

Chapter 1

1

Introduction

How This Manual is Organized

This manual is divided into the following sections:

Chapter 1 Introduction : Manual information and checklist.

Chapter 2 Features : Information and Specifications concerning this mainboard.

Chapter 3 Installation : Instructions on setting up the board.

The mainboard is a high-performance mainboard based on the advanced Socket 370 microprocessor, the VGA, Audio , PCI Bus and the VIA 694X chipset.

Package Checklist

Please check that your package is complete . Should any item be damaged or missing , please contact your retailer immediately.

- ⌚ The 6VIA90AP mainboard.
- ⌚ The USB2 connector with bracket **(option)**.
- ⌚ 1 x IDE UDMA66/100 ribbon cable.
- ⌚ 1 x floppy ribbon cable.
- ⌚ CD drivers and utilities
- ⌚ This user's Manual

Chapter 2

2

Features

Features of the 6VIA90AP Mainboard

- ⌚ VIA 694X chipset supports 66/100/133MHz FSB, UltraDMA66/100 AGP 4X.
- ⌚ Supports Intel's processor designed for socket 370 and package in PPGA/FCPGA.
- ⌚ Integrated H/W monitor compensation engine.
- ⌚ supports "Touch Button Wake up" for soft power on/off and suspend mode multifunction.(option)

- ⌚ **Supports Resume by Ring through Modem.**
- ⌚ **Use 168-Pin DIMM modules (supports Intel PC100/133-compliant SDRAMs) x3 .**
- ⌚ 5x PCI Bus slots, and 1 x AMR (Audio Modem Riser) slots.
- ⌚ 1 x ISA Bus slots.
- ⌚ All 5 PCI slots support Master mode.
- ⌚ System BIOS support 4 IDE hard disk drivers that don't need device driver for S/W application.
- ⌚ PCI Bus master IDE interface on board with two connectors support 4 IDE devices in 2 channel, the PCI IDE Controller supports PIO Mode 0 to Mode 4, Bus master IDE DMA Mode 2 and **Ultra DMA 66MB, Ultra DMA 100MB.**
- ⌚ Supports PS/2™ mouse Connector.
- ⌚ **System BIOS supports LS-120, ZIP driver firmware and Green feature function, Plug and Play Flash ROM.**
- ⌚ **AC'97 DAC built into the audio CODEC reduces noise to improve audio quality and performance for a SNR (signal to noise ratio) of +90dB. These features greatly improve voice synthesis and recognition. If higher quality is required, an optional on-board Crystal PCI audio improves audio quality beyond software audio.**
- ⌚ Supports Software Virus Warning in BIOS.
- ⌚ Supports ACPI function Static Electricity Precautions.
- ⌚ Supports STR (Suspend to RAM) function.

Chapter 3

3

Installation

Jumper

| Jumper | Refer to pages |
|--|----------------|
| ♦ JBAT1 - CMOS Clear | 10 |
| ♦ BSEL0-1 - CPU Type selection | 15 |
| ♦ JCK1-4 - CPU bus frequency selection | 16 |
| ♦ J2 - AMR Type Selection | 17 |
| ♦ J3, J4 - Onboard AC'97 Selection | 17 |
| ♦ FAN1 - FAN Connector | 21 |
| ♦ FAN2 - FAN Connector | 21 |
| ♦ WOL1 - Lan Card Wake Up | 26 |
| ♦ CSEL1 - BIOS Select Function | 27 |

