

4PX400

User's Manual Version 1.0

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Chapter 1

1.1 Introduction

The 4PX400 motherboard is designed for using Intel P4 Front Side Bus Frequency 400/533MHz CPU, which utilizes the Socket-478 design and the memory size expandable to 3.0GB.

This motherboard uses the latest VIA P4X400 chipset, applying 533MHz (Double Data Rate) Front Side Bus frequency and 333MHz memory interface delivers a clear upgrade path to the future generation of P4 processors, PC-1600/PC-2100/PC2700/PC3200(only 2 Dimms supported) DDR SDRAM. The 4PX400 motherboard offers Ultra ATA 100/133 to provide speedier HDD performance.

It is ideal for multi-tasking and fully supporting MS-DOS, Windows, Windows NT, Windows ME, Windows 2000, Novell, OS/2, Windows95/98, Windows 98SE, Windows XP, UNIX, Liunx, SCO UNIX etc. This manual also explains how to install the mainboard for operation, and how to setup your CMOS configuration with the BIOS setup program.

1.2 Package Contents

- ◆HDD UDMA66/100 Cable.
- ◆FDD Cable.
- ◆Flash Memory written for BIOS.
- ◆USB1/2 Cable (Optional).
- ◆Fully setup Driver CD.
- ◆This Manual.

1.3 Features

CPU Processor

- ◆Support 400MHz and 533MHz System Interface speed or higher.
- ◆Single Socket 478 for Intel P4/Celeron™ up to 2.8GHz or higher*1.
- ◆Support Intel Netburst™ Micro-architecture.

Chipset

- ◆VIA P4X400 North Bridge.
- ◆VIA VT8235 South Bridge.

PCI/AGP Speed

- ◆Supports 33MHz PCI Bus speed.
- ◆Supports AGP 66 MHz/1.5V for 8/4/2X device.

DDR SDRAM Memory

- ◆Supports 64/128/256/512....MB DDR module socket.
- ◆Supports Synchronous DRAM(2.5V)
- ◆Supports a maximum memory size of 3GB with DDR SDRAM.

Bus Slots

- ◆Provide one AGP slot. (Only support 1.5V connector)
- ◆Six 32-bit PCI bus.

Universal Serial Bus

- ◆Supports two back Universal Serial Bus(USB)Ports and four front Universal serial Bus(USB)Ports.
- ◆For USB Controller USB V1.1& V2.0

*1-Upgrade BIOS from the website on this manual cover to support higher frequency processor.

1.3 Features

Flash Memory

- ◆Support 2MB flash memory.
- ◆Support ESCD Function.

Onboard LAN (Optional)

- ◆Fast Ethernet Controller 10/100 Mbps.

BIOS

- ◆The mainboard BIOS provides Plug & Play BIOS which detects the peripheral devices and expansion cards of the board automatically.
- ◆BIOS support CD-ROM, SCSI, LAN BOOT, Temperature sensor, LAN, Modem, Alarm Bus CLK setup with BIOS.
- ◆The mainboard provides a Desktop Management Interface(DMI) function which records your mainboard specifications.

IDE Built-in On Board

- ◆Supports four IDE devices.
- ◆Supports PIO Mode 5, Master Mode, high performance hard disk drives.
- ◆Support Ultra DMA 33/66/100/133 Bus Master Mode.
- ◆Supports IDE interface with CD-ROM.
- ◆Supports high capacity hard disk drives.

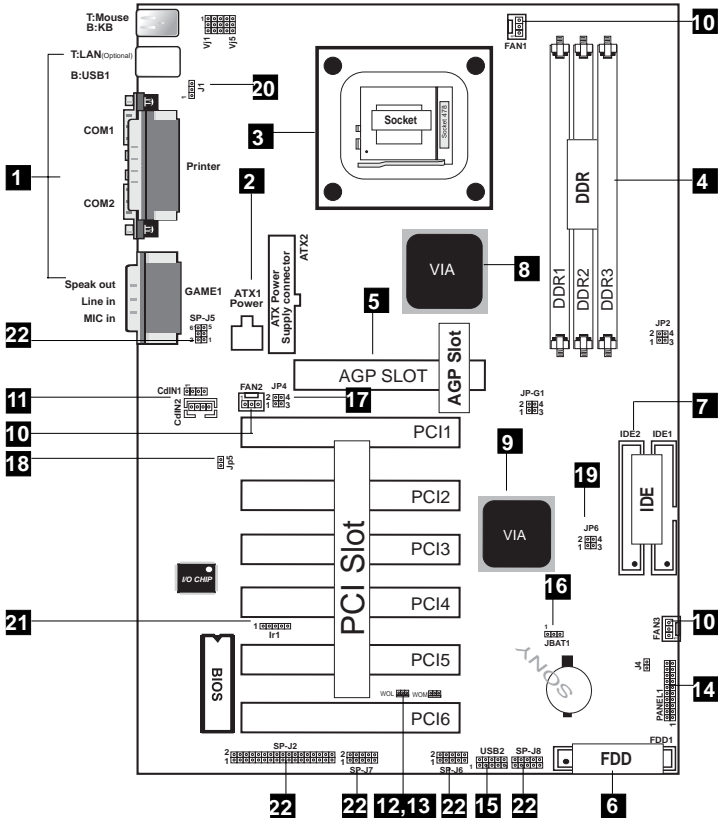
WOL & WOM (Wake On LAN & Modem)

- ◆Supports system power on from LAN & Modem ring up.

PCI-Based AC 97 Digital Audio Processor

- ◆AC 97 2.2 compatible stereo audio CODEC.
- ◆18-bit stereo full-duplex CODEC with independent and variable sampling rate.
- ◆Sound Blaster and Sound Blaster Pro emulation.

1.4 4PX400 Layout



1. Back Panel I/O Connectors (Mouse, Keyboard, USB1, COM1, COM2, Printer, MIC in, Line in, Speaker out, Game stick, LAN (Optional))
2. ATX Power Connectors (ATX1/ATX2)
3. CPU Processor (Socket 478)
4. DDR SDRAM Sockets (DDR1/DDR2/DDR3)

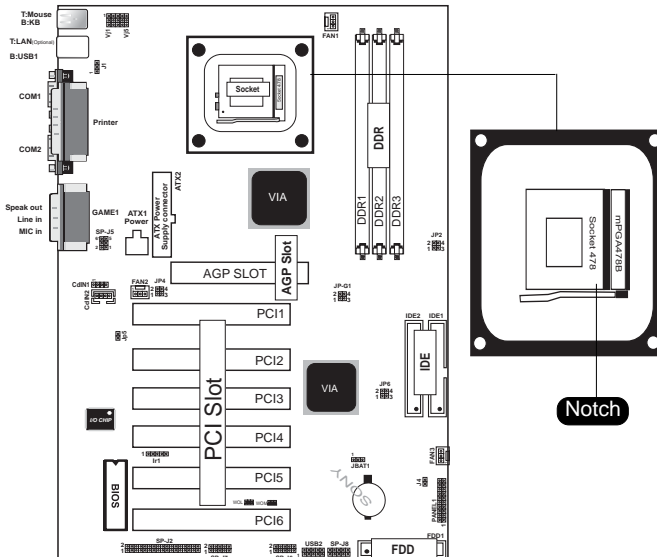
5. AGP Slot
6. Floppy Connector
7. IDE Connectors (IDE1/IDE2)
8. North Bridge (VIA P4X400)
9. South Bridge (VIA VT8235)
10. Fan Connectors (FAN1/FAN2/FAN3)
11. CD Audio-In Connectors (CDIN1/CDIN2)
12. Wake-On-LAN Connector (WOL)
13. Wake-On-Modem Connector (WOM)
14. Front Panel Connector (PANEL1)
15. Front USB Port Connectors (USB2/USB3[SP-J8])
16. CMOS Function Selection (JBAT1)
17. CPU Clock Frequency Setting (JP4)
18. AC'97 CODEC Selection (JP5)
19. Host Clock Frequency (JP6)
20. USB Power Select (J1)
21. IR Connector
22. Smart Panel Function (SP-J2/SP-J5/SP-J6/SP-J7/SP-J8
(optional))

1.5 CPU Installation

The motherboard operates with Socket 478 for Intel P4™ processor. The CPU should always has a Heat Sink and cooling fan attached to prevent overheating.

CPU Installation Procedures: Socket 478

1. Pull the lever sideways away from the socket then raise the lever to a 90-degree angle.
 2. Locate Pin 1 in the socket and look for the white dot or cut edge in the CPU. Match Pin 1 with the white dot or cut edge then insert the CPU.
 3. Press the lever down to complete the installation.
4. Be sure that Pin 1 of Socket 478 is matching with Pin 1 of CPU.
 5. Be sure that all CPU pins are completely in socket before pressing down the socket lever.



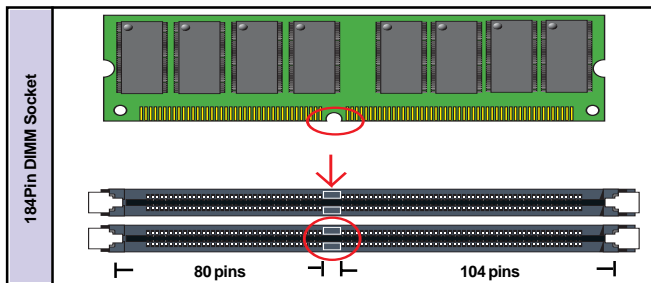
1.6 DDR SDRAM Installation

The motherboard supports a maximized 3GB memory. It provides three 184-pin unbuffered DDR sockets. It supports 64MB to 1GB DDR memory module.

DDR DRAM Installation Procedures:

- ❶ The DDR socket has a “Plastic Safety Tab” and the DDR memory module has an asymmetrical notch”, therefore the DDR memory module can only fit into the slot in one direction.
- ❷ Push the tabs out. Insert the DDR memory modules into the socket at a 90-degree angle then push down vertically to fit onto place.
- ❸ The Mounting Holes and plastic tabs should fit over the edge and hold the DDR memory modules in place.

