

# FR31

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## MAINBOARD MANUAL

DOC No.: M99C05

Rev. : A0

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Part No. : 25-11534-20

## Handling Precautions

**Warning:**

1. Static electricity may cause damage to the integrated circuits on the mainboard. Before handling any motherboard outside of its protective packaging, ensure that your body is not electrostatically charged.
2. There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or an equivalent type of battery as recommended by the manufacturer.
3. Discard used batteries according to the manufacturer's instructions.

Observe the following basic precautions when handling the motherboard or other computer components:

- Wear a static wrist strap which fits around your wrist and is connected to a natural earth ground.
- Touch a grounded or anti-static surface or a metal fixture such as a water pipe.
- Ensure add-on cards, mainboards, and models do not come into contact with the golden fingers connectors, plugged into the expansion slot.

The above methods prevent static build-up and allow it to be discharged properly.

## Trademark

*All trademarks mentioned in this manual are registered property of the respective owners.*

## Handling Precautions

*This manual may not, in whole or in part, be photocopied, reproduced, transcribed, translated, or transmitted in whatever form without the written consent of the manufacturer, except for copies retained by the purchaser for personal archival purposes.*

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The mainboard has several user-adjustable jumpers and/or switches on the board that allow you to configure your system to suit your requirements. This quick reference contains information on the various hardware settings on your mainboard.

To set up your computer, you must complete the following steps:

- Step 1 - Set system jumpers/switches
- Step 2 - Install system memory modules
- Step 3 - Install the Central Processing Unit (CPU)
- Step 4 - Install expansion cards
- Step 5 - Connect ribbon cables, cabinet wires, and power supply
- Step 6 - Set up BIOS software
- Step 7 - Set up supporting software tools

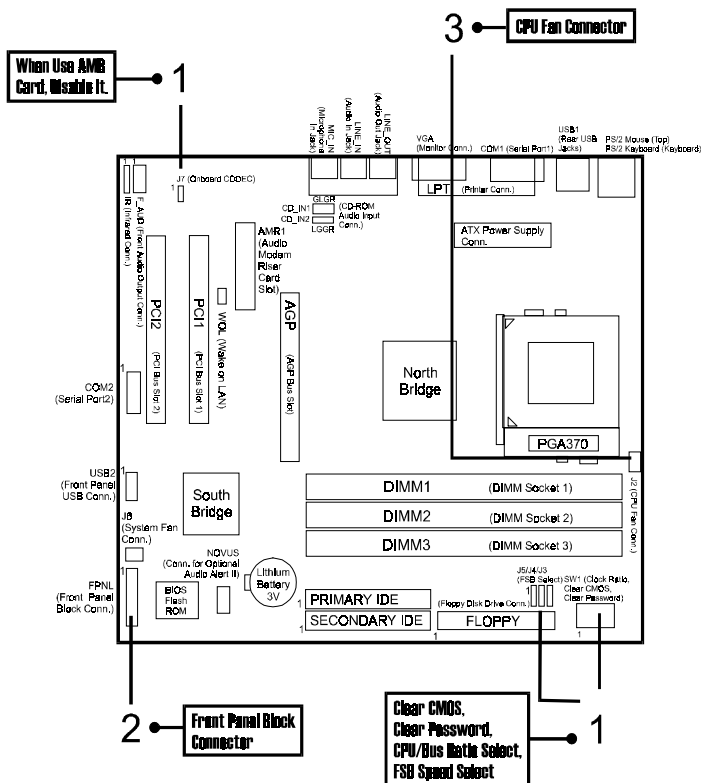
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Mainboard components contain very delicate Integrated Circuit (IC) chips. To prevent static electricity from harming any of the mainboard's sensitive components, you should follow the following precautions whenever working on the computer:

1. Unplug the computer when working on the inside.
2. Hold components by the edges and try not to touch the IC chips, leads, or circuitry.
3. Wear an anti-static wrist strap which fits around the wrist.
4. Place components on a grounded anti-static pad or on the bag that came with the component whenever the components are separated from the system.

## Mainboard Layout



# 1). CPU/BUS Speed Ratio Select, Clear CMOS, Clear Password, Front Side Bus Speed Select, AMR Card Function Enable

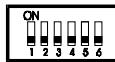
Ratio	DIP Switch SW1			
	SW1-1	SW1-2	SW1-3	SW1-4
2.5x	ON	ON	ON	OFF
3.0x	ON	ON	OFF	ON
3.5x	ON	ON	OFF	OFF
4.0x	ON	OFF	ON	ON
4.5x	ON	OFF	ON	OFF
5.0x	ON	OFF	OFF	ON
5.5x	ON	OFF	OFF	OFF
6.0x	OFF	ON	ON	ON
6.5x	OFF	ON	ON	OFF
7.0x	OFF	ON	OFF	ON
7.5x	OFF	ON	OFF	OFF
8.0x	OFF	OFF	ON	ON

**Note:** For the ratio that higher than 8.0x, please use a ratio-locked CPU and also select Auto Detect on FSB Selection if you use an Intel CPU.

## SW1-5 (Clear CMOS)

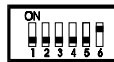


**Enable**  
(Clear CMOS)

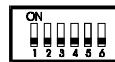


**Disable**  
(Default)

## SW1-6 (Clear Password)



**Enable**  
(Clear Password)



**Disable**  
(Default)

CPU	J3	Front Side Bus	J4	J5
Intel Cyrrix III	2-3	133	OPEN	OPEN
		100	2-3	OPEN
		66	2-3	2-3
		Auto Detect	1-2	1-2
Joshua	1-2	133	1-2	1-2
		100	2-3	1-2
		66	2-3	2-3

**Onboard CODEC: J7**  
**(When use AMR card,**  
**please set at Slave.)**



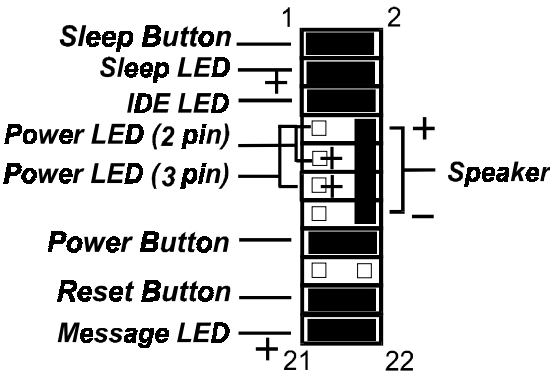
Slave



Master  
(Default)

CPU Speed = FS Bus x Ratio

2). Front Panel Block Cable Connection



3). CPU Fan Installation

This connector is linked to the CPU fan. When the system is in S3 power saving mode, the CPU fan will turn off; when it reverts back to full on mode, the fan will turn back on. Without sufficient air circulation, the CPU may overheat resulting in damage to both the CPU and the mainboard.

**Damage may occur to the mainboard and/or the CPU fan if these pins are used incorrectly. These are not jumpers, do not place jumper caps over these pins.**



## Overview

The Micro ATX, Socket 370 1stMainboard FR31 supports both the latest generation Intel® and Cyrix processors. Intel's new Celeron™ PPGA/FC-PGA and super fast Pentium FC-PGA Pentium®III processors are supported with Front Side Bus speeds of 66/100/133 MHz, while Cyrix III Processors are supported at Front Side Bus speeds of 133 MHz.

The 1stMainboard FR31 is built around the new VIA PM133 chipset supporting both DVD and AGP 4x, thus ensuring photo-realistic 3D. Onboard AC97 sound ensures high quality audio, while providing the option of being disabled through the BIOS. Support for the Ultra DMA/100 protocol ensures for high data transfer speeds especially for long sequential transfers required by audio/visual applications. With 3 DIMM there is up to 1.5 GB available SDRAM with further VC SDRAM support.

The 1stMainboard FR31 comes standard with the NOVUS range of innovative features that assist in the installation and maintenance of your 1stMainboard. The features include *HotKey*, which provides instant keyboard access to the BIOS for adjustments to Clock and Default settings, *LogoGenie*, which allows you to create your own customized logo to be displayed during system boot up and *BIOS Guardian*, an Anti Virus utility that prevents viruses from damaging your system BIOS. *Clockometer* is a user friendly Graphic User Interface that allows you to change clock speed settings directly, without having to enter the BIOS Sub-Menus, while *AudioAlert!*, the World's first voice warning system for motherboards, warns you with an audio caution, if when booting no CPU, memory or VGA are detected.

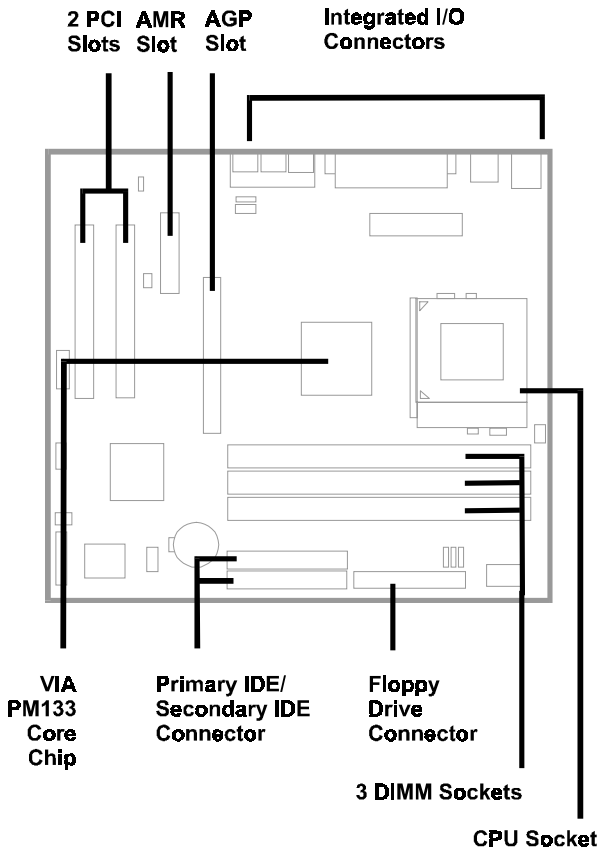
Expansion is provided by 1 AGP, 2 PCI slots, and 1AMR. I/O connections include 2 serial ports, 1 parallel port, 1 VGA port, 1 PS/2 mouse and keyboard connector, 2 USB connectors, 2 front USB pin-headers and 1 media connector (MIDI/Game Port, Line-In, Line-Out, Mic-In).

## Package Checklist

If you discover any item below was damaged or lost, please contact your vendor.

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> The mainboard    | <input checked="" type="checkbox"/> This user manual                   |
| <input checked="" type="checkbox"/> One FDD cable    | <input checked="" type="checkbox"/> One HDD cable                      |
| <input checked="" type="checkbox"/> One ATA/66 cable | <input checked="" type="checkbox"/> Two software CDs (CD Pro, CD Plus) |
| Audio Alert I/II module                              | <i>(optional)</i>  |
| Front USB cable                                      | <i>(optional)</i>  |
| Front Audio cable                                    | <i>(optional)</i>  |
| One COM2 cable                                       | <i>(optional)</i>  |

## The FR31 Mainboard



## Main Features

### ■ Easy Installation

BIOS with support for Plug and Play, auto detection of IDE hard drives, LS-120 drives, IDE ZIP drives, Windows 95, Windows 98, Windows ME, Windows NT, Windows 2000, and OS/2.

### ■ Leading Edge Chipset

VIA PM133 provides integrated DRAM controllers with new Dynamic Power Management Architecture (DPMA), concurrent PCI, AGP 1.0/2.0 compliant and USB.

### ■ Versatile Main Memory Support

Accepts up to 1.5GB DRAM using three DIMMs of 32, 64, 128, 256, 512MB with support for lightning-fast SDRAM (66/100/133MHz).

### ■ Flexible Processor Support

Onboard CPU socket supports:

Intel® Celeron PPGA/FCPGA 433/500/533/566/600/633/667/700/766MHz at 66MHz FSB

Intel® CuMine FCPGA 500/550/600/650/700/750/800/850MHz at 100MHz FSB

Intel® CuMine FCPGA 533/566/600/667/733/800/866/933MHz/1GHz at 133MHz FSB

Cyrix® III 533/600MHz at 133MHz FSB

Cyrix® III 550/600MHz at 100MHz FSB

### ■ PCI Expansion Slots, and AMR Slot

Two 32-bit PCI Bus expansion slots provide the room to install a full range of add-on cards, an AMR slot for audio-modem riser card.

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**■ Compact Onboard Audio Subsystem**

Embedded in VIA 686B, an integrated PCI-mastering dual full-duplex direct-sound AC97-link-compatible audio subsystem. Hardware sound blaster pro and FM blocks are combined for MS Windows DOS box and real mode DOS compatibility. The loopback capability implemented for re-directing mixed audio streams into USB speakers for digital sound.

**■ Onboard IrDA Connector**

An IrDA connector for wireless infrared connections is available.

**■ Remote Wake-Up Support**

One LAN wake-up connector, WOL, supports LAN cards equipped for remote wake-up functionality.

**■ Super Multi Input/Output (I/O) Support**

Integrated Plug and Play multi-I/O chipset features one high-speed UART 16550 compatible serial ports, one infrared port, one EPP/ECP capable parallel port, and one FDD connector.

**■ USB Support**

Two USB jacks for rear panel connection and two front USB ports for front panel connections provide you with convenient, high-speed Plug and Play connections to the growing number of USB compliant external peripheral devices on the market.

**■ Enhanced PCI Bus Master IDE Controller with Ultra DMA/33 and Ultra DMA/66/100 Support**

Integrated Enhanced PCI Bus Master IDE controller features two dual-channel connectors that accept up to four Enhanced IDE devices, including CD-ROM and Tape Backup Drives, as well as Hard Disk Drives supporting the new Ultra DMA/66 protocol. Standard PIO Mode 3, PIO Mode 4, DMA Mode 2, DMA Mode 4, UltraDMA-100 Mode 5 devices are also supported.

## ACPI Ready

This mainboard fully implements the new ACPI (Advanced Configuration and Power Interface) 1.0B Hardware and BIOS requirement. If you install ACPI aware of operating system, such as Windows 98, you fully utilized the power saving under ACPI. (*Windows 2000 Professional supports ACPI functions.*)

## FIC Unique Innovation for Users (NOVUS) - Enhanced Mainboard Features and System Support

### ■ LogoGenie

A user friendly GUI supporting Windows 95/98 (not Windows 2000/NT/ME), LogoGenie allows you to customize, create or select a Logo which will be displayed when the system is booting.



#### NOTE:

1. LogGenie supports Award BIOS only.
2. If you create a Logo file (.bmp) by LogoGenie, the file size must be 640 x 464 x 256 colors.

To enable this utility, please proceed as follows:

1. Insert CD Pro (4.2 or above). Select LogoGenie from the Menu and follow the installation instructions.
2. After LogoGenie has been installed, go to Windows Start Box. In Programs Menu, select LogoGenie 2.0, then select LogoGenie.
3. Press F1 to read Help file to understand how to use this software if it is new to you.



**WARNING:** While excute Step3 below, please do not turn off the system power in order to avoid BIOS damage.

#### ■ BIOS Guardian

BIOS Guardian by default is enabled. It must be disabled in order to reflash BIOS, thus effectively acts as a fire-wall against viruses that can attack the BIOS while the system is running.

BIOS Guardian can be disabled as follows:

1. Go to BIOS Set Up Menu. (Press **Del** key while booting.)
2. Go to Advanced BIOS Features Set Up Submenu.
3. Disable BIOS Guardian.
4. Save the setting, and restart system.



