

## Installation Procedures

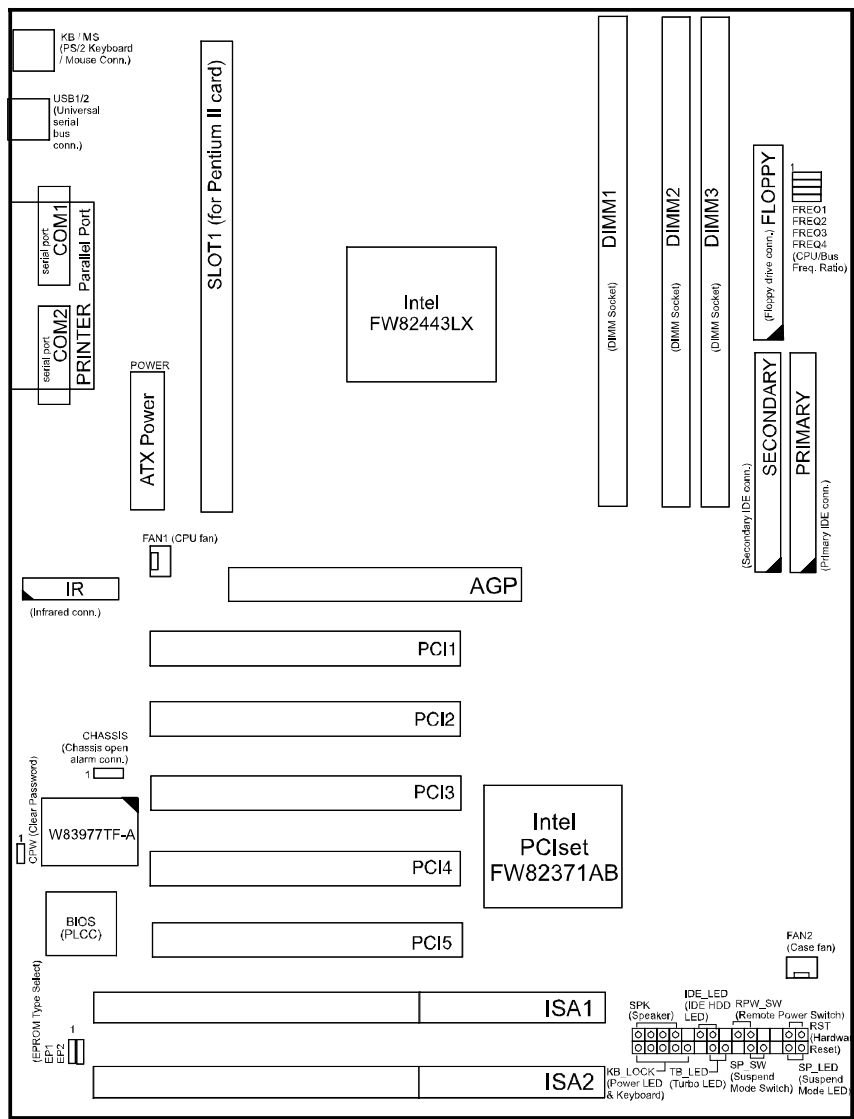
The KL-6011 has several user-adjustable jumpers on the board that allow you to configure your system to suit your requirements. This chapter contains information on the various jumper settings on your mainboard.

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

- Step 1 - Set system jumpers
- Step 2 - Install System RAM modules
- Step 3 - Install the CPU
- Step 4 - Install expansion cards
- Step 5 - Connect cables and power supply
- Step 6 - Set up BIOS feature

**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.

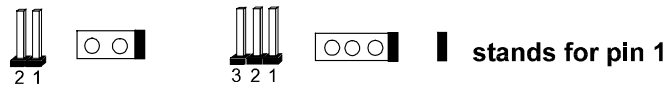
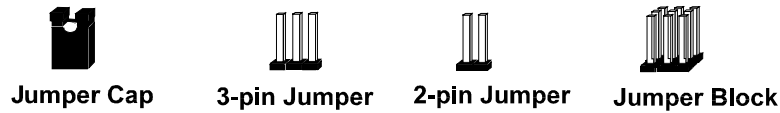
Mainboard Layout



## 1). Set System Jumpers

### *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. 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 are shown as above