Bank	Memory module
DDR 1/2/3	64MB, 128MB, 256MB, 512MB, 1GB
	184 pin, 2.5V DDR SDRAM
	Total System Memory (Max 3GB)



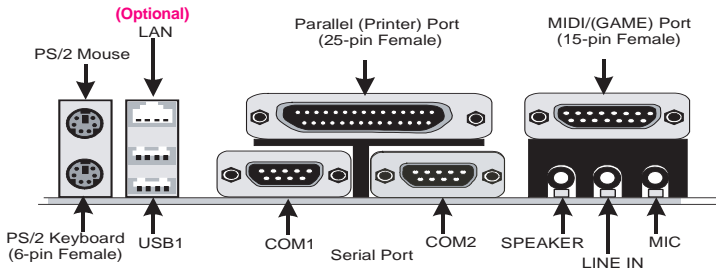
Note:

Be sure to turn off system power whenever to insert or remove a Memory Module. Without it, you will possibly damage the module even the system.

1.7 Connectors & Jumpers Setting

1.7.1 Back Panel I/O Connectors

This motherboard provides the following back panel connectors:



1.7.1.1 PS/2 Mouse / Keyboard CONN.

The motherboard provides a standard PS/2 mouse / Keyboard mini DIN connector for attaching a PS/2 mouse. You can plug a PS/2 mouse / Keyboard directly into this connector.

1.7.1.2 USB Port (Onboard) ; LAN Connectors (Optional)

☞ The motherboard provides a OHCI(Universal Host Controller Interface) & HCI (Enhance Host Controller Interface)Universal Serial Bus Roots for attaching USB devices such as a keyboard, mouse and other USB devices. Please notice that these 2 on board USB ports could meet the USB2.0 transfer rate for 480MB/ sec.

☞ The RJ-45 connector(Optional) is located on top of the USB connectors.The connector allows the motherboard to connect to a Local Area Network (LAN) through a net-work hub.Please notice that on board LAN is an optional function.



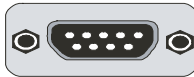
1 2 3 4
USB1

RJ-45 (optional)	10/100M LAN Port (optional)
Pin	Signal
1	+5V_SB
2	USBP0-(USBP1-)
3	USBP0+(USBP1+)
4	GND

1.7.1.3 Serial Interface Ports: COM1/COM2

The serial interface port is sometimes referred to as an RS-232 port or an asynchronous communication port. Mice, printers, modems and other peripheral devices can be connected to a serial port. The serial port can also be used to connect your computer system. If you like to transfer the contents of your hard disk to another system, it can be accomplished by serial port.

COM1/COM2



1.7.1.4 Parallel Interface Port

Sometimes called a Centronics port, the parallel port is almost exclusively used with printers. The parallel port on your system has a 25-pin, DB 25connector.

1.7.1.5 Joystick / Midi Connector

You can connect a joystick or game pad to this connector.

1.7.1.6 Audio Port Connectors

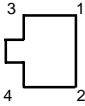
Speaker out is a connector for Speakers or Headphones. Line in is used for external CD player, Tape player, or other audio devices.

Mic is a connector for the microphones.

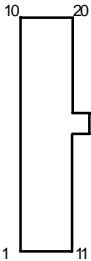
1.7.2 ATX Power Connectors: ATX1/ATX2

This connector supports the power button on-board. Using the ATX power supply, functions such as Modem Ring Wake-Up and Soft Power Off are supported on this motherboard.

This power connector supports instant power-on functionality, which means that the system will boot up instantly when the power connector is inserted on the board.



PinATX1 Signal		PinATX1 Signal	
1	GND	2	GND
3	+12V	4	+12V



Pin ATX2 Signal		Pin ATX2 Signal	
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	5V	14	PS-ON
5	GND	15	GND
6	5V	16	GND
7	GND	17	GND
8	PW-OK	18	-5V
9	5V_SB	19	5V
10	12V	20	5V

Important:

Before you switch on your power supply, please make sure:

- ❶ Memory Module installing is OK.
- ❷ Power supply setting is OK.
- ❸ AGP card for 2X, 4X or 8X device is OK.

1.7.3 Floppy Disk Connector: FDD1

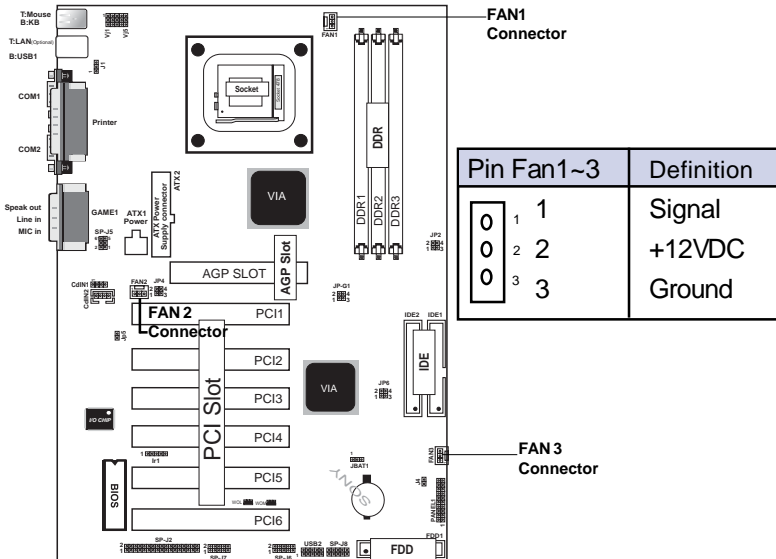
This connector supports the provided floppy drive ribbon cable. After connecting the single end to the board, connect the two plugs on the other end to the floppy drives.

1.7.4 Hard Disk Connectors: IDE1/IDE2

These connectors support the provided IDE hard disk ribbon cable. After connecting the single end to the board, connect the two plugs at the other end to your hard disk.

If you install two hard disks, you must configure the second drive to Slave mode by setting its jumper settings. BIOS now supports SCSI device or IDE CD-ROM boot up (see "HDD Sequence SCSI/IDE First" & "Boot Sequence" in the BIOS Features Setup of the BIOS SOFTWARE) (Pin 20 is removed to prevent inserting in the wrong orientation when using ribbon cables with pin 20 plugged).

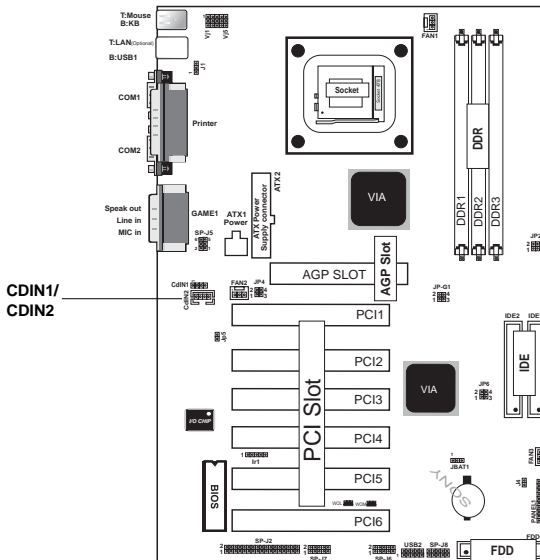
1.7.5 Fan Connectors: FAN1~3



These connectors support cooling fans of 1Amp or less. Orientate the fans so that the heatsink fins allow airflow to go across the onboard heat sink(s) instead of the expansion slots. Depending on the fan manufacturer, the wiring and plug may be different. The red wire should be positive, while the black should be ground. Connect the fan's plug to the board taking into consideration the polarity of this connector.

1.7.6 CD Audio-In Connectors: CDIN1/CDIN2

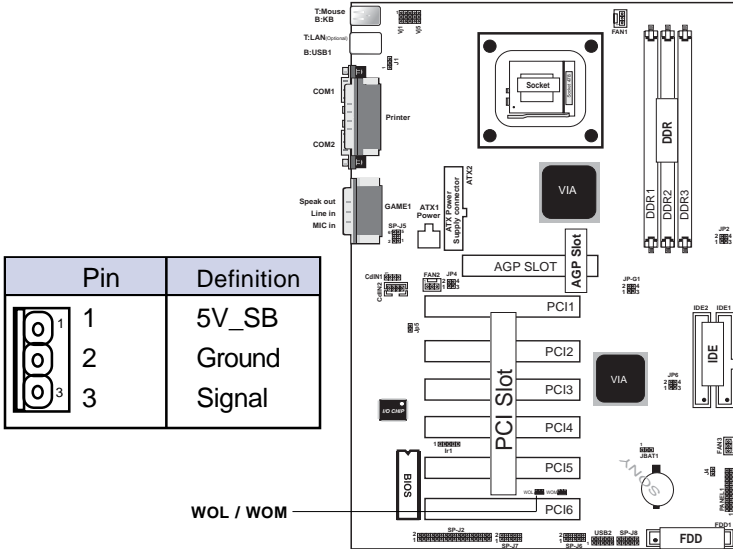
CDIN1/2 are the connectors for CD-Audio Input signal. Please connect it to CD-ROM CD-Audio output connector.



