

## Installation Procedures

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

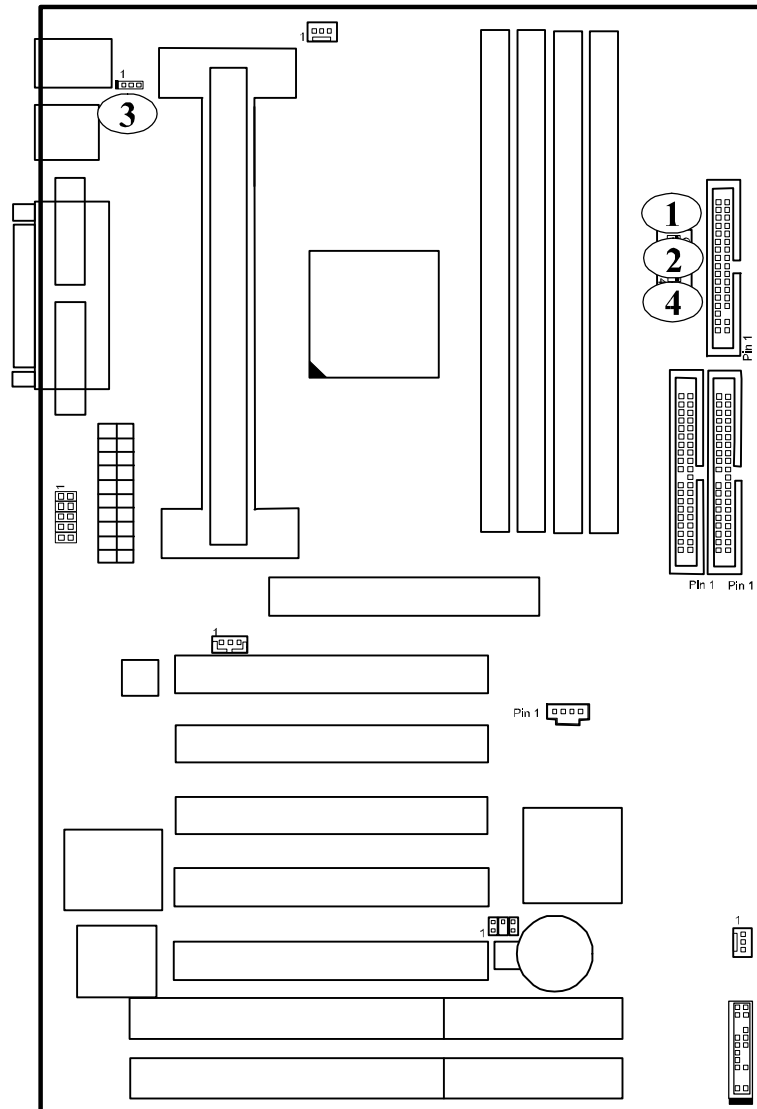
To set up your computer, you should follow these installation steps:

- [Step 1 - Set system jumpers/switches](#)
- [Step 2 - Install memory modules](#)
- [Step 3 - Install the CPU cartridge](#)
- [Step 4 - Install expansion cards](#)
- [Step 5 - Connect devices](#)
- [Step 6 - Set up BIOS feature](#)
- [Step 7 - Set up software utilities](#)



**CAUTION:** If you use an electric drill to install this mainboard on your chassis, please wear a static wrist strap. The recommended electric drill torque is from 5.0 to 8.0 kg/cm to avoid damaging the chips' pins.

