

System Board Specifications

CPU:

- Supports Intel P54C - 75 MHz / 90 MHz / 100 MHz

Cache memory:

- Supports 256K, 512K, or 1M cache memory

Main memory:

- Supports four memory banks using six 72-pin SIMM modules with 1M, 2M, 4M, 8M, 16M, 32M, and 64M DRAM.
- Up to 128 Mbytes on-board memory

Slots:

- Three 32-bit PCI Bus slots and four 16-bit ISA bus slots in maximum combinations of:
 - Four 16-bit ISA and two PCI, or
 - Three 16-bit ISA and three PCI
- Supports three Master/Slave PCI bus slots

On-Board Peripherals:

- AT keyboard, or PS/2 keyboard and mouse
- On-board peripherals include two serial port, one parallel port, FDC controller, and PCI IDE controller

Battery:

- 3.6V/480 mA Li battery or 3/V 60H NiMH rechargeable battery

Dimensions:

- Standard Baby-AT size, 33 x 22 cm x 4 layer PCB

Mounting:

- 9 mounting holes

System Board Layout

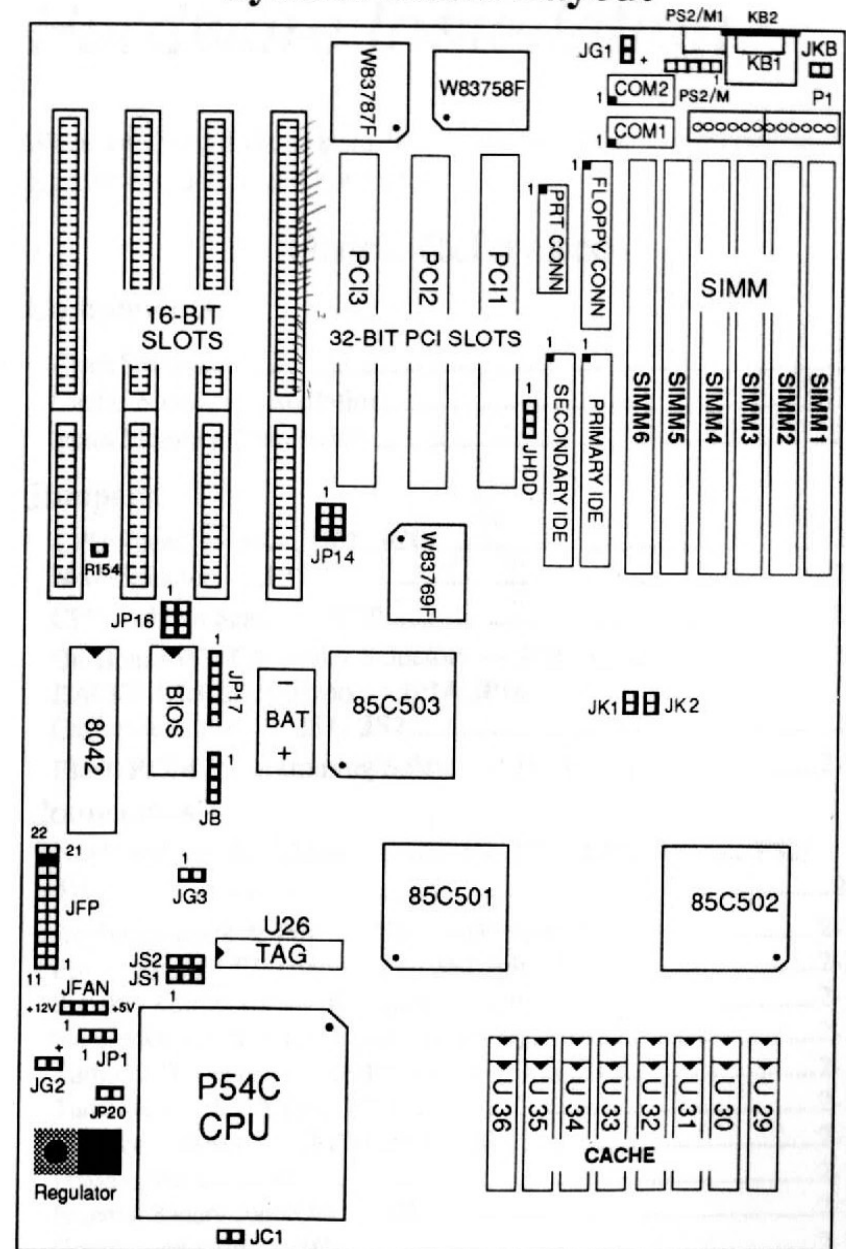


Figure 1-1. System board Layout

Clock Selection: JK1, JK2, JC1

Set jumper JK1, JK2, JC1 according to the P54C-75 MHz, 90 MHz, 100 MHz or 120 MHz. See Figure 1-1 for the jumper's location.