Jumper cap is shown as above

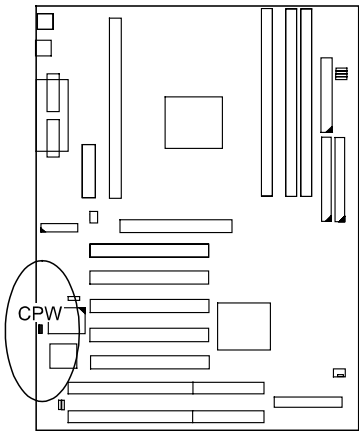


Jumpers in a Block

**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.

**Clear Password: CPW**

This jumper allows you to set the password configuration to **Enabled** or **Disabled**. You may need to enable this jumper if you forget your password.



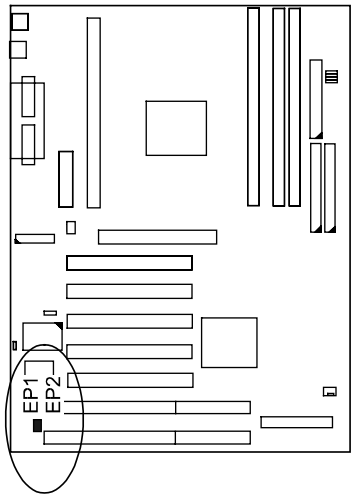
Enable















Disable  
(Default)

**Flash EPROM Type Selection: EP1, EP2**

These two jumpers allow you to configure the Flash EPROM chip



1MB	EP1	EP2
Intel 28F001		
SST 29EE010 / ATMEL AT29C010A		

2MB	EP1	EP2
AMD AM29F002T		
SST 29EE020		
ATMEL AT29C020		
MXIC MX28F2000P		

## 2). Install RAM Modules

### SDRAM

The working space of the computer is the Random Access Memory (RAM). The system cannot act upon data unless it is loaded into RAM. When more memory is added, the working memory of the computer is larger, thereby increasing total performance.

The mainboard RAM is comprised of three 168-pin Dual In-line Memory Modules (DIMMs). Each DIMM socket is able to support up to 128MB\* standard fast EDO and lightning-fast SDRAM.

SDRAM is an advanced new memory technology that boosts overall system performance with its ability to synchronize all operations with the processor clock signal. This makes the implementation of control interfaces easier, and speeds up column access time. SDRAM features an on-chip burst counter that can be utilized to increment column addresses for very fast burst access, which means that SDRAM allows new memory access to be initiated before the preceding access has been finished.

Before making DRAM upgrades you should verify the type and speed of the RAM currently installed from your dealer. Installing mixtures of RAM types other than those described in this manual will have unpredictable results.

**NOTE :** \* A RAM module of this size was not available for testing at press time.



***DIMM***

## RAM Module Configuration

This mainboard provides three onboard DIMM sockets for allowing 3.3V (unbuffered) EDO/SDRAM DIMM modules. Either 8, 16, 32, 64, or 128MB\* DIMM can be installed on these three sockets. The maximum total memory supported is up to 384MB\*.

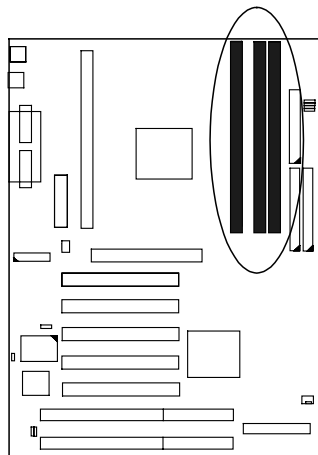
### NOTE :

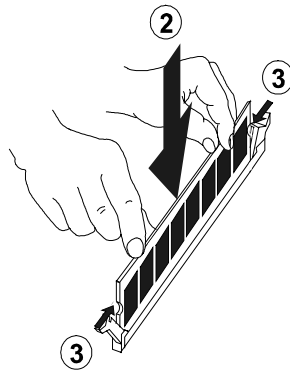
1. \* A RAM module of this size was not available for testing at press time.
2. This mainboard supports DIMMs with latency times of 10ns, 12ns and 15ns. ECC memory and parity check is also supported.

## Install DIMMs

Complete the following procedures to install DIMMs:

1. Locate the DIMM slots on the mainboard. (See figure below.)





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's bottom.