**NOTE:** However, if it is disabled and while boot the system, the POST screen will be held and shows you the message to let you know the current status of BIOS Guardian. To press **G** key will enable the BIOS Guardian again; or simply to press the **space bar** will continue the booting process.

#### ■ Easy Key

Instead of completing the multi-layered BIOS setup process these 3 Easy Key functions provide direct access to Sub-Menu's when completing BIOS settings adjustments.

Easy-Keys are as follows:

- Ctrl + c:** To enter clock settings menu.  
**Ctrl + p:** To load Performance Default settings and restart.  
**Ctrl + f:** To load Fail-Safe Default settings and restart.

### ■ Overclock Partner

Should the system not start because clock speed settings have been increased to a speed incompatible with the system, the Overclock Partner allows you to reboot at system default settings, protecting hardware from any damages.

Complete the following steps:

1. Turn the system off.
2. Restart while holding down the **Insert** key. It is important that the **Insert** key is held down until the default clock speed is shown on the POST screen.
3. Enter BIOS settings menu, and re-set clock speed desired or default.

### ■ Clockometer

Clockometer is a Windows 98 compatible, attractive and user friendly Graphic User Interface (GUI). Clockometer enables you to change clock speed settings directly, without having to enter the BIOS Sub-Menus. With the on-screen display panel you can easily monitor your new clock speed settings with gauges that identify your system speed, Front Side Bus settings and CPU Ratios

On screen buttons:

1. "+" and "-" buttons : adjust the Front Side Bus ( FSB )and CPU ratio. ( the 'hand' cursor means the active button)
2. "OK" button : changes the FSB and CPU ratio (if adjustable) settings right away. If you do not save your new setting, your system will not implement the new setting when rebooting the next time.
3. "SAVE" button : save your new settings for rebooting the computer.
4. "Quit" button will escape the Clockometer program.



### ■ Aduio Alert I/II (optional)

After complete a system upgrade, should the computer be assembled incorrectly, a friendly onboard voice caution, will advice the error during system boot up.

If you do not hear the Audio Alert, please check that your speakers are connected.

Audio warning are activated as follows:

**No CPU:** 'Caution! Processor not detected. Please check your PC'

**No Memory:** 'Caution! Memory not detected. Please check your PC'

**No Graphics:** 'Caution! VGA not detected. Please check your PC'

### ■ Usage of Optional Aduio Alert II

This mainboard came with an optional Audio Alert II daughter board. Audio Alert II detects and provides an audio warning details for such components as your CPU, VGA card and memory, while also monitoring your system clock status. The complimentary software contained in the CD Pro enables you to personalize these audio messages by recording new messages and saving them to flash memory.

## Installation

1. To install the Audio Alert II software, go to the Audio Alert II sub-directory in the CD-Pro disc that came bundled with your PC.
2. Reboot the system.
3. From **Start Icon** click through to **Audio Alert II Icon**.

## The Audio Alert II - Windows GUI will appear on your screen

4. Audio Menu. Highlight to select Selection Control Panel
5. Selection Control Panel.



Language Select: Select default language - English/Chinese/Japanese



Previous Message: Play the message previously recorded



Record to Flash-Memory: Press to update your own recordings to flash-memory



Default Recording: Play back default message

## 6. Recording Control Panel



Play Button: Play message / your recorded message as highlighted



Stop Button: Stop playing message / your recorded message



Record Button: Press to make your own recorded message

## Example

1. You would like to replace the default **CPU Detect** message with your own recording.
2. Select **CPU Detect** as per **4.** above.
3. Plug in a microphone to your MIC\_IN jack.
4. Double Click the **Record Button** and make your voice recording.
5. Double Click the **Stop Button** when you have completed your recording.
6. Double Click the **Play Button** to listen to your recording.
7. If you are satisfied with the recording you have made, click **Record to Flash-Memory Button**, as per **5.** above, or if you would like to re-record, repeat steps 4. to 6. in this example. (The re-flashing process will take approx. 6 minutes.)



**NOTE:** Audio Alert II software utility only comes after CD Pro 4.3 if you do not have program on your CD Pro, please go to FIC's web site to download the latest Audio Alert II utility.

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# Installation Procedures

The mainboard has several user-adjustable jumpers on the board that allow you to configure your system to suit your requirements. This chapter contains information on the various jumper settings on your mainboard.

To set up your computer, you must complete the following steps:

- Step 1 - Set system jumpers/switches
- Step 2 - Install memory modules
- Step 3 - Install the Central Processing Unit (CPU)
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- Step 7 - Install supporting software tools



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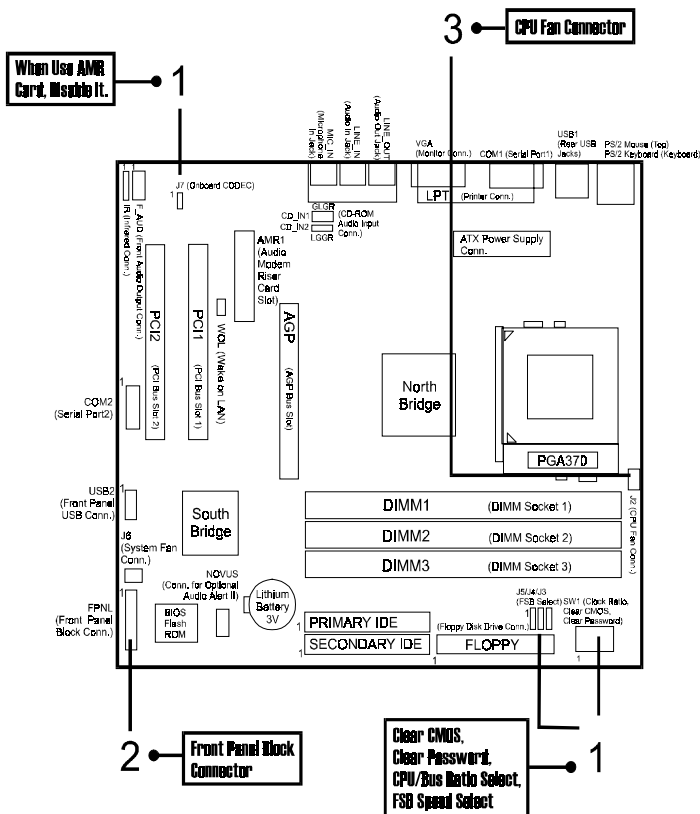
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2. Hold components by the edges and try not to touch the IC chips, leads, or circuitry.
3. Wear an anti-static wrist strap which fits around the wrist.
4. Place components on a grounded anti-static pad or on the bag that came with the component whenever the components are separated from the system.

## Quick Reference (from Page 2-2 to 2-4)

### Mainboard Layout

## Chapter 2 Installation Procedures



1). **CPU/BUS Speed Ratio Select, Clear CMOS, Clear Password, Front Side Bus Speed Select, AMR Card Function Enable**

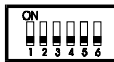
Ratio	DIP Switch SW1			
	SW1-1	SW1-2	SW1-3	SW1-4
2.5x	ON	ON	ON	OFF
3.0x	ON	ON	OFF	ON
3.5x	ON	ON	OFF	OFF
4.0x	ON	OFF	ON	ON
4.5x	ON	OFF	ON	OFF
5.0x	ON	OFF	OFF	ON
5.5x	ON	OFF	OFF	OFF
6.0x	OFF	ON	ON	ON
6.5x	OFF	ON	ON	OFF
7.0x	OFF	ON	OFF	ON
7.5x	OFF	ON	OFF	OFF
8.0x	OFF	OFF	ON	ON

**Note:** For the ratio that higher than 8.0x, please use a ratio-locked CPU and also select Auto Detect on FSB Selection if you use an Intel CPU.

**SW1-5 (Clear CMOS)**

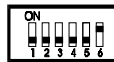


**Enable**  
(Clear CMOS)

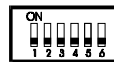


**Disable**  
(Default)

**SW1-6 (Clear Password)**



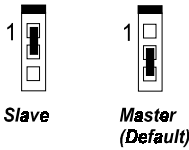
**Enable**  
(Clear Password)



**Disable**  
(Default)

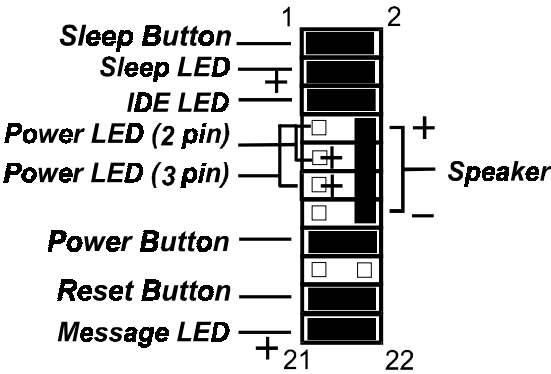
CPU	J3	Front Side Bus	J4	J5
Intel Cyrrix III	2-3	133	OPEN	OPEN
		100	2-3	OPEN
		66	2-3	2-3
		Auto Detect	1-2	1-2
Joshua	1-2	133	1-2	1-2
		100	2-3	1-2
		66	2-3	2-3

**Onboard CODEC: J7**  
**(When use AMR card,**  
**please set at Slave.)**



CPU Speed = FS Bus x Ratio

2). Front Panel Block Cable Connection



3). CPU Fan Installation

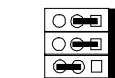
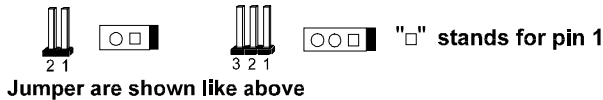
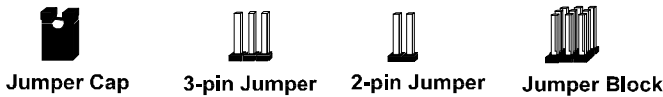
This connector is linked to the CPU fan. When the system is in S3 power saving mode, the CPU fan will turn off; when it reverts back to full on mode, the fan will turn back on. Without sufficient air circulation, the CPU may overheat resulting in damage to both the CPU and the mainboard.

*Damage may occur to the mainboard and/or the CPU fan if these pins are used incorrectly. These are not jumpers, do not place jumper caps over these pins.*



## 1). Set System Jumpers/Switches

Jumpers are used to select the operation modes for your system. Some jumpers on the board have three metal pins with each pin representing a different function. A “1” is written besides pin 1 on jumpers with three pins. To **set** a jumper, a black cap containing metal contacts is placed over the jumper pin/s according to the required configuration. A jumper is said to be **shorted** when the black cap has been placed on one or two of its pins. The types of jumpers used in this manual are shown below:



Jumpers in a Block



**NOTE:** Users are not encouraged to change the jumper settings not listed in this manual. Changing the jumper settings improperly may adversely affect system performance.

### Clear CMOS: SW1-5

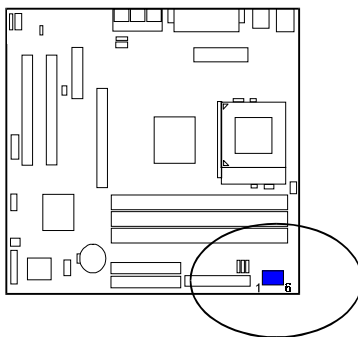
The CMOS RAM is powered by the onboard button cell battery. To clear the RTC data: (1) Turn off your computer. (2) Move the CMOS Clear switch SW1-5 to “On” (Enabled). (3) Turn on your computer to display “CMOS checksum error”. (4) Turn off your computer. (5) Move the CMOS Clear switch SW1-5 to “Off” (Disabled). (6) Turn on your computer. (7) Hold down the **Delete** key when boots. (8) Enter the BIOS Setup to re-enter user preferences.



**Enable**  
(Clear CMOS)



**Disable**  
(Default)

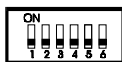


### Clear Password: SW1-6

This switch allows you to enable or disable the password configuration. You may need to enable this switch by moving it to the “On” (Enabled) position if you forget your password. To clear the password setting: (1) Turn off your computer. (2) Move the Clear Password switch SW1-6 to “On” (Enabled). (3) Turn on your computer. (4) Hold down the **Delete** key during bootup and enter BIOS Setup to re-enter user preferences. (5) Turn off your computer, (6) Move the Clear Password switch SW1-6 to “Off” (Disabled). (7) Turn on your computer for the new settings to take effect.



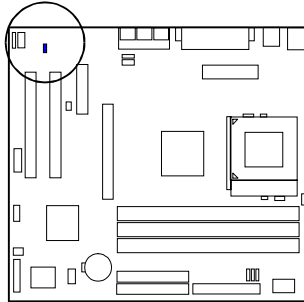
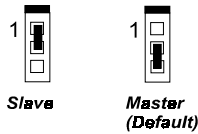
**Enable**  
(Clear Password)



**Disable**  
(Default)

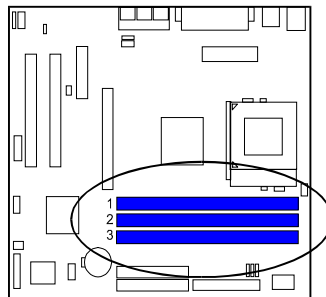
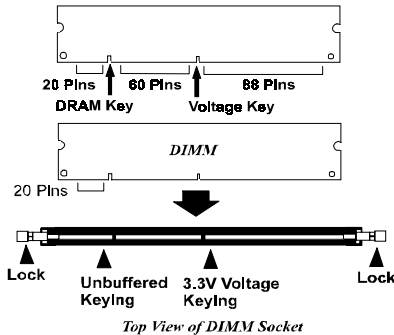
### AMR Card Function Enable: J7

The jumper J7 is used when an AMR card is installed; please set this jumper at 1-2, Slave for the reason of onboard CODEC.



## 2). Install Memory Modules

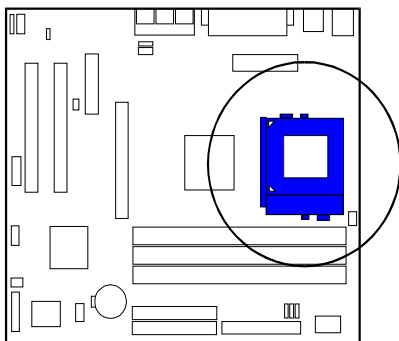
1. Locate the DIMM slots on the mainboard.
2. Install the DIMM straight down into the DIMM slot using both hands.
3. The clip on both ends of the DIMM slot will close up to hold the DIMM in place when the DIMM reaches the slot's bottom.



Press the clips with both hands to remove the DIMM.

### 3). Install the CPU

The mainboard has built-in Switching Voltage Regulator to support CPU Vcore autodetection. That is, It has the ability to detect and recognize the CPU voltage, clock, ratio and enables users to set up the CPU frequency from the BIOS Setup Screen. Users can adjust the frequency through “Frequency / Voltage Control” of the BIOS Setup Screen.

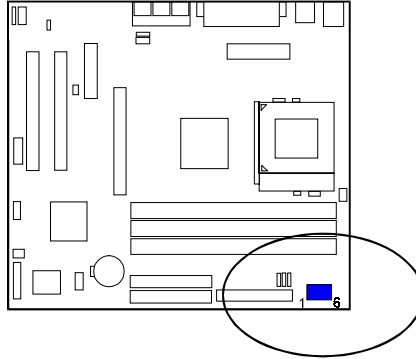


To install the CPU, do the following:

1. Lift the lever on the side of the CPU socket.
2. Handle the chip by its edges and try not to touch any of the pins.
3. Place the CPU in the socket. The chip has two notches to correctly locate the chip. Align two notches of the processor with the two triangular marks on the socket. Do not force the chip. The CPU should slide easily into the socket.
4. Swing the lever to the down position to lock the CPU in place.
5. Place the cooling fan with heatsink on top of the installed CPU.

