1.2 System Board Layout
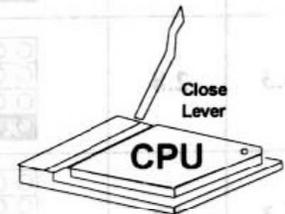

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Chapter 2

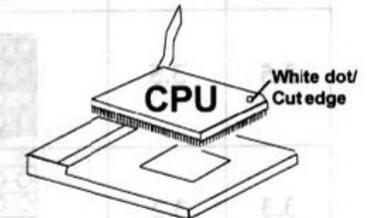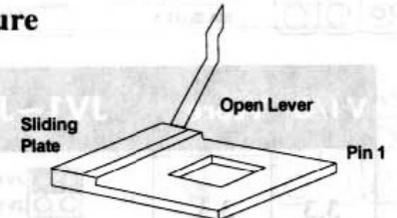## Hardware Installation
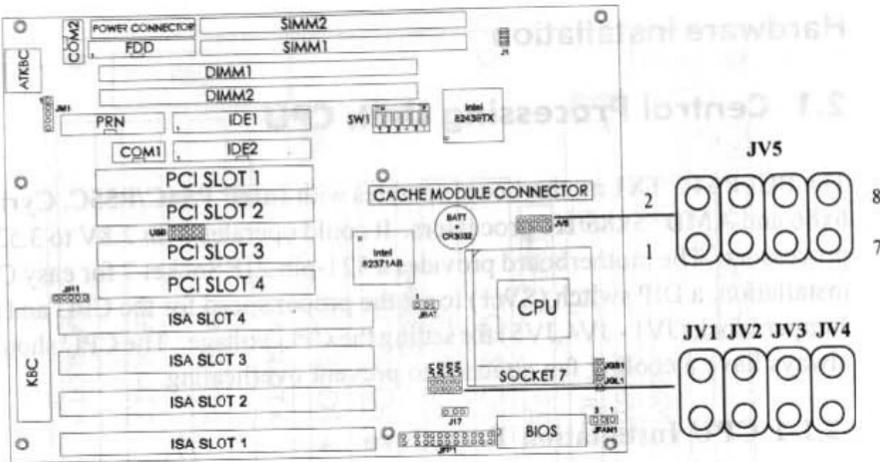
2.1 Central Processing Unit: CPU

The **PCI P54C TX1** motherboard operates with **Intel® P54C/P55C**, **Cyrix® 6x86** and **AMD® 5k86/K6** processors. It could operates with 2.8V to 3.52V processors. The motherboard provides a 321-pin ZIF Socket 7 for easy CPU installation, a DIP switch (SW1) to set the proper speed for the CPU and a Jumper block (JV1 - JV4,JV5) for setting the CPU voltage. The CPU should always have a cooling fan attached to prevent overheating.

2.1-1 CPU Installation Procedure

1. Pull the lever sideways away from the socket then raise the lever up to a 90-degree angle.

2. Locate Pin 1 in the socket and look for the white dot or cut edge in the CPU, match Pin 1 with the white dot/cut edge then insert the CPU. It should insert easily.

3. Press the lever down to complete the installation.

2.1-2 CPU Voltage Setting: JV1 - JV4, JV5

V I/O	Vcore	JV1~JV4	JV5
3.3	3.3	JV1 JV2 JV3 JV4	1 2 7 8
3.5	3.5	JV1 JV2 JV3 JV4	1 2 7 8
3.3	3.2	JV1 JV2 JV3 JV4	1 2 7 8
3.3	2.8	JV1 JV2 JV3 JV4	1 2 7 8
3.3	2.9	JV1 JV2 JV3 JV4	1 2 7 8