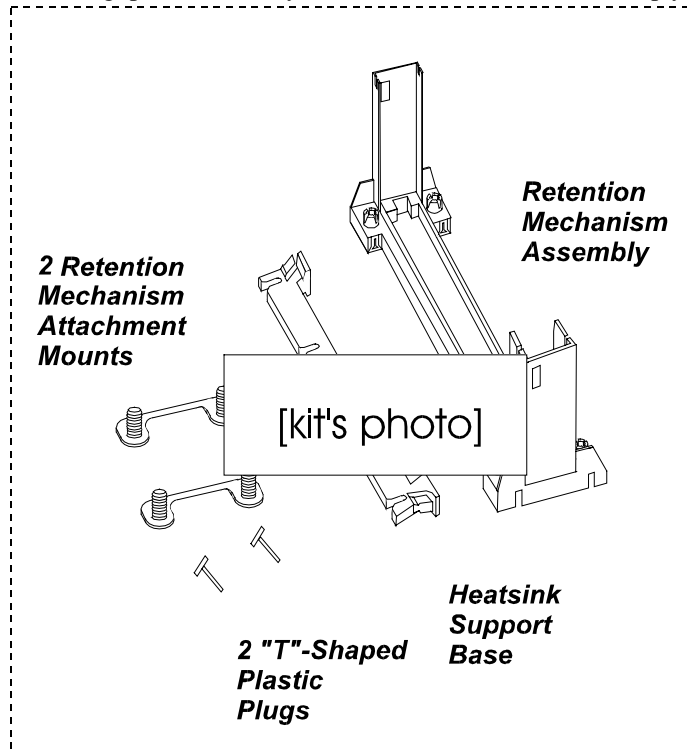
### **Remove DIMMs**

Press the clips with both hands to remove the DIMM.

### 3). Install the CPU

#### Retention Mechanism Kit

The mainboard comes with a Retention Mechanism Kit as shown below. If any piece is missing, please contact your local mainboard dealer to help you.

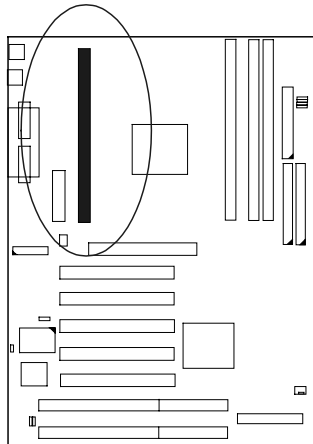


**NOTE :** If two "T"-shaped plastic plugs and heatsink support base are not in the package, they are installed onboard by manufactory.



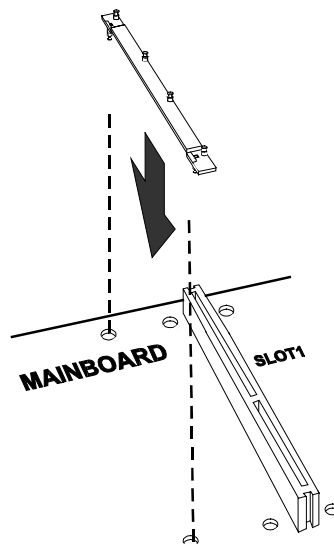
## CPU Module Installation

1. Locate Slot1 on the KL-6011 mainboard.

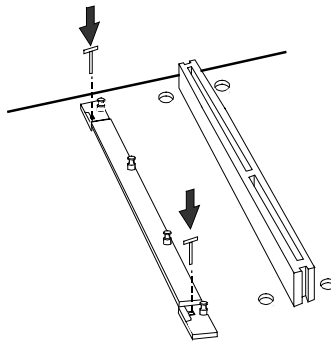


**NOTE :** If two “T”-shaped plastic plugs and heatsink support base are installed onboard by manufactory, please skip step 2 and 3.

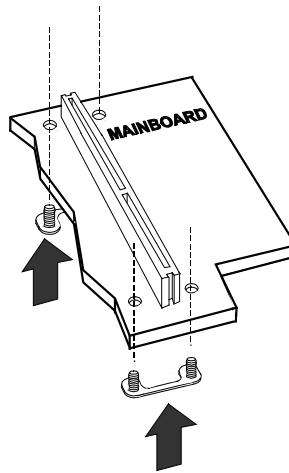
2. Place the Heatsink Support Base on the mainboard as shown.



