# Installation Procedures

The KN-6000 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

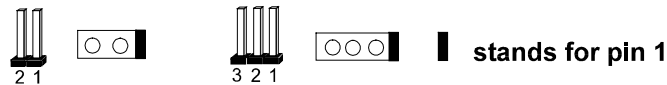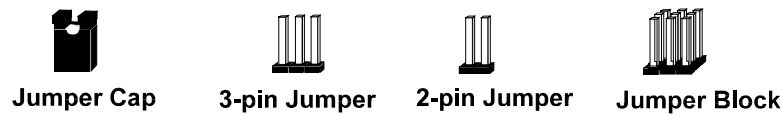- ■ Step 6 -
  Set up BIOS feature (Please read Chapter 3.)

Mainboard Layout
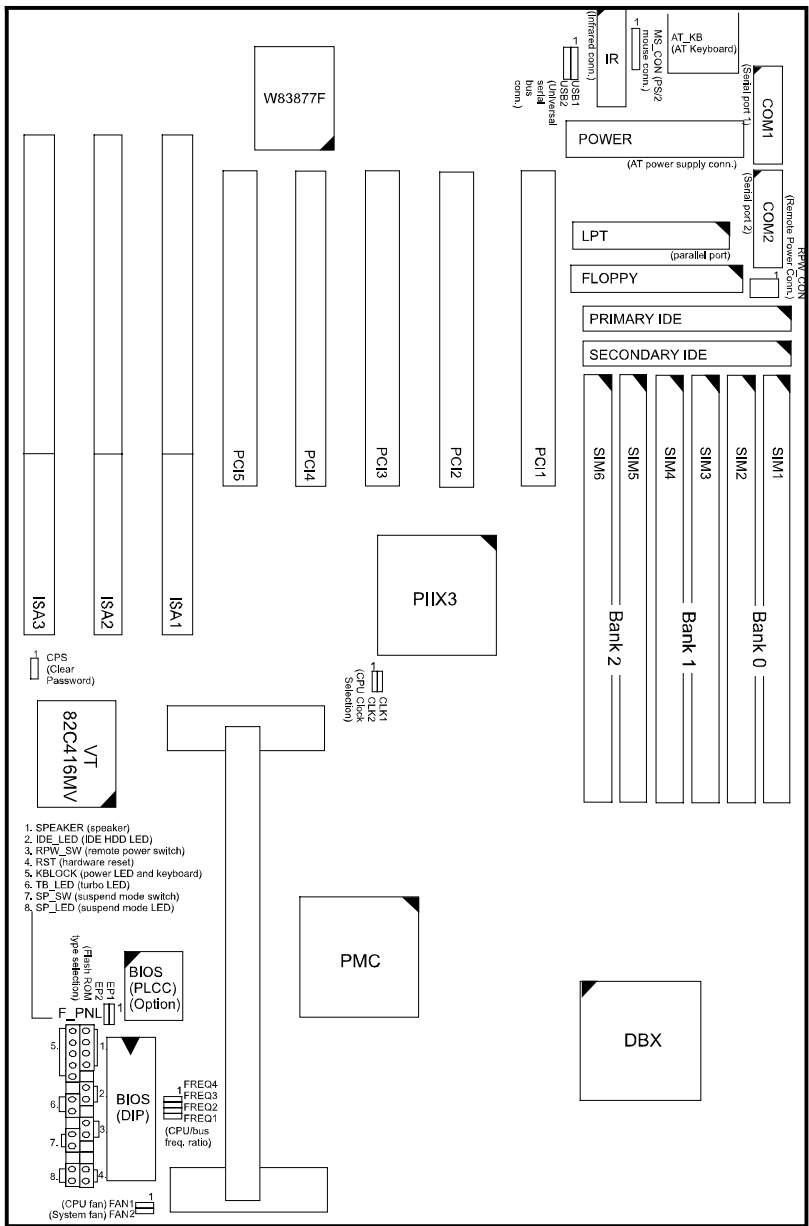
1). Set System Jumpers

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 manaul are shown below:

