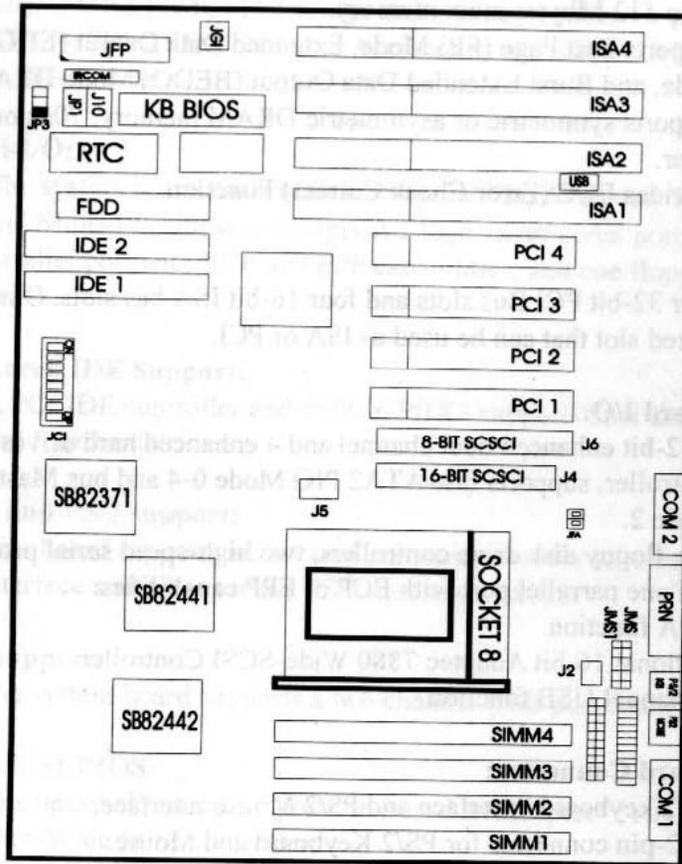


System Board Layout



Chapter 2

HARDWARE INSTALLATION

It is important to set jumpers correctly. Improper jumper setting will cause system instability, destruction of components, and/or system hang-up.

Step 1: Set the CPU BUS CLOCK and Core Frequency Ratio (see "JC1 Jumper" section)

JC1 is used for CPU BUS CLOCK and bus to core frequency ratio. Caution: If these jumpers aren't set correctly, it will cause the system to be unstable or system hang-up, and it may reduce the life cycle of the CPU.

Step 2: Install CPU, VRM, DRAM, Expansion Card, and External cables (see "Connectors" section)

Caution: All parts need to be set to avoid system board malfunction.

Step 3: Turn Power on and setup BIOS software (see "BIOS Setup" section)

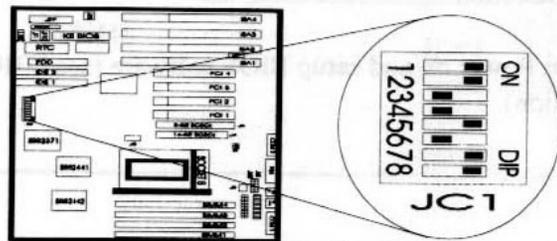
Jumper Settings

This table is useful to conveniently locate information on specific jumpers and connectors.

Jumper/Connector	Setting/Description	Page
JC1	CPU Frequency Selection	2-2
JP3	Flash ROM Selection	2-3
J5	CPU Overheat Protection	2-3
JG1	Power Saving Switch Connector	2-3
JP1	CMOS RAM Clear	2-4
JFP	Case Connector Block	2-7
J10	Remote On/Off	2-14

CPU Frequency Selection: JC1

The CPU BUS CLOCK supports two frequencies: 60MHz (default) and 66MHz. Refer to the following figure for jumper location and settings.



JC1 SETTINGS

JC1 SETTINGS

CPU SPEED	JC1																
150MHz	<table border="1"> <tr> <td>ON</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>DIP</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> </tr> </table>	ON							DIP	1	2	3	4	5	6	7	8
ON							DIP										
1	2	3	4	5	6	7	8										
166MHz	<table border="1"> <tr> <td>ON</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>DIP</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> </tr> </table>	ON							DIP	1	2	3	4	5	6	7	8
ON							DIP										
1	2	3	4	5	6	7	8										
180MHz	<table border="1"> <tr> <td>ON</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>DIP</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> </tr> </table>	ON							DIP	1	2	3	4	5	6	7	8
ON							DIP										
1	2	3	4	5	6	7	8										
200MHz	<table border="1"> <tr> <td>ON</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>DIP</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> </tr> </table>	ON							DIP	1	2	3	4	5	6	7	8
ON							DIP										
1	2	3	4	5	6	7	8										

