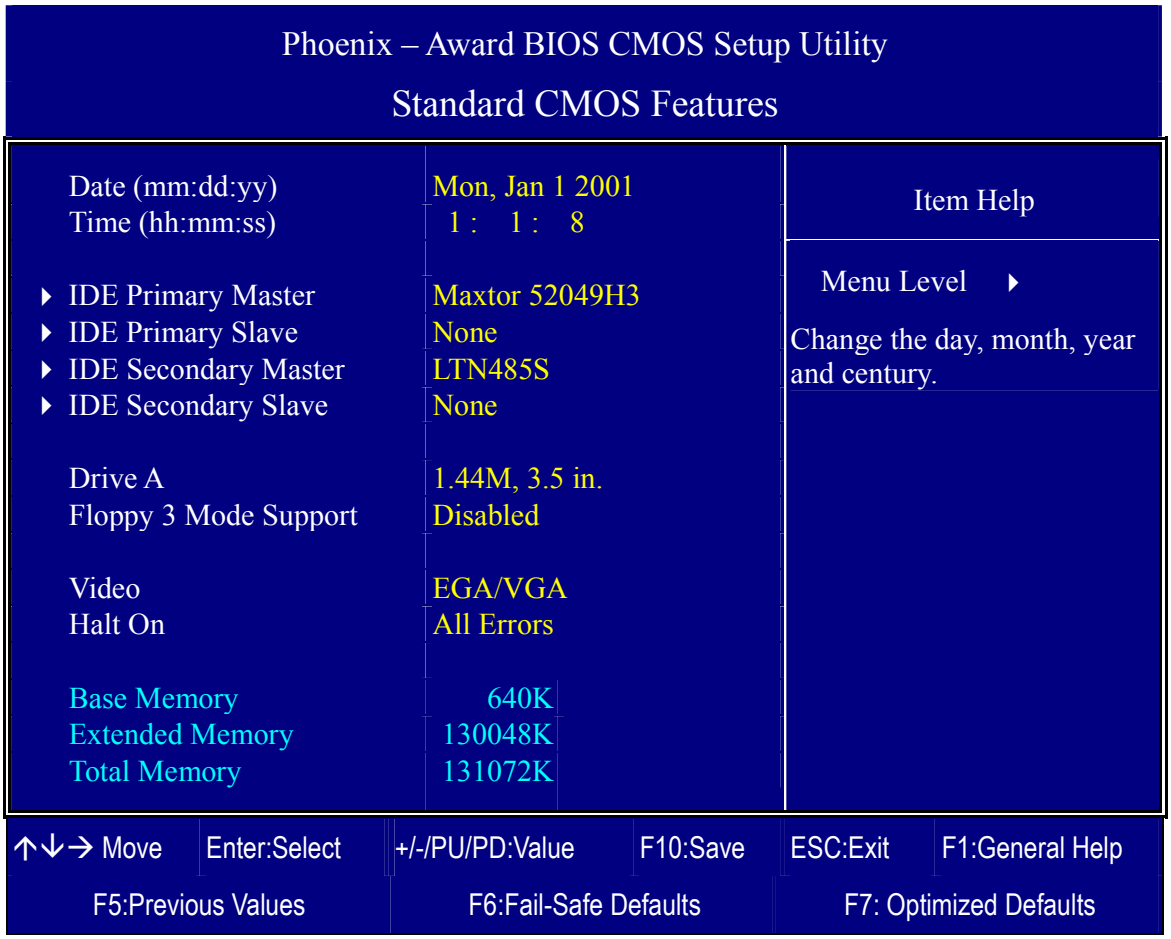
Selecting the [EXIT WITHOUT SAVING] option allows you to abandon all changes and exit setup.



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

3-1 STANDARD CMOS SETUP

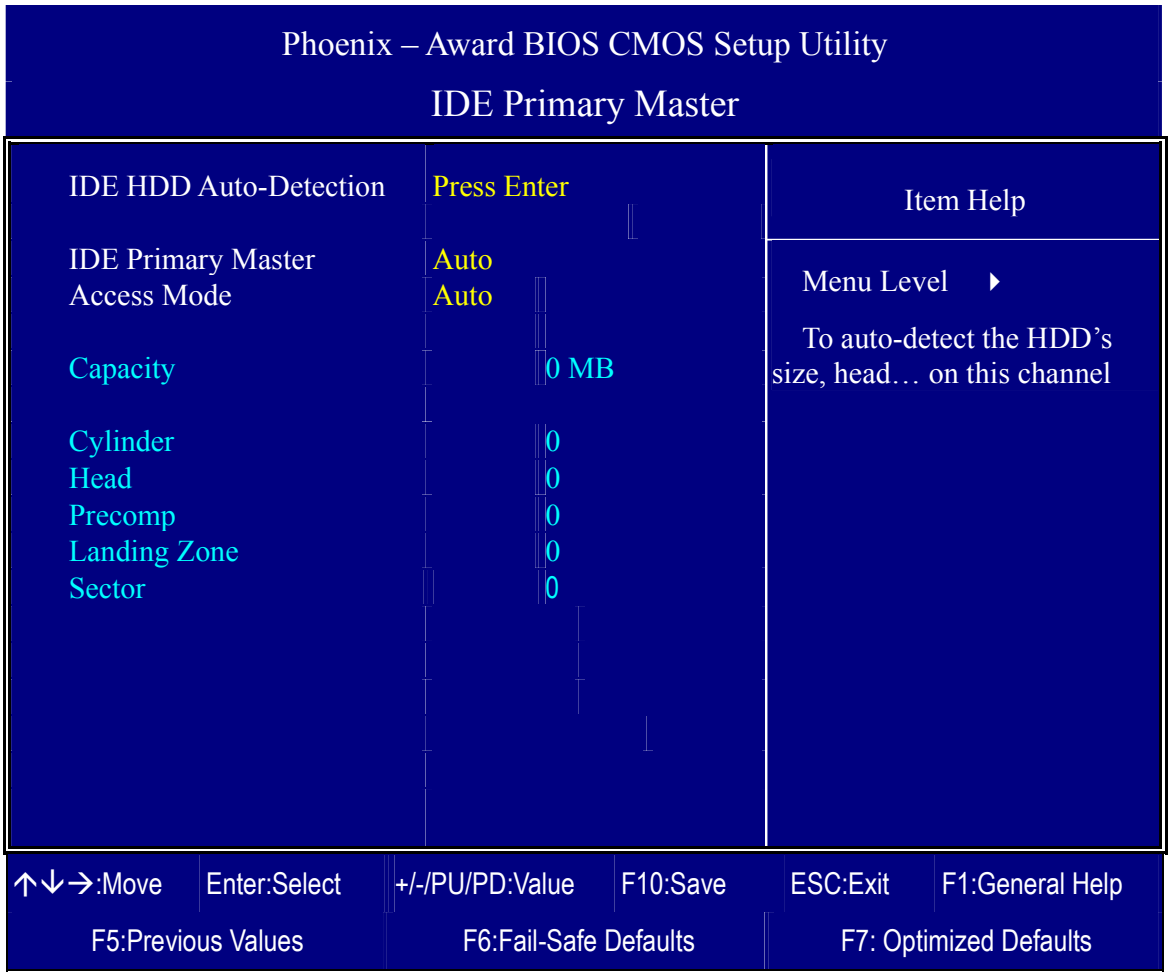
Select the [STANDARD CMOS SETUP] option from the Main Menu and press [Enter] key.



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.



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 cylinders, head, sectors and size on this channel	
IDE Primary Slave (User Type)	Auto	BIOS detects hard disk type automatically.	Default
	User	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 disks)	

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

Floppy Drives

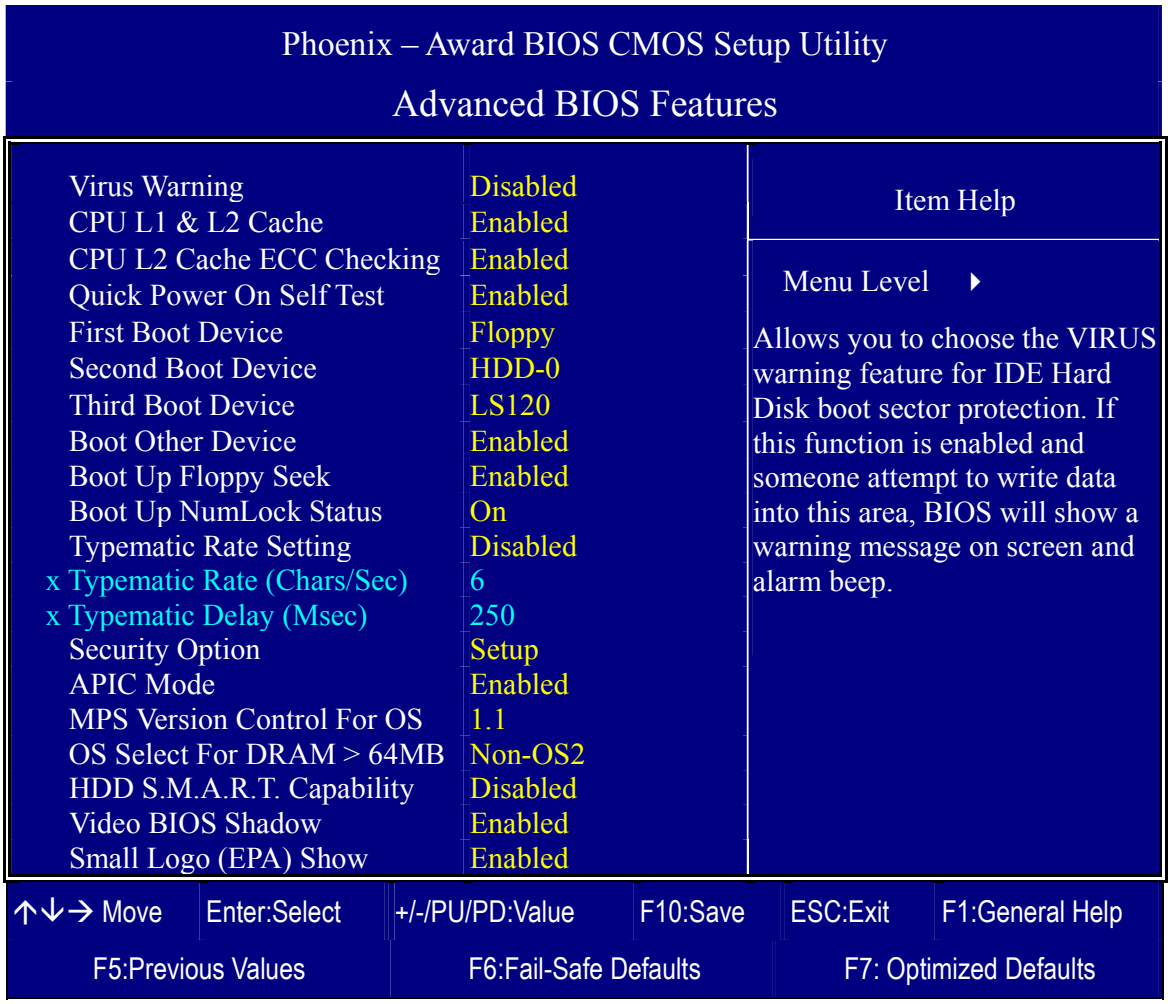
Floppy Drives	Setting	Description	Note
Drives A	360KB, 5.25 in.		
	1.2MB, 5.25 in.		
	720KB, 3.5 in.		
	1.44MB, 3.5 in.		Default
	2.88MB, 3.5 in.		
	None	Not installed	
Floppy 3-Mode Support	Disabled		Default
	Drive A, Both	Supports 3-mode floppy diskette: 740KB/1.2MB/ 1.44MB on selected disk drive.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

