

System Board Specifications

CPU	Supports Intel P54C - 75 MHz/90 MHz/100 MHz/120 MHz/133 MHz
Cache Memory	Supports 256K, 512K, or 1M cache memory
Main Memory	Supports four memory banks using four 72-pin SIMM modules with 4M, 8M, 16M, 32M, 64M. Up to 256 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 three PCI slots 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	3V on-board Lithium battery
Dimensions	26 x 22 cm x 4 layer PCB
Mounting	7 mounting holes

System Board Layout

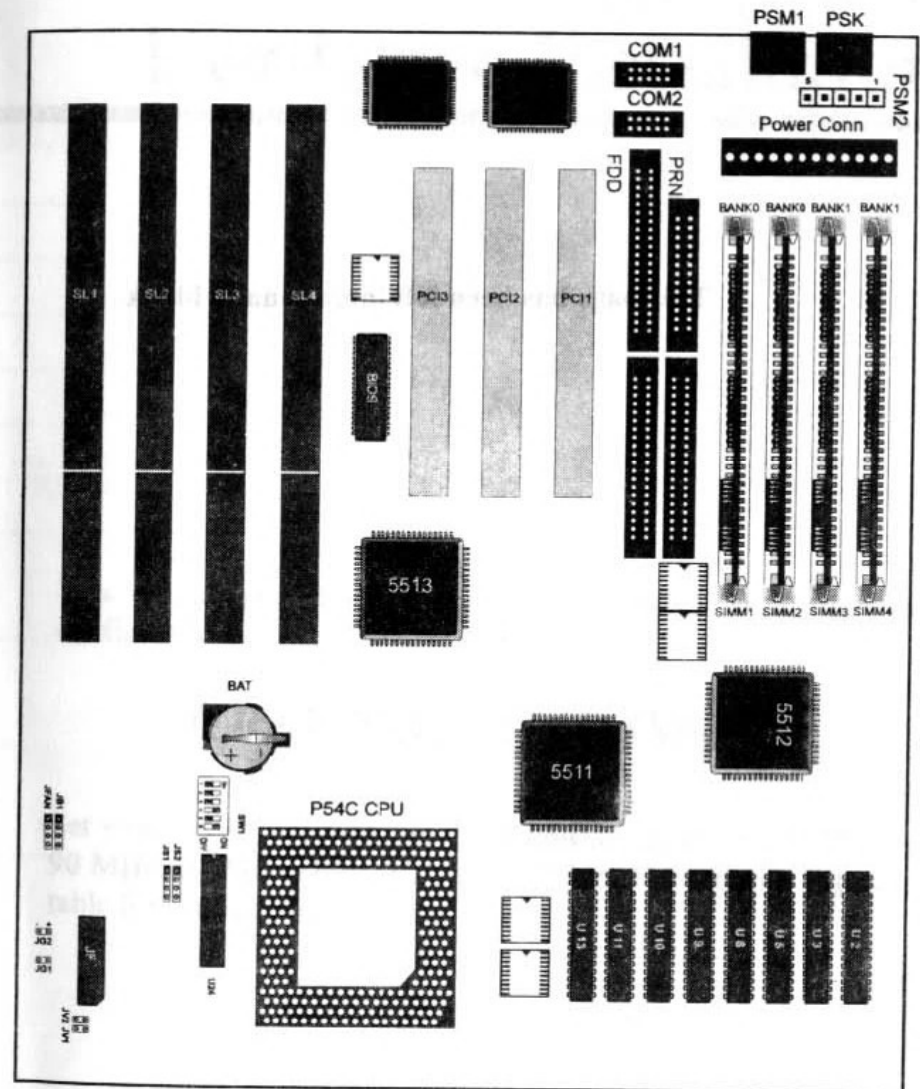


Figure 1-1: System Board Layout.

SW1 setting

CPU Internal Clock	SW1	SW1
	I 2 3 (Int/Ext Ratio)	4 5 6 (External Clock)
75 MHz	O O O (1.5)	O O S (50MHz)
90 MHz	O O O (1.5)	S O S (60MHz)
100 MHz	O O O (1.5)	S S S (66MHz)
120 MHz	O S O (2)	S O S (60MHz)
133 MHz	O S O (2)	S S S (66MHz)
150 MHz	O S S (2.5)	S O S (60MHz)
166 MHz	O S S (2.5)	S S S (66MHz)
XXXMHz (see note 2)	O O S (3)	X X X
80 MHz (see note 1)	S S O (2)	O S O (40MHz)
120 MHz (see note 1)	S O O (3)	O S O (40MHz)

O ⇒ Open = off

S ⇒ Short = on

Note! 