Expansion Slot

Refer to pages

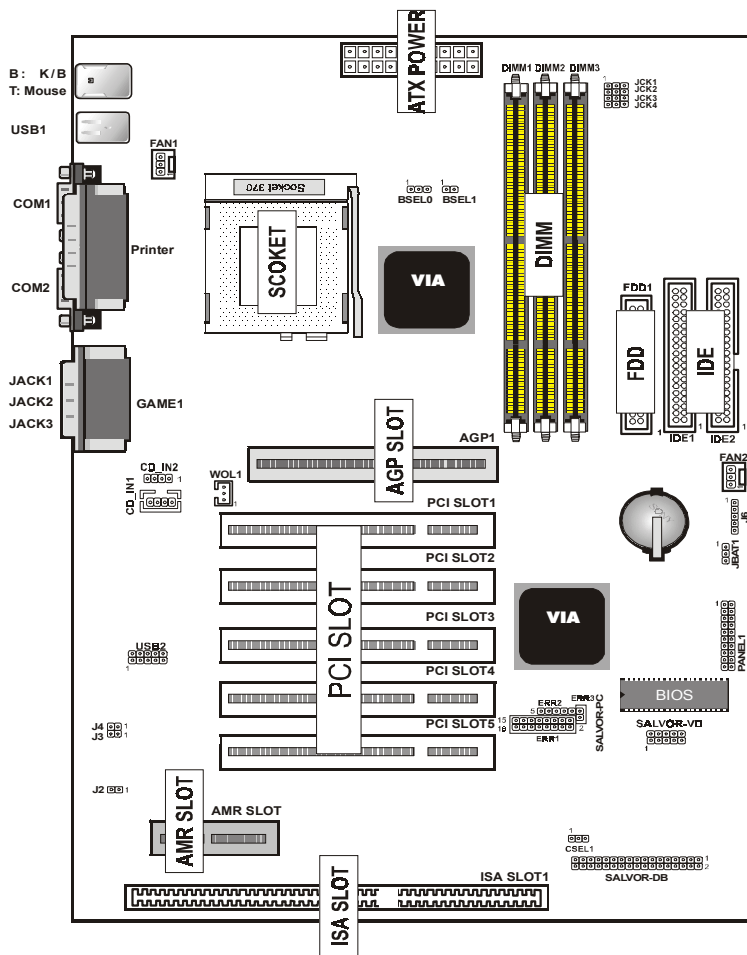
| | |
|---------------------------------------|----|
| ♦ PCI SLOT 1,2,3,4,5 -32bits PCI SLOT | 19 |
| ♦ ISA SLOT 1 -16bits ISA SLOT | 19 |
| ♦ AMR SLOT - Audio Modem Riser Slot | 19 |

Connectors

Refer to pages

| | | |
|-----------|--|----|
| PS1 | - PS/2 Mouse port (UP) | 20 |
| PS1 | - PS/2 AT (mini DIM) Keyboard port (DOWN) | 20 |
| COM1 | - COM 1 serial port | 20 |
| COM2 | - COM 2 serial port | 20 |
| USB1 | - Universal Serial BUS Ports 1 & 2 | 20 |
| USB2 | - Universal Serial BUS Ports 3 & 4 | 20 |
| PRINT | - Parallel port | 20 |
| FDD | - FLOPPY connector | 20 |
| IDE1 | - Primary IDE connector | 22 |
| IDE2 | - Secondary IDE connector | 22 |
| J6 | - IrDA Connector | 23 |
| PANEL1 | - HDD LED | 24 |
| PANEL1 | - SMI Switch | 24 |
| PANEL1 | - Reset Switch | 25 |
| PANEL1 | - Speaker Connector | 25 |
| PANEL1 | - Power LED | 25 |
| PANEL1 | - ATX Power switch | 25 |
| PW1 | - ATX Power Connector | 25 |
| CD_IN1 | - Audio Connector | 26 |
| CD_IN2 | - Audio Connector | 26 |
| SALVOR_DB | -Dual BIOS Card Connector | 27 |
| SALVOR_VD | -Voice Debug Card Connector | 27 |
| SALVOR_PC | -POST Error Code Card Connector | 27 |

The 6VIA90AP Mainboard Layout



The 6VIA90AP Mainboard Layout System Installation Setup

Before using your computer, you must finish the following steps:

1. Set jumpers on mainboard
2. Install SDRAM module.
3. Install the Processor.
4. Connect Ribbon Cables, Cabinet Wires, and Power supply.
5. Install Add-on Cards.
6. Setup the BIOS software.





Static Electricity Precaution

- ⌚ Keep the mainboard and other system components in their anti-static packaging until you are ready to install them.
- ⌚ Do all preparative work on a static-free surface with the main board components facing up.
- ⌚ Unplug your computer when working on the inside.
- ⌚ Wear an Anti-static wrist strap.
- ⌚ Hold the system components, boards or cards by its edges only. Be careful not to touch any of the IC chips, circuitry, contacts or connections, especially gold contacts on the mainboard.