Others Optional

	Setting	Description	Note
Video	EGA/VGA	Select the video mode, supported by your VGA card and memory.	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		

3-2 ADVANCED BIOS FEATURES

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



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 Enabled	If set to enabled, the Paragon Anti-Virus. Function will scan your boot drive for boot virusses. If a boot virus is detected, the BIOS will display a warning message on screen and sound a warning beep.	Default

Cache Memory Options

	Setting	Description	Note
CPU L1 & L2 Cache	Disabled	Because the CPU is faster than memory, the CPU after has to wait to complete memory access. By enabling L2 caching you will let the CPU write or read first from a very fast internal memory (the CPU cache) before accessing main memory, thereby increasing the speed of your system. The CPU will automatically update main memories from the cache.	
	Enabled		Default
CPU L2 Cache ECC Checking	Disabled	Allows your CPU to check for ECC when transferring data from to the L2 cache. Note: That this costs some performance.	
	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
First /Second/Third Boot Device	Floppy	Selects the order in which your system scans for devices to boot from (first the first boot device, then the second, etc).	
	LS120		
	HDD-0		
	SCSI		
	CDROM		
	HDD-1		
	HDD-2		
	HDD-3		
	ZIP100		
	LAN		
	Disabled		

System Boot Control Settings (Continue)

	Setting	Description	Note
Boot Other Device	Disabled	Selects if the system should try to find any other bootable devices. If the first, second and third boot device cannot be booted from.	
	Enabled		Default
Boot Up Floppy Seek	Disabled	Seeks disk drives during boot up. Disabling speeds boot up.	
	Enabled		Default
Boot Up NumLock Status	On	Puts numeric keypad in numeric mode at boot-up.	Default
	Off	Puts numeric keypad in arrow key mode at boot-up.	

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) 8 (Char/sec) 10 (Char/sec) 12 (Char/sec) 15 (Char/sec) 20 (Char/sec) 24 (Char/sec) 30 (Char/sec)	Choose the rate at which a character is repeated when holding down a key.	Default

Typematic Settings (Continue)

	Setting	Description	Note
Typematic Delay	250 (msec) 500 (msec) 750 (msec) 1000 (msec)	Choose how long after you press a key down the character begins repeating.	Default

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	If a password is set, prompt appears both when entering CMOS set up and during system POST.	
	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	On operating systems that support it you will have more IRQs available when enabled.	
	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		

Other Control Options (Continue)

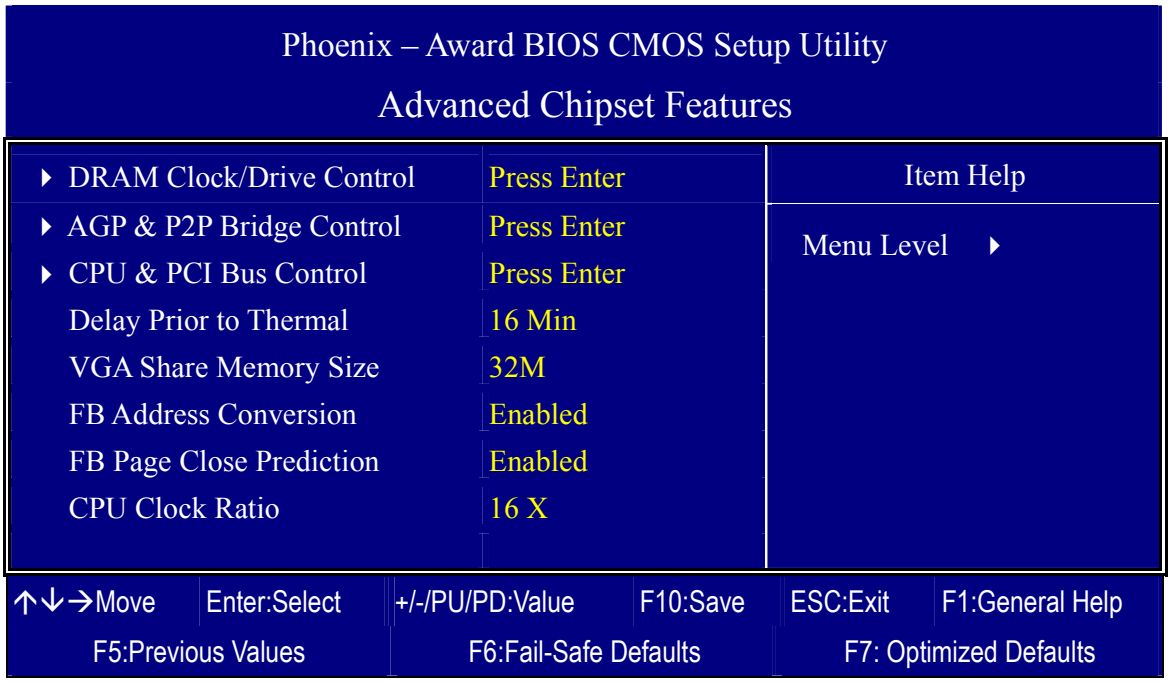
	Setting	Description	Note
Video BIOS Shadow	Disabled		
	Enabled	The BIOS is shadowed in a 16K segment if it is enabled and if it has BIOS present. These 16 segments can be shadowed from ROM to RAM. BIOS shadow copies BIOS code from slower ROM to faster RAM. BIOS can then execute from RAM.	Default
EPA 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

3-3 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
Delay Prior to Thermal	4 Min	Set the time for the system to decrease performance to avoid reaching maximum thermal temp. Ex. if you set it to 16 minutes the system will start decreasing the performance 16 minutes before reaching max thermal temp.	
	8 Min		
	16 Min		Default
	32 Min		

CHIPSET FEATURES SETUP (Continue)

	Setting	Description	Note
VGA Share Memory Size	Disabled	The amount of main memory that is reserved for use by the inboard VGA. This part of the system memory is not available for use by programs.	
	8M		
	16M		
	32M		Default
FB Address Conversion	Enabled	Enabling this setting will optimize VGA frame buffer accesses.	Default
	Disabled		
FB Page Close Prediction	Enabled	Enabling this setting increases performance by closing pages in the frame-buffer that are no longer in use automatically.	Default
	Disabled		
CPU Clock Ratio	8X~50X	The available CPU Ratio you can select will depends on your CPU ID.	

3-3.1 DRAM Clock/Drive Control

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

DRAM Clock/Drive Control

Current FSB Frequency	100 MHz	Item Help
Current DRAM Frequency	100 MHz	Menu Level ▸
DRAM Clock	By SPD	
DRAM Timing	By SPD	
x SDRAM CAS Latency	2.5	
x Bank Interleave	Disabled	
x Precharge to Active(Trp)	3T	
x Active to Precharge (Tras)	6T	
x Active to CMD (Trcd)	3T	
DRAM Command Rate	2T Command	
DRAM Burst Len	4	
CPU read DRAM Mode	Medium	

↑↓→: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.

Frequency Mode

	Setting	Description
Current FSB Frequency		Current FSB Frequency.
Current DRAM Frequency		Current DRAM Frequency.

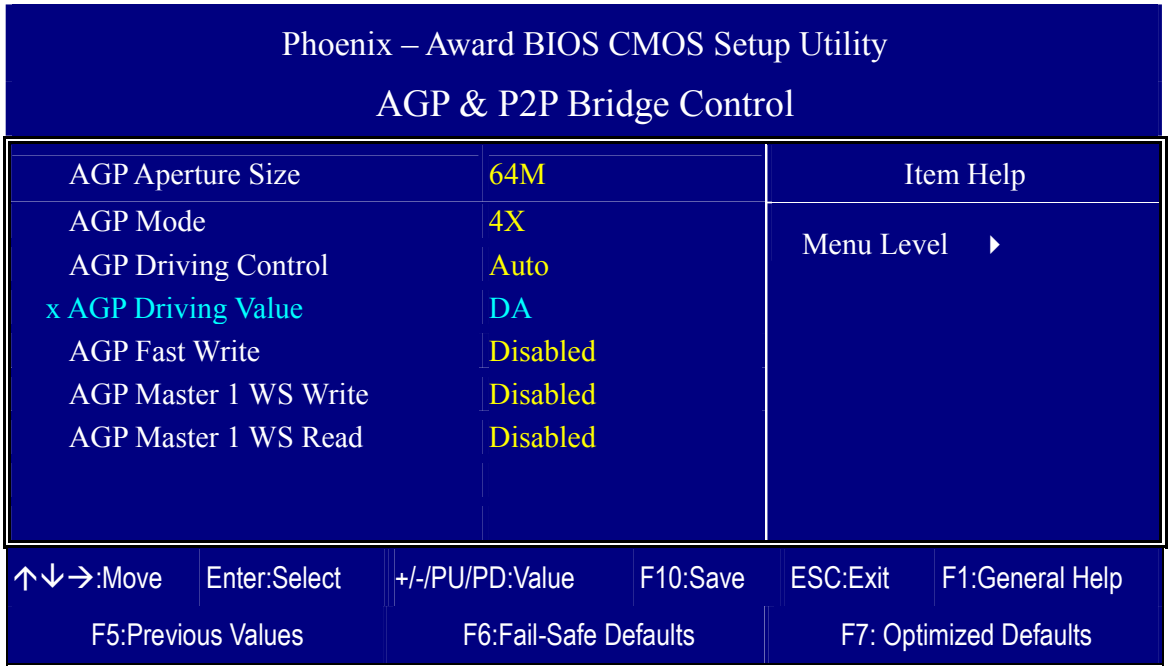
DRAM Control

	Setting	Description	Note
DRAM Clock	By SPD	This item allows you to control the DRAM clock speed.	Default
	Manual		
DRAM Timing	By SPD	If enable the DRAM will auto detect the DRAM timing.	Default
	Manual		
SDRAM 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.	Default
	7T		
Active to CMD (Trcd)	2T	Increase DRAM performance.	
	3T		Default
DRAM Command Rate	2T Command	Increase DRAM performance.	Default
	1T Command		
DRAM Burst Length	4	Increase DRAM performance.	Default
	8		
CPU read DRAM Mode	Medium	Increase DRAM performance.	Default
	Slow		
	Fast		