## Quick Reference (Jumpers)



**Jumpers** (\*: Default Setting )



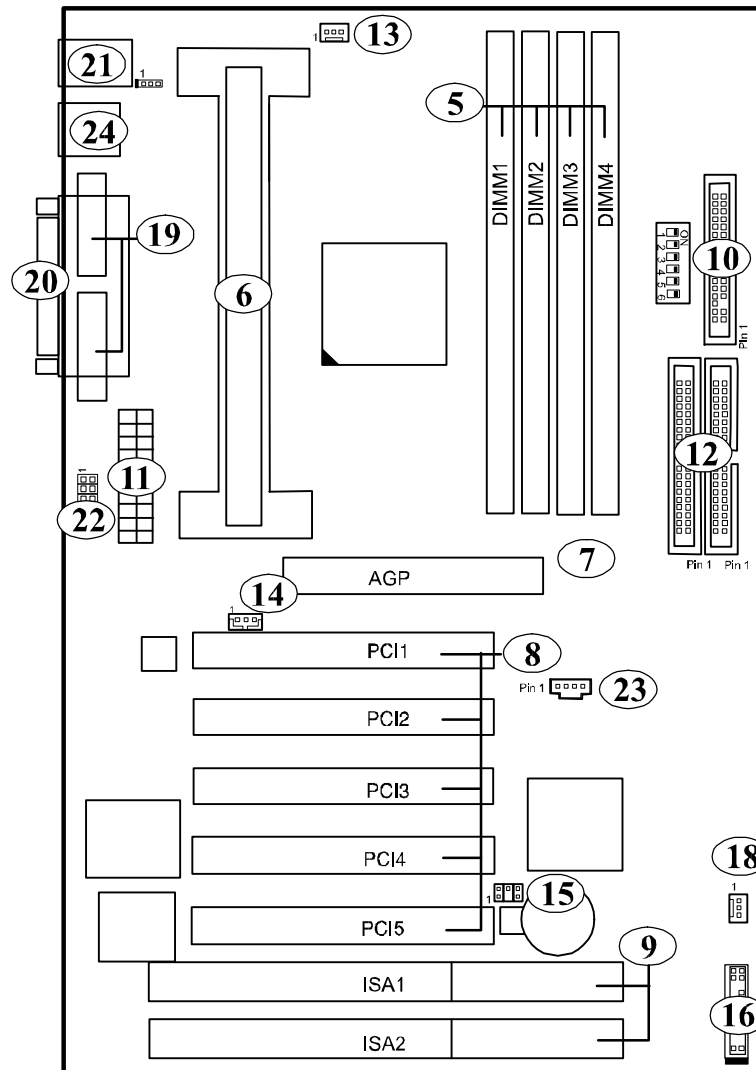
**CAUTION:** Turn off the system power and read Handling Precautions of this manual before installing and removing any part of the system.

No.	Item	Function / Page for Detail information
1	SW1-5 On: Off:	Clear CMOS Data / 12 Enabled (clear CMOS) Disabled*
2	SW1-6 On: Off:	Clear Password / 12 Enabled (clear keyboard power & system password) Disabled*
3	KB_PWN 1-2: 2-3:	Keyboard & Mouse Power-On Feature / 13 Enabled Disabled*
4	SW1-1/2/3/4	CPU to Bus Frequency Ratio Select / 21 <i>{Table below describes the settings}</i>

**CPU to Bus Frequency Ratio Select**

Ratio	Bus Freq. = 100MHz	Bus Freq. = 66MHz	SW1-1	SW1-2	SW1-3	SW1-4
3.5 x	350MHz	233MHz	On	Off	On	Off
4 x	400MHz	266MHz	On	On	Off	On
4.5 x	450MHz	300MHz	On	On	Off	Off
5 x	500MHz	333MHz	On	Off	Off	On

## Quick Reference (Connectors)



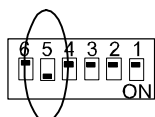
**Connectors**

<b>No.</b>	<b>Item</b>	<b>Function</b>	<b>Page</b>
5	DIMM1/2/3/4	DIMM Memory Module Support	15
6	SLOT1	CPU Slot	18
7	AGP	Accelerated Graphic Port Slot	22
8	PCI1/2/3	PCI Bus Expansion Slot (32-bit)	22
9	ISA1	ISA Bus Expansion Slot (16-bit)	22
10	FLOPPY	Floppy Diskette Drive Connector	23
11	POWER	ATX Power Connector	23
12	PRIMARY, SECONDARY	IDE Device Connector	24
13	FAN1	CPU Fan Connector	24
14	WOL	Wake-On-LAN Connector	25
15	SB_LINK	PCI Audio Card Connector	25
16	Front Panel Block Connector	Connect to LEDs/Buttons on Front Panel	26
17	FAN2	System Case Fan Connector	27
18	COM1/2	Serial Port	27
19	LPT	Printer Connector	28
20	KB & MS	PS/2 Keyboard & Mouse Connector	28
21	IR	Infrared Port Module Connector	29
22	USB0/1, J1	Universal Serial Bus Connector	29