JK1, JK2, JC1 Settings

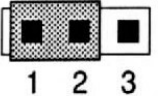
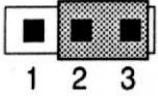
CPU Internal Clock	JK1	JK2 (External Clock)	JC1	(Int/Ext Ratio)
75 MHz	O	O	(50 MHz)	O (1.5)
90 MHz	O	S	(60 MHz)	O (1.5)
100 MHz	S	S	(66 MHz)	O (1.5)
100 MHz	O	O	(50 MHz)	S (2)
120 MHz	O	S	(60 MHz)	S (2)

O: OPEN
S: SHORT

NA# Selector: JP1

Jumper JP1 Enables/Disables NA#. See Figure 1-1 for the location of the jumper.

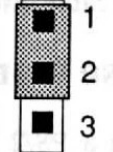
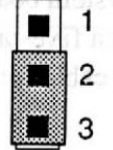
JP1 Settings

Description	JP1
Disable NA# (Default)	
Enable NA#	

On-Board PCI IDE Controller Enable/Disable: JHDD

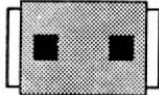

Jumper JHDD enables/disables the on-board PCI IDE Controller. See Figure 1-1 for the location of the jumper.

JHDD Settings

Setting	JHDD
Enable on-board PCI IDE Controller	
Disable on-board PCI IDE Controller	

CPU Voltage Selector: JP20

Jumper JP20 select 3.4/3.5 Volt power source for P54C. See Figure 1-1 for the location of the jumper.

CPU Voltage	JP20
3.4 V	
3.5 V	

Keyboard Connector: KB1

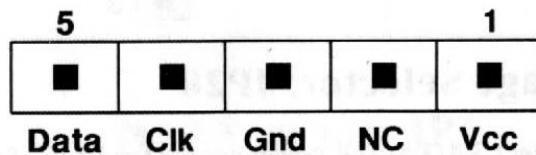
The system board provides a standard five-pin female DIN connector, KB1, for attaching a keyboard. You can plug a keyboard cable directly into this connector. See Figure 1-1 for connector location.

PS/2 Keyboard Connector: KB2

KB2 is a standard six-pin female mini-DIN connector. You can plug a PS/2 keyboard cable directly into this connector.

PS/2 Mouse Connector: PS2/M, PS2/M1

You can attach a PS/2 Mouse with six-pin mini-DIN connector directly to the system board with this connector - PS2/M1. Alternatively, PS2/M is a five-pin male PIN connector. It connects with an extended Mouse cable for PIN to mini-DIN connector.



Note: If PS/2 Mouse is used, the resistor R154 should be mounted on the system board to assign IRQ12 to PS/2 Mouse. Otherwise, the Interrupt Request IRQ12 will be available for other adaptors.

DAck# and DREQ Selectors: JP14, JP16

When the on-board printer port is set to ECP, you should also set the DMA channel used by the ECP. The system board provides DREQ 0, 1, 3, and DACK#0, #1, #3 for you to set. You must set the DREQ and DACK# channels the same way. See Figure 1-1 for the location of the jumpers.

Settings	JP14	JP16
DACK#0/ DREQ0	#0 #1 #3	#0 #1 #3
DACK#1/ DREQ1	#0 #1 #3	#0 #1 #3
DACK#3/ DREQ3	#0 #1 #3	#0 #1 #3


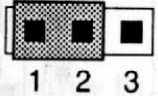
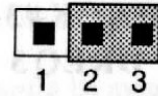
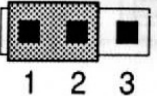
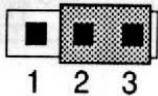
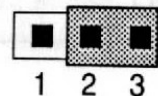
Cache Selection: JS1, JS2

The system board supports 256K, 512K or 1M of cache memory. You configure cache memory by installing 32K8, 64K8, or 128K8 SRAM chips in Data RAM sockets U29~U36, and a 8K8, 16K8, or 32K8 SRAM chip in Tag socket U26. You then setting jumpers JS1 and JS2 as below. Note that the speed required for SRAM chips is 15ns.

