

**KX400+ Series**  
**VIA® VT8367 & VT8233A or VT8235**  
**Supports Socket 462 AMD® Athlon™ XP / Athlon™ / Duron™ Processor**  
**(Version 3.0) 09/13/2002**

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This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. However, there is no guarantee that interference will not occur in a particular installation.

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# Chapter 1. Getting Started

## Introduction

Congratulations on choosing the KX400+ Series mainboard! This series includes the KX400+ \ KX400+ PRO \ KX400+ PRO-C, and is based on VIA® VT8367 / VT8233A or VT8235 chipsets. It also supports AMD® Athlon™ XP / Athlon™ / Duron™ Processors with a FSB (Front Side Bus) frequency of 266 MHz.

The KX400+ Series provides 3 sockets for 184-pin DDR SDRAM with a total capacity of up to 3GB. You can install DDR333/266/200 (PC2700/2100/1600) SDRAM, with the option of using the BIOS Setup to over-clock to DDR400.

The KX400+ Series provides one AGP Slot for 1X \ 2X or 4X AGP cards. A CNR Slot (AMR Type) is used for your audio or modem card (only with KX400+ and KX400+ PRO).

The KX400+ Series includes built in IDE facilities that support Ultra DMA 33/ 66/ 100/ 133 BUS Master Modes. The KX400+ Series also comes with an AC'97 Sound Codec (ALC650) which supports high quality 6 channel audio (**Super 5.1 Channel Audio Effect**).

The KX400+ Series also includes CPU Over Temperature Protection (OTP). When you are using a Athlon XP CPU, and the CPU temperature rises above normal values, the system will automatically shut down to protect your system from over heating.

The KX400+ and KX400+ PRO also comes preinstalled with **Voice Genie** and **BIOS Mirror**. Voice Genie allows you to select between four languages for audio diagnostics. BIOS Mirror allows you have a backup (mirror) BIOS when the primary BIOS is damaged by virus or flash update.

The KX400+ PRO and KX400+ PRO-C also come with two USB 2.0 headers. The KX400+ comes with one USB 1.1 headers.

# Specification

## CPU:

- Socket-462
- Supports Athlon™, Athlon™ XP, Duron™ processors providing the new generation power for high-end workstations and servers

## Speed:

- 266 MHz Front Side Bus frequency
- 33MHz, 32 bit PCI interface (PCI 2.2 compliant)
- 66MHz AGP 2.0 compliant interface that supports 1x, 2x and 4x data transfer modes

## Chipset:

- North-bridge – VIA VT8367
- South-bridge –VT8233A (KX400+)  
South-bridge –VT8235 (KX400+ PRO & KX400+ PRO-C)
- I/O Controller – Winbond IO W83697HF

## DRAM Memory:

- Supports 333(PC2700) / 266(PC2100) / 200(PC1600) DDR (Double Data Rate) SDRAM.
- Supports 64 MB/128 MB/256 MB/512 MB/1 GB DIMM modules.
- Supports up to 3 Double-Sided DIMMs (6 rows populated) with unbuffered or registered PC2700 (without ECC).
- Supports 1 GB DIMM, with a total memory capacity of up to 3GB.

## Green Functionality:

- Supports Phoenix-Award BIOS™ power management functionality.
- Contains a power down timer from 1 to 15 minutes.
- Wakes from power saving sleep mode with any keyboard or mouse activity.

### **Shadow RAM:**

- This mainboard is equipped with a memory controller providing shadow RAM and support for ROM BIOS.

### **BUS Slots:**

- One AGP slot
- One CNR slot (AMR Type) (for CMV-KX400+ and CMV-KX400+ PRO)
- Six 32-bit PCI bus slots (5 master slots)\*
- Six 32-bit PCI bus slots (6 master slots)\*\*

\*Only for KX400+

\*\*Only for KX400+ PRO & KX400+ PRO-C

### **Flash Memory:**

- Supports flash memory functionality
- Supports ESCD functionality

### **Hardware Monitor Function:**

- Monitors CPU Fan Speed
- Monitors Chasis Fan Speed
- Monitors System Voltage

### **Infrared:**

- Supports IrDA Version 1.0 SIR Protocol with a maximum baud rate of up to 115.2K bps.
- Supports SHARP ASK-IR Protocol with maximum baud rate of up to 57600 bps.
- Supports Consumer IR with Wake-Up function.

### **AC'97 Sound Codec Onboard:**

- AC-LINK protocol compliance
- Compliant with AC'97 2.2 specification
- 18-bit full duplex stereo ADC, DACs
- SNR>95 db through mixer and DAC
- AC-3 playback required for DVD title applications
- 6-channel playback capability. (Super 5.1 Channel Audio Effect)

### **I/O facilities:**

- One multi-mode Parallel Port capable of supporting the following specifications:
  1. Standard & Bidirection Parallel Port
  2. Enhanced Parallel Port (EPP)
  3. Extended Capabilities Port (ECP)
- Supports two serial ports, 16550 UART
- Supports Infrared Data Transmission using IrDA
- Supports PS/2 mouse and PS/2 keyboard
- Supports 360KB, 1.2MB, 1.44MB, and 2.88MB floppy disk drives

### **IDE Facilities:**

- Supports four IDE hard disk drives
- Supports PIO Mode 4, Master Mode, and high performance hard disk drives
- Supports Ultra DMA 33, Ultra DMA 66, Ultra DMA 100 and Ultra DMA 133 Bus Master Modes
- Supports IDE interface with CD-ROM
- Supports high capacity hard disk drives
- Supports LBA mode

### **Universal Serial Bus:**

- Supports four USB (USB1.1) ports for USB interface devices. \*
- Supports six USB (USB 2.0) ports for USB interface devices. \*\*

**\*Only for KX400+      \*\*Only for KX400+ PRO& KX400+ PRO-C**

### **BIOS:**

- Phoenix-Award™ BIOS
- Supports APM 1.2
- Supports USB Legacy function
- Supports ACPI power management
- Supports “BIOS Mirror” technology. (for CMV-KX400+ and CMV-KX400+ PRO)

### **OTP (over temperature portection):**

- Special CPU protection from overheating.

### **Voice Genie (only with KX400+ & KX400+ PRO):**

- Voice Genie can generate audio diagnostics in 4 different languages (English · Chinese · Japanese · German). When a problem occurs during the boot process, an audio diagnostic will inform you of the problem.

### **Watch Dog Timer:**

- This mainboard contains a special feature called the “Watch Dog Timer” which is used to detect when the system is unable to handle over-clocking configurations during POST stage. Once detected the system will reset the configurations and reboot the system after five seconds.

### **Operating System:**

- Supports most popular operating systems: Windows® 9X/ME/XP/2000, etc.

**Dimensions (ATX form-factor):**

- 220mm x 305mm (WxL)

**Package Contents:**

- IDE Cable
- FDC Cable
- Installation and Driver CD
- USB Cable (Optional)
- Rear I/O Panel for ATX Case (Optional)
- North bridge chip fan (Optional)



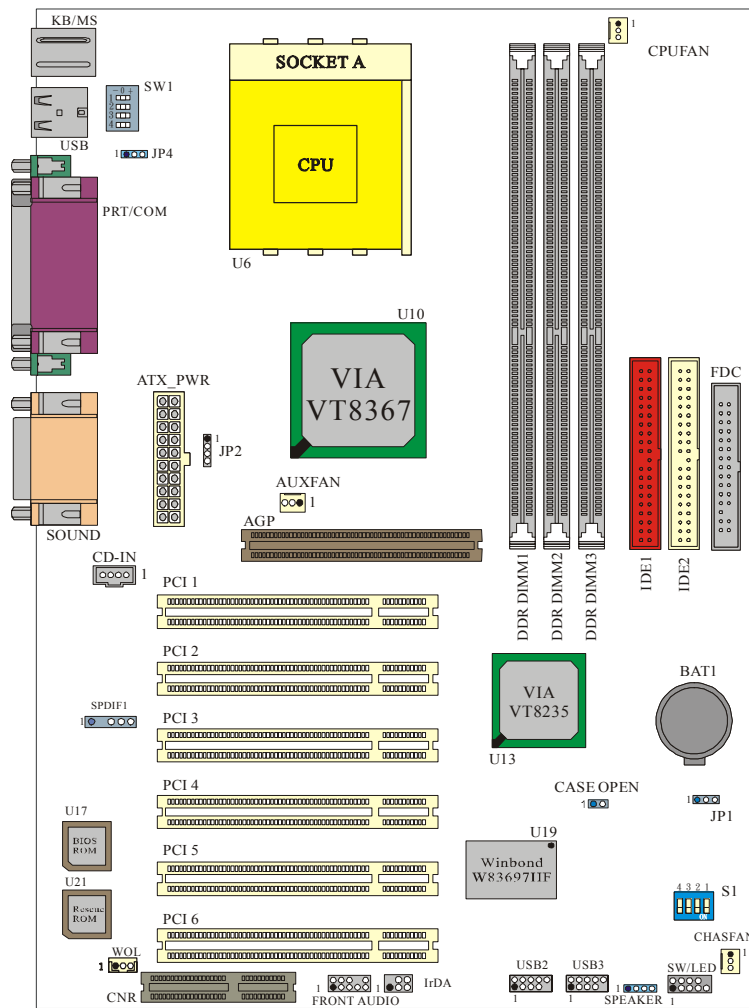
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\* Optional

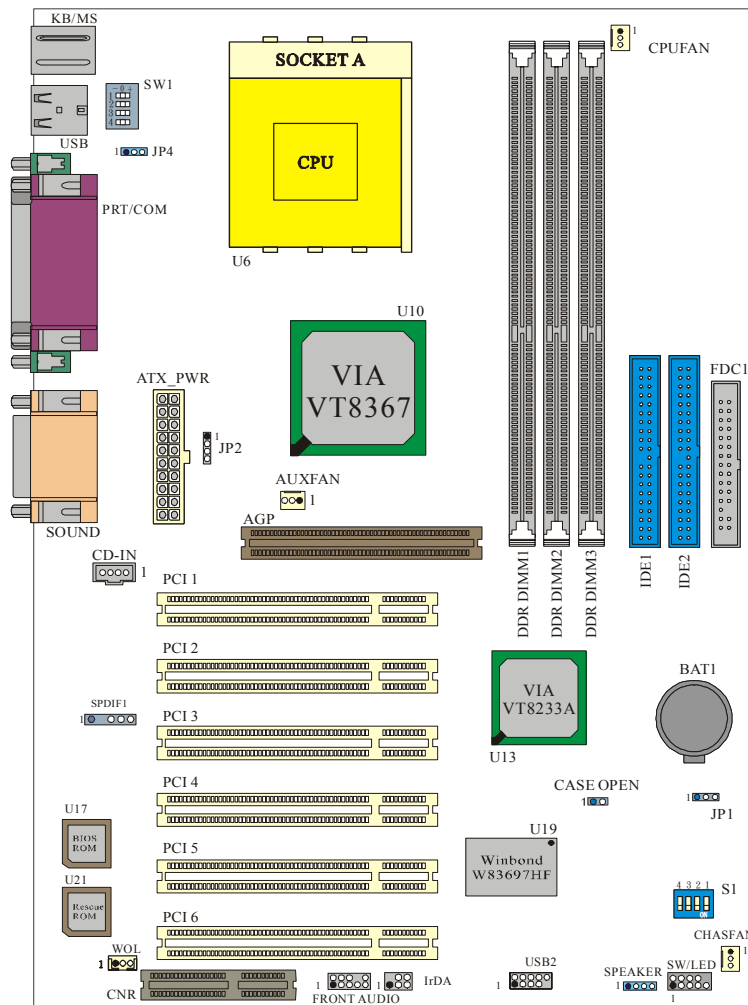
# Configuration

## Layout of KX400+ PRO





## Layout of KX400+



# Hardware Installation

This section will assist you in quickly installing your system hardware. Wear a wrist ground strap before handling components. Electrostatic discharge may damage your system components.

