

## Installation Procedures

The motherboard has several user-adjustable jumpers on the board that allow you to configure your system to suit your requirements. To set up your computer, you should follow these installation steps: 1). set system jumpers; 2). install RAM modules; 3). install the CPU; 4). install expansion cards; 5). connect devices; 6). set up BIOS feature. 7). set up supporting software tools.

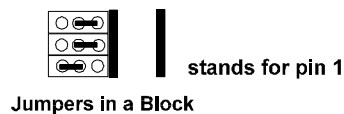
**CAUTION:** If you use an electric drill to install this motherboard on your chassis, please wear a static wrist strap. The recommended electric drill torque is from 5.0 to 8.0 kg/cm to avoid damaging the chips' pins.

### 1). Set System Jumpers Jumpers

Jumpers are used to select the operation modes for your system. To [set](#) a jumper, a black cap containing metal contacts is placed over the jumper pins 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:



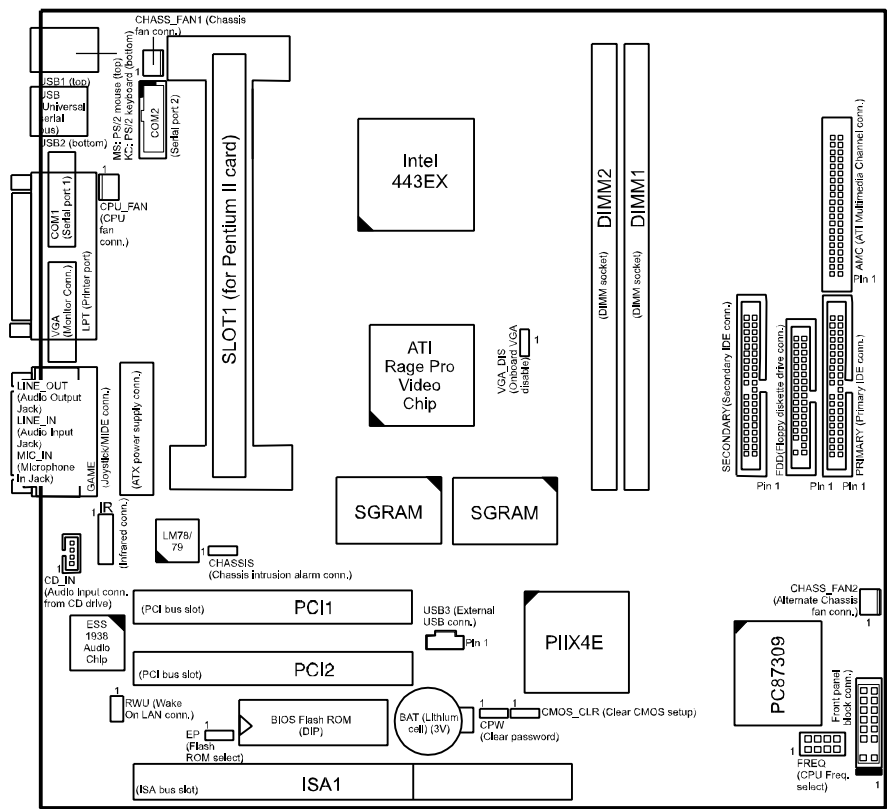
Jumper cap is shown as above



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.

Motherboard Layout

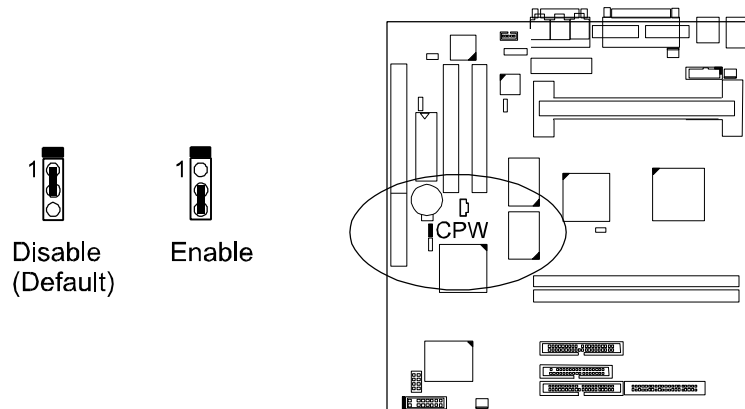


ONBOARD MARK	MEANING	PAGE
CPW	Clear Password	8
CMOS_CLR	Clear CMOS Data	8
EP	Flash ROM Type Select	9
VGA_Dis	Disable onboard VGA Feature	9
FREQ	CPU to Bus Frequency Ratio Select	18
DIMM1, DIMM2	DIMM Memory Module Support	10
SLOT1	Central Processing Unit (CPU) Cartridge Support	12
AGP	Accelerated Graphic Port Slot	19
PCI1, PCI2	PCI Bus Expansion Slot (32-bit)	19
ISA1	ISA Bus Expansion Slot (16-bit)	19
FLOPPY	Floppy Diskette Drive Connector	20
PRIMARY, SECONDARY	IDE Device Connector	20
ATX_PWR	ATX Power Connector	21
CPU_FAN	CPU Fan Connector	21
RWU	Remote Wake-Up Connector	22
AMC	ATI Multimedia Channel Connector	22
V_PNL*	Connectors for LEDs and Switches on Front Panel	23
CHASS_FAN1, CHASS_FAN2	System Case Fan Connector	24
COM1, COM2	Serial Port	25
KB	PS/2 Keyboard Connector	25
MS	PS/2 Mouse Connector	25
LPT	Printer Connector	26
USB1, USB2, USB3	Universal Serial Bus Connector	26
LINE-IN	Audio Line-In Jack	27
LINE-OUT	Audio Line-Out Jack	27
MIC-IN	Audio Microphone Jack	27
GAME	Joystick/MIDI Connector	27
IR	Infrared Port Module Connector	28
CD_IN	CD-ROM Drive Audio-out Connector	28