## CPU/Bus Speed Ratio Select: SW1-1/2/3/4

The switch setting combination allow users to select the CPU/Bus speed ratio.

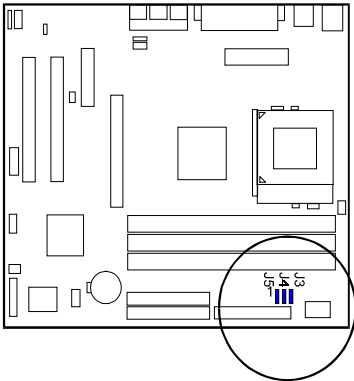


Ratio	DIP Switch SW1			
	SW1-1	SW1-2	SW1-3	SW1-4
2.5x	ON	ON	ON	OFF
3.0x	ON	ON	OFF	ON
3.5x	ON	ON	OFF	OFF
4.0x	ON	OFF	ON	ON
4.5x	ON	OFF	ON	OFF
5.0x	ON	OFF	OFF	ON
5.5x	ON	OFF	OFF	OFF
6.0x	OFF	ON	ON	ON
6.5x	OFF	ON	ON	OFF
7.0x	OFF	ON	OFF	ON
7.5x	OFF	ON	OFF	OFF
8.0x	OFF	OFF	ON	ON

**Note:** For the ratio that higher than 8.0x, please use a ratio-locked CPU and also select Auto Detect on FSB Selection if you use an Intel CPU.

*Front Side Bus Speed Select: J3/J4/J5*

The three jumpers, in a combination way, allow you to select the FSB speed according to the table below.

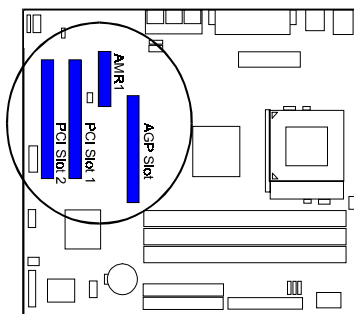


<i>CPU</i>	<i>J3</i>	<i>Front Side Bus</i>	<i>J4</i>	<i>J5</i>
<i>Intel Cyril III</i>	<i>2-3</i>	<i>133</i>	<i>OPEN</i>	<i>OPEN</i>
		<i>100</i>	<i>2-3</i>	<i>OPEN</i>
		<i>66</i>	<i>2-3</i>	<i>2-3</i>
		<i>Auto Detect</i>	<i>1-2</i>	<i>1-2</i>
<i>Joshua</i>	<i>1-2</i>	<i>133</i>	<i>1-2</i>	<i>1-2</i>
		<i>100</i>	<i>2-3</i>	<i>1-2</i>
		<i>66</i>	<i>2-3</i>	<i>2-3</i>

CPU Speed = FS Bus x Ratio

## 4). Install Expansion Cards

This section describes how to connect an expansion card to one of your system's expansion slots. Expansion cards are printed circuit boards that, when connected to the mainboard, increase the capabilities of your system. For example, expansion cards can provide video and sound capabilities. The mainboard features one AMR (audio-modem riser), one AGP, and two PCI bus expansion slots.



**CAUTION:** Make sure to unplug the power supply when adding or removing expansion cards or other system components. Failure to do so may cause severe damage to both the mainboard and expansioncards.

Always observe static electricity precautions.

Please read "Handling Precautions" at the start of this manual.

To install an expansion card, follow the steps below:

1. Remove the computer chassis cover and select an empty expansion slot.
2. Remove the corresponding slot cover from the computer chassis. Unscrew the mounting screw that secures the slot cover and pull the slot cover out from the computer chassis. Keep the slot cover mounting screw nearby.

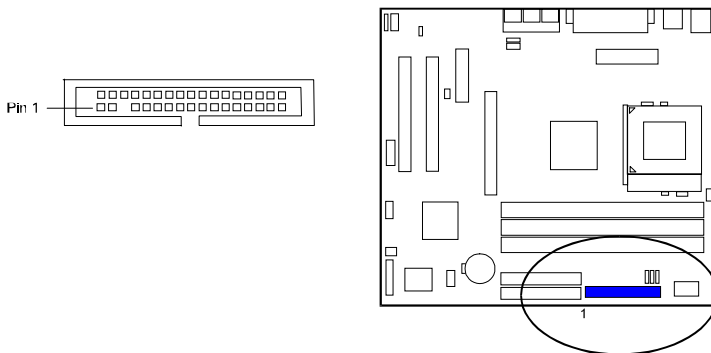
3. Holding the edge of the peripheral card, carefully align the edge connector with the expansion slot.
4. Push the card firmly into the slot. Push down on one end of the expansion card, then the other. Use this “rocking” motion until the add-on card is firmly seated inside the expansion slot.
5. Secure the board with the mounting screw removed in Step 2. Make sure that the card has been placed evenly and completely into the expansion slot.
6. Replace the computer system’s cover.
7. Setup the BIOS if necessary.
8. Install the necessary software drivers for the expansion card.

## 5). Connect Devices

### *Floppy Diskette Drive Connector: FLOPPY*

This connector provides the connection with your floppy disk drive.

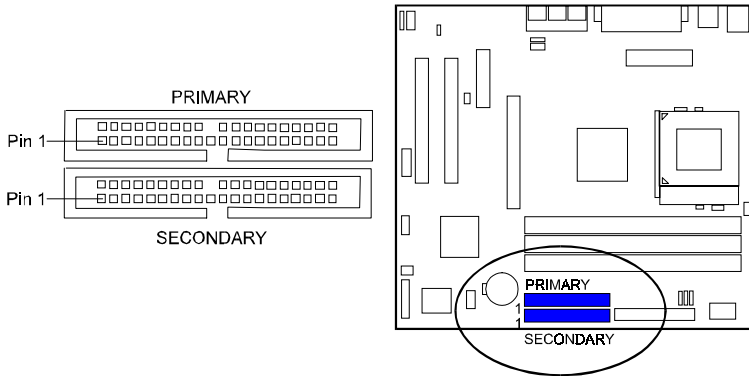
The red stripe of the ribbon cable must be the same side with the Pin 1.





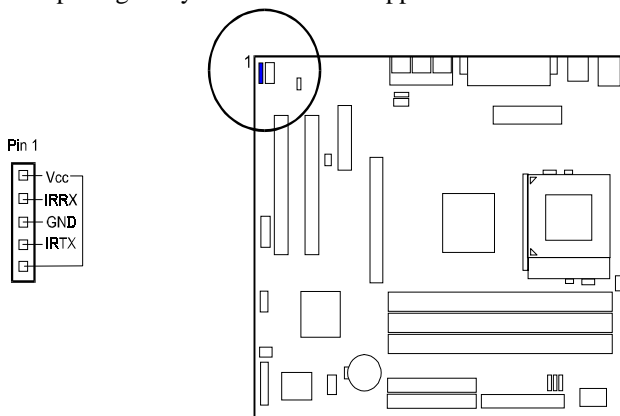
### ***IDE Device Connectors: PRIMARY, SECONDARY***

These two connectors are used for your IDE hard disk drives, CD drives, LS-120 drives, or IDE ZIP drives. The red stripe of the ribbon cable must be the same side with the Pin 1.



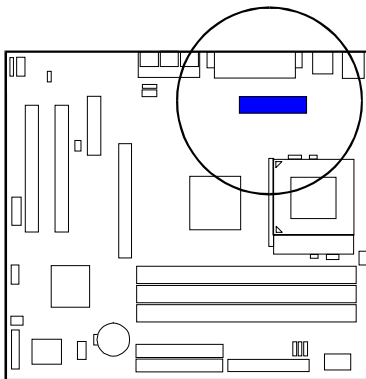
### ***Infrared Connector: IR***

This 5-pin connector is used to link with your IR device to allow transmission of data to another system that also supports the IR feature. This module mounts to a small opening on system cases that support it.

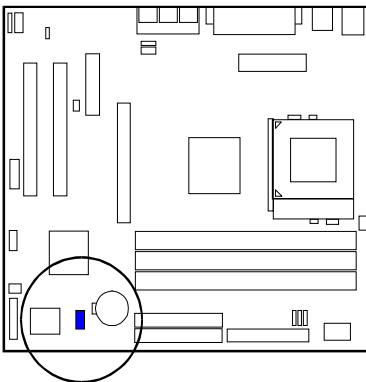


This 20-pin male block connector is connected to the ATX power supply. The plug from the power supply will only insert in one orientation because of the different hole sizes. Find the proper orientation and push down firmly making sure that the pins are aligned.

+12V	10	+5V
5V_VR	9	+5V
PWR_GOOD	8	-5V
GND	7	GND
+5V	6	GND
GND	5	GND
+5V	4	-PWR_ON
GND	3	GND
+3.3V	2	-12V
+3.3V	1	+3.3V

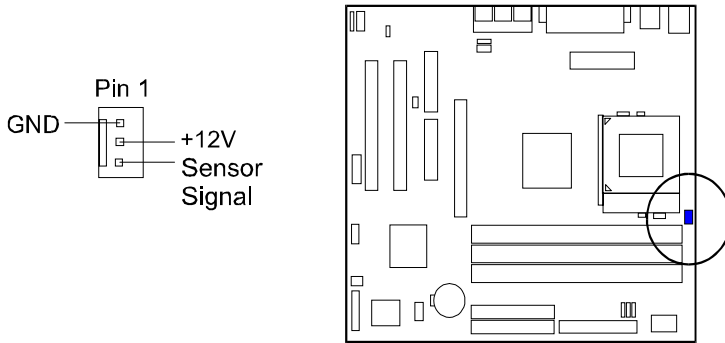


The connector provides you with the linkages of optional Audio Alert II module.



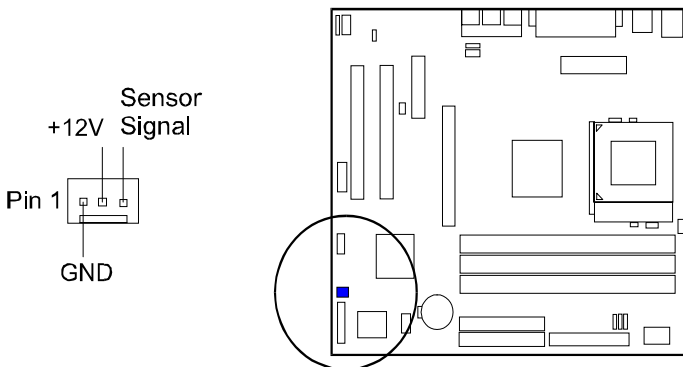
### ***CPU Fan Connector: J2***

This connector is linked to the CPU fan. When the system is in S3 suspend mode, the CPU fan will turn off; when it reverts back to full-on mode, the fan will turn back on. Please refer to the CPU fan installation manual for more information.



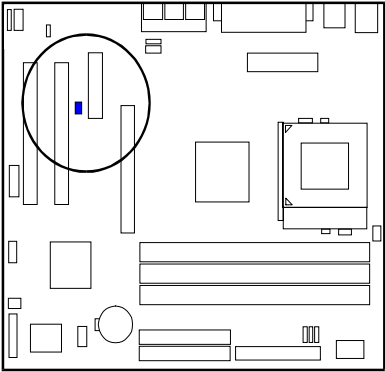
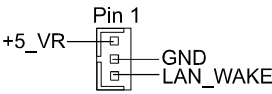
### ***System Case Fan Connector: J6***

The 3-pin connector allows you to link with the cooling fan on the system case to lower the system temperature.



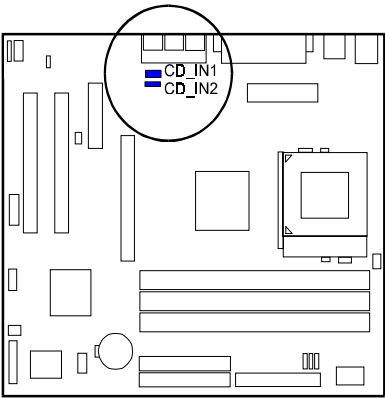
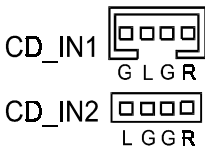
**Wake-On-Lan Connector: WOL**

This 3-pin connector allows the remote servers to manage the system that installed this mainboard via your network adapter which also supports WOL. When you install such a LAN card, please read its installation guide for more information.



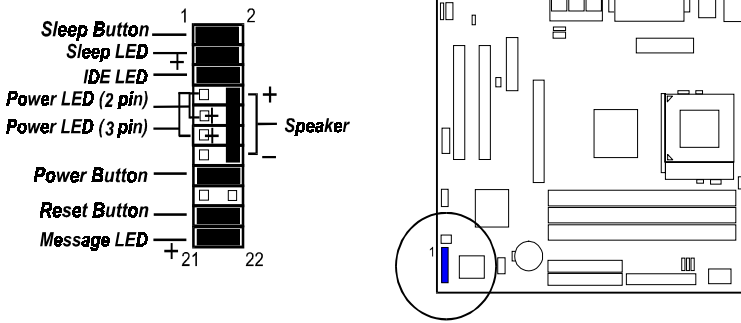
**CD Audio-In Connectors: CD\_IN1, CD\_IN2**

The CD\_IN1/2 connectors are used for different types for CD drive audio in port.



### ***Front Panel Block Connector: FPNL***

This block connector includes the connectors for linking with IDE LED, power LED, sleep LED, power button, message LED, sleep button, reset button and speaker on the front panel of the system case. Please identify polarities of plug wires for the case speaker and LEDs. Please ask vendor about this information when you buy them and install the system by yourself. The plug wires polarities of these buttons will not affect the function.



**Message LED** is connected with the message LED. When the system is running normally, the indicator is off. It is controlled by the operating system or application software.

**Reset Button** is connected to the reset button. Push this switch to reboot the system instead of turning the power button off and on.

**Power Button** is connected with power button. Push this switch allows the system to be turned on and off rather than using the power supply button.

**Power LED** is connected with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode.

**Speaker** is connected with the case speaker.

**IDE LED** is connected to the IDE device indicator. This LED will blink when the hard disk drives are activated.

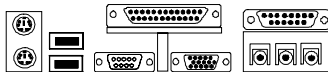
**Sleep LED** is connected with sleep mode indicator.

**Sleep Button** is connected with sleep button. To enter the system into power saving mode, simply press this button when the system is in full-on mode.

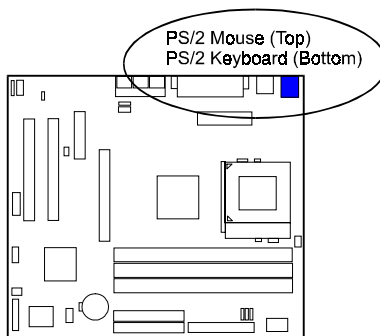
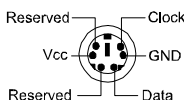
### ***PS/2 Keyboard and Mouse Connector: KB, MS***

These two 6-pin female (PS/2 keyboard is purple color and PS/2 mouse is green color) connectors are used for your PS/2 keyboard and PS/2 mouse.