***Subject:***

- ✧ CPU Processor Installation
- ✧ Memory Installation
- ✧ Back Panel Configuration
- ✧ Connector Configuration
- ✧ Header Configuration
- ✧ Jumper Settings
- ✧ Power Supply Attachments

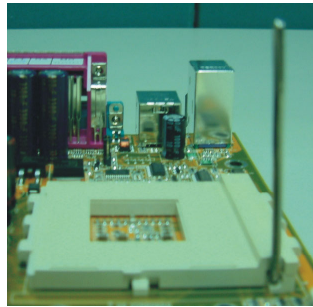
## CPU Processor Installation

This mainboard supports AMD® Athlon™ XP / Athlon™ / Duron™ processors using a Socket A (Socket 462 Pin package).

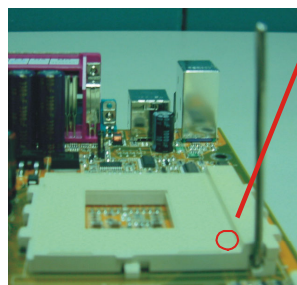
Before building your system, we suggest you visit the AMD website and review the processor installation procedures. <http://www.amd.com>

### CPU Socket-A Configuration Steps:

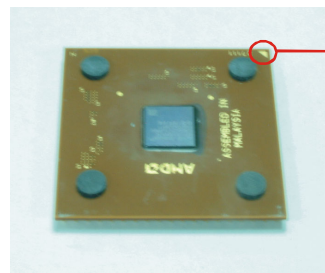
1. Locate the CPU socket on your mainboard and nudge the lever away from the socket. Then lift the lever to a 90-degree angle.



2. On the socket, locate the corner that has the pin-1 receptor. This corner will have a cut-corner on the rectangular pattern of pin holes. Match the dot on the CPU with the pin-1 receptor on the socket and lower the CPU onto the socket. The bottom of the CPU should be flush with the face of the socket.



Pin-1

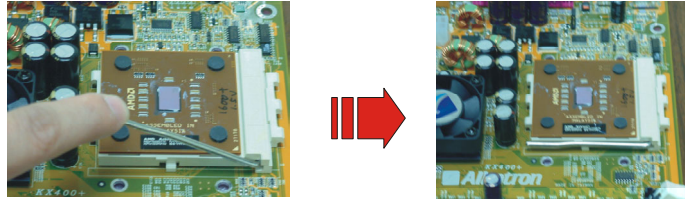


Dot

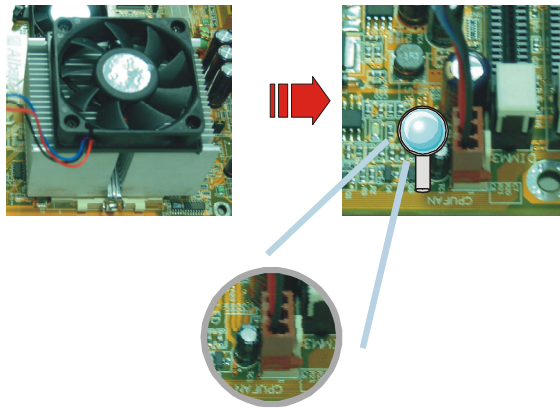



Confirm that the bottom of the CPU is flush with the face of the socket.

3. Lower the lever until it snaps back into position. This will lock down the CPU.



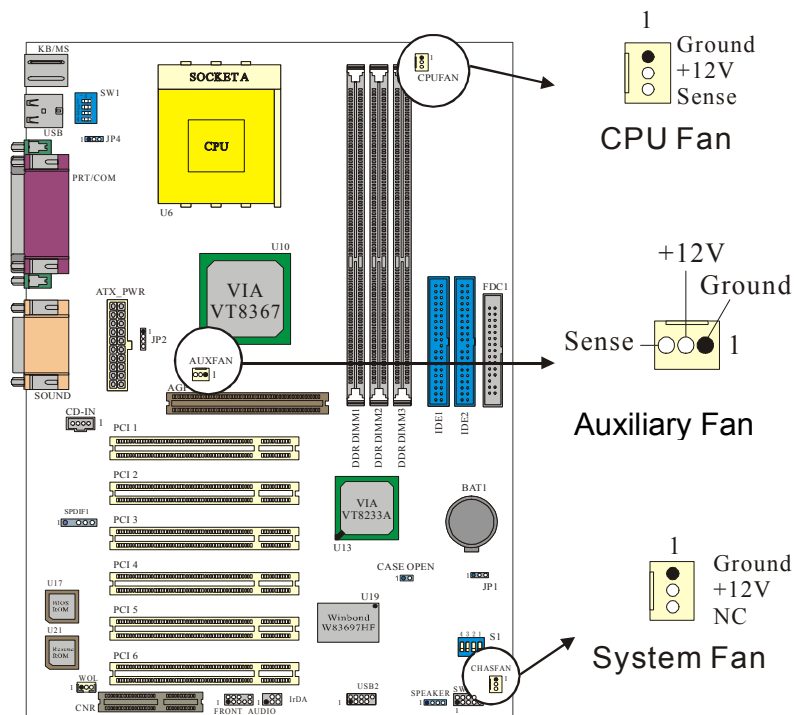
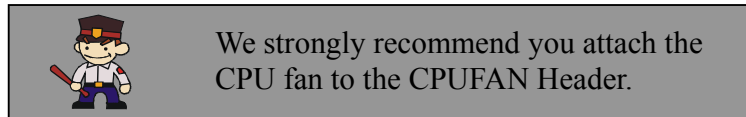
4. Smear thermal grease on the CPU. Lower the CPU fan onto the CPU and use the clasps on the fan to attach it to the socket. Finally, extend the power cable from the fan and insert it into the CPUFAN adapter.



	<p><b>Before starting the system</b></p> <p>Please check the installation completely before starting the system. Verify that the heatsink is properly installed and make sure the CPU fan is working. Overheating can damage the CPU and other sensitive components.</p>
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## Fan Headers

There are three power headers used for cooling fans which play an important role in maintaining the ambient temperature in your system.



The layout is KX400+



## Frequency / Voltage Control

This Mainboard automatically detects and recognizes the CPU ratio. You can otherwise override these values using the BIOS setup.

## Configuration the CPU Frequency using BIOS Setup

BIOS SETUP>>Advanced BIOS>>Features>>Frequency/Voltage Control>>CPU Speed Detected

CPU Speed = CPU Ratio \* CPU Clock

DDR Speed = DDR: CPU Ratio \* CPU Clock

For more details, please refer to Frequency / Voltage Control in Chapter 2 BIOS Setup.

## Watch Dog Timer

This mainboard comes with a special feature called "Watch Dog Timer" which is used to detect when the system is unable to boot using the manual over-clocking configurations. After you power on the system, BIOS will check the last system POST status. If it was successful, BIOS will enable the "Watch Dog Timer" feature and set the CPU frequency values to the user configured values stored in the BIOS. If unsuccessful the "Watch Dog Timer" will reboot the system.

Typically, you would need to remove the cover of your system and re-jumper the clear CMOS switches on the mainboard when your system encounters over-clocking problems. With the "Watch Dog Timer", overlocking settings will be automatically cleared and reset.



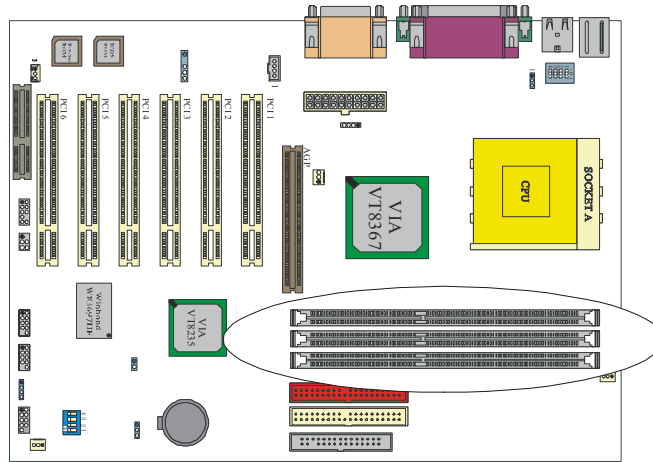
### Before Overclocking

Please make sure your system components are capable of overclocking.

If you are not familiar with the overclocking function, we strongly recommend that you to set the clock to the default settings.

## Memory Installation

The KX400+ Series contains 3 sockets for 184 pin DDR SDRAM with a total memory capacity of up to 3GB. You can install Unbuffered DDR 333/266/200 (PC2700/2100/1600) SDRAM.



DDR DIMM1

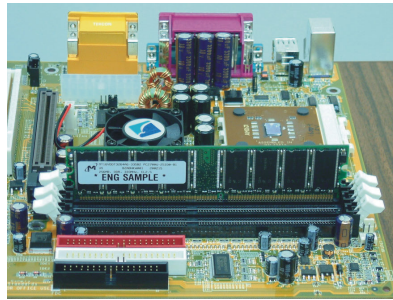
DDR DIMM2

DDR DIMM3

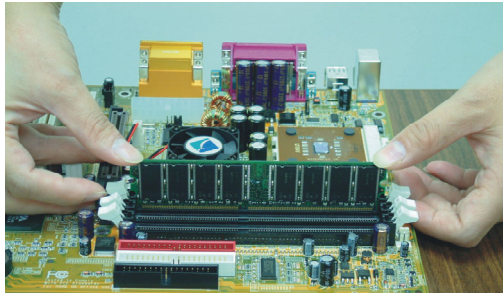
The layout is KX400+ PRO

## RAM Module Configuration Setup:

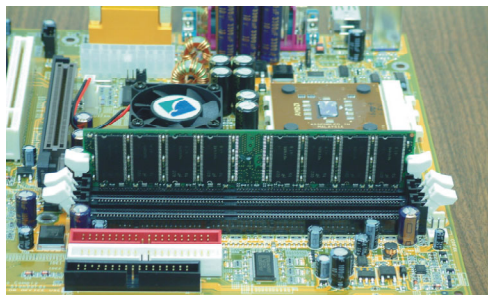
1. Match the notch on the bottom of the RAM module with the corresponding pattern in the DIMM slot. This ensures that the module is inserted properly.



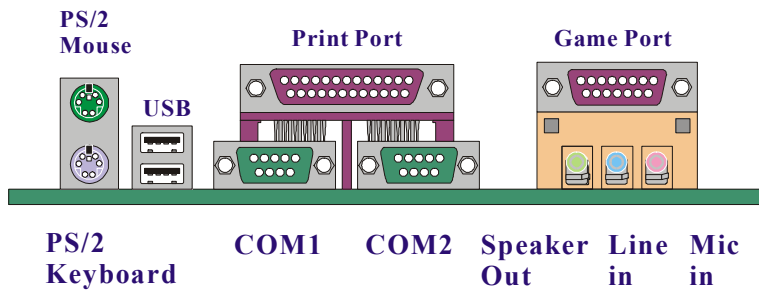
2. Lower the RAM module into the DIMM Slot and press firmly using both thumbs until the module snaps into place.



3. Repeat steps 1 & 2 for the remaining RAM modules.



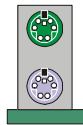
## Back Panel Configuration



### PS/2 Mouse & PS/2 Keyboard Connectors: KB/MS

This mainboard provides a standard PS/2 mouse connector and PS/2 Keyboard connector. The pin assignments are described below:

PS/2 Mouse



PS/2 Keyboard

Pin	Assignment
1	Data
2	No connect
3	Ground
4	+5 V (fused)
5	Clock
6	No connect

### USB Connectors: USB

The KX400+ provides four USB connectors. The KX400+ PRO and KX400+ PRO-C provide six USB connectors. There are two additional connectors on the back panel. OHCI (Open Host Controller Interface) Universal Serial Bus Roots are used to attach to devices such as keyboards, mice and other USB devices. You can plug the USB devices directly into this connector.



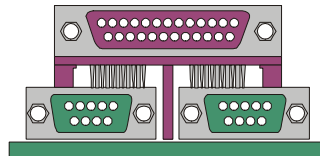
USB

Pin	Assignment
1	+5 V (fused)
2	USBP0-
3	USBP0+
4	Ground

## Serial and Parallel Interface Ports

This system comes equipped with two serial ports and one parallel port.

