

# 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
- Step 2 - Install system RAM 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 (see Chapter Three)
- Step 7 - Set up 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 some 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.

## 1). Set System Jumpers

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:



Jumper Cap



3-pin Jumper



2-pin Jumper



Jumper Block



"□" stands for pin 1

Jumpers are shown like above



Jumpers cap like above



Jumpers in a Block

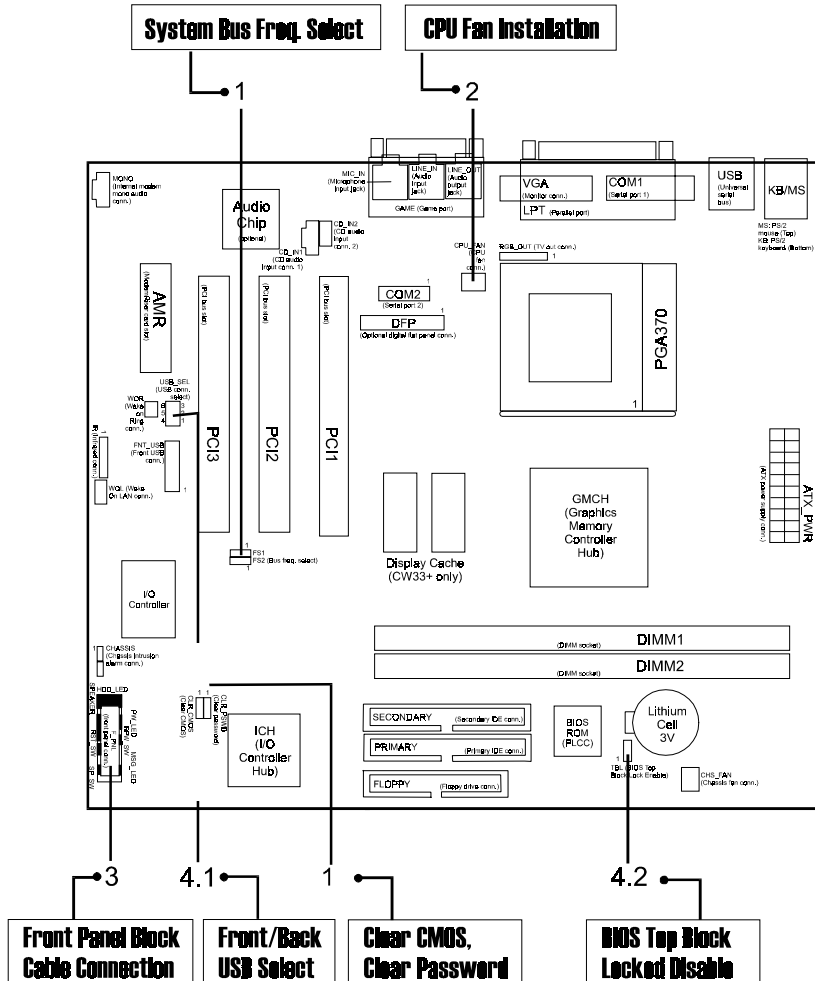


**NOTE:** Users are not encouraged to change the jumper settings not listed in this manual. Changing the jumper settings improperly may adversely affect system performance.



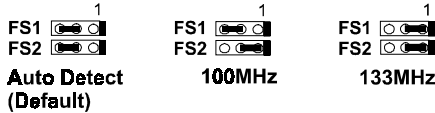
## **QUICK REFERENCE**

*This Chapter is intended to aid quick and easy installation.  
In the event that more detailed information is required, please  
consult the Installation Procedures Chapter.*

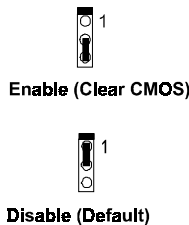


## 1). System Bus Frequency Select, CPU Ratio Select, Clear CMOS, Clear Password

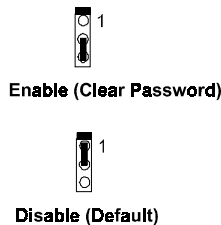
### FS1, FS2 (System Bus Frequency Select)



### CLR\_CMOS (Clear CMOS)



### CLR\_PSWD (Clear Password)

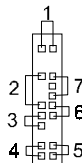


## 2). CPU Fan Installation

This connector is linked to the CPU fan. When the system is in suspend 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 and cause damage to both the CPU and the mainboard.