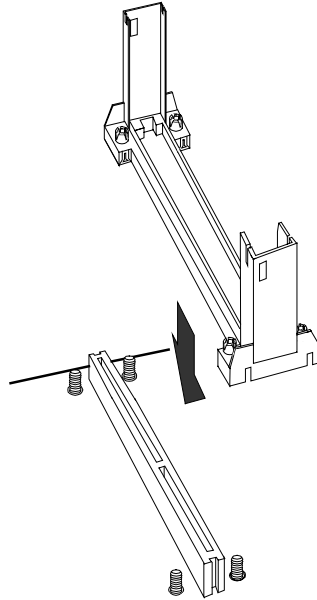
3. Affix it by inserting one “T”-shaped plastic plug into the hole on each end.



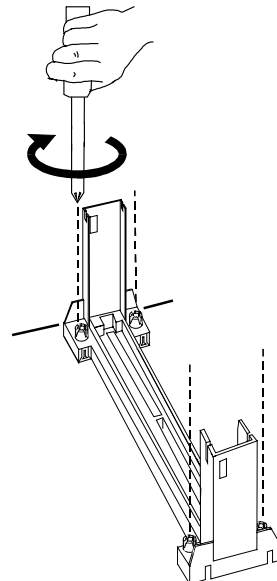
4. Install two Retention Mechanism Attachment Mounts on the board



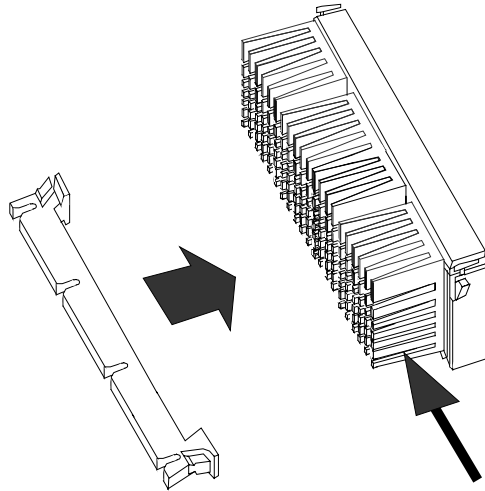
5. Place the Retention Mechanism Assembly on the board, on top of the Retention Mechanism Attachment Mounts.



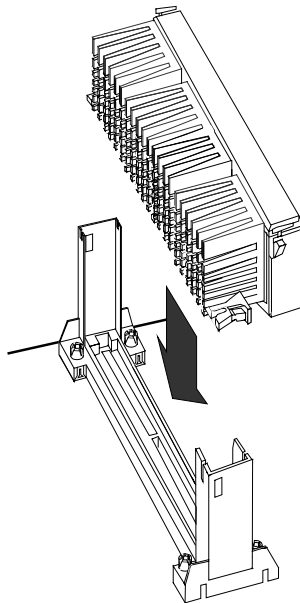
6. Affix the Retention Mechanism Assembly with four screws.



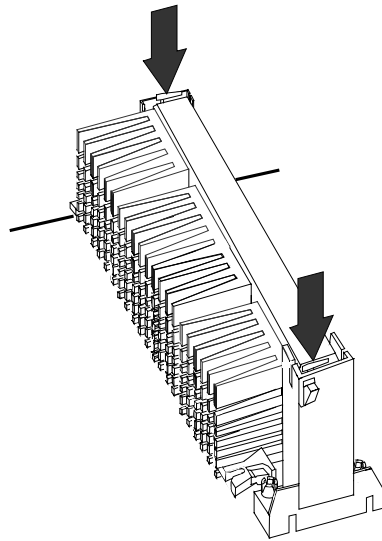
7. Horizontally slide the Heatsink Top Support into the lowest gaps on the CPU module heatsink as shown below.



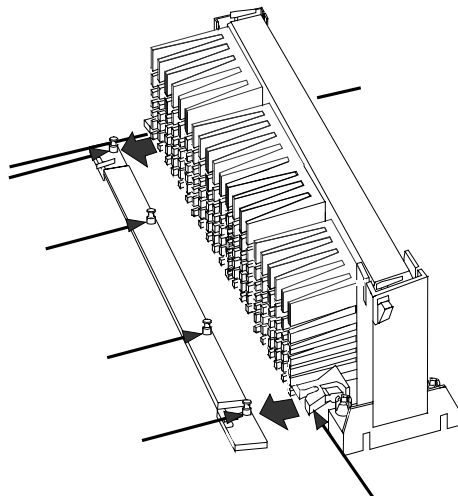
8. Slide the CPU module into the Retention Mechanism Assembly.