### Print Port



COM1 COM2

### The Serial Interface: 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.

### Parallel Interface Port: PRT

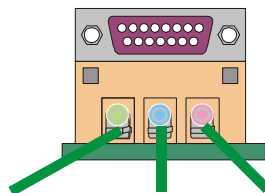
The parallel port on your system has a 25-pin, DB25 connector and is used to interface with parallel printers and other devices using a parallel interface.

### Game Port Connector: SOUND

This connector allows you to connect a joystick or game pad for playing computer games. This port can also be used to edit professional music by using MIDI devices.

### Audio Port Connectors

#### Game Port



Speaker Out Line in Mic in

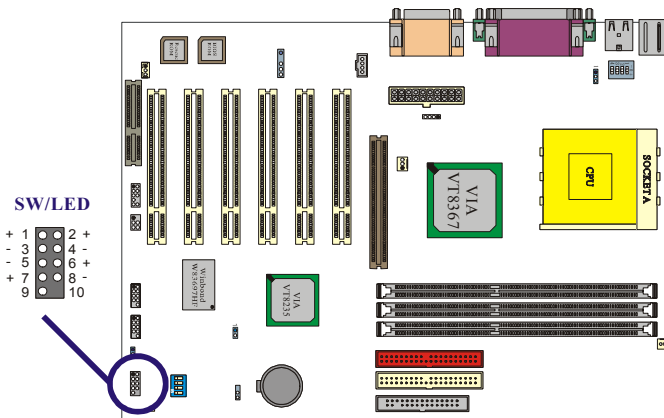
1. **Speaker Out** is used to connect to speakers or headphones. If Super 5.1 driver is installed, the Speaker Out becomes the Front Speaker.
2. **Line In** can be connected to an external CD player, Tape player or other audio devices for audio input. If the Super 5.1 driver is installed, Line In becomes the Rear Speaker.
3. **Mic In** is used to connect to a microphone. If the Super 5.1 driver is installed, the Mic In becomes the Subwoofer/ Center out.



This mainboard supports Super 5.1 channel audio effects which turns your standard Speaker Out, Lin In, Mic In audio connectors into a 6 channel audio system. See Chapter 3 for more information.

## Connector Configuration

### Front Panel Indicator: SW/LED



The layout is KX400+ PRO

Pin No.	Assignment	Function	Pin No.	Assignment	Function
1	HD LED (+)	Hard Drive LED	2	Power LED (+)	POWER LED
3	HD LED (-)		4	Power LED (-)	
5	Reset Control (-)	Reset Button	6	Power Button(+)	Power-on Button
7	Reset Control(+)		8	Power Button(-)	
9	NC	NC	10	NC	NC

### **HD LED (Hard Drive LED Connector)**

This connector can be attached to an LED on the front panel of a computer case. The LED will flicker during disk activity. This disk activity only applies to those IDE drives directly attached to the system board.

### **RST (Reset Button)**

This connector can be attached to a momentary SPST switch. This switch is normally left open. When closed it will cause the mainboard to reset and run the POST (Power On Self Test).

### **PWR-LED (Power LED Connector)**


This connector can be attached to an LED on the front panel of a computer case. The LED will illuminate while the computer is powered on.

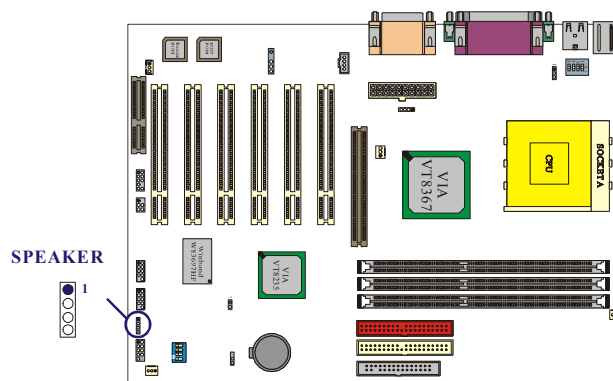
### **PWR ON (Power Button)**

This connector can be attached to a front panel power switch. The switch must pull the Power Button pin to ground for at least 50 ms to signal the power supply to switch on or off (the time required is due to internal debounce circuitry on the system board). At least two seconds must pass before the power supply will recognize another on/off signal.

## SPEAKER (Speaker Connector)

An off-board speaker can be installed on the mainboard as a manufacturing option. An off-board speaker can be connected to this connector. The speaker (onboard or off-board) provides error beep code information during the Power On Self-Test when the computer cannot access the video interface.

 The speaker cannot be connected to the audio subsystem and can not receive output from the audio subsystem.



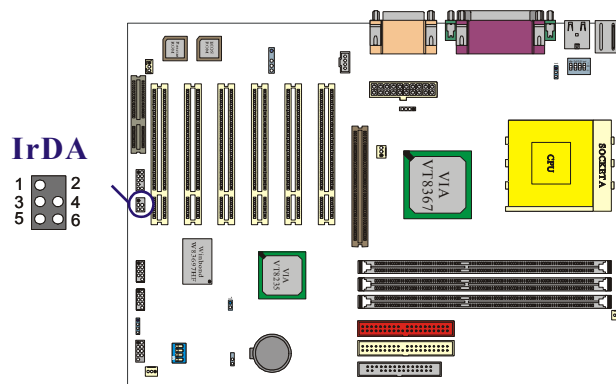
The layout is KX400+ PRO

PIN	Assignment	PIN	Assignment
1	PC_BEEP	3	Ground
2	NC	4	+5V



## IrDA (Infrared Connector)

This IrDA connector can be configured to support wireless infrared and is used to attach to an infrared sensing device. After the IrDA interface is configured, you can use this connector for connectionless data transfer to and from portable devices such as laptops and PDAs.

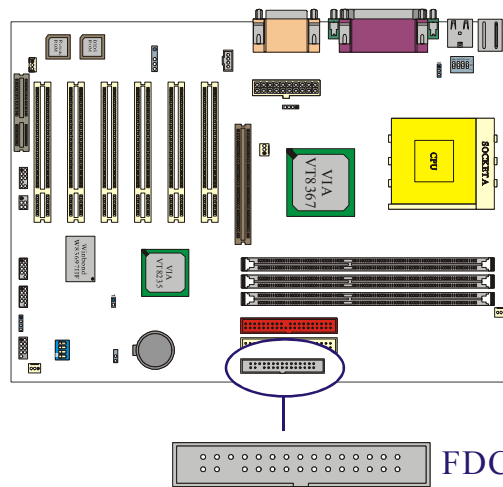


The layout is KX400+ PRO

PIN	Assignment	PIN	Assignment
1	NC	3	+5V
2	NC	4	Ground
5	IR_TX	6	IR_RX

## Floppy Disk Connector: FDC

The mainboard provides a standard floppy disk connector (FDC) that supports 360K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the floppy drive ribbon cables provided in the packaging.

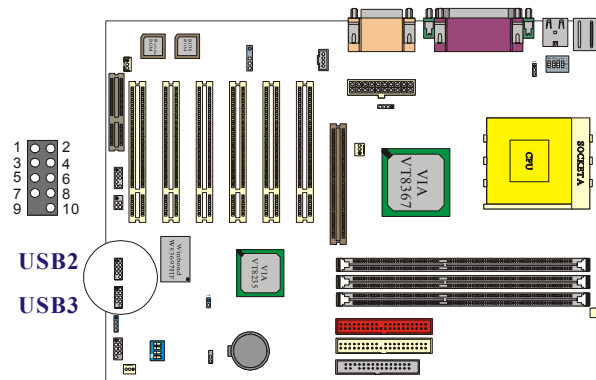


The layout is KX400+ PRO



## Headers & Jumpers

### Front USB Headers: USB2 / USB3



The layout is KX400+ PRO

#### KX400+

The KX400+ comes with one standard USB 1.1 Pin header USB2.

#### KX400+ PRO & KX400+ PRO-C

The KX400+ PRO / KX400+ PRO-C comes with two standard USB 2.0 Pin headers USB2 & USB3.

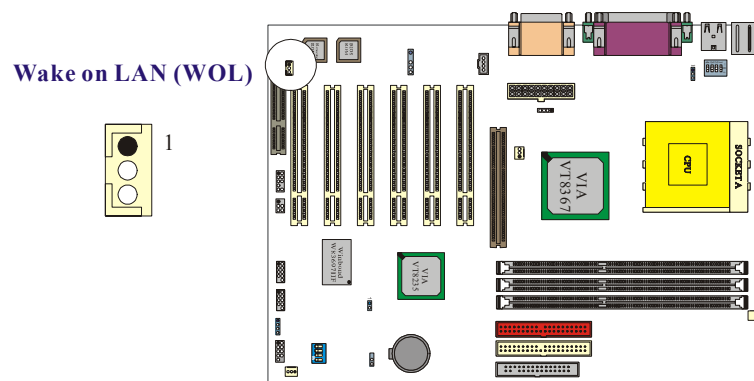
Pin	Assignment	Pin	Assignment
1	5VSB	2	5VSB
3	DATA_A-	4	DATA_B-
5	DATA_A+	6	DATA_B+
7	Ground	8	Ground
9	NC	10	NC

#### USB 2.0 Bracket (optional)

You can connect the USB 2.0 bracket to the USB2 and USB3 Headers.

## Wake On LAN Header: WOL

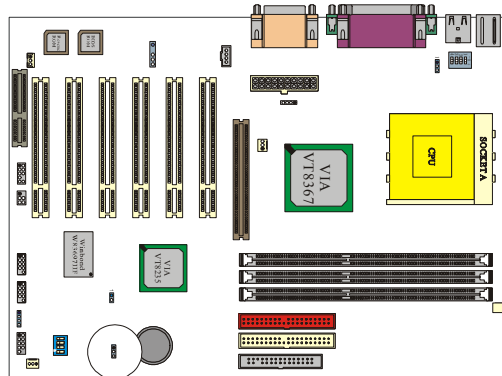
This mainboard supports the Wake On LAN function. To use this function, a network card with a chipset that supports this feature is required. A WOL network card will have a cable that you need to attach to this connector.





The layout is KX400+ PRO

Pin No.	Assignment
1	5V SB
2	Ground
3	Wake up

## Clear CMOS Jumper: JP1



The layout is KX400+ PRO

JP1	Assignment
P in 1 → 	Pin 1-2 Close → Normal (default)
P in 1 → 	Pin 2-3 Close → Clear CMOS



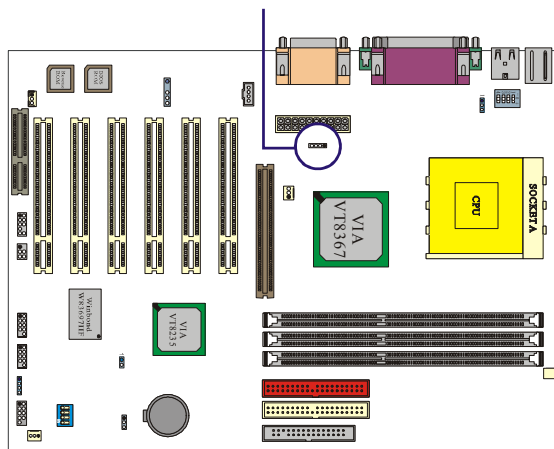
The following procedures are for resetting the BIOS password. It is important to follow these instructions closely.

1. Turn off your system and disconnect the AC power cable.
2. Set JP1 to OFF (2-3 Closed).
3. Wait several seconds.
4. Set JP1 to ON (1-2 closed).
5. Connect the AC power cable and turn on your system.
6. Reset your desired password or clear CMOS data.

## CPU Frequency Selection: JP2

Use this jumper to adjust the CPU frequency.

