

# Motherboard Manual

**P57SAX  
P5ST-A  
P57IAA**

**Advanced  
Technical  
Reference**

Revision 1.0



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### This Manual

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# **MOTHERBOARD MANUAL**

This section contains information about the motherboard that is fitted inside your PC. It is intended as a technical reference guide only and you will not normally need to refer to it.

Please note that not all of the connectors, jumpers and settings that are present on the motherboard or in the BIOS are described. This manual only covers those items that a user may need to refer to for the most common upgrades and additions. If you require further details on an item you should contact our Technical Support department for more in-depth information.

Circumstances under which you may need this guide are:

- ★ Upgrading or adding new hardware such as more RAM or a new CPU.
- ★ Enabling or disabling the integrated hardware on the motherboard (such as sound or video)
- ★ Making changes to the BIOS settings, such as date and time.

## **WARNING**

**Your PC is pre-set at the factory for optimum performance and it is very important that you do not make any changes to any of the motherboard settings unless you are an experienced computer user and are aware of the consequences of the changes, or unless you are being instructed by our Technical Support staff.**

**Incorrect setting of motherboard switches and jumpers may prevent your PC from working correctly or even cause damage to the system.**

## **IDENTIFYING YOUR MOTHERBOARD.**

The motherboard inside your computer will be one of three possible types, identified by the product code:

If you have the ATI Rage II 3D integrated graphics controller, your motherboard will be the P57IAA. If you have the SiS 5598 integrated video controller, the motherboard will be either the P57SAX or the P5ST-A.

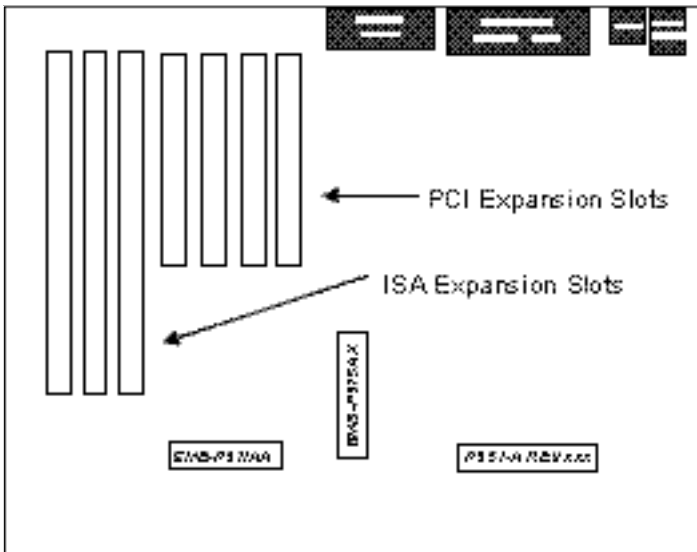
Whilst all three boards are similar in terms of layout, there are certain physical differences relating to the positions of the cable connectors and the jumper blocks. Before making any changes to jumpers or cable connections, you should first ascertain which make of motherboard your computer contains.

If you are unsure of the type of graphics controller your PC has, look in the Display Adapters section of the Windows 95 Device Manager (accessed via the System Icon in the Control Panel window).

Consult your User Guide for instructions on removing the cover of your PC. Carefully observe the outlined safety precautions.

When you have removed the cover of the PC look at the motherboard inside. There is an easy way to check which type of motherboard you have:

The product code will be written on the motherboard. Refer to the diagram below for the location of this code number for each particular board:



**Fig. 1 Motherboard identification**

# **P57SAX**

The motherboard is a full ATX form factor high performance all in one motherboard. It is developed around the Pentium microprocessor with 64 bit access to data transfer and MMX technology. It includes the SiS 5598 PCI/ISA System Chipset with Graphics/Video accelerator function built-in, Winbond W83877F super I/O chip and ESS 1869 Sound System.

## **1.0 SPECIFICATIONS**

### **Processor**

- Intel Pentium/MMX, Cyrix 6x86/6x86L/6x86MX and AMD K5/K6 CPU.
- The motherboard can support the following CPU speeds:  
90, 100, 110, 120, 133, 150, 166, 200, 233 and 266 MHz

### **Chipset**

- SiS 5598 PCI, Memory and VGA Controller
- Winbond W83877F Super I/O Controller
- ESS 1869 Audio-Drive Sound Controller

### **Cache Size**

- Built in 512KB Synchronised Pipelined Burst Mode SRAM.

### **Main Memory**

- Supports Mixed Memory Technologies: Extended Data Output (EDO), Standard Page Mode (SPM), Fast Page Mode (FPM) and Synchronous DRAM (SDRAM) can be used together.
- Memory configurations from 8MB to 384MB are possible using combinations of 1M\*32 to 8\*32 SIMM modules (32 bit no-parity 72-pin SIMM module) and 2M\*32 to 8M\*32 SDRAM DIMM modules.
- DIMM sockets for SDRAM (3.3V unbuffered).

### **Graphics Controller**

- Built-in enhanced 64-bit BITBLT graphics engine with VGA feature connector on board.

### **Multi I/O**

- On board Multi-I/O supports two serial, one parallel ports and floppy drive controller.
- Serial ports are 16550 Fast UART compatible.
- Parallel port has EPP and ECP capabilities.

- PS/2 keyboard and PS/2 mouse connectors are provided.
- IrDA or Fast IR is provided.
- Two standard USB connectors are provided.

### **PCI IDE**

- On board supports PCI Master IDE Controller, two connectors support up to four IDE devices such as HDD, CD ROM drive and Tape Back-up drives LS-120, etc.
- PCI Master IDE controller supports PIO Mode 3 and 4 devices, I/O data transfer rate can be up to 17Mb/s.
- Ultra DMA Mode supported. Transfer rate can be up to 33MB/s.

### **Sound Controller**

- Compatible with all major PC sound standards, including Sound Blaster™ Pro, MPU-401 and Windows Sound System™.
- Plug-and-Play support for Audio, Joystick, FM Controller, MPU-401.
- Wave Audio support sample rates from 4KHz to 44KHz.
- Full-duplex monophonic mode, half-duplex stereo mode.
- 3D stereo sound effect supported.
- Optional wavetable connector is provided.

### **System BIOS**

- Award BIOS (128/256KB Flash EPROM).

### **Slots**

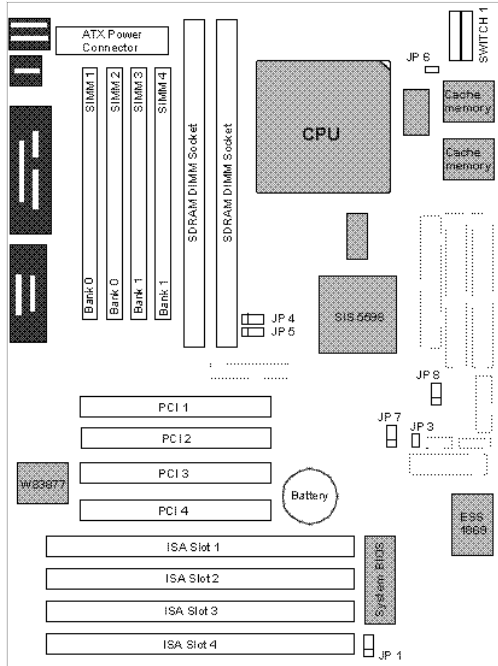
- Four PCI slots
- Four ISA slots

### **Environmental Limits**

	<i>Operating</i>	<i>Non-operating</i>
Temperature	0 to 50 degrees celsius	-10 to 65 degrees celsius
Relative Humidity (without condensation)	8 to 85%	5 to 95%
Altitude	10,000 ft	40,000 ft
Vibration	1,000Hz	
Electricity	4.75 ~ 5.25V	



# 1.1 LOCATION OF JUMPERS



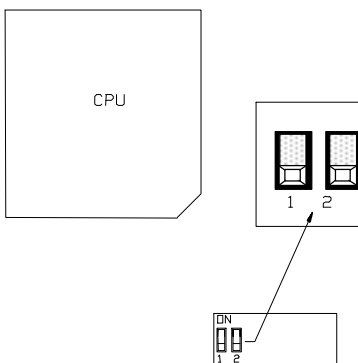
**Fig. 1 Jumper Locations on the motherboard**

## 1.2 CPU VOLTAGE

### 1.2.1 CPU VOLTAGE AUTO SELECTION

CPU voltage auto detection can be set on this motherboard. Set the SW1-1 and 2 at OFF position to enable auto detection.