*\* includes PWR\_LED, SPK, RPW\_SW, IDE\_LED, and RST connectors. (See Page 23 for more information.)*

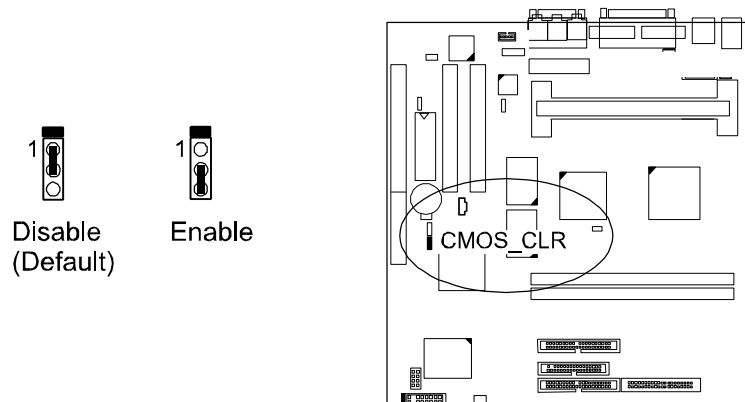
### ***Enabling Clear Password Function: CPW***

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). Turn on your computer, (3). Hold down the Delete key during boot and enter BIOS Setup to re-enter user preferences, (4). Turn off your computer, (5). Turn on your computer for the new settings to take effect.



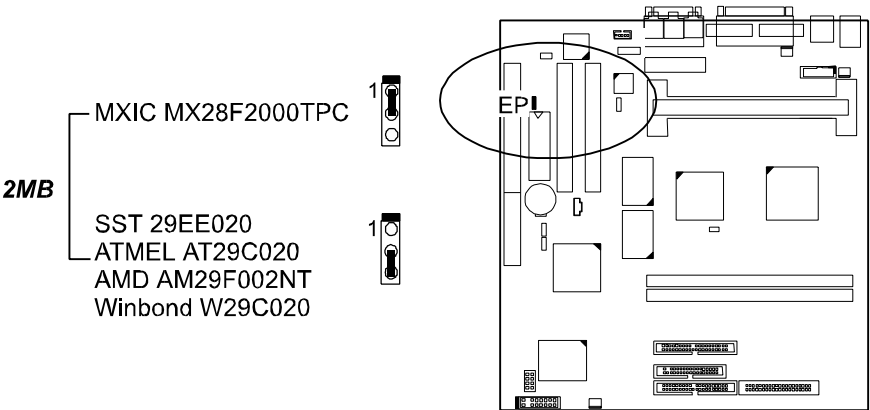
### ***Enabling CMOS Clear Function: CMOS\_CLR***

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.



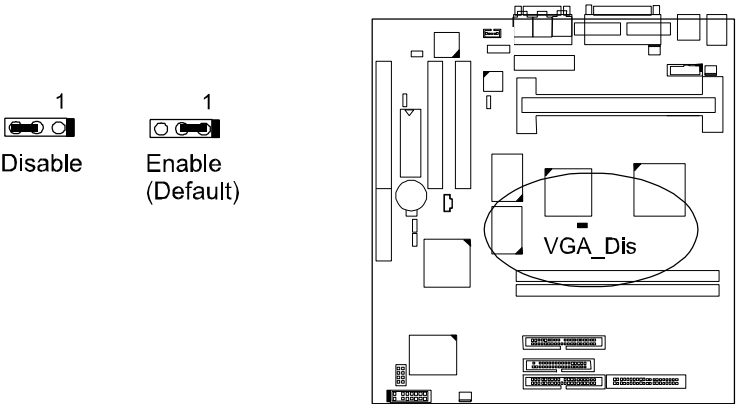
**Flash ROM Type Selection: EP**

This jumper allows you to configure the flash ROM chip. This jumper setting was installed with the manufacturer’s default. If you want to know the flash ROM type installed on this board, partially remove the sticker on top of the chip.



**Disabling Onboard VGA Feature: VGA\_Dis**

This 3-pin jumper have to be disabled if user wants to use other PCI VGA add-in card than the onboard AGP VGA feature.