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

## 3). Front Panel Block Cable Connection



1. HDD LED
2. Speaker
3. Reset Switch
4. Suspend Switch
5. Message LED
6. Remote Power Switch
7. Power LED

## 4). Other Enabled/Disabled Jumpers

### 4.1 USB\_SEL (Front/Back USB Connector Select)



Front USB



Back USBs  
(Default)

### 4.2 TBL (BIOS Top Block Lock)



Unlocked



Locked  
(Default)

## 5). Load BIOS Setup Default

### Load Fail-Safe Defaults

BIOS defaults contain the most appropriate values of the system parameters that allow minimum system performance. The OEM manufacturer may change the defaults through AMIBCP before the binary image burns into the ROM.

### Load Optimized Defaults (recommended)

Selecting this field loads the factory defaults for BIOS and Chipset Features which the system automatically detects.

## 6). How to Upgrade BIOS

1. Format a bootable system floppy diskette by typing the command **format a:/s** in command mode.
2. Visit the the web site of the vendor and visit the BIOS Update page in the related Technical Support section.
3. Select the BIOS file you need and download it to your bootable floppy diskette.
4. Insert the bootable diskette containing the BIOS file into the floppy diskette drive.
5. Assuming that the floppy diskette drive is A:, reboot the system by using the A: drive. At the A: > prompt, run the BIOS upgraded file by executing the Flash BIOS utility and the BIOS file with its appropriate extension.

*Do not turn off or reset the computer during the flash process or if there is a problem.*

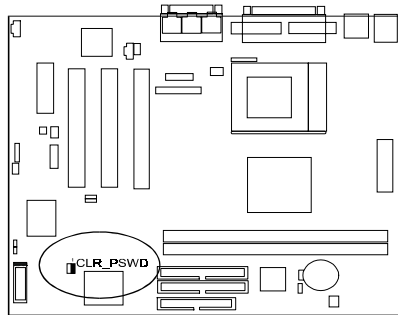
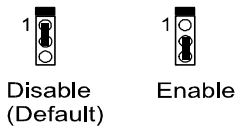


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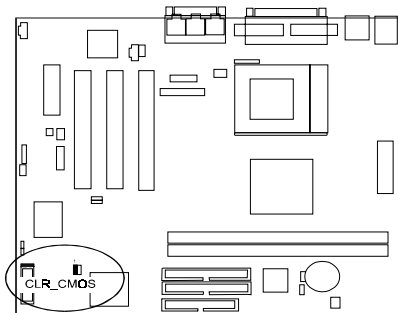
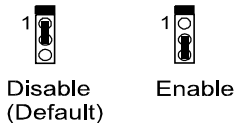
### ***Password Clearance Function: CLR\_PSWD***

This jumper allows you to enable or to disable the password configuration. You may need to enable this jumper by shorting it with a jumper cap if you forget your password. To clear the password setting: (1). Turn off your computer, (2). Set the jumper to Enable, (3). Turn on your computer after booting, (4). Turn off your computer, (5). Turn on your computer for the new settings to take effect.



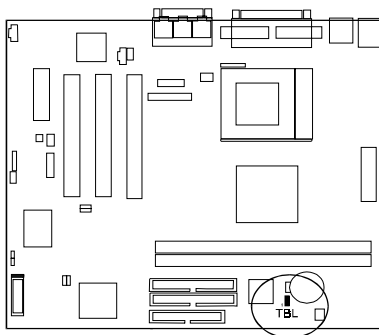
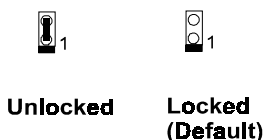
### ***CMOS Clearance Function: CLR\_CMOS***

The CMOS RAM is powered by the onboard button cell battery. To clear the RTC data: (1). Turn off your computer, (2). Move this jumper to Enable, (3). Move the jumper back to Disable, (4). Turn on your computer, (5). Hold down the Delete key during boot and enter BIOS Setup to re-enter user preferences.