CPU Frequency (JP2)  1

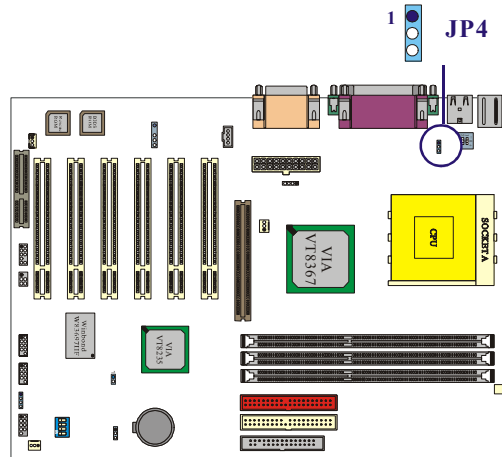


The layout is KX400+ PRO


JP2	CPU Frequency
1-2	100.0MHz
2-3	133.0MHz
3-4	166.0MHz

## OTP (Over Temperature Protection) function: JP4

This mainboard supports a special design for CPU Over Temperature Protection. If this function is “Enabled” and you use Athlon XP CPU, when the CPU temperature rises above the normal range, the system will automatically shut down. Remove and reinstall the CPU heat sink. Also check to make sure the CPU fan is working properly.



The layout is KX400+ PRO

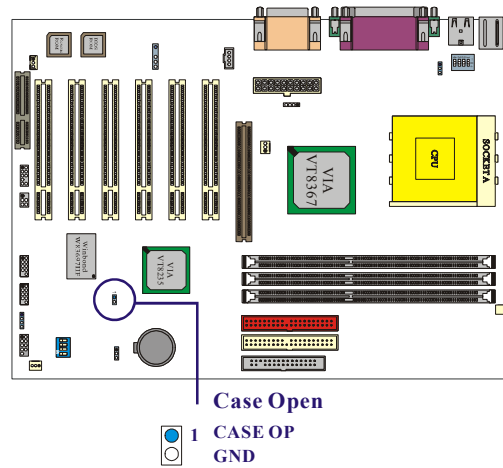
 “Disable” is the default.

JP4	OTP
1-2	Disable (Default)
2-3	Enable



## Case Open Warning function: CASE OPEN

If this function is “Enabled” and the case had been previously opened, the system will automatically show alert messages on the screen display when you power on your computer. If this function is “Disabled”, the system will disregard any prior tampering with the computer case. To implement this function, your computer case needs to be equipped with a “Case Open” cable that needs to be attached to the Case Open header.

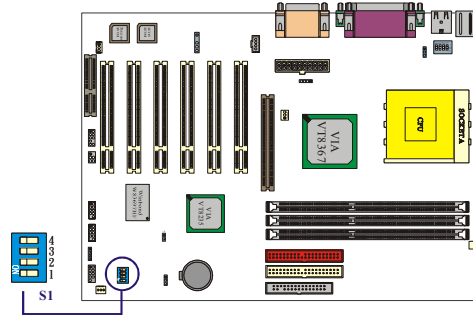


The layout is KX400+ PRO

Case Open	Assignment
1	Caseop-
2	Ground

## Voice Genie and BIOS Mirror Function: S1 (KX400+ & KX400+ PRO provide)

This switch is used to configure the Voice Genie and BIOS Mirror functions. With S1-1 and S1-2, you can select the appropriate language for audio diagnostics during boot up. With the S1-3 switch, you can begin using the alternate or mirror BIOS by switching on the rescue switch. This is used when the primary BIOS had been infected with a virus or damaged during a flash update.



The layout is KX400+ PRO

### Voice Genie

Voice Genie	S1-1	S1-2
English	ON	ON
Chinese	ON	OFF
Japanese	OFF	ON
German	OFF	OFF

### BIOS Mirror

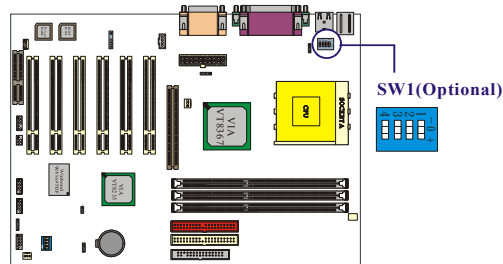
BIOS Mirror	S1-3
Normal	ON (U17)
Rescue	OFF (U21)



**U17: Main BIOS**  
**U21: Backup BIOS read only. (Optional)**

## CPU Ratio Select Switch: SW1 (Optional)

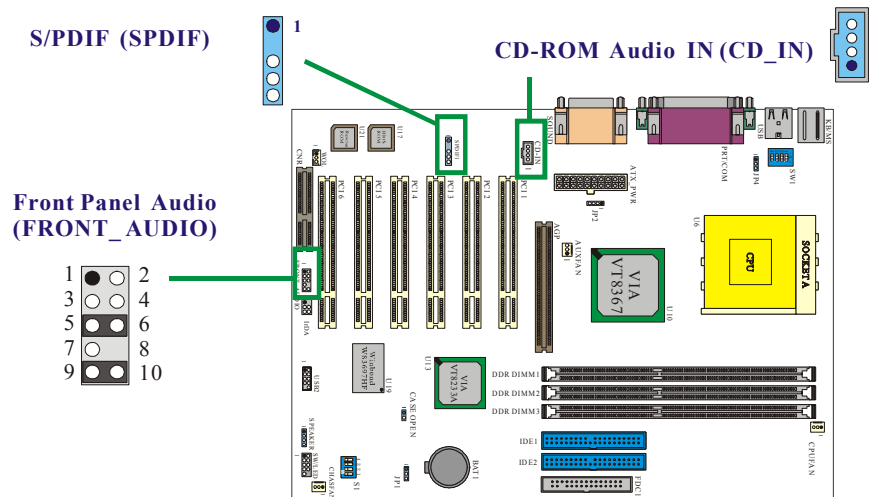
This switch is used for CPU overclocking by specifying the ratio of the CPU's internal clock. You can adjust this value using this switch or you can configure the value through the BIOS setup. Note that the CPU ratio select switch (SW1) takes precedence. If you are not familiar with overclocking, it is strongly recommended that you set the SW1 switch to the CPU default setting.



The layout is KX400+ PRO

CPU Ratio	SW1-1	SW1-2	SW1-3	SW1-4
<b>5</b>	-	-	+	-
<b>5.5</b>	+	-	+	-
<b>6</b>	-	+	+	-
<b>6.5</b>	+	+	+	-
<b>7</b>	-	-	-	+
<b>7.5</b>	+	-	-	+
<b>8</b>	-	+	-	+
<b>8.5</b>	+	+	-	+
<b>9</b>	-	-	+	+
<b>9.5</b>	+	-	+	+
<b>10</b>	-	+	+	+
<b>10.5</b>	+	+	+	+
<b>11</b>	-	-	-	-
<b>11.5</b>	+	-	-	-
<b>12</b>	-	+	-	-
<b>12.5</b>	+	+	-	-
<b>CPU Default</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## Audio Function



The layout is KX400+

### CD-ROM Audio-In Header: CD-IN

This header is used to connect to a CD-ROM / DVD audio cable.

Pin No.	Assignment
1	Left Channel Input
2	Ground
3	Ground
4	Right Channel Input

## S/PDIF (Sony/Philips Digital Interface) Connector: SPDIF

S/PDIF (Sony/Philips Digital Interface) is a recent audio transfer file format which provides high quality audio using optical fiber and digital signals. The devices attached to the SPD-OUT and SPD-IN connectors should be S/PDIF compliant for optimal effect.

SPDIF	Assignment
1	PWR
2	NC
3	SPD_OUT
4	GND
5	SPD_IN

## Front Panel Audio Header: FRONT\_AUDIO

If your computer case has been designed with audio equipment. You can attach these components to the FRONT\_AUDIO panel of the mainboard. First remove the jumper caps covering the FRONT\_AUDIO pins. Use pins 1, 3 to connect to the case microphone, Use pins 9,5 to connect to the earphone. If you do not intend to use the FRONT\_AUDIO panel, do not remove the jumper caps.

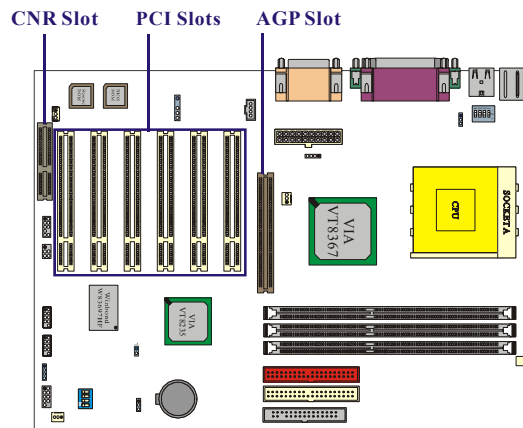
Pin No.	Assignment	Pin No.	Assignment
1	FP_MIC	2	GND
3	FP_VREF	4	+5V
5	SPOUT_R (From IC)	6	SPOUT_R (To Connector)
7	NC	8	NC
9	SPOUT_L (From IC)	10	SPOUT_L (To Connector)



If the jumper caps are in place, jumper cap 1 is on pin 5, pin 6 and jumper cap 2 is on pin 9, pin 10.

## Slots

The slots in this mainboard are designed for expansion cards used to complement and enhance the functionality of the mainboard.



The layout is KX400+ PRO

### **AGP (Accelerated Graphics Port) Slot**

This mainboard is equipped with an Accelerated Graphics Port (AGP) to support video cards.

### **CNR (Communication Network Riser) Slot (AMR type) (KX400+ and KX400+ PRO provide)**

CNR is an open industry specification that defines a hardware scalable riser card interface, which supports LAN, DSL, USB, wireless audio and modem subsystems.

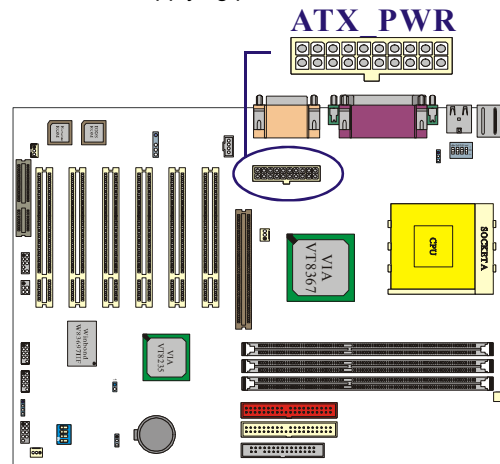
### **PCI (Peripheral Component Interconnect) Slots**

The KX400+ is equipped with 5 standard PCI slots; KX400+ PRO and KX400+ PRO-C are equipped with 6 standard PCI slots. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards, which has, for the most part, supplanted the older ISA bus standard. This PCI slot is designated as 32-bit.

## Power Supply Attachments

### ATX 20-pin Power Connector: ATX\_PWR

This ATX power supply uses a 20-pin connector. Make sure the connector is properly inserted before applying power.



The layout is KX400+ PRO

PIN	Assignment	PIN	Assignment
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

# Chapter 2. BIOS Setup

## Introduction

This section describes PHOENIX-AWARD™ BIOS Setup program which resides in the ROM BIOS firmware. The Setup program allows users to modify the basic system configuration. The configuration information is then saved to CMOS RAM where the data is sustained by battery after power-down.

The BIOS provides critical low-level support for standard devices such as disk drives, serial ports and parallel ports. As well, the BIOS controls the first stage of the boot process, loading and executing the operating system.

The PHOENIX-AWARD™ BIOS installed in your computer system's ROM is a custom version of an industry standard BIOS. This means that it supports the BIOS of Intel® based processors.

This version of the PHOENIX-AWARD™ BIOS includes additional features such as virus and password protection as well as special configurations for fine-tuning the system chipset. The defaults for the BIOS values contained in this document may vary slightly with the version installed in your system.

### Plug and Play Support

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

### EPA Green PC Support

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

### APM Support

This PHOENIX-AWARD™ BIOS supports Version 1.1 & 1.2 of the Advanced Power Management (APM) specification. Power management features are implemented using 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 PHOENIX-AWARD™ BIOS.