**Note:** SW1-1,2 should be set at OFF and BIOS “CPU core voltage” set as Auto.



**Fig. 2 CPU Voltage**

### 1.2.2 CPU VOLTAGE BIOS SELECTION

If the CPU Voltage is to be selected through BIOS setup “CPU Core Voltage Selection”, it can be set from the following table:

2.8	Intel MMX (P55C); 6x86L
2.9	AMD K6/166,200; 6x86MX
3.2	AMD K6/233, 266
3.3	Intel Pentium
3.52	6x86; AMD K5

**Table 1**

### 1.2.3 SW1 - CPU VOLTAGE MANUAL SELECTION

The CPU Core Voltage can be selected by SW1-1, 2 when the BIOS “CPU Core Voltage” has been set as Disabled.

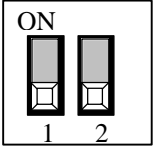
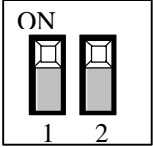
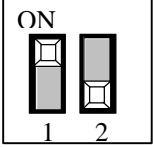
SW1	CPU Type
	Intel Pentium w/MMX (P55C); 6x86L, 6x86MX; AMD K6-233, 266
	6x86; AMD K5
	AMD K6-166, 200; Intel Pentium (P54C)

Table 2

### 1.3 SW1 - CPU SPEED

- For 90MHz Intel Pentium, AMD-K5-PR90 and AMD-K5-PR120 CPU

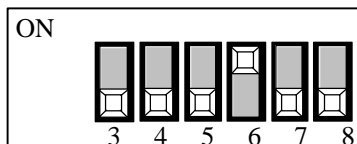
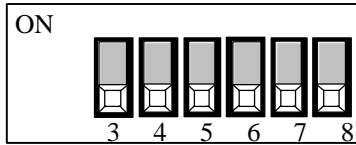


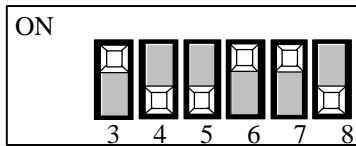
Fig 3a CPU Speed

- For 100MHz and 233MHz Intel Pentium; AMD-K6/233, AMD-K5-PR100 and AMD-K5-PR150 CPU



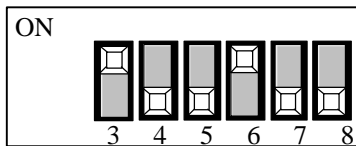
**Fig. 3b CPU Speed**

- For 110MHz Cyrix 6x86-P133+ CPU



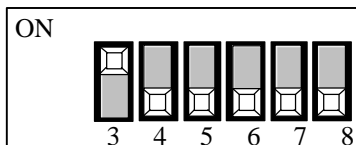
**Fig. 3c CPU Speed**

- For 120MHz Intel Pentium and Cyrix 6x86-P150+ CPU



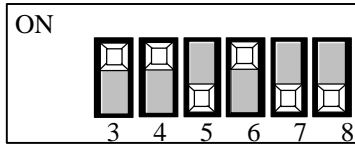
**Fig. 3d CPU Speed**

- For 133MHz Intel Pentium, AMD-K5-PR133 (REV C) and Cyrix 6x86L/MX-P166+ CPU



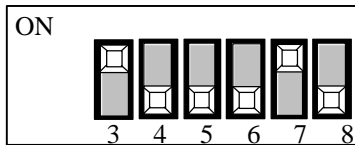
**Fig. 3e CPU Speed**

6. For 150MHz Intel Pentium CPU



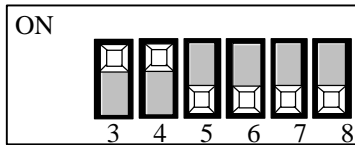
**Fig. 3f CPU Speed**

7. For 150MHz Cyrix 6x86L/MX-P200+ CPU (for future support only)



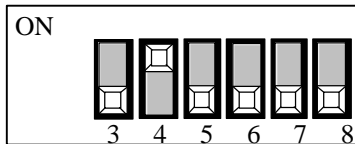
**Fig. 3g CPU Speed**

8. For 166MHz Intel Pentium, AMD-K6/166 and AMD-K5-PR166 CPU



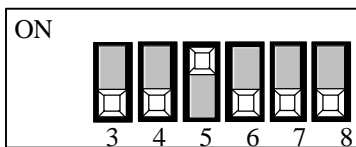
**Fig. 3h CPU Speed**

9. For 200MHz Intel Pentium and AMD-K6/200 CPU



**Fig. 3i CPU Speed**

10. For AMD-K6/266 CPU

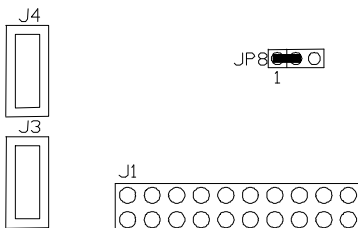


**Fig. 3j CPU Speed**

## 1.4 JP8 - CLEAR CMOS DATA

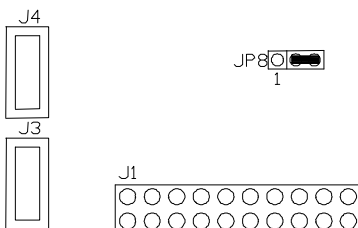
JP8 is used to clear the contents of the CMOS Data in the RTC

1. Normal Mode



**Fig. 4a**

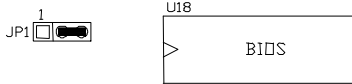
2. Reset Contents of RTC



**Fig. 4b**

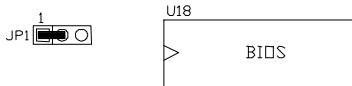
## 1.5 JP1 - SYSTEM ROM VOLTAGE SELECTION

1. 5V Flash EPROM on System ROM



**Fig. 5a**

2. 12V Flash EPROM on System ROM



**Fig. 5b**

## 1.6 JP3 - ONBOARD AUDIO SELECT

JP3 is used to set the onboard Audio as enabled or disabled.

JP3	Description
	Enable
	Disable

**Table 3 : Onboard Audio Select**

## 1.7 JP4, 5 - ONBOARD VGA SELECT



JP4 and JP5 is used to set the onboard VGA as enabled or disabled.

	Description
	Enable
	Disable

**Table 4 : Onboard VGA Select**

## 1.8 JP11 - RING IN JUMPER

JP11 is used to enable the ring-in power up feature. When the feature is enabled by opening JP11, the “Ring-in Power up Control” should be set as “Enabled” in the Integrated Peripherals section of BIOS Setup.

RING IN	JP11
Enable	
Disable	

**Table 5: Ring In Jumper**

## 1.9 RESERVED JUMPERS

JP6 is reserved for manual setting of Cyrix CPU linear burst. Default setting is OFF.

JP7 is reserved for CPU overheat alarm testing. Default setting is 2-3 closed.



## 1.10 MEMORY CONFIGURATION

The motherboard lets users upgrade the system memory via SIMM or DIMM sockets. On board memory is located in three banks: Bank 0, Bank 1 and Bank 2. Four SIMM sockets (SIMM1, SIMM2, SIMM3, SIMM4) are provided for SPM, FPM and EDO RAM SIMM and two DIMM sockets (DIMM1, DIMM2) are available for SDRAM DIMMs.

**Note:** *The type of SIMM1/SIMM2 must be the same.  
The type of SIMM3/SIMM4 must be the same.  
SIMM1/SIMM2 and DIMM1 cannot co-exist.*

Table 6 shows the typical memory configurations supported by the motherboard.

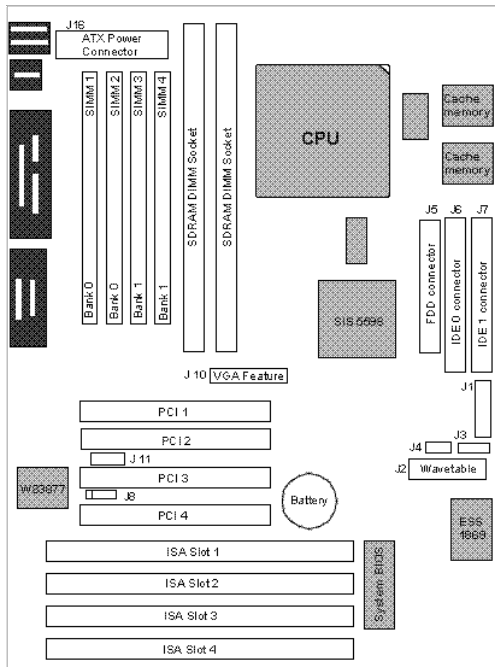
Bank 0 (SIMM1/2 or DIMM1)	Bank 1 (DIMM2)	Bank 2 (SIMM3/4)
Installed	None	None
Installed	Installed	None
Installed	None	Installed
Installed	Installed	Installed

**Table 6**

The memory size of SIMMs can be 4MB, 8MB, 16MB, 32MB or 64MB. The memory size of DIMMs can be 8MB, 16MB, 32MB, 64MB or 128MB.