3-3.2 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 system memory dedicated for graphics memory address space (for when your VGA card runs out of memory). Host cycles that hit the aperture range are forwarded to the memory without any translation.	Default
	32M		
	128M		
	256M		
AGP Mode	1X	This item allows you to enable / disable the AGP-4X Mode.	
	2X		
	4X		Default

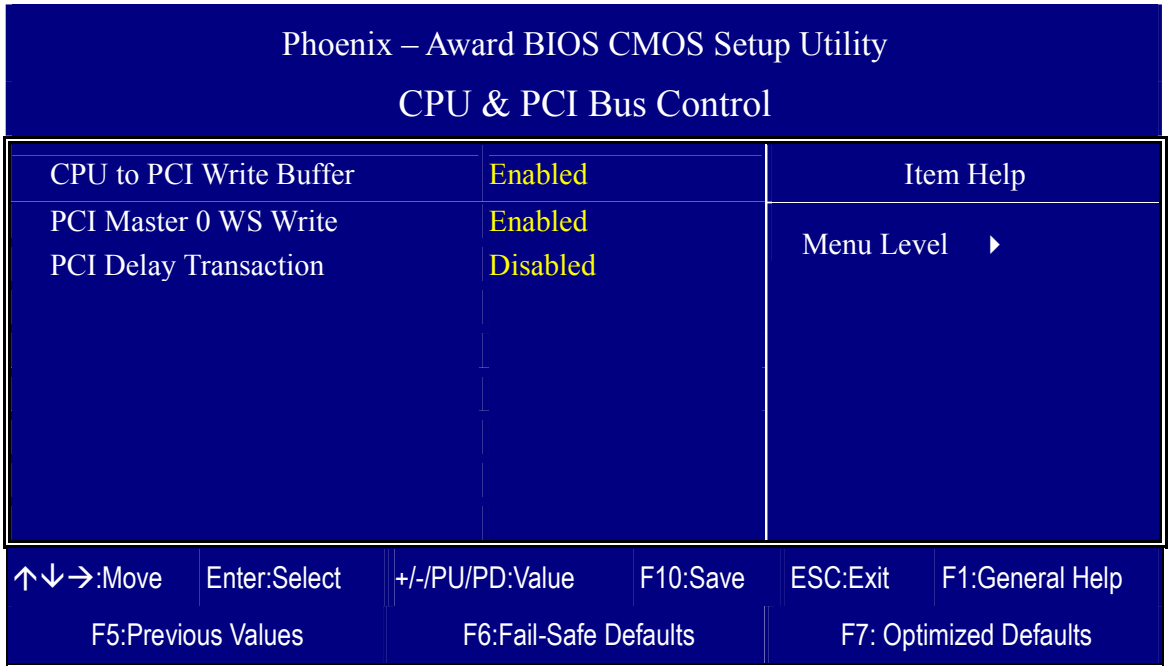
AGP & P2P Bridge Control (Continue)

	Setting	Description	Note
AGP Driving Control	Auto Manual	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
AGP Driving Value	Min=0000 ~ Max=00FF	This item allows you to adjust the AGP driving force.	
AGP Fast Write	Disabled Enabled	The VIA chipset will use fast write to AGP if this item is enabled. Not all AGP cards support fast write.	Default
AGP Master 1 WS Write	Disabled Enabled	When *Enabled,* writes to the AGP(Accelerated Graphics Port) are executed with one wait states.	Default
AGP Master 1 WS Read	Disabled Enabled	When *Enabled,* read to the AGP (Accelerated Graphics Port) are executed with one wait states.	Default

3-3.3 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

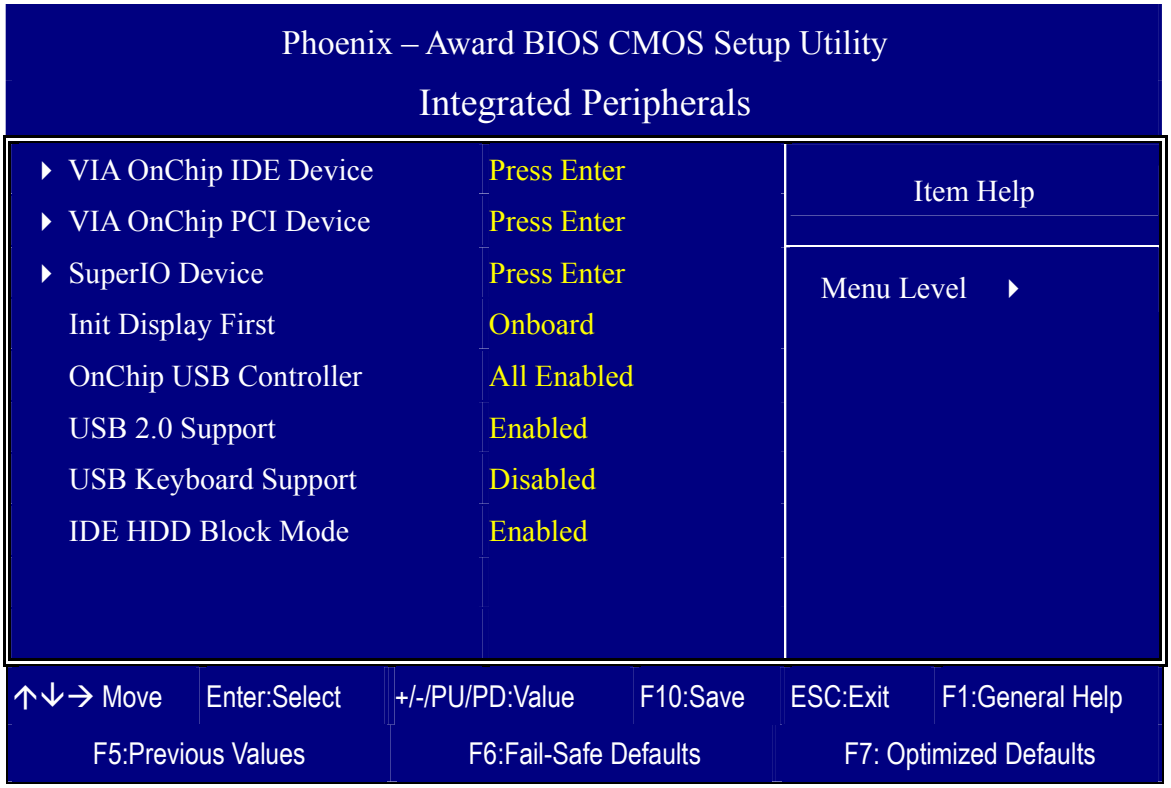
	Setting	Description	Note
CPU to PCI Write Buffer	Disabled		
	Enabled	Enabled the CPU to PCI Write Buffer.	Default
PCI Master 0 WS Write	Disabled	This item allows you to enabled/disabled the PCI post write.	
	Enabled		Default
PCI Delay Transaction	Disabled	The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select *Enabled* to support compliance with PCI specification version 2.1.	Default
	Enabled		

3-4 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	AGP	Choose which card – AGP Display card or PCI VGA card or onboard VGA– to initialize first.	
	Onboard		Default
	PCI Slot		

INTEGRATED PERIPHERALS

	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. Port 1 means USB1&2 Port 2 means USB3&4	
	All Enabled		Default
	1&2 USB Port		
	1 USB Port		
	2 USB Port		
USB 2.0 Support	Disabled	Select Enabled if you have USB 2.0 peripherals.	
	Enabled		Default
USB Keyboard Support	Disabled	Select enabled if you want to use USB Keyboard in DOS.	Default
	Enabled		
IDE HDD Block Mode	Disabled	Invokes multi-sector transfer instead of one sector per transfer. Not all HDDs support this function.	
	Enabled		Default

3-4.1 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

OnChip IDE Channel0		Enabled	Item Help
OnChip IDE Channel1		Enabled	
IDE Prefetch Mode		Enabled	Menu Level ▸
Primary Master	PIO	Auto	
Primary Slave	PIO	Auto	
Secondary Master	PIO	Auto	
Secondary Slave	PIO	Auto	
Primary Master	UDMA	Auto	
Primary Slave	UDMA	Auto	
Secondary Master	UDMA	Auto	
Secondary Slave	UDMA	Auto	

↑↓→:Move | Enter:Select | +/-/PU/PD:Value | F10:Save | ESC:Exit | F1:General Help

F5:Previous Values | F6:Fail-Safe Defaults | F7: Optimized Defaults

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

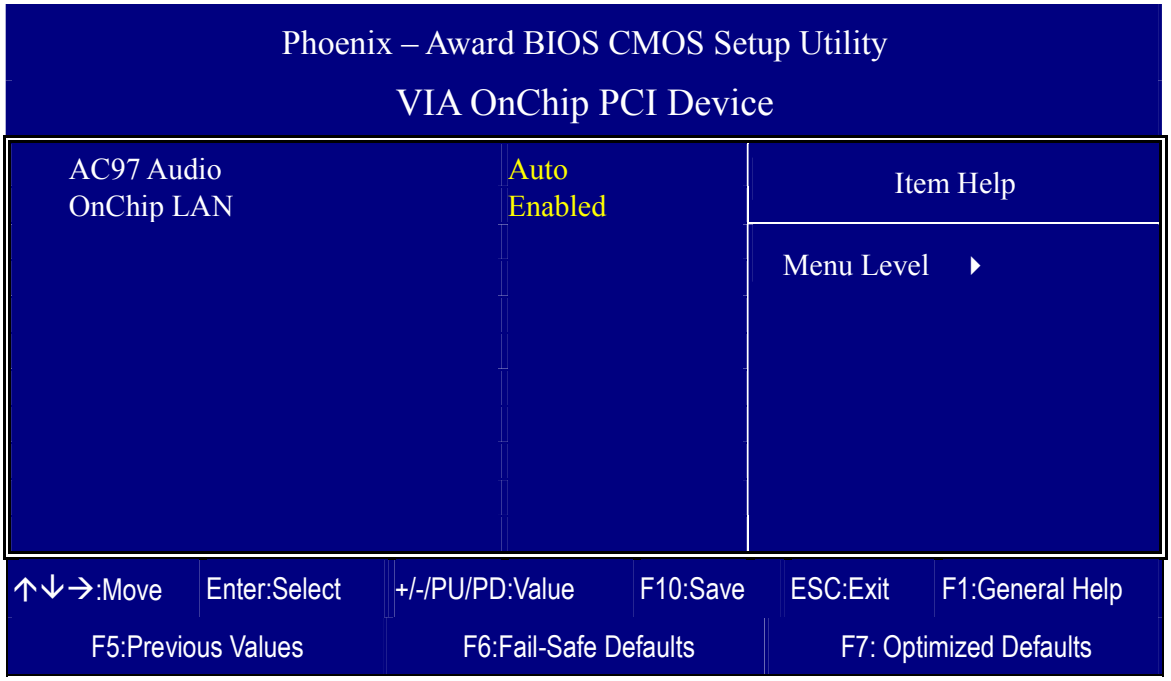
VIA OnChip IDE Device

	Setting	Description	Note
On-Chip PCI IDE ➢ **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

3-4.2 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.