Jumper Settings

Jumpers

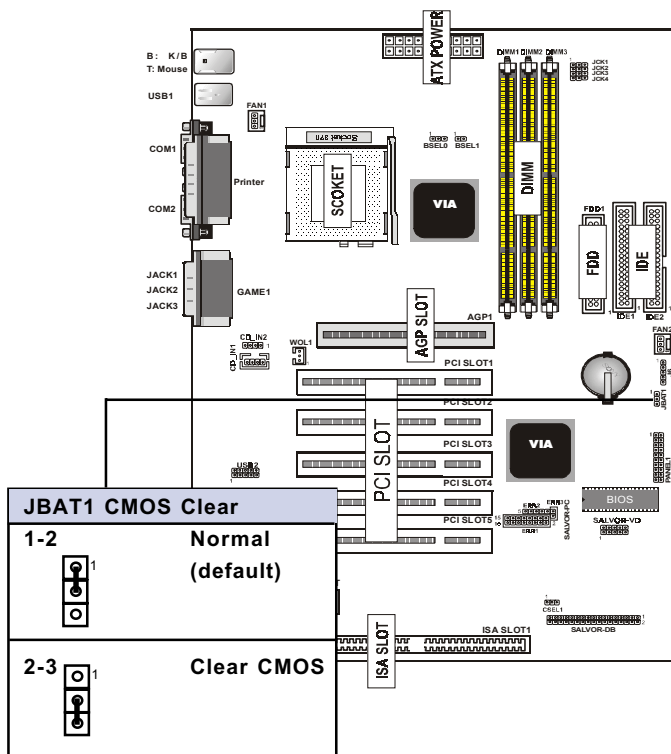
The several hardware setting are made through the use of jumper caps to connect jumper pins (Jxx) on the mainboard. See " Map of the mainboard" for locations of jumpers.

The jumper settings will be described numerically such as [---], [1-2], [2-3] for no connection, connect pins 1 & 2, and connect pins 2 & 3 respectively. Pin 1 for our mainboard is always on top one or on the left when holding the mainboard with the keyboard away from yourself. "P1" is written besides pin 1 on jumper with three pins. The jumpers will also be shown graphically such as  to connect pin 1&2 and  to connect 2&3. Jumpers with two pins will be shown as  for Short (on) and  for Open (off). For manufacturing simplicity may be sharing pins from other groups. Use the diagrams in this manual instead of following the pin layout on the board. Settings with two jumper numbers require that both jumpers be moved together. To connect the pin, simply place a plastic jumper cap over the two pins as illustrated.

Real Time Clock (RTC) RAM - JBAT1 :

The CMOS RAM is powered by the onboard button cell battery. To clear the RTC data:

(1) Turn off your computer, (2) Move this jumper to "2-3Pin Clear Data", (3) Move the jumper back to "Default", (4) Turn on your computer, (5) Hold down <Delete> during bootup and enter BIOS setup to re-enter user Preferences.



System Memory (DIMM Module)

This **6VIA90AP** main board supports three 168 pin DIMM of 16 MB, 32 MB, 64 MB, 128 MB, 256MB to form a memory size between 16MB to 256MB.

The DRAM can be either Intel PC133-compliant SDRAMs.

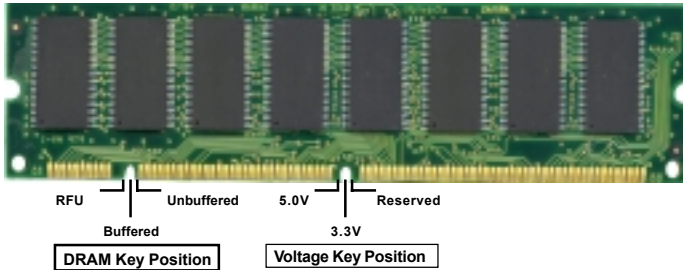
Install memory in any or all Banks in Combination:

| Bank | Memory module |
|--------------------------------|------------------------------|
| DIMM 1 | 16MB,32MB,64MB,128MB,256MB |
| (Bank 0-1) | 168 pin,3.3v SDRAM / EDO RAM |
| DIMM 2 | 16MB,32MB,64MB,128MB,256MB |
| (Bank 2-3) | 168 pin 3.3v,SDRAM / EDO RAM |
| DIMM 3 | 16MB,32MB,64MB,128MB,256MB |
| (Bank 4-5) | 168 pin 3.3v,SDRAM / EDO RAM |
| Total System Memory(Max 768MB) | |

Note :

- ◆ At the time this user's manual was written, 256MB DIMM's are only available as double-sided registered memory (128Mbit cells).
- ◆ The motherboard operates at 133MHz, therefore PC133-compliant modules must be used because of the strict timing issues involved under this speed.