Flash ROM Selection: JP3

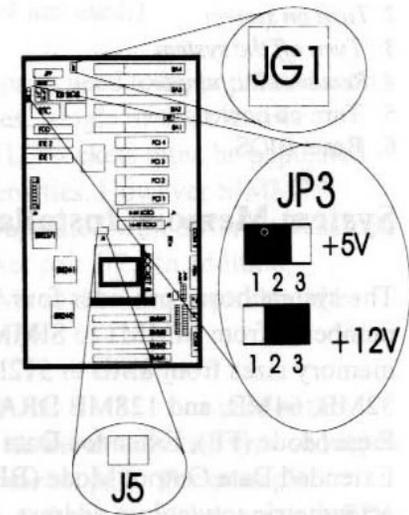
Jumper JP3 sets the mainboard to be used with either +12V or +5V Flash ROM.

CPU Overheat Protection: J5

The system board provides a CPU overheat protection function which will turn off the power if the CPU's heat level is too high.

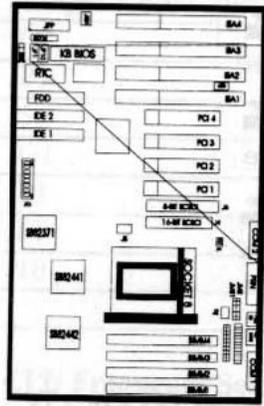
Power Saving Switch: JG1

Attaching a power saving switch to this connector will allow the system into sleep mode whenever this switch is pressed.



CMOS RAM Clear: JP1

The system board configuration is stored in CMOS RAM. If you need to clear the system board configuration do the following:



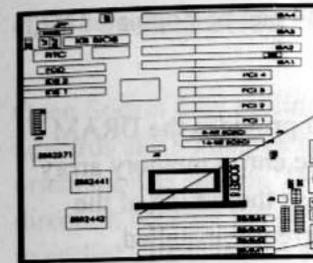
1. Turn power off.
2. Short jumper JP1.
3. Turn power on.
4. Enter the BIOS setup to re-setup the BIOS.
5. Reboot the system.

Note: Some CMOS RAMs require a different procedure:

1. Short jumper JP1.
2. Turn on system
3. Turn off the system
4. Remove JP1 jumper.
5. Turn on power again.
6. Reset BIOS.

System Memory Installation: SIMM1-SIMM4

The system board provides four 72-pin SIMM sockets which are numbered from SIMM1 to SIMM4. The system board supports memory sizes from 8MB to 128MB using 4MB, 8MB, 16MB, 32MB, 64MB, DRAM modules. It supports both Fast Page Mode (FP), Extended Data Output Mode (EDO), and Burst Extended Data Output Mode (BEDO), with symmetric or asymmetric row/column address.



DRAM Population Rules

In order to create a memory array, certain rules must be followed. The following set of rules allows for optimum configuration.

1. DRAM modules must be populated in pairs; the memory array is 64-or-72-bits wide. (64-bit modules are no parity.)
2. DRAM modules can be populated in any order (i.e. SIMM1/2 does not have to be populated before SIMM3/4 are used.)
3. DRAM module pairs need to be populated with the same densities...single or double. For example, SIMM1/2 sockets must be populated with identical densities. However SIMM3/4 sockets can be populated with different densities than SIMM socket pair 1/2. In addition, asymmetric DRAMs of the same type should be used in a whole row.
4. BEDO, EDO, FP modes can be mixed in the memory array. However only one type should be used per SIMM socket pair. For example: SIMM sockets 1 & 2 can be populated with EDO

while SIMM sockets 3 & 4 can be populated with FP mode type DRAM.

- The DRAM timing which provides the DRAM speed grade control for the entire memory array must be programmed to use the timing of the slowest DRAM that is currently installed.

Note: To use the ECC (Error Code Correct) function, a SIMM module with parity support must be used. At this time you can turn on the ECC function in the BIOS setup.