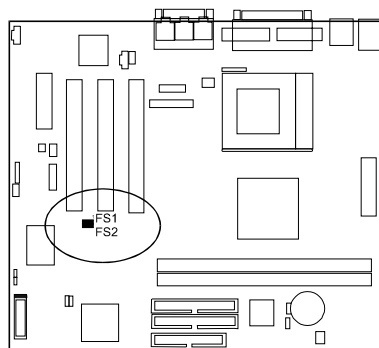
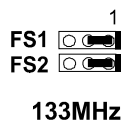
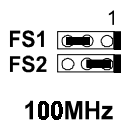
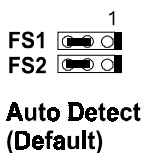
## BIOS Top Block Lock Selection: TBL

The 2-pin jumper provides you with the capability to enable the top block of the BIOS flash ROM while booting ROM needed to be reflash. This feature provides the protection to the booting area of the BIOS ROM.



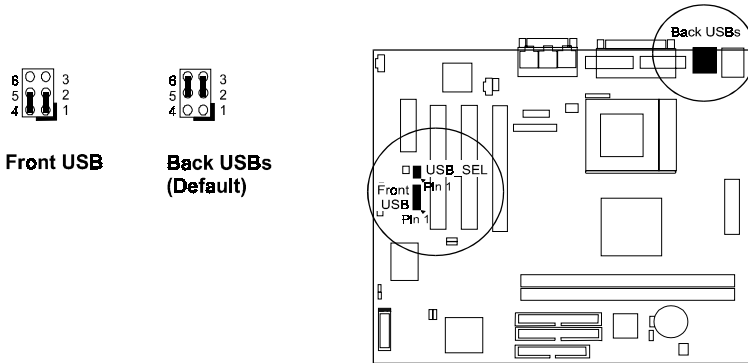
## System Bus Frequency Selection: FS1, FS2

These two 3-pin jumpers allow users to select the sytem bus frequency or stay with the default setting, Auto Detection to let the system automatically detect the system bus frequency.



### ***Front Panel USB Connector Selection: FNT\_USB***

The 6-pin block jumper provides you with the capability to enable the USB connector on the front panel if you need to connect your USB devices with your computer system via front panel instead of back panel.



## **2). Install RAM Modules**

### **RAM Module Configuration**

This mainboard provides two onboard DIMM sockets for allowing 3.3V (un-buffered) SDRAM DIMM modules. Either 8, 16, 32, 64, 128, 256MB DIMM can be installed on these two sockets. The maximum total memory supported is up to 512MB.

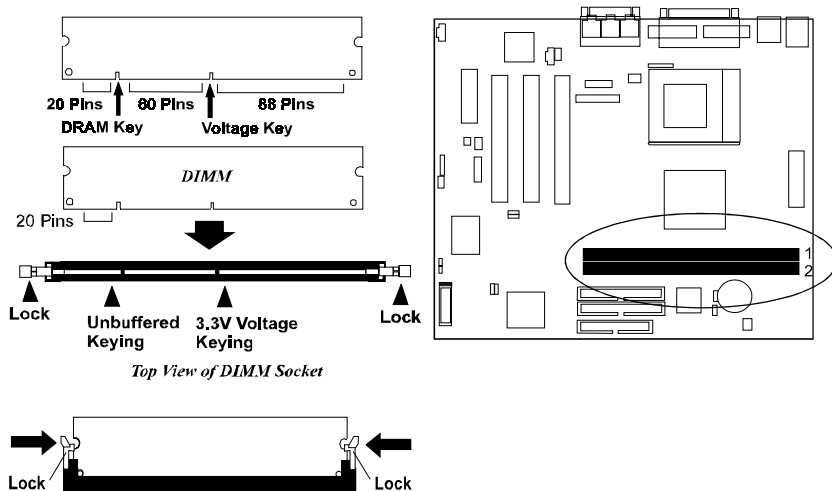


**NOTE:** This mainboard supports DIMMs with access speeds of 12ns, 10ns, or faster. ECC memory and parity check is also supported.