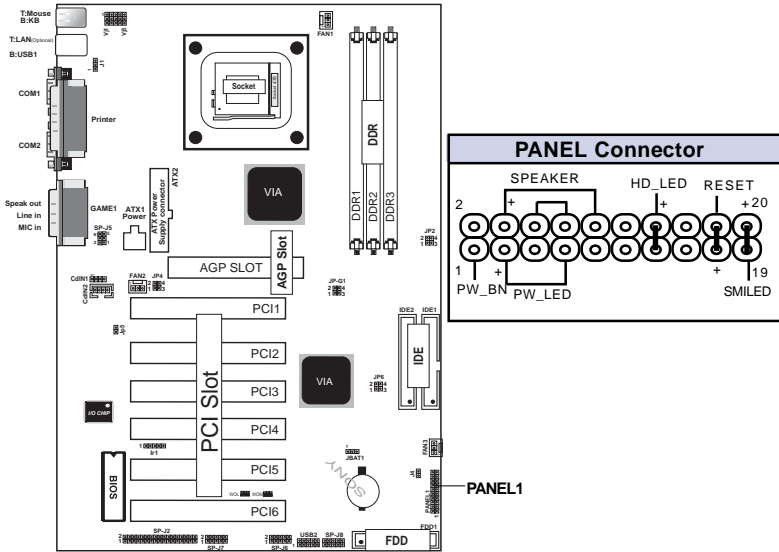
Pin CDIN1	Definition
1	CD-L
2	GND
3	GND
4	CD-R

Pin CDIN2	Definition
1	GND
2	CD-L
3	GND
4	CD-R

1.7.7 Wake-On-LAN / Modem Conn.: WOL/WOM



1.7.8 Front Panel Connector: PANEL1



ATX Power Switch (PW_BN)

The system power is controlled by a momentary switch connected to this lead. Pushing the button once will switch the system ON.

Power LED Lead (PW_LED)

The system power LED lights when the system power is on.

Speaker Connector (SPEAKER)

The speaker (onboard or offboard) provides error beep code information during the Power Self-Test when the computer cannot use the video interface. The speaker is not connected to the audio subsystem and does not receive output from the audio subsystem.

Hard Drive LED Connector (HD_LED)

This connector supplies power to the cabinet IDE activity LED. Read and write activity by devices connected to the Primary or Secondary IDE connectors will cause the LED to light up.

Reset Switch Lead (RESET)

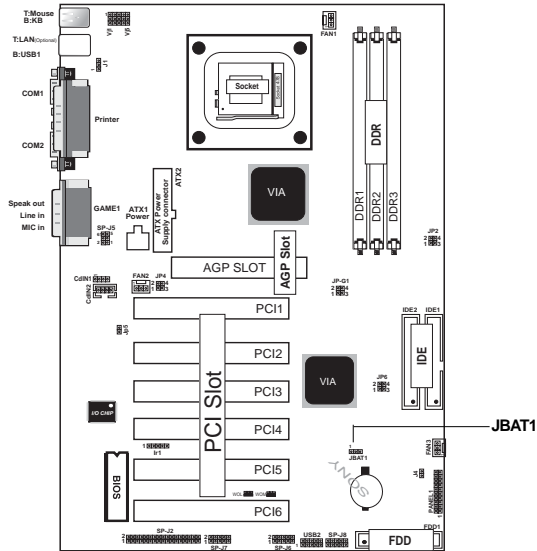
The connector can be connected to a momentary SPST type switch that is normally open. When the switch is closed, the motherboard resets and runs the POST.

SMI_LED Lead (SMILED)

The system S3_LED lights when the system suspend is on the S3 mode.

1.7.9 CMOS Function Selection: JBAT1

A battery is used to retain the mainboard configuration in CMOS RAM.



Pin JBAT1	Definition
1-2	Normal (Default)
2-3	Clear CMOS

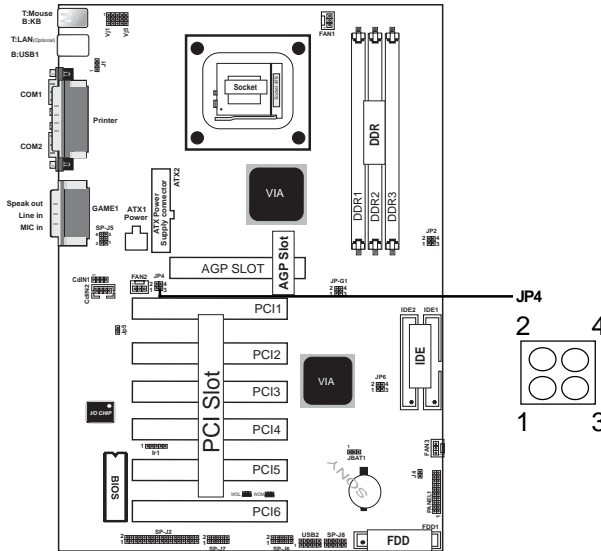
NOTE:



Please follow the procedure below to clear CMOS data.

- ❶ Remove the AC power line.
- ❷ JBAT1(2-3) Closed.
- ❸ Wait five seconds.
- ❹ JBAT1(1-2) Closed.
- ❺ AC Power on.
- ❻ Reset your desired password or clear CMOS data.

1.7.10 CPU Clock Frequency Setting: JP4

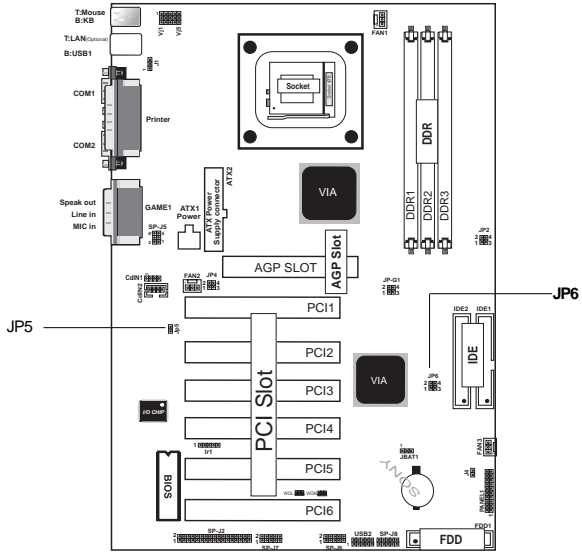
Overclocking is operating a CPU/Processor beyond its specified frequency. JP4 jumper is used for the CPU Front Side Bus Frequencies from 100MHz to 133MHz.







Pin	1-2	3-4	CPU(MHz)	PCI(MHz)
ON 	OFF	ON	100	33.3
OFF 	OFF	OFF	133	33.3



NOTE:
Intel CPU doesn't support overclock and over-Vcore, we don't recommend users use these functions for possible CPU damaged.

1.7.11 Host Clock Frequency: JP6



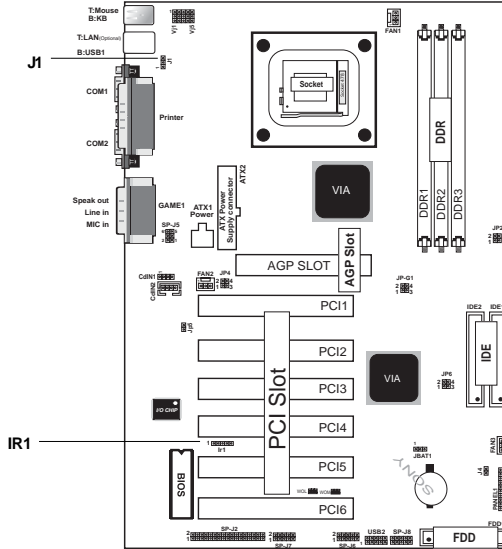
1-2	3-4	Host(MHz)	Default
ON 	ON 	100	*
OFF 	ON 	133	



1.7.12 AC'97 CODEC Selection: JP5

Pin JP5	Definition
On 	(Short) on board sound Disabled
Off 	(Open) on board code is using

1.7.13 USB Power Select: J1

The J1 Jumper are for setting USB power. This function is provided by USB Wake-up function.



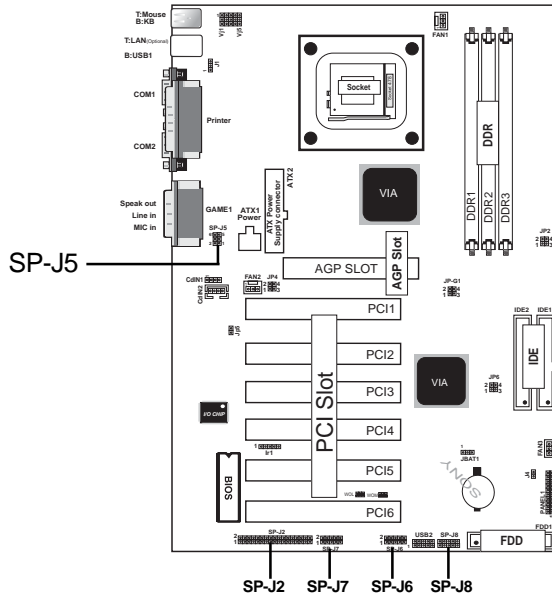
Pin J1	Definition
1-2 	+5V
2-3 	+5VSUS (Default)

Pin	Assignment
1	+5V
2	CIRRX
3	IRRX
4	GND
5	IRTX

1.7.14 IR infrared module: IR

This connector supports the optional wireless transmitting and receiving infrared module. You must configure the setting through the BIOS setup to use the IR function.

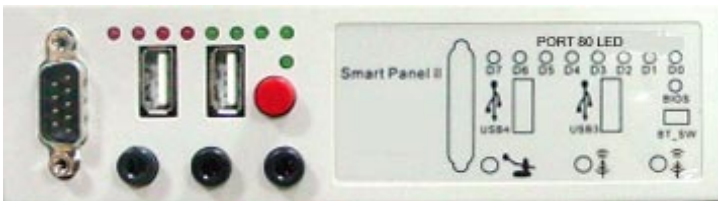
1.7.15 Smart Panel Function: SP-J2/SP-J6/SP-J5/ SP-J7/SP-J8(optional)



Note:

The motherboard provides the pin leads for Smart Panel. If you want POST Error Code or Smart Panel function, please refer to Smart Panel II version 2.0 manual.

The Smart Panel provides the following panel connectors:



1.7.15.1 Second BIOS Connector: SP-J2

For Smart Panel connector(SP-J2) to M/B (SP-J2).