PS/2  
Mouse

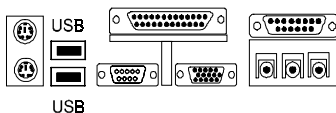


PS/2  
Keyboard

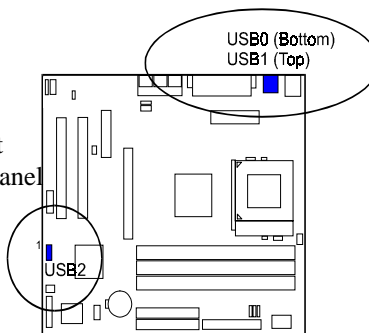
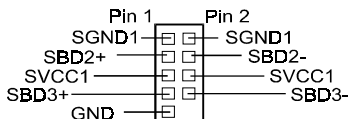


### ***Universal Serial Bus Connectors: Rear USBs, Front USBs***

These two black connectors integrated on the edge of the board are used for linking with USB peripheral devices. This board also provides a connector USB2 for linking with the two USB sockets on the front panel of some system cases. Please note your operating system must support USB features, such as MS Windows 98, MS Windows 95 OSR2.5 with USB Supplement.

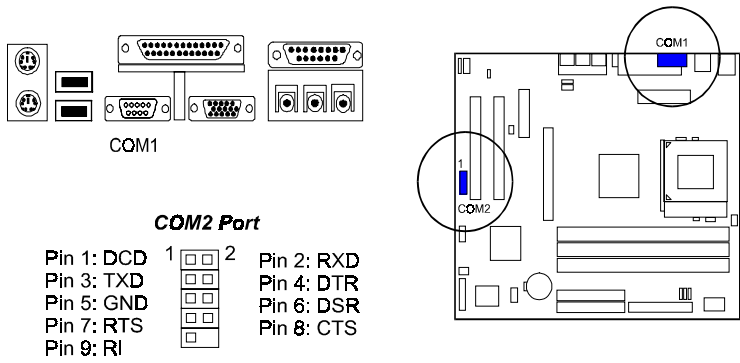


The figure below is the pin assignment of the USB2 connector for two front panel USB connections.



*Serial Port Connectors: COM1, COM2*

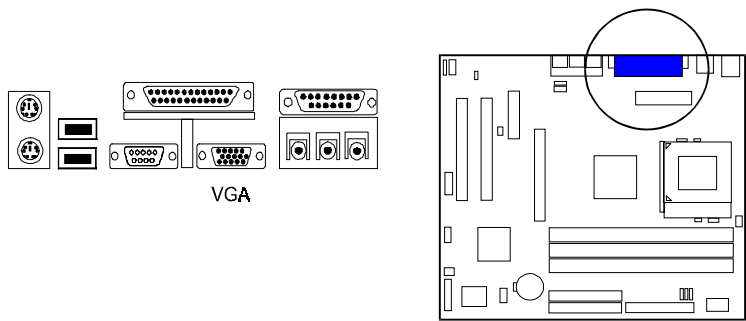
COM1 (9-pin D-sub male connector with teal color) and COM2 (9-pin male connector) allow you to connect with your devices that use serial ports, such as a serial mouse or an external modem.



**Chapter 2**  
**Installation**  
**Procedures**

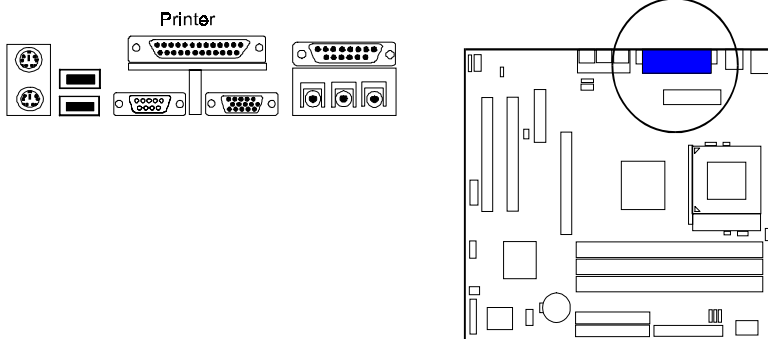
*Video Graphics Accelerator Connector: VGA*

This 15-pin female D-sub blue connector is connected to your display monitor.



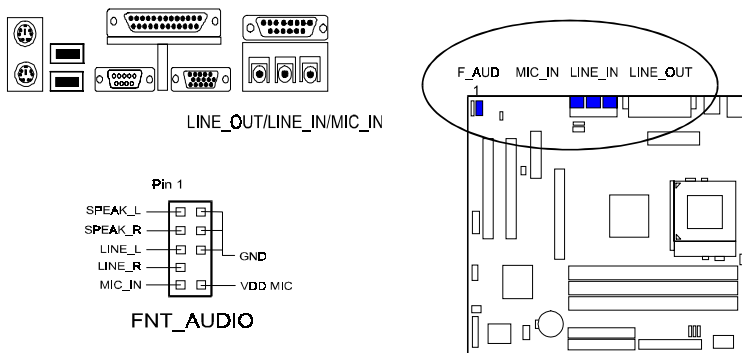
## Printer Connector: LPT

This 25-pin D-Sub female burgundy-colored connector is attached to your printer.



## Audio I/O Jacks: LINE\_OUT, LINE\_IN, MIC\_IN, FNT\_AUDIO

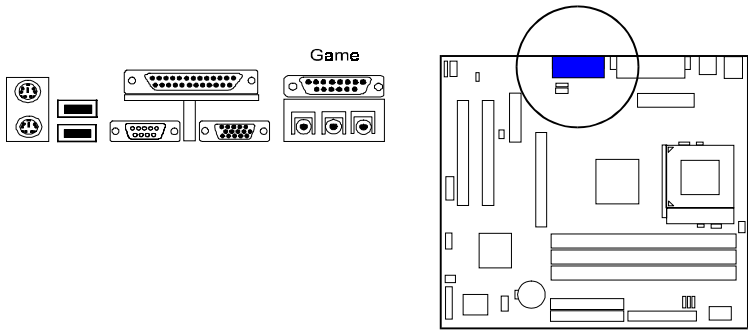
LINE\_OUT (lime) can be connected to headphones or preferably powered speakers. LINE\_IN (light blue) allows tape players or other audio sources to be recorded by your computer or played through the LINE\_OUT. MIC\_IN (pink) allows microphones to be connected for voice input. The mainboard also provides you with a front panel audio port connector, FNT\_AUDIO, when needed. Its pin definitions were presented below.





*Game/MIDI Connector: GAME*

This 15-pin female gold-colored connector allows you to connect game joysticks or game pads. Connect MIDI devices for playing or editing audio.



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# Installation Procedures

The mainboard has several user-adjustable jumpers on the board that allow you to configure your system to suit your requirements. This chapter contains information on the various jumper settings on your mainboard.

To set up your computer, you must complete the following steps:

- Step 1 - Set system jumpers/switches
- Step 2 - Install memory modules
- Step 3 - Install the Central Processing Unit (CPU)
- Step 4 - Install expansion cards
- Step 5 - Connect ribbon cables, cabinet wires, and power supply
- Step 6 - Set up BIOS software
- Step 7 - Install supporting software tools



**WARNING:** Excessive torque may damage the mainboard. When using an electric screwdriver on the mainboard, make sure that the torque is set to the allowable range of 5.0 ~ 8.0kg/cm.

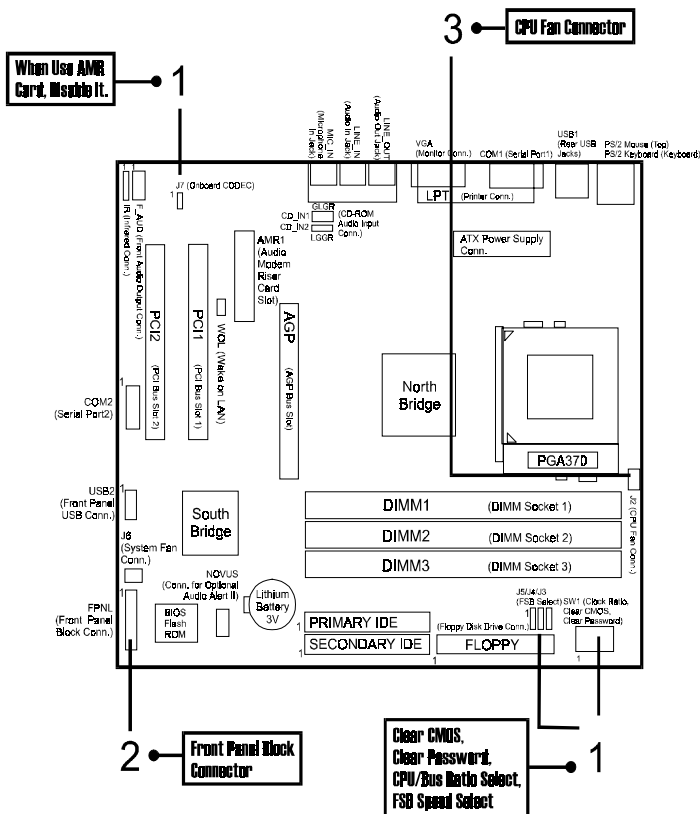
Mainboard components contain very delicate Integrated Circuit (IC) chips. To prevent static electricity from harming any of the mainboard's sensitive components, you should follow the following precautions whenever working on the computer:

1. Unplug the computer when working on the inside.
2. Hold components by the edges and try not to touch the IC chips, leads, or circuitry.
3. Wear an anti-static wrist strap which fits around the wrist.
4. Place components on a grounded anti-static pad or on the bag that came with the component whenever the components are separated from the system.

## Quick Reference (from Page 2-2 to 2-4)

### Mainboard Layout

#### Chapter 2 Installation Procedures



1). **CPU/BUS Speed Ratio Select, Clear CMOS, Clear Password, Front Side Bus Speed Select, AMR Card Function Enable**

Ratio	DIP Switch SW1			
	SW1-1	SW1-2	SW1-3	SW1-4
2.5x	ON	ON	ON	OFF
3.0x	ON	ON	OFF	ON
3.5x	ON	ON	OFF	OFF
4.0x	ON	OFF	ON	ON
4.5x	ON	OFF	ON	OFF
5.0x	ON	OFF	OFF	ON
5.5x	ON	OFF	OFF	OFF
6.0x	OFF	ON	ON	ON
6.5x	OFF	ON	ON	OFF
7.0x	OFF	ON	OFF	ON
7.5x	OFF	ON	OFF	OFF
8.0x	OFF	OFF	ON	ON

**Note:** For the ratio that higher than 8.0x, please use a ratio-locked CPU and also select Auto Detect on FSB Selection if you use an Intel CPU.

**SW1-5 (Clear CMOS)**

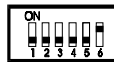


**Enable**  
(Clear CMOS)

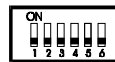


**Disable**  
(Default)

**SW1-6 (Clear Password)**



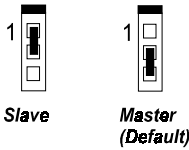
**Enable**  
(Clear Password)



**Disable**  
(Default)

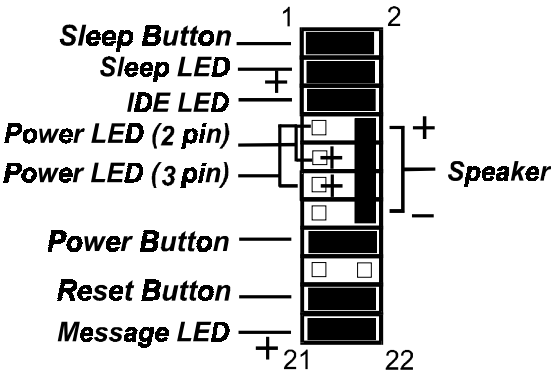
CPU	J3	Front Side Bus	J4	J5
Intel Cyrrix III	2-3	133	OPEN	OPEN
		100	2-3	OPEN
		66	2-3	2-3
		Auto Detect	1-2	1-2
Joshua	1-2	133	1-2	1-2
		100	2-3	1-2
		66	2-3	2-3

Onboard CODEC: J7  
(When use AMR card,  
please set at Slave.)



CPU Speed = FS Bus x Ratio

2). Front Panel Block Cable Connection



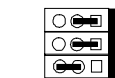
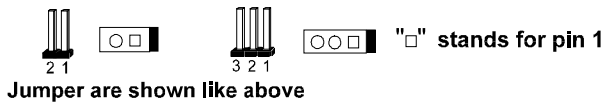
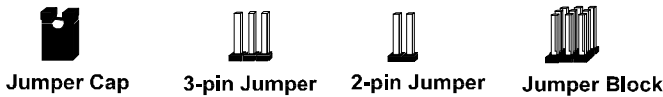
3). CPU Fan Installation

This connector is linked to the CPU fan. When the system is in S3 power saving mode, the CPU fan will turn off; when it reverts back to full on mode, the fan will turn back on. Without sufficient air circulation, the CPU may overheat resulting in damage to both the CPU and the mainboard.

*Damage may occur to the mainboard and/or the CPU fan if these pins are used incorrectly. These are not jumpers, do not place jumper caps over these pins.*

## 1). Set System Jumpers/Switches

Jumpers are used to select the operation modes for your system. Some jumpers on the board have three metal pins with each pin representing a different function. A “1” is written besides pin 1 on jumpers with three pins. To **set** a jumper, a black cap containing metal contacts is placed over the jumper pin/s according to the required configuration. A jumper is said to be **shorted** when the black cap has been placed on one or two of its pins. The types of jumpers used in this manual are shown below:



Jumpers in a Block



**NOTE:** Users are not encouraged to change the jumper settings not listed in this manual. Changing the jumper settings improperly may adversely affect system performance.

### Clear CMOS: SW1-5

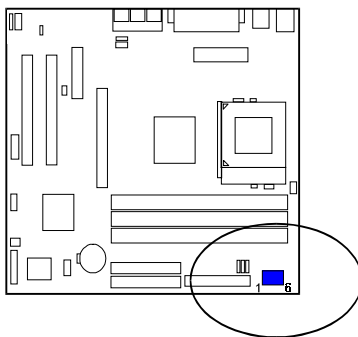
The CMOS RAM is powered by the onboard button cell battery. To clear the RTC data: (1) Turn off your computer. (2) Move the CMOS Clear switch SW1-5 to “On” (Enabled). (3) Turn on your computer to display “CMOS checksum error”. (4) Turn off your computer. (5) Move the CMOS Clear switch SW1-5 to “Off” (Disabled). (6) Turn on your computer. (7) Hold down the **Delete** key when boots. (8) Enter the BIOS Setup to re-enter user preferences.



**Enable**  
(Clear CMOS)



**Disable**  
(Default)

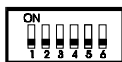


### Clear Password: SW1-6

This switch allows you to enable or disable the password configuration. You may need to enable this switch by moving it to the “On” (Enabled) position if you forget your password. To clear the password setting: (1) Turn off your computer. (2) Move the Clear Password switch SW1-6 to “On” (Enabled). (3) Turn on your computer. (4) Hold down the **Delete** key during bootup and enter BIOS Setup to re-enter user preferences. (5) Turn off your computer, (6) Move the Clear Password switch SW1-6 to “Off” (Disabled). (7) Turn on your computer for the new settings to take effect.



**Enable**  
(Clear Password)

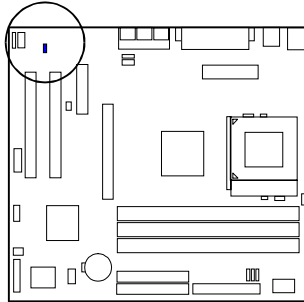
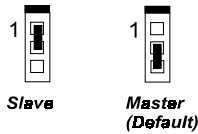


**Disable**  
(Default)



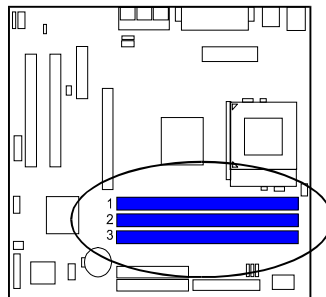
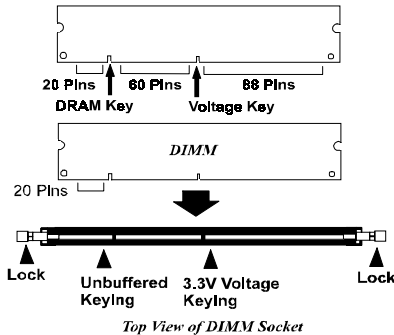
### AMR Card Function Enable: J7

The jumper J7 is used when an AMR card is installed; please set this jumper at 1-2, Slave for the reason of onboard CODEC.