Jumper Cap   **3-pin Jumper**   **2-pin Jumper**   **Jumper Block**

2 1   3 2 1   ▮ **stands for pin 1**

Jumpers are shown as above

3 2 1

**Jumper cap is shown as above**

▮ **stands for pin 1**

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: CPS

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.
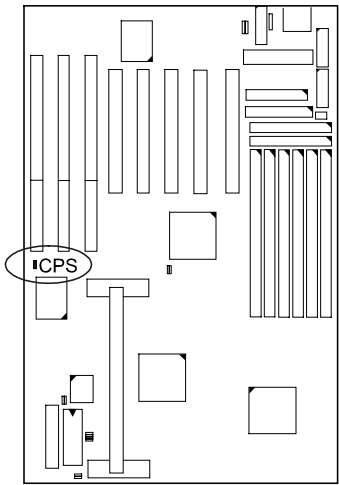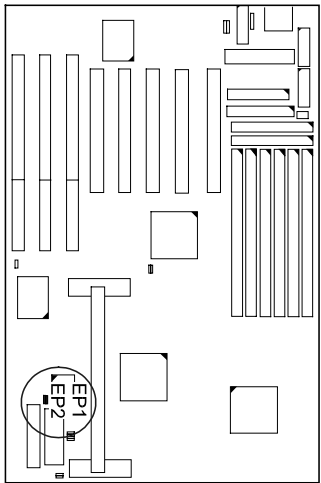

Enable   Disable
(Default)

Flash EPROM Type Selection: EP1, EP2

These two jumpers allow you to configure the Flash EPROM chip

1M	EP1	EP2
Intel		
SST 29EE010		

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

2). Install RAM Modules

DRAM Memory

The working space of the computer is the Random Access Memory (RAM). The system cannot act upon data unless it is loaded into RAM. The system RAM is comprised of industry-standard 72-pin Single In-line Memory Modules (SIMMs).

Occasionally the system must break apart data files because the entire file can not be fitted into the RAM area. Consequently, when the system needs data that is not in RAM, it must access the disk where the balance of the data is stored. Compared with the lightning speed accessing a RAM, accessing a mechanical disk drive is a much slower process.

When more RAM is added, the working area of the computer is larger, thereby increasing total performance. You should verify the type and speed of the RAM currently installed from your dealer. Mixtures of the RAM types, other than those described in this manual, will have upredicatable results.

The KN-6000 is able to support standard **FPM (Fast Page Mode) and EDO (Extended Data Out) DRAM**; and can accommodate onboard memory from **8** to **768MB** using SIMMs. The mainboard has three memory banks, Bank 0, Bank 1, and Bank 2. Each bank has two SIMM sockets which can accept either a pair of **4MB, 8BM, 16MB, 32MB, 64MB, or 128MB** SIMMs in each socket.

RAM Module Configuration
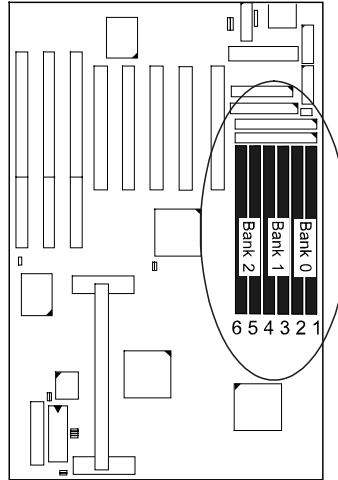
The DRAM module installation must be in pairs of the same size for each bank. The minimum size of SIMM for each SIMM slot is 4MB; the maximum is 128MB*. Each bank, not SIMM slot, can be leaved empty.

For instance, if you install one 4MB DRAM module onto SIM1, 4MB (must be the same size, i.e. 4MB, if in the same bank) onto SIM2; two 8MB DRAM modules onto SIM3 and SIM4 respectively, SIM5 and SIM6 are left empty. The total memory is 24MB.

NOTE : * A RAM module of this size was not available for testing when this manual was printed.

Install SIMMs

Complete the following procedures to install SIMMs:

> **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.

1. Locate the SIMM slots on the mainboard. (See figure below.)
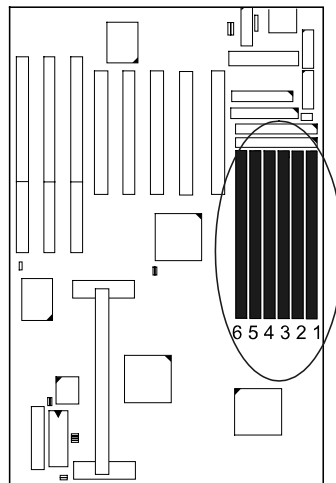
> **NOTE :** SIMMs in each bank must be of the same type; and the BIOS automatically configures the memory size.