## Install and Remove DIMMs

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

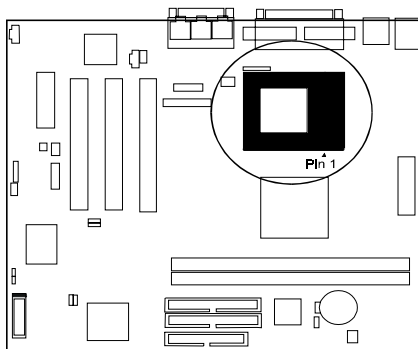
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Press the clips with both hands to remove the DIMM.

### 3). Install the CPU

The CPU module resides in the ZIF PGA370 socket on the motherboard.

**CAUTION:**

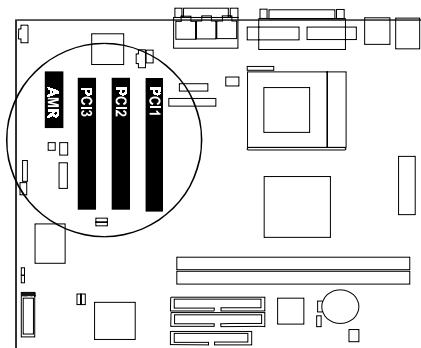
1. Always turn the system power off before installing or removing any device.
2. Always observe static electricity precautions. See “Handling Precautions” at the start of this manual.
3. Inserting the chip incorrectly may damage the chip.

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 a notch to correctly locate the chip. Align the notch with pin one of the socket. Pin one is located in the blank triangular area. 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. See the following sections for information on the CPU jumpers settings.

## 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 **three 32-bit PCI bus** expansion slots and **one AMR slot** for you for your modem riser card.



**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:

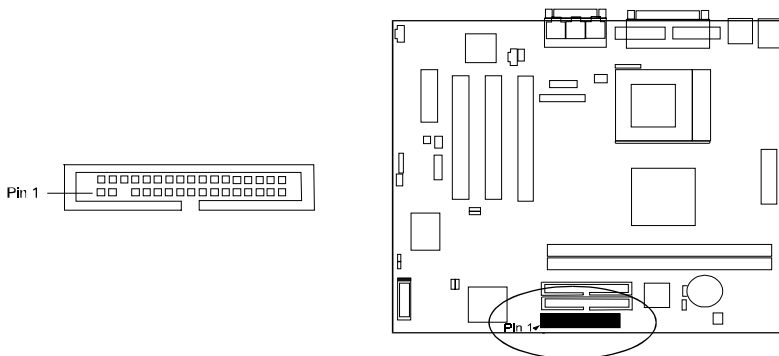
1. Remove the computer chassis cover and select an empty expansion slot.
2. Remove the corresponding slot cover from the computer chassis. Unscrew the mounting screw that secures the slot cover and pull the slot cover out from the computer chassis. Keep the slot cover mounting screw nearby.

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

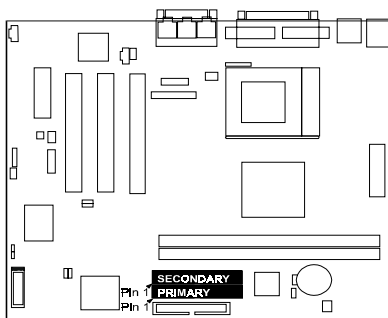
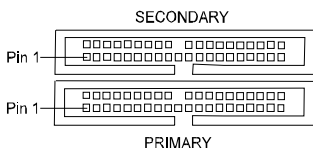
### *Floppy Diskette Drive Connector: FLOPPY*