2.1-3 CPU Speed and Voltage Setting: SW1 & JV1-JV4,J5

To adjust the speed and voltage of the CPU, you must know the specification of your CPU (*always ask the vendor for CPU specification*) then look at Table 2.1 (Intel® P54C/P55C-MMX), Table 2.2 (Cyrix® 6x86/6x86L) and Table 2.3 (AMD® 5K86/K6) for proper setting.
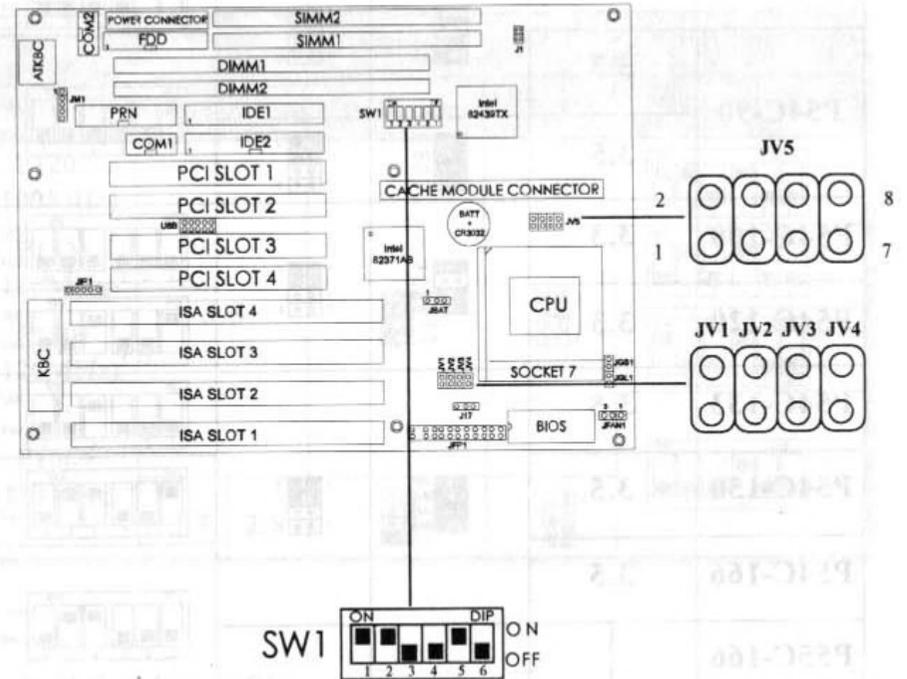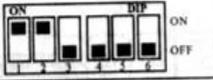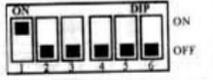
Table 2.1 Intel® P54C(PENTIUM), P55C(MMX) CPU

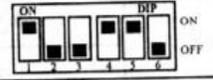| CPU Type	CPU Voltage				SW1
	VI/O	Vcore	JV1~JV4	JV5	
P54C-75	3.3				
P54C-90	3.3				
		3.5			
P54C-100	3.3				
P54C-120	3.3				
P54C-133	3.5				
P54C-150	3.5				
P54C-166	3.5				
P55C-166	3.3	2.8			
P55C-180					
P54C-200	3.5				
P55C-200	3.3	2.8			
P55C-233					
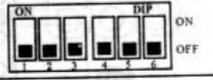
Table 2.2 Cyrix® 6x86 CPU

Cyrix® 6x86 CPU uses P to rate the speed of their processor based on Intel® CPU core speed , for example P120+ (100MHz) has 120MHz core speed of Intel® but has 100MHz core speed in Cyrix®. Cyrix® 6x86 CPU should always uses a more powerful fan (ask vendor for proper cooling fan).

CPU Type	CPU Voltage				CPU Speed
	VI/O	Vcore	JV1~JV4	JV5	SW1
P120+ (100MHz)					
P133+ (110MHz)					
P150+ (120MHz)	3.5				
P166+ (133MHz)					
	3.3	2.8			

Cyrix® 6x86L CPU

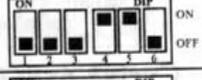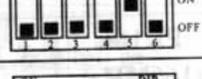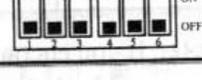| PR166 (166MHz)	3.3	2.8			
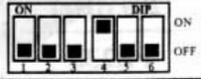
Note: If you encounter a CPU with different Voltage, just go to section 2.1-2 and look for the proper voltage settings.