9. Press the buttons on either end of the CPU module.

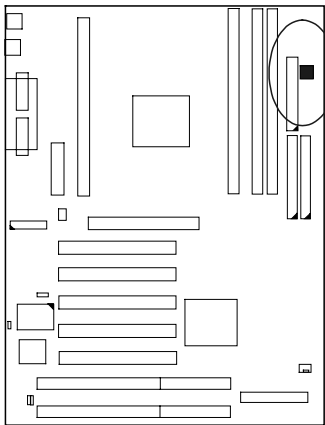


























10. Hook the Heatsink Top Support to the Heatsink Support Base to affix the CPU module.



















**CPU to Bus Frequency Ratio: *FREQ1, FREQ2, FREQ3, FREQ4***

These four jumpers are used in combination to decide the ratio of the internal frequency of the CPU to the bus clock.



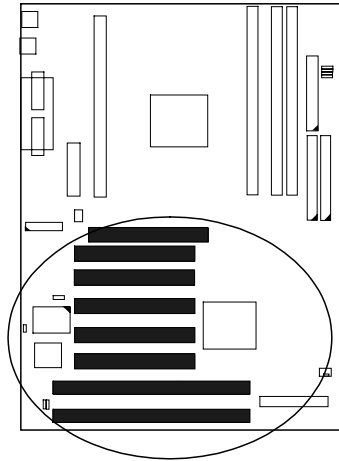
Ratio	FREQ1	FREQ2	FREQ3	FREQ4
3.5 X	 1	 1	 1	 1
4 X	 1	 1	 1	 1
4.5 X	 1	 1	 1	 1
5 X	 1	 1	 1	 1
5.5 X	 1	 1	 1	 1
6 X	 1	 1	 1	 1

**Intel Pentium II CPUs**  
*Frequency*

CPU Speed	External (CPU/CLK)	CPU/Bus Ratio	CPU Clock Rate			
			FREQ1	FREQ2	FREQ3	FREQ4
333 MHz	66 MHz	5 x	 1	 1	 1	 1
300 MHz	66 MHz	4.5 x	 1	 1	 1	 1
266 MHz	66 MHz	4 x	 1	 1	 1	 1
233 MHz	66 MHz	3.5 x	 1	 1	 1	 1

## 4). Install Expansion Cards

Your KL-6011 features one 64-bit AGP Bus, two ISA Bus and five PCI Bus expansion slots.



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.

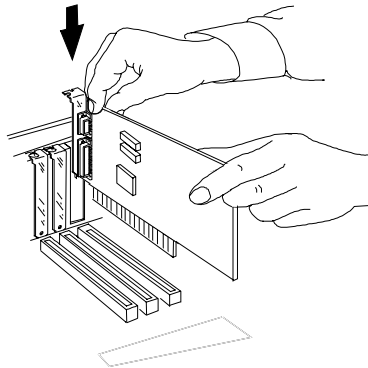
### **CAUTION :**

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.

To install an expansion card, do the following:

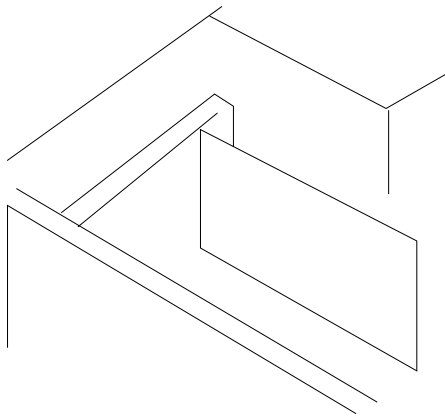
1. Remove the chassis cover and select an empty expansion slot.
2. Remove the corresponding slot cover from the chassis.  
Unscrew the mounting screw that secures the slot cover and pull the slot cover out from the chassis. Keep the slot cover mounting screw nearby.

3. Holding the edge of the peripheral card, carefully align the edge connector with the expansion slot. (See figure below.)



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-in 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.

The photo below shows a VGA add-on card that was installed in a system.