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 HDD Device Connectors: PRIMARY, SECONDARY

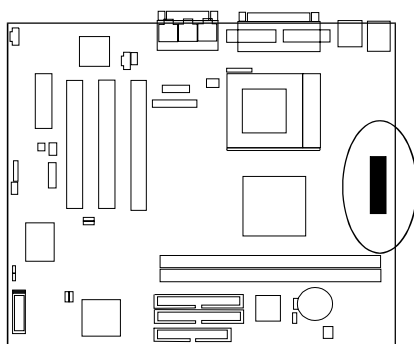
These two connectors are used for your IDE hard disk drives, CD drives, LS-120 drives, or IDE ZIP drives. The red stripe of the ribbon cable must be the same side with the Pin 1.



## ATX Power Connector: POWER

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	20	+5V
5V_VR	9	19	+5V
PWR_GOOD	8	18	-5V
GND	7	17	GND
+5V	6	16	GND
GND	5	15	GND
+5V	4	14	-PWR_ON
GND	3	13	GND
+3.3V	2	12	-12V
+3.3V	1	11	+3.3V

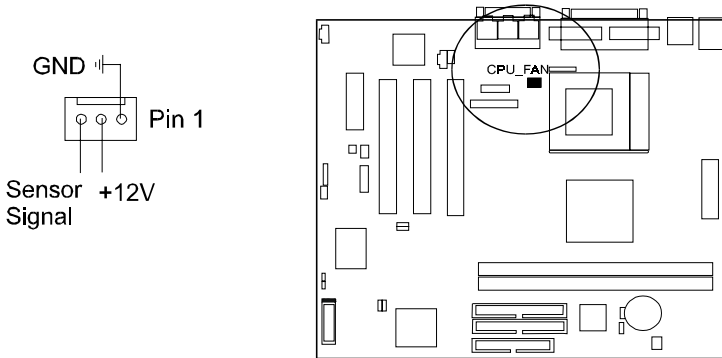


**NOTE:** The power supply must provide +3.3V voltage.



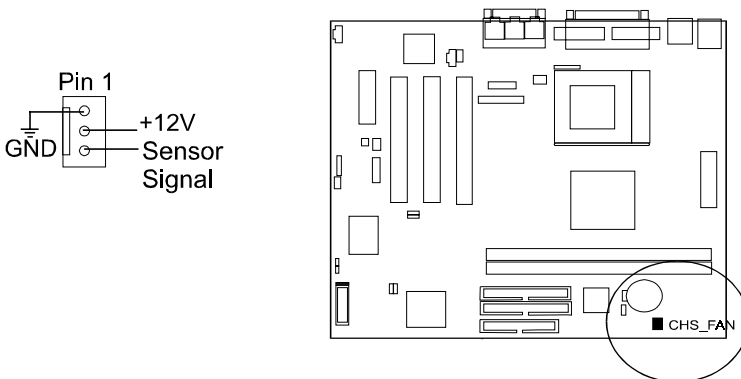
## ***CPU Fan Connector: CPU\_FAN***

This connector is linked to the CPU fan. When the system is in 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.



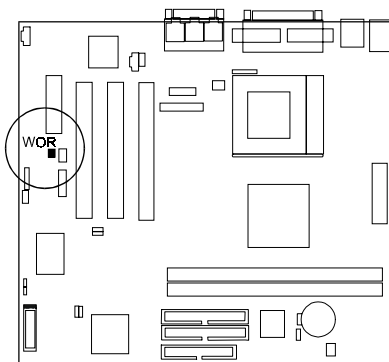
## ***System Case Fan Connector: CHS\_FAN***

This 3-pin connector links to your cooling fan on the system case to lower the system temperature.