1. The two settings are reserved for future M1 CPUs.

2. Internal Clock = (Int/Ext Ratio) * External Clock

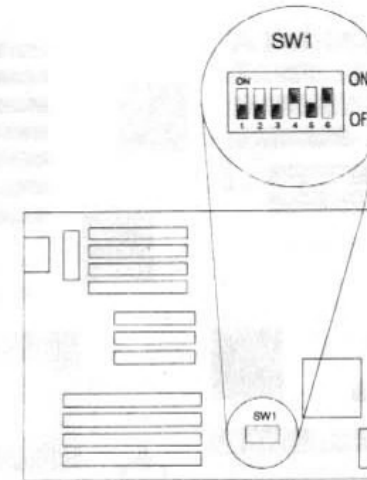


Figure 2-1 : SW1 Settings.

CPU Voltage Selector: JV1, JV2

For jumpers JV1 and JV2 select either a 3.38 or 3.52 volt power source for the P54C.

CPU Voltage	JV1	JV2
3.38V	S	S
3.52V	O	S

O ⇒ Open

S ⇒ Short

SW1 setting

CPU Internal Clock	SW1			SW1				
	1 2 3			4 5 6				
	(Int/Ext Ratio)			(External Clock)				
75 MHz	O	O	O	(1.5)	O	O	S	(50MHz)
90 MHz	O	O	O	(1.5)	S	O	S	(60MHz)
100 MHz	O	O	O	(1.5)	S	S	S	(66MHz)
120 MHz	O	S	O	(2)	S	O	S	(60MHz)
133 MHz	O	S	O	(2)	S	S	S	(66MHz)
150 MHz	O	S	S	(2.5)	S	O	S	(60MHz)
166 MHz	O	S	S	(2.5)	S	S	S	(66MHz)
XXXMHz (see note 2)	O	O	S	(3)	X	X	X	
80 MHz (see note 1)	S	S	O	(2)	O	S	O	(40MHz)
120 MHz (see note 1)	S	O	O	(3)	O	S	O	(40MHz)

O ⇒ Open = off

S ⇒ Short = on

Note!

1. The two settings are reserved for future M1 CPUs.

2. Internal Clock = (Int/Ext Ratio) * External Clock

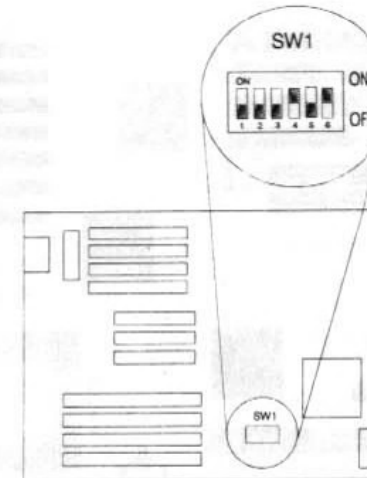


Figure 2-1 : SW1 Settings.

CPU Voltage Selector: JV1, JV2

For jumpers JV1 and JV2 select either a 3.38 or 3.52 volt power source for the P54C.

CPU Voltage	JV1	JV2
3.38V	S	S
3.52V	O	S

O ⇒ Open

S ⇒ Short

JS1, JS2: Cache Size Settings

Cache Size	256K	512K (128AK)	512K (129AK)	1M
JS1				
JS2				

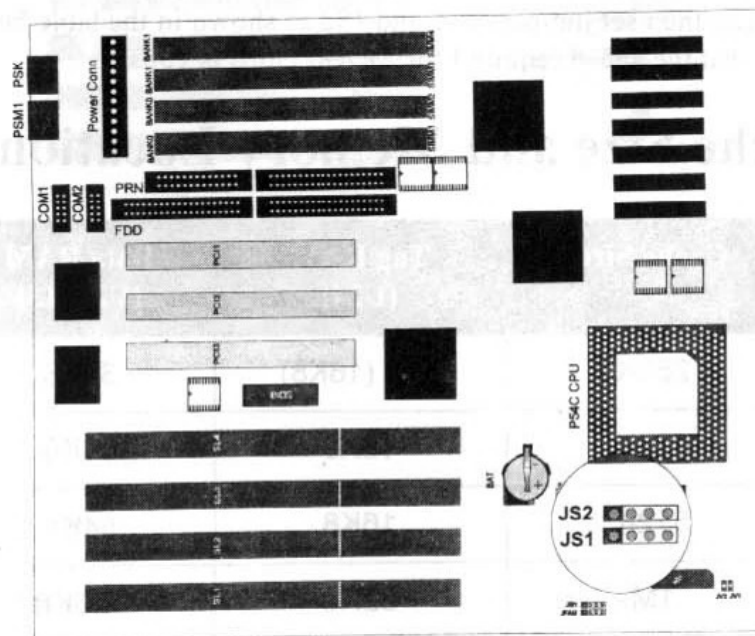


Figure 2-3: JS1 and JS2 Cache Size Settings.