## 2). Install Memory Modules

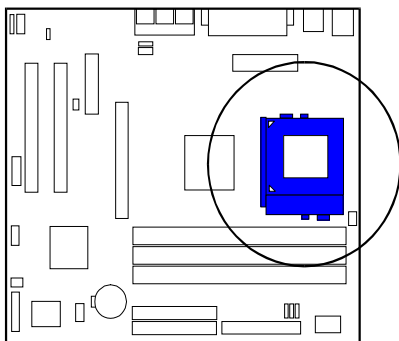
1. Locate the DIMM slots on the mainboard.
2. Install the DIMM straight down into the DIMM slot using both hands.
3. The clip on both ends of the DIMM slot will close up to hold the DIMM in place when the DIMM reaches the slot's bottom.



Press the clips with both hands to remove the DIMM.

### 3). Install the CPU

The mainboard has built-in Switching Voltage Regulator to support CPU Vcore autodetection. That is, It has the ability to detect and recognize the CPU voltage, clock, ratio and enables users to set up the CPU frequency from the BIOS Setup Screen. Users can adjust the frequency through “Frequency / Voltage Control” of the BIOS Setup Screen.

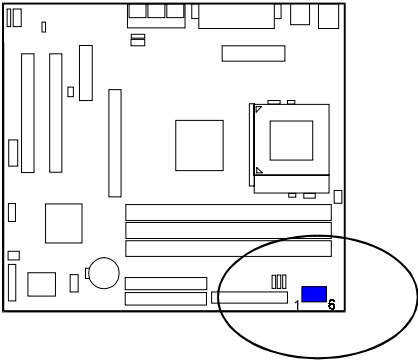


To install the CPU, do the following:

1. Lift the lever on the side of the CPU socket.
2. Handle the chip by its edges and try not to touch any of the pins.
3. Place the CPU in the socket. The chip has two notches to correctly locate the chip. Align two notches of the processor with the two triangular marks on the socket. Do not force the chip. The CPU should slide easily into the socket.
4. Swing the lever to the down position to lock the CPU in place.
5. Place the cooling fan with heatsink on top of the installed CPU.

**CPU/Bus Speed Ratio Select: SW1-1/2/3/4**

The switch setting combination allow users to select the CPU/Bus speed ratio.

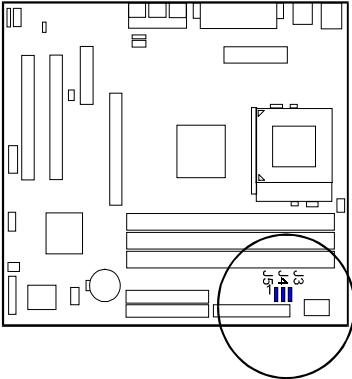


Ratio	DIP Switch SW1			
	SW1-1	SW1-2	SW1-3	SW1-4
2.5x	ON	ON	ON	OFF
3.0x	ON	ON	OFF	ON
3.5x	ON	ON	OFF	OFF
4.0x	ON	OFF	ON	ON
4.5x	ON	OFF	ON	OFF
5.0x	ON	OFF	OFF	ON
5.5x	ON	OFF	OFF	OFF
6.0x	OFF	ON	ON	ON
6.5x	OFF	ON	ON	OFF
7.0x	OFF	ON	OFF	ON
7.5x	OFF	ON	OFF	OFF
8.0x	OFF	OFF	ON	ON

**Note:** For the ratio that higher than 8.0x, please use a ratio-locked CPU and also select Auto Detect on FSB Selection if you use an Intel CPU.

*Front Side Bus Speed Select: J3/J4/J5*

The three jumpers, in a combination way, allow you to select the FSB speed according to the table below.

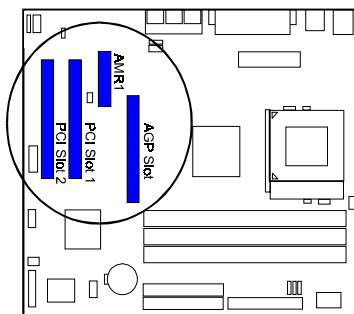


<i>CPU</i>	<i>J3</i>	<i>Front Side Bus</i>	<i>J4</i>	<i>J5</i>
<i>Intel Cyril III</i>	<i>2-3</i>	<i>133</i>	<i>OPEN</i>	<i>OPEN</i>
		<i>100</i>	<i>2-3</i>	<i>OPEN</i>
		<i>66</i>	<i>2-3</i>	<i>2-3</i>
		<i>Auto Detect</i>	<i>1-2</i>	<i>1-2</i>
<i>Joshua</i>	<i>1-2</i>	<i>133</i>	<i>1-2</i>	<i>1-2</i>
		<i>100</i>	<i>2-3</i>	<i>1-2</i>
		<i>66</i>	<i>2-3</i>	<i>2-3</i>

CPU Speed = FS Bus x Ratio

## 4). Install Expansion Cards

This section describes how to connect an expansion card to one of your system's expansion slots. Expansion cards are printed circuit boards that, when connected to the mainboard, increase the capabilities of your system. For example, expansion cards can provide video and sound capabilities. The mainboard features one AMR (audio-modem riser), one AGP, and two PCI bus expansion slots.



**CAUTION:** Make sure to unplug the power supply when adding or removing expansion cards or other system components. Failure to do so may cause severe damage to both the mainboard and expansioncards.

Always observe static electricity precautions.

Please read "Handling Precautions" at the start of this manual.

To install an expansion card, follow the steps below:

1. Remove the computer chassis cover and select an empty expansion slot.
2. Remove the corresponding slot cover from the computer chassis. Unscrew the mounting screw that secures the slot cover and pull the slot cover out from the computer chassis. Keep the slot cover mounting screw nearby.

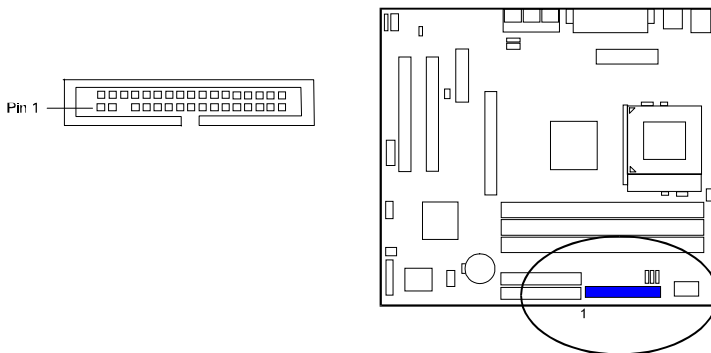
3. Holding the edge of the peripheral card, carefully align the edge connector with the expansion slot.
4. Push the card firmly into the slot. Push down on one end of the expansion card, then the other. Use this “rocking” motion until the add-on card is firmly seated inside the expansion slot.
5. Secure the board with the mounting screw removed in Step 2. Make sure that the card has been placed evenly and completely into the expansion slot.
6. Replace the computer system’s cover.
7. Setup the BIOS if necessary.
8. Install the necessary software drivers for the expansion card.

## 5). Connect Devices

### *Floppy Diskette Drive Connector: FLOPPY*

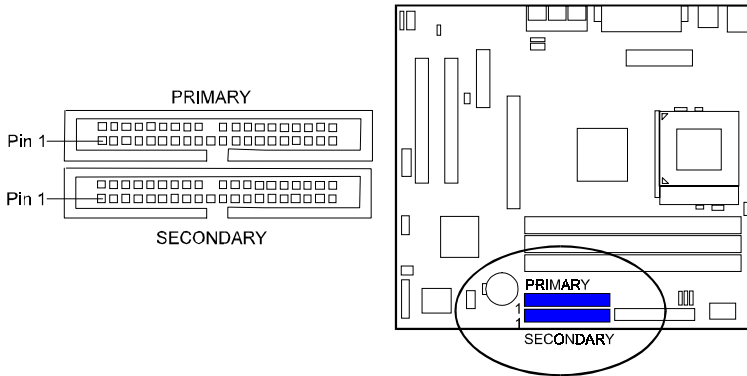
This connector provides the connection with your floppy disk drive.

The red stripe of the ribbon cable must be the same side with the Pin 1.



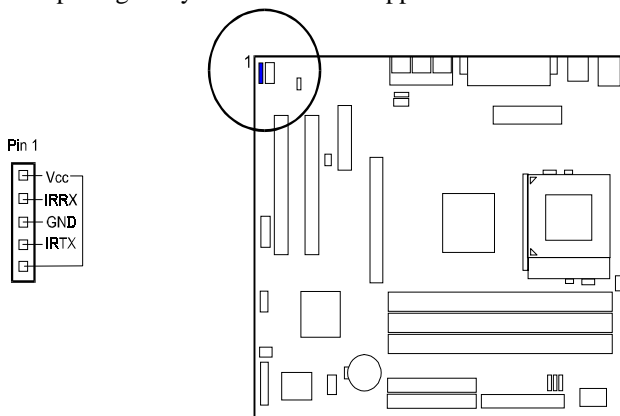
### ***IDE Device Connectors: PRIMARY, SECONDARY***

These two connectors are used for your IDE hard disk drives, CD drives, LS-120 drives, or IDE ZIP drives. The red stripe of the ribbon cable must be the same side with the Pin 1.



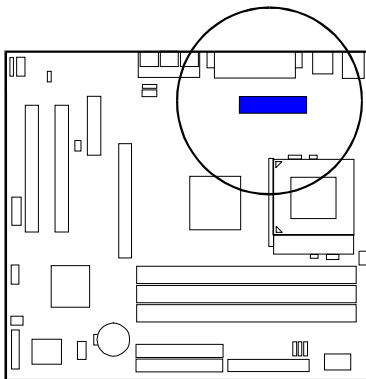
### ***Infrared Connector: IR***

This 5-pin connector is used to link with your IR device to allow transmission of data to another system that also supports the IR feature. This module mounts to a small opening on system cases that support it.

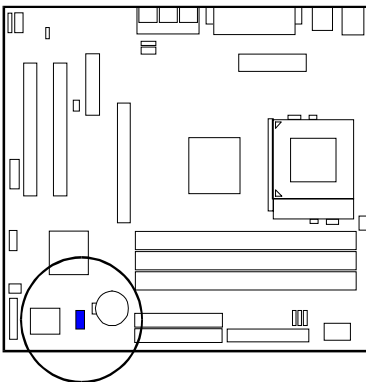


This 20-pin male block connector is connected to the ATX power supply. The plug from the power supply will only insert in one orientation because of the different hole sizes. Find the proper orientation and push down firmly making sure that the pins are aligned.

+12V	10	+5V
5V_VR	9	+5V
PWR_GOOD	8	-5V
GND	7	GND
+5V	6	GND
GND	5	GND
+5V	4	-PWR_ON
GND	3	GND
+3.3V	2	-12V
+3.3V	1	+3.3V



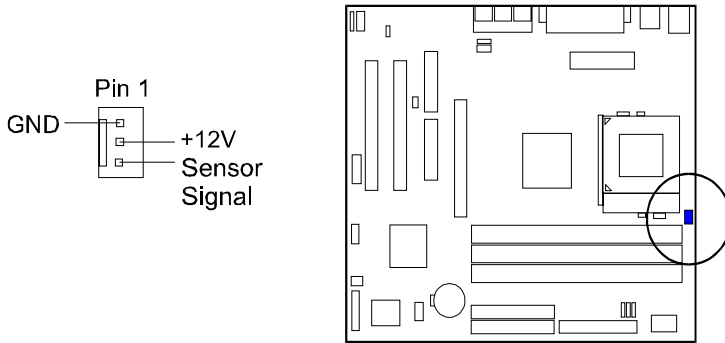
The connector provides you with the linkages of optional Audio Alert II module.





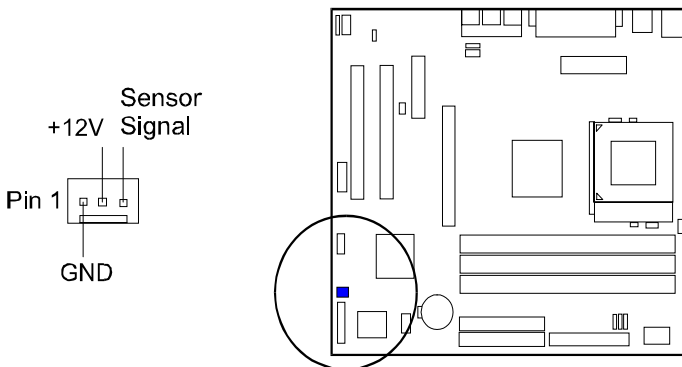
### ***CPU Fan Connector: J2***

This connector is linked to the CPU fan. When the system is in S3 suspend mode, the CPU fan will turn off; when it reverts back to full-on mode, the fan will turn back on. Please refer to the CPU fan installation manual for more information.



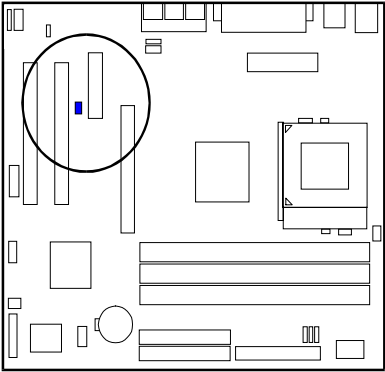
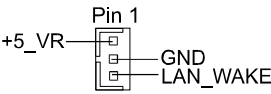
### ***System Case Fan Connector: J6***

The 3-pin connector allows you to link with the cooling fan on the system case to lower the system temperature.



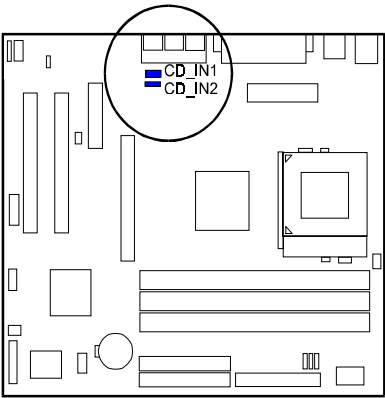
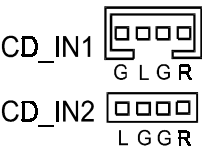
**Wake-On-Lan Connector: WOL**

This 3-pin connector allows the remote servers to manage the system that installed this mainboard via your network adapter which also supports WOL. When you install such a LAN card, please read its installation guide for more information.



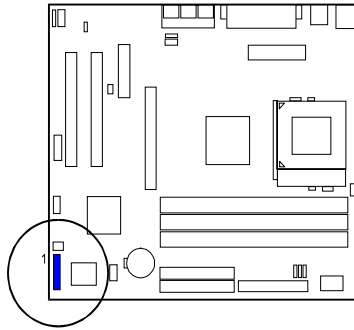
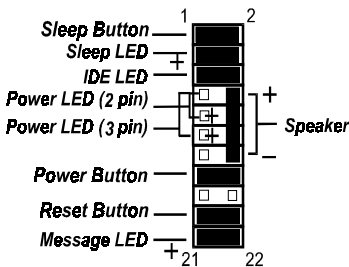
**CD Audio-In Connectors: CD\_IN1, CD\_IN2**

The CD\_IN1/2 connectors are used for different types for CD drive audio in port.