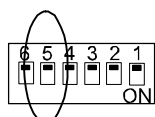
## 1). Set System Jumpers/Switches

### *Clear CMOS: SW1-5*

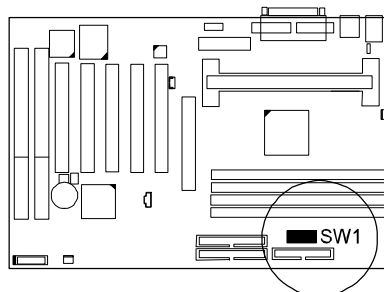
The CMOS RAM is powered by the onboard button cell battery. To clear the RTC data: (1). Turn off your computer, (2). Enable this feature by setting the SW1-5 to On position, (3). Turn on your computer, (4). Turn off the computer, (5). Disable the Clear CMOS feature, (6). Turn on the computer. (7). Hold down the Delete key when boots and enter BIOS Setup to re-enter user preferences.



Enable (Clear CMOS)

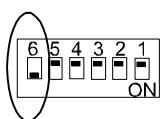


Disable (Default)

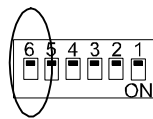


### *Clear Password: SW1-6*

This switch allows you to enable or to disable both the keyboard and system password settings. You may need to adjust it if you forget your password. To clear the password setting: (1). Turn off your computer, (2). Enable this feature by setting the SW1-6 to On position, (3). Turn on your computer, (4). Turn off your computer, (5). Disable the Clear Password feature by setting the SW1-6 to Off position, (6). Turn on your computer, (7). Hold down the Delete key when boots and enter BIOS Setup to re-enter user preferences.



Enable (Clear Password)



Disable (Default)

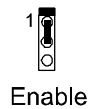
user preferences.



**NOTE:** When SW1-6 set at Enabled, the keyboard password (Page 56, K/B Wake-up function) will be cleared too. Users can power on the system by pushing power button.

### ***Keyboard and Mouse Power-On Feature: KB\_PWN***

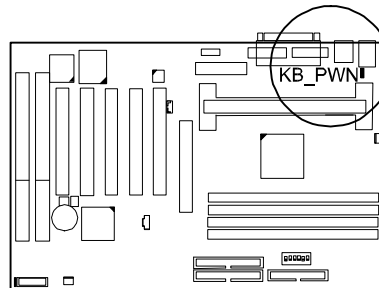
The 3-pin jumper provides you with the capability to power on the system by simply touching your keyboard or mouse. To enable this feature, you have to set this jumper and the related BIOS feature, **K/B Wake-up function** and **Mouse Wake-up function**, Page 56/57, that introduced in **Integrated Peripherals** section in Chapter 4.



Enable



Disable  
(Default)



**NOTE:** To use this function and WOL (mentioned in Page 25) together, your power supply should have a current of 1A at 5 V Stand-by.

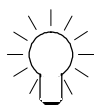
## 2). Install RAM Modules

### RAM Module Configuration

This mainboard provides four onboard DIMM sockets for allowing 3.3V (unbuffered) SDRAM DIMM modules. Either 8, 16, 32, 64, 128MB, or 256\*MB DIMM can be installed on these four sockets. The maximum total memory supported is up to 1GB\*.

<i>Socket</i>	<i>Memory Module</i>	<i>Acceptable</i>	<i>Total Memory</i>
1	8/16/32/64/128/256MB 168-pin 3.3V SDRAM	x1	
2	8/16/32/64/128/256MB 168-pin 3.3V SDRAM	x1	
3	8/16/32/64/128/256MB 168-pin 3.3V SDRAM	x1	
4	8/16/32/64/128/256MB 168-pin 3.3V SDRAM	x1	