## PCI Bus Support

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

## DRAM Support

DDR (Double Data Rate) SDRAM (Synchronous DRAM) are supported.

## Supported CPUs

This PHOENIX-AWARD™ BIOS supports the AMD Athlon™, Athlon™ XP and Duron™ CPUs.

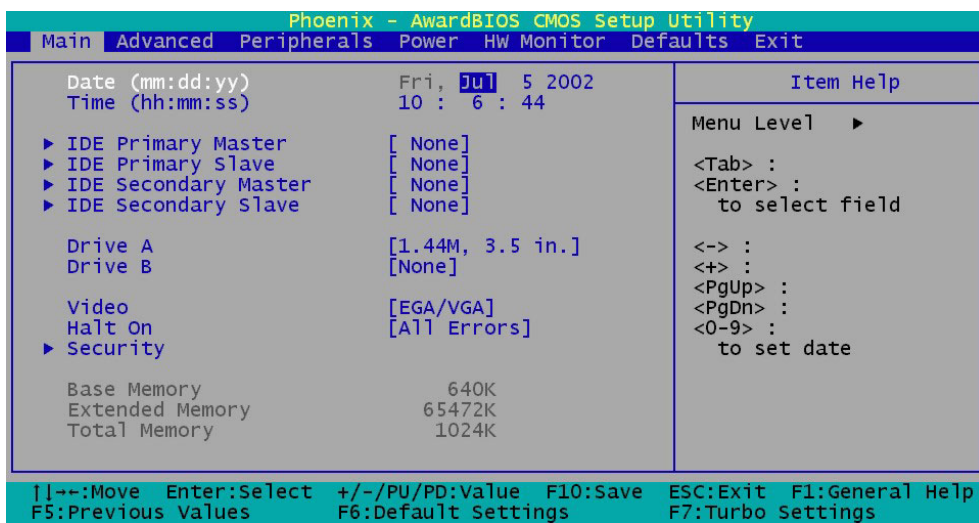
## Key Function

In general, 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 within the Setup program using the keyboard.

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 the 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

## Main Menu

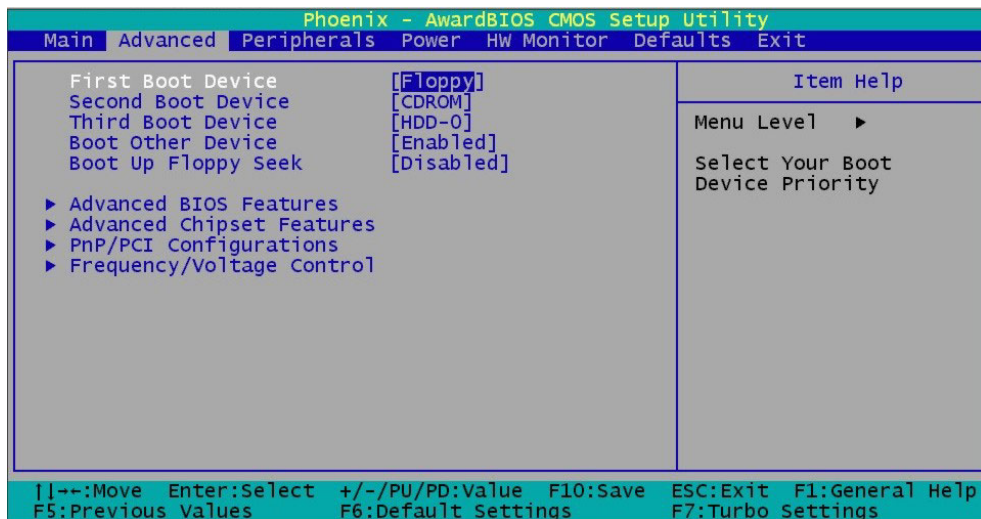
When you enter the PHOENIX-AWARD™ BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.



## Main Menu Setup Configuration Options

Item	Options	Description
<b>Date</b>	mm dd yyyy	Set the system date. Note that the 'Day' automatically changes when you set the date.
<b>Time</b>	Hh: mm: ss	Set the current time of the system.
<b>IDE Primary Master</b>	Options contained in sub menu.	Press <Enter> to enter the sub menu.
<b>IDE Primary Slave</b>	Options contained in sub menu.	Press <Enter> to enter the sub menu.
<b>IDE Secondary Master</b>	Options contained in sub menu.	Press <Enter> to enter the sub menu.
<b>IDE Secondary Slave</b>	Options contained in sub menu.	Press <Enter> to enter the sub menu.
<b>Drive A</b>  <b>Drive B</b>	360K, 5.25 in 1.2M, 5.25 in 1.44M, 3.5in 2.88M, 3.5 in None	Select the type of floppy disk drive installed in your system.
<b>Video</b>	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.
<b>Halt On</b>	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 you.
<b>Security</b>	Options contained in sub menu.	Press <Enter> to enter the sub menu.
<b>Base Memory</b>	N/A	Displays the amount of conventional memory detected during boot up.
<b>Extended Memory</b>	N/A	Displays the amount of extended memory detected during boot up.
<b>Total Memory</b>	N/A	Displays the total memory available in the system.

# Advanced BIOS Features



## First /Second/Third Boot Device

Select your Boot Device Priority. Options: Floppy \ LS120 \ HDD-0 \ SCSI \ CDROM \ HDD-1 \ HDD-2 \ HDD-3 \ ZIP100 \ USB-FDD \ USB-ZIP \ USB-CDROM \ USB-HDD \ LAN \ Disabled

## Boot Other Device

The setting allows the system to try to boot from other devices if the system fails to boot from the 1st/2nd/3rd boot devices. Options: Enabled \ Disabled (default)

## Boot Up Floppy Seek

The "Enabled" setting will make BIOS seek the floppy drive before booting up. Options: Enabled(default) \ Disabled

## Advanced BIOS Features

### 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 attempt to write data into this area, BIOS will show a warning message on the screen and alarm beep.

Options:

Disabled (default)	Virus protection is disabled.
Enabled	Virus protection is activated.

### CPU Internal Cache

Make CPU internal cache active or inactive. And system will slow down if disable this item. Options: Enabled (default) \ Disable.

### External Cache

This option allows you to enable or disable "Level 2" secondary cache on the CPU to enhance performance.

Options:

Enabled (default)	Enable cache.
Disabled	Disable cache.

### CPU L2 Cache ECC Checking

Make CPU L2 cache ECC function active or inactive. Options: Disabled \ Enabled (default).

### Quick Power On Self Test

Allow the system to skip certain tests while booting. This will decrease the time needed to boot the system.

Options:

Enabled (default)	Enable quick POST.
Disabled	Normal POST.

### Swap Floppy Drive

If the system has two floppy drives, choose enable to assign physical drive B to logical drive A and vice-versa. Options: Disabled (default) \ Enabled.

### Boot Up NumLock Status

Selects power on state for NumLock.

Options:

On (default)	Numpad keys are number keys.
Off	Numpad keys are arrow keys.

### **Gate A20 Option**

Fast – let chipset control GateA20 and Normal – a pin in the keyboard controller controls GateA20. Options: Normal (default) \ Fast

### **Typematic Rate Setting**

Keystrokes repeat at a rate determined by the keyboard controller – when enabled, the typematic rate and typematic delay can be selected. Options: Disabled (default) \ Enabled

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

The rate at which a character repeats when you hold down a key.  
Options: 6 (default) \ 8 \ 10 \ 12 \ 15 \ 20 \ 24 \ 30

### **Typematic Delay (Msec)**

The delay before keystrokes begin to repeat. Options: 250 (default) \ 500 \ 750 \ 1000

### **APIC Mode**

By enabling this option, “MPS version control for OS” can be configured.  
Options: Disabled \ Enabled (default)

### **MPS Version Control For OS**

The 1.1 version is the older version, that supports 8 more IRQs in the Windows NT. Choose the new 1.4 version for Windows 2000 and Windows XP. Options: 1.4 (default) \ 1.1

### **OS Select For DRAM > 64MB**

Select “OS2” only if you are running the OS/2 operating system with greater than 64MB of RAM. Options: Non-OS2 (default) \ OS2

### **HDD S.M.A.R.T. Capability**

Self Monitoring Analysis and Reporting Technology is a technology that enables a PC to attempt to predict the possible failure of storage drives. Options: Disabled (default) \ Enabled

### **Small LOGO (EPA) Show**

This item allows you to show or hide the small LOGO EPA.  
Options: Disabled (default) \ Enabled

## Advanced Chipset Features

### DRAM Clock/Drive Control

Press <Enter> to enter next page for DRAM Clock/Drive Control settings.

#### DRAM CAS Latency

This item determines DRAM CAS Latency. 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. Options: 2.5 (default) \ 2

#### DRAM Timing

This item determines DRAM clock/ timing by SPD or manual configuration. Options: By SPD (default) \ Manual

#### Precharge to Active (Trp)

You can set the time to precharge. Options: 3T (default) \ 2T

#### Active to Precharge (Tras)

Set the DRAM type to select the number of DRAM timing. Options: 6T (default) \ 5T

#### Active to CMD (Trcd)

Select the DRAM delay time when being read. Options: 3T (default) \ 2T

#### DRAM Burst Length

This item determines DRAM Burst Length. Options: 4 (default) \ 8.

#### DRAM Queue Depth

This item determines DRAM Queue Depth. Options: 2 level \ 3 level \ 4 level (default).

#### DRAM Command Rate

The item determines DRAM Command Rate. Options: 2T Command(default) \ 1T Command.

### AGP & P2P Bridge Control

If you highlight the literal "Press Enter" next to the "AGP & P2P Bridge Control" label and then press the enter key, it will take you a submenu with the following options:

### **AGP Aperture Size**

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

Options: 256M \ 128M \ 64M (default) \ 32M \ 16M \ 8M \ 4M

### **AGP Mode**

This item allows you to select the AGP Mode. Options: 1X \ 2X \ 4X (default)

### **AGP Driving Control**

By choosing "Auto" the system BIOS will automatically set the AGP output Buffer Drive strength P. By choosing "Manual", it allows user to set AGP output Buffer Drive strength P Ctrl. Options: Auto (default) \ Manual

### **AGP Driving Value**

While the AGP Driving Control option set to "Manual", it allows the user to set AGP Driving Value. Option: DA (default).

### **AGP Fast Write**

The AGP Fast Write technology allows the CPU to write directly to the graphics card by passing the system AGP 4X speed. Choose "Enable" only when you used with AGP card support. Options: Disabled (default) \ Enabled

### **AGP Master 1 WS Write**

When enabled, writes to the AGP (Accelerated Graphics Port) are executed with one wait state. Options: Disabled (default) \ Enabled

### **AGP Master 1 WS Read**

When enabled, read from AGP (Accelerated Graphics Port) are executed with one wait states. Options: Disabled (default) \ Enabled

## **CPU & PCI Bus Control**

If you highlight the literal "Press Enter" next to the "CPU & PCI Bus Control" label and then press the enter key, it will take you a submenu with the following options:

### **PCI1/2 Master 0 WS Write**

When enabled, writes to the PCI bus are executed with zero-wait states.  
Options: Enabled (default) \ Disabled



### **PCI Delay Transaction**

The chipset has an embedded 32-bit post-e write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification.

Options: Disabled (default) \ Enabled

### **Memory Hole**

When enabled, you can reserve an area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. Refer to the user documentation of the peripheral you are installing for more information. Options: Disabled (default) \ Enabled

### **System BIOS Cacheable**

When enabled, access to system BIOS ROM addressed at F0000H-FFFFFH is cached, provided that the cache controller is enabled. Options: Enabled \ Disabled (default)

### **Video RAM Cacheable**

Select enabled to allow caching of the video BIOS, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

Options: Enabled \ Disabled (default)

## **PnP/PCI Configurations**

### **PNP OS Installed**

When set to YES, BIOS will only initialize the PnP cards used for the boot sequence (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Windows<sup>®</sup> 95. When set to NO, BIOS will initialize all the PnP cards. For non-PnP operating systems (DOS, Netware), this option must set to NO. Options: No (default) \ Yes

### **Reset Configuration Data**

Default is "Disabled". Select "Enabled" to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot.