VIA OnChip PCI Device

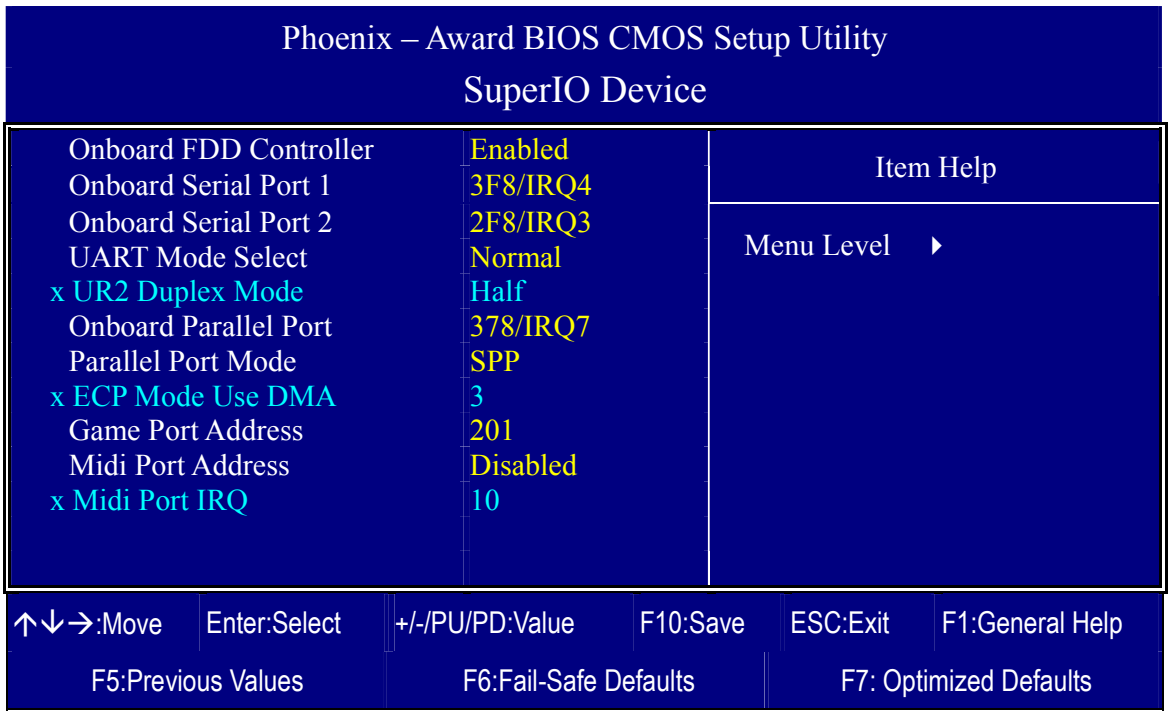
	Setting	Description	Note
AC97 Audio	Auto	This setting allows you to control Onboard Audio.	Default
	Disabled		
OnChip LAN	Enabled	This setting allows you to control onchip LAN	Default
	Disabled		

3-4.3 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 FDD controller	Disabled	Turn off the on-board floppy controller.	
	Enabled	Use the on-board floppy controller.	Default
Onboard Serial Port 1 / Serial Port 2	Disabled	Choose serial port 1 & 2's I/O address. Do not set port 1 & 2 to the same address except for Disabled or Auto.	
	3F8/IRQ4		Default (port 1)
	2F8/IRQ3		Default (port 2)
	3E8/IRQ4		
	2E8/IRQ3		
	Auto		

SuperIO Device (Continue)

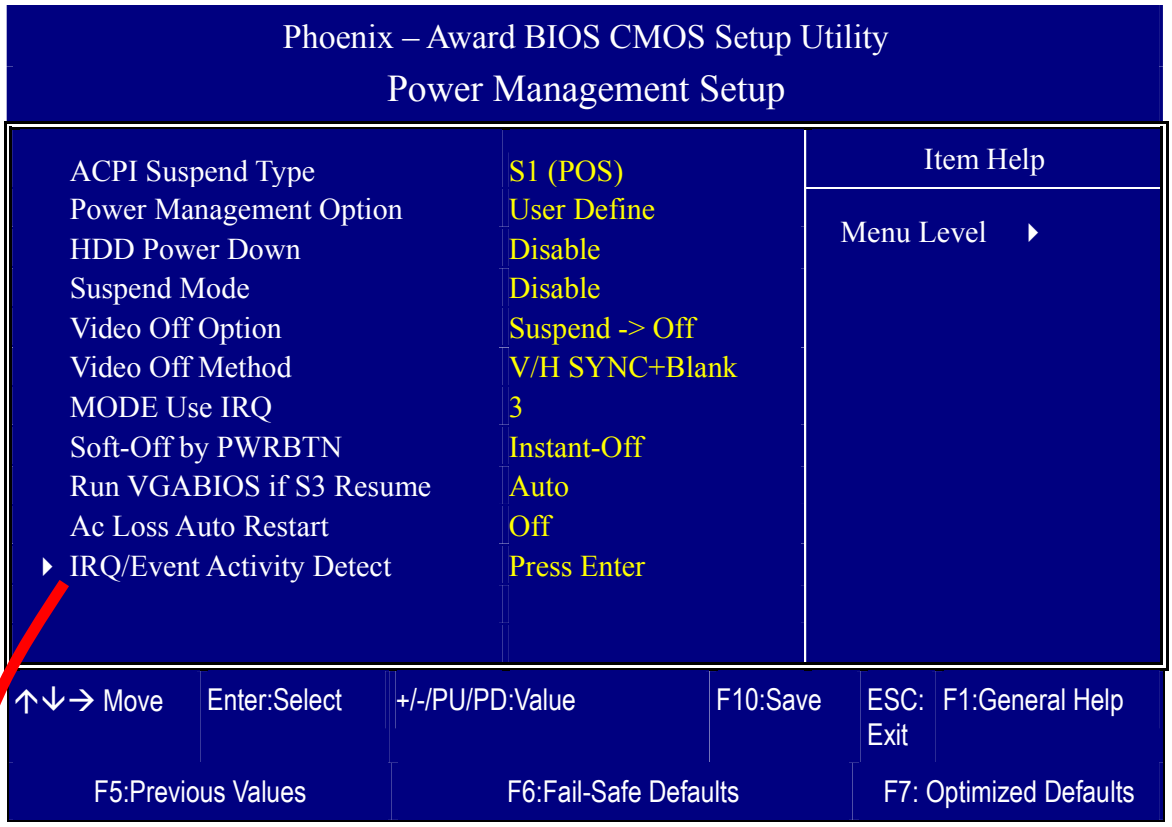
	Setting	Description	Note
UART Mode	IrDA	The second serial port offers several special modes. It can work as an infrared device (IrDA, ASKIR) as a smart card reader (SCR), or as a normal serial port.	
	ASKIR		
	Normal		Default
	SCR		
If [UART Mode Select] is set to [IrDA]/[ASKIR]			
UR2 Function Duplex	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	

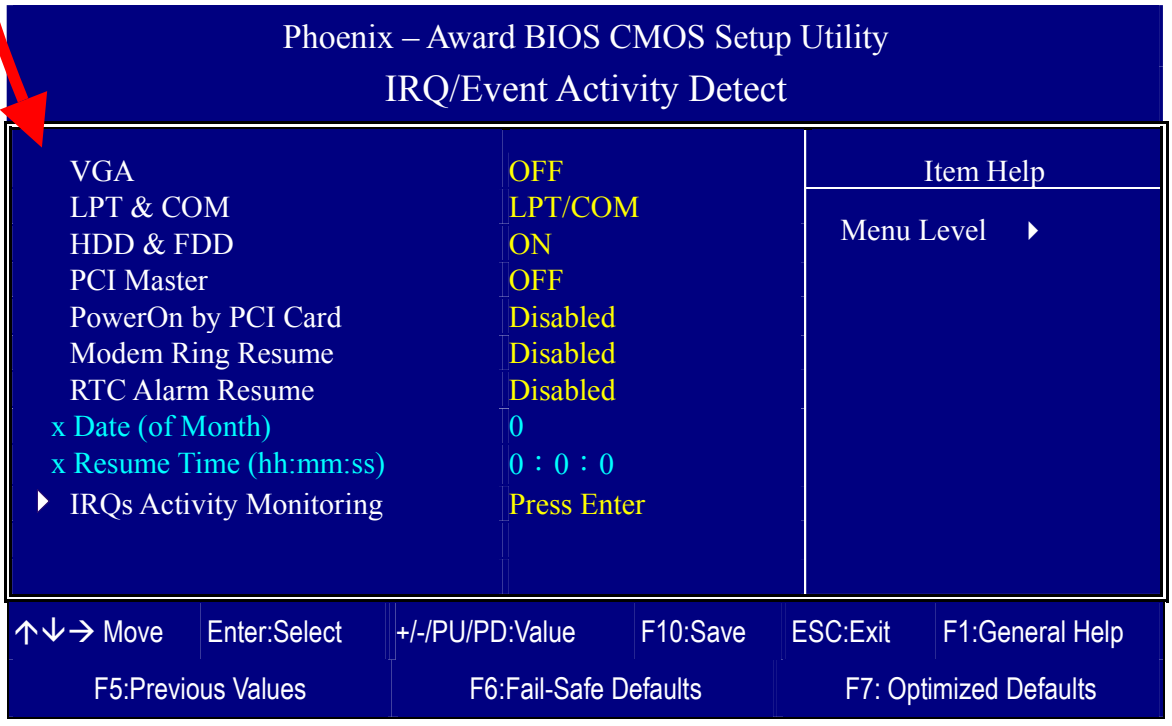
Others Optional

	Setting	Description	Note
Game Port Address	Disabled	Set the I/O base address for the ON board game port under this item.	
	201		Default
	209		
Midi Port Address	Disabled	Set the I/O address for the on board Midi port here.	Default
	330		
	300		
If [Midi Port Address] is set to [330]/[300] mode			
Midi Port IRQ	5	Select the IRQ that the Midi port uses under this them.	
	10		Default

3-5 POWER MANAGEMENT SETUP

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





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 state 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		
	MODEM Use IRQ		
Video Off Method	V/H Sync+Blank	Selects the method by which the monitor is blanked.	Default
	Blank screen		
	DPMS Support		

Power Management Controls (Continue)