Cache Size and Memory Locations

Cache Size	Tag RAM (U26)	Data RAM (U29~U36)
256K	8K8	32K8
512K	16K8	64K8
1M	32K8	128K8

JS1, JS2: Cache Size Settings

Cache Size	256K	512K	1M
JS2	 1 2 3	 1 2 3	 1 2 3
JS1	 1 2 3	 1 2 3	 1 2 3

Note: All SRAM used on the system board are special SRAM that utilize 5 volts for power input. However, all other I/O pins are 3.3 volts level for access interface. Suitable SRAM include:

WINBOND W24M257AK-15
 WINBOND W24M512AK-15
 WINBOND W24M1024AK-15.

Memory Bank Configuration

The system board supports four memory banks and provides six 72-pin Single In-line Memory Module (SIMM) sockets on-board, numbered SIMM1~SIMM6. Each socket accepts single density (S) or double density (D) SIMM in the following sizes: 1M (S), 2M (D), 4M (S), 8M (D), 16M (S), 32M (D), or 64M (S)..

Note: Each time you add memory you must add two SIMM.

Total	SIMM6 / SIMM5	SIMM4 / SIMM3	SIMM2 / SIMM1
2M	1MB-S x 2	—	—
4M	1MB-S x 2	1MB-S x 2	—
8M	1MB-S x 2	1MB-S x 2	2MB-D x 2
12M	1MB-S x 2	1MB-S x 2	4MB-S x 2
20M	1MB-S x 2	1MB-S x 2	8MB-D x 2
36M	1MB-S x 2	1MB-S x 2	16MB-S x 2
4M	2MB-D x 2	—	—
8M	2MB-D x 2	—	2MB-D x 2
12M	2MB-D x 2	—	4MB-S x 2
20M	2MB-D x 2	—	8MB-D x 2
36M	2MB-D x 2	—	16MB-S x 2
8M	4MB-S x 2	—	—
16M	4MB-S x 2	4MB-S x 2	—
40M	4MB-S x 2	16MB-S x 2	—
24M	4MB-S x 2	4MB-S x 2	4MB-S x 2
32M	4MB-S x 2	4MB-S x 2	8MB-D x 2
48M	4MB-S x 2	4MB-S x 2	16MB-S x 2

(table continued)

Total	SIMM6 / SIMM5	SIMM4 / SIMM3	SIMM2 / SIMM1
80M	4MB-S x 2	4MB-S x 2	32MB-D x 2
72M	4MB-S x 2	16MB-S x 2	16MB-S x 2
16M	8MB-D x 2	—	—
24M	8MB-D x 2	—	4MB-S x 2
32M	8MB-D x 2	—	8MB-D x 2
48M	8MB-D x 2	—	16MB-S x 2
80M	8MB-D x 2	—	32MB-D x 2
32M	16MB-S x 2	—	—
64M	16MB-S x 2	16MB-S x 2	—
96M	16MB-S x 2	16MB-S x 2	16MB-S x 2
128M	16MB-S x 2	16MB-S x 2	32MB-D x 2
64M	32MB-D x 2	—	—
96M	32MB-D x 2	—	16MB-S x 2
128M	32MB-D x 2	—	32MB-D x 2
128M	64MB-S x 2	—	—

Case Connector Block: JFP

The Turbo LED, Turbo Switch, Hardware Reset, Keylock, Power LED, Power Saving LED, Sleep Switch, Speaker and HDD LED all connect to the JFP Connector Block as shown below. See Figure 1-1 for JFP's location.