## 1.11 CONNECTOR LOCATIONS

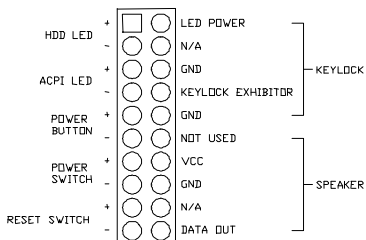
The motherboard connectors have varying numbers of pins and are the points of contact between the motherboard and other parts of the computer.



**Fig 6 Connector Locations**

## 1.12 J1 - MULTIPLE FUNCTION JUMPER

J1 is a front panel multi-function jumper including speaker, reset, keylock, harddisk LED, ATX power switch, ACPI (suspend) LED and power button (suspend switch). The pin definition is as the following figure.



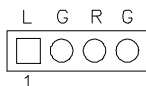
**Fig. 7 Multiple Function Jumper**

## 1.13 J2 - WAVETABLE EXPANSION CONNECTOR

J2 is a 2x13 pin male connector, which is used to connect a hardware wavetable expansion card.

## 1.14 J3 - CD-ROM AUDIO CONNECTOR (MITSUMI/ PANASONIC)

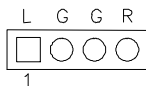
J3 is four pin connector, which is used to connect the Panasonic or Mitsumi CD-ROM audio output. The pin definition is as follows:



**Fig. 8 CD-ROM Audio Connector**

## 1.15 J4 - CD-ROM AUDIO CONNECTOR (SONY)

J4 is a four pin connector, which is used to connect the Sony CD-ROM audio output. The pin definition is as follows:



**Fig. 9 CD-ROM Audio Connector**

## 1.16 J8 - IrDA/FAST IR CONNECTOR

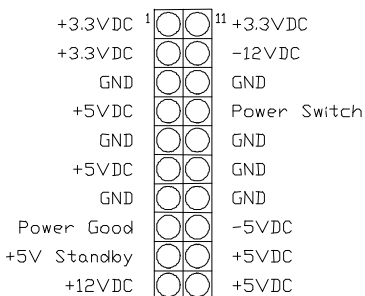
J8 is a five pin connector, which uses the UART2 as the interface for IrDA. You must also configure the setting “UART2 Mode” in Integrated Peripheral Setup to select whether UART2 is used for COM2 or HPSIR/SKSIR. The pin definition is as follows:



**Fig. 10 IrDA/Fast IR Connector**

## 1.17 J16 - ATX POWER CONNECTOR

J16 is a 2x10 pin male header connector. Plug the power connector of the ATX power supply onto the connector.



**Fig. 12 ATX Power Connector**

## 1.18 J5 - FLOPPY DRIVE CONNECTOR

This connector supports the floppy drive ribbon cable. After connecting the single end to the board, connect one or both plugs on the other end to the floppy drive(s).

## 1.19 J6, J7 - PRIMARY/SECONDARY IDE CONNECTORS

These connectors support the IDE hard disk ribbon cable. After connecting the single end to the board, connect the one or both plugs on the other end to your hard disk(s).

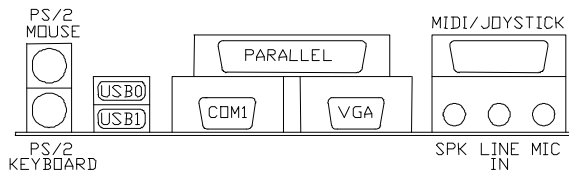
## 1.20 J11 - SERIAL PORT COM2 CONNECTOR

This connector supports a serial port ribbon cable to allow the connection of COM2.

## 1.21 J10 - FEATURE CONNECTOR

This connector is the feature connector for the VGA controller.

## 1.22 I/O CONNECTORS



**Fig. 13 I/O Connector Panel**

### 1.22.1 PS/2 KEYBOARD CONNECTOR

This connector is a six-pin female mini DIN connector using a PS/2 plug. If a standard AT size DIN plug is on the keyboard you need a DIN to mini DIN adaptor.

### 1.22.2 PS/2 MOUSE CONNECTOR

This connector is a six-pin female mini DIN connector using a PS/2 plug. Plug the jack on the PS/2 mouse into this connector.

### **1.22.3 UNIVERSAL SERIAL BUS PORTS 0 & 1**

These connectors are two four pin female sockets which are available for connecting USB devices.

### **1.22.4 PARALLEL PORT CONNECTOR**

This is a D-Type 25 pin female connector.

### **1.22.5 SERIAL PORT COM1**

This is a D-Type 9 pin male connector for pointing devices or other serial devices.

### **1.22.6 AUDIO PORT CONNECTOR**

Three 1/8" female connectors are used for speaker, line in and microphone. **SPK** can be connected to headphones or preferably powered speakers. **Line In** allows tape players or other audio sources to be recorded by your computer or played through the SPK. **MIC** allows microphones to be connected for voice input.

## **P5ST-A**

The motherboard is a full ATX form factor high performance all in one motherboard. It is developed around the Pentium microprocessor with 64 bit access to data transfer and MMX technology. It includes the SiS 5598 PCI/ISA System Chipset with Graphics/Video accelerator function built-in, Winbond W83877F super I/O chip and ESS 1869 Sound System.

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### **Chipset**

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- PS/2 keyboard and PS/2 mouse connectors are provided.

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- Two standard USB connectors are provided.

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- On board supports PCI Master IDE Controller, two connectors support up to four IDE devices such as HDD, CD ROM drive and Tape Back-up drives LS-120, etc.
- PCI Master IDE controller supports PIO Mode 3 and 4 devices, I/O data transfer rate can be up to 17Mb/s.
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- Compatible with all major PC sound standards, including Sound Blaster™ Pro, MPU-401 and Windows Sound System™.
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- Wave Audio support sample rates from 4KHz to 44KHz.
- Full-duplex monophonic mode, half-duplex stereo mode.

### **System BIOS**

- Award BIOS (128/256KB Flash EPROM).

### **Slots**

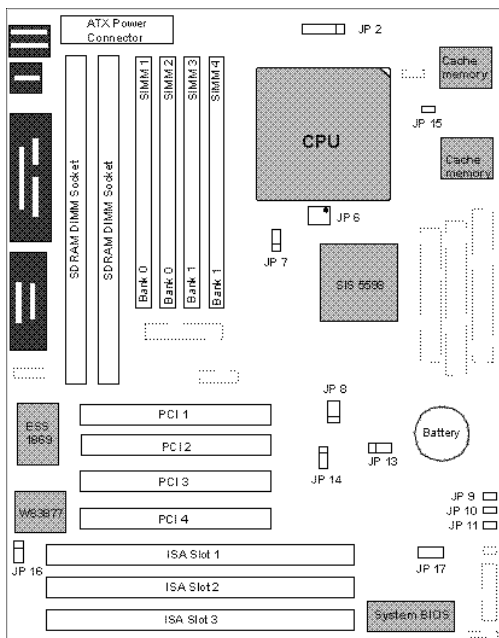
- Four PCI slots
- Three ISA slots

### **Environmental Limits**

	<i>Operating</i>	<i>Non-operating</i>
Temperature	0 to 50 degrees celsius	-10 to 65 degrees celsius
Relative Humidity (without condensation)	8 to 85%	5 to 95%
Altitude	10,000 ft	40,000 ft
Vibration	1,000Hz	
Electricity	4.75 ~ 5.25V	



## 2.1 LOCATION OF JUMPERS

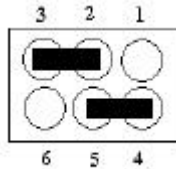


**Fig. 1 Jumper Locations**

## 2.2 JP6 - BUS/CORE MULTIPLIER SETTING

This jumper block sets the ratio between the CPU bus and core speeds. Make sure that you know the ratio that is applicable to your CPU before making any changes.

This jumper block is laid out as shown below and pins can be linked horizontally, for example:



**Fig. 2 Example of CPU multiplier setting**

In this example, a multiplier of 2.0 is selected as pins 2 & 3 and 4 & 5 are linked.

RATIO	JP6
X1.5	1-2, 4-5
X2.0	2-3, 4-5
X2.5	2-3, 5-6
X3.0	1-2, 5-6
X3.5	1-2, 4-5

**Fig. 3 CPU Multiplier settings**

## 2.3 JP2 - CPU VOLTAGE SETTING

JP2 is used to set the core voltage of the CPU.

CPU CORE	JP2
3.52 V	1-2
3.3 V	3-4
2.9 V	7-8
2.8 V	9-10
2.5 V	11-12

**Fig. 4 CPU Voltage Settings**

## 2.4 JP8 - BUS CLOCK SETTING

The P5ST-A board can operate at bus speeds of up to 83MHz. JP8 is used to set the bus speed. Do not exceed the CPU's manufacturers recommended setting.