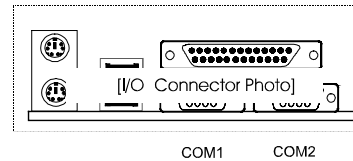
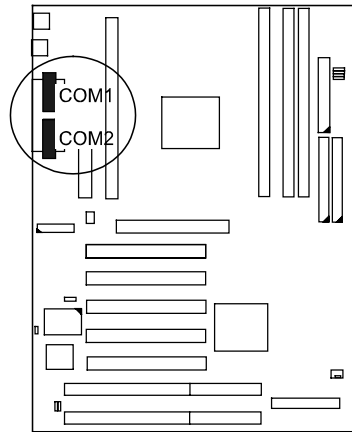
[System with an add-on card photo]



## 5). Connector Cables and Power Supply

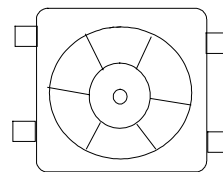
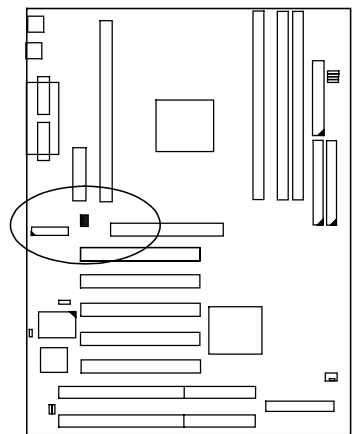
### *Serial Port Connectors: COM1, COM2*

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

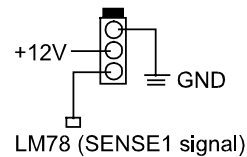


### *CPU Fan Connector: FAN1*

This connector is linked to the CPU fan. When the system in Suspend mode, the CPU fan will turn off; when it back to full on mode, the fan will turn on.

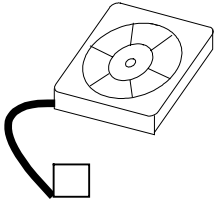
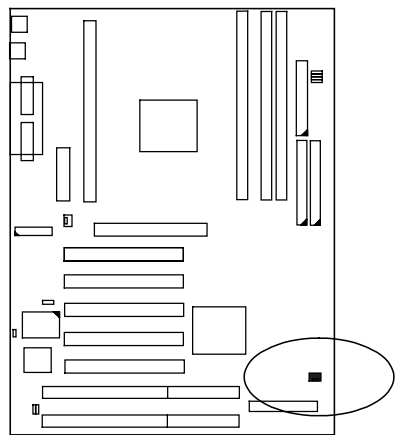


[CPU fan photo]

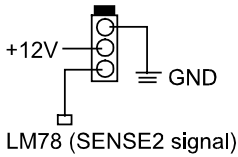


***System Case Fan Connector: FAN2***

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

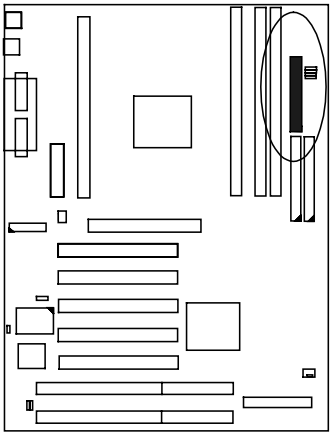


[case fan photo]



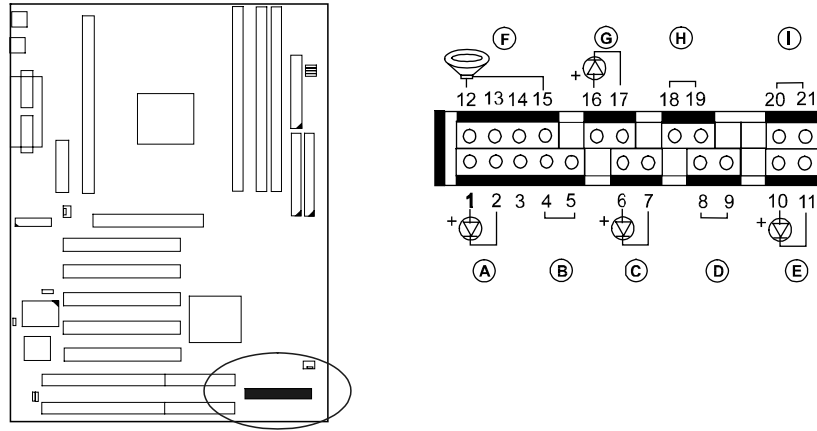
***Floppy Diskette Drive Connector: FLOPPY***

This 34-pin block connector connects to your floppy disk drive using the cable that is provided with this mainboard.