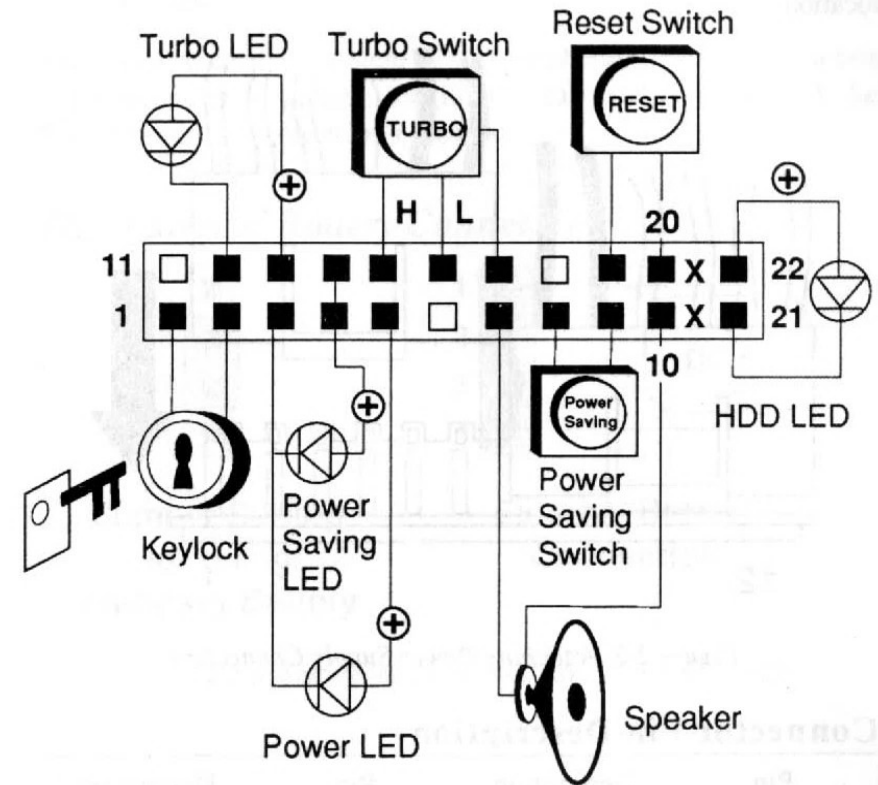


Figure 2-1. Case Connector Block - JFP

Power Supply Connector: P1

The power supply connector is a twelve-pin male connector. Dual connectors from the power supply can fit in only one direction. Make sure to attach the connectors with the two black wires at the center, as show in the diagram below. See Figure 1-1 for the connector's location.

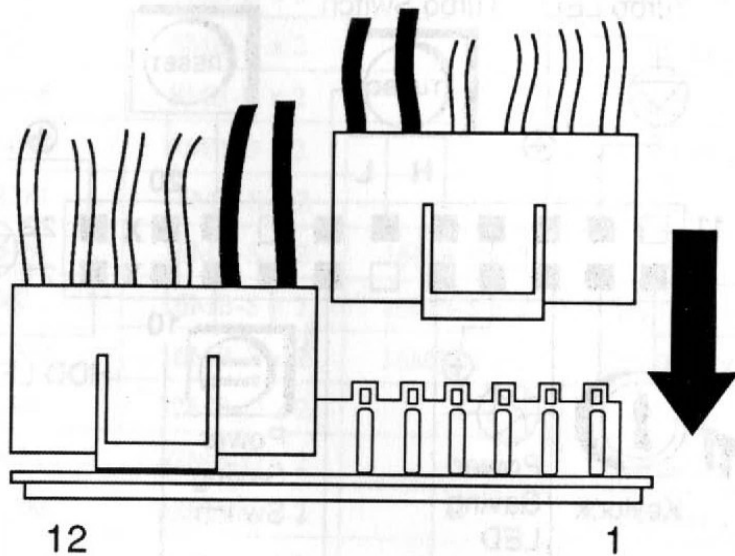


Figure 2-2. Attaching Power Supply Connectors

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

External Battery Connector: JB

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 2-3 of JB. For an external battery, the battery's cable connector attaches to pins 1 and 4 of JB.

You can also clear the system CMOS by shorting pins 3-4 for a brief moment and then placing the jumper cap back on pins 2-3. See Figure 1-1 for the connector's location.

JB: External Battery Connector

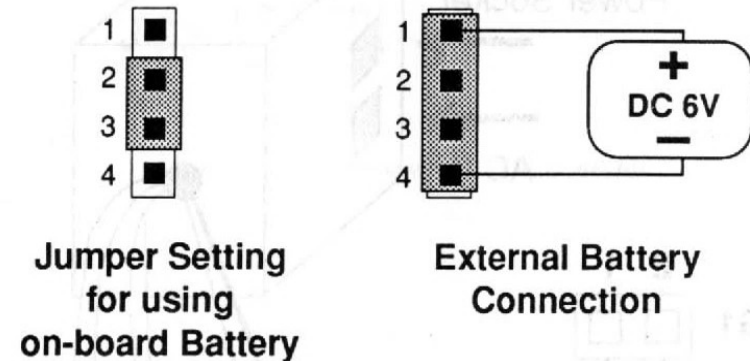


Figure 2-3. Setting the External Battery Connector - JB

Monitor Power Control Connector: JG1

Connect the monitor's power control connector from the power supply to connector JG1. If the system does not detect any activity, the system goes into sleep mode and turns off the monitor's AC power.