Options: Disabled (default) \ Enabled

### **Resources Controlled By**

BIOS can automatically configure all the boot and Plug and Play compatible devices. If you choose Auto, you cannot select IRQ DMA and memory base address fields, since BIOS automatically assigns them. Options: Auto <ESCD> (default) \ Manual

## **IRQ Resources**

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt. This is only configurable when "Resources Controlled By" is set to "Manual".

IRQ-3	assigned to: PCI device
IRQ-4	assigned to: PCI device
IRQ-5	assigned to: PCI device
IRQ-7	assigned to: PCI device
IRQ-9	assigned to: PCI device
IRQ-10	assigned to: PCI device
IRQ-11	assigned to: PCI device
IRQ-12	assigned to: PCI device
IRQ-14	assigned to: PCI device
IRQ-15	assigned to: PCI device

## **PCI / VGA Palette Snoop**

Some graphic controllers that 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. Options: Disabled (default) \ Enabled

## **PCI Latency Timer (CLK)**

This item allows you to set up the PCI Latency Time (0-255). If you select the 32 PCI Clock it will optimize PCI speeds. Options: 0-255 \ 32 (default)

## **PCI1/2/3/4/5/6 IRQ Assignment**

This item allows you to assign the PCI Slot's IRQs.  
Options: Auto (default) \ 3 \ 4 \ 5 \ 7 \ 9 \ 10 \ 11 \ 12 \ 14 \ 15

## Frequency/Voltage Control

### CPU Speed Detected

This item displays the CPU speed information detected by the system.

### CPU Ratio

Before you adjust the option, please make sure that your CPU ratio can be adjusted. This item displays the CPU ratio information detected by the system. Options: 5、5.5、6、6.5、7、7.5、8、8.5、9、9.5、10、10.5、11、11.5、12、12.5

### Spread Spectrum

The Spread Spectrum function can reduce the EMI (Electromagnetic Interference) generated. Options: Enabled (default)、Disabled

### CPU Clock

This item displays the CPU Host Clock.

CPU Clock frequency (JP2) set on 100 MHz the setting options from 100 MHz to 132 MHz

CPU Clock frequency (JP2) set on 133 MHz the setting options from 133 MHz to 233 MHz

### DDR: CPU Ratio

This item allows you to adjust your DRAM: CPU Clock Ratio. This option allows you to over-clock the system.

CPU Clock frequency (JP2) set on 100 MHz Options: 2.00x、2.66x、3.33x

CPU Clock frequency (JP2) set on 133 MHz Options: 2.00x、2.50x

### DDR Speed (strobe/sec)

This item displays the DDR Speed. (CPU Clock \* DDR: CPU Ratio)

### Default CPU Voltage (Volt)

This item displays the CPU Voltage information; which detected by the system.

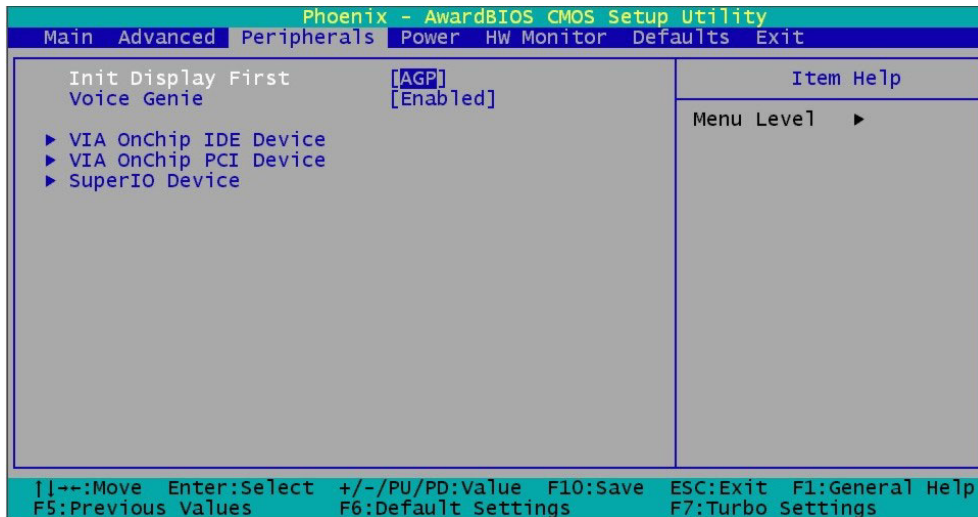
### CPU Voltage (Volt)

This item allows you to adjust the CPU core voltage. Options range from 1.100 to 1.850

### RAM Voltage (Volt)

This item allows you to adjust the RAM voltage. Options: 2.5、2.6、2.7、2.8

# Integrated Peripherals



## Init Display First

With systems that have multiple video cards, this option determines whether the primary display uses a PCI Slot or an AGP Slot. Options: AGP (default) \ PCI Slot.

## Voice Genie (with KX400+ & KX400+ PRO)

This option allows to enable/disable diagnosis function of Voice Genie.

## **VIA OnChip IDE Device**

If you highlight the literal "Press Enter" next to the "VIA Onchip IDE Device" label and then press the enter key, it will take you a submenu with the following options:

### **IDE Channel 0/1**

The mainboard chipset contains a PCI IDE interface with support for two IDE channels. Select "Enabled" to activate the first and/or second IDE interface. Select "Disabled" to deactivate an interface if you are going to install a primary and/or secondary add-in IDE interface. Options: Enabled (default) \ Disabled

### **IDE Prefetch Mode**

The "onboard" IDE drive interfaces supports IDE prefetching for faster drive access. If you install a primary and/or secondary add-in IDE interface, set this option to "Disabled" if the interface does not support prefetching. Options: Enabled (default) \ Disabled

### **Primary / Secondary /Master / Slave PIO**

The IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the IDE devices that the onboard IDE interface supports. Modes 0 to 4 will increase performance progressively. In Auto mode, the system automatically determines the best mode for each device. Options: Auto (default) \ Mode0 \ Mode1 \ Mode2 \ Mode3 \ Mode4.

### **Primary / Secondary /Master / Slave UDMA**

Ultra DMA/100 functionality can be implemented if it is supported by the IDE hard drives in your system. As well, your operating environment requires a DMA driver (Windows 95 OSR2 or a third party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/100, select Auto to enable BIOS support.

Options: Auto (default) \ Disabled

### **IDE HDD Block Mode**

Block mode is otherwise known as block transfer, multiple commands, or multiple sector read/write. Select the "Enabled" option if your IDE hard drive supports block mode (most new drives do). The system will automatically determine the optimal number of blocks to read and write per sector. Options: Enabled (default) \ Disabled

## **VIA OnChip PCI Device**

If you highlight the literal "Press Enter" next to the "VIA OnChip PCI Device" label and then press the enter key, it will take you a submenu with the following options:

## **AC97 Audio**

This option allows you to control the onboard AC97 audio.  
Options: Auto (default) \ Disabled

## **Onboard Audio Codec**

This option allows you to control the onboard audio codec.  
Options: Enabled (default) \ Disabled

## **AC97 Modem (with KX400+ & KX400+ PRO)**

This option allows you to control the onboard AC97 modem.  
Options: Auto (default) \ Disabled

## **USB Controller**

This option should be enabled if your system has a USB port installed on the system board. You will need to disable this feature if you add a higher performance controller.  
Options: Enabled (default) \ Disabled

## **USB Device Support**

Enables support for USB attached keyboards. Options: Disabled (default) \ Enabled

## **Super IO Device**

If you highlight the literal "Press Enter" next to the "Super IO Device" label and then press the enter key, it will take you a submenu with the following options:

## **Onboard FDC Controller**

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install an add-in FDC or the system has no floppy drive, select "Disabled" in this field. Options: Enabled (default) \ Disabled

## **Onboard Serial Port 1**

Select an address and corresponding interrupt for the first serial port.  
Options: Disabled \ 3F8/IRQ4 (default) \ 2F8/IRQ3 \ 3E8/IRQ4 \ 2E8/IRQ3 \ Auto

## **Onboard Serial Port 2**

Select an address and corresponding interrupt for the second serial port.  
Options: Disabled \ 2F8/IRQ3 (default) \ 3F8/IRQ4 \ 3E8/IRQ4 \ 2E8/IRQ3 \ Auto.

## **UART Mode Select**

This item allows you to select the Infra Red (IR) standard to be used of onboard I/O chip. Options: Normal (default) \ AS KIR \ IrDA.

## **RxD, TxD Active**

This item determines the RxD and TxD frequencies. Options: Hi / Lo (default) \ Hi / Hi \ Lo / Hi \ Lo / Lo.

## **IR Transmission Delay**

This item allows you to enable/disable IR transmission delay. Options: Enabled (default) \ Disabled.

## **UR2 Duplex Mode**

Select the value required by the IR device connected to the IR port. Full-duplex mode permits simultaneous bi-directional transmission. Half-duplex mode permits transmission in only one direction at a time. Options: Half (default) \ Full

## **Onboard Parallel Port**

This item allows you to determine the parallel port interrupt and address. Options: 378/IRQ7 (default) \ 278/IRQ5 \ 3BC/IRQ7 \ Disabled

## **Parallel Port Mode**

This option allows you to select an operating mode for the on board parallel print port.

Options: ECP(default). ECP means that using Parallel port as Extended Capabilities Port.

EPP	Using Parallel Port as Enhanced Parallel Port.
SPP	Using Parallel port as Standard Printer Port.
ECP+EPP	Using Parallel port as ECP & EPP mode.

## **EPP Mode Select**

Select EPP port type 1.7 or 1.9. Options: EPP 1.7(default), EPP1.9.

## **ECP Mode Use DMA**

Select a DMA Channel for the port. Options: 3 (default) \ 1

## **Game Port Address**

Game Port I/O Address. Options: 201 (default) \ 209 \ Disabled

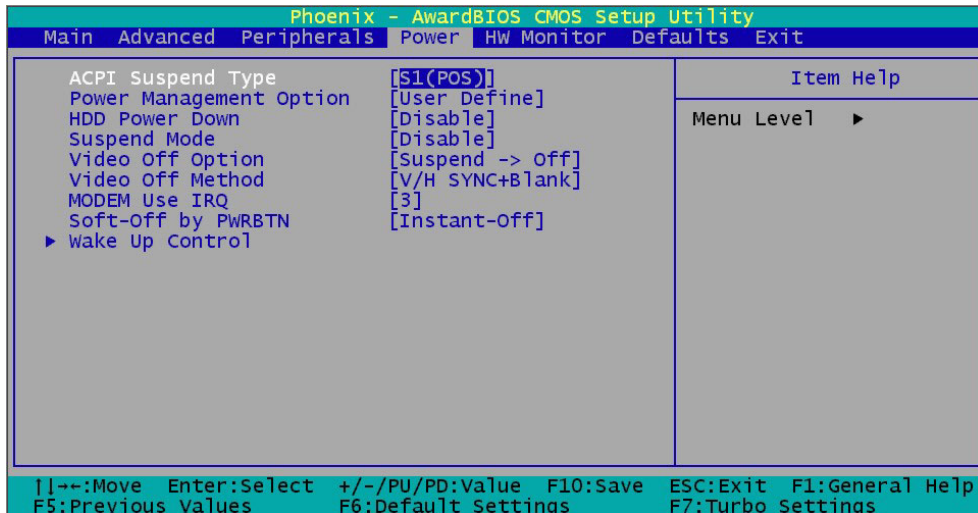
## **Midi Port Address**

Midi Port Base I/O Address. Options: 330 (default) \ 300 \ 290 \ Disabled

## **Midi Port IRQ**

This determines the IRQ that Midi Port will use. Options: 5 (default) \ 10

# Power Management



The Power Management Setup Menu allows you to configure your system to utilize energy conservation features as well as power-up/ power-down options.