Pin SP-J2	Assignment	Pin SP-J2	Assignment
1	XDD0	2	+5V
3	XDD1	4	XAA0
5	XDD2	6	XAA1
7	XDD3	8	XAA2
9	XDD4	10	XAA3
11	XDD5	12	XAA4
13	XDD6	14	XAA5
15	XDD7	16	XAA6
17	NC	18	DISABLE
19	ROMCS-	20	XAA7
21	MEMR-	22	XAA8
23	MEMW-	24	XAA9
25	SA18J	26	XAA10
27	XAA17	28	XAA11
29	XAA16	30	XAA12
31	XAA15	32	XAA13
33	NC	34	XAA14

1.7.15.2 Port 80 Debug Function: SP-J6

For Smart Panel connector(SP-J6) to M/B (SP-J6).

Pin SP-J6	Assignment	Pin SP-J6	Assignment
1	ERD4	2	ERD0
3	ERD5	4	ERD1
5	ERD6	6	ERD2
7	ERD7	8	ERD3
9	GND	10	NC

1.7.15.3 AUX Line Connector: SP-J5

For Smart Panel connector(SP-J5) to M/B (SP-J5).

Pin SP-J5	Assignment	Pin SP-J5	Assignment
1	LINE_OUT_L	2	LINE_OUT_R
3	LINE_IN_L	4	LINE_IN_R
5	MIC_IN_L	6	MIC_IN_R

1.7.15.4 Front COM2 Port Connector: SP-J7

For Smart Panel connector(SP-J7) to M/B (SP-J7).

Pin SP-J7	Assignment	Pin SP-J7	Assignment
1	DCD	2	RX
3	TX	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI		

1.7.15.5 Front USB2,3 Connector: SP-J8

For Smart Panel connector(SP-J8) to M/B (SP-J8).

Please notice that front USB ports in Smart Panel can only support USB1.1.

Pin SP-J8	Assignment	Pin SP-J8	Assignment
1	VCC	2	GND
3	P2-	4	GND
5	P2+	6	P3+
7	GND	8	P3-
9	GND	10	VCC

Chapter 2

Introduction

This chapter discusses the Award Setup program built into the ROM BIOS. The Setup program allows the user to modify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the setup information when the power is turned off.

The Award BIOS installed in your computer system's ROM (Read Only Memory) is a custom version of an industry standard BIOS. This means that it supports Intel P4 Processor. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

The rest of this manual is intended to guide you through the process of configuring your system using Setup.

Plug and Play Support

This AWARD BIOS supports the Plug and Play Version 1.0A specification. ESCD(Extended System Configuration Data) write is supported.

EPA Green PC Support

This AWARD BIOS supports Version 1.03 of the EPA Green PC specification.

PCI Bus Support

This AWARD BIOS also supports Version 2.1 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

APM Support

This AWARD BIOS supports Version 1.1&1.2 of the Advanced Power Management(APM) specification. Power management features are implemented via the System Management Interrupt(SMI). Sleep and Suspend power management modes are supported. Power to the hard disk drives and video monitors can be managed by this AWARD BIOS.

DRAMSupport

DDR (Double Data Rate).

Support CPU

This AWARD BIOS supports the Intel P4 Processor.

Using Setup

In general, you use the arrow keys to highlight items, press <Enter>to select, use the <PgUp>and <PgDn>keys to change entries, press<F1>for help and press <Esc>to quit. The following table provides more detail about how to navigate in the Setup program by using the keyboard.

Note:

BIOS version 1.0 is for reference only. If there is a change in BIOS version, please use the actual version on the BIOS.

Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left(menu bar)
Right arrow	Move to the item on the right(menu bar)
Esc	Main Menu: Quit without saving changes Submenus: Exit Current page to the next higher level menu
Move Enter	Move to item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+Key	Increase the numeric value or make changes
-Key	Decrease the numeric value or make changes
Esc Key	Main menu-Quit and not save changes into CMOS Status Page Setup Menu and option Page Setup Menu-Exit Current page and return to Main Menu
F1 Key	General help on Setup navigation keys.
F5 Key	Load previous values from CMOS
F6 Key	Load the fail-safe defaults from BIOS default table
F7 Key	Load the optimized defaults
F10 Key	Save all the CMOS changes and exit

2.1 Main Menu

Once you enter AWARD BIOS CMOS Set up Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup function. Use the arrow keys to select among the items and press<Enter> to accept and enter the sub-menu.

“WARNING”

The information about BIOS defaults on manual (Figure 1,2,3,4,5,6,7,8,9,10,11,12,13,14)is just for reference, please refer to the BIOS installed on the board for updated information.

❖ Figure 1. Main Menu

Phoenix-Award WorkstationBIOS CMOS Setup Utility

▶ Standard CMOS Features	▶ Frequency/Voltage Control
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Advanced Chipset Features	Load Optimized Defaults
▶ Integrated Peripherals	Set Supervisor Password
▶ Power Management Setup	Set User Password
▶ PNP/PCI Configurations	Save & Exit Setup
▶ PC Health Status	Exit Without Saving
Esc : Quit	←→↑↓: Select Item
F10 : Save & Exit Setup	
Time , Date , Hard Disk Type ...	

Standard CMOS Features

This setup page includes all the items in standard compatible BIOS.

Advanced BIOS Features

This setup page includes all the items of the BIOS special enhanced features.

Advanced Chipset Features

This setup page includes all the items of the Chipset special enhanced features.

Integrated Peripherals

This selection page includes all the items of the IDE hard drive and Programmed Input/Output features.

Power Management Setup

This setup page includes all the items of the power management features.

PnP/PCI Configurations

This setup page includes the user defined or default IRQ Setting.

PC Health Status

This page shows the hardware Monitor information of the system.

Frequency / Voltage Control

This setup page controls the CPU's clock and frequency ratio.

Load Fail-Safe Defaults

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

Load Optimized Defaults

These settings are more likely to configure a workable computer when something is wrong. If you cannot boot the computer successfully, select the BIOS Setup options and try to diagnose the problem after the computer boots. These settings do not provide optional performance.

Set Supervisor Password

Change, set, or, disable password. It allows you to limit access to the system and Setup, or just to Setup.

Set User Password

You can specify both a User and a Supervisor password. When you select either password option, you are prompted for a 1-6 character password. Enter the password and then retype the password when prompted.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

2.2 Standard CMOS Features

This item in the Standard CMOS Setup Menu is divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

❖ Figure 2. Standard CMOS Features

Phoenix-Award Workstation BIOS CMOS Setup Utility
Standard CMOS Features

Date(mm:dd:yy)	Tue,Jun 6 2000	Item Help
Time (hh:mm:ss)	11:26:10	
▶ IDE Primary Master	None	Menu Level▶
▶ IDE Primary Slave		Change the day, month, year and century.
▶ IDE Secondary Master		
▶ IDE Secondary Master	None	
Drive A	1.44M,3.5 in	
Drive B	None	
Floppy 3 Mode Support	Disabled	
Video	EGA/VGA	
Halt On	All,But Keyboard	
Base Memory	640K	
Extended Memory	65472K	
Total	1024K	

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

Main Menu Selections

This table shows the selections that you can make on the Main Menu.

Item	Options	Description
Date	Month DD YYYY	Set the system,date. Note that the 'Day' automatically changes when you set the data.
IDE Primary Master	Options are in its sub menu.	Press<Enter> to enter the sub menu of detailed.
IDE Primary Slave	Options are in its sub menu.	Press<Enter> to enter the sub menu of detailed.
IDE Secondary Master	Options are in its sub menu.	Press<Enter> to enter the sub menu of detailed.
IDE Secondary Slave	Options are in its sub menu.	Press<Enter> to enter the sub menu of detailed.
Drive A Drive B	None 360K,5.25in 1.2M,5.25in 720K,3.5in 1.44M,3.5in 2.88M,3.5in	Select the type of floppy disk drive installed in your system.
Floppy 3 Mode	Disabled Drive A Drive B	Select this item for using ZIP or other devices.
Video	Both EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.

Item	Options	Description
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/Key	Select the situation in which you want the BIOS to stop the POST process and notify.
Base Memory	N/A	Displays the amount of conventional memory detected during boot up.
Extended Memory	N/A	Displays the amount of conventional memory detected during boot up.
Total Memory	N/A	Displays the total memory available in the system.

Phoenix-Award Workstation BIOS CMOS Setup Utility
IDE Primary Master

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

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

2.3 Advanced BIOS Features

❖ Figure 3. Advanced BIOS Features

Phoenix-Award WorkstationBIOS CMOS Setup Utility

Advanced BIOS Features

Virus Warning	Disabled	Item Help
CPU L1 & L2 Cache	Enabled	
Hyper Threading Technology	Enabled	
Quick Power On Self Test	Enabled	Menu Level ▶▶
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	CDROM	
Boot Other Device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Disabled	
Boot Up NumLock Status	On	
Gate A20 Option	Fast	
Typeomatic Rate Setting	Disabled	
XTypeomatic Rate (Chars/Sec)	6	
XTypeomatic Delay (Msec)	250	
Security Option	Setup	
MPS Version Control For OS	1.4	
OS Select For DRAM >64MB	Non-OS2	
HDD S.M.A.R.T. Capability	Disabled	
Video BIOS Shadow	Enabled	
EPA (H/W Monitor) Show	H/W Monitor	

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

Virus Warning

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

The Choices: Disabled(default), Enabled.

CPU L1 & L2 Cache

This fields allow you to Enable or Disable the CPU'S "Level 1" & "Level 2" cache. Caching allows better performance.

Enabled(default) Enabled cache.

Disabled Disabled cache.

Hyper Threading Technology

The item allows you to enable/disable Hyper Threading when using a CPU with Hyper Threading Technology.

The Choices: Enabled(default), Disabled.

Quick Power On Self Test

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

Enabled(default) Enabled quick POST.

Disabled Normal POST.

First/Second/Third Boot Device

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

The Choices: Floppy,LS120,HDD-0,SCSI,CDROM, HDD-1, HDD-2,HDD-3,ZIP100,USB-HDD,USB-ZIP, USB-CDROM,USB-HDD,LAN,Disabled.

Boot Other Device

The Choices: Enabled(default), Disabled.

Swap Floppy Drive

If the system has two floppy drives, you can swap the logical drive name assignments.