### ***Front Panel Block Connector: FPNL***

This block connector includes the connectors for linking with IDE LED, power LED, sleep LED, power button, message LED, sleep button, reset button and speaker on the front panel of the system case. Please identify polarities of plug wires for the case speaker and LEDs. Please ask vendor about this information when you buy them and install the system by yourself. The plug wires polarities of these buttons will not affect the function.



**Message LED** is connected with the message LED. When the system is running normally, the indicator is off. It is controlled by the operating system or application software.

**Reset Button** is connected to the reset button. Push this switch to reboot the system instead of turning the power button off and on.

**Power Button** is connected with power button. Push this switch allows the system to be turned on and off rather than using the power supply button.

**Power LED** is connected with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode.

**Speaker** is connected with the case speaker.

**IDE LED** is connected to the IDE device indicator. This LED will blink when the hard disk drives are activated.

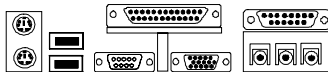
**Sleep LED** is connected with sleep mode indicator.

**Sleep Button** is connected with sleep button. To enter the system into power saving mode, simply press this button when the system is in full-on mode.

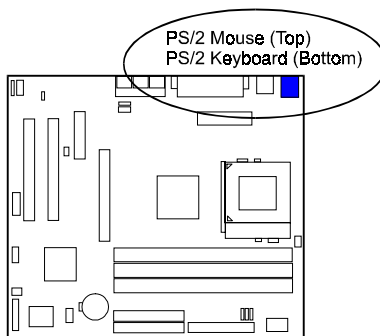
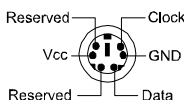
### ***PS/2 Keyboard and Mouse Connector: KB, MS***

These two 6-pin female (PS/2 keyboard is purple color and PS/2 mouse is green color) connectors are used for your PS/2 keyboard and PS/2 mouse.

PS/2  
Mouse

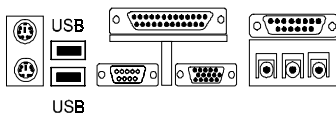


PS/2  
Keyboard

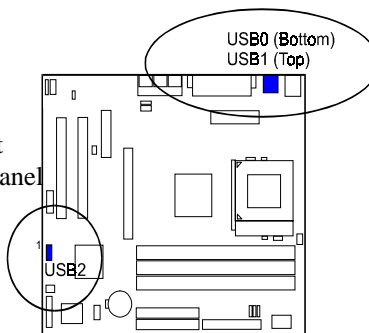
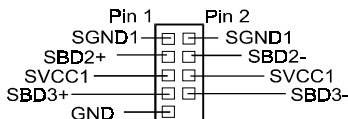


### ***Universal Serial Bus Connectors: Rear USBs, Front USBs***

These two black connectors integrated on the edge of the board are used for linking with USB peripheral devices. This board also provides a connector USB2 for linking with the two USB sockets on the front panel of some system cases. Please note your operating system must support USB features, such as MS Windows 98, MS Windows 95 OSR2.5 with USB Supplement.

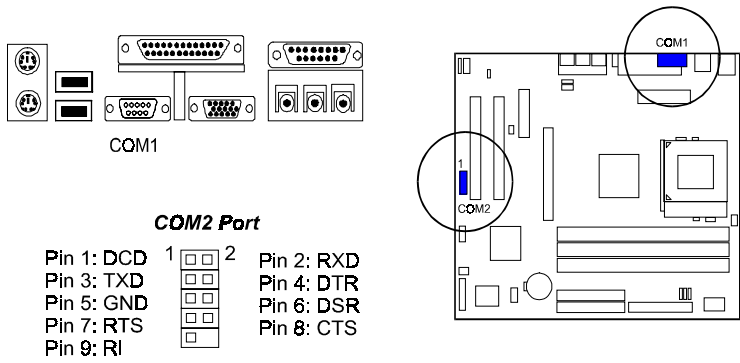


The figure below is the pin assignment of the USB2 connector for two front panel USB connections.



*Serial Port Connectors: COM1, COM2*

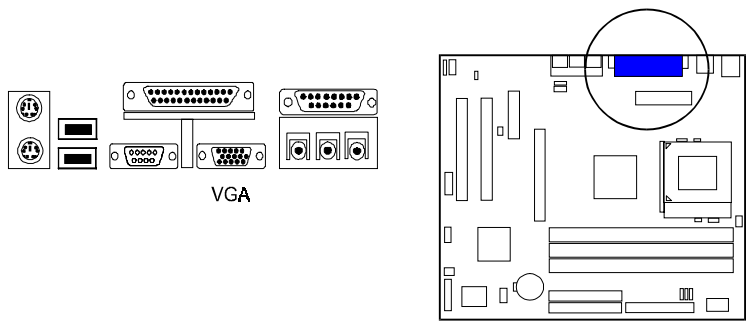
COM1 (9-pin D-sub male connector with teal color) and COM2 (9-pin male connector) allow you to connect with your devices that use serial ports, such as a serial mouse or an external modem.



**Chapter 2**  
**Installation**  
**Procedures**

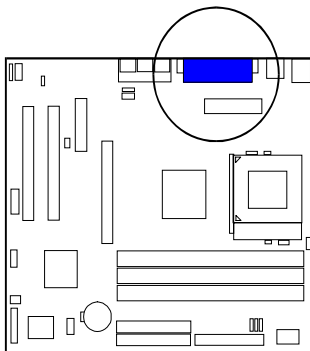
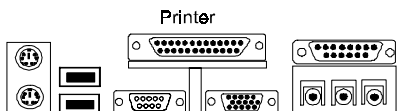
*Video Graphics Accelerator Connector: VGA*

This 15-pin female D-sub blue connector is connected to your display monitor.



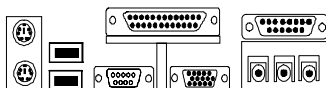
### ***Printer Connector: LPT***

This 25-pin D-Sub female burgundy-colored connector is attached to your printer.

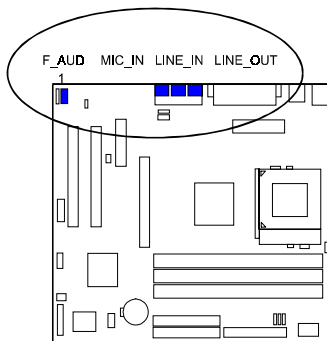
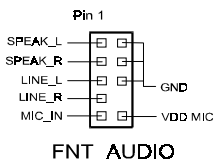


### ***Audio I/O Jacks: LINE\_OUT, LINE\_IN, MIC\_IN, FNT\_AUDIO***

LINE\_OUT (lime) can be connected to headphones or preferably powered speakers. LINE\_IN (light blue) allows tape players or other audio sources to be recorded by your computer or played through the LINE\_OUT. MIC\_IN (pink) allows microphones to be connected for voice input. The mainboard also provides you with a front panel audio port connector, FNT\_AUDIO, when needed. Its pin definitions were presented below.

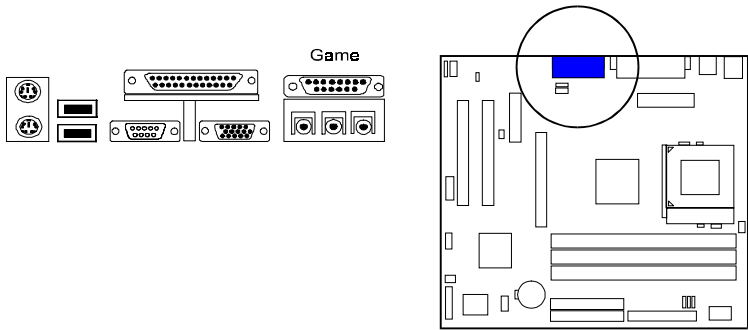


LINE\_OUT/LINE\_IN/MIC\_IN



*Game/MIDI Connector: GAME*

This 15-pin female gold-colored connector allows you to connect game joysticks or game pads. Connect MIDI devices for playing or editing audio.



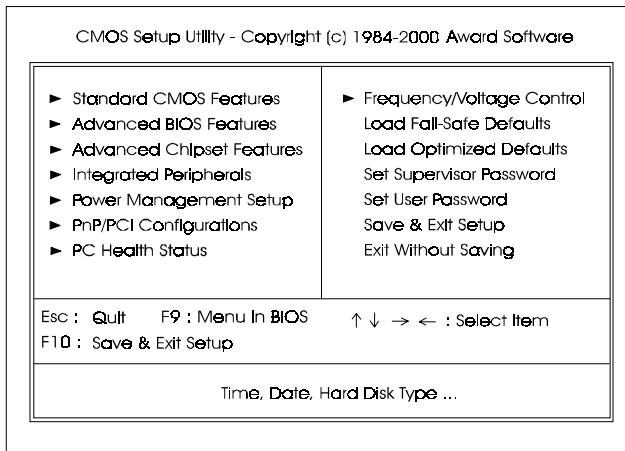
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## BIOS Setup

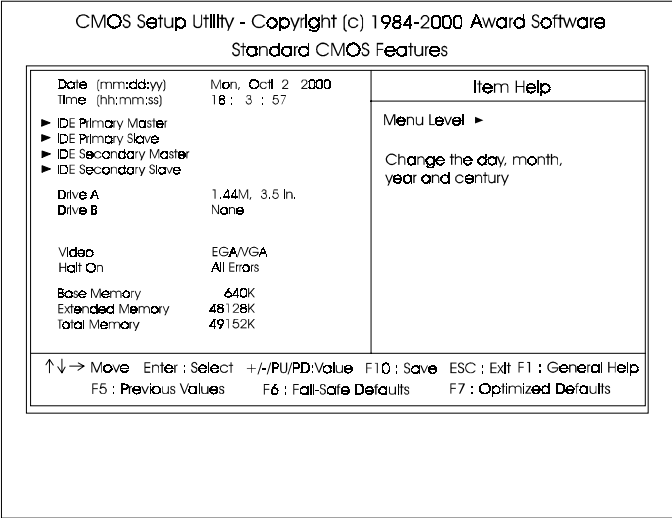
The mainboard comes with the chip that Award BIOS that contains the ROM Setup information of your system. (This chip serves as an interface between the processor and the rest of the mainboard's components.) This section explains the information contained in the Setup program and tells you how to modify the settings according to your system configuration.

### CMOS Setup Utility



A Setup program, built into the system BIOS, is stored in the CMOS. This Setup utility program allows updates to the mainboard configuration settings. It is executed when the user changes system configuration; user changes system backup battery; or the system detects a configuration error and asks the user to run the Setup program. Use the arrow keys to select and press **Enter** to run the selected program.

# Standard CMOS Setup



The Standard CMOS Setup screen is displayed above. Each item may have one or more option settings. The system BIOS automatically detects memory size, thus no changes are necessary. Use the arrow keys to highlight the item and then use **PgUp** or **PgDn** keys to select the value you want in each item.

## Hard Disk Configurations

- Capacity:** The hard disk size. The unit is Bytes.
- Cylinder:** The cylinder number of the hard disk.
- Head:** The read/write head number of hard disk.
- Precomp:** The cylinder number at which the disk drive changes the write current.
- Landing Zone:** The cylinder number that the disk drive heads (read/write) are seated when the disk drive is parked.
- Sector:** The sector number of each track defined on the hard disk.

Advanced BIOS Features

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Advanced BIOS Features

Anti-Virus Protection	Enabled
CPU Internal Cache	Enabled
External Cache	Enabled
CPU L2 Cache ECC Checking	Enabled
Processor Number Feature	Enabled
Quick Power On Self Test	Enabled
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	Enabled
Boot Up NumLock Status	On
Gate A20 Option	Fast
TypeMatic Rate Setting	Disabled
x TypeMatic Rate (Chars/Sec)	6
x TypeMatic Delay (Msec)	250
Security Option	Setup
OS Select For DRAM > 64MB	Non-OS2

Item Help

Menu Level ▶

Allows you to choose feature for IDE Hard Disk boot sector protection, if this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep

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

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Advanced BIOS Features

Second Boot Device	HDD-0
Third Boot Device	CDROM
Boot Other Device	Enabled
Swap Floppy Drive	Disabled
Boot Up Floppy Seek	Enabled
Boot Up NumLock Status	On
Gate A20 Option	Fast
TypeMatic Rate Setting	Disabled
x TypeMatic Rate (Chars/Sec)	6
x TypeMatic Delay (Msec)	250
Security Option	Setup
OS Select For DRAM > 64MB	Non-OS2
HDD S.M.A.R.T. Capability	Disabled
Report No FDD For WIN 95	Yes
Video BIOS Shadow	Enabled
BIOS Guardian	Enabled
Audio Alert II Function	Enabled
Maintenance Month	0
Maintenance Date	0

Item Help

Menu Level ▶

Setting date of maintenance time.

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

### Anti-Virus Protection

This feature starts the virus scan tool to detect if boot virus in boot sector of the first hard disk drive when booting up.

The options are: Enabled, Disabled.

### CPU Internal Cache

When enabled, improves the system performance. Disable this item when testing or trouble-shooting. The options are: Enabled, Disabled.

### External Cache

When enabled, supports an optional cache SRAM. This feature allows you to disable the cache function when the system performance is unstable to run some software. The options are: Enabled, Disabled.

### Processor Number Feature

If a Pentium III processor is installed on this mainboard, the system BIOS will allow other utilities to access the Intel Pentium III serial number while this feature set at Enabled. The options are: Enabled, Disabled.

### Quick Power On Self Test

When enabled, allows the BIOS to bypass the extensive memory test.

The options are: Enabled, Disabled.

### First Boot Device

This feature allows user to select the boot device priority. The options are: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, Disabled.

### Second Boot Device

This feature allows user to select the boot device priority. The options are: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, Disabled.

### Third Boot Device

This feature allows user to select the boot device priority. The options are: 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

This feature allows user to select the boot device priority.  
The options are: Enabled, Disabled.

### Swap Floppy Drive

Allows you to switch the order in which the operating system accesses the floppy drives during boot up.  
The options are: Enabled, Disabled.

### Boot Up Floppy Seek

When enabled, assigns the BIOS to perform floppy diskette drive tests by issuing the time-consuming seek commands.  
The options are: Enabled, Disabled.

### Boot Up Numlock Status

When set to On, allows the BIOS to automatically enable the Num Lock Function when the system boots up. The options are: On, Off.

### Gate A20 Option

When set at Fast, allows a faster access response under Protected mode.  
The options are: Fast, Normal.

### Typematic Rate Setting

The term typematic means that when a keyboard key is held down, the character is repeatedly entered until the key is released.  
The options are: Disabled, Enabled.

### Typematic Rate (Chars/Sec)

This feature is available only if the above item, Typematic Rate Setting, is set at Enabled. Sets the rate of a character repeat when the key is held down. The options are: 6, 8, 10, 12, 15, 20, 24, 30.

### Typematic Delay (Msec)

This feature is available only if the item, Typematic Rate Setting, is set at Enabled. Sets the delay time before a character is repeated.  
The options are: 250, 500, 750, 1000 millisecond.

### Security Option

Allows you to set the security level of the system.

The options are: Setup, System.

### OS Select For DRAM > 64MB

If your operating system (OS) is OS/2, select the option OS2. Otherwise, stay with the default setting Non-OS2.

The options are: Non-OS2, OS2.

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

S.M.A.R.T. stands for Self-Monitoring and Analysis Reporting Technology which allows your hard disk drive to report any read/write errors and issues a warning with LDCM installed.

The options are: Disabled, Enabled.