The Dual Inline Memory Module (DIMM) memory module must be 3.3v Extended Data Output (EDO) DRAM or SDRAM. You can identify the type of DIMM module by the illustration below:



168 Pin DRAM DIMM Notch Key Definitions

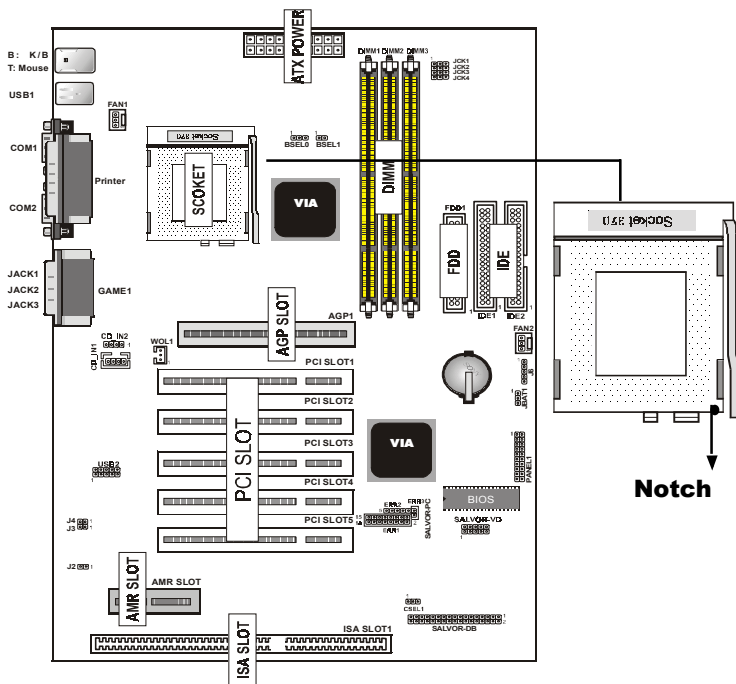
The notch on the DIMM module will shift between left, center, or right to identify the type and also to prevent the wrong type to be inserted into the DIMM slot on the Mainboard. You must ask your retailer for Specifications before purchasing.

Four clock signals are supported on this mainboard

CPU Installation

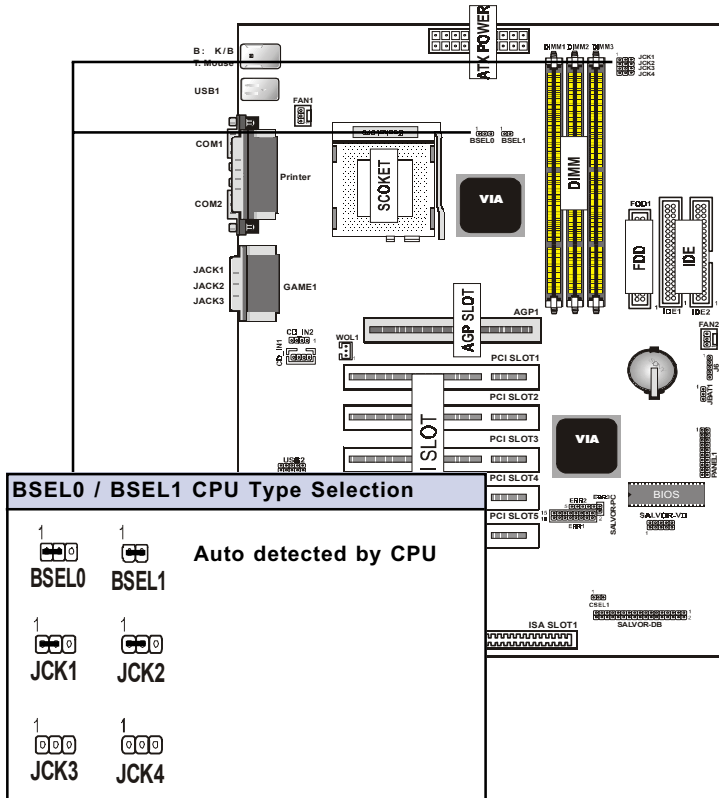
The motherboard provides a ZIF socket 370. The CPU that came with the motherboard should have a fan attached to it to prevent overheating . If this is not the case then purchase a fan before you turn on your system.