2. Carefully fit a SIMM at a 45 degree angle into each empty socket to be populated. All the SIMMs must face the same direction.

Cut-Out Edge
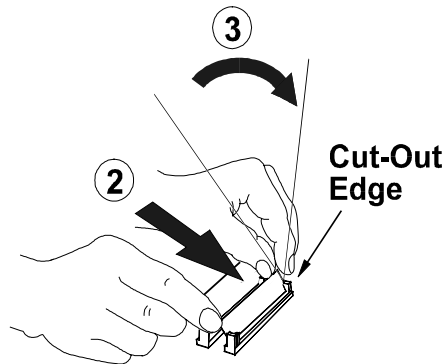
3. Swing each SIMM into its upright, locked position.
   When locking a SIMM in place, push on each end of the SIMM - do not push in the middle, as shown above.

Remove SIMMs

To remove the SIMMs, pull the retaining latch on both ends of the socket and reverse the procedure above.

3). Install the CPU

Retention Mechanism Kit

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

Retention Mechanism Assembly

2 "T"-Shaped Plastic Plugs

2 Rention Mechanism Attachment Mounts

Heatsink Support Base

Stub

Heatsink Top Support

"U"-shaped Cut
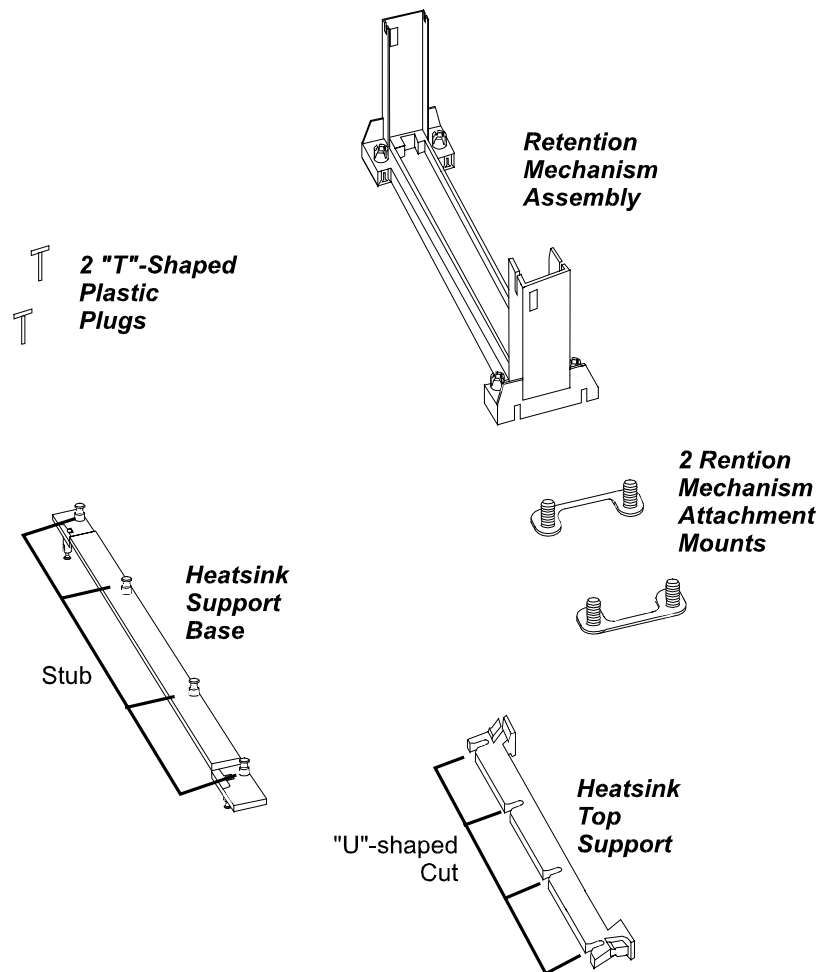
CPU Module Installation

1.   Locate Slot1 on the KN-6000 mainboard.
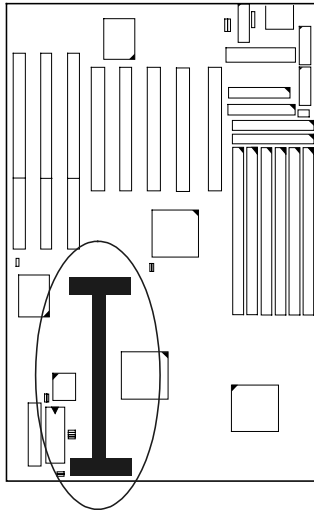
2.   Locate the Heatsink Support Base on the mainboard.
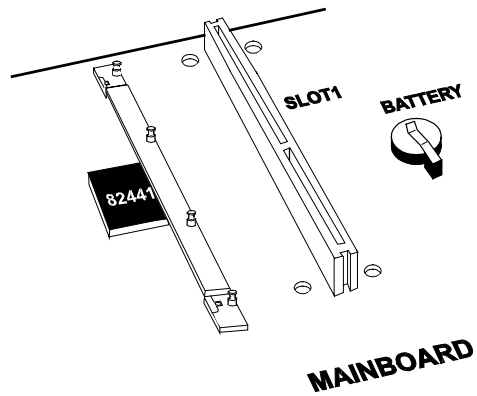