Table 2.3 AMD® 5K86 CPU

AMD® 5K86 CPU uses PR to rate the speed of their processor based on Intel® CPU core speed, for example PR133+ (100MHz) has 133MHz core speed of Intel® but has 100MHz core speed in AMD® 5K86 CPU.

CPU Type	CPU Voltage				CPU Speed
	VI/O	Vcore	JV1~JV4	JV5	SW1
PR75					
PR90					
PR100		3.5			
PR133					
PR166					

AMD® K6 (MMX) CPU

PR166 (166MHz)					
PR200 (200MHz)	3.3	2.9			
PR233 (233MHz)		3.2			

Note: If you encounter a CPU with different Voltage, just go to section 2.1-2 and look for the proper voltage settings.

2.1-4 CPU Fan Power Connector: JFAN1

This connector supports CPU cooling fan with +12V. It supports both two and three pin head connector. When connecting the wire to the connector, always take note that the red wire is the positive and should be connected to the +12V.
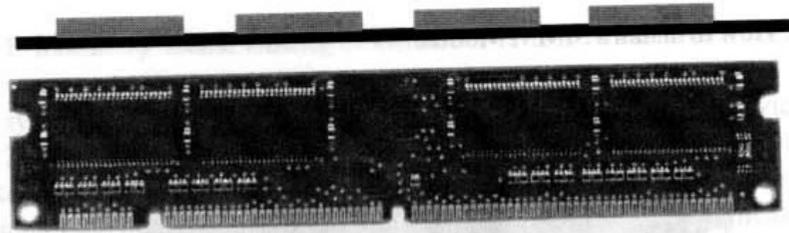

JFAN1 Connector
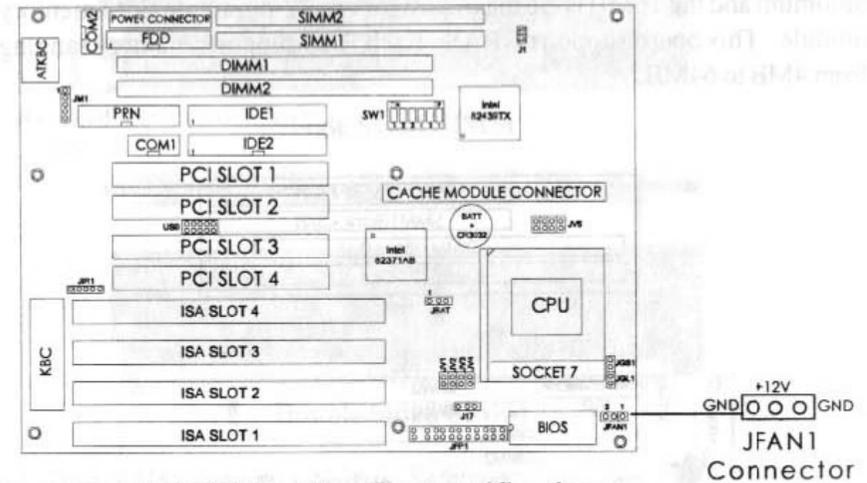
Recommended CPU cooling fan specification:
- Metallic Clip
- RPM 5000
- CFM 10
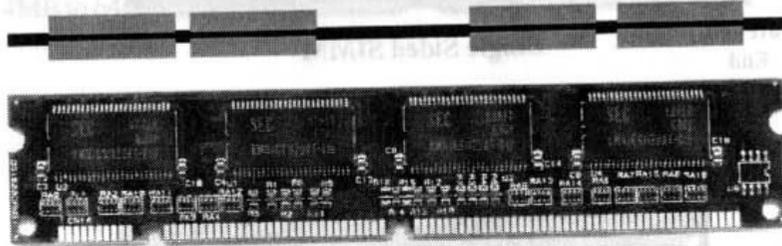- +12V
- 52x52x10mm
- Ball Bearing