*Total System Memory allowed up to 1GB* =

**NOTE:**

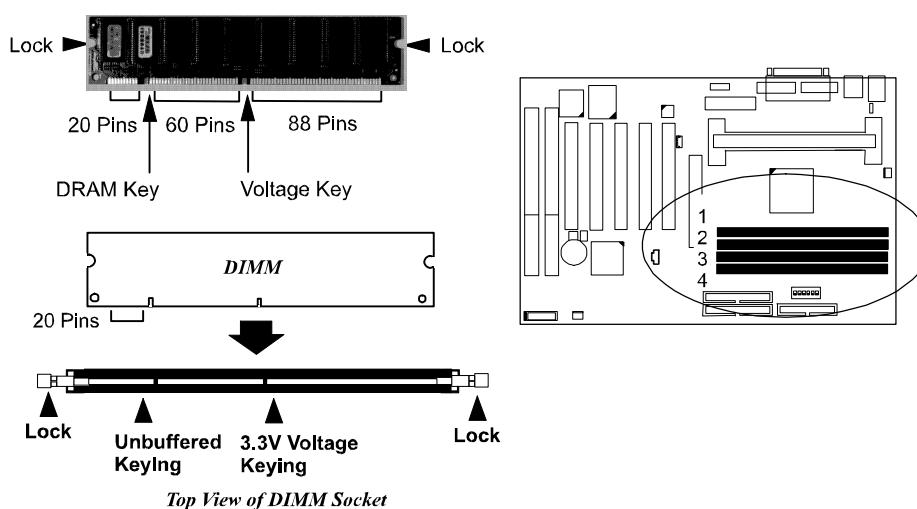
1. \* A RAM module of this size was not available for testing at time of printing.
2. This board only supports 3.3V (unbuffered) SDRAM modules.
3. This mainboard supports DIMMs with data access time of 12ns, 10ns, 8ns or less. ECC memory and parity check are also supported.
4. If DIMM runs at the speed of 100MHz, it must meet the PC100 Specification.
5. Please use the same memory sizes of DIMM on each socket for better performance.

## Install and Remove DIMMs

This mainboard supports 100MHz SDRAM DIMMs; when the system frequency set to 100MHz, PC100-compliant SDRAM should be used.

Complete the following procedures to install DIMMs:

1. Locate the DIMM slots on the mainboard.



2. Install the DIMM straight down into the DIMM slot with both hands.
3. The clips of the slot will close up to hold the DIMM in place when the DIMM touches the slot bottom.



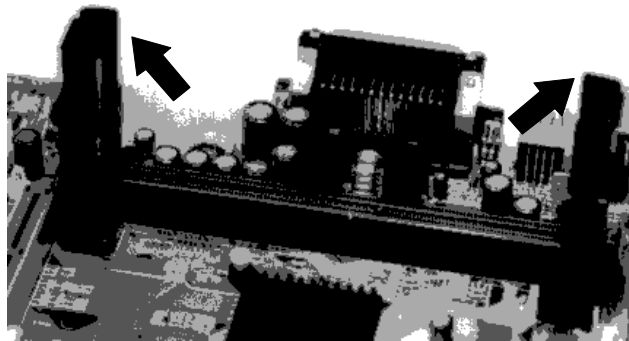
Press the clips with both hands to remove the DIMM.

### **3). Install the CPU**

Two options of Retention Mechanism Assembly are offered to install your CPU on this mainboard. One is installed on the mainboard by the manufacturer. The assemblies are foldable for saving space when shipping and packing. The other option is that the non-foldable Retention Mechanism Assembly (two pieces) and two Retention Mechanism Attachment Mount (two pieces) that packed in a plastic bag come with the board. You need to mount them before install the CPU module. This section introduces you how to install these devices.

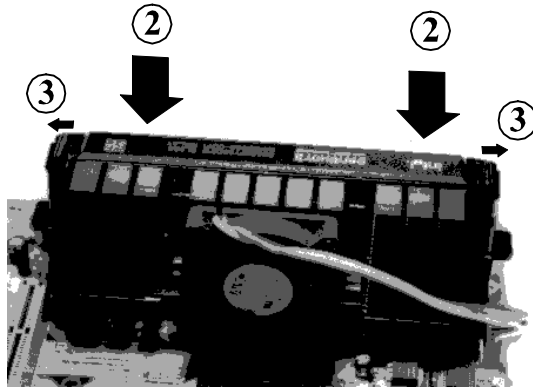
#### ***1). Install with Foldable Retention Mechanism Assembly***

1. Pull out two sets of the Retention Mechanism Assembly upward to the right position.

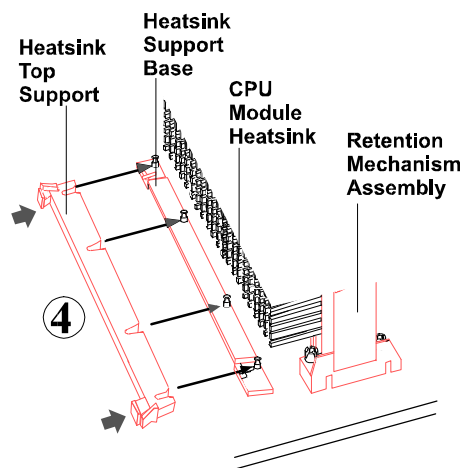


## Installation Procedures

2. Insert the CPU module onto the SLOT1 along the Retention Mechanism Assembly.



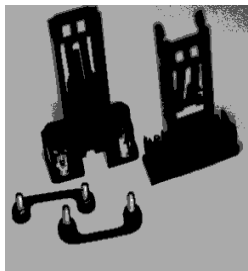
3. Pull the buttons outwards until click to the right positions.
4. Hook the Heatsink Top Support to the Heatsink Support Base to affix the CPU module.