### Report No FDD For WIN 95

When the field under the Standard CMOS Setup Menu for Drive A and/or Drive B is set at None, users must set this field is set at Yes for it to function properly. Otherwise, set at No, even if field for Drive A and/or Drive B is set at None, system will still detect and recognize of a floppy drive(s).

The options are: Yes, No.

### Video BIOS Shadow

Allows the BIOS to copy the video ROM code of the add-on video card to the system memory for faster access.

The options are: Enabled, Disabled.

### BIOS Guardian

It allows the system to prevent computer viruses. Users will need to disable it to update BIOS. The options are: Enabled, Disabled.



**NOTE:** Please disable this BIOS feature about BIOS Guardian before you start to reflash BIOS.

### Audio Alert II Function

It allows you to disable the FIC Audio Alert II function. If you have Audio Alert II onboard, its function works normally when set at Enabled.

The options are: Enabled, Disabled.

### Maintenance Month

It allows you to set the month of maintenance time.

The options are: 0, January, February, ... , December.

### Maintenance Date

It allows you to set the date of maintenance time.

The options are: 0, 1, ..., 31.

## Advanced Chipset Features

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Advanced Chipset Features

DRAM Timing By SPD	Enabled	<p>Item Help</p> <p>Menu Level ►</p> <p>Let user can select to auto set SDRAM timing by SPD or by manual to set special SDRAM Clock.</p>
X DRAM Clock	Fast CLK	
X SDRAM Cycle Length	3	
X Bank Interleave	Disabled	
Memory Hole	Disabled	
P2C/C2P Concurrency	Enabled	
Fast R-W Turn Around	Disabled	
System BIOS Cacheable	Disabled	
Video RAM Cacheable	Disabled	
Frame Buffer Size	8M	
AGP Aperture Size	64M	
AGP 4X Mode	Enabled	
AGP Driving Control	Auto	
X AGP Driving Value	DA	
OnChip USB	Enabled	
USB Keyboard Support	Disabled	
OnChip Sound	Enable	
OnChip Modem	Disable	
CPU to PCI Write Buffer	Enabled	

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

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Advanced Chipset Features

Fast R-W Turn Around	Disabled	<p>Item Help</p> <p>Menu Level ►</p> <p>When enabled, the AGP bus master read access to DRAMs will add one wait-state cycle.</p>
System BIOS Cacheable	Disabled	
Video RAM Cacheable	Disabled	
Frame Buffer Size	8M	
AGP Aperture Size	64M	
AGP 4X Mode	Enabled	
AGP Driving Control	Auto	
X AGP Driving Value	DA	
OnChip USB	Enabled	
USB Keyboard Support	Disabled	
OnChip Sound	Enable	
OnChip Modem	Disable	
CPU to PCI Write Buffer	Enabled	
PCI Dynamic Bursting	Enabled	
PCI Master 0 WS Write	Enabled	
PCI Delay Transaction	Disabled	
PCI#2 Access #1 Retry	Enabled	
AGP Master 1 WS Write	Disabled	
AGP Master 1 WS 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



### DRAM Timing By SPD

This item allows you to use supports of Serial Presence Detect (SPD), the system BIOS can recognize its specificity, then do automatic timer setting SPD data. If you set any timing manually, please set this feature at Disabled. The options are: Enabled, Disabled.

### DRAM Clock

The feature allows users to select the DRAM clock.  
The options are: Host CLK, HCLK+33M, HCLK-33M.

### SDRAM Cycle Length

This item will function only when SDRAM DIMM/s are installed on the mainboard (BIOS auto detection). If the CAS latency of your SDRAM DIMM is 2, set it at 2 to enhance your system performance. If the CAS latency of your SDRAM DIMM is 3, stay with the default setting, 3.  
The options are: 3, 2.

### Bank Interleave

This item allows users to select the bank interleave function of DRAM, when the feature DRAM Timing By SPD set at Disabled.  
The options are: Disabled, 2 Bank, 4 Bank.

### Memory Hole

When you install a Legacy ISA card, this feature allows you to select the memory hole's address range of the ISA cycle when the processor accesses the selected address area. Please read your card manual for detail information. When disabled, the memory hole at the 14MB (or 15MB) address will be treated as a DRAM cycle when the processor accesses the 15~16MB address area.  
The options are: 15M - 16M, Disabled.

### P2C/C2P Concurrency

This feature allows users to set PCI/AGP Master-to-CPU/ CPU-to-PCI/ AGP Slave concurrent.  
The options are: Enabled, Disabled.

### Fast R-W Turn Around

It allows users to set DRAM fast read-to-write turn around.  
The options are: Enabled, Disabled.

### System BIOS Cacheable

When enabled, allows the ROM area F000H-FFFFH to be cacheable when cache controller is activated. The options are: Enabled, Disabled.

### Video RAM Cacheable

When set at Enabled, allows the system to use the video RAM from cache RAM, instead of the slower DRAMs or ROMs.

The options are Enabled, Disabled.

### Frame Buffer Size

It allows user to select the frame buffer size of VGA share memory.

The options are 2M, 4M, 8M, 16M, 32M.

### AGP Aperture Size

It allows you to select the main memory frame size for AGP use.

The options are 4M, 8M, 16M, 32M, 64M, 128M.

### AGP-4X Mode

This feature allows user to select the AGP mode be to 2x or 4x when an AGP add-in card installed. However, when set at Enabled and the AGP card only support 1x mode, the system will fall back 1x mode automatically.

The options are: Enabled, Disabled.

### AGP Driving Control / AGP Driving Value

These two features allow user to improve the performance of AGP card manually by pressing Page Down/Page UP key if necessary.

The options of AGP Driving Control are: Auto, Manual.

### OnChip USB

When enabled, this feature allows you to use the onboard USB feature.

The options are: Enabled, Disabled.

### USB Keyboard Support

This feature will appear only if the above item Onchip USB is set at Enabled. Set this feature to Enabled to use a USB keyboard with your system.

The options are: Disabled, Enabled.

### OnChip Sound

This feature allows you to disable the onboard audio function if needed. The options are: Enable, Disable.

### OnChip Modem

This feature allows you to disable the embeded modem function if needed. The options are: Enable, Disable.

### CPU to PCI Write Buffer

When enabled, allows data and address access to the internal buffer of the system controller; so the processor can be released from the waiting state. The options are: Enabled, Disabled.

### PCI Dynamic Bursting

When enabled, the PCI controller allows Bursting PCI transfer if the consecutive PCI cycles come with the address falling in same 1KB space. This improves the PCI bus throughput.

The options are: Enabled, Disabled.

### PCI Master 0 WS Write

When enabled, allows a zero-wait-state-cycle delay when the PCI master drive writes data to DRAM. The options are: Enabled, Disabled.

### PCI Delay Transaction

Enable this feature to abort the current CPI master cycle and to accept the new PCI master request, it reaccepts the original PCI master and returns the PCI data phase to the original PCI master.

The options are: Disabled, Enabled.

### PCI#2 Access #1 Retry

When enabled, the AGP (PCI#2) access to PCI (PCI#1) will be retried until the maximum count. The options are: Disabled, Enabled.

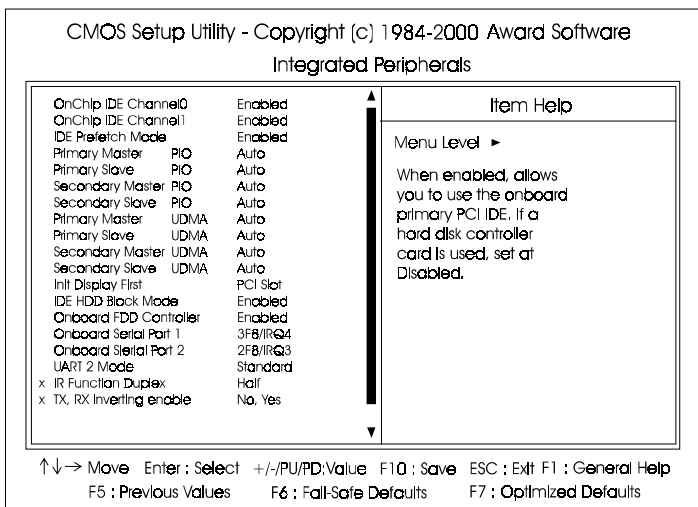
### AGP Master 1 WS Write

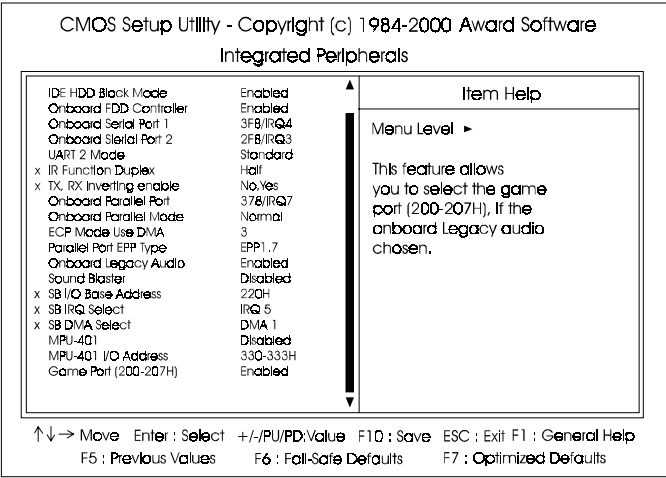
When enabled, the AGP bus master write access to DRAMs will add one wait-state cycle. The options are: Disabled, Enabled.

### AGP Master 1 WS Read

When enabled, the AGP bus master read access to the DRAMs will add one wait-state cycle. The options are: Disabled, Enabled.

## Integrated Peripherals





### OnChip IDE Channel0

When enabled, allows you to use the onboard primary PCI IDE. If a hard disk controller card is used, set at Disabled.  
The options are: Enabled, Disabled.

### OnChip IDE Channel1

When enabled, allows you to use the onboard secondary PCI IDE. If a hard disk controller card is used, set at Disabled.  
The options are: Enabled Disabled.

### IDE Prefetch Mode

When set at Enabled, it allows data to be posted to and prefetched from the primary IDE data ports. Data prefetching is initiated when a data port read occurs. The read prefetch eliminates latency to the IDE data ports and allows them to be performed back to back for the highest possible PIO data transfer rates. The first data port read of a sector is called the demand read. Subsequent data port reads from the sector are called prefetch reads. The demand read and all prefetch reads must be of the same size (16 or 32 bits).  
The options are: Enabled, Disabled.

### Primary Master PIO

Allows an automatic or a manual configuration of the PCI primary IDE hard disk (master) mode. The options are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

### Primary Slave PIO

Allows an automatic or a manual configuration of the PCI primary IDE hard disk (slave) mode. The options are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

### Secondary Master PIO

Allows an automatic or a manual configuration of the PCI secondary IDE hard disk (master) mode. The options are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

### Secondary Slave PIO

Allows an automatic or a manual configuration of the PCI secondary IDE hard disk (slave) mode. The options are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

### Primary Master UDMA

Allows you to select the first PCI IDE channel of the first master hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto, Disable.

### IDE Primary Slave UDMA

Allows you to select the first PCI IDE channel of the first slave hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto, Disable.

### IDE Secondary Master UDMA

Allows you to select the second PCI IDE channel of the secondary master hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto, Disable.

### IDE Secondary Slave UDMA

Allows you to select the second PCI IDE channel of the secondary slave hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto, Disable.

### Init Display First

When you install an AGP VGA card and a PCI VGA card on the board, this feature allows you to select the first initiation of the monitor display from which card. The options are: PCI Slot, AGP.

### IDE HDD Block Mode

When enabled, the system executes read/write requests to hard disk in block mode. The options are: Enabled, Disabled.

### Onboard FDD Controller

When enabled, the floppy diskette drive (FDD) controller is activated. The options are: Enabled, Disabled.

### Onboard Serial Port 1 / Onboard Serial Port 2

If the serial port 1/2 uses the onboard I/O controller, you can modify your serial port parameters. If an I/O card needs to be installed, COM3 and COM4 may be needed. The options are: Disabled, 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto.

### UART 2 Mode

Select an operating mode for the second serial port. Set at Standard, if you use COM2 as the serial port as the serial port, instead as an IR port. The options are: Standard, ASK-IR, HPSIR.

### IR Function Duplex

This feature is available only if the above item, UART2 Mode, is set at ASKIR or HPSIR. It allows you to select the infrared data transaction way. The options are: Half, Full.

### TX, RX Inverting Enable

This feature is available only if the above item, UART2 Mode, is set at ASKIR or HPSIR. It allows you to select the active signals of the reception end and the transmission end.

The options are: No, Yes; Yes, Yes; No, No; Yes, No.

### Onboard Parallel Port

Allows you to select from a given set of parameters if the parallel port uses the onboard I/O controller.

The options are: 378/IRQ7, 278/IRQ5, 3BC/IRQ7, Disabled.

### Onboard Parallel Port Mode

Allows you to connect with an advanced printer.

The options are: Normal, EPP, ECP, ECP/ECP.

### ECP Mode Use DMA

This feature allows you to select Direct Memory Access (DMA) channel if the ECP mode selected. The options are: 3, 1.

### Parallel Port EPP Type

This feature allows you to select the EPP type for the parallel port.

The options are: EPP1.9, EPP1.7.

### Onboard Legacy Audio

Allow use the audio function under DOS mode.

The options are: Enabled, Disabled.

### Sound Blaster

This feature allows you to select the Sound Blaster, if the onboard Legacy audio chosen. The options are: Enabled, Disabled.

### SB I/O Base Address

This feature allows you to select the SB I/O base address, if the onboard Legacy audio chosen. The options are: 220H, 240H, 260H, 280H.

### SB IRQ Select

This feature allows you to select the SB IRQ, if the onboard Legacy audio chosen. The options are: IRQ 5, IRQ 7, IRQ 9, IRQ 10.

### SB DMA Select

This feature allows you to select the SB DMA channel, if the onboard Legacy audio chosen.

The options are: DMA 1, DMA 2, DMA 3, DMA0.



MPU-401

This feature allows you to select MPU-401, if the onboard Legacy audio chosen. The options are: Disabled, Enabled.

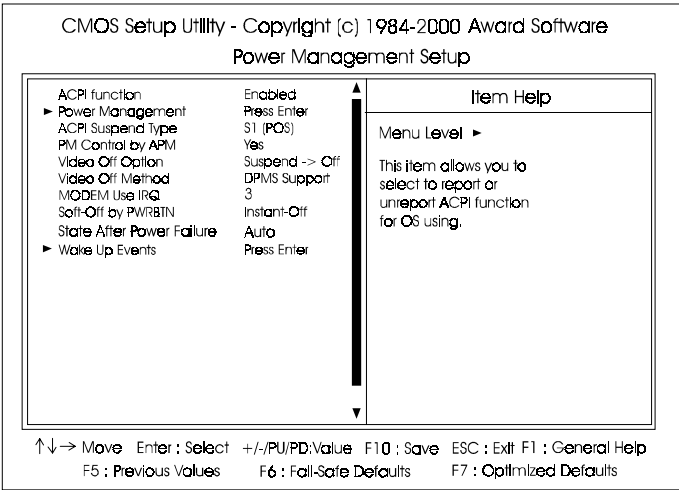
MPU-401 I/O Address

This feature allows you to select the MPU-401 I/O address, if the onboard Legacy audio chosen.  
The options are: 300-303H, 310-313H, 320-323H, 330-333H.

Game Port (200-207H)

This feature allows you to select the game port (200-207H), if the onboard Legacy audio chosen.  
The options are: Enabled, Disabled.