## ACPI Suspend Type

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

Options: S1 (POS) (default) Power on Suspend  
 S3 (STR) Suspend to RAM  
 S1 & S3 Go S1 or S3 depend on hardware and driver supports

## Power Management Option

There are three options of Power Management, three of which have fixed mode settings:

Min. Power Saving  
 Minimum power management.  
 Suspend Mode = 1 hr. HDD Power Down = 30 min  
 Max. Power Saving  
 Maximum power management only available for SI CPU's.  
 Suspend Mode = 1 min. HDD Power Down = 6 min.  
 User Defined (default)  
 Allow you to set each mode individually.



When not disabled, each of the ranges is from 1 min. to 1 hr. except for HDD Power Down, which ranges from 1 min. to 15 min. and disable.

## **HDD Power Down**

When enabled, the hard disk drive will power down after a certain configurable period of system inactivity. All other devices remain active. Options: Disabled (default) \ 1 Min \ 2 Min \ 3 Min \ 4 Min \ 5 Min \ 6 Min \ 7 Min \ 8 Min \ 9 Min \ 10 Min \ 11 Min \ 12 Min \ 13 Min \ 14 Min \ 15Min

## **Suspend Mode**

This item allows you to select the suspend type using the ACPI operating system. Options: Disabled (default) \ 1 Min \ 2 Min \ 4 Min \ 6 Min \ 8 Min \ 10 Min \ 20 Min \ 30 Min \ 40 Min \ 1 Hour

## **Video Off Option**

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

Options: Suspend→Off (default), Always On.

## **Video Off Method**

This option determines the manner in which the monitor is goes blank.

Options: V/H SYNC+Blank (default)

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 modem's IRQ. Options: 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." Options: Delay 4 Sec, Instant-Off (default).

## **Wake Up Control**

If you highlight the literal "Press Enter" next to the "Wake Up Control" label and then press the enter key, it will display a submenu with the following options:

## **PWRON After PWR-Fail**

This option determines whether you want to restart the system after a power failure, select "On", to boot the system whether or not the system was on before power failure. Choose Former-Sts, to restore the system to the status before the power failure.

Options: Off (default) \ On, Former-Sts.

## **PS2KB Wake Up Select**

Use this option to configure the PS2 keyboard Wake Up feature.

"Password" Use this selection to force user to enter a password after the system awoken from PS2 keyboard activity. Press the enter key to enter a password.

"Hot Key" Use PS2KB key to awake the system. See "PS2KB Wake Up from S3-S5" to configure the hotkey.

## **PS2KB Wake Up from S3-S5**

This option is used when "PS2KB Wake Up Select" is configured as "HOT KEY".

Options: Disable, Ctrl+F1(to F12), Power, Wake, Anykey.

## **USB Wake Up**

This item allows you to select USB devices to awaken the system from suspend mode.

Options: Disabled (default) \ Enabled

## **VGA**

When set to "On", any event occurring at a VGA Port will awaken a system which had been previously powered down. Options: OFF (default) \ On.

## **LPT & COM**

When this option is set to On, any event occurring at a COM(serial)/LPT (printer) port will awaken a system which has been powered down.

Options: LPT/COM (default) \ COM \ LPT \ NONE.

## **HDD & FDD**

When set to "On", any event occurring on a hard drive activity or a floppy drive will awaken a system which had been previously powered down. Options: ON (default) \ OFF

## **PCI Master**

When set to "On", you need a LAN add-on card which supports the power function. It should also support the wake-up on LAN jumper. Options: OFF (default) \ ON.

## LAN Wake Up

To use this function, you need a LAN add-on card which supports power on functions. As well as the wake-up on LAN jumper. Options: Disabled (default) \ Enabled.

## PCI PME Wake Up

When you select "Enabled", a PME signal from any PCI card awakens the system. Options: Disabled (default) \ Enabled

## RTC Wake Up

When "Enabled", you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode. Options: Enabled \ Disabled (default)

## Date (of Month)

You can choose which month the system will boot up. This field is only configurable when "RTC Wake Up" is set to "Enabled"

## Resume Time (hh: mm: ss)

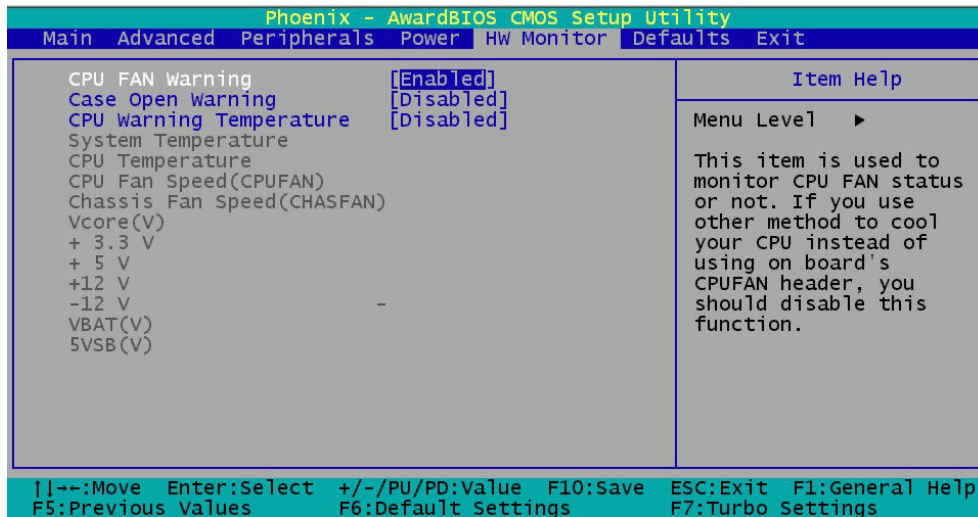
You can choose the hour, minute and second the system will boot up. This field is only configurable when "RTC Wake Up" is set to "Enabled"

## IRQs Activity Monitoring

Press Enter to access a sub menu used to configure the different wake up events (i.e. wake on LPT & COMM activity).

Primary INTR	On
IRQ3 (COM2)	Enabled
IRQ4 (COM1)	Enabled
IRQ5 (LPT2)	Enabled
IRQ6 (Floppy Disk)	Enabled
IRQ7 (LPT1)	Enabled
IRQ8 (RTC Alarm)	Disabled
IRQ9 (IRQ2 Redir)	Disabled
IRQ10 (Reserved)	Disabled
IRQ11 (Reserved)	Disabled
IRQ12 (PS/2 Mouse)	Enabled
IRQ13 (Coprocessor)	Enabled
IRQ14 (Hard Disk)	Enabled
IRQ15 (Reserved)	Disabled

# Hardware Monitoring



## CPU FAN Warning

This item is used to monitor CPU FAN status. If you use another method to cool your CPU instead of using the onboard CPUFAN header, you should disable this function.  
Options: Enabled (default) \ Disabled

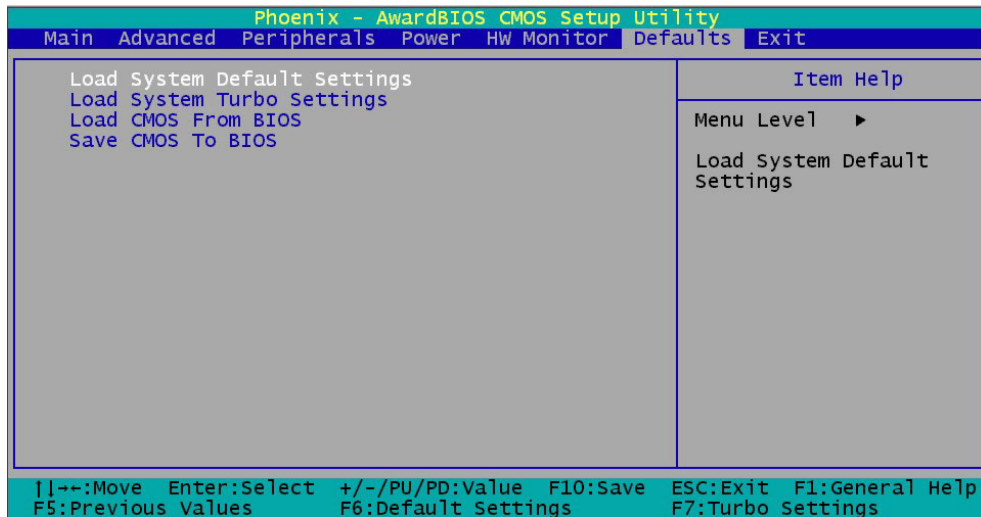
## Case Open Warning

If this function is set to "Enabled" and the case had been previously opened, the system will automatically display alert messages on the screen when you power on your computer. If this function is set to "Disabled", the system will not show alert messages when you power on your computer even if the case is opened by others.  
Options: Disabled (default) \ Enabled

## CPU Warning Temperature

This item allows you to set the temperature limit for your CPU. When the CPU temperature exceeds than this unit, a warning mechanism will be activated.  
Options: Disabled (default) \ Enabled

# Load Defaults



## Load System Default Settings

Load System Default Settings

## Load System Turbo Settings

Load System Turbo Settings

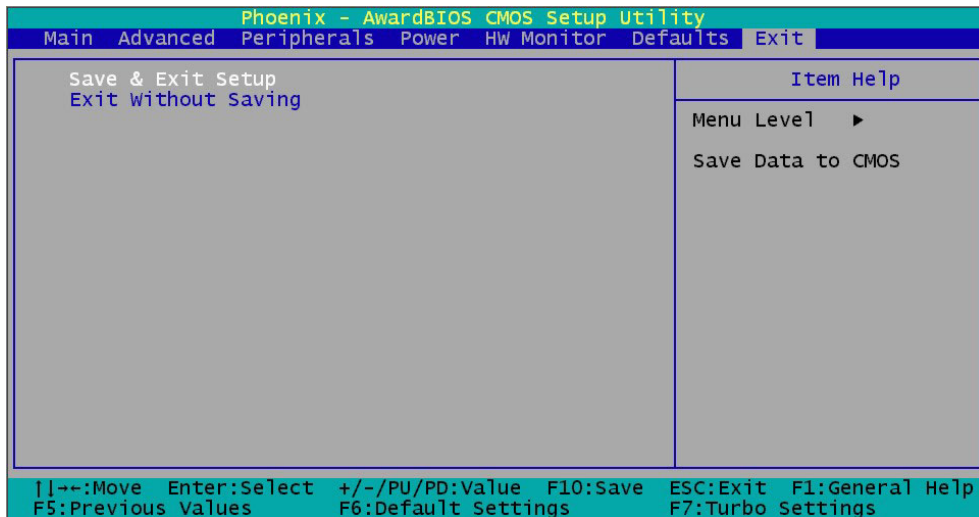
## Load CMOS From BIOS

Load defaults from flash ROM for systems without batteries

## Save CMOS To BIOS

Save defaults to flash ROM for systems without batteries

## Exit Menu



### Save & Exit Setup

Save all configuration changes to CMOS (memory) and exit setup. A confirmation message will be displayed before proceeding.

### Exit Without Saving

Abandon all changes made during the current session and exit setup. A confirmation message will be displayed before proceeding.