BUSCLK	JP8
50 MHZ	1-2, 3-4, 5-6
55 MHZ	1-2, 3-4
60 MHZ	3-4, 5-6
66 MHZ	1-2, 5-6
75 MHZ	3-4
83 MHZ	1-2

**Fig. 5 Bus Clock Settings**

## 2.5 JP 13 - CMOS SETTING

Contents of CMOS memory can be cleared by changing the position of JP13.

CMOS	JP13
NORMAL	1-2
CLEAR	2-3

**Fig. 6 Clear CMOS Setting**

## 2.6 JP7 - VGA SETTING

To disable the onboard VGA controller, move JP7 to the DISABLE position.

MODE	JP7
DISABLE	1-2
ENABLE	2-3

**Fig. 7 Enable/Disable VGA**

## 2.7 JP14 - PCI CLOCK SETTING

When the bus speed is set to a rate over 66MHz (see section 2.4), the PCI clock can be set as synchronous or asynchronous. When set to synchronous, the PCI clock speed will be half that of the selected bus speed. When set to asynchronous (the recommended setting), the PCI clock speed will remain at half of the normal 66MHz speed.

PCICLK	JP14
SYNCHRONOUS	1-2
ASYNCHRONOUS	2-3

**Fig. 8 PCI Clock Setting**

## 2.8 JP16 - AUDIO SETTING

To disable the onboard audio controller, move JP16 to the DISABLE position.

AUDIO	JP16
ENABLE	1-2
DISABLE	2-3

**Fig. 9 Audio Enable /Disable**

## 2.9 MEMORY CONFIGURATION

The motherboard lets users upgrade the system memory via SIMM or DIMM sockets. On board memory is located in three banks: Bank 0, Bank 1 and Bank 2. Four SIMM sockets (SIMM1, SIMM2, SIMM3, SIMM4) are provided for SPM, FPM and EDO RAM SIMM and two DIMM sockets (DIMM1, DIMM2) are available for SDRAM DIMMs.

**Note:** *The type of SIMM1/SIMM2 must be the same.  
The type of SIMM3/SIMM4 must be the same.  
SIMM1/SIMM2 and DIMM1 cannot co-exist.*

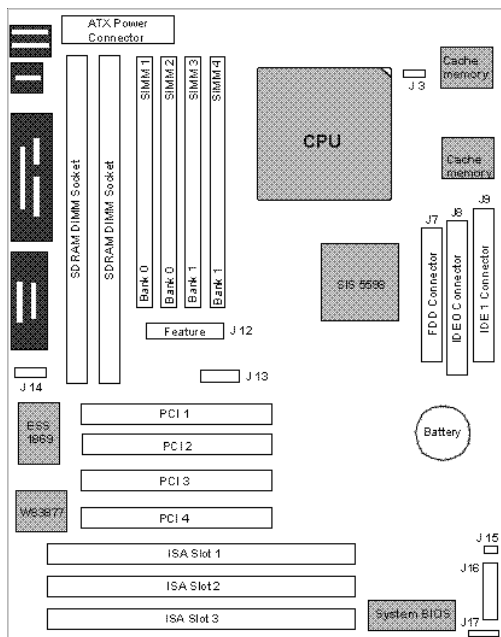
Table 6 shows the typical memory configurations supported by the motherboard.

Bank 0 (SIMM1/2 or DIMM1)	Bank 1 (DIMM2)	Bank 2 (SIMM3/4)
Installed	None	None
Installed	Installed	None
Installed	None	Installed
Installed	Installed	Installed

**Table 6**

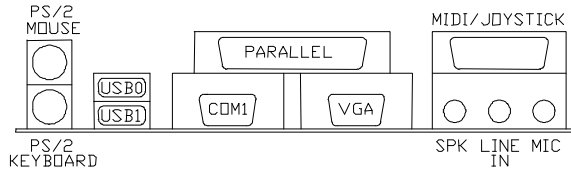
The memory size of SIMMs can be 4MB, 8MB, 16MB, 32MB or 64MB. The memory size of DIMMs can be 8MB, 16MB, 32MB, 64MB or 128MB.

## 2.10 LOCATION OF CONNECTORS



**Fig. 10 Connector Locations**

## 2.11 I/O CONNECTORS



**Fig. 11 I/O Connectors**

### 2.11.1 J1 - PS/2 KEYBOARD AND PS/2 MOUSE CONNECTORS

The keyboard connector is a six-pin female mini DIN connector using a PS/2 plug. If the keyboard has a standard AT size keyboard DIN plug, you need to use a DIN to mini DIN adaptor.

The mouse connector is a six-pin female mini DIN connector using a PS/2 plug. Plug the jack on the PS/2 mouse into this connector.

### 2.11.2 J2 - USB PORT 1 AND PORT 2 CONNECTOR

These connectors are two four pin female sockets, which are available for connecting USB devices.

### 2.11.3 J3 - CPU FAN ( 12 V ) CONNECTOR

J3 is a three pin connector, which is used to connect a CPU Fan power cable.

### 2.11.4 J4 - COM 1 CONNECTOR

This is a D-Type 9 pin male connector for pointing devices or other serial devices.

### 2.11.5 J5 - PRINTER CONNECTOR

This is a D-Type 25 pin female connector.

### **2.11.6 J6 - VGA CONNECTOR**

This is a D-Type 3 rows female connector for connecting to the VGA monitor.

### **2.11.7 J7 - FDD CONNECTOR**

This connector supports the floppy drive ribbon cable. After connecting the single end to the board, connect the two plugs on the other end to the floppy drive.

### **2.11.8 J8 & J9 - PRIMARY & SECONDARY IDE CONNECTORS**

These connectors support the provided IDE hard disk ribbon cable. After connecting the single end to the board, connect the two plugs on the other end to your hard disk.

### **2.11.9 J10 – SPEAKER/LINE-IN/MIC CONNECTOR**

Three 1/8" female connectors are used as speaker, line in and microphone. **SPK** can be connected to headphones or preferably powered speakers. **Line In** allows tape players or other audio sources to be recorded by your computer or played through the SPK. **MIC** allows microphones to be connected for voice input.

### **2.11.10J11 - GAME PORT**

### **2.12 J12 - FEATURE CONNECTOR**

This connector is the feature connector for the VGA controller.

### **2.13 J13 - COM 2 HEADER**

This connector supports a serial port ribbon cable (without mounting bracket) to give a D-Type 9 pin male connector for connecting external serial devices.



## **2.14 J14 - CD-IN HEADER**

J14 is four pin connector, which is used to connect with the Panasonic or Mitsumi CD-ROM audio output.

## **2.15 J15 - HD ACTIVE LED CONNECTOR**

## **2.16 J16 – MULTIFUNCTION CONNECTOR**

SMI	( PIN 4-5 )
HARDWARE RESET	( PIN 9-10 )
KEYLOCK	( PIN 11-15 )
SPEAKER	( PIN 17-20 )

## **2.17 JP17 – MODEM RING-IN CONNECTOR**

JP17 is a 3 pin connector which is used to connect the Internal Modem's Ring-In signal to the motherboard. Thus, the motherboard can be woken from standby mode through the internal modem ring-in.

## **2.18 U1 - ATX POWER CONNECTOR**

U1 is a 2x10 pin male header connector. Plug the power connector of the ATX power supply onto the connector.



## **P57IAA**

The motherboard is a full ATX form factor high performance all in one motherboard. It includes Intel 82430TX System Chipset, ATI 3D RAGE II Accelerated Graphics and Video Chip, Creative ViBRA™ 16CL CT2510 Stereo 16-bit Sound Chip and SMC 669 Super I/O Chip.

### **3.0 SPECIFICATIONS**

#### **Processor**

- Intel Pentium/MMX, Cyrix 6x86/6x86L/6x86MX and AMD K5/K6 CPU.
- The motherboard can support the following CPU speeds:  
90, 100, 110, 120, 133, 150, 166, 200, 233 and 266 MHz

#### **Chipset**

- Intel 82439TX (Intel 82430TX System Controller)
- Intel 82371AB (PCI ISA IDE Xcelerator)
- ATI 3D RAGE II (PCI 3D Graphics and Video Accelerators)
- Creative ViBRA 16CL CT2510 (Stereo 16-bit Sound Chip)
- SMC 669 (Super I/O Controller)

#### **Cache Size**

- Built in 0/256/512KB Synchronised Pipelined Burst Mode SRAM

#### **Main Memory**

- Supports Mixed Memory Technologies: Extended Data Output (EDO), Standard Page Mode (SPM), Fast Page Mode (FPM) and Synchronous DRAM (SDRAM) SIMM can work together.
- Memory configurations from 4MB to 256MB are possible using combination of 512K\*32 to 8M\*32 SIMM module (32 bit no-parity 72-pin SIMM module) and 2M\*32 to 8M\*32 SDRAM DIMM module.
- DIMM sockets for EDO or SDRAM (3.3V unbuffered).