Note: *Always consult vendor for proper CPU cooling fan.*
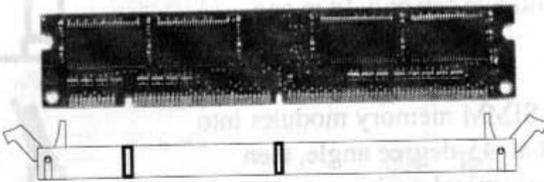
B. How to install a DIMM Module

Single Sided DIMM


Double Sided DIMM

1. The DIMM slot has a two key mark "VOLT and DRAM" , so the DIMM memory module can only fit in one direction.

2. Insert the DIMM memory module vertically into the DIMM slot then push it in.

3. Close the plastic clip at the side of the DIMM slot.

Note: If you have installed SIMM and DIMM at the same time. You must use a 3.3 volt DIMM with 5 volt I/O signal tolerance or a full 5 volt DIMM module (EDO, FP or SDRAM). Look for J1 to select the DIMM voltage.

B.1 DIMM Power Voltage Selector : J1
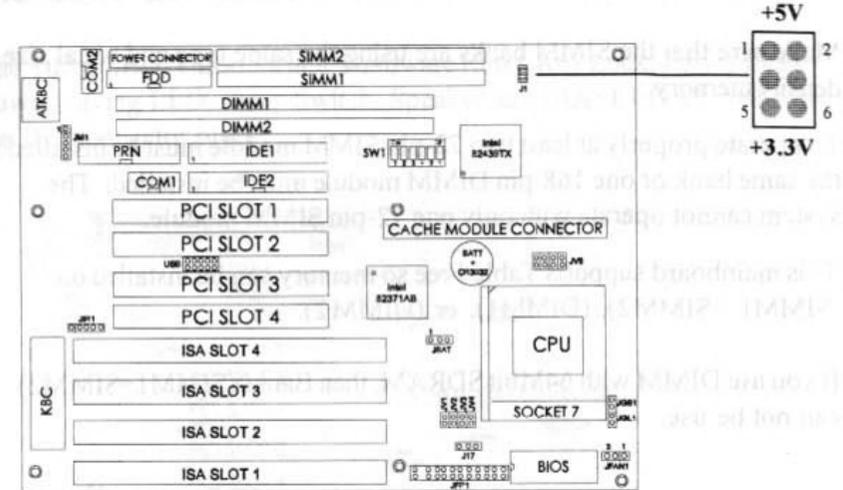
DIMM Voltage	J1
5V	
3.3V	

SIMM Power Level : 5 Volts
DIMM Power Level : 3.3V or 5V

2.2-3 Memory Population Rule

1. Make sure that the SIMM banks are using the same type and equal size density memory.

2. To operate properly at least two 72-pin SIMM module must be installed in the same bank or one 168-pin DIMM module must be installed. The system cannot operate with only one 72-pin SIMM module.