## Chapter 3: Software Setup

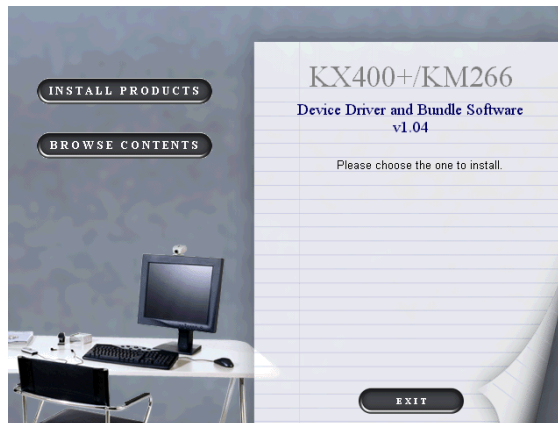
### Software List

Category	Platform
VIA Service Pack (4 In 1)	Windows 9X/ ME/ 2000/ XP
USB 2.0 Driver	
Onboard Audio Driver	
WinXP USB Wake from S3 Driver	
BIOS files	
PC-cillin 2002	
Acrobat Reader	

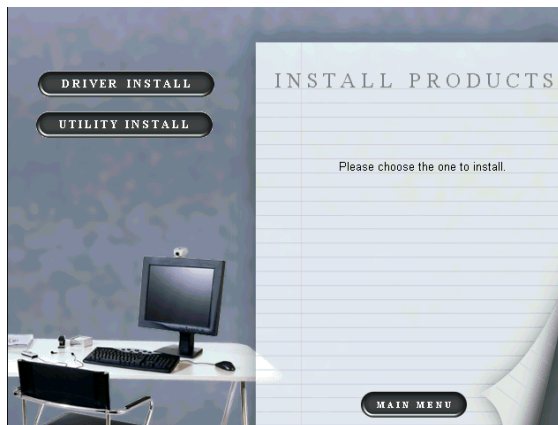
## Software Installation

Place the Driver CD into the CD-ROM drive and the Installation Utility will auto-run. You can also launch the Driver CD Installation Utility manually. Follow the steps below:

1. The first screen (Main Screen) will display two buttons. Click **INSTALL PRODUCTS**.

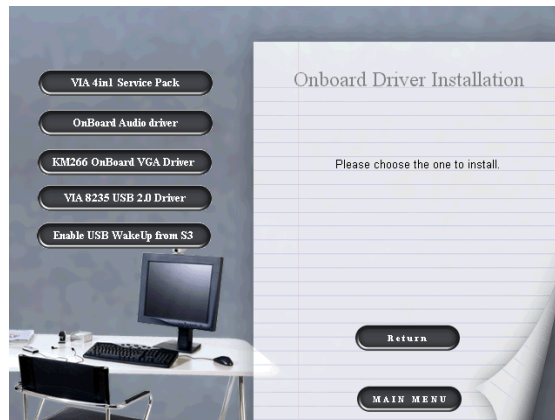


2. On the "Install Products" screen, click **DRIVER INSTALL**.

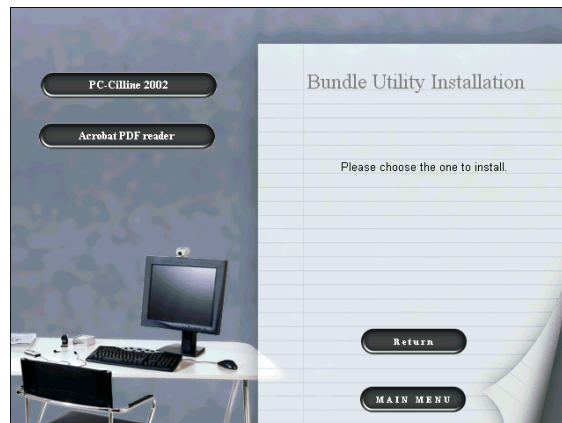




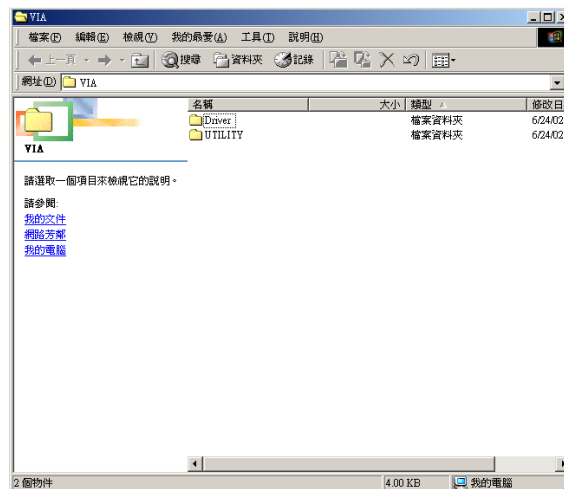
3. On the “Onboard Driver Installation” screen, select from the buttons below to install the appropriate drivers.



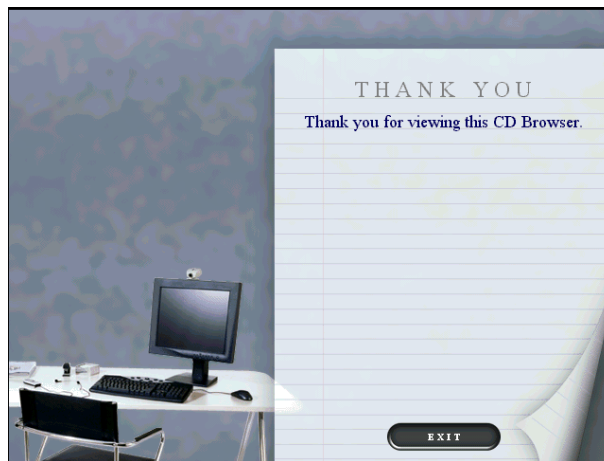
4. By clicking **UTILITY INSTALL** on the picture in step 2, you will have two programs to choose from and install. Click the appropriate button and follow the instructions.



5. Clicking the second button **BROWSE CONTENTS** from the screen in step 1, we can browse all the files in the Driver CD.




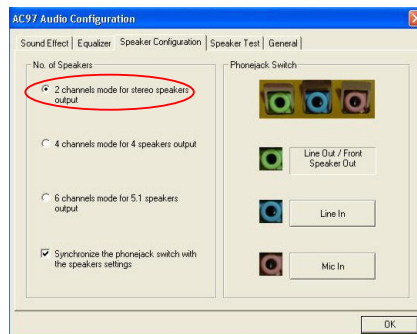
6. You can click **EXIT** to exit the Drive CD program.



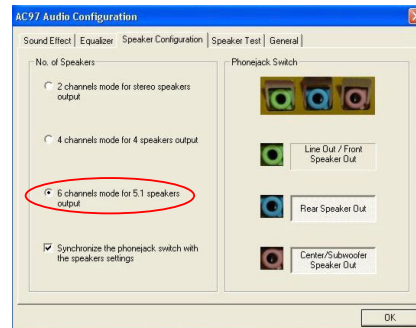
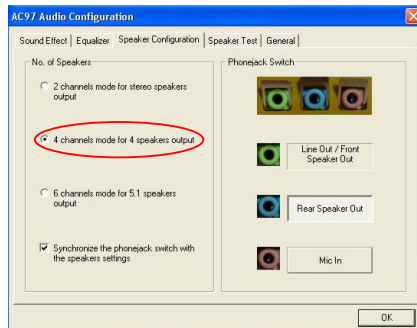
## Super 5.1 Channel Setup

This section describes how to configure the Super 5.1 Channel Audio system to produce 2, 4 or 6 channel (speaker) output.

1. From your Windows desktop click the audio icon  located in the lower right corner of the desktop.
2. Click the “Speaker Configuration” tab, which will display the screen below.



3. You can choose from a 2, 4 or 6 channel speaker system from the screens below.




### Super 5.1 Channel Audio Effect

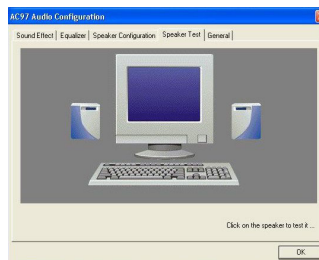
This mainboard comes with an ALC650 Codec which supports high quality 5.1 Channel audio effects. With ALC650, you are able to use standard line-jacks for surround audio output without connecting to any auxiliary external modules. To use this function, you have to install the audio driver in the bonus Pack CD as well as an audio application supporting 5.1 Channel audio functionality. See the audio port connectors in the Hardware Installation section for a description of the output connectors.

# Speaker Test

This section describes the steps to test the speakers previously configured as part of your Super 5.1 Channel Audio system.

1. Make sure that all cable is firmly into the connector.
2. from your Windows Desktop, locate the audio  icon at the lower right corner of the desktop.
3. Click the "Speaker Test" tab which will display one of the screens below.
4. Determine the speaker which you want to test and click the associated speaker icon on the screen.

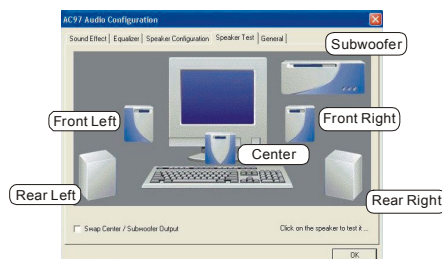
## 2 Channel



## 4 Channel



## 6 Channel



# Chapter 4: Troubleshooting

## Problem 1:

No power to the system. Power light does not illuminate. Fan inside power supply does not turn on. Indicator lights on keyboard are not lit.

Causes:

1. Power cable is unplugged.
2. Defective power cable.
3. Power supply failure.
4. Faulty wall outlet; circuit breaker or fuse blown.

Solutions:

1. Make sure power cable is securely plugged in.
2. Replace cable.
3. Contact technical support.
4. Use different socket, repair outlet, reset circuit breaker or replace fuse.

## Problem 2:

System inoperative. Keyboard lights are on, power indicator lights are lit, hard drive is active but system seems "hung"

Causes: Memory DIMM is partially dislodged from the slot on the mainboard.

Solutions:

1. Power Down
2. Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.

## Problem 3:

System does not boot from the hard disk drive but can be booted from the CD-ROM drive.

Causes:

1. Connector between hard drive and system board unplugged.
2. Damaged hard disk or disk controller.
3. Hard disk directory or FAT is corrupted.

Solutions:

1. Check the cable running from the disk to the disk controller board. Make sure both ends are securely attached. Check the drive type in the standard CMOS setup.
2. Contact technical support.
3. Backing up the hard drive is extremely important. Make sure you periodically perform backups to avoid untimely disk crashes.

#### **Problem 4:**

System only boots from the CD-ROM. The hard disk can be read and applications can be used but booting from the hard disk is impossible.

Causes: Hard Disk boot sector has been corrupted.

Solutions: Back up data and applications files. Reformat the hard drive. Re-install applications and data using backup disks.

#### **Problem 5:**

Error message reading "SECTOR NOT FOUND" displays and the system does not allow certain data to be accessed.

Causes: There are many reasons for this such as virus intrusion or disk failure.

Solutions: Back up any salvageable data. Then performs low level format, partition, and then a high level format the hard drive. Re-install all saved data when completed.

#### **Problem 6:**

Screen message says "Invalid Configuration" or "CMOS Failure."

Causes: Incorrect information entered into the BIOS setup program.

Solutions: Review system's equipment. Reconfigure the system.

#### **Problem 7:**

The Screen is blank.

Causes: No power to monitor.

Solutions: Check the power connectors to the monitor and to the system.

#### **Problem 8:**

Blank screen.

Causes:

1. Memory problem.
2. Computer virus.

Solutions:

1. Reboot computer. Reinstall memory. Make sure that all memory modules are securely installed.
2. Use anti-virus programs to detect and clean viruses.

#### **Problem 9:**

Screen goes blank periodically.

Causes: Screen saver is enabled.

Solutions: Disable screen saver.

### **Problem 10:**

Keyboard failure.

Causes: Keyboard is disconnected.

Solutions: Reconnect keyboard. Replace keyboard if you continue to experience problems.

### **Problem 11:**

No color on screen.

Causes:

1. Faulty Monitor.
2. CMOS incorrectly set up.

Solutions:

1. If possible, connect monitor to another system. If no color appears, replace monitor.
2. Call technical support.

### **Problem 12:**

The screen displays "C: drive failure."

Causes: Hard drive cable not connected properly.

Solutions: Check hard drive cable.

### **Problem 13:**

Cannot boot the system after installing a second hard drive.

Causes:

1. Master/slave jumpers not set correctly.
2. Hard drives are not compatible / different manufacturers.

Solutions:

1. Set master/slave jumpers correctly.

Run SETUP program and select the correct drive types. Call drive manufacturers for possible compatibility problems with other drives.

### **Problem 14:**

Missing operating system on hard drive.

Causes: CMOS setup has been changed.

Solutions: Run setup and select the correct drive type.

### **Problem 15:**

Certain keys do not function.

Causes: Keys jammed or defective.

Solutions: Replace keyboard.