## ***II). Install with Non-Foldable Retention Mechanism Assembly***

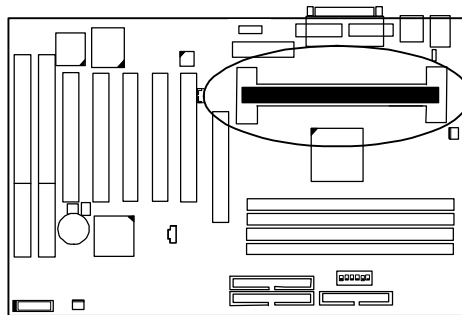
1. Unpack the plastic bag. Take out the Retention Mechanism Assembly (two pieces) and Retention Mechanism Attachment Mount (two pieces).

**Retention  
Mechanism  
Attachment  
Mount**

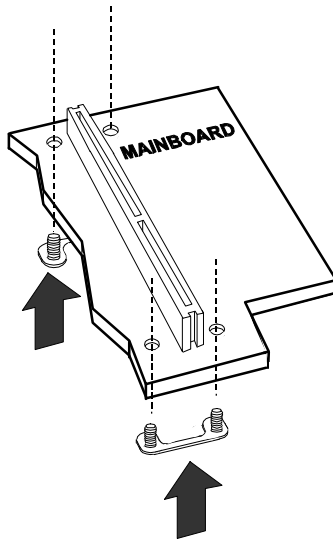


**Retention  
Mechanism  
Assembly**

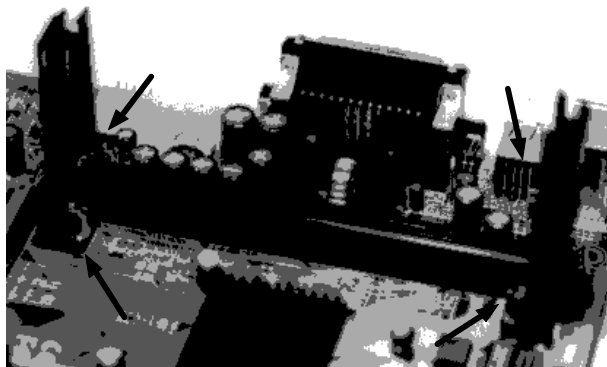
2. Locate SLOT1 on the mainboard.



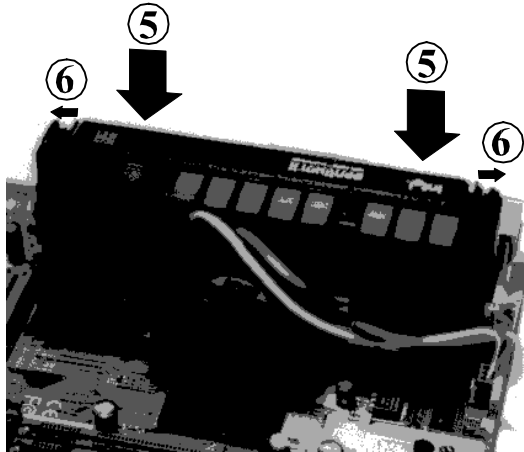
3. Install two Retention Mechanism Attachment Mounts on the board.



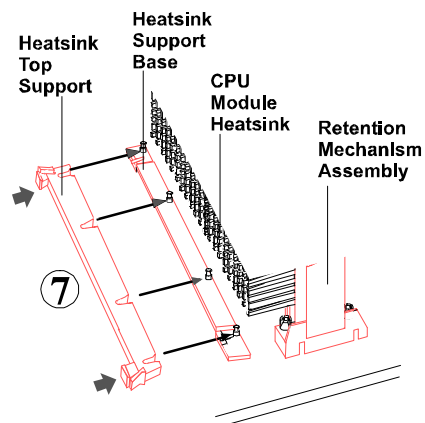
4. Place the Retention Mechanism Assembly on the board, on top of the Retention Mechanism Attachment Mounts.  
Affix the Retention Mechanism Assembly with four screws.  
(As the arrows point.)