The Choices: Disabled(default), Enabled.

Boot Up Floppy Seek

Seek disk drives during boot up. Disabled speeds boot-up.

The Choices: Disabled(default), Enabled.

Boot Up NumLock Status

Select power on state for Numlock.

On (default) Numpad is number keys.

Off Numpad is arrow keys.

Gate A20 Option

The Choices: Fast(default),Normal.

Typematic Rate Setting

Enabled	Enabled this option to adjust the keystroke repeat rate.
Disabled (default)	Disabled.

Security Option

This category allows you to limit access to the system and Setup, or just to Setup.

System	The system will not boot and access to Setup will be denied if the correct password is not entered in prompt.
Setup (default)	The system will boot, but access to Setup will be denied if the correct password is not entered in prompt.

MPS Version Control For OS

The Choices: 1.4(default), 1.1.

OS Select For DRAM >64MB

Select the operating system that is running with greater than 64MB of RAM on the system.

The Choices: Non-OS2(default), OS2.

HDDS.M.A.R.T. Capability

The Choices: Disabled(default), Enabled.

Video BIOS Shadow

Determines whether video BIOS will be copied to RAM for faster execution.

Enabled (default)	Optional ROM is enabled.
Disabled	Optional ROM is disabled.

EPA(H/W Monitor) Show

The Choices: Disabled(default), Enabled.

2.4 Advanced Chipset Features

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and external cache. It also coordinates communications of the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered that data was lost while using your system.

❖ Figure 4. Advanced Chipset Features

Phoenix-Award WorkstationBIOS CMOS Setup Utility

Advanced Chipset Features

▶ DRAM Clock / Drive Control	Press Enter	Item Help
▶ AGP & P2P Bridge Control	Press Enter	
▶ CPU & PCI Bus Control	Press Enter	Menu Level ▶
Memory Hole	Disabled	
System BIOS Cacheable	Disabled	
Video RAM Cacheable	Disabled	
Delay Prior to Thermal	16 min	
NB Power Management	Enabled	

←→↑↓: 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 Workstation BIOS CMOS Setup Utility

DRAM Clock / Drive Control

Current FSB Frequency	133 MHz	Item Help
Current DRAM Frequency	133 MHz	
DRAM Clock	By SPD	Menu Level ►►
DRAM Timing	By SPD	
X SDRAM CAS Latency	2	
X Bank Interleave	Disabled	
X Precharge to Active (Trp)	3T	
X Active to Precharge (Tras)	7T	
X Active to CMD (Trcd)	3T	
DRAM Command Rate	2T Command	
DRAM Brust Len	4	
Write Recovery Time	3T	

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

DRAM Clock

This item determines DRAM Clock following the CPU host clock.

The Choices: By SPD(default), 100, 133, 166, 200.

DRAM Timing

The DRAM timing is controlled by the DRAM Timing Registers. The Timings programmed into this register are dependent on the system design.

The Choices: By SPD(default), Manual.

DRAM Command Rate

The Choices: 2T Command(default), 1T Command.

DRAM Brust Len

The Choices: 4(default), 8.

Write Recovery Time

The Choices: 3T(default), 2T.

Phoenix-Award Workstation BIOS CMOS Setup Utility

AGP & P2P Bridge Control

AGP Aperture Size	64M	Item Help
AGP Mode	4X	Menu Level ►►
AGP Driving Control	Auto	
X AGP Driving Value	DA	
AGP Fast Write	Disabled	
AGP Master 1WS Write	Disabled	
AGP Master 1WS Read	Disabled	

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

AGP Aperture Size

Select the size of the Accelerated Graphic Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycle that hit the aperture range are forwarded to the AGP without any translation.

The Choices: 64M(default), 256M, 128M, 32M, 16M, 8M, 4M.

AGP Mode

The Choices: 4X(default), 2X, 1X.

AGP Driving Control

By choosing "Auto" the system BIOS will enable the AGP output Buffer Drive strength that were defined by AGP Card. By choosing "Manual", it allows user to set AGP output Buffer Drive strength by manual.

The Choices: Auto(default), Manual.

AGP Fast Write

The Choices: Disabled(default), Enabled.

AGP Master 1WS Write

When Enabled, write data to the AGP (Accelerated Graphic Port) that will be executed with one wait states.

The Choices: Disabled(default), Enabled.

AGP Master 1WS Read

When Enabled, read data to the AGP (Accelerated Graphic Port) that will be executed with one wait states.

The Choices: Disabled(default), Enabled.

Phoenix-Award Workstation BIOS CMOS Setup Utility

CPU & PCI Bus Control

CPU to PCI Write Buffer	Enabled	Item Help
PCI Master 0 WS Write	Enabled	Menu Level ▶▶
PCI Delay Transaction	Disabled	
VLink 8X Support	Disabled	

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

CPU to PCI Write Buffer

When this field is Enabled, write from the CPU to the PCI bus are buffered, to compensate for the speed differences between the CPU and the PCI bus. When Disabled, they are not buffered and the CPU must wait until the write is complete before starting another write cycle.

PCI Master 0 WS Write

When this field is Enabled, write data to the PCI bus are executed with zero wait states.

The Choices: Enabled(default), Disabled.

PCI Delay Transaction

The Choices: Disabled(default), Enabled.

VLink 8X Support

The Choices: Disabled(default), Enabled.

Memory Hole

To improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory's space under 16MB.

The Choices: Disabled(default), 15M-16M.

System BIOS Cacheable

When enabled, the access to the system BIOS ROM address at F0000H-FFFFFFH is cached.

The Choices: Disabled(default), Enabled.

Video RAM Cacheable

Enabled

Enabled Video RAM Cacheable

Disabled(default)

Disabled Video RAM Cacheable

Delay Prior to Thermal

The Choices: 16 min(default), 4M, 8Min, 32Min

NB Power Management

The Choices: Enabled(default), Disabled.

2.5 Integrated Peripherals

❖ Figure 5. Integrated Peripherals

Phoenix-Award WorkstationBIOS CMOS Setup Utility

Integrated Peripherals

▶ VIA Onchip IDE Device	Press Enter	Item Help
▶ VIA Onchip PCI Device	Press Enter	
▶ Super IO Device	Press Enter	Menu Level ▶
Init Display First	PCI Slot	
Onchip USB Connector	Enabled	
USB 2.0 Support	Enabled	
USB keyboard Support	Enabled	
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

Phoenix-Award WorkstationBIOS CMOS Setup Utility

VIA Onchip IDE Device

IDE DMA Transfer Access	Enabled	Item Help
On-Chip IDE Channel 0	Enabled	
On-Chip IDE Channel 1	Enabled	Menu Level ▶▶
IDE Prefetch Mode	Enabled	
Primary Master PIO	Auto	
Primary Slave PIO	Auto	
Secondary Master PIO	Auto	
Secondary Slave PIO	Auto	
Primary Master UDMA	Auto	
Primary Slave UDMA	Auto	
Secondary Master UDMA	Auto	
Secondary Slave UDMA	Auto	

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

IDE DMA transfer access

The Choices: Enabled (default), Disabled.

On-Chip IDE Channel 0

Enabled (default)

Enabled onboard 1st channel
IDE port.

Disabled

Disabled onboard 1st channel
IDE port.

On-Chip IDE Channel 1

Enabled (default)	Enabled onboard 2nd channel IDE port.
Disabled	Disabled onboard 2nd channel IDE port.

IDE Prefetch Mode

The onboard IDE drive interface supports IDE prefetching, for faster drive access. If you install a primary and or secondary add-in IDE interface, set this field to Disabled if the interface does not support prefetching.

The Choices: Enabled(**default**), Disabled.

Primary Master PIO

Auto (default)	BIOS will automatically detect the IDE HDD Accessing mode.
Mode 0~4	Manually set the IDE Accessing mode.

Primary Slave PIO

Auto (default)	BIOS will automatically detect the IDE HDD Accessing mode.
Mode 0~4	Manually set the IDE Accessing mode.

Secondary Master PIO

Auto (default)	BIOS will automatically detect the IDE HDD Accessing mode.
Mode 0~4	Manually set the IDE Accessing mode.

Secondary Slave PIO

Auto (default)	BIOS will automatically detect the IDE HDD Accessing mode.
Mode 0~4	Manually set the IDE Accessing mode.

Primary Master UDMA**Auto (default)**

BIOS will automatically detect the IDE HDD Accessing mode.

Disabled

Disabled.

Primary Slave UDMA**Auto (default)**

BIOS will automatically detect the IDE HDD Accessing mode.

Disabled

Disabled.

Secondary Master UDMA**Auto (default)**

BIOS will automatically detect the IDE HDD Accessing mode.

Disabled

Disabled.

Secondary Slave UDMA**Auto (default)**

BIOS will automatically detect the IDE HDD Accessing mode.

Disabled

Disabled.

Phoenix-Award Workstation BIOS CMOS Setup Utility

VIA Onchip PCI Device

VIA-3058 AC97 Audio	Auto	Item Help
VIA-3068 MC97 Modem	Auto	
Onboard Lan Boot ROM	Disabled	Menu Level ►►
X Onboard Lan Boot ROM	Disabled	

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

VIA-3058 AC97 Audio

The default setting of this item utilizes an onboard sound chip for audio output. There is no need to buy and insert a sound card. If a sound card is installed, disable this item.

The Choices: Auto(default), Disabled.

VIA-3068 MC 97 Modem

The Choices: Auto(default),Disabled.

Onboard Lan Boot ROM

The Choices: Disabled(default), Enabled.

Phoenix-Award Workstation BIOS CMOS Setup Utility

Super IO Device

Onboard FDC Controller	Enabled	Item Help
Onboard Serial Port 1	3F8/IRQ4	Menu Level ►►
Onboard Serial Port 2	2F8/IRQ3	
UART Mode Select	Normal	
X RxD,TxD Active	Hi,Lo	
X IR Transmission Delay	Enabled	
X UR2 Duplex Mode	Half	
X Use IR Pins	IR-Rx2Tx2	
Onboard Parallel Port	378/IRQ7	
Parallel Port Mode	ECP	
X EPP Mode Type	EPP1.7	
ECP Mode Use DMA	3	
Game Port Address	201	
Midi Port Address	330	
Midi Port IRQ	10	

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

Onboard FDC Controller

Enabled(default) Enabled onboard FDC Controller.