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

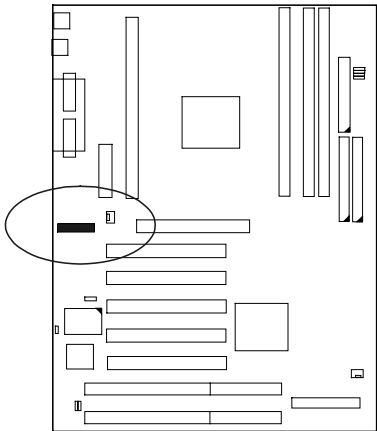
This block connector concludes : PW\_LED, KB\_LOCK, TB\_LED, SP\_SW, SPK, SP\_LED, IDE\_LED, RPW\_SW, and RST connectors.



Item	Connector	Pin Type	Feature
A	PW_LED	2-pin male	indicates the system power status
B	KB_LOCK	2-pin male	allows the keyboard to access the system
C	TB_LED	2-pin male	indicates the system speed is in normal or turbo speed
D	SP_SW	2-pin male	Suspend mode switch
E	SP_LED	2-pin male	indicates the system into Suspend mode when LED lit
F	SPK	4-pin male	connects to speaker
G	IDE_LED	2-pin male	indicates the IDE HDD I/O access LED lit
H	RPW_SW	2-pin male	remote power switch
I	RST	2-pin male	allows you to reset the system

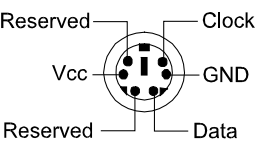
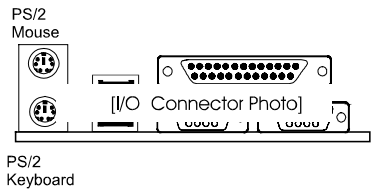
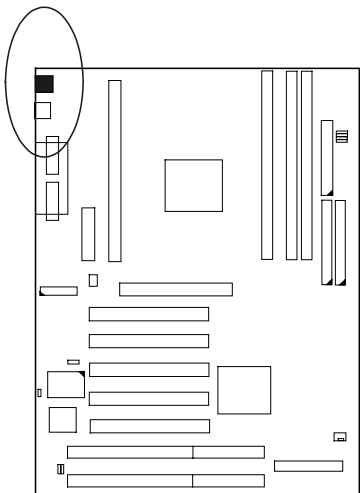
***Infrared Connector: IR***

These two 5-pin male connectors are used for connecting to the infrared (SIR) ports and allow transmission of data to another systems which also support the IR feature.



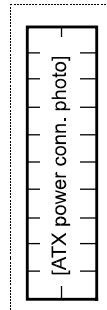
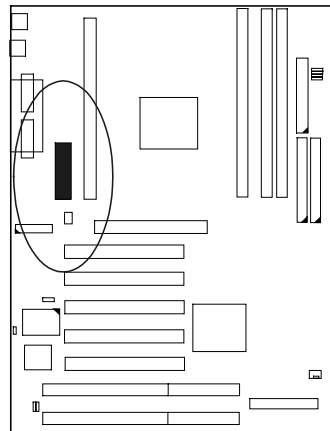
***PS/2 Keyboard and Mouse Connector: KB, MS***

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



### ***ATX Power Connector: POWER***

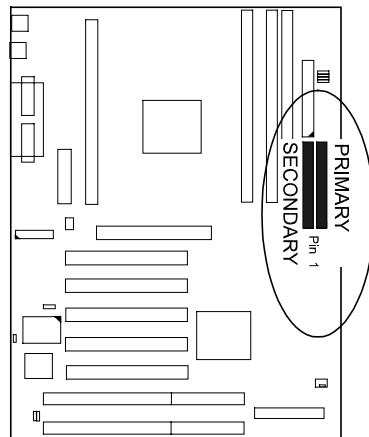
This 20-pin male block connector is connected to the ATX power supply.