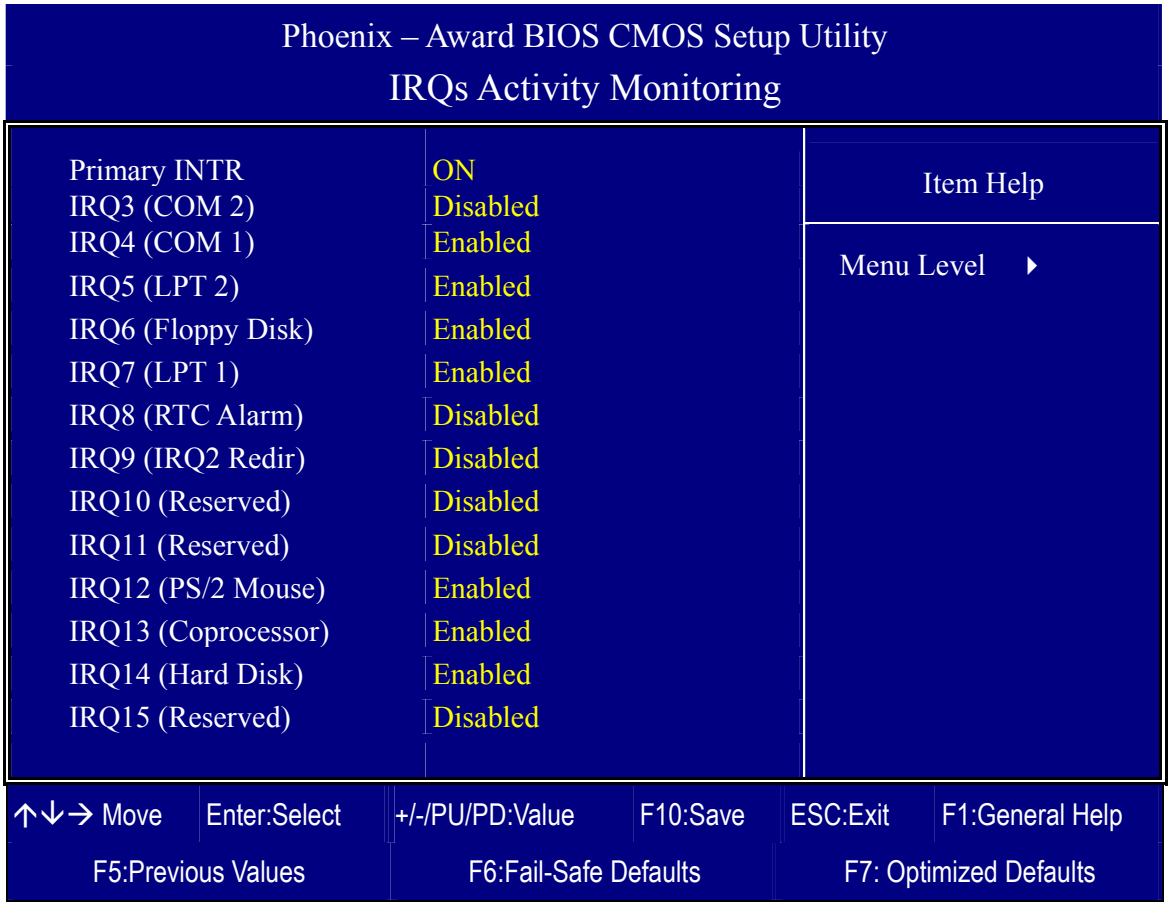
	Setting	Description	Note
MODEM Use IRQ	3	Selects which IRQ the modem uses to wake up from.	Default
	4-11, NA		
Soft-Off by PWR-BTTN	Instant-off		Default
	Delay 4 Sec.	Turns off the system power 4 seconds after pushing the power button.	
Run VGABIOS if S3 Resume	Auto	Some OS (win xp/2k) requires to load VGA BIOS after resume from S3.	Default
	Yes		
	No		
Ac Loss Auto Restart	Off	The system will remain off when power comes back after a power failure.	Default
	On	The system will switch on when power comes back after a power failure.	
	Former-Sts	The system will return to the state it was in before the power failure when power returns. (i.e: If the system was on, it will switch on again, if it was off, it will remain off)	
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
VGA	ON	When *On of* VGA, any activity from one of the listed system peripheral devices or IRQs wakes up the system.	
	OFF		Default
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		
Modem Ring Resume	Disabled	An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) 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.	

3-5.1 IRQs Activity Monitoring

This option sets the IRQs Activity Monitoring.



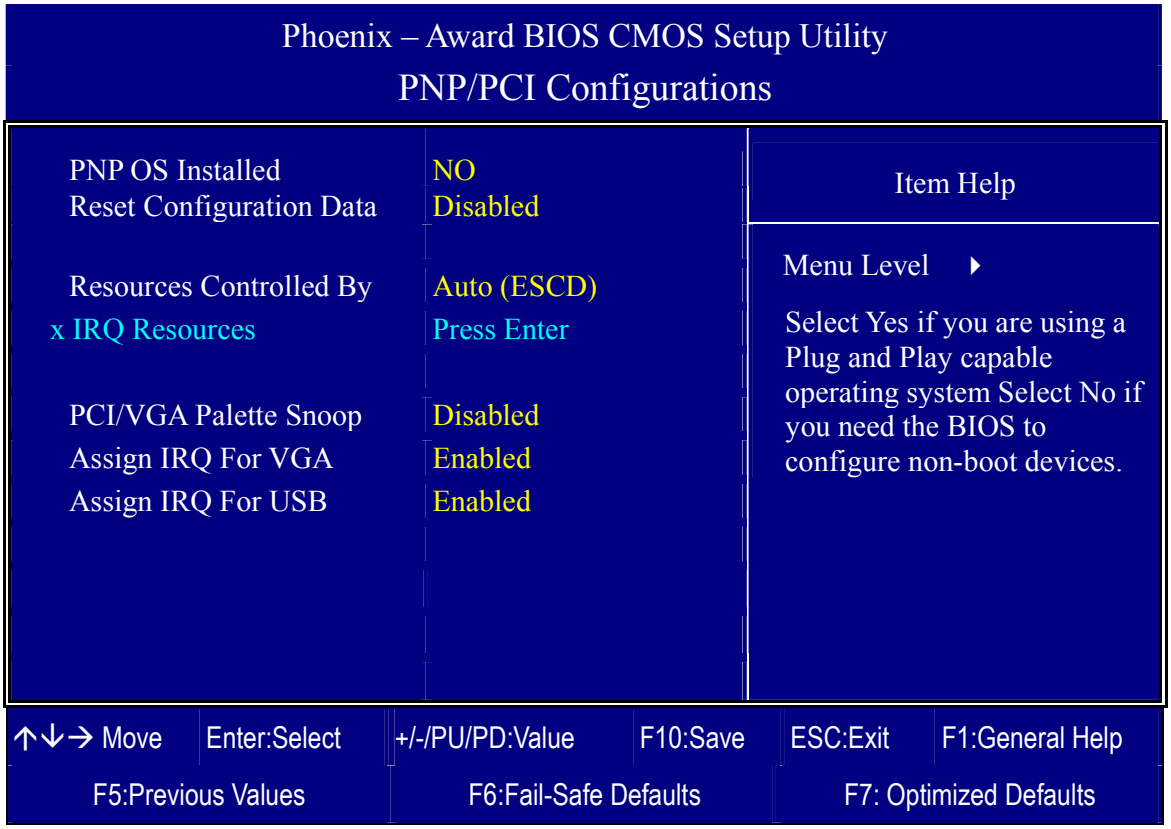
After you have completed the changes, press [Esc] and follow the instructions on your screen to save your settings or exit without saving.

IRQs Activity Monitoring

Wake Up Events	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)	

3-6 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

	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.	
	Required to assign IRQ-# to PCI or ISA PnP manually. IRQ-3,4,5,7,9,10,11,12,14,15 assigned to: _ DMA-0,1,3,5,6,7 assigned to: _		
	Auto (ESCD)	The Plug-and-Play BIOS auto manages PCI/ISA PnP card IRQ assignment automatically.	Default (Recommended)
If [Resources Controlled By] is set to [Manual]			
IRQ Resource (Press Enter)	PCI Device	Choose IRQ-# assigned to PCI/ISA PnP card.	Default
	Reserved	Reserved IRQ for legacy cards.	
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)

	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, NT, XP or 2K.			
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

MULTI I/O ADDRESSES

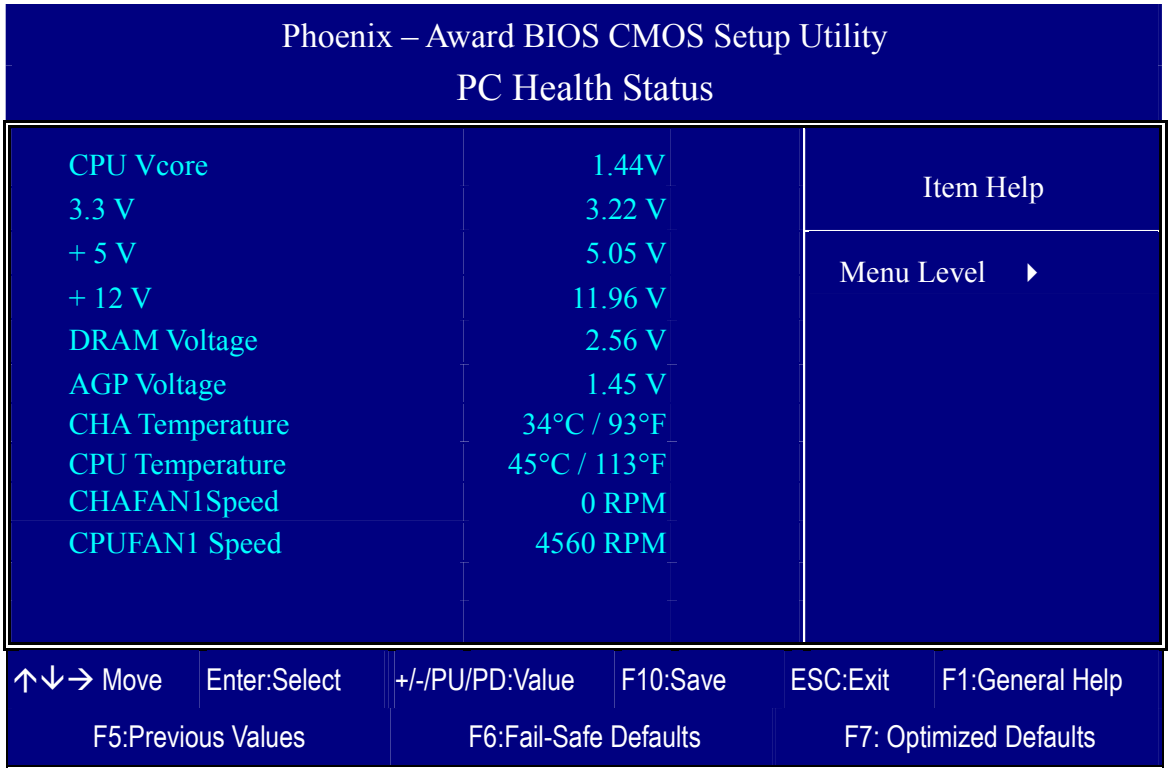
Default settings for multi-I/O addresses are as follows:

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)

3-7 PC HEALTH STATUS

This option shows the Motherboard's PC Health Status.