To install a CPU, first turn off your system and remove its cover. Locate the ZIF socket and open it by first pulling the lever sideways away from the socket then upwards to a 90-degree right angle. Insert the CPU with the correct orientation shown . The notched corner should point towards the end of the lever. Because the CPU has a corner pin for two of the four corners, the CPU will only fit in the orientation as shown.



CPU Type Selection -BSEL0, BSEL1

Current PCI bus is limited to 33MHz, socket370 Celeron processors limited to 66MHz, and SDRAM limited to the DIMM type 66/100/133MHz. Other settings are for experienced users only.

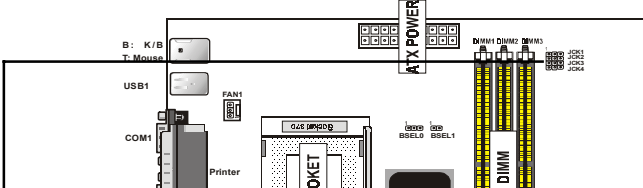


CPU External (Bus) Frequency Selection -JCK1, JCK2, JCK3, JCK4

The JCK1~4 jumpers are used to set PCI and CPU external bus clock.

NOTE:

In order to enhance the clock generator, jumper setting should be changed as follow:

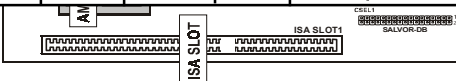


| CPU Freq. | CLK | PCI | JCK1 | JCK2 | JCK3 | JCK4 |
|--------------------|--------|-------|------|------|------|------|
| 133MHz | 132.99 | 33.25 | 1 | 1 | open | open |
| OverClock | 150 | 37.5 | 1 | 0 | open | open |
| (Test Only) | 140 | 35 | 0 | 0 | open | open |
| 100MHz | 100.23 | 33.41 | 1 | 1 | open | open |
| OverClock | 112.01 | 37.34 | 1 | 0 | open | open |
| (Test Only) | 103 | 34.33 | 0 | 0 | open | open |
| 66MHz | 66.82 | 33.41 | 1 | 1 | open | open |
| OverClock | 83.31 | 41.65 | 0 | 1 | open | open |
| (Test Only) | 75 | 37.5 | 1 | 0 | open | open |
| | 80 | 40 | 0 | 0 | open | open |