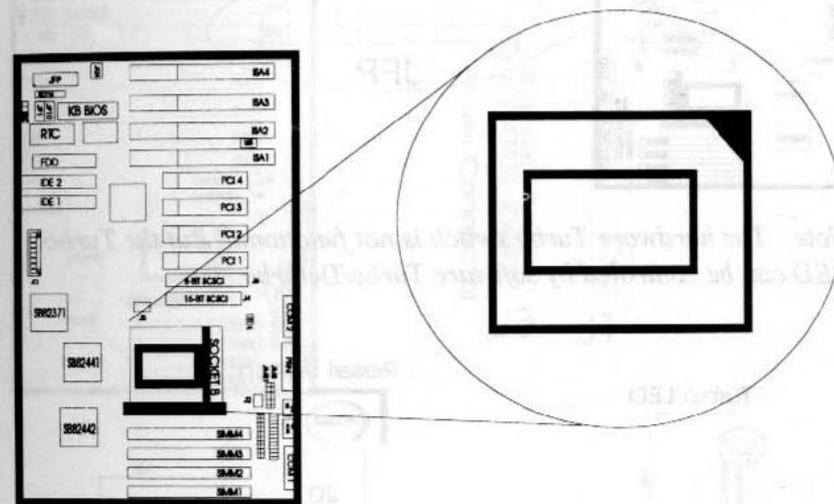
Note: Before using DRAM modules, make sure that the modules used is the same as in the above chart.

DRAM Memory Installation

- Check to see which side of the plastic safety tab is on the slot before installing.
- Line up the notch of the module against the slot.
- Press the module firmly into place at a 45 degree angle.
- Carefully press down on the top edge of the module to set it in the SIMM slot.
- The plastic guides should go through the two holes on the sides and the metal clips should snap on the other side. If it doesn't slide in easily, take it out and try again.
- To release module, squeeze both metal clips outwards and rock the module out of the metal clips.

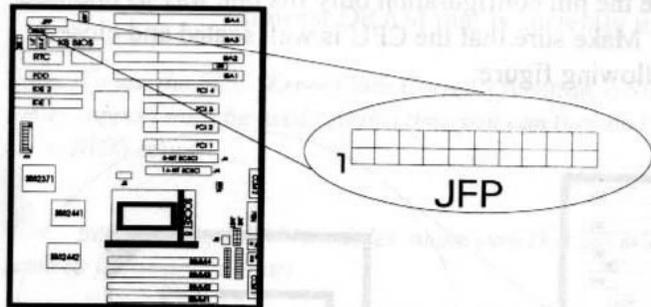
CPU Installation

Open Socket 8 by pulling the lever away from the socket then upwards at a 90 degree right angle. Insert the CPU according to the orientation as shown. IF it does not fall in easily then try a different direction because the pin configuration only fits one way as opposed to earlier CPUs. Make sure that the CPU is well seated and close to the lever. See following figure:

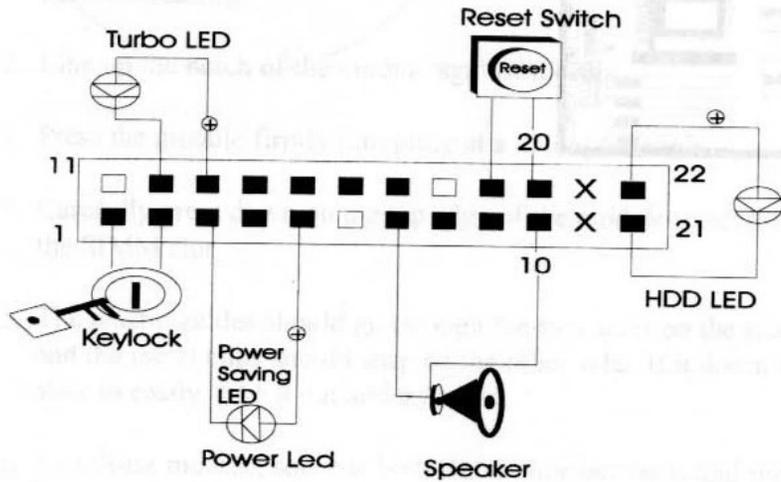


Case Block Connector : JFP

The Turbo LED, Hardware Reset, Key lock, Power LED, Power Saving LED, Speaker, and HDD LED all connect to the JFP connector block as below.