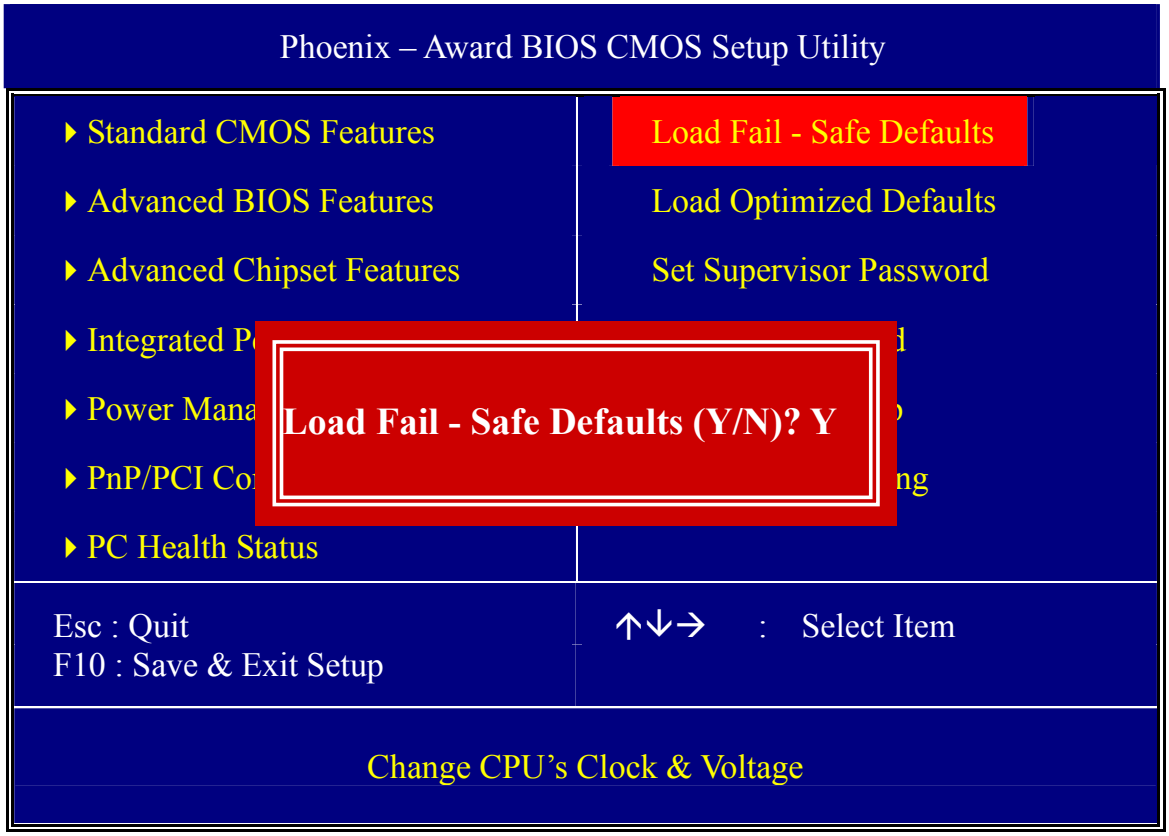
After you have completed the changes, press [Esc] key and follow the instructions on your screen to save your settings or exit without saving.

CPU Device Monitoring

	Setting	Description
CPU Vcore, +3.3V, +5V, +12V, DRAM Voltage, AGP Voltage	V	Show the current voltage status.
CHA Temperature	°C/°F	Show the current status of the system temperature.
CPU Temperature	°C/°F	Show the current status of CPU temperature.
CHAFAN1 Speed	RPM	Show you the current CHAFAN operating speed.
CPUFAN1 Speed	RPM	Show you the current CPUFAN operating speed.

3-8 LOAD FAIL-SAFE DEFAULTS

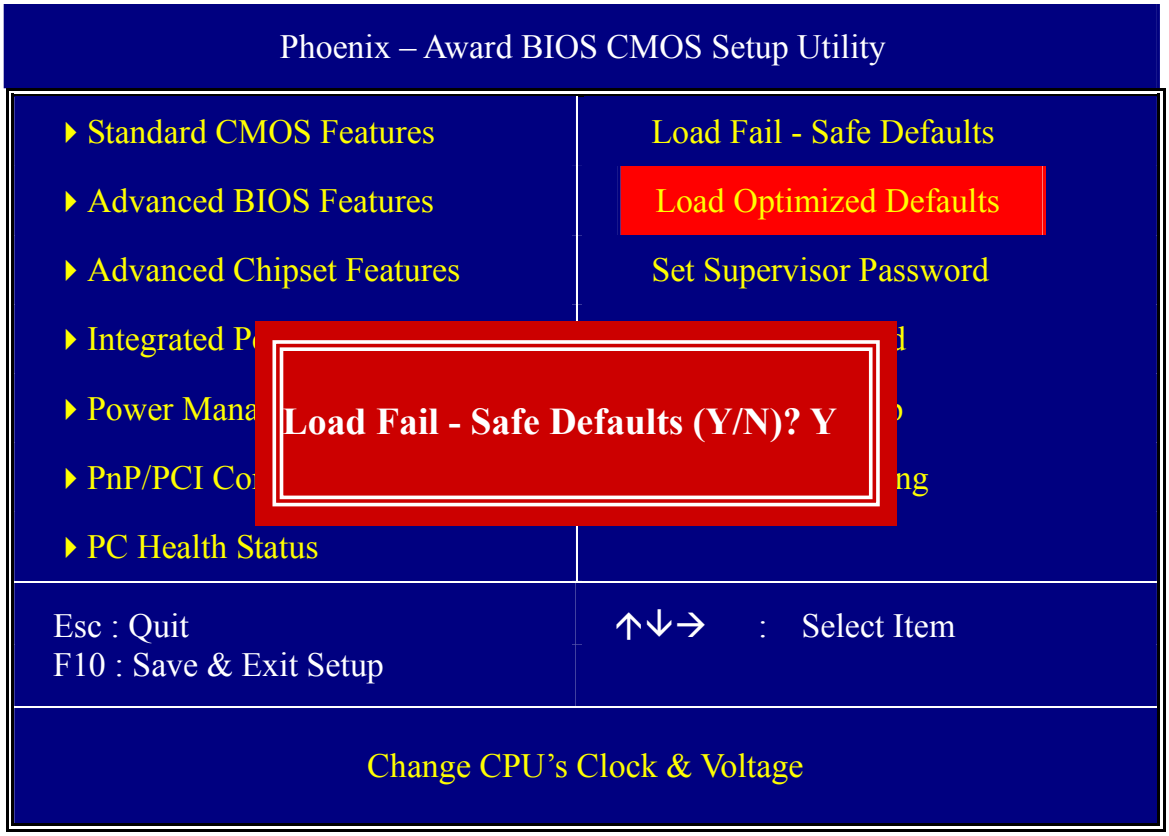
Select the [Load Fail-Safe Defaults] option from the Main Menu to load a pre-defined safe BIOS settings. This option is recommended if you have instability issues.



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

3-9 LOAD OPTIMIZED DEFAULTS

Select the [Load Optimized Defaults] option from the Main Menu to load the 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 optimized Defaults for stable performance.

3-10 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:

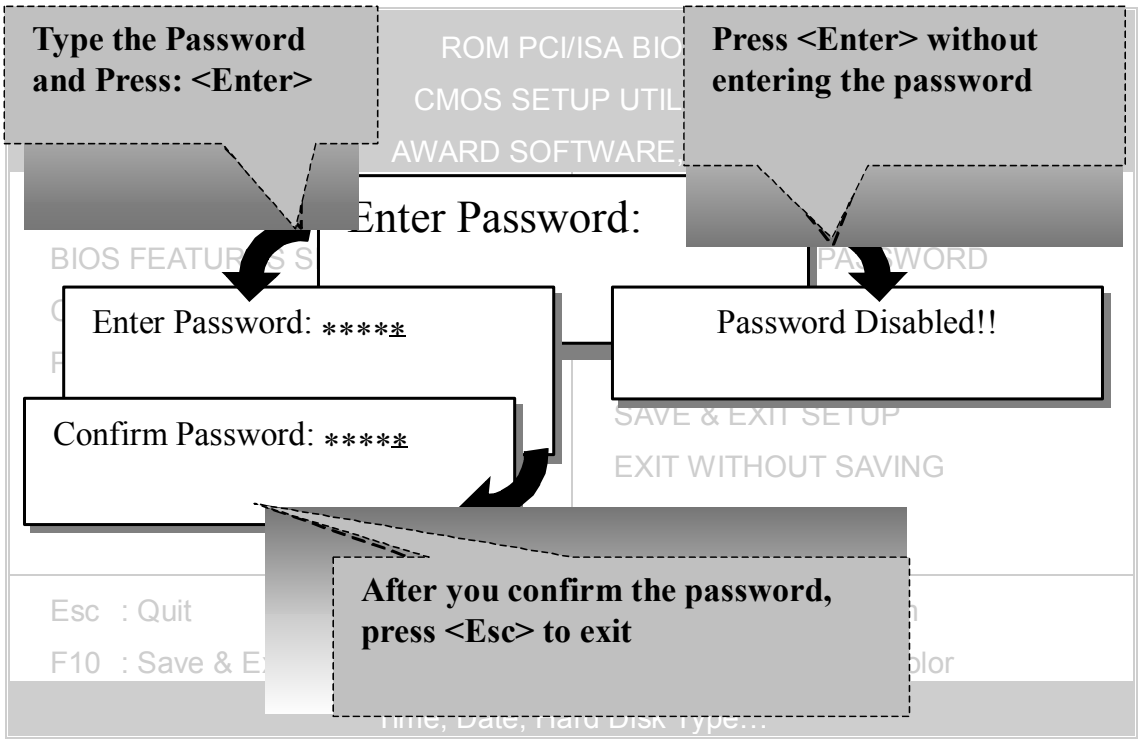
Password Disabled!!