#### **Multi I/O**

- On board Multi-I/O supports two serial, one parallel ports and floppy drive controller.
- Serial ports are 16550 Fast UART compatible.
- Parallel port has EPP and ECP capabilities.
- PS/2 keyboard and PS/2 mouse connector is provided.
- IrDA or Fast IR is provided.
- Two standard USB connectors are provided.

**PCI IDE**

- On board supports PCI Master IDE Controller, two connectors support up to four IDE devices such as HDD, CD
- ROM drive and Tape Back-up drives LS-120, etc.
- PCI Master IDE controller supports PIO Mode 3 and 4 devices, I/O data transfer rate can be up to 17Mb/s.
- Ultra DMA Mode supported. Transfer rate can be up to 33Mb/s.

**PCI Graphics and Video Accelerator**

- 64-bit 3D and 2D graphics accelerator.
- On board 4MB Video RAM.

**Sound Controller**

- Compatible with all major sound standards, incl. Sound Blaster™ 16, MPU-401 and Windows Sound System™.
- Plug-and-Play support for Audio, Joystick, FM Controller, MPU-401.
- Wave Audio support sample rates for 5KHz to 48KHz.
- Full-duplex DMA allowing 8-bit or 16-bit data for record and playback.

**System BIOS**

- Award BIOS (256KB Flash ROM).

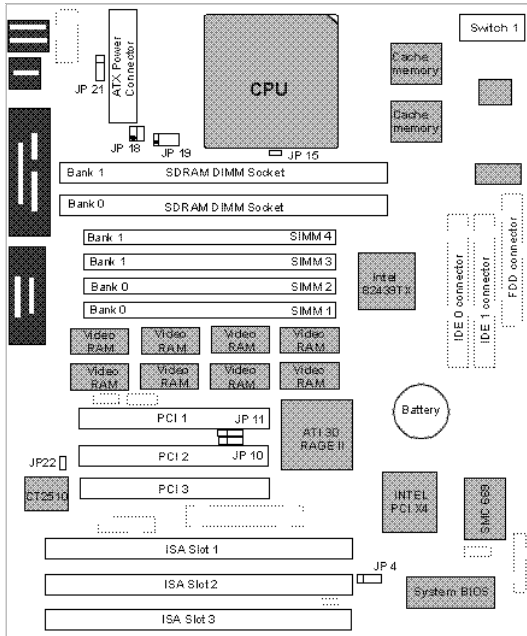
**Slots**

- Three PCI slots
- Three ISA slots

**Environmental Limits**

	<i>Operating</i>	<i>Non-operating</i>
Temperature	0 to 50 degrees celsius	-10 to 65 degrees celsius
Relative Humidity (without condensation)	8 to 85%	5 to 95%
Altitude	10,000 ft	40,000 ft
Vibration	1,000Hz	
Electricity	4.75 ~ 5.25V	

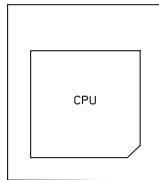
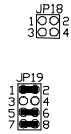
### 3.1 LOCATION OF JUMPER SETTINGS



**Fig. 1 Jumpers Location of the motherboard**

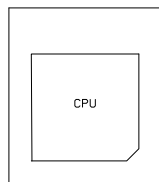
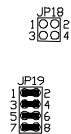
## 3.2 JP18 & JP19 CPU VOLTAGE

1. 3.3V Single Voltage CPU: P54C, P54CT



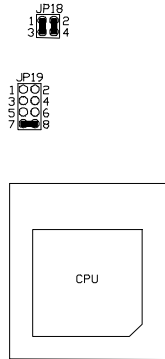
**Fig. 2 CPU Type - 3.3V**

2. 3.5V Single Voltage CPU: P54C-VRE, AMD-K5, Cyrix 6x86



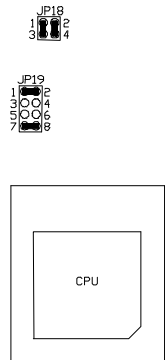
**Fig. 3 CPU Type - 3.5V**

3. 3.3V (I/O)/2.8V (core) Dual Voltage CPU: P55C, Cyrix 6x86L



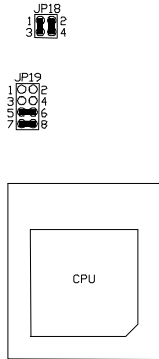
**Fig. 4 CPU Type - 3.3V/2.8V**

4. 3.3V (I/O)/2.9V (core) Dual Voltage CPU: AMD-K6/166 and 200, Cyrix 6x86MX



**Fig. 5 CPU Type - 3.3V/2.9V**

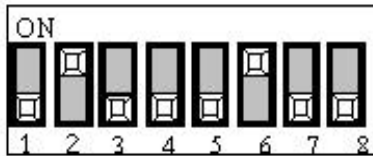
- 3.3V (I/O)/3.2V (core) Dual Voltage CPU: AMD-K6/233



**Fig. 6 CPU Type - 3.3V/3.2V**

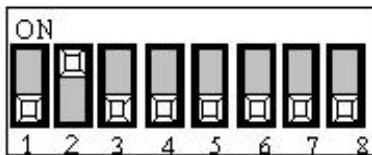
### 3.3 SW1 - CPU SPEED

- For 90MHz Intel Pentium, AMD-K5-PR90 and AMD-K5-PR120 CPU



**Fig 7 CPU Speed**

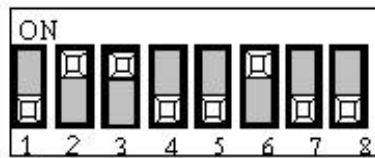
- For 100MHz and 233MHz Intel Pentium; AMD-K6/233, AMD-K5-PR100 and AMD-K5-PR150 CPU



**Fig. 8 CPU Speed**

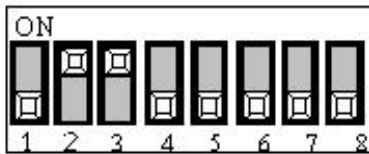


3. For 120MHz Intel Pentium and Cyrix 6x86-PR150+ CPU



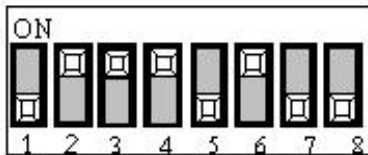
**Fig. 9 CPU Speed**

4. For 133MHz Intel Pentium, AMD-K5-PR133 (REV C) and Cyrix 6x86L-PR166+ CPU



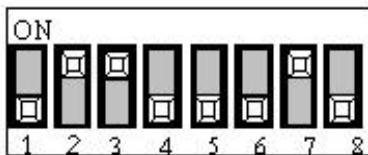
**Fig. 10 CPU Speed**

5. For 150MHz Intel Pentium and Cyrix 6x86MX-PR166+ CPU



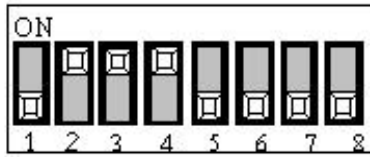
**Fig. 11 CPU Speed**

6. For 150MHz Cyrix 6x86L/MX-PR200+ CPU (for future support only)



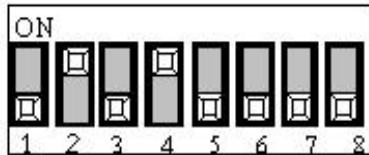
**Fig. 12 CPU Speed**

- For 166MHz Intel Pentium, AMD-K6/166 and AMD-K5-PR166 CPU



**Fig. 13 CPU Speed**

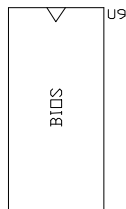
- For 200MHz Intel Pentium and AMD-K6/200 CPU



**Fig. 14 CPU Speed**

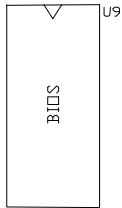
### 3.4 JP4 - VOLTAGE SELECTION FOR SYSTEM ROM

- 5V Flash EPROM on System ROM



**Fig. 15**

2. 12V Flash EPROM on System ROM

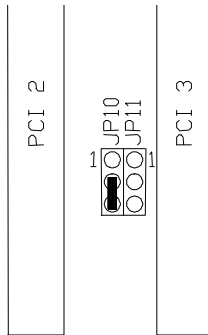


**Fig. 16**

### 3.5 JP10 - ON BOARD VGA IRQ SELECT

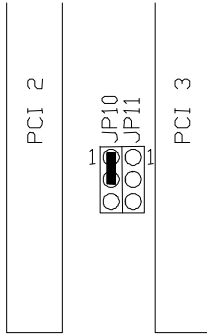
JP10 is used to enable or disable the IRQ (Interrupt) signal shared by the onboard VGA chip.