## 2). Install RAM Modules

### RAM Module Configuration

The board provides two onboard DIMM sockets allowing 3.3V (unbuffered) EDO/SDRAM DIMM modules with data access time of 12ns, 10ns or faster. ECC memory and parity check is also supported. Either 8, 16, 32, 64, or 128MB DIMM can be installed on these two sockets. The maximum total memory supported is up to 256MB. **Do not use memory modules with more than 24 chips per module. Ask your retailer for the specifications before purchasing.**

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

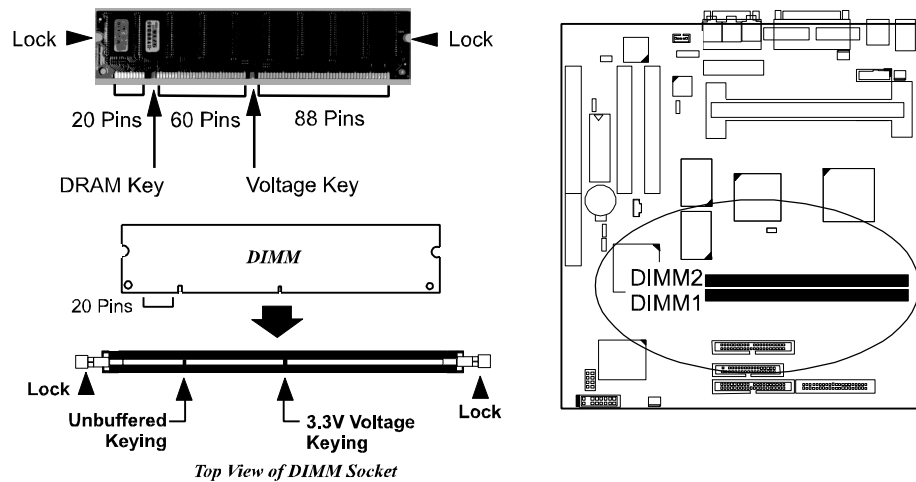
*Total System Memory allowed up to 256MB* =

## Install and Remove DIMMs

SDRAM DIMM modules have different pin contact on each side and therefore have a higher pin density. Complete the following procedures when installing DIMMs:

Complete the following procedures to install DIMMs:

1. Locate the DIMM slots on the motherboard.



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



Press the clips with both hands to remove the DIMM.

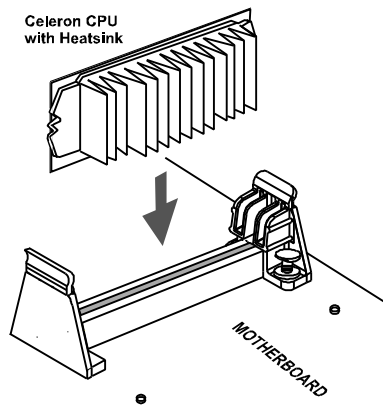


### 3). Install the CPU Module

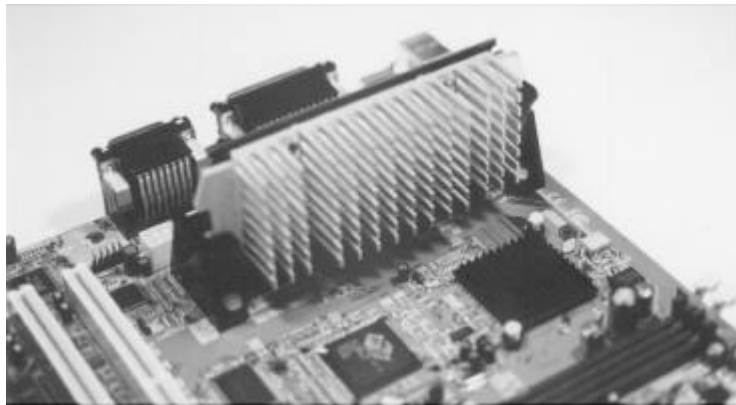
**WARNING:** If the heatsink is not mounted tightly against the CPU cartridge, the CPU will overheat. Please read the Appendix of this book before you install CPU cartridge.

#### Celeron CPU Module Installation

The motherboard comes with an onboard Retention Module for the Celeron CPU. To install it is quite simple, simply by insert the Celeron CPU module firmly onto it as the figure below shows.



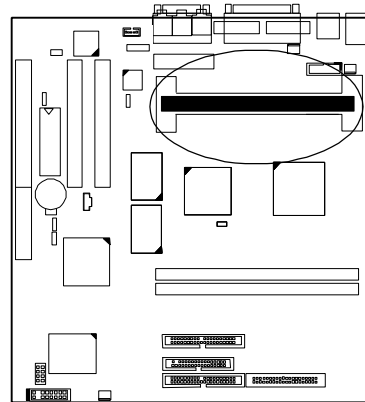
The photo below demonstrates a Celeron CPU module on the motherboard.



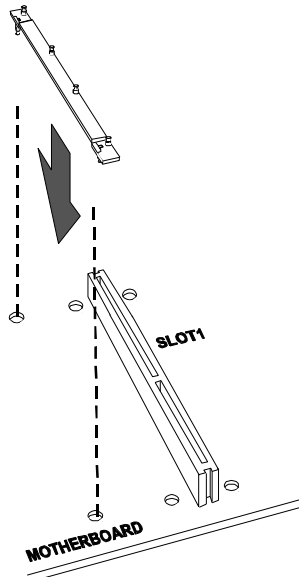
## Pentium II CPU Module Installation

To install a Pentium II CPU module, you need to remove the Retention Module for Celeron CPU module; then follow the steps in this section to install your Pentium II CPU module.

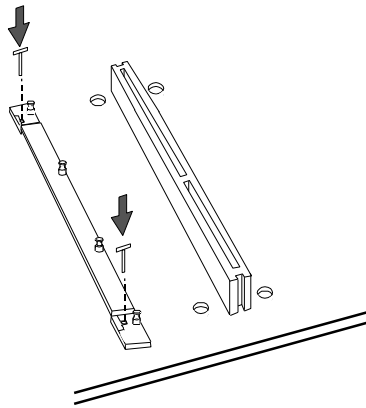
1. Locate Slot1 on the motherboard.