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:



3-11 SET USER PASSWORD

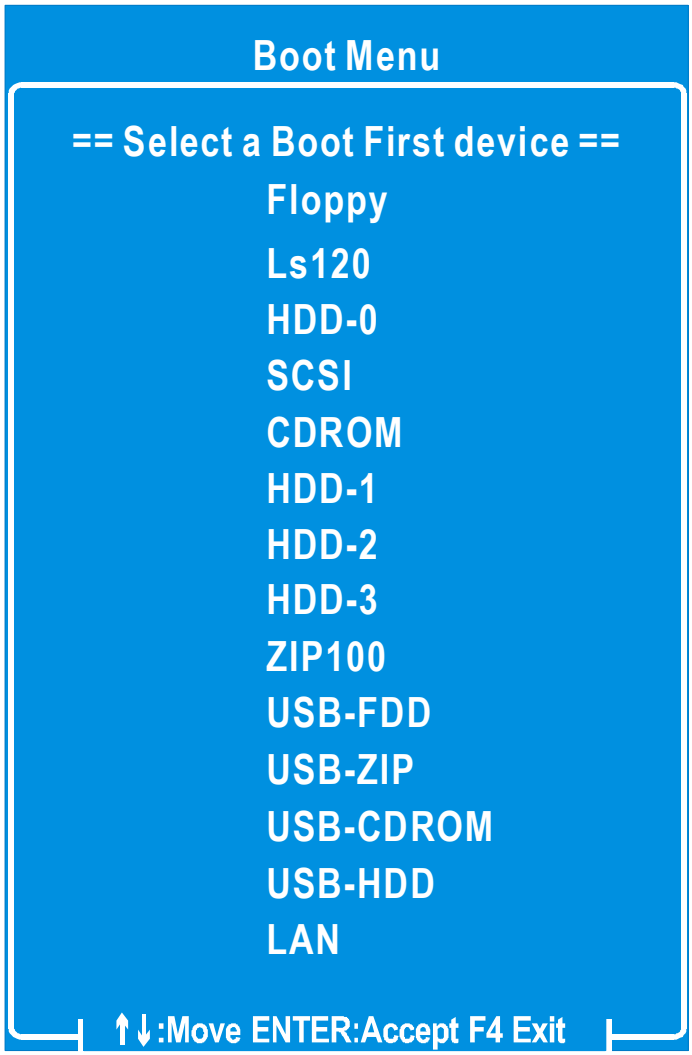
When the user password option is on, you are not allowed to change any setting in the [CMOS SETUP UTILITY] except for changing the user's password. Only the supervisor's password will allow you to make changes in CMOS setup.

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 and option ROM initialization. The user will see a device menu, in which he or she can choose from which device they wish to boot.*



Chapter 4

DRIVERS INSTALLATION

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

Your SY-P4VGA 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

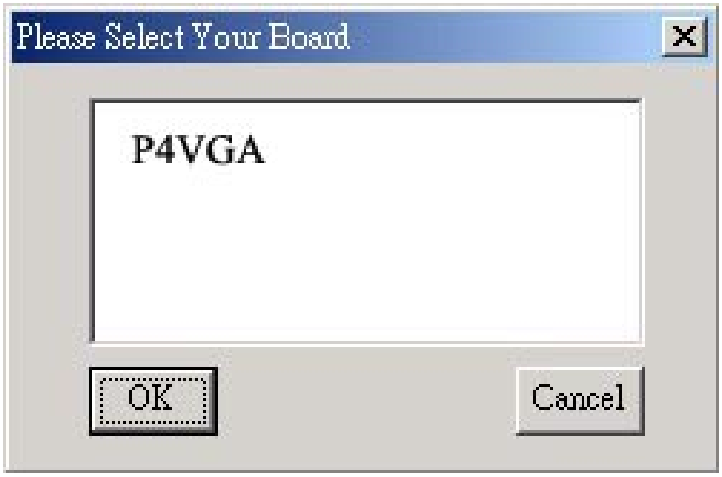
b. The drivers software available for installation

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

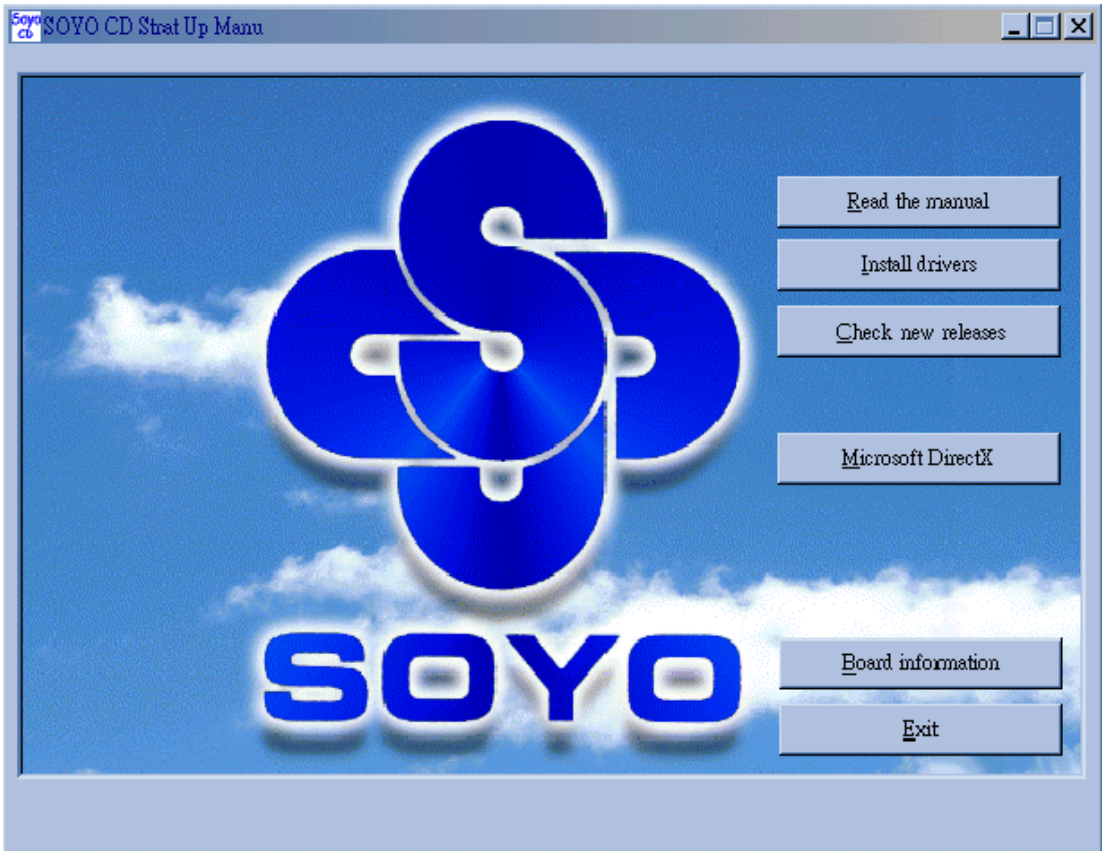
If you are running Windows NT, 2K or XP, the SOYO-CD will not detect your motherboard type. In that case the following dialog will pop up. Please choose your motherboard model number and press OK.

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



(SOYO CD Start Up Program Menu)

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

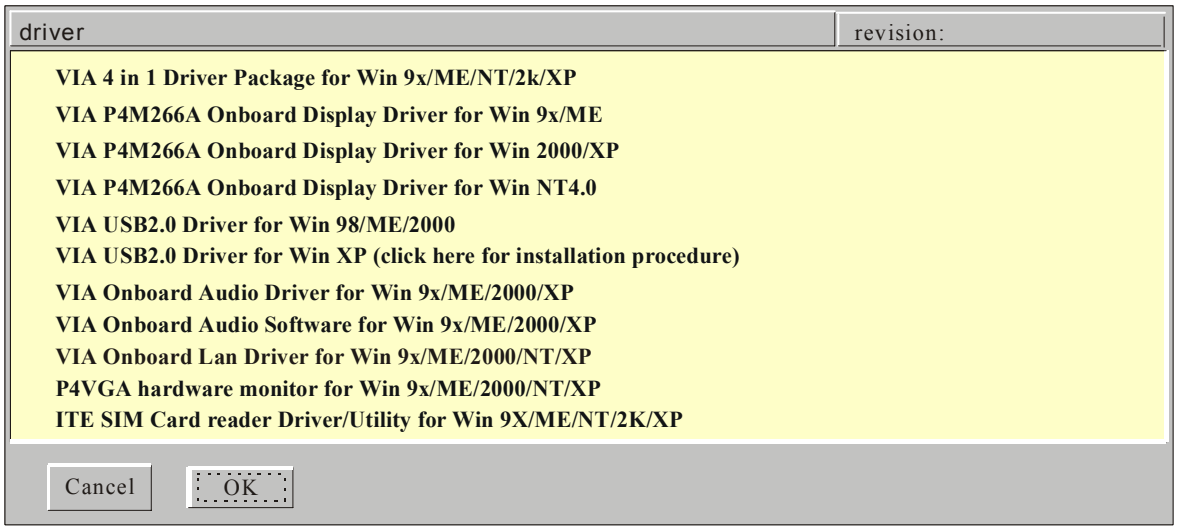


The user's manual files included on the SOYO CD are in PDF (Postscript Document) format. In order to read a PDF file, the appropriate Acrobat Reader software must be installed on your system.

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 on your system.

A description of 4 drivers follows:

—Bus Master PCI IDE Driver

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

—AGP VxD Driver

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

—VIA Chipset Functions Registry

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

—IRQ remapping utility (This driver is installed automatically)

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

- **VIA P4M266A Onboard Display Driver for Win 9x/ME/ 2000/XP/NT**

This program will install the onboard display (ProSavage DDR) driver on your computer.

- **VIA USB2.0 Driver for Win 98/ME/2000**

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

- **VIA Onboard Audio Driver for Win 9x/ME/2000/XP**

This program will install the onboard audio (VIA Audio) driver on your computer.

- **VIA Onboard Audio Software for Win 9x/ME/2000/XP**

This program will install VIA Sound Player on your computer.

- **VIA Onboard LAN Driver for Win 9x/ME/2000/NT/XP**

This program will install onboard LAN (VIA LAN) driver on your computer.

- **P4VGA Hardware Monitor for Win 9x/ME/2000/NT/XP**

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

- **ITE SIM Card Reader Driver/Utility for Win 9x/ME/NT/ 2000/XP**

Install this driver if you have a card reader and a PC/SC compliant software. Com 2 in the BIOS setup should be set to "SCR".