3. Affix it by inserting one "T"-shaped plastic plugs into the hole on each end.
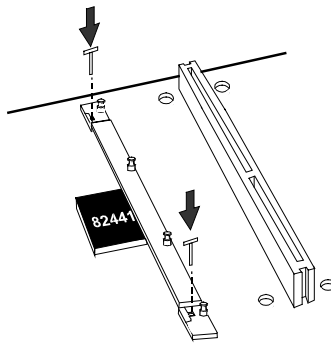
4. Install two Retention Mechanism Attachment Mounts on the board
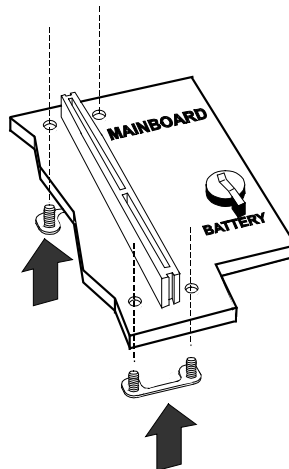
5. Place the Retention Mechanism Assembly on the board, on top of the Rentention Mechanism Attachment Mounts.
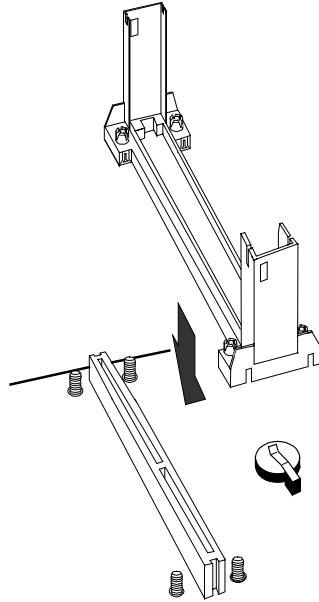
6. Affix the Retention Mechanism Assembly with four screws.
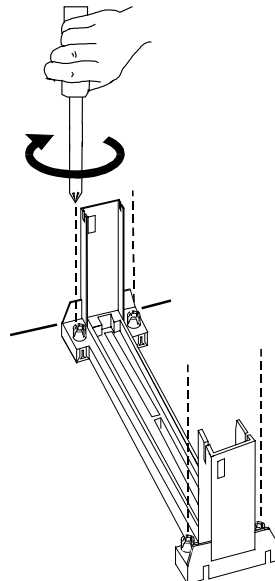
7. Horizontally slide the Heatsink Top Support into the lowest gaps on the CPU module heatsink as shown below.
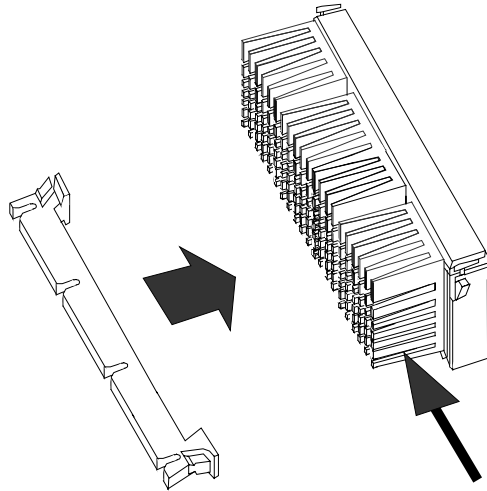
8. Slide the CPU module into the Retention Mechanism Assembly.
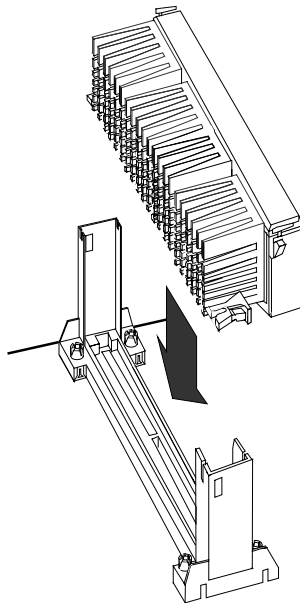
9. Press the buttons on either end of the CPU module.
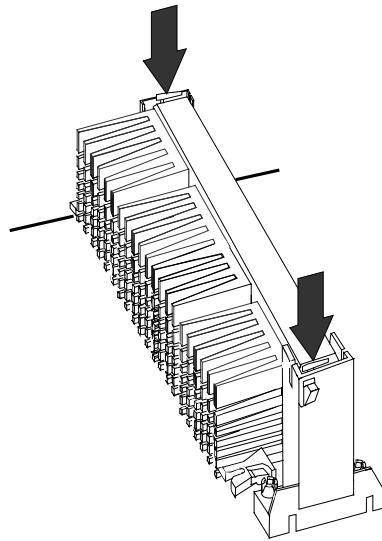
10. Hook the Heatsink Top Support to the Heatsink Support Base to affix the CPU module.
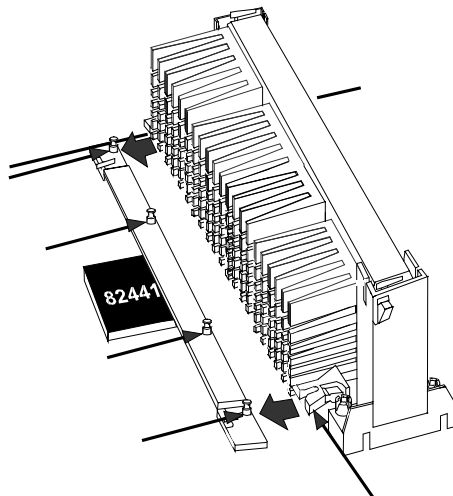
CPU External Clock (BUS) Frequency: CLK1, CLK2