Note!

1. Tag RAM (U24) uses 128AK.
2. Tag RAM (U24) uses 129AK.

Note!

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

Suitable SRAM include:

1. WINBOND W24M257AK-15 (32K8 mixed mode)
2. WINBOND W24M512AK-15 (64K8 mixed mode)
3. WINBOND W24M1024AK-15(128K8 mixed mode)

Tag RAM used below:

1. WINBOND W24128AK-15 (16K8)
2. WINBOND W24129AK-15 (16K8)
3. Aster AE88128AK-15 (16K8)
4. WINBOND W24257AK-15 (32K8)
5. WINBOND W24M257AK-15 (32K8)

Memory Bank Configuration

The system board supports four memory banks and provides four PIN, single in-line on-board memory module (SIMM) sockets, numbered ESIMM1 — ESIMM4.

Each socket accepts single density or double density (D)SIMM in the following sizes: 4M(S), 8M(D), 8M(S), 16M(S), 32M(D), 64M(S).

You can use one piece of single-side or double-side 72 PIN SIMM (32 bits DRAM) in ESIMM1.

(128M x 2) + ESIMM3/4(128Mx2)

See table below for allowable SIMM type configurations.

ESIMM1	ESIMM2	ESIMM3	ESIMM4
(S) or (D) type	—	—	—
(S) type	(S) type	—	—
(D) type	(D) type	—	—
(S) type	(S) type	(S) type	(S) type
(S) type	(S) type	(D) type	(D) type
(D) type	(D) type	(S) type	(S) type
(D) type	(D) type	(D) type	(D) type
—	—	(S) type	(S) type
—	—	(D) type	(D) type

Note!

You must install two of the same type of EDO or FP in the SIMM sockets ESIMM1/ESIMM2 or ESIMM3/ESIMM4 when you mix the EDO and fast page DRAM. For example:

ESIMM1	ESIMM2	ESIMM3	ESIMM4
EDO	EDO	FP	FP
FP	FP	EDO	EDO

Keyboard Connector ATK

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

PS/2 keyboard connector: PSK

PSK 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: PSM1, PSM2

You can attach a PS/2 mouse with a six-pin mini-DIN connector directly to the system board with this connector - PSM1. Alternatively, PSM2 is a five-pin male PIN connector. It connects with an extended Mouse cable for PIN to mini-DIN connections.



Note!

If a PS/2 mouse is used, the Jumper JP5 should be shorted on the system board to assign IRQ12 to the PS/2 mouse. Otherwise, the Interrupt Request IRQ12 will be available for other adapters.

Case Connector Block: JF

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

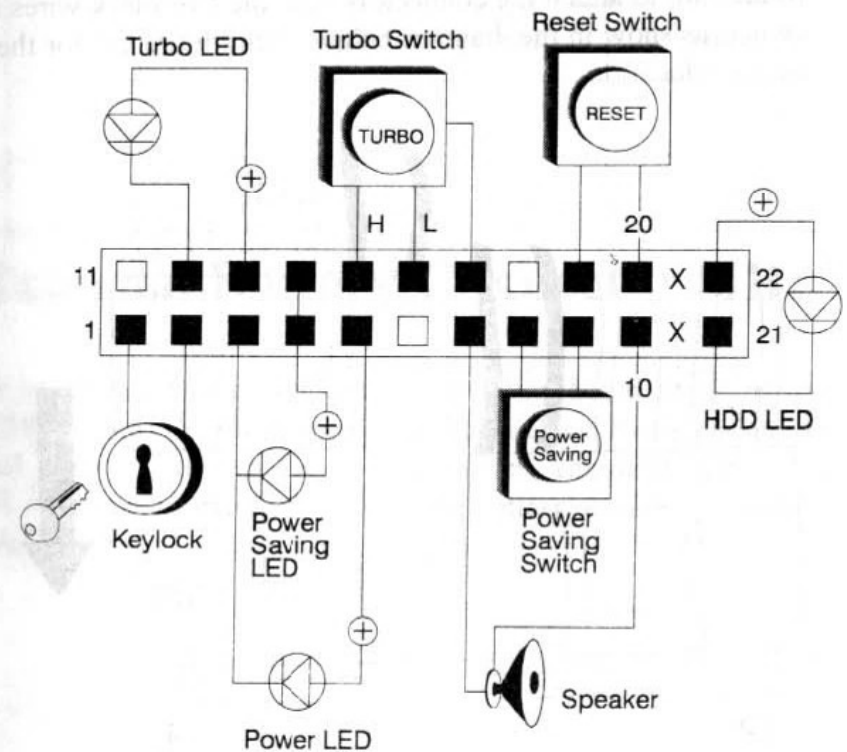


Figure 2-4: Case Connector Block - JF.