3. This mainboard supports Table Free so memory can be installed on (SIMM1 + SIMM2), (DIMM1), or (DIMM 2).

4. If you use DIMM with 64Mbit SDRAM, then Bank0(SIMM1+SIMM2) can not be use.

2.3 Case Connector: JFP1

The Turbo LED, Turbo Switch, Hardware Reset, Key Lock, Power LED, Power Saving LED, Sleep Switch, Speaker and HDD LED all connected to the JFP connector block.
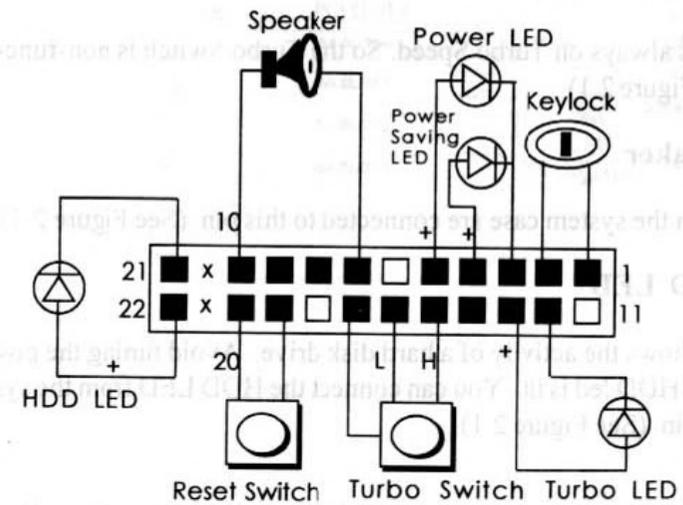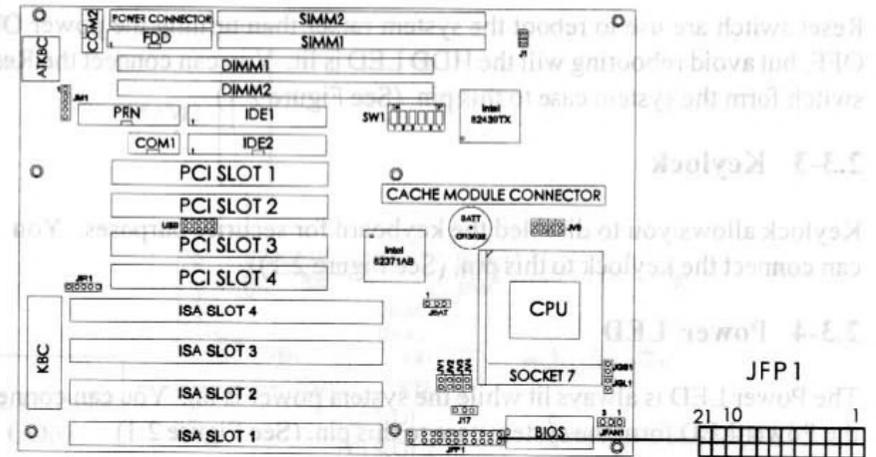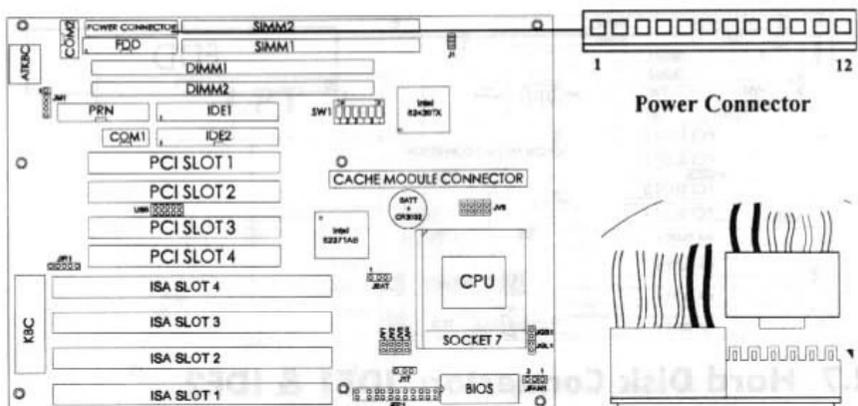

Figure 2.1

2.8 Power Supply Connector: JPW1

PWR12 is a standard 12-pin AT-type or PS/2 type connector. Be sure to attach the connectors with the two black wires at the centre.

Power Connector

| Pin	Description	Pin	Description
1	Power Good	7	Ground
2	+5V DC	8	Ground
3	+12V DC	9	-5V DC
4	-12V DC	10	+5V DC
5	Ground	11	+5V DC
6	Ground	12	+5V DC

2.9 Keyboard Connector: ATKBC

The system board provides a standard PS/2 style keyboard DIN connector for attaching a keyboard. You can plug a keyboard cable directly to this connector.