1. To enable the VGA IRQ



**Fig. 17**

2. To disable the VGA IRQ

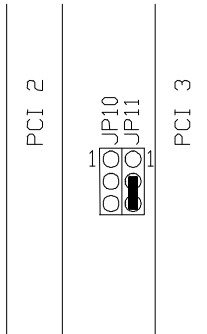


**Fig. 18**

### **3.6 JP11 - ON BOARD VGA SELECT**

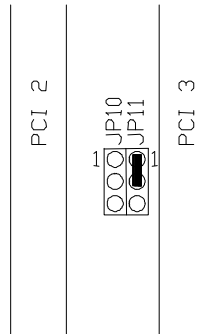
JP11 is used to enable or disable the onboard VGA chip.

1. To enable the onboard VGA chip



**Fig. 19**

2. To disable the onboard VGA chip



**Fig. 20**

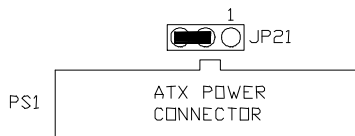
### **3.7 JP15 - RESERVED JUMPER**

JP15 is reserved for future use. Default setting is open.

### **3.8 JP21 - RING IN SELECT**

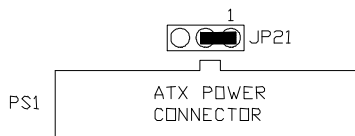
The motherboard will wake up from suspend mode when a ring-in signal is detected from the Com port.

1. Select for COM1



**Fig. 21**

2. Select for COM2

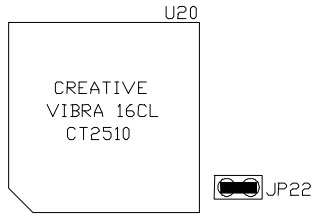


**Fig. 22**

### 3.9 JP22 - ONBOARD AUDIO CHIP SELECT

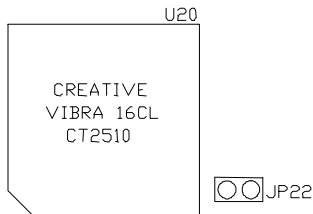
JP22 is used to enable or disable the onboard audio chip.

1. To enable onboard audio chip



**Fig. 23**

2. To disable onboard audio chip



**Fig. 24**

### 3.10 MEMORY CONFIGURATION

The motherboard lets users upgrade system memory via SIMM and DIMM sockets.

Four SIMM sockets (SIMM1, SIMM2, SIMM3, SIMM4) are provided for SPM, FPM and EDO RAM SIMM and two DIMM sockets (DIMM1, DIMM2) are available for the SDRAM or 3.3V EDO DIMM.

**Note:** *The type of SIMM1/SIMM2 must be the same.  
The type of SIMM3/SIMM4 must be the same.  
SIMM1/SIMM2 and DIMM1 cannot co-exist.  
SIMM3/SIMM4 and DIMM2 cannot co-exist.*

Table 1 provides some typical memory configurations supported by the motherboard.

Onboard memory is located in two banks:

Bank 0: SIMM1 & SIMM2 OR DIMM1

Bank 1: SIMM3 & SIMM4 OR DIMM2

The total memory size is 4-256MB and various configurations of DRAM types are shown in the table below:

<b>Bank 0 (SIMM 1,2/DIMM1)</b>	<b>Bank 1 (SIMM 3,4/DIMM2)</b>
Single	None
None	Single
Single	Single
Single	Double
Double	Single
Double	None
None	Double
Double	Double

**Table 1**

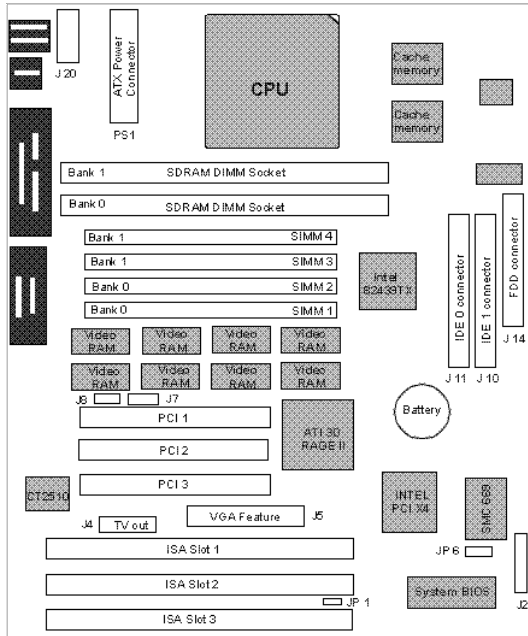
Single means Single side SIMM Module or Single side DIMM Module. The size of Single side SIMMs can be 4MB, 16MB, 64MB and the size of Single side DIMMs can be 8MB, 32MB, 128MB.

Double means Double side SIMM Module or Double side DIMM Module. The size of Double side SIMMs can be 8MB, 32MB and the size of Double side DIMMs can be 16MB, 64MB.

***\*\*Note: based on the above chart, the different types of SIMM can be in different banks, but within same bank, the two SIMM modules must be of the same type and size. Moreover, it is not recommended to install 5V SIMMs and 3.3V DIMMs at the same time.***



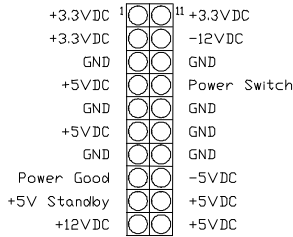
### 3.11 CONNECTOR LOCATIONS



**Fig. 25 Connector Location**

### 3.12 PS1 - ATX POWER CONNECTOR

PS1 is a 2x10 pin male header connector. Plug the power connector of the ATX power supply onto the connector.



**Fig. 26 ATX Power Connector**

### 3.13 JP1 - INTERNAL MODEM RING-IN CONNECTOR

JP1 is a 3 pin connector which is used to connect the Internal Modem's Ring-In signal to the motherboard. Thus, the motherboard can be woken from suspend mode through the internal modem ring-in.



**Fig. 27 Internal Modem Ring-In Connector**

### 3.14 JP6 - IrDA IR CONNECTOR

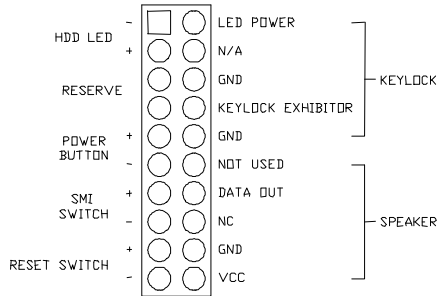
JP6 is a four pin connector, which uses the UART2 as interface for IrDA. You must also configure the setting through "UART2 Mode" in Integrated Peripheral BIOS Setup to select the UART2 as HPSIR or ASKSIR. The pin definition is as follows:



**Fig. 28 IrDA IR Connector**

### 3.15 J2 - MULTIPLE FUNCTION JUMPER

J1 is a front panel multi-function jumper including speaker, reset, keylock, harddisk LED, ATX power button. The pin definition is as the following figure.



**Fig. 29 Multiple Function Jumper**

### 3.16 J4 - TV OUTPUT EXTENSION CARD CONNECTOR

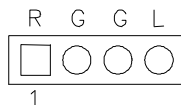
J4 is a 2x15 pin connector, which is used to connect the optional TV Output Extension Card to NTSC or PAL TV displays.

### 3.17 J5 - ACM/VFC CONNECTOR

J5 is a 2x20 pin - ATI Multimedia Channel (AMC) connector. It is used to connect the ATI's TV tuner and Video capture module. The AMC provides the VGA Feature Connector (VFC) compatibility, and it also provides enhanced features for new multimedia devices.

### 3.18 J7 - CD-ROM AUDIO CONNECTOR (SONY)

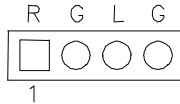
J7 is a four pin connector, which is used to connect with the Sony CD-ROM audio output. This pin definition is as follows:



**Fig. 30 CD-ROM Audio Connector**

### 3.19 J8 - CD-ROM AUDIO CONNECTOR (MITSUMI/PANASONIC)

J8 is four pin connector, which is used to connect with the Panasonic or Mitsumi CD-ROM audio output. The pin definition is as follows:



**Fig. 31 CD-ROM Audio Connector**

### 3.20 J10, J11 - PRIMARY/SECONDARY IDE CONNECTORS

J11 is the Primary IDE Connector and J10 is the Secondary IDE Connector. These connectors use the IDE hard disk ribbon cable. After connecting the single end to the board, connect the two plugs on the other end to your hard disk.

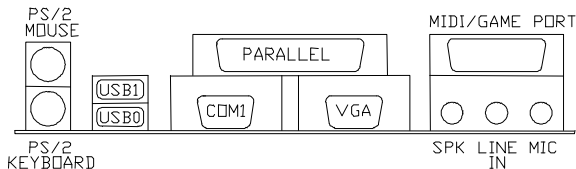
### 3.21 J14 - FLOPPY DRIVE CONNECTOR

This connector supports the floppy drive ribbon cable. After connecting the single end to the board, connect the two plugs on the other end to the floppy drive.