Power Supply Connector: J 1

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.

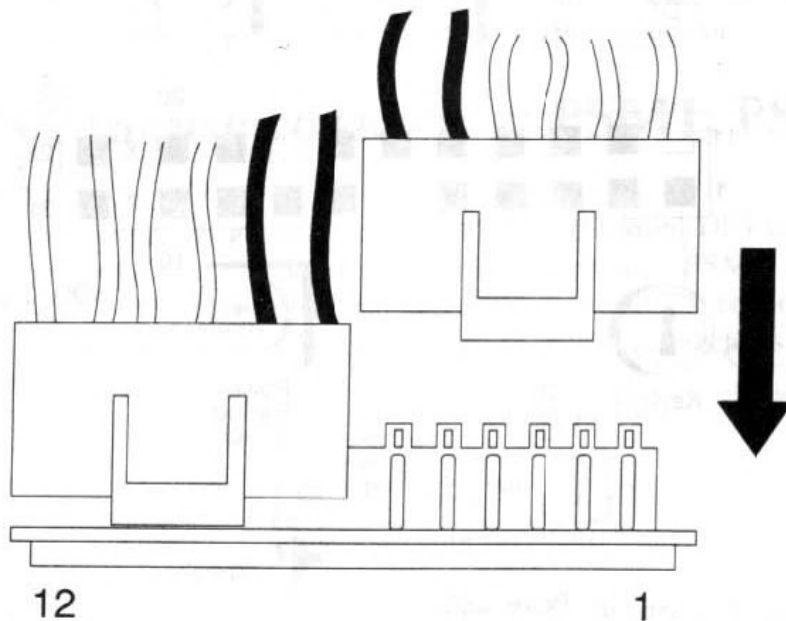


Figure 2-5: Attaching Power Supply Connectors.

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

External Battery Connector: JB1

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 JB1. For an external battery, the battery's cable connector attaches to pins 1 and 4 of JB1.

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.

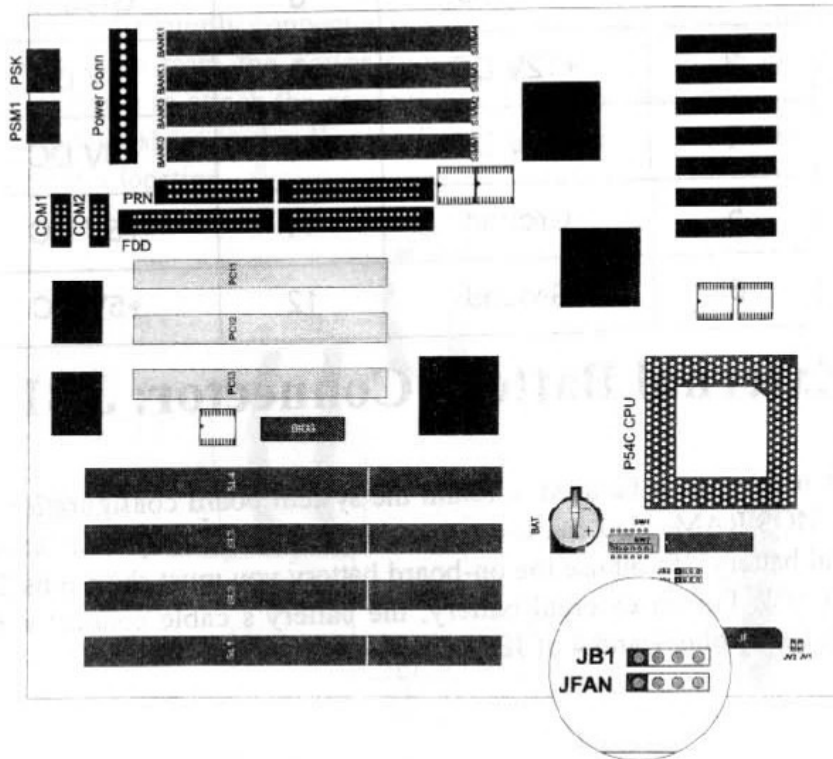


Figure 2-6: Setting the External Battery Connector - JB1.

CPU Fan Connector: JFAN

This 4-pin connector connects a power source of +12V to your CPU's cooling fan. Please refer to *Figure 2-6*. Check the voltage range and polarity of your cooling fan before you connect it.

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 lights.

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

Power Saving Switch Connector: JG1

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

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