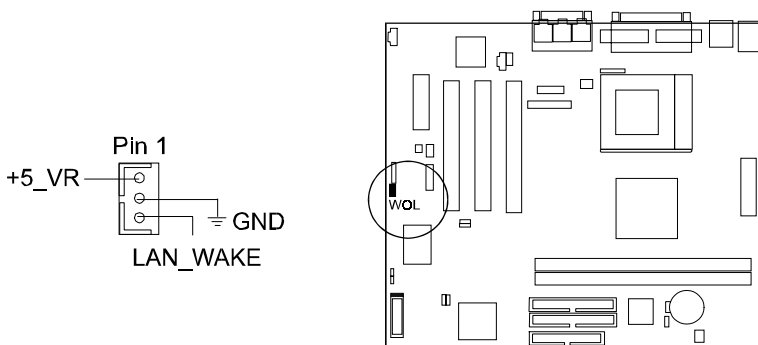
### ***Wake-On-Ring Connector: WOR***

This 2-pin connector allows the coming ring signal to wake up the system via your modem riser card which equipped a connector for linking with the WOR. Please also refer to the modem card installation guide for related information.



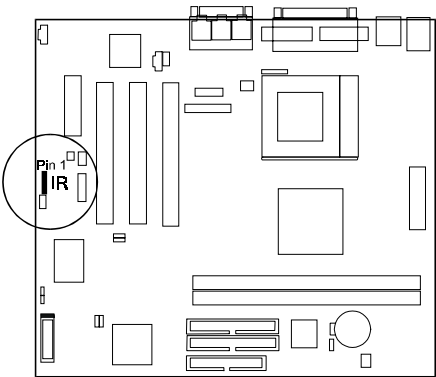
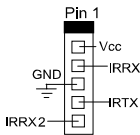
### ***Wake-On-LAN Connector: WOL***

This 3-pin connector allows the remote LAN server to wake up the system with a LAN card installed. Please also refer to the LAN card installation guide for related information.



***Infrared Connector: IR***

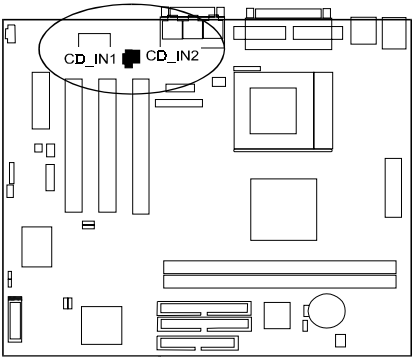
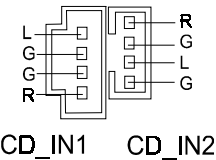
This 5-pin connector is used to link with your ID device to allow transmission of data to another system that also supports the IR feature. This module mounts to a small opening on system cases that support it.



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

These two 4-pin connectors are used for different types of the AUDIO-OUT port of your CD drive.



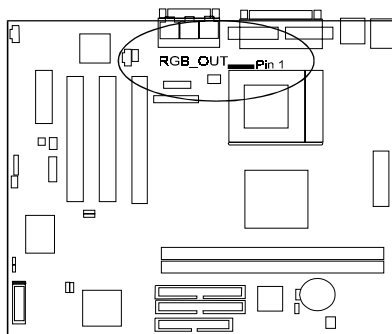


**CAUTION:**

Before connecting with the TV video cable to RGB\_OUT connector, make sure your system power is off. Failure to do so may cause damage to the mainboard.

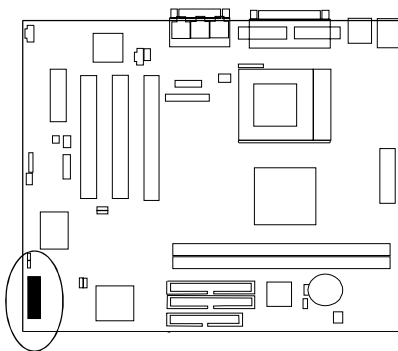
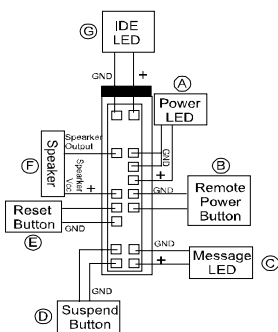
## TV Video Port Connector: RGB\_OUT

This 1x6-pin connector allows you to connect to your TV set video port for using your TV as a monitor.