The table below shows the jumper settings for the different CPU speed configurations.
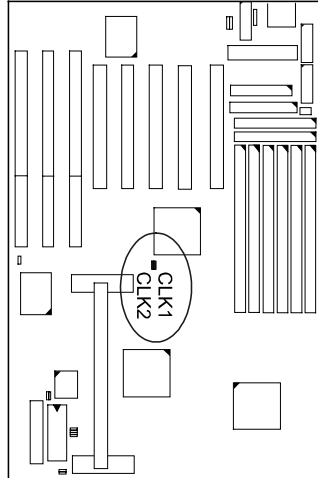
System Clock	CLK1	CLK2
60 MHz		
66 MHz		

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				
4 X				
4.5 X				
5 X				

Intel Pentium II CPUs

Frequency

CPU Speed	External (CPU/CLK)	CLK1	CLK2	Internal	CPU Clock Rate			
					FREQ1	FREQ2	FREQ3	FREQ4
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				
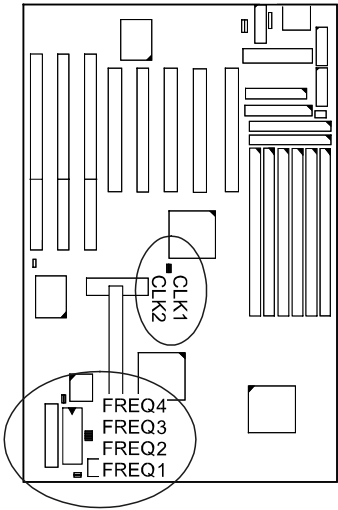
4). Install Expansion Cards