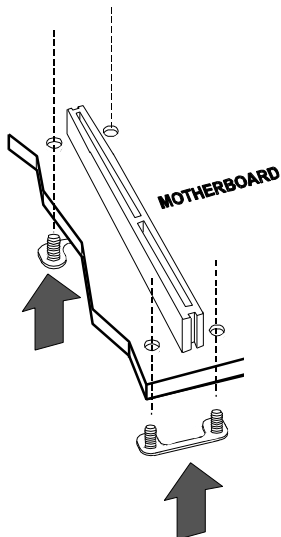
2. Place the Heatsink Support Base on the motherboard as shown.



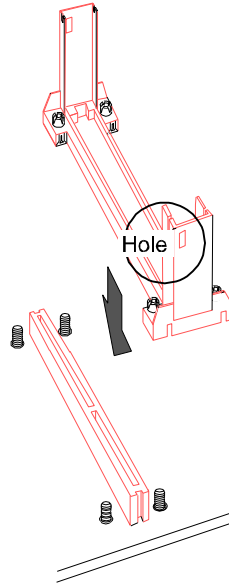
3. Affix it by inserting one “T”-shaped plastic plug into the hole on each end.



4. Install two Retention Mechanism Attachment mounts on the board.

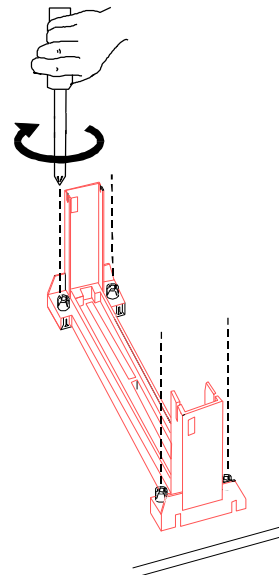


5. Place the Retention Mechanism Assembly on the board, on top of the Retention Mechanism Attachment mounts.

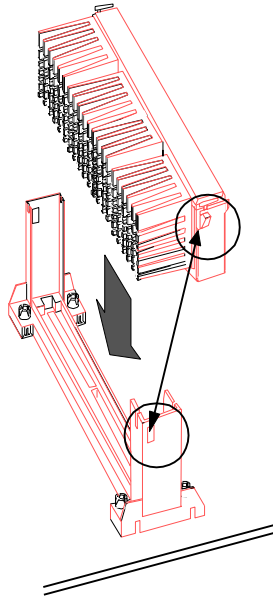


6. Affix the Retention Mechanism Assembly with four screws.

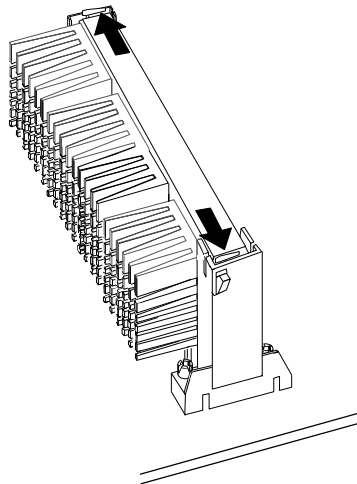
**WARNING:** Excessive torque may damage the board. Tighten captive nuts to no more than 6±1 inch/pound.



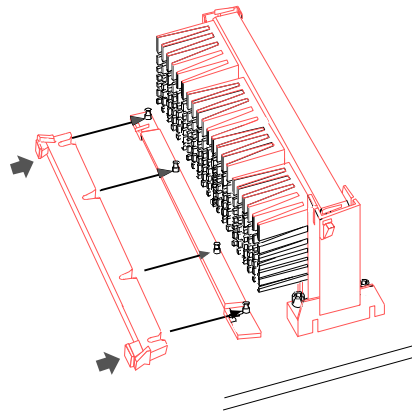
8. Slide the CPU module into the Retention Mechanism Assembly.



9. Pull the buttons outwards until click to the right positions.

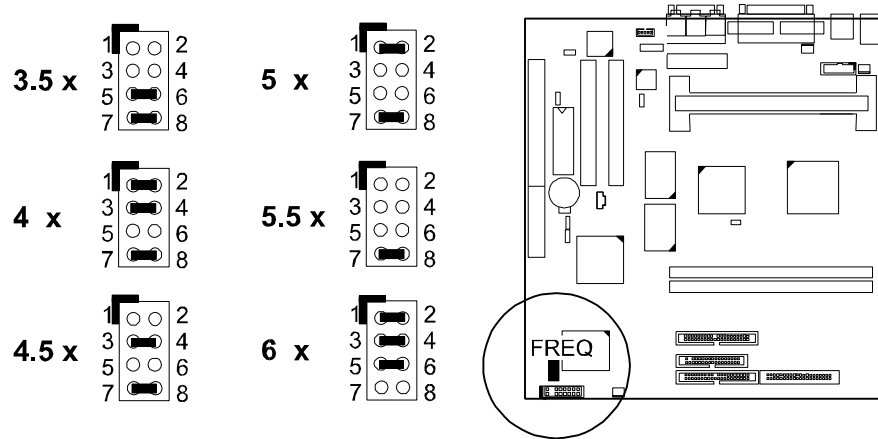


10. Hook the Heatsink Top Support to the Heatsink Support Base to affix the CPU module.



### ***CPU to Bus Frequency Ratio: FREQ***

This 2x4 jumper is used to set the ratio of the internal frequency of the CPU to the bus clock.