## Front Panel Block Connector: F\_PNL

This block connector concludes the connectors for linking with IDE LED, power LED, remote power button, message LED, suspend 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 this buttons will not affect the function.



**Power LED (A)** is connected with the system power indicator to indicate whether the system is on/off. When the system enter the suspend mode, it blinks.

**Remote Power Button (B)** is connected with remote power (soft power) switch. Push this switch will turn off and on the system instead of turning the power switch on the power supply.

**Message LED (C)** 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.

**Suspend Button (D)** is connected with suspend mode switch.

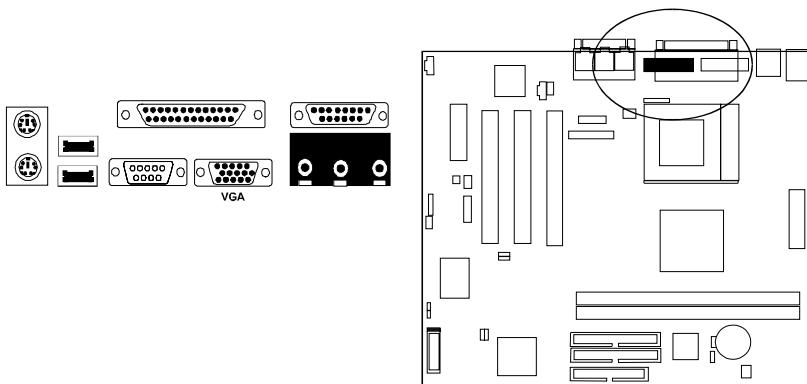
**Reset Button (E)** is connected to the reset switch. Push this switch to reboot the system instead of turning power switch off and on.

**Speaker (F)** is connected with the case speaker.

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

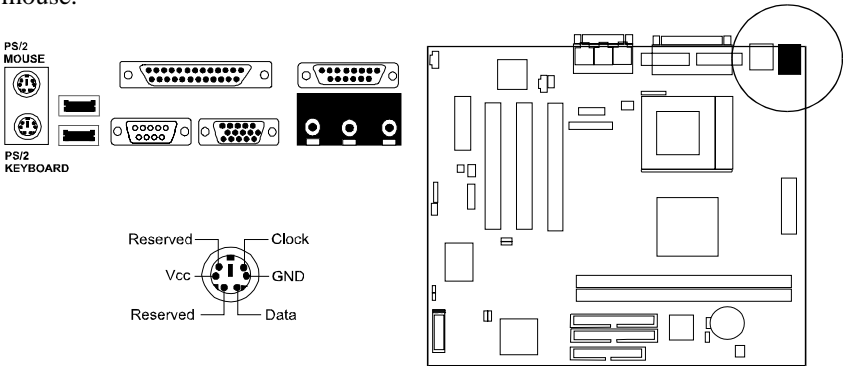
### *Video Graphics Accelerator Connector: VGA*

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



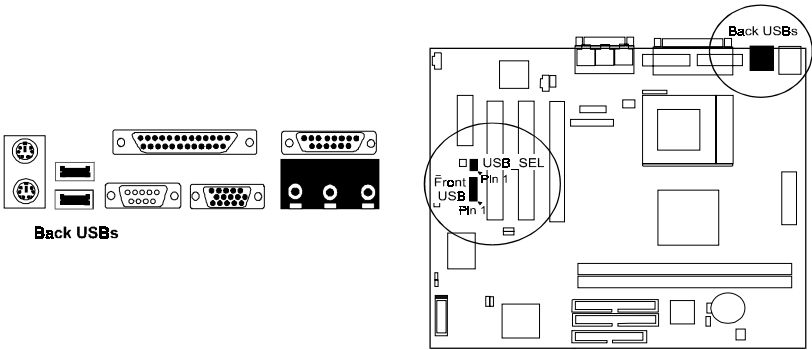
**PS/2 Keyboard and Mouse Connector: KB, MS**

These two 6-pin female connectors are used for your PS/2 keyboard and PS/2 mouse.