Disabled Disabled onboard FDC Controller.

Onboard Serial Port1

Select an address and corresponding interrupt for the first and second serial ports.

The Choices: 3F8/IRQ4(default),Disabled,(3F8/IRQ4),(2F8/IRQ3),(3E8/IRQ4),(2E8/IRQ3),Auto.

Onboard Serial Port 2

Select an address and corresponding interrupt for the first and second serial ports.

The Choices: 2F8/IRQ3(default),Disabled,(3F8/IRQ4),(2F8/IRQ3),(3E8/IRQ4),(2E8/IRQ3),Auto.

UART Mode Select

This item allows you to select which Infra Red(IR) function of the onboard I/O chip you wish to use.

The Choices: Normal(default), IrDA, ASKIR, Normal.

Onboard Parallel Port

This item allows you to select the I/O address with which to access the onboard parallel port controller.

The Choices: 378/IRQ7(default), Disabled, 278/IRQ5, 3BC/IRQ7.

Parallel Port Mode

SPP	Using Parallel port as Standard Parallel Port.
EPP	Using Parallel port as Exhanced Parallel Port.
ECP(default)	Using Parallel port as Extended Capabilites Port.
ECP+EPP	Using Parallel port asECP/EPP mode.
Normal	Using Parallel port asNormal mode.

ECPMode UseDMA

The Choices: 3(default), 1.

Game Port Address

201 (default)	Set onboard game port to 201.
209	Set onboard game port to 209.
Disabled	Disabled.

Midi Port Address

Disabled	Disabled.
290	Set Midi Port address to 290.
300	Set Midi Port address to 300.
330 (default)	Set Midi Port address to 330.

MidiPort IRQ**10 (default)**

Set Midi Port IRQ to 10.

5

Set Midi Port IRQ to 5.

Init Display First**PCISlot (default)**

Set Init Display First to PCI Slot.

AGP

Set Init Display First to onboard AGP.

Onchip USB Controller

This should be enabled if your system has a USB installed. Remember, if you add a controller in higher performance, you will need to disable this feature.

The Choices: Enabled(default), Disabled.

USB 2.0 Support

The Choices: Enabled(default), Disabled.

USB Keyboard Support

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

The Choices: Enabled(default), Disabled.

IDE HDD Block Mode

The Choices: Enabled (default), Disabled.

2.6 Power Management Setup

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

❖ Figure 6. Power Management Setup

Phoenix-Award WorkstationBIOS CMOS Setup Utility

Power Management Setup

ACPI Function	Enabled	Item Help
ACPI Suspend Type	S1(POS)	
Power Management Option	User Define	Menu Level ▶▶
HDD Power Down	Disabled	
Suspend Mode	Disabled	
Video Off Option	Suspend->Off	
Video Off Method	V/H SYNC+Blank	
Modem Use IRQ	3	
Soft-Off by PWRBTN	Instant-Off	
PWRON After PWR-Fail	Off	
▶ IRQ / Event Activity Detect	Press Enter	

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

ACPI Function

This item display status of the Advanced Configuration and Power Management (ACPI).

The Choices: Enabled(default), Disabled.

ACPI Suspend Type

The item allows you to select the suspend type under ACPI operating system.

S1(POS) (default) Power on Suspend.

S3(STR) Suspend to RAM.

S1&S3

Power Management Option

This option allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

The Choices: User Define(default), Min Saving, Max Saving.

HDDPowerDown

By default, this is “Disabled”, meaning that no matter the mode of the rest of the system, the hard drive will remain ready. Otherwise, you have a range of choices from 1 to 15 minutes or Suspend. This means that you can select to have your hard disk drive be turned off after a selected number of minutes or when the rest of the system goes into a suspend mode.

The Choices: Disabled(default), 1Min, 2Min, 3Min, 4 Min, 5Min, 6Min, 7Min, 8Min, 9Min, 10Min, 11Min, 12Min, 13Min, 14Min 15Min.

SuspendMode

The **Suspend Mode** fields set the Period of time after each of these modes activates. At Max Saving, these modes activate sequentially (in the given order) after one minute; at Min Saving after one hour.

The Choices: Disabled(default), 1Min, 2Min, 4Min, 6Min, 8Min, 10Min, 20Min, 30Min, 40Min, 1Hour.

Video Off Option

This field determines when to activate the video off feature for monitor power management.

The Choices: Suspend->off(default), Always on.

Video Off Method

This determines the manner in which the monitor is blanked.

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

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

DPMS Support Initial display power management signaling.

Modem Use IRQ

This determines the IRQ, which can be applied in Modem use.

3(default)

4/5/7/9/10/11/NA

Soft-Off by PWRBTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has “hung”.

The Choices: Instant-Off(default), Delay 4 Sec.

PWRON After PWR-Fail

This option will determine how the system will power on after a power failure.

The Choices: Off(default), On, Former-Sts.

Phoenix-Award WorkstationBIOS CMOS Setup Utility

IRQ / Event Activity Detect

VGA	OFF	Item Help
LPT & COM	LPT/COM	
HDD & FDD	ON	Menu Level ▶▶
PCI Master	OFF	
PowerOn by PS2KB Select	Hotkey	
PowerOn by PS2KB	Disabled	
PowerOn by PS2MS	Disabled	
PowerOn by USB	Disabled	
PowerOn by PME	Disabled	
PowerOn by WOL/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

VGA

To switch on this item, any event occurring at a VGA port will wake the system up which has been powered down.

The Choices: OFF(default), On.

LPT & COM

To switch on this item, any event occurring at a COM(serial) / LPT(printer) port will wake the system up which has been powered down.

The Choices: LPT/COM(default), NONE, LPT, COM.

HDD & FDD

To switch on this item, any event occurring at a hard or floppy drive will wake a system up which has been powered down.

The Choices: On(default), OFF.

PCIMaster

To switch on this item, any event occurring at a PCI port will wake a system up which has been powered down.

The Choices: OFF(default), On.

Power On By PS2KB Select

The Choices: Hot key(default).

Power On By PS2KB

The Choices: Disable(default), Ctrl+F1, Ctrl+F2, Ctrl+F3, Ctrl+F4, Ctrl+F5, Ctrl+F6, Ctrl+F7, Ctrl+F8, Ctrl+F9, Ctrl+F10, Ctrl+F11, Ctrl+F12, Power, Wake, Any Key.

Power On By PS2MS

The Choices: Disabled(default), Enabled.

Power On By USB

The Choices: Disabled(default), Enabled.

Power On By PME

The Choices: Disabled(default), Enabled.

Power On By WOL/Ring

The Choices: Disabled(default), Enabled.

RTC Alarm Resume

When “Enabled”, you can set the date and time at the RTC (real-time clock) Alarm to wake the system up from Suspend mode.

The Choices: Disabled(**default**), Enabled.

IRQs/Event Activity Monitoring

Once you highlight the “Press Enter” and press the enter key, it will take you to a submenu in the options below:

Phoenix-Award Workstation BIOS CMOS Setup Utility

IRQs Activity Monitoring

Primary INTR	ON	Item Help
IRQ 3 (COM2)	Disabled	
IRQ 4 (COM1)	Enabled	Menu Level ▶▶▶
IRQ 5 (LPT2)	Enabled	
IRQ 6 (Floppy Disk)	Enabled	
IRQ 7 (LPT1)	Enabled	
IRQ 8 (RTC Alarm)	Disabled	
IRQ 9 (IRQ2 Redir)	Disabled	
IRQ 10 (Reserved)	Disabled	
IRQ 11 (Reserved)	Disabled	
IRQ 12 (PS2/Mouse)	Enabled	
IRQ 13 (Coprocessor)	Enabled	
IRQ 14 (Hard Disk)	Enabled	
IRQ 15 (Reserved)	Disabled	

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

IRQs Activity Monitoring

To switch on(**default**) this item, any event occurring at Primary INTR will wake a system up which has been powered down. The following is a list of IRQ, Interrupt ReQuests, which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service. As above, the choices are On and Off. Off is the default. When switch on, activity will neither prevent the system from going into a power management mode nor awaken it.

2.7 PnP/PCI Configurations

This section describes configuring the PCI bus system. PCI or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users make any changes to the default settings.

❖ Figure 7. PnP/PCI Configurations

Phoenix-Award Workstation BIOS CMOS Setup Utility

PnP/PCI Configurations

Reset Configuration Data	Disabled	Item Help
X Resources Controlled By IRQ Resources	Auto(ESCD) Press Enter	Menu Level ▶
PCI/VGA Palette Snoop	Disabled	

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

Reset Configuration Data

The system BIOS supports the PnP feature so the system needs to record which resource is assigned and proceeds resources from confliction. Every peripheral device has a node, which is called ESCD. This node records which resources are assigned to it. The system needs to record and update ESCD to the memory locations. These locations (4K) are reserved at the system BIOS. If Disabled (Default) is chosen, the system's ESCD will update only when the new configuration varies from the last one. If Enabled is chosen, the system is forced to update ESCDs and then is automatically set to the "Disabled" mode.

IRQ3	assigned to: PCI PnP
IRQ4	assigned to: PCI PnP
IRQ5	assigned to: PCI PnP
IRQ6	assigned to: PCI PnP
IRQ7	assigned to: PCI PnP
IRQ8	assigned to: PCI PnP
IRQ9	assigned to: PCI PnP
IRQ10	assigned to: PCI PnP
IRQ11	assigned to: PCI PnP
IRQ12	assigned to: PCI PnP
IRQ13	assigned to: PCI PnP
IRQ14	assigned to: PCI PnP
IRQ15	assigned to: PCI PnP

The above settings will be shown on the screen only if "Manual" is chosen for the resources controlled by function.