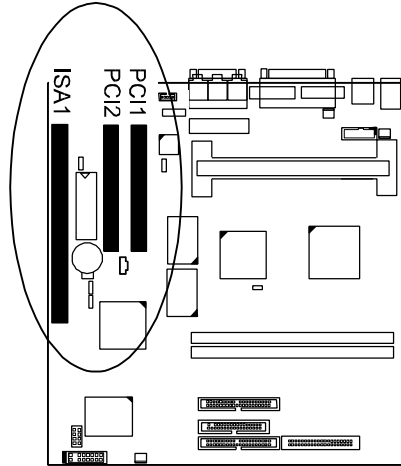


### ***Table of CPU Frequencies***

CPU FREQUENCY	BUS FREQUENCY	RATIO
333 MHz	66 MHz	5 x
300 MHz	66 MHz	4.5 x
266 MHz	66 MHz	4 x
233 MHz	66 MHz	3.5 x

## 4). Install Expansion Cards

Expansion cards are printed circuit boards that, when connected to the motherboard, increase the capabilities of your system. For example, expansion cards can provide video and sound capabilities. Your motherboard features **one 16-bit ISA bus** and **two 32-bit PCI bus** expansion slots.



**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 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.



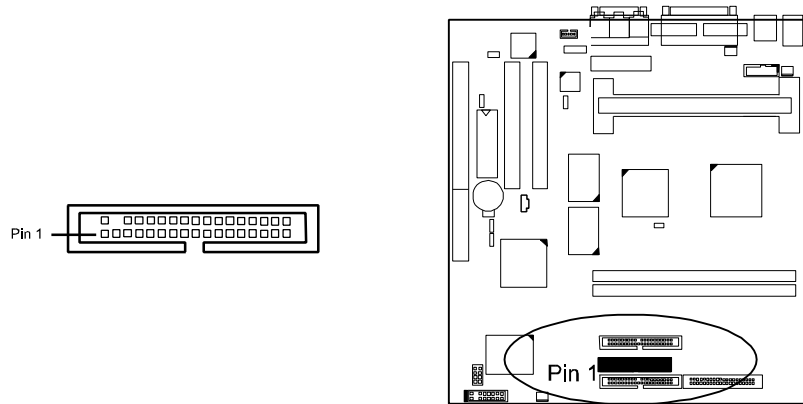
## 5). Connect Devices

### Connect to Internal Devices

#### *Floppy Diskette Drive Connector: FLOPPY*

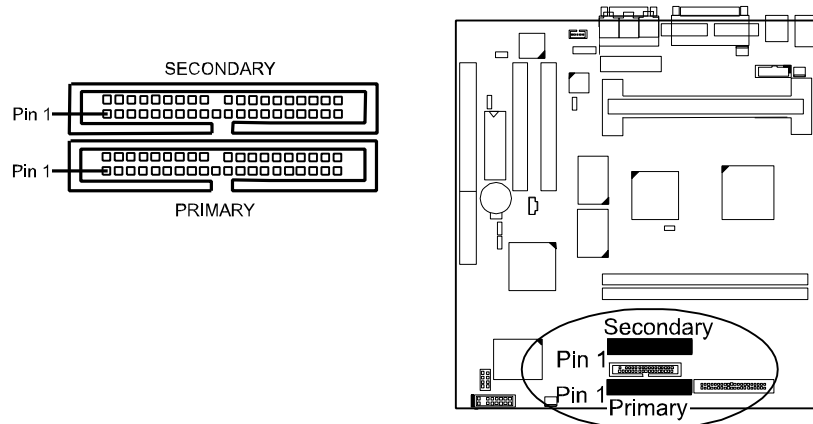
This connector provides the connection with your floppy disk drive.

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

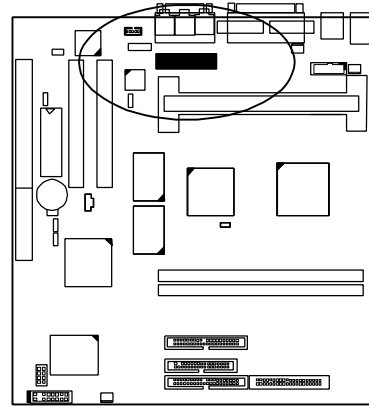
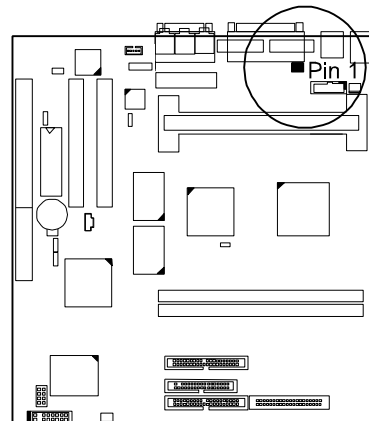


#### *IDE HDD Device Connectors: PRIMARY, SECONDARY*

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.