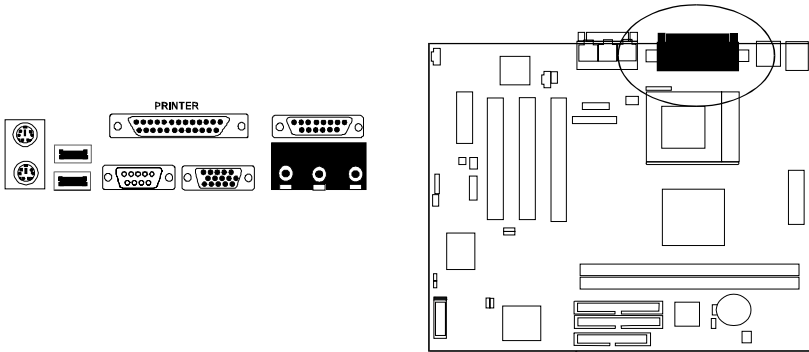
**Universal Serial Bus Connectors: FNT\_USB, Back USB**

These two connectors that integrated on the edge of the board are used for linking with USB peripheral devices. Also, this board provides a pinhead, FNT\_USB, for linking with the USB socket on the front panel of some system cases. If the FNT\_USB connector is used (the jumper USB\_SEL must be set at Front USB option; please read Page 2-6.), one of the back USBs will be disabled. Your operating system must support USB features, such as MS Windows 98, MS Windows 95 OSR2.5 with USB Supplement.



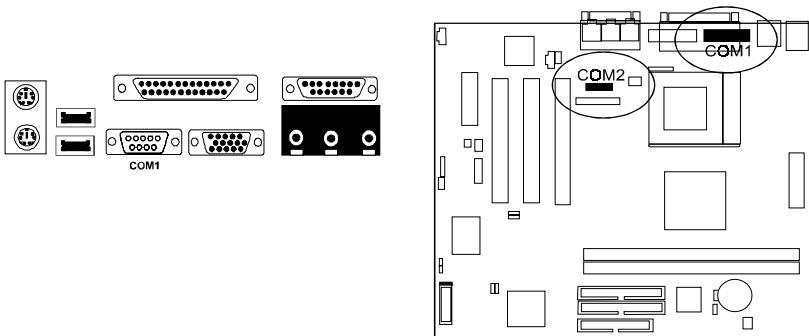
### ***Printer Connector: LPT***

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



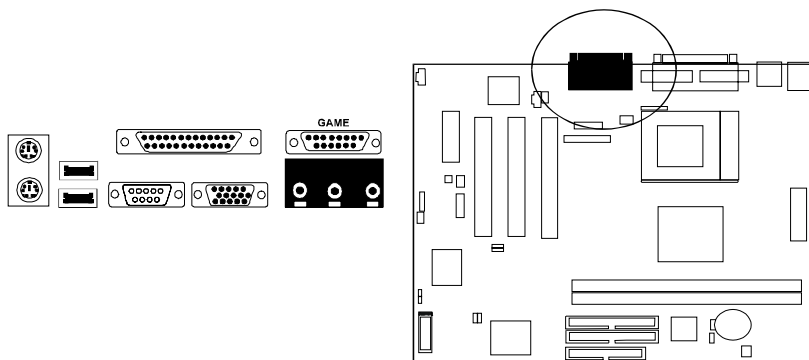
### ***Serial Port Connectors: COM1, COM2***

COM1 (9-pin D-sub male connector) 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.



## Joystick/MIDI Connector: *GAME*

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



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

LINE\_OUT can be connected to headphones or preferably powered speakers. LINE\_IN allows tape players or other audio sources to be recorded by your computer or played through the LINE\_OUT. MIC\_IN allows microphones to be connected for input voice.