Resources Controlled By

By Choosing "Auto" (default), the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral. By Choosing "Manual" the user will need to assign IRQ & DMA for add-on cards. Be sure that there are no IRQ/DMA and I/O port conflicts.

The Choices: Auto(ESCD)(default), Manual.

PCI/VGA Palette Snoop

Choose Disabled or Enabled. Some graphic controllers which are not VGA compatible take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility.

The Choices: Disabled (default), Enabled.

2.8 PC Health Status

❖ Figure 8. PC Health Status

Phoenix-Award WorkstationBIOS CMOS Setup Utility

PC Health Status

CPU Warning Temperature	Disabled	Item Help
System Temperature		Menu Level ▶
CPU Temperature		
Fan1 Speed		
Fan2 Speed		
Vcore		
Vcc3		
+5V		
+12V		
-12V		
-5V		
VBAT(V)		
5VSB(V)		
Shutdown Temperature	Disabled	

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

CPU Warning Temperature(°C)

Disabled (default)

50°C/122°F

53°C/127°F

56°C/133°F

60°C/140°F

63°C/145°F

66°C/151°F

70°C/158°F

Disabled.

Monitor CPU Temp.at 50°C/
122°F.

Monitor CPU Temp.at 53°C/
127°F.

Monitor CPU Temp.at 56°C/
133°F

Monitor CPU Temp.at 60°C/
140°F

Monitor CPU Temp.at 63°C/
145°F

Monitor CPU Temp.at 66°C/
151°F

Monitor CPU Temp.at 70°C/
158°F

Shutdown Temperature

Disabled (default)

Disabled.

60°C/140°F

Monitor CPU Temp.at 60°C/
140°F

65°C/149°F

Monitor CPU Temp.at 65°C/
149°F

70°C/158°F

Monitor CPU Temp.at 70°C/
158°F

75°C/167°F

Monitor CPU Temp.at 75°C/
167°F

2.9 Frequency / Voltage Control

❖ Figure 9. Frequency / Voltage Control

Phoenix-Award WorkstationBIOS CMOS Setup Utility

Frequency / Voltage Control

Auto Detect PCI CLK	Enabled	Item Help
Spread Spectrum	Disabled	
CPU Clock	100MHz	Menu Level ▶

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

Auto Detect PCI CLK

This item allows you to enable/disable auto detect DIMM / PCI CLOCK.

The Choices: Enabled(default), Disabled.

Spread Spectrum

This function is designed for the EMI test only.

The Choices: Disabled(default), Enabled.

CPU Clock

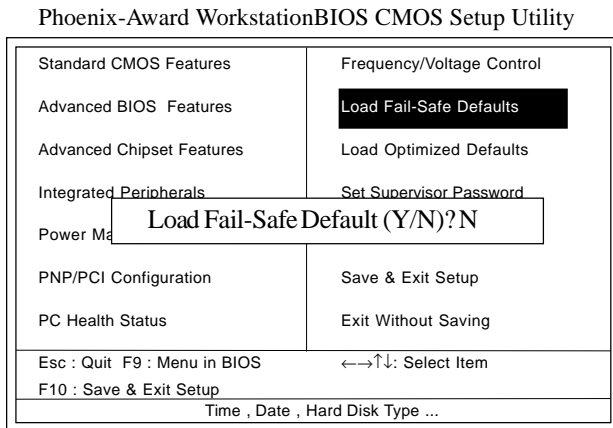
This item allows you to select the CPU Host Clock (CPU/ PCI).

The Choices: 100MHz~200MHz.

2.10 Load Fail-Safe Defaults

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

❖ Figure 10. Load Fail-Safe Defaults



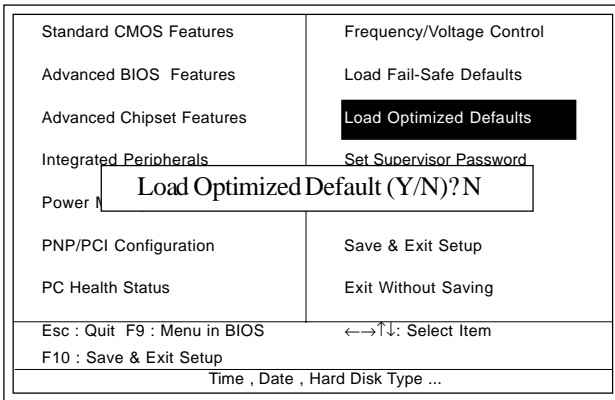
Pressing 'Y' loads the default values that are factory settings for optimal performance of system operations.

2.11 Load Optimized Defaults

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

❖ **Figure 11. Load Optimized Defaults**

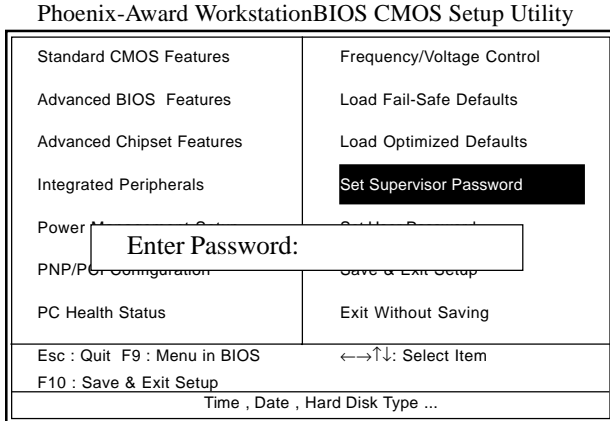
Phoenix-Award Workstation BIOS CMOS Setup Utility



Pressing 'Y' loads the default values that are factory settings for optimal performance of system operations.

2.12 Set Supervisor / User Password

❖ Figure 12. Set Supervisor / User Password



When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

Enter Password

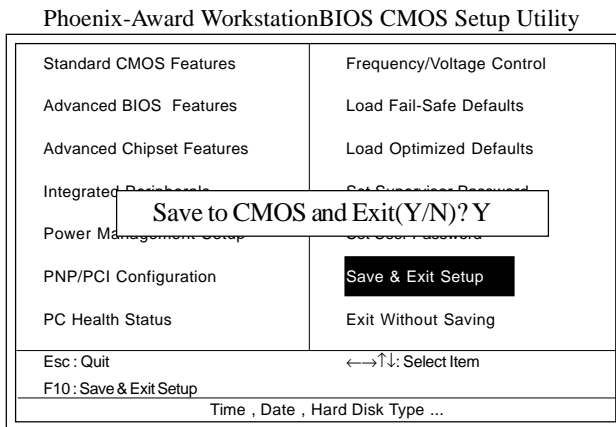
Type a password, up to eight characters, and press <Enter>. The password you type now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <ESC> to abort the selection and not enter a password. To disable the password, just press <Enter> when you are prompted to enter a password. A message will confirm that you wish to disable the password. Once the password is disabled, the system will boot and you can enter setup freely.

Password Disabled

If you select “System” at the Security Option of BIOS Features Setup Menu, you will be prompted for the password every time when the system is rebooted, or any time when you try to enter Setup. If you select “Setup” at the Security Option of BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

2.13 Save & Exit Setup

❖ Figure 13. Save & Exit Setup

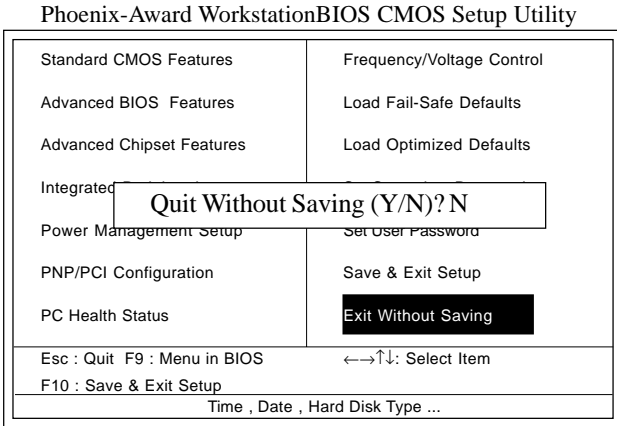


Typing "Y" will quit the Setup Utility and save the user setup value to RTC CMOS RAM.

Typing "N" will return to the Setup Utility.

2.14 Exit Without Saving

❖ **Figure 14. Exit Without Saving**



Typing “Y” will quit the Setup Utility without saving to RTC CMOSRAM.

Typing “N” will return to the Setup Utility.

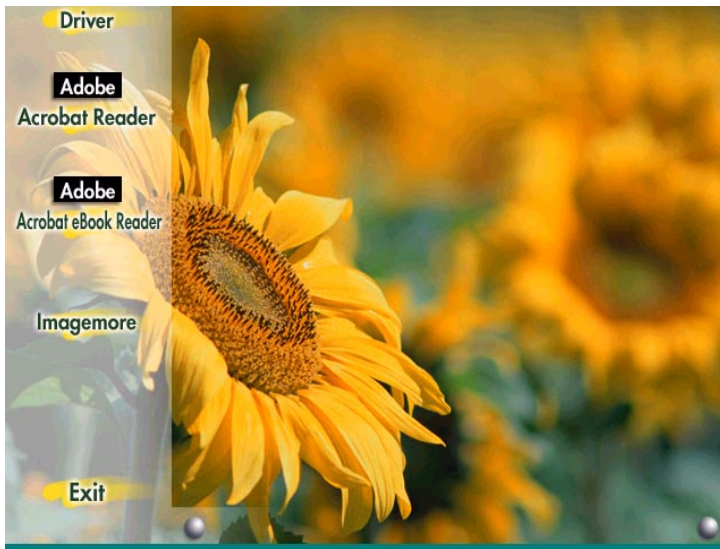
Chapter 3

There are motherboard drivers and utilities included in this CD disc. You don't have to install all of them to boot your system. But after you finish the hardware installation, you have to install your operating system first (such as windows 98) before you can install any drivers or utilities. Please refer to your operation system installation guide.