+3.3V	<b>11</b>	<b>1</b>	+3.3V
-12V	<b>12</b>	<b>2</b>	+3.3V
GND	<b>13</b>	<b>3</b>	GND
-PWR_ON	<b>14</b>	<b>4</b>	+5V
GND	<b>15</b>	<b>5</b>	GND
GND	<b>16</b>	<b>6</b>	+5V
GND	<b>17</b>	<b>7</b>	GND
-5V	<b>18</b>	<b>8</b>	PWR_GOOD
+5V	<b>19</b>	<b>9</b>	5V_VR
+5V	<b>20</b>	<b>10</b>	+12V

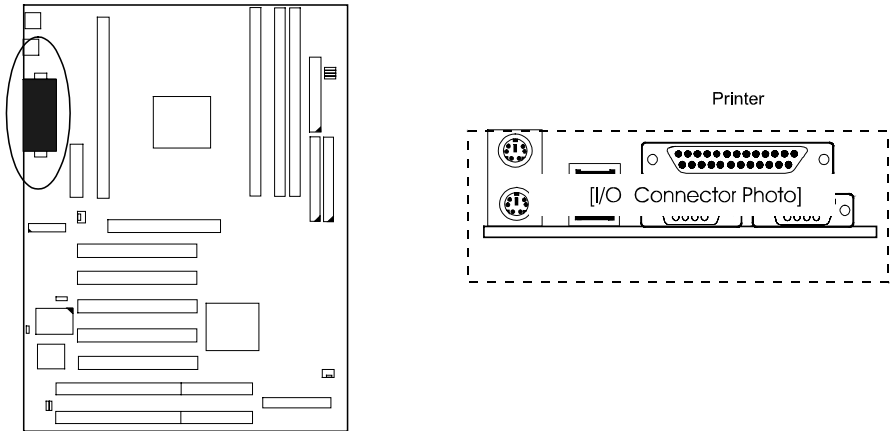
### ***IDE HDD Device Connectors: PRIMARY, SECONDARY***

These two 40-pin block connectors are used for your IDE hard disks. If you have one IDE hard disk, connect it to the PRIMARY connector using the IDE HDD flat cable provided with the mainboard. If you want to install another IDE hard disk or CD-ROM, please use the SECONDARY connector.



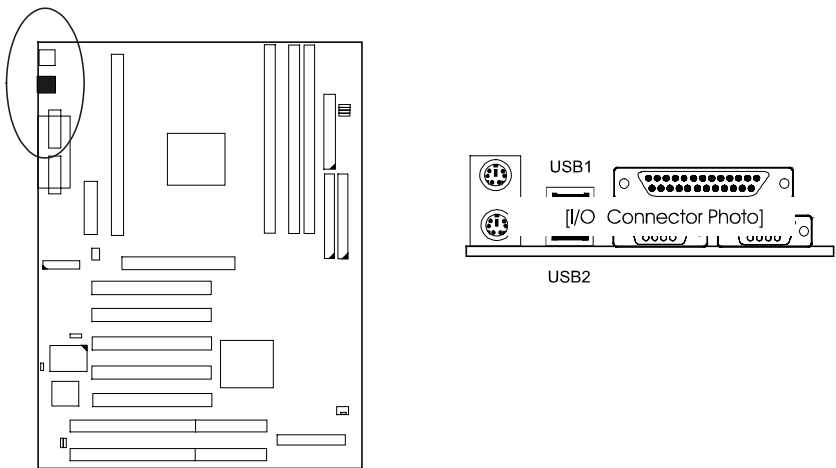
***Printer Connector: PRINTER***

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



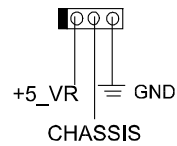
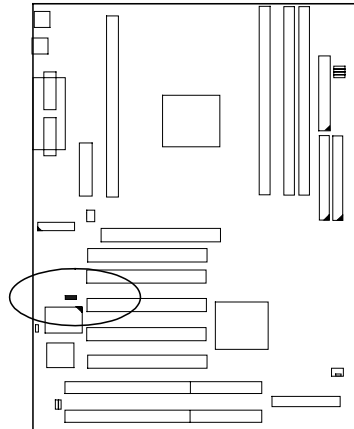
***Universal Serial Bus Connectors: USB1, USB2***

These two connectors are used for linking with USB peripheral devices.



***Chassis Open Alarm Connector: CHASSIS***

This 3-pin pinhead connector allows the LAN server to detect if the chassis is open via LDCM.



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