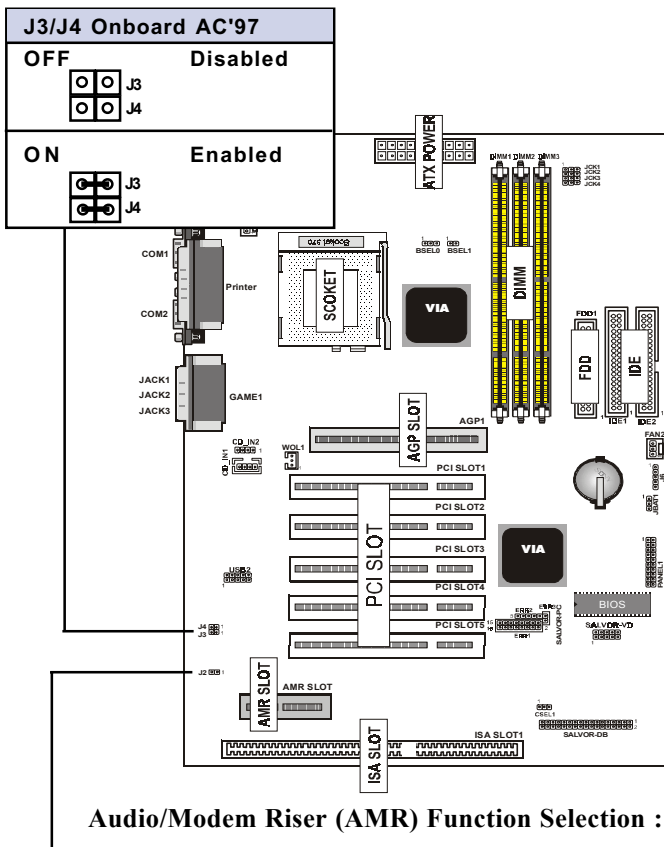
1:1-2 Close

0:2-3 Close

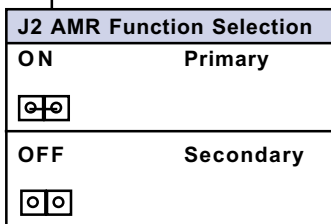
1-2,2-3:Open



Onboard AC'97 Function Selection : J3, J4



Audio/Modem Riser (AMR) Function Selection : J2



Clearance Requirements

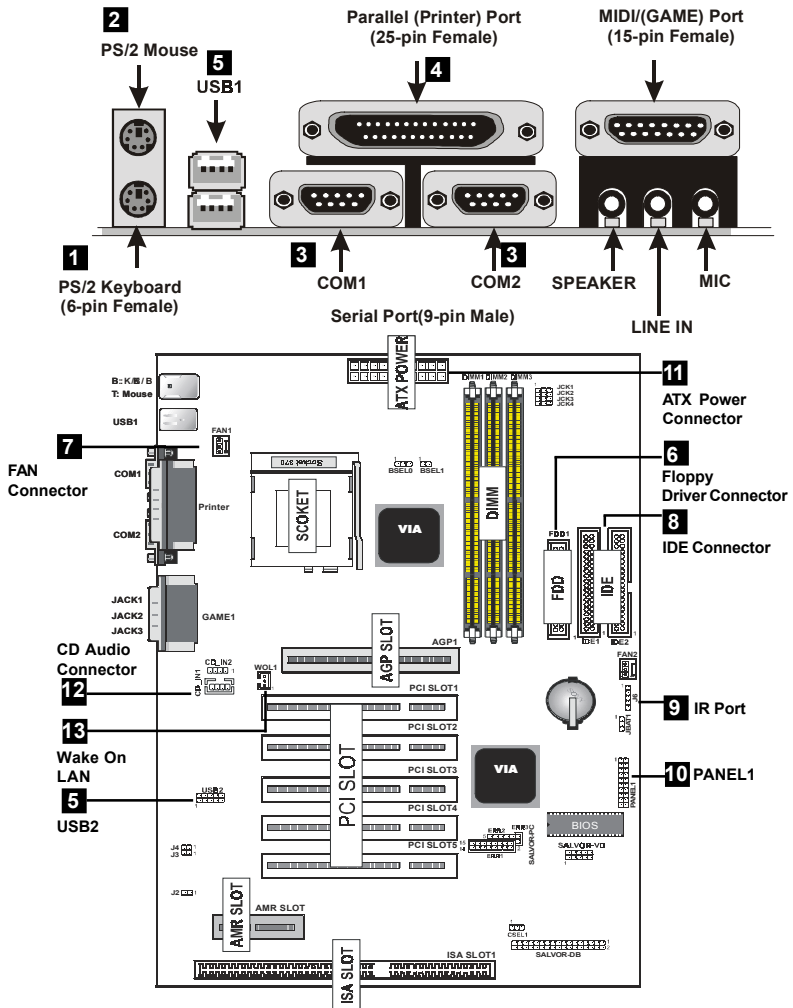
To maintain proper airflow once the processor is installed on the mainboard, the processor and fan heatsink require certain space clearances. The clearance above the processor must be at least 0.3 inches. The clearance on at least 3 of 4 sides of the processor and fan heatsink must be at least 0.2 inches. All cables (for Floppy drive, Hard drive, CD-ROM, and so on) must be routed clear of the processor and its airspace.

Fan Exhaust

The processor must be kept cool by using a processor with heatsink and fan attached. The temperature of the air filled with the fan/heatsink cannot exceed 45 °C (113 °F). The ambient or room temperature must be below 37 °C (99 °F).

EXTERNAL CONNECTORS

Both Ribbon cable and Connectors on board are with direction signs to prevent incorrect insertion. The ribbon cables should always be connected with the red stripe on the pin 1 side of the connector.



1. PS/2 AT Keyboard port

This connection is for a standard keyboard using a PS/2 plug (mini DIN) . This connector will not allow standard AT size (large DIN) keyboard plugs. You may use a DIN to mini DIN adapter on standard AT keyboards.

2. PS/2 Mouse port

This system will direct IRQ12 to PS/2 mouse.

3. Serial Port COM 1 and COM 2 port

The COM1/2 serial ports can be used for pointing devices or other serial devices. See "Onboard Serial Port" in chipset Feature Setup of the BIOS SOFTWARE.