5. Insert the CPU module onto the SLOT1 along the Retention Mechanism Assembly.

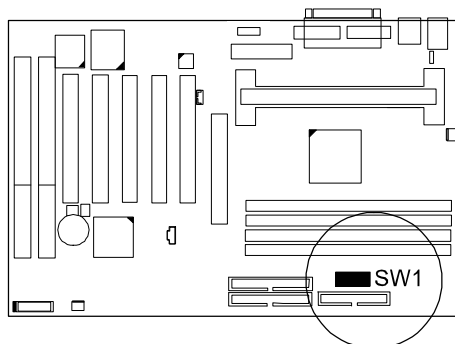


6. Pull the buttons outwards until click to the right positions.
7. Hook the Heatsink Top Support to the Heatsink Support Base to affix the CPU module.



***CPU Internal Frequency: SW1-1, SW1-2, SW1-3, SW1-4***

These four switches are used to decide the internal frequency of the CPU.

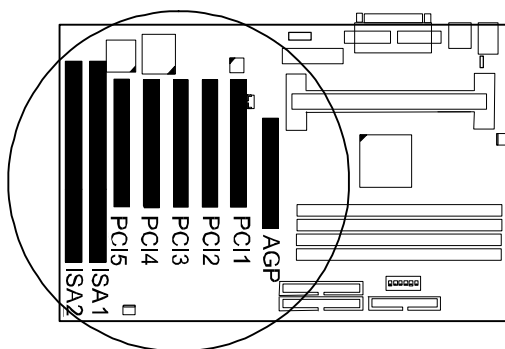


<i>Ratio</i>	<i>Bus Frequency = 100MHz</i>	<i>Bus Frequency = 66MHz</i>	<i>Switches Settings</i>
3.5 x	350MHz	233MHz	
4 x	400MHz	266MHz	
4.5 x	450MHz	300MHz	
5 x	500MHz	333MHz	

## 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. This mainboard features [one 32-bit AGP bus](#), [two 16-bit ISA bus](#), and [five 32-bit PCI bus](#) expansion slots. (PCI5 is shared with ISA2.)

**CAUTION:** Always turn the system power off before installing or removing any device and always observe static electricity precautions.

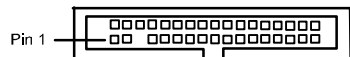


To install an expansion card, do the following:

1. Remove the chassis cover and select an empty expansion slot.
2. Remove the corresponding slot cover from the chassis.  
Unscrew the mounting screw that secures the slot cover and pull the slot cover out from the chassis. Keep the slot cover mounting screw nearby.
3. Holding the edge of the expansion 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 "locking" motion until the card is firmly seated inside the 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.

## Connectors to Internal Devices

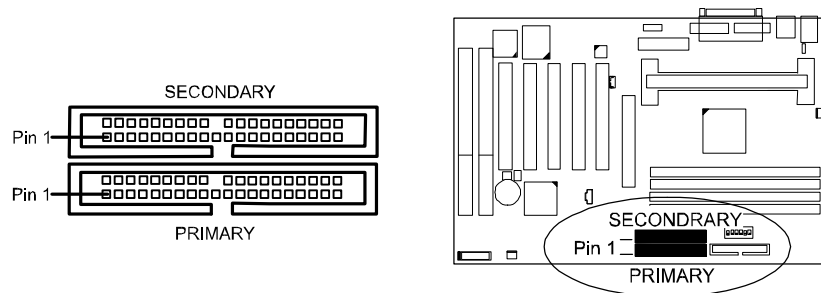
This connector provides the connection with your floppy disk drive.



This connector is connected to the ATX power supply. This board does not provide onboard 3.3V support; therefore, your ATX power supply must provide 3.3V voltage.

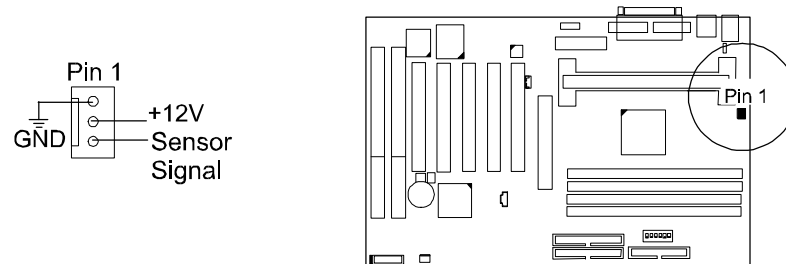
***IDE HDD Device Connectors: PRIMARY, SECONDARY***

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.