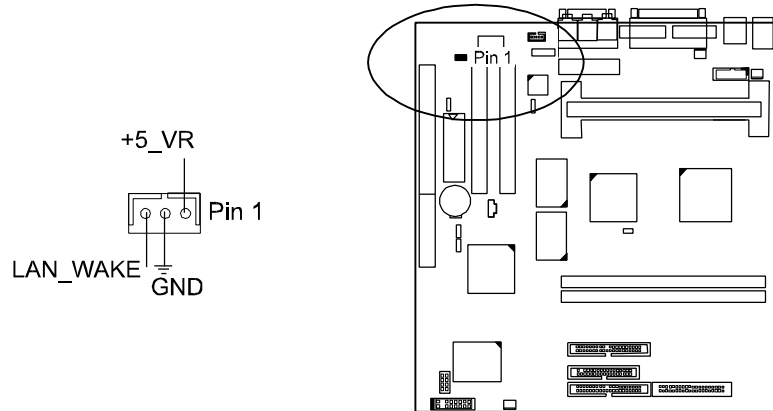


FILE :	CC :	1	11	1	:		1	1	ATTN :	1	731
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[illegible]

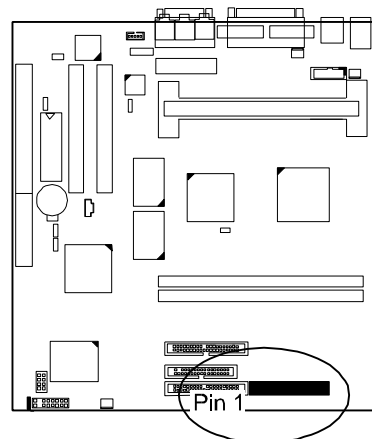
### ***Wake-On-LAN Connector: RWU***

This 3-pin connector allows the remote LAN server to wake up the system with a LAN card installed. Refer to the LAN card installation guide for details.



### ***ATI Multimedia Channel Connector: AMC***

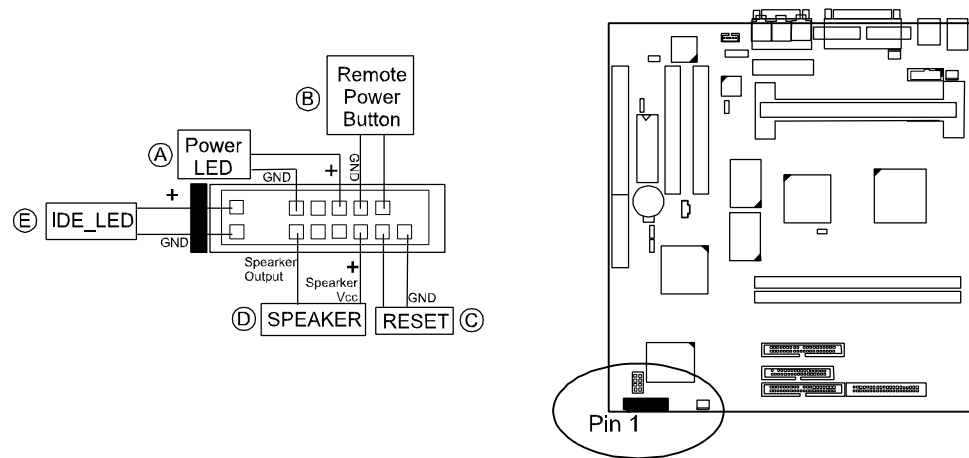
This 16-bit, bi-directional video port allows direct connection to popular video upgrades such as Video capture/video conferencing, hardware DVD or MPEG-2 decoder, or TV Tuner with intercast support. It includes I<sup>2</sup>C interface to control AMC peripherals. If an ATI add-in card allowing the AMC Interface such as ImpactTV2 is installed, this connector provides user with the linkage between the board and the card. Please read also the card manual for more detail information.



## Connect to System Case

### *Front Panel Block Connector: V\_PNL*

This block connector includes: PWR\_LED, SPK, RPW\_SW, IDE\_LED, and RST connectors.



#### **PWR\_LED (A)** – 3-pin male

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

#### **RPW\_SW (B)** – 2-pin male

This connector is connected with the remote power (soft power) switch.

Pushing this switch will turn off and on the system power instead of the power switch on the power supply.

#### **RST (C)** – 2-pin male

This connector connects to the case-mounted reset switch for rebooting the system without having to turn off power switch. This is a preferred method of rebooting in order to prolong the life of the system's power supply. It allows soft power off if the operating systems support it such as MS Windows 95.

#### **SPK (D)** – 4-pin male

This connector connects with the case-mounted speaker.

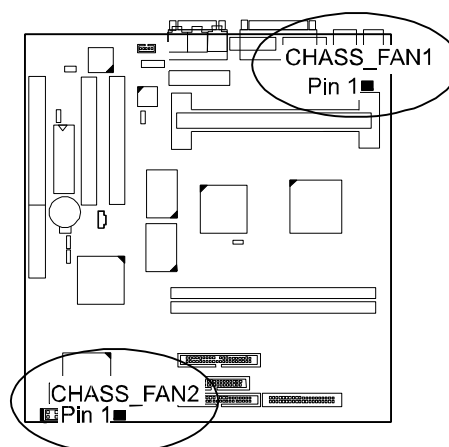
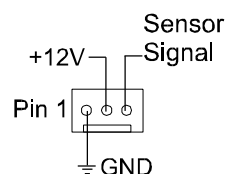
#### **IDE\_LED (E)** – 2-pin male

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

### *Chassis Fan Connectors: CHASS\_FAN1, CHASS\_FAN2*

**WARNING:** Without sufficient air circulation, the CPU cartridge may overheat and cause damage to both the CPU cartridge and the motherboard. Damage may occur to the motherboard and/or the CPU fan if these pins are incorrectly used. These are not jumpers, do not place jumper caps over these pins.