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

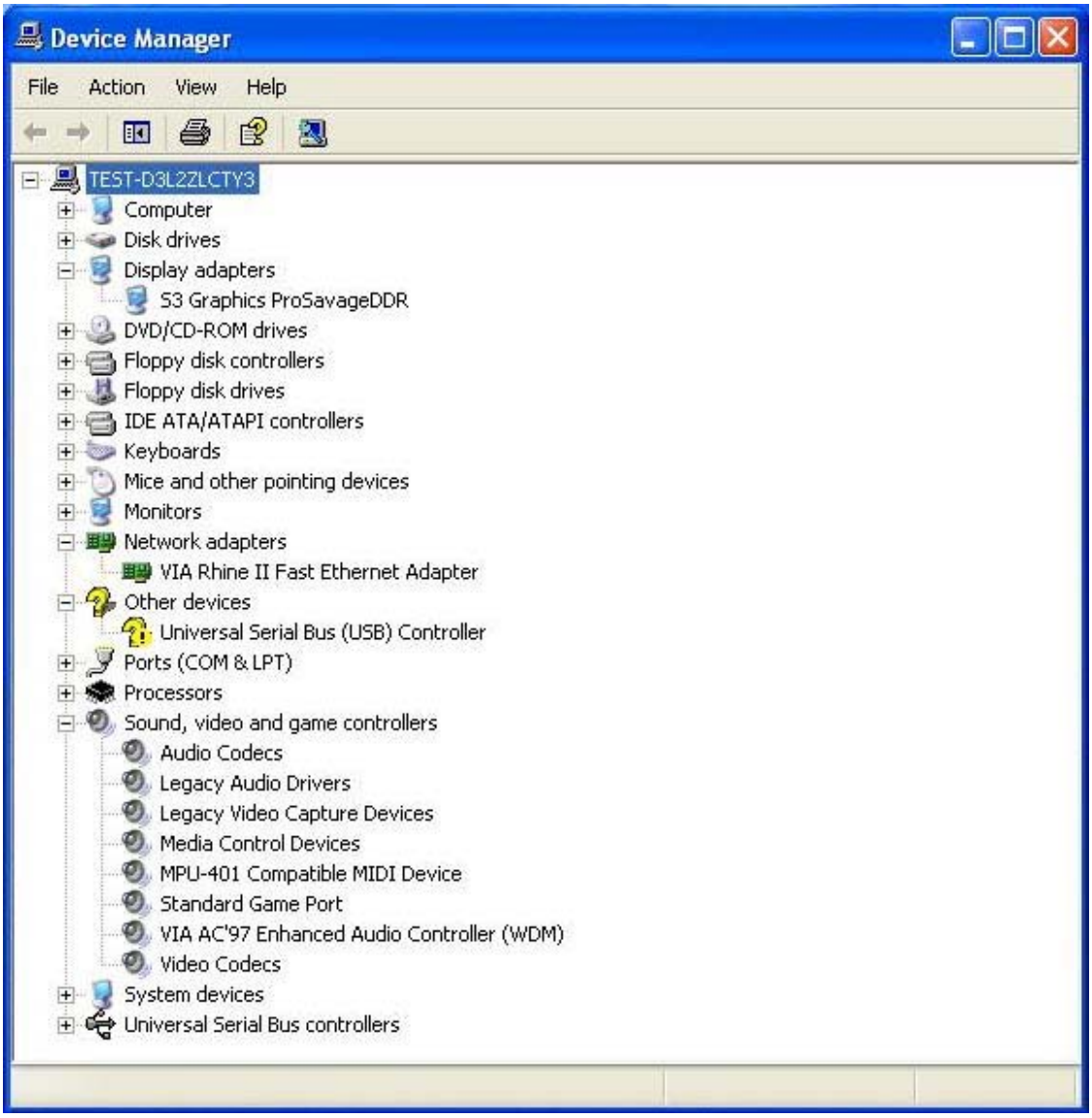
Note: Once you have selected a driver, the system will automatically exit the SOYO CD to begin the driver installation program. When the installation is complete, most drivers require a restart of your system before they become active.

Step 3. Check the Latest Releases

Click the 'Connect to SOYO website' button to go the SOYO Website to 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 internet connection up before clicking this button.

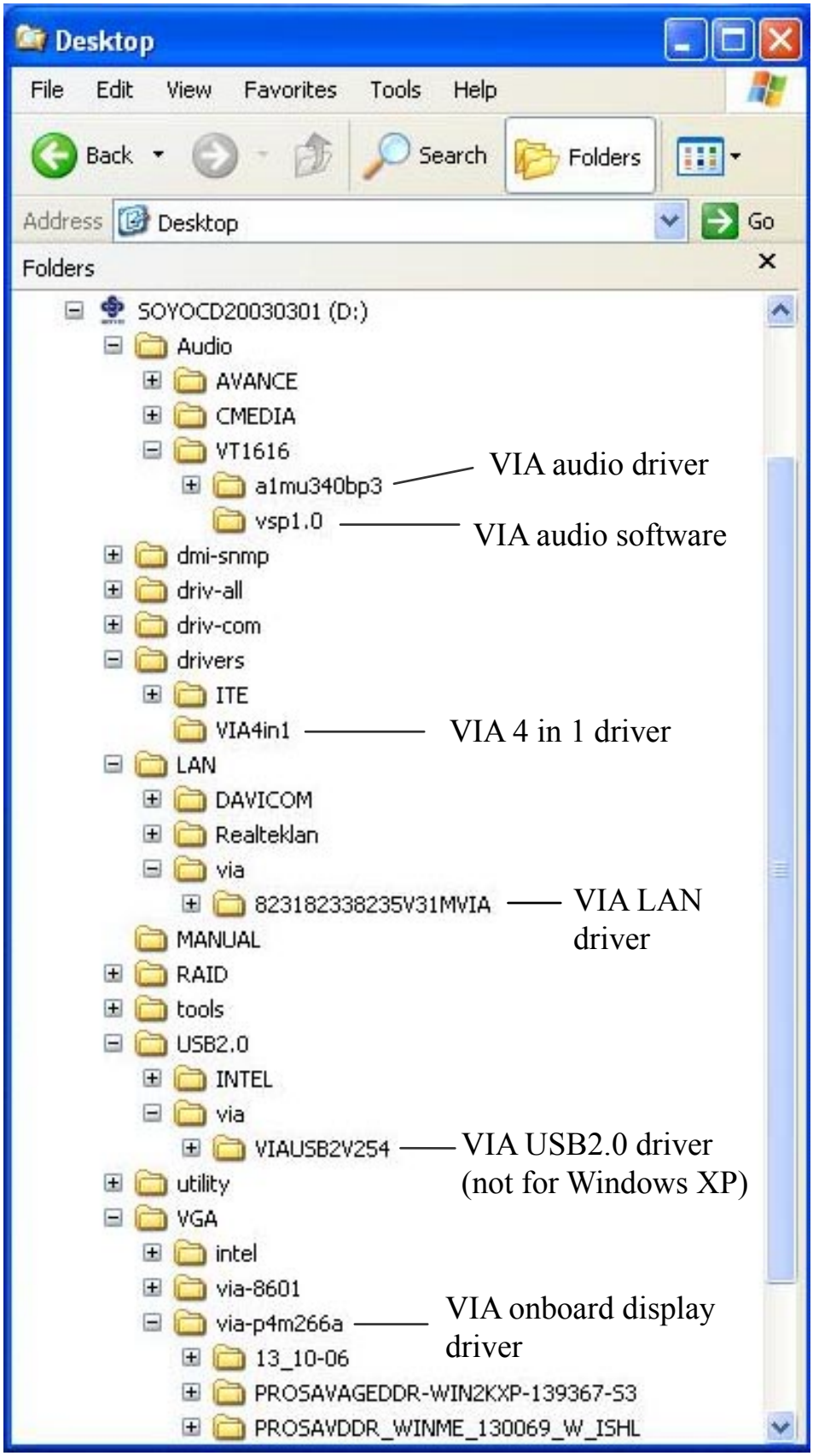
After Windows XP installation, your device manager should look like this:

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



Note: To install the USB 2.0 driver, please update to Windows XP service pack 1.

Directory list of the driver CD



Chapter 5

VIA USB2.0 Driver Installation

Installing the VIA LAN Drivers under Windows XP

USB 2.0 Drivers are available for download using Windows Update for both Windows XP. Alternatively, installing service pack 1 will also install the USB 2.0 drivers.

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

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.

APPENDIX A

Troubleshooting at First Start

Boot-up Issues

The system does 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 350 watt for a minimally loaded system or 400 watt for a fully loaded system.
5. Remove the M/B from the case and test the system. The M/B might be shorted to the case.
6. Make sure your power supply is ATX 12V compliant.

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

1. Clear CMOS RAM. (JP5 connector, see the Quick start guide for more info on how to clear the CMOS).
2. Check all the jumper settings on the M/B.
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 350 watt for a minimally loaded system or 400 watt for a fully loaded system.
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 the Quick start guide for more info on how to clear the CMOS).
2. Check if the memory module and the VGA card are inserted properly in the M/B.
3. 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).

The system turns on for some seconds then shuts down 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 the Quick start guide for more info on how to clear the CMOS).
4. Make sure the power supply you have on your system supports 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 350 watt for a minimally loaded system or 400 watt for a fully loaded system.

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 the video cards see if it boots further. Then put peripherals in one by one to identify which one causes the lockup.
3. Change the CPU.

4. Make sure the boot device (Harddisk, CDROM, Floppy, etc…) you are trying to boot from contains a valid, bootable medium or is bootable.

During Boot-up, my computer says CMOS memory Checksum error. What is the problem?

1. Clear CMOS memory.
2. Redo your CMOS setup settings. If your battery is empty, the error will occur more frequently. You will need to replace the battery in this case. If the problem persists, re-flash the BIOS. If all fails your BIOS chip is failing and needs to be replaced.
3. Change the CMOS battery.
4. Re-flash BIOS.
5. The BIOS chip might be failing.

Stability Issues

My system intermittently locks up, very unstable.

1. Check the CPU Temp, it might be overheating. Change the CPU FAN.
2. Do not overclock your CPU.
3. Check the specification of the memory module, maybe the M/B does 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. If so, try setting it to normal.
5. Check website for latest BIOS update.
6. Check website for FAQ's regarding instability issues.
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 the VIA 4 in 1 driver.

My system intermittently locks up, during Windows installation.

1. Go to BIOS and load “load optimized defaults”.
2. Check website for any BIOS update.
3. If it 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 causes the lockup.

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 for my motherboard?

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

How can I flash the BIOS?

You can:

1. Download the BIOS from 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.

Or:

1. Download the BIOS from our support website.
2. Copy the BIOS to an empty floppy disk. (No other files on the disk!)

3. Press <ALT> <F2> after memory initialization.
4. The system will now automatically flash and reboot.

Note: That flashing from the BIOS is only possible if you use a normal floppy drive. It can't flash from any other device.

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

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

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

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

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 set.
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 (For External AGP card).

Check your VGA card's manufacturer for a driver and VGA BIOS update, make sure the VGA card supports the Suspend to Ram function.

Audio Issue

How can I disable the on-board Audio?

Go to "Integrated Peripherals\VIA Onchip PCI Device" in the BIOS setup, then set the "AC97 Audio" to disabled.

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 your speakers are powered on.

3. Install the audio driver supplied on our driver disc.
4. Check BIOS setup if "AC97 Audio" is enabled.
5. If sound already installed, check our website for an audio driver update.

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 4-wire audio cable from the CD-ROM to the on-board CDIN connector or AUX connector on the M/B is not connected. See manual for location of CDIN.

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 are enabled in the audio rack.
2. Check if the Microphone is ok.

Added PCI Audio Card does not work on this motherboard.

1. Go to "Integrated Peripherals\VIA Onchip PCI Device" and Disable "AC97 Audio".
2. Go to integrated peripherals and Disable "Game port address" and "Midi port address".

Hard disk/FDD/ CD-ROM issues

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 get "floppy boot failure" and the LED on the floppy stays on

1. 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).
2. Some floppy drivers have their own jumper to make the same twist as the twist on the cable. Make sure this jumper is set not to "twist" the cable while the floppy drive is connected to the twisted end of the cable.

LAN Issues

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

Enable the onboard LAN in the BIOS setup.

I have problems installing Novell NetWare v.50

Disable the APIC option in the BIOS.

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/
http://www.soyousa.com/kb
Email: support@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