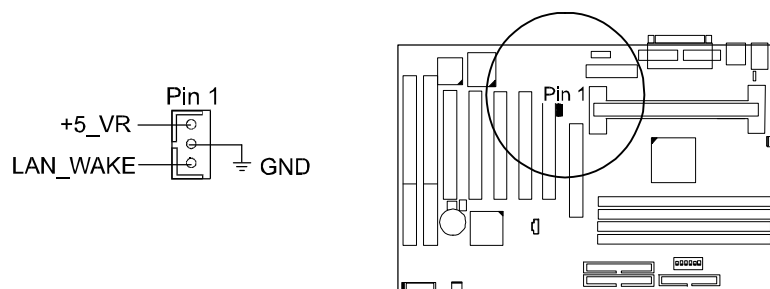
***CPU Fan Connector: FAN1***

This connector is linked to the CPU fan for cooling the processor temperature. Please read the CPU fan installation guide before connection.



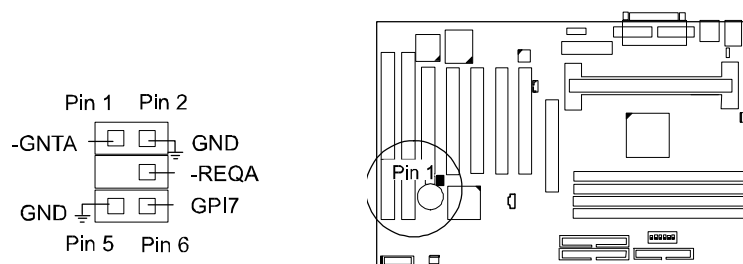
### ***Wake-On-LAN Connector: WOL***

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



### ***PCI Audio Card Connector: SB\_LINK***

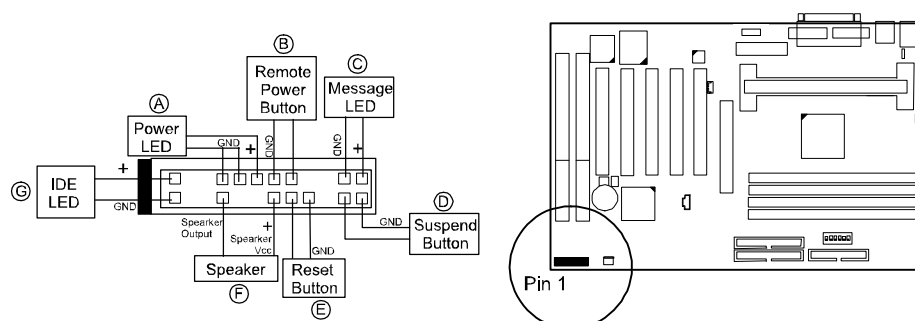
This 6-pin male connector allows you to connect to your Creative® sound card or compatible.



## Connectors to System Case

### Front Panel Block Connector

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 on. When the system hangs up or down, the indicator will be off.

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

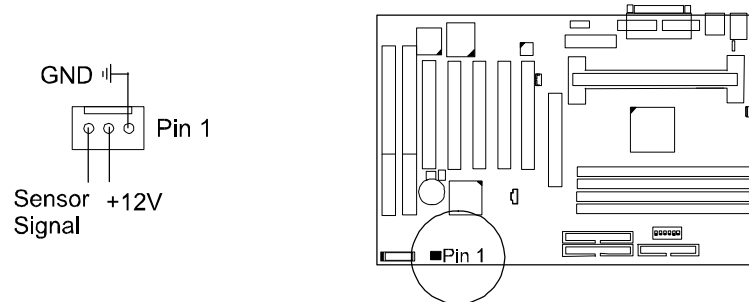
**Reset Button (E)** is connected to the reset switch. Push this switch to reboot the system instead of turning power switch off and on.

**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.

### ***System Case Fan Connector: FAN2***

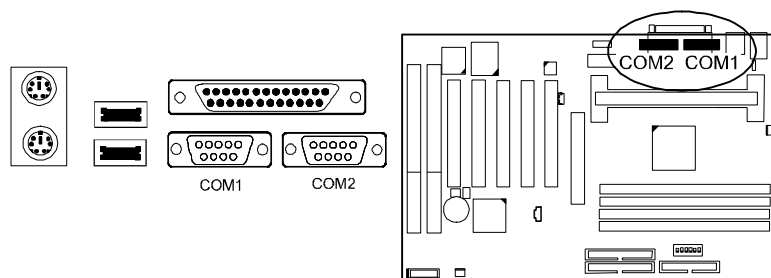
This 3-pin connector links to your cooling fan on the system case to lower the system temperature.