Pin1
N C

Pin5
CLK

Pin2
VCC

Pin3
DATA

Pin4
GND

Keyboard
Connector
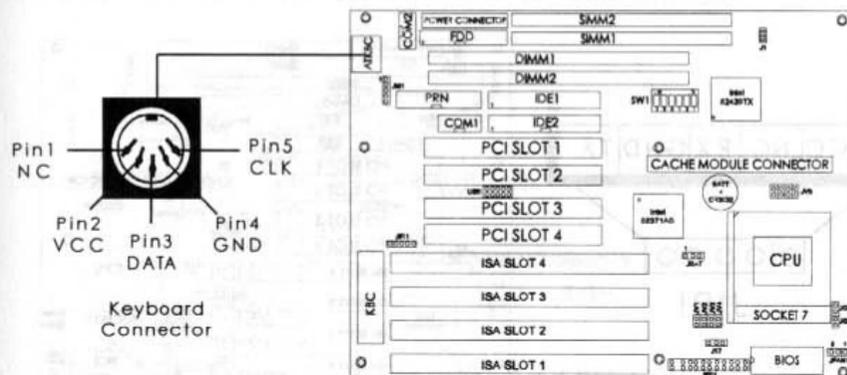
2.10 Mouse Connector: JM1

The system board provides a 5-pin connector for PS/2 mouse cable (optional). You can plug a PS/2 style mouse to PS/2 mouse cable. The connector location and pin definition as shown below.
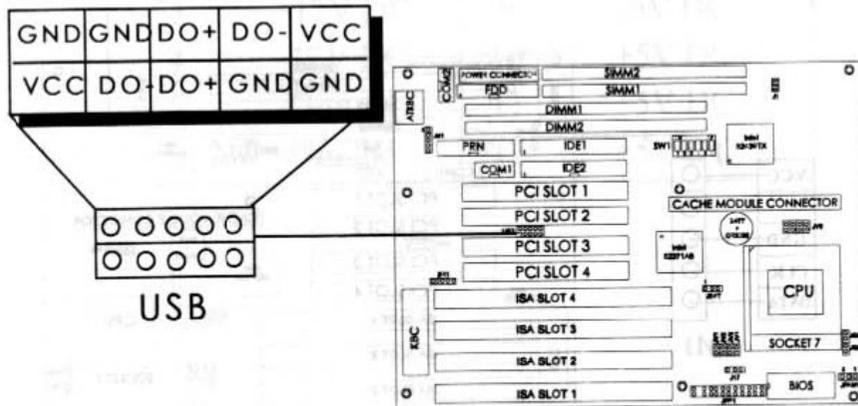

VCC
GND
CLK
DATA

JM1
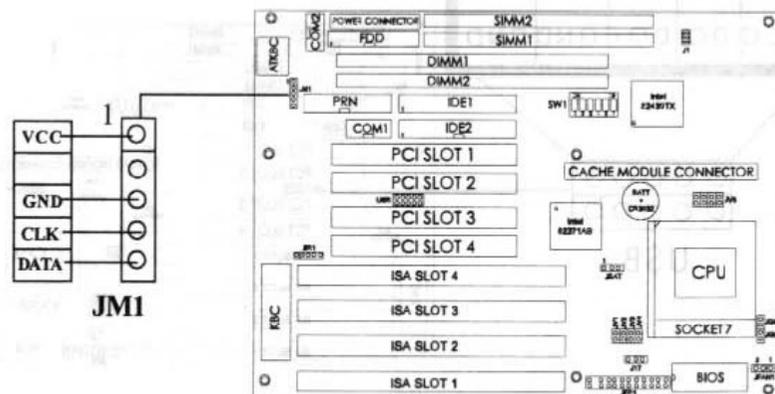
2.11 Infrared Module Connector: JIRI