### 3.22 J20 - SERIAL PORT COM2 CONNECTOR

This connector supports a serial port ribbon cable (without mounting bracket) to give a D-Type 9 pin male connector for connecting external serial devices.

### 3.23 I/O CONNECTORS



**Fig. 32 Connectors**

### **3.23.1 PS/2 KEYBOARD CONNECTOR**

This connector is a six-pin female mini DIN connector using a PS/2 plug. If a standard AT size keyboard plugs, you may use the DIN to mini DIN adaptor.

### **3.23.2 PS/2 MOUSE CONNECTOR**

This connector is a six-pin female mini DIN connector using a PS/2 plug. Plug the jack on the PS/2 mouse into this connector.

### **3.23.3 UNIVERSAL SERIAL BUS PORTS 0 & 1**

These connectors are two four pin female sockets which are available for connecting USB device.

### **3.23.4 PARALLEL PORT CONNECTOR**

This is a D-Type 25 pin female connector.

### **3.23.5 SERIAL PORT COM1**

This is a D-Type 9 pin male connector for pointing devices or other serial devices.

### **3.23.6 VGA MONITOR CONNECTOR**

This is a D-Type 3 rows female connector for connecting to the VGA monitor.

### **3.23.7 SPEAKER/LINE IN/MIC CONNECTORS**

Three 1/8" female connectors are used for speaker, line in and microphone. **SPK** can be connected to headphones or preferably powered speakers. **Line In** allows tape players or other audio sources to be recorded by your computer or played through the SPK. **MIC** allows microphones to be connected for voice input



## **AWARD BIOS SETUP GUIDE**

The software setup of the system board is achieved through Basic Input-Output System (BIOS) programming. Use the BIOS setup program to tell the operating system what types of devices (such as disk drives) are connected to the system board.

The system setup is also called CMOS setup. Normally, users need to run system setup if either the hardware configuration is not identical with information contained in the CMOS RAM, or the CMOS RAM has lost power. Although, the BIOS screens and settings will be very similar on all three types of motherboard, there are certain minor differences. Consequently your BIOS screens may differ slightly from the illustrations shown.

### **WARNING**

**Most of these settings are of a highly technical nature and should not be altered unless you understand the function of the setting and know the consequences of any changes. The BIOS functions described below cover the most commonly encountered situations where a change may be necessary. If you are in any doubt about making these changes, consult our Technical Support staff for guidance.**

### **4.0 AWARD BIOS SETUP**

The setup program provided with the motherboard is the Award BIOS from Award Software, Inc. Enter the AWARD Setup program's Main Menu as follows:

1. Turn on or reboot the system. After a series of diagnostic checks, the following message appears:

**"Press DEL to enter SETUP"**

2. Press the <DEL> key to enter the AWARD BIOS setup program and the following screen appears:

ROM PCI/ISA BIOS (2A5IIG39)  
CMOS SETUP UTILITY  
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
Esc : Quit F10 : Save & Exit Setup	↑ ↓ → ← : Select Item (Shift)F2 : Change Color
Time, Data, Hard Disk Type...	

**Fig. 1**

3. Choose an option and press <Enter>. Modify the system parameters to reflect the options installed in the system. (see the following sections for more information).
4. Press <ESC> at anytime to return to the Main Menu.
5. In the Main Menu, choose "SAVE AND EXIT SETUP" to save change and reboot the system. Choosing "EXIT WITHOUT SAVING" to ignore all changes and exists the program.



## 4.1 STANDARD CMOS SETUP

ROM PCI/ISA BIOS (2A5IIG39)  
STANDARD CMOS SETUP  
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Wed, May 21 1997								
Time (hh:mm:ss) : 20 : 27 : 55								
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master :	Auto	0	0	0	0	0	0	AUTO
Primary Slave :	None	0	0	0	0	0	0	-----
-								
Secondary Master :	None	0	0	0	0	0	0	-----
-								
Secondary Slave :	None	0	0	0	0	0	0	-----
-								
Drive A : 1.44M , 3.5in.					Base Memory: 0K			
Drive B : None								
Floppy 3 Mode Support : Disabled					Other Memory: 512K			
Video : EGA/VGA					Total Memory: 512K			
Halt On : All Errors								
Esc : Quit			↑ ↓ → ← : Select Item			PU/PD/+/- : Modify		
F1 : Help			(Shift)F2 : Change Color					

**Fig. 2**

**Date(mm/dd/yy)**

Type the current date.

**Time(hh:mm:ss)**

Type the current time.

**Hard Disks**

Choose from the standard hard disk types 1 to 45. Type 47 is user definable. Type Auto is for auto detecting the hard disk type.

**Drive A&B**

Choose 360K, 5.25in.; 1.2M, 5.25in.; 720K, 3.5in.; 1.44M, 3.5in.; 2.88MB 3.5in. or None

**Video**

Choose EGA/VGA, CGA 40, CGA 80, or MONO,

**Halt On**

Choose All Errors; No Errors; All, But Keyboard; All, But Diskette or All, But Disk/Key

**Floppy 3 Mode Support**

Choose Enable to allow floppy drive support 3 mode

## 4.2 BIOS FEATURES SETUP

ROM PCI/ISA BIOS (2A5IIG39)  
 BIOS FEATURES SETUP  
 AWARD SOFTWARE, INC.

Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
Quick Power On Self Test	: Disabled	D0000-D3FFF Shadow	: Disabled
Boot Sequence	: A,C, SCSI	D4000-D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Enabled	DC000-DFFFF Shadow	: Disabled
Boot Up Numlock Status	: On		
Boot Up System Speed	: High		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay (Msec)	: 250		
Security Option	: Setup		
PCI/VGA Palette Snoop	: Disabled		
OS Select For DRAM > 64MB	: Non-OS2		
		ESC: Quit      ↑ ↓ → ←: Select Item F1: Help        PU/PD/+/-: Modify F5: Old Values   (Shift)F2: Color F7: Load Setup Defaults	

**Fig. 3 BIOS Setup Defaults**

**A short description of the screen items follows:**

**Virus Warning:** When enabled, you receive a warning message if a program (specifically, a virus) attempts to write to the boot sector or the partition table of the hard disk drive. You should then run an anti-virus program.

**CPU Internal Cache:** Choose Enabled or Disabled. This option lets users choose whether to use CPU internal cache memory. The default is Enabled.

**External Cache:** Choose Enabled or Disabled. This option lets user choose whether to use secondary cache memory. The default is Enabled.

**Quick Power On Self Test:** Choose Enabled or Disabled. This option let the POST sequence runs longer for through tests.

**Boot Sequence:** With the default setting the BIOS first attempts to boot from drive A: and then, if unsuccessful, from hard disk C: and SCSI. User can select other boot up sequence. Available sequences are “C,A,SCSI”, “C,CDROM,A”, “CDROM,C,A”, “D,A,SCSI”, “E,A,SCSI”, “F,A,SCSI”, “SCSI,A,C”, “SCSI,C,A”, “C only”, “LS120,C”.

**Swap Floppy Drive:** Choose Enabled or Disabled. This option lets end users to change the Drive A: or B: to others.

**Boot Up Floppy Seek:** Choose Enabled or Disabled. "Disabled" provides a fast boot and reduces the possibility of damage to the heads.

**Boot Up NumLock Status:** Choose On or Off. On puts numeric keypad in Num Lock mode at boot-up. Off puts numeric keypad in arrow key mode at boot-up.

**Boot Up System Speed:** Choose High or Low. Set the CPU timing at Boot Up, the default is high.

**Typematic Rate Setting:** Choose Enabled or Disabled. Enabled will determines the typematic rate defined by following two options.

**Typematic Rate:** The number selected 6,8,10... indicates how fast the number of characters can response in one second.

**Typematic Delay (Msec):** The number selected indicates the time period between two identical keys appear.

**Security Option:** Choose Setup or System. If system is selected, the password should be set.

**PCI/VGA Palette Snoop:** Select Disabled or Enabled. If Enabled the MPEG Card can synchronised with PCI/VGA.

**OS Select For DRAM > 64MB:** Select Disabled or Enabled. If the system memory is larger than 64MB and running OS/2, please enable this item. However, if it use other operating system, please disable this

feature. Furthermore, if the system memory is less than 64MB, the BIOS will ignore this function.

**Video BIOS Shadow:** ROM Shadow copies Video BIOS code from slower ROM to faster RAM. Video BIOS can then execute from RAM.

**C8000-CFFFF Shadow:** If enabled and BIOS is present in this segment, then the BIOS is shadowed.

**D0000-DFFFF Shadow:** If enabled and BIOS is present in this segment, then the BIOS is shadowed.

### 4.3 POWER MANAGEMENT SETUP MENU

The Power Management Setup option is used to change the values of the chipset registers for system power management functions.