## **Connectors to External Devices**

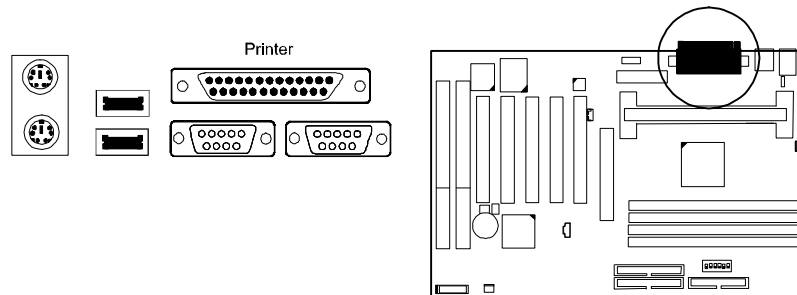
### ***Serial Port Connectors: COM1, COM2***

These two 9-pin D-Sub male connectors allow you to connect devices that use serial ports, such as a serial mouse or a modem.



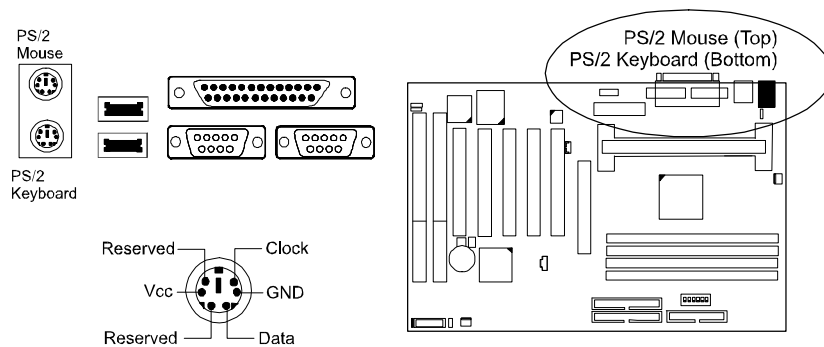
### ***Printer Connector: LPT***

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



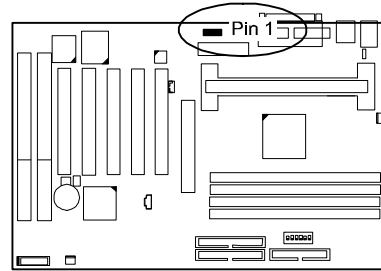
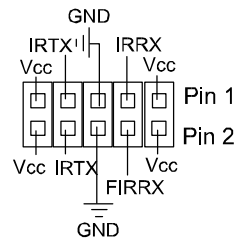
### ***PS/2 Keyboard and Mouse Connector: KB, MS***

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



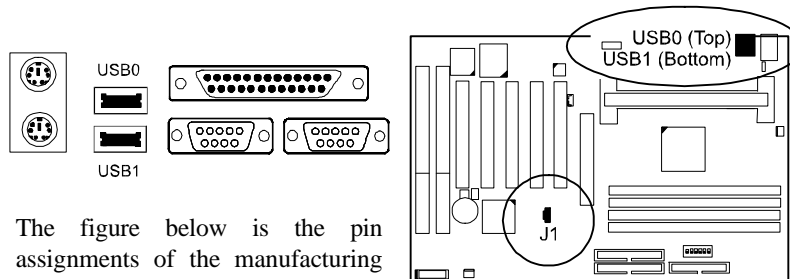
### ***Infrared Connector: IR***

An optional bracket with 9-pin D-Sub female connector is used to link to your IR device.

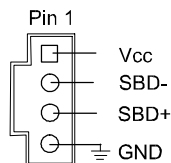


### ***Universal Serial Bus Connectors: USB0, USB1, J1***

These two connectors that integrated on the edge of the board are used for linking with USB peripheral devices. Also, this board provides an manufacturing optional connector J1 for linking with the USB socket on the front panel of some system cases. If this connector is onboard and is used, the USB0 connector is disabled. 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 assignments of the manufacturing optional J1 connector.



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