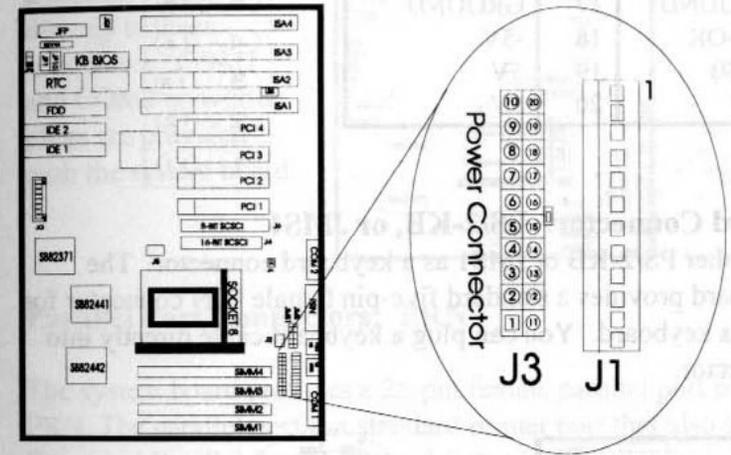


Note : The hardware Turbo switch is not functional. But the Turbo LED can be controlled by software Turbo/DeTurbo.



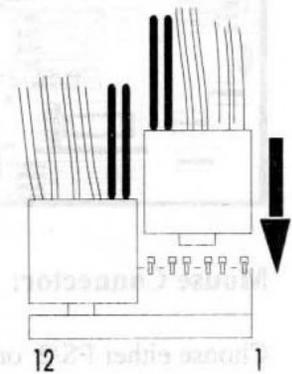
Power Supply Connector

The power supply connector is a twelve-pin PS/2 type male connector (J1) or a 2X10-pin ATX connector (J3). Dual connectors from the power supply can fit in only one direction. Make sure to attach the connector with the two black wires at the center as shown in the diagram below.



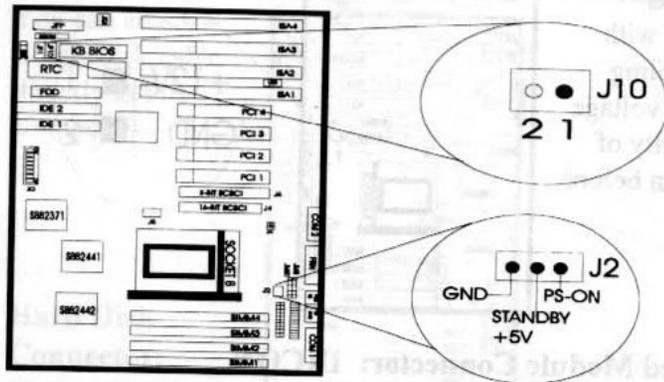
12-pin Connector Pin Description

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



PS/2 Style Switch with Voltage Connector: J2

When using a PS/2 style switch with a standby +5V cable power switch, connect the +5V cable to J2.



Remote On/Off: J10

The 2-pin connector must utilize a toggle switch (one push on/second push off). To use this function an ATX or PS/2 with a stand by +5V cable switch power is needed.

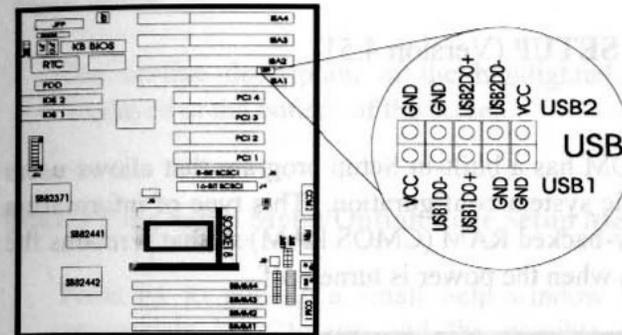
Remote ON/OFF and Soft Power Support

When connected to a momentary SPST switch, this 2-pin header is used to power up the system. When used with a power supply that supports remote power on/off the system board can be turned off by three different methods: The front panel "Remote On/Off" switch, a thermal trip signal from the Pentium PRO™, or a soft signal from the Super I/O controller.

In "Soft Off," an APM command issued to the system BIOS will cause the power supply to turn off via the "PS ON" control signal on the power connector. For example Window™ 95 will issue this APM command when the user clicks on the Shutdown icon. Power can be restored via a front panel power button connected to the front panel header.

USB Connector : USB

This 10-pin connector connects USB cable to support USB device.



SCSI Hard Disk Connector: J4 & J6 (optional)

J4 is a 68-pin 16-bit SCSI Hard Disk Connector. J6 is a 50-pin 8-bit SCSI Hard Disk Connector. The SCSI controller interrupt signal is shared with the PCI 4 slot. If you wish to install a PCI card in the PCI 4 slot, you must install the SCSI driver before installing any other drivers.