Note: Please follow recommended procedures after installing Windows 98/ME/XP/2000.

3.1 Auto-run Menu

You can use the auto-run menu of this CD disc and choose the utility or driver and select model name.

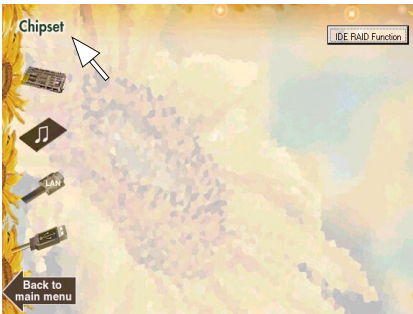


3.2 Installing VIA 4 in 1 Driver

You can install the VIA 4 in 1 driver (IDE Bus master (For Windows NT use), VIA ATAPI Vendor Support Driver, VIA AGP, IRQ Routing Driver (For Windows 98 use), VIA Registry (INF) Driver) from the Bonus Pack CD disc auto-run menu.



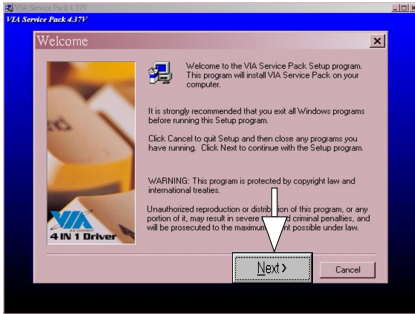
(1)
Click "Driver" Item.



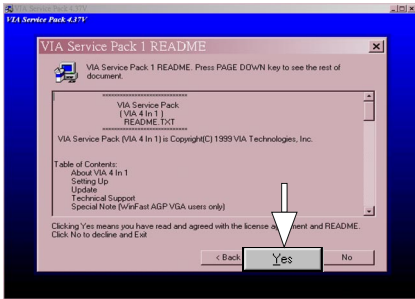
(2)
Click "Chipset" Item.



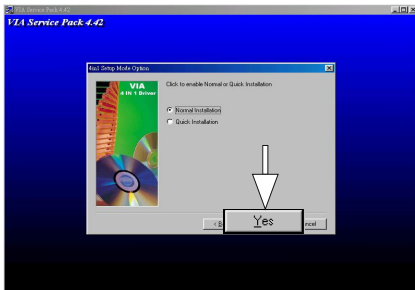
(3)
Click "VIA Service Pack" Item.



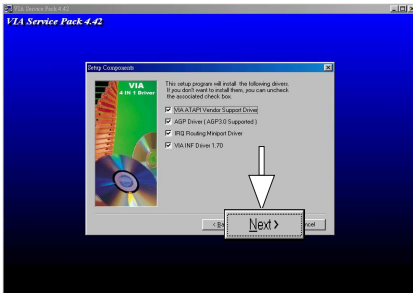
(4)
Click "Next".



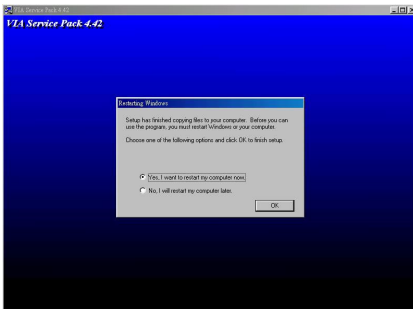
(5)
Click "Yes".



(6)
Click "Yes".



(7)
Tick all four items and
Click "Next".



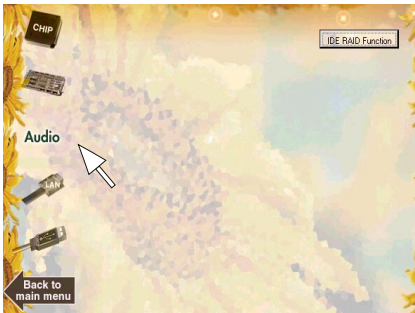
(8)
The Setup Program
will install all items until
the Restart screen
appears. Click "OK" to
restart system.

3.3 Installing Audio Driver

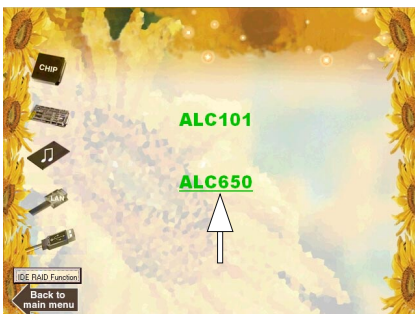
This motherboard comes with an AC97 CODEC and the sound controller is in VIA South Bridge chipset. You can find the audio driver from the Bonus Pack CD disc auto-run menu.



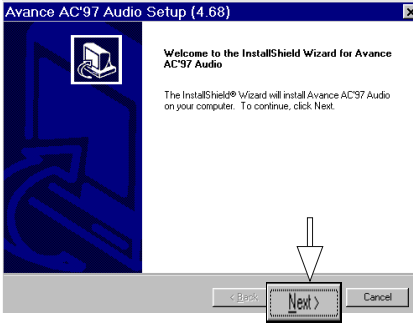
(1)
Click "Driver" Item.



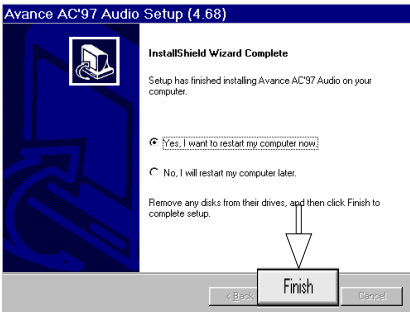
(2)
Click "Audio" Item.



(3)
Click
"ALC650" Item.



(4)
Click "Next".



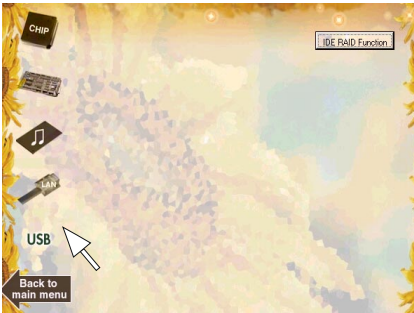
(5)
Click "Finish" to restart
your system after the
automatic installation.

3.4 Installing USB 2.0 Driver

Compliant with Universal Serial Bus(USB) specification revision 1.1 & 2.0.



(1)
Click "Driver" Item.



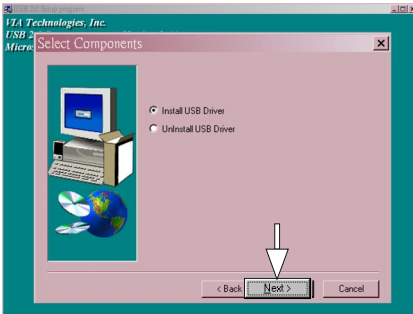
(2)
Click "USB" Item.



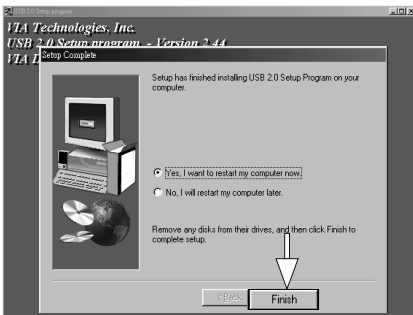
(3)
Click "USB2.0" Item.



(3)
Click "Next" Item.



(4)
Tick "Install USB Driver" and click the "Next" Item.

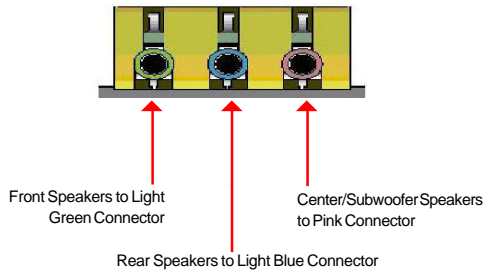


(5)
Click "Finish" Item to restart system..

3.5 6-Channel Speaker Configuration

If 6-channel Audio Codec and Driver have already been installed on board, then get ready your 6-channel speaker set and configure it with the PC operating system.

1. Connect Speakers to Audio Connectors

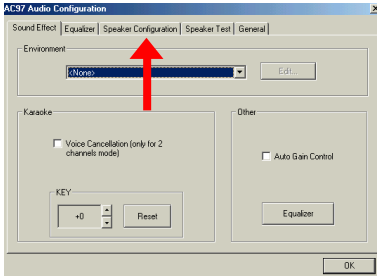


2. Enter the Sound Effect Manager

Windows XP is taken as illustration herewith. In the Windows System, click on the Sound Effect Manager icon to enter the 6-channel Speaker Configuration.

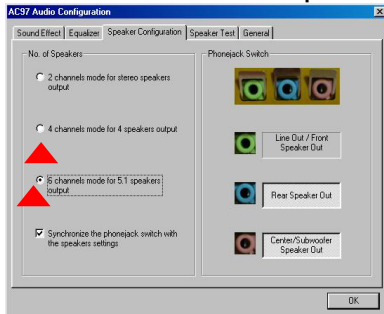


3. Choose "Speaker Configuration"



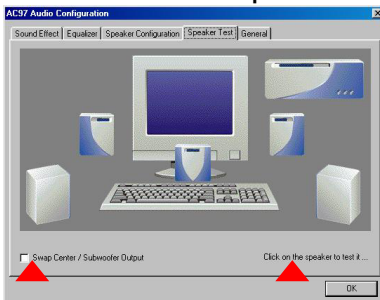
On the "AC'97 Audio Configuration" screen, click on the "Speaker Configuration" bar.

4. Choose "5.1 Speakers output" and



On the "Speaker Configuration" screen, choose "6-channel mode for 5.1 speaker output" and "Synchronize the phonejack switch with the speakers settings" and click on "OK" button to finish configuration..

5. Choose "Speaker Test" for verifying speakers



You can also choose "Speaker Test" bar to test the speakers sound.