ROM PCI/ISA BIOS (2A5IIG39)	
POWER MANAGEMENT SETUP	
AWARD SOFTWARE, INC.	
Power Management	: User Define
PM Control by APM	: Yes
Video Off Option	: Susp, Stby → Off
Video off Method	: V/H SYNC+Blank
Switch Function	: Break/Wake
Suspend Option	: Static Suspend
MODEM Use IRQ	: 3
Hot Key Power Off	: Enabled
**PM Timers**	
HDD Off After	: Disabled
Suspend Mode	: Disabled
**PM Events**	
COM Ports Activity	: Enabled
LPT Ports Activity	: Enabled
HDD Ports Activity	: Enabled
VGA Activity	: Enabled
IRQ3 (COM 2)	: Enabled
IRQ4 (COM 1)	: Enabled
IRQ5 (LPT 2)	: Enabled
IRQ6 (Floppy Disk)	: Enabled
IRQ7 (LPT 1)	: Enabled
IRQ8 (RTC Alarm)	: Disabled
IRQ9 (IRQ2 Redir)	: Enabled
IRQ10 (Reserved)	: Enabled
IRQ11 (Reserved)	: Enabled
IRQ12 (PS/2 Mouse)	: Enabled
IRQ13 (Coprocessor)	: Enabled
IRQ14 (Hard Disk)	: Enabled
IRQ15 (Reserved)	: Enabled
ESC: Quit      ↑ ↓ → ←: Select Item F1: Help      PU/PD/+/-: Modify F5: Old Values    (Shift)F2: Color F7: Load Setup Defaults	

Fig. 4

**A short description of the screen items follows:**

**Power Management:** Available selections are "Disabled", "User Define", "Max Saving" and "Min Saving":  
 "Disabled" will disable all the power saving functions.  
 "User Define" allows the waiting time period for Suspend Mode to be programmed.  
 "Max Saving" will set the waiting time period for Suspend Mode to 20 seconds.  
 "Min Saving" will set the waiting time period for Suspend Mode to 40 minutes.

**PM Control by APM:** Available options are "Yes" and "No". Choose

"Yes" to let the Power Management Function be controlled by the MS APM software.

**Video Off Option:** Select the mode in which you want the monitor to blank. The options are "Alway On", "Suspend → Off", "Susp, Stby → Off" and "All mode → Off".

**Video Off Method:** Choose V/H SYNC+Blank, DPMS or Blank Screen. This is the monitor Power Saving Method. V/H SYNC+Blank means turn off Vertical, Horizontal scanning and blank the screen. Blank Screen will blank the display screen. DPMS (Display Power Management System) allows the System BIOS to control the Display Card to turn off the Display.

**Suspend Option:** Available options are Static Suspend and 0V Suspend. When you choose 0V Suspend, the ZVHDD utility can be used.

**MODEM Use IRQ:** Available options are 3, 4, 5, 7, 9, 10, 11 and NA. It is used to choose the interrupt line that the Modem is using. "NA" means not available.

**Suspend Mode:** To set the time period waiting for Suspend Mode when the Power Management function is set to "User Define".

**HDD Off After:** To select the time period after which the HDD motor will turn off. Accessing the HDD again will take a few seconds for the HDD to spin up for operation.

**IRQ 3 - IRQ15:** When it is enabled, the system will monitor the activity of the corresponding system IRQ to turn the power management functions on or off.

## 4.4 INTEGRATED PERIPHERALS SETUP MENU

The Integrated Peripherals setup option is needed to change the values of the I/O chipset registers for I/O functions.

ROM PCI/ISA BIOS (2A5IIG39)  
INTEGRATED PERIPHERALS  
AWARD SOFTWARE, INC.

Internal PCI/IDE : Both IDE Primary Master PIO : Auto IDE Primary Slave PIO : Auto IDE Secondary Master PIO : Auto IDE Secondary Slave PIO : Auto IDE Burst Mode : Disabled IDE Data Port Post Write : Disabled IDE HDD Block Mode : Disabled  Onboard FDD Controller : Enabled Onboard Serial Port 1 : 3F8/IRQ4 Onboard Serial Port 2 : 2F8/IRQ3 UART 2 Mode : HPSIR IR Function Duplex : Full Rx/D, Tx/D Active : Hi, Hi Onboard Parallel Port : 378/IRQ7 Onboard Parallel Mode : ECP/EPP ECP Mode Use DMA : 1 Parallel Port EPP Type : EPP1.9	USB Controller : Enabled USB Keyboard Support : Enabled Power Button Over Ride : Disabled Ring Power Up Control : Disabled Power Up by Alarm : Disabled  ESC: Quit      ↑↓→←: Select Item F1: Help      PU/PD/+/-: Modify F5: Old Values (Shift)F2: Color F7: Load Setup Defaults
--	--

**Fig. 5**

**A short description of the screen items follows:**

**Internal PCI/IDE:** This item is used to set the onboard IDE controller. The settings are Primary, Secondary, Both or Disabled. The default setting is Both.

**IDE HDD Block Mode:** This allows your hard disk controller to use the fast block mode to transfer data to your hard disk drive.

**IDE Primary Master PIO/IDE Primary Slave PIO/IDE Secondary Master PIO/IDE Secondary Slave PIO:** Available selection are “Auto”, “Mode 0”, “Mode 1”, “Mode 2”, “Mode 3” and “Mode 4”. To choose “Auto”, the system BIOS will scan the IDE device and decide



which mode the device is . Otherwise the user should key in the mode of the device to the corresponding field.

*Some harddisks cannot work properly with its corresponding timing, please set a slower timing.*

**Onboard FDD Controller:** Choose Enabled or Disabled. “Enabled” allows the onboard Floppy Drive Controller to be accessed, otherwise users should use other sources.

**Onboard Serial Port 1:** Choose None, Auto or from COM1, COM3, COM4 with different I/O Addresses. While choosing an I/O Address, be sure not to cause Address conflicts with other I/O devices.

**Onboard Serial Port 2:** Choose None, Auto or from COM1, COM2, COM3, COM4 with different I/O Addresses. While choosing an I/O Address, be sure not to cause Address conflicts with other I/O devices.

**UART 2 Mode:** Choose Standard, ASKIR and HIPSIR for IrDA serial Interface.

**IR Function Duplex:** This item will be shown only when **UART 2 Mode** is selected to ASKIR or HPSIR. The available options are “Full” and “Half”. It is used to allow the IR function to work in full duplex mode or half duplex mode accordingly.

**RxD, TxD Active:** This item will be shown only when **UART 2 Mode** is selected to ASKIR or HPSIR. The available options are “Hi, Hi”, “Hi, Lo”, “Lo, Hi” and “Lo, Lo”. It is used to configure the logic level of Receive and Transmit signals in the IrDA interface.

**Onboard Parallel Port:** Choose None or with four different I/O Addresses and corresponding IRQs. While choosing the I/O Address, be sure not to cause Address conflicts with other I/O devices.

**Onboard Parallel Mode:** Choose SPP, EPP/SPP, ECP, ECP/EPP Mode. Make a selection compatible with the attached printer port device.

**ECP Mode Use DMA:** Choose “1” or “3” to select the DMA channel used for the ECP device. This item is shown if the **Onboard Parallel Mode** is chosen as “ECP” or “ECP/EPP” option.

**Parallel Port EPP Type:** Choose “EPP1.7” or “EPP1.9”, which is used to configure the EPP using either EPP1.7 or 1.9 timing specification. This item is shown if the **Parallel Mode** is chosen as “EPP” or “ECP/EPP” option.

**USB Controller:** Choose Enabled or Disabled. “Enabled” allows the on board Universal Serial Bus (USB) Controller to be accessed.

**USB Keyboard Support:** This option only shown when USB controller is enabled. Choose Enabled or Disabled to support the USB K/B or not.

## 4.5 IDE HDD AUTO DETECTION

When users can not find the Hard Disk information, it is very helpful to use this option.

1. Choose this item and press <Enter>.
2. After a couple of seconds, the screen will show the Hard Disk information and the following message:

**"SELECT PRIMARY MASTER OPTION(N=SKIP): N"**

3. Enter Y or N to confirm the acceptance then enter.
4. The process will repeat for Primary Slave, Secondary Master and Secondary Slave Hard Disks.

## **4.6 SAVE & EXIT SETUP MENU**

When you select this function, the following message will appear at the centre of the screen to remind you to Save data to CMOS and Exit the Setup.

**Save to CMOS and Exit (Y/N)?**

## **4.7 EXIT WITHOUT SAVING MENU**

When you select this function, the following message will appear at the centre of the screen to remind you to Abandon all Data and Exit Setup.

**Quit Without Saving (Y/N)?**

## NOTES

## NOTES

## NOTES