Power Management Setup



### ACPI function

This item allows user to select to report or not report ACPI function for operating system use. The options are: Enabled, Disabled.

### Power Management

This item allows you to adjust the power management features.

Select User Define for configuring your own power management features. Min Saving initiates all predefined timers in their minimum values. Max Saving, on the other hand, initiates maximum values. The options are: User Define, Min Saving, Max Saving.

### HDD Power Down

The option lets the BIOS turn the HDD motor off when system is in Suspend mode. Selecting 1 Min..15 Min allows you define the HDD idle time before the HDD enters the Power Saving Mode.

The options 1 Min..15 Min will not work concurrently. When HDD is in the Power Saving Mode, any access to the HDD will wake the HDD up.

The options are: Disable, 1 Min..15 Min.

### Doze Mode

When disabled, the system will not enter Doze mode. The specified time option defines the idle time the system takes before it enters Doze mode. The options are: Disable, 1, 2, 4, 6, 8, 10, 20, 30, 40 Min, 1 Hour.

### Suspend Mode

When disabled, the system will not enter Suspend mode. The specified time option defines the idle time the system takes before it enters Suspend mode. The options are: Disable, 1, 2, 4, 6, 8, 10, 20, 30, 40 Min, 1 Hour.

### ACPI Suspend Type

This item allows you to select ACPI suspend types. The options are: S1(POS), S3 (STR).

### PM Control by APM

The option No allows the APM (Advanced Power Management) specification be ignored. Selecting Yes will allow the BIOS wait for APM's prompt before it enters Doze mode, Standby mode, or Suspend mode. If the APM is installed, it will prompt the BIOS to set the system into power saving mode when all tasks are done. The options are: No, Yes.

### Video Off Option

This feature provides the selections of the video display power saving mode. The option Suspend - Off allows the video display to go blank if the system enters Suspend mode. The option All Modes - Off allows the video display to go blank if the system enters Doze mode or Suspend mode. The option Always On allows the video display to stay in Standby mode even when the system enters Doze or Suspend mode.

The options are: Suspend - Off, All Modes -> Off, Always On.

### Video Off Method

The option *V/H SYNC+Blank* allows the BIOS to blank off screen display by turning off the V-Sync and H-Sync signals sent from add-on VGA card. *DPMS Support* allows the BIOS to blank off screen display by your add-on VGA card which supports DPMS (Display Power Management Signaling function). *Blank Screen* allows the BIOS to blank off screen display by turning off the red-green-blue signals.

The options are: V/H SYNC+Blank, DPMS Support, Blank Screen.

### MODEM Use IRQ

This feature allows you to select the IRQ# to meet your modem's IRQ#.

The options are: NA, 3, 4, 5, 7, 9, 10, 11.

### Soft-Off by PWR-BTTN

The selection Delay 4 Sec. will allow the system shut down after 4 seconds after the power button is pressed. The selection Instant-Off will allow the system shut down immediately once the power button is pressed.

The settings are: Delay 4 Sec, Instant-Off.

### State After Power Failure

The item allows you to select the state that your personal computer returns to after a power failure. If set at Off, the system will not boot after a power failure. If set On, the system will restart after power failure.

The settings are: Auto, On, Off.

### VGA

When set at On, any VGA activity will awake the system.

The options are: OFF, ON.

### LPT & COM

When LPT/COM is selected, any access of LPT and COM ports will awake the system. Likewise, either LPT or COM is chosen, the system will be awoken by any activity of LPT or COM port.

The options are: LPT/COM, LPT, COM, NONE.

### HDD & FDD

When it is set at ON, any access happened at hard drives and floppy drives will awake the system.

The options are: OFF, ON.

### PCI Master

To set this feature at ON activates that Power Management feature (PM) wake-up event for the PCI bus master card.

The options are: OFF, ON.

### PowerOn by PCI Card

When set at Enabled, any PCI-PM event awakes the system from a PCI-PM controlled state.

The options are Disabled, Enabled.

### Modem Ring Resume

An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.

The options are: Enabled, Disabled.

### RTC Alarm Resume

*Enabled* allows you to set the time the system will be turned on from the system power-off status. The options are: Enabled, Disabled.

### Date (of Month)

This feature allows you to set the day of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled. The options are: 0, 1..31.

### Resume Time (hh:mm:ss)

If an ATX power supply is installed and when RTC Alarm Resume is Enabled, this feature allows you to set the time of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled.

The options are: 7: 0: 0. hh (*hour*) - 0, 1, 2,..., 23; mm (*minute*) - 0, 1, 2,..., 59; ss (*second*) - 0, 1, 2,..., 59.

### Primary INTR

If set at ON, the Primary interrupt (the Primary option in the feature of IRQ# Activity) will make the power management wake up the system.

The options are: ON, OFF.

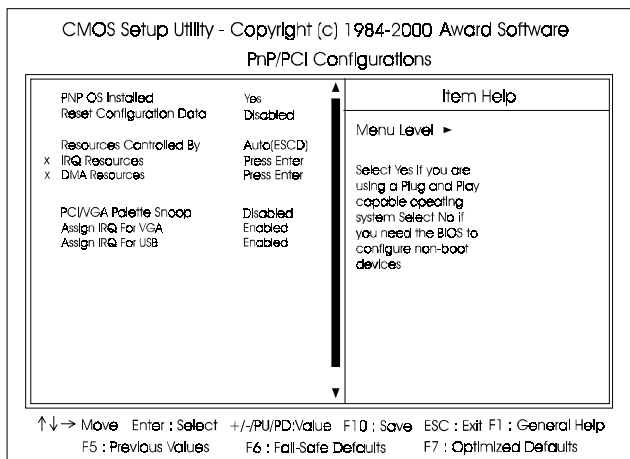
### IRQs Activity Monitoring

After the time period which you set, the system advances from doze mode to suspend mode in which the CPU clock stops and the screen display is off. At this moment, if the IRQ activity occurs, the system goes back to full-on mode directly.

If the IRQ activity which is defined as Non Primary takes place, the system remains off until the corresponding IRQ handler finishes.

The options of IRQ 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 are: Enabled, Disabled.

## PnP/PCI Configurations



### PNP OS Installed

If your operating system is a Plug-and-Play one, such as Windows NT, Windows 95, select Yes. The options are: No, Yes.

### Reset Configuration Data

Enabling it to reset the system Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on card and the system reconfiguration has caused such a serious conflict that the operating system can not boot. The options are: Disabled, Enabled.

### Resources Controlled By

If set at Auto, the BIOS arranges all system resources. If there exists conflict, select Manual. The options are: Auto (ESCD), Manual.

If the manual options, after the feature IRQ Resources being pressed, of **IRQ- Assigned To** are: PCI Device, Reserved. When resources were controlled manually, assign each system interrupt a type, depending on each device type to use the interrupt.

### PCI/VGA Palette Snoop

Set this feature to be enabled if any ISA adapter card installed in the system requires the VGA palette snoop function.

The options are: Disabled, Enabled.

### Assign IRQ For VGA

If your PCI VGA card does not need an IRQ, select Disabled; therefore, an IRQ can be released for the system use.

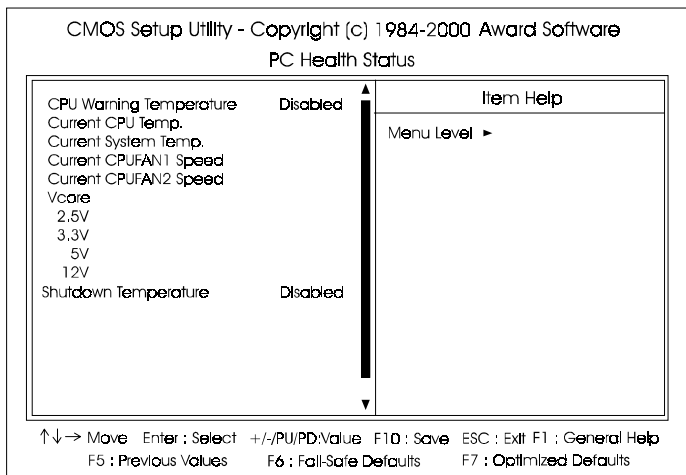
The options are: Enabled, Disabled.

### Assign IRQ For USB

If you do not use USB devices, select Disabled; therefore, an IRQ can be released for the system use.

The options are: Enabled, Disabled.

## PC Health Status



### CPU Warning Temperature

This feature allows you to set the temperature to slow down the CPU clock frequency. The option list presents all the temperatures that supported by the board and Disabled.

### Current CPU Temp. / Current System Temp. / Current CPUFAN1 Speed / Current CPUFAN2 Speed / Vcore / 2.5V / 3.3V / 5V / 12V

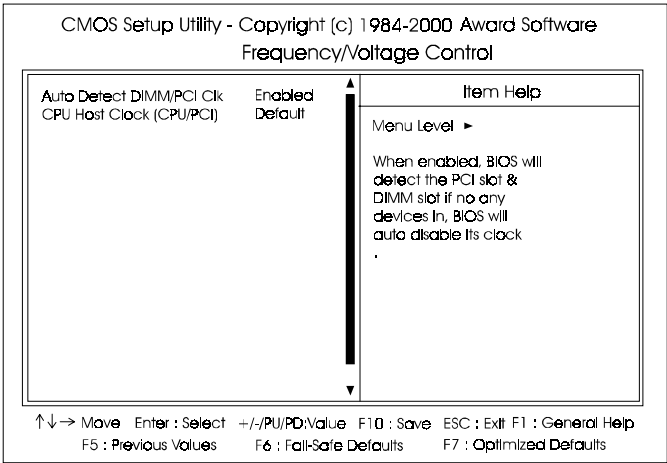
These items allow end users and technicians to monitor data provided by the BIOS on this mainboard. It is not user-configurable.

### Shutdown Temperature

This feature helps to shutdown the system when the system temperature is as high as the selected temperature to prevent from the overheat problem. The option list presents all the temperatures that supported by the board and Disabled.



## Frequency/Voltage Control



### Auto Detect DIMM/PCI Clk

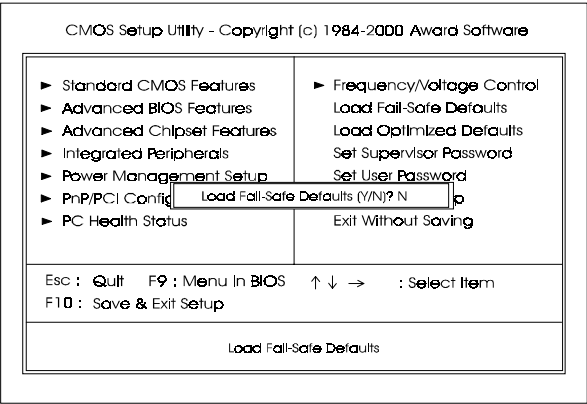
When enabled, BIOS will detect the PCI slot and DIMM slot. If no any device in, BIOS will auto disable its clock.

The options are: Enabled, Disabled.

### CPU Host/PCI/Spread Spec.

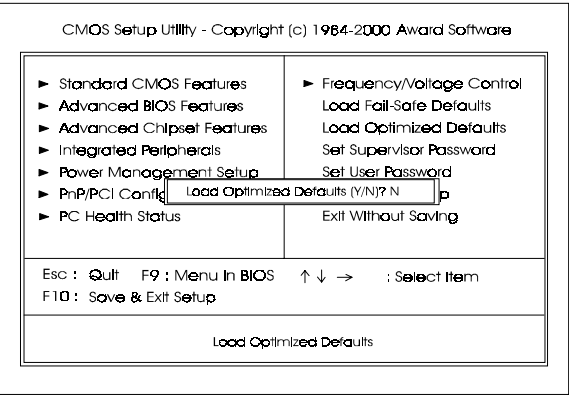
This feature allows you to select the combinations of CPU/PCI clock frequency and the Spread Spectrum. The default setting, Default, will detect your CPU/PCI clock frequency/Spread Spectrum automatically. The recommended CPU clock frequencies are 100 and 133MHz. The other options may effect the system perfomance. If you set a unappropriate option which leads to a booting problem, keep pressing the Insert key until the display appears will solve it. The options lists all combinations that provided by the system BIOS.

## Load Fail-Safe Defaults



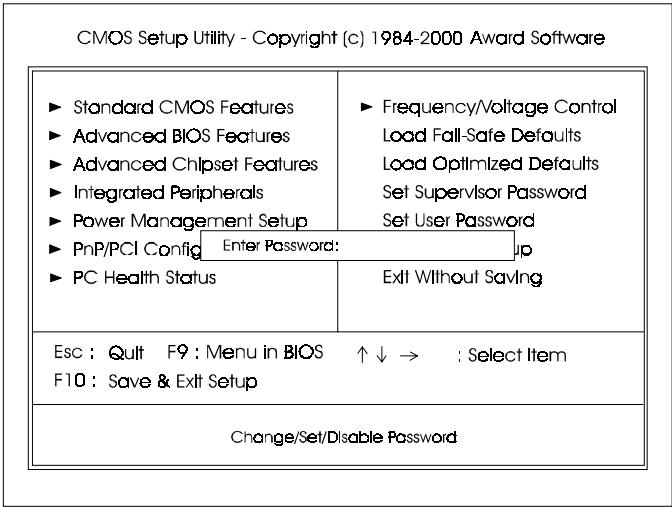
This submenu is selected to diagnose the problem after the computer boots, if the computer will not boot. These settings do not give optimal performance.

## Load Optimized Defaults



This submenu is selected for default settings which provide the best system performance.

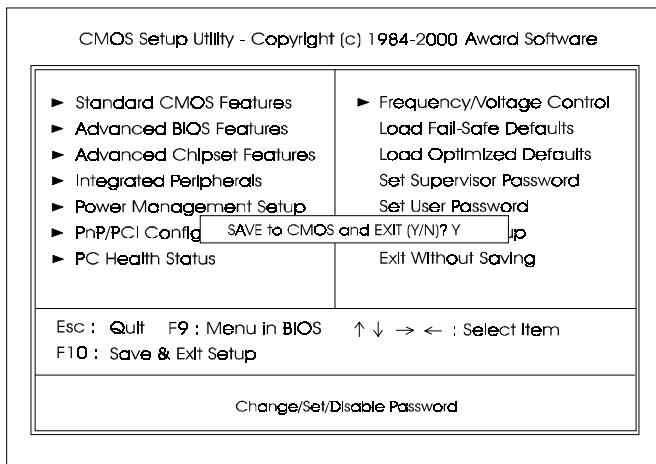
## Supervisor/User Password



To enable the Supervisor/User passwords, select the item from the Standard CMOS Setup. You will be prompted to create your own password. Type your password up to eight characters and press Enter. You will be asked to confirm the password. Type the password again and press Enter. To disable password, press Enter twice when you are prompted to enter a password. A message appears, confirming the password is disabled.

Under the BIOS Feature Setup, if *Setup* is selected under the Security Option field and the Supervisor/User Password is enabled, you will be prompted password every time you try to enter the CMOS Setup Utility. If *System* is selected and the Supervisor/User Password is enabled, you will be requested to enter the Password every time when you reboot the system or enter the CMOS Setup utility.

## Save and Exit Setup



After you have made changes under Setup, press Esc to return to the main menu. Move cursor to Save and Exit Setup or press F10 and then press Y to change the CMOS Setup. If you did not change anything, press Esc again or move cursor to Exit Without Saving and press Y to retain the Setup settings. The following message will appear at the center of the screen to allow you to save data to CMOS and exit the setup utility: **SAVE to CMOS and EXIT (Y/N)?**

## Exit without Saving

If you select this feature, the following message will appear at the center of the screen to allow you to exit the setup utility without saving CMOS modifications: **Quit Without Saving (Y/N)?**