Your KN-6000 features three 16-bit ISA Bus and five 32-bit PCI Bus expansion slots.
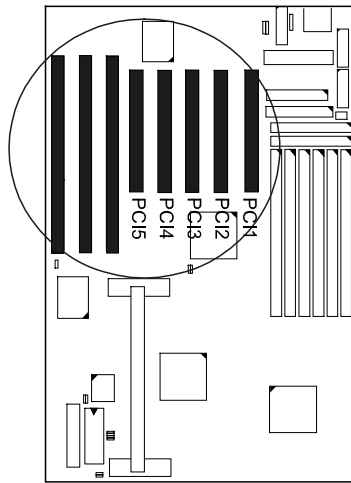
This section describes how to connect an expansion card to one of your system's expansion slots. Expansion cards are printed circuit boards that, when connected to the mainboard, increase the capabilities of your system. For example, expansion cards can provide video and sound capabilities.

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.)
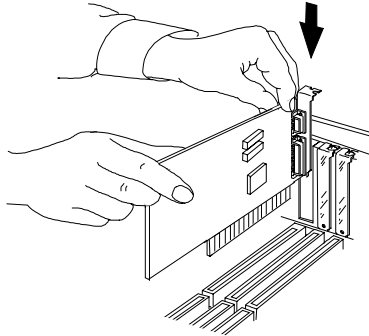
4. Push the card firmly into the slot. Push down on one end of the expansion card, then the other. Use this "rocking" motion until the add-in card is firmly seated inside the slot.
5. Secure the board with the mounting screw removed in Step 2. Make sure that the card has been placed evenly and completely into the expansion slot.

NOTE: The length of the add-on cards which on PCI4 and PCI5 slots can not exceed 165mm for keeping away from the heatsink.
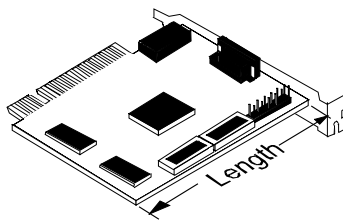
5). Connector Cables and Power Supply

Keyboard Connector: AT_KB
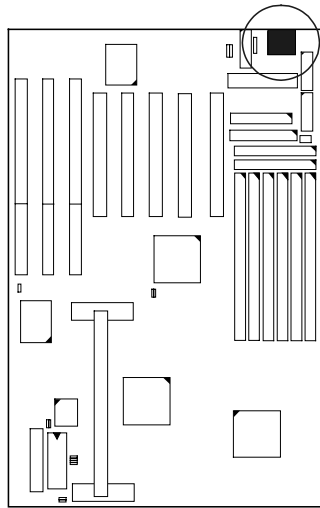
This 5-pin female connector is used for your 101-key enhanced keyboard or 106-key Windows 95 keyboard.

Serial Port Connector: COM1 and COM2
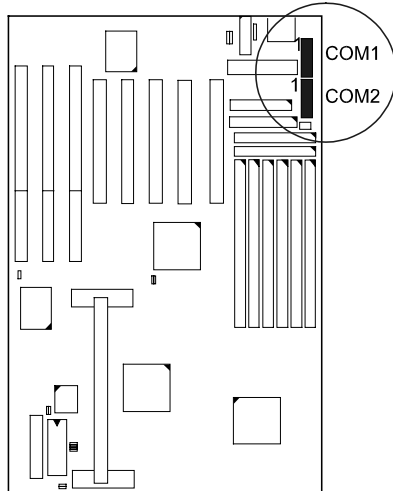
COM1

COM2

These two 10-pin male connectors allow you to connect devices that take serial ports, such as a serial mouse or a modem. The COM2 Port on the KN-6000 mainboard can also be used as another IR Port. Usually, your serial mouse is attached to COM1. Your modem is linked to COM2. When you do not use the modem, you can set the BIOS to let COM2 be an IR port to save a dedicated SIR port.