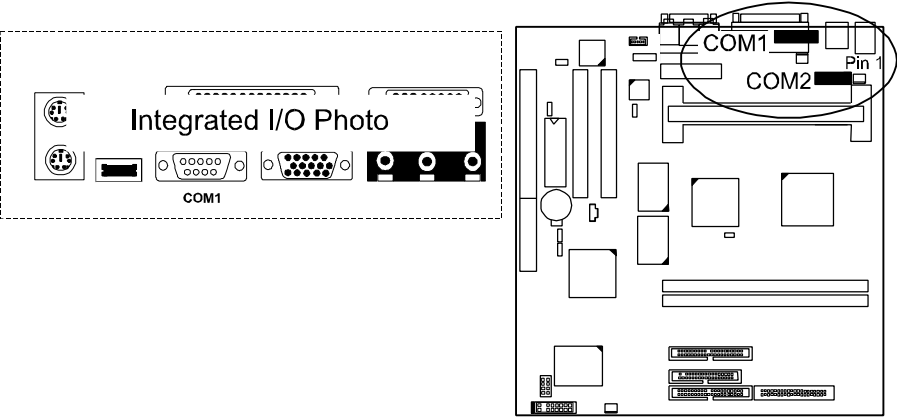
There are two 3-pin connectors available on the board for user to select one to link to the cooling fan on the system chassis to lower the system temperature. Depending on the fan manufacturer, the wiring and plug may be different. Connect the fan's plug to the motherboard taking into consideration the polarity of the connector.



Connect to External Devices

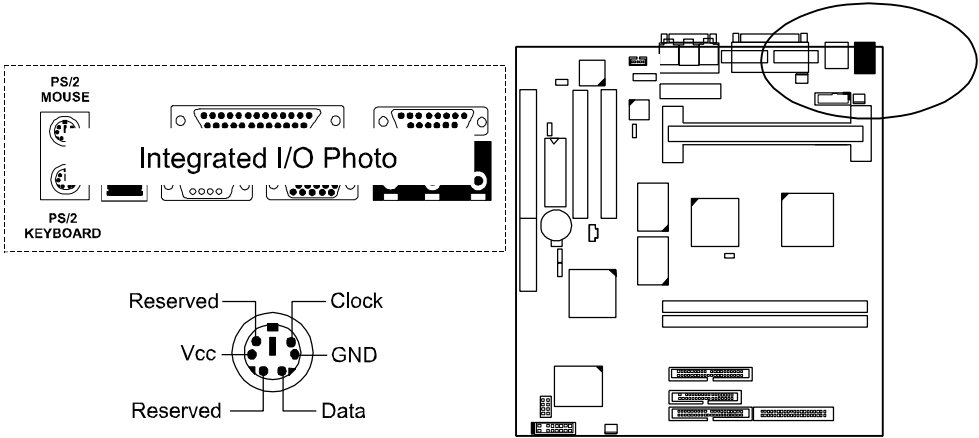
Serial Port Connectors: COM1, COM2

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 a modem.



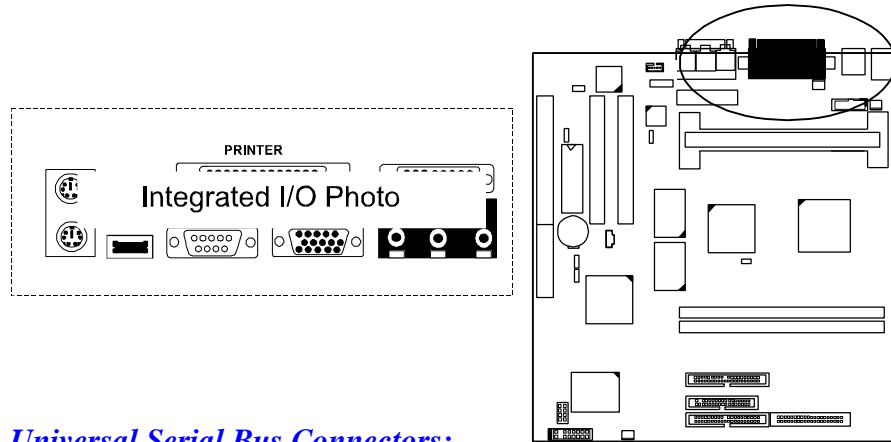
PS/2 Keyboard Connector, PS/2 Mouse Connector: KB/ MS