Note 1: The Power Management Mode should be enabled to use this function.

Note 2: Some power supplies do not support this function.

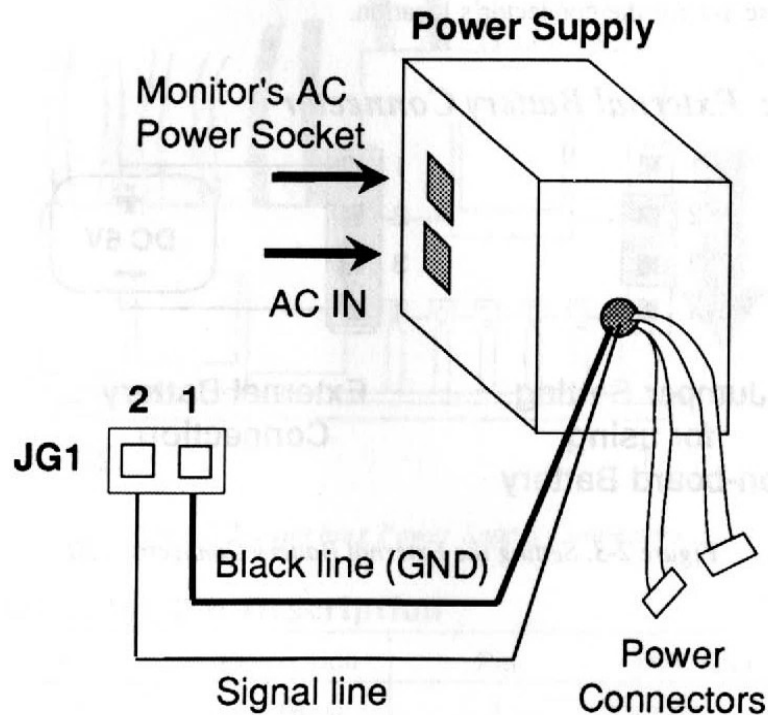


Figure 2-4. Monitor Power Control Connector

Power Saving LED Connector: JG2

Attach an LED to this connector. When the system is not in power saving mode, this LED is off. When the system goes into power saving mode, this LED will blink.

Note: You should enable the Power Management Mode to use this function.

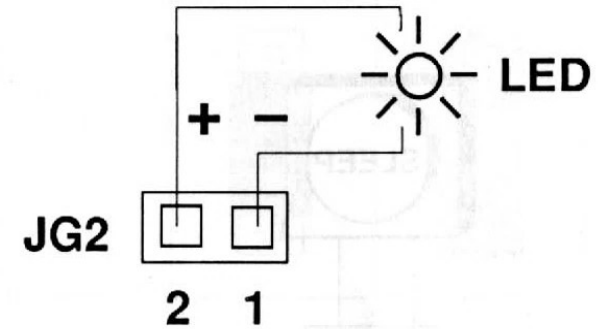


Figure 2-5. Power Saving LED Connector

Power Saving Switch Connector: JG3

Attach a power saving switch to this connector. When the switch is pressed, the system goes immediately into suspend mode. Press any key and the system wakes up.

Note: You should enable the Power Management Mode to use this function.

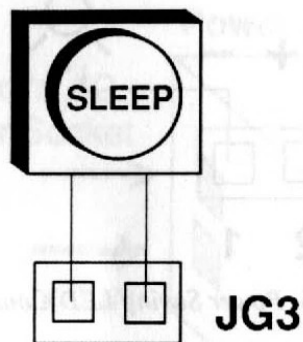
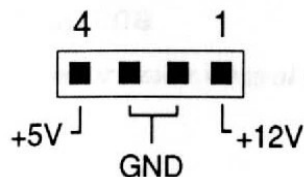


Figure 2-6. Power Saving Switch Connector

CPU Fan Connector: JFAN

This 4-pin connector connects a power source of either +12V or +5V, with your CPU's cooling fan. Check the voltage range and polarity of your cooling fan before you connect it.



Flash ROM Programming Selection JP17

The system board supports three types of BIOS ROM -- EPROM, 5V Flash ROM, 12V Flash ROM. If Flash Memory is used, a utility program will be provided for future BIOS update by yourself.

BIOS	EPROM	FLASH
JP17		

Execute the Flash ROM programming file -- AMIFLASH.EXE and enter the new BIOS file name. When programming is completed the system will auto-reset with the new BIOS.

Note: The BIOS version should be A772 or new, then you can use Flash ROM.