The system board provides a 5-pin infrared connector(IR) for IR module. This connector is for optional wireless transmitting and receiving infrared module. You must configure the setting through BIOS setup.
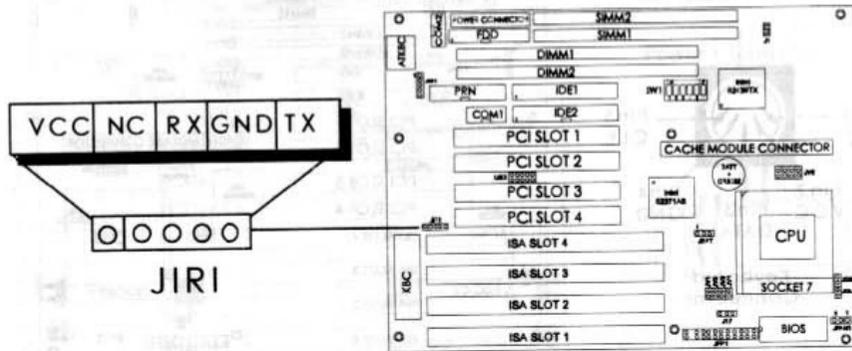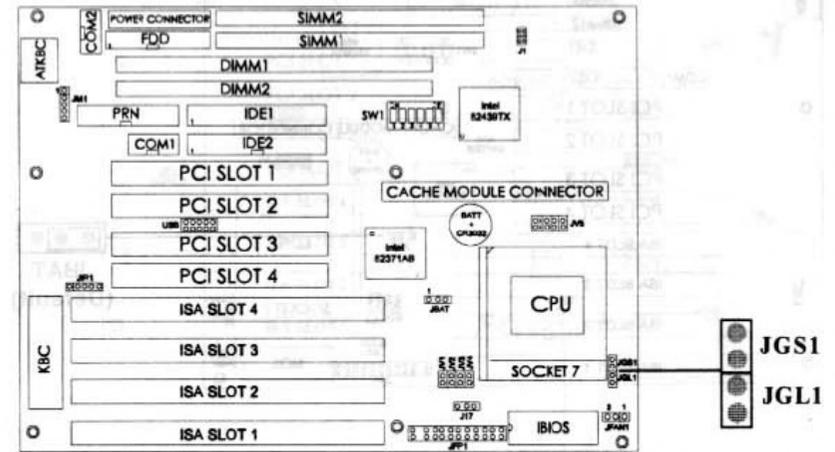

2.12 USB Connector: USB

This 10-pin connector supports USB devices.

2.13 Power Saving Switch Connector: JGS1/ Power Saving LED Connector: JGL1

Attach a power saving switch to JGS1. When the switch is pressed, the system immediately goes into suspend mode. Press any key and the system wakes up. JGL1 can be connected with LED to monitor the JGS1.

2.14 External Battery Connector: JBAT

A battery must be used to retain the system board configuration in CMOS
RAM. You can use either the on-board battery or an external battery. If you
use the on-board battery you must short pins 1,2 of JBAT.

JBAT
(Default)
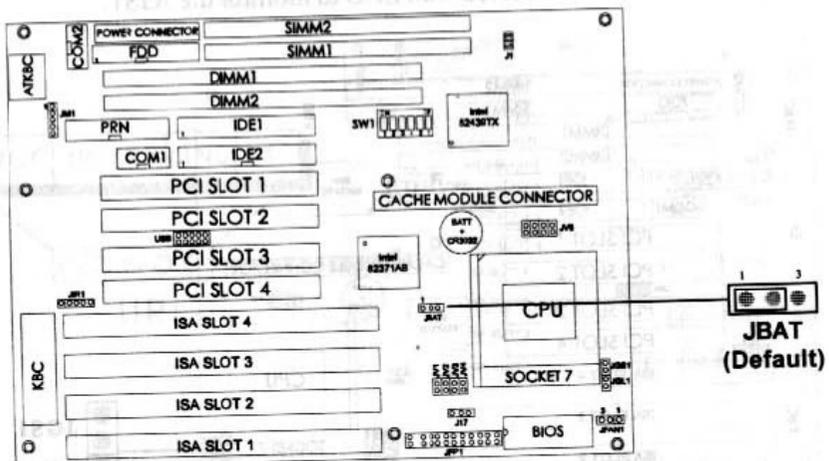
Note: You can clear CMOS by shorting 2-3 pin, then put it back.
      (on power off state only.) Avoid clearing the CMOS while the system
      is on , it will damage the motherboard.

2.15 FLASH ROM VOLTAGE: J17

This jumper is used by the FLASH ROM BIOS.

J17
(Reserved)