CPU Fan Connector: FAN 1

This connector is linked to the CPU fan.
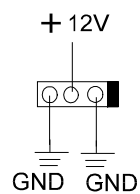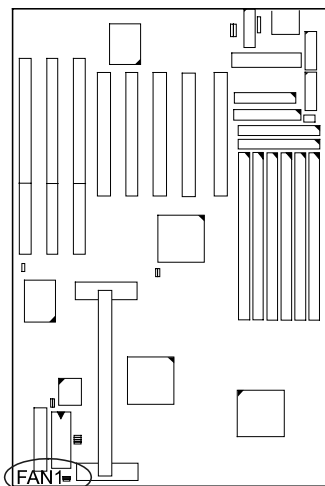
Floppy Diskette Drive Connector: FLOPPY

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

Front Panel Block Connector: F_PNL

This block connector includes: PW_LED, KB_LOCK, TB_LED, SP_SW, SPK, SP_LED, IDE_LED, RPW_SW, and RST connectors.

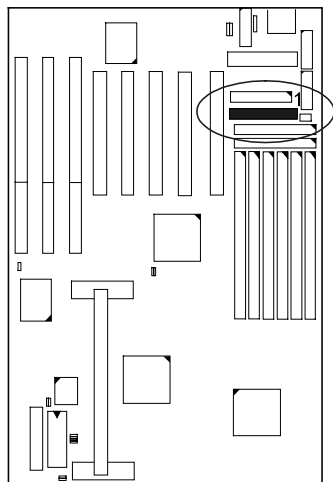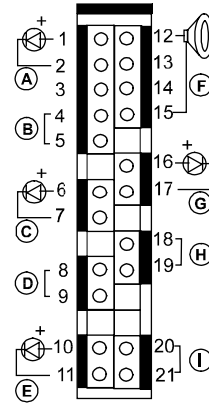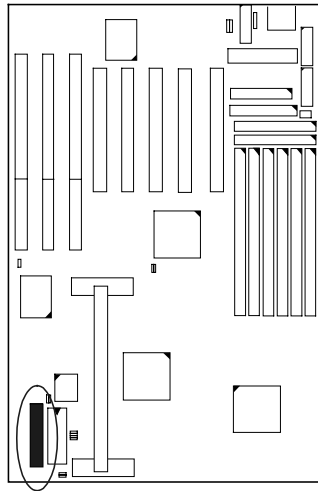| Item	Connector	Pin Type	Feature
A	PW_LED	2-pin male	indicates the system power status
B	KB_LOCK	2-pin male	allows the keyboard to access the system
C	TB_LED	2-pin male	indicates the system speed is in normal or turbo speed
D	SP_SW	2-pin male	Suspend mode switch
E	SP_LED	2-pin male	indicates the system 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

IDE HDD Device Connector: PRIMARY and SECONDARY
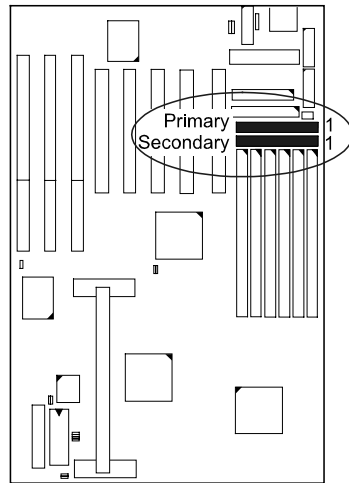
These two 40-pin block connectors are used for your IDE hard disks. If you have one IDE hard disk, connect it to the PRIMARY connector using the IDE HDD flat cable provided with the mainboard. The BIOS auto detection sets it to be a **Primary Master** disk. If you want to install another IDE hard disk or CD-ROM, please use the SECONDARY connector. If two hard disks are connected to the PRIMARY connector using the same cable, one of them is the master drive, the other one is the slave drive. You may need to set jumpers for the slave drive; please refer to the HDD manual for details.
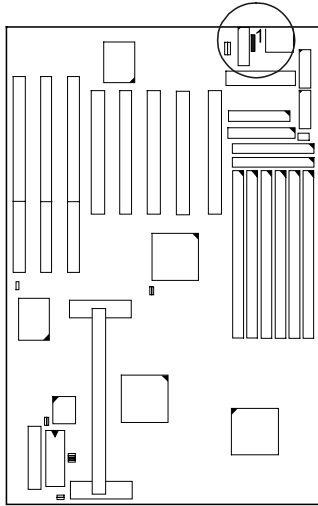
Infrared Connector: IR
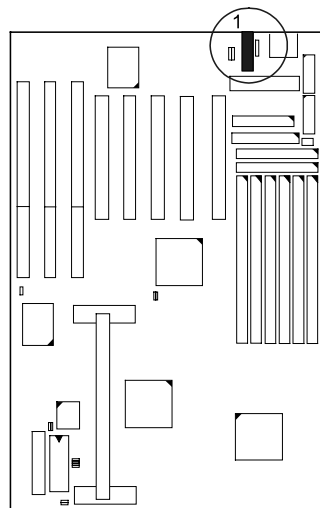
This 10-pin male connector is used for connecting to the infrared (SIR) port and allows transmission of data to another system which also supports the SIR feature.