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



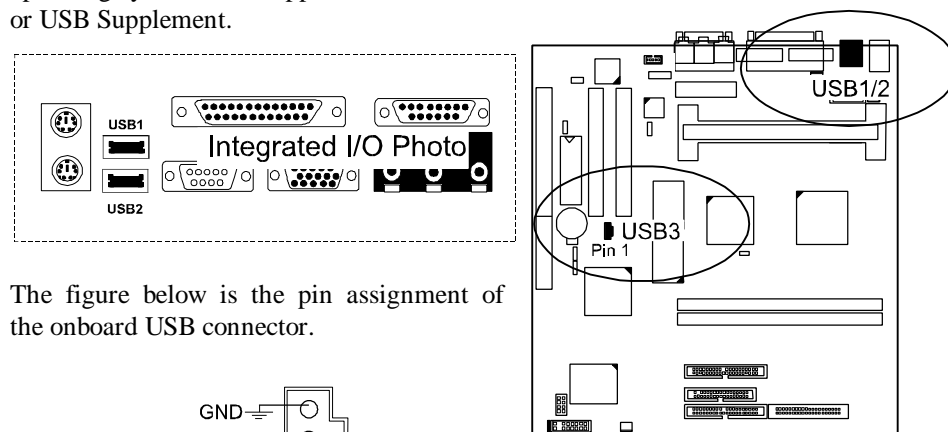
### **Printer Connector: LPT**

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

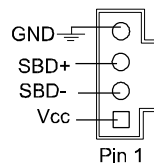


### **Universal Serial Bus Connectors: USB1, USB2, USB3**

These two connectors that integrated on the edge of the board are used for linking with USB peripheral devices. Also, this board provides an connector USB 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 95 OSR2.1 or USB Supplement.

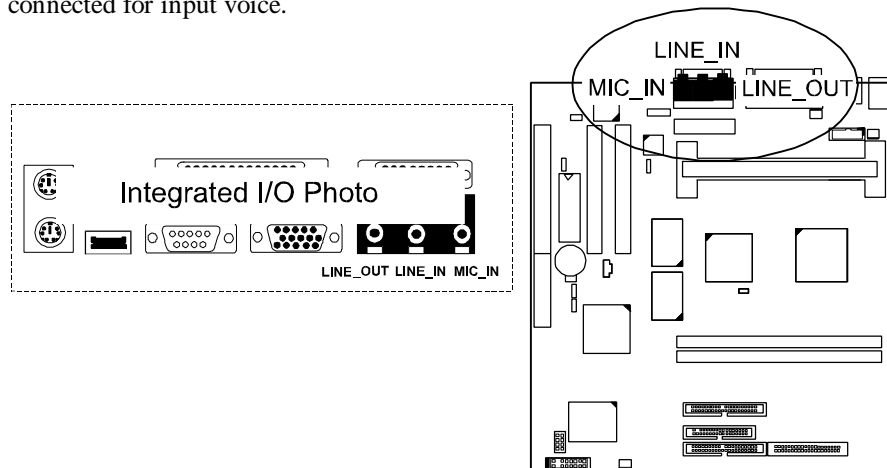


The figure below is the pin assignment of the onboard USB connector.



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

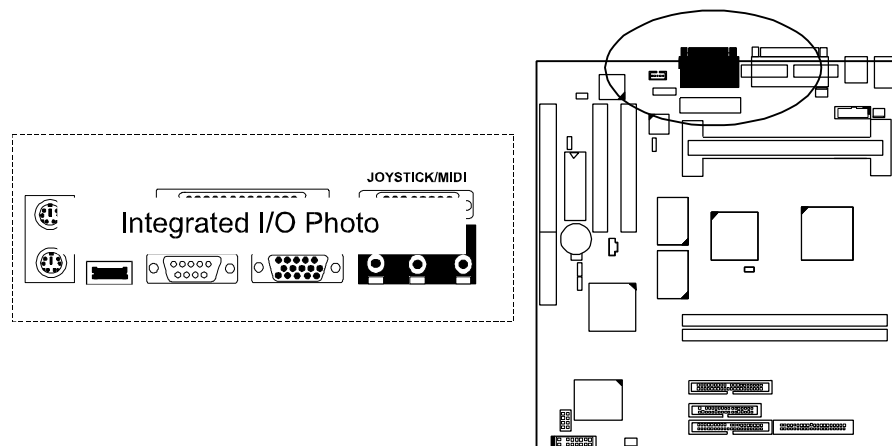
LINE\_OUT can be connected to headphones or preferably powered speakers. LINE\_IN allows tape players or other audio sources to be recorded by your computer or played through the LINE\_OUT. MIC\_IN allows microphones to be connected for input voice.



**NOTE:** The motherboard does not support Pre-AMP function. An external amplifier is necessary to LINE\_OUT.

**Joystick/MIDI Connector: *GAME***

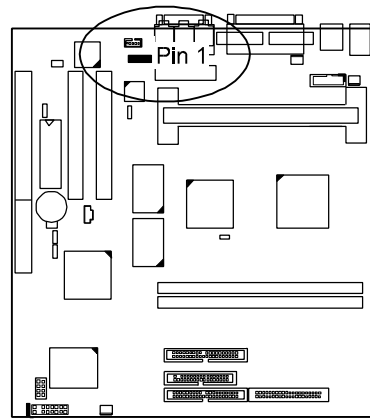
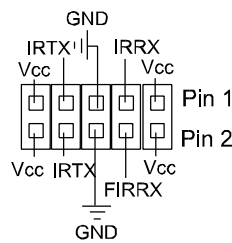
This 15-pin female connector allows you to connect game joysticks or game pads for playing games. Connect MIDI devices for playing or editing audio.





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

The 2x5 pinhead is used for connecting to the infrared (SIR) port and allows transmission of data with another system which also supports the IR feature.



### ***CD-ROM Drive Audio-out Connector: CD\_IN***

This 4-pin block connector is linked to the AUDIO-OUT port of your CD-ROM drive by a cable which comes with it. Read the CD-ROM drive manual for detailed installation instructions.