PS/2 Mouse Connector: MS_CON

This connector is connected to the PS/2 mouse.

Standard Power Connector: POWER

This 12-pin block connector is used for connecting to the standard 5V power supply. In the picture below, notice that, in most cases, there are two marks **P8** and **P9** on the surface of the connector. You have to insert the **P8** plug into the **P8** section of the connector, and so forth for **P9**. Two black wires must be in the middle.
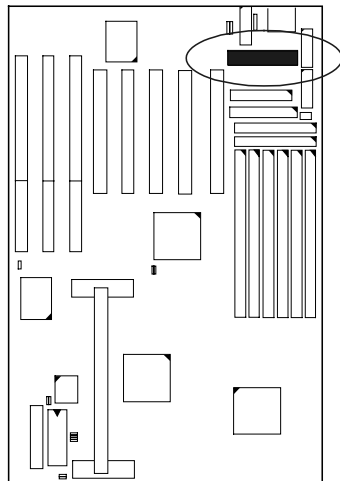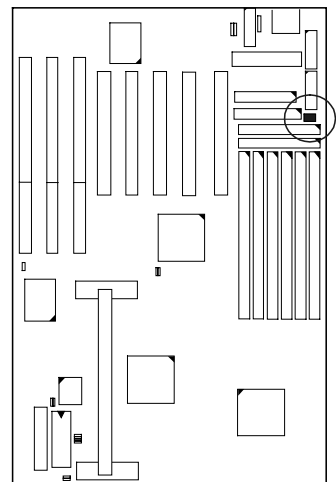
Printer Connector: PRINTER

This 26-pin male block connector is attached to your printer via a cable. When inserting the cable, please be sure that the red line is always on the same side as pin 1 of this connector.
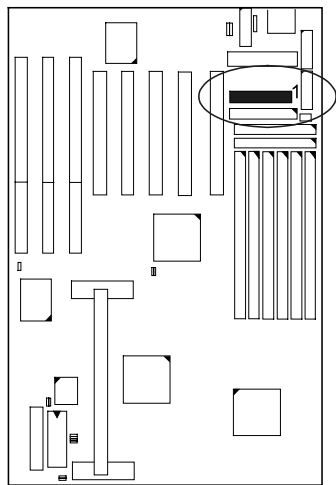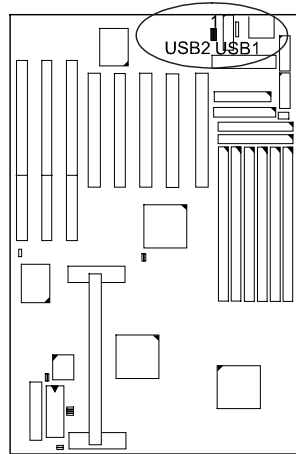

Remote Power Supply Connector: RPW_CON

This 3-pin male connector allows you to enable (or disable) the system power if the RPW_SW is on (or off).

Universal Serial Bus Connectors: USB1, USB2

These two connectors link with the peripherals devices for supporting Universal Serial Bus connection by an optional FIC standard USB riser card.

System Case Fan Connector: FAN2

This 3-pin connector links to your cooling fan on the system case to lower the system temperature. When the system temperature is over 45ºC, the system fan will be started.
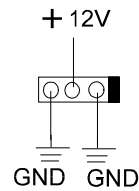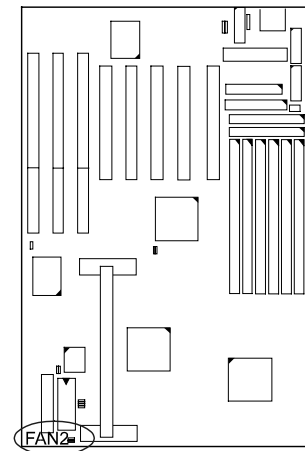
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