NOTE:

| |
|--|
| Serial {D-type 9pin (F) } must be connected to the serial port. |
|--|

4. Parallel Printer port

You can enable the parallel port and choose the IRQ through "Onboard Parallel Port" in Chipset. Feature Setup of the BIOS SOFTWARE.

5. Universal Serial BUS Ports 1 & 2

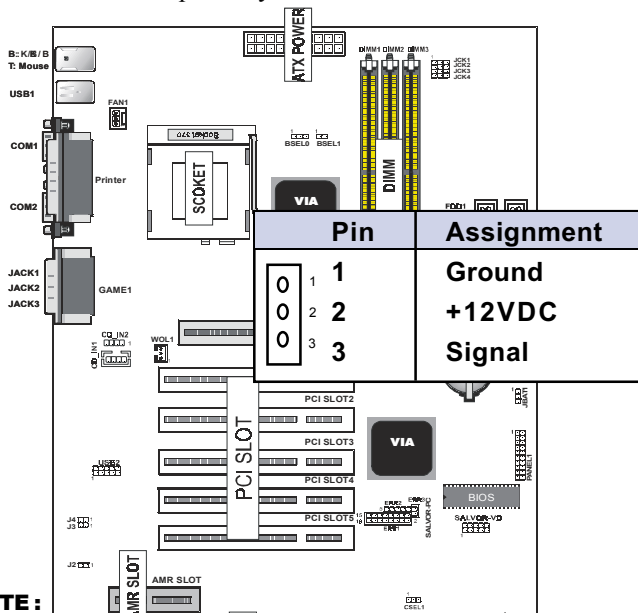
Two USB ports are available for connecting USB devices.

6. Floppy drive connector

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

7. FAN1 , FAN2 CPU Cooling Fan (FAN1,2)

These connectors support cooling fans of 500mAmp (6Watt) or less. Adjust the fans so that the heat sink fins allow airflow to go across the onboard heat sink(s) instead of the expansion slots. Depending on the fan manufacturer, the wiring and plug may be different. The red wire should be positive, while the black should be ground. Connect the fan's plug to the board taking into consideration the polarity of this connector.



NOTE :

The "Rotation" signal is to be used only by a specially designed fan with rotation signal.

WARNING :

The CPU and/or motherboard will overheat if there is no air flowing across the CPU and onboard heatsinks. Damage may occur to the motherboard and/or the CPU fan if these pins are incorrectly used. These are not jumpers, do not place jumper caps over these pins.

8. **Primary / Secondary IDE connectors (Two 40-pin Block)**

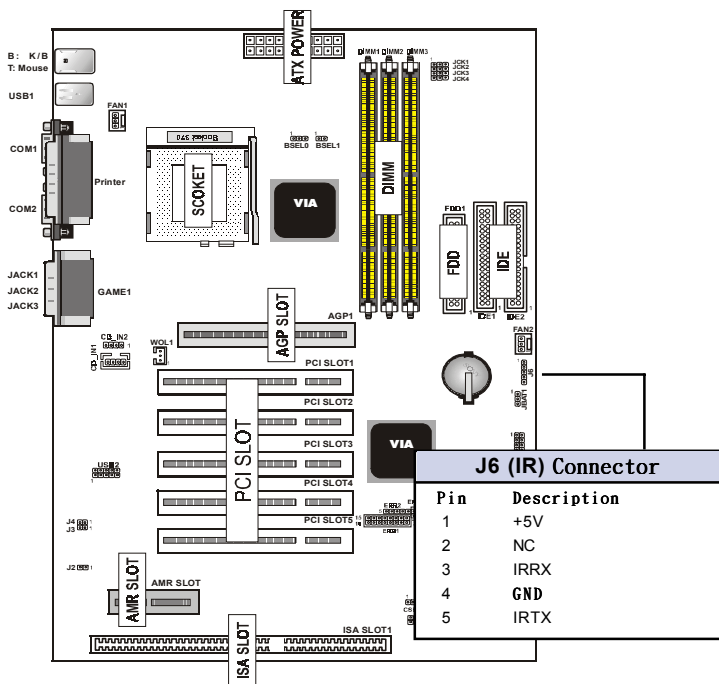
These connectors support the provided IDE hard disk ribbon cable. After connecting the single end to the board, connect the two plugs at the other end to your hard disk (s) . If you install two hard disks, you must configure the second drive to Slave mode by setting its jumper setting. BIOS now supports SCSI device or IDE CD-ROM boot up (see "HDD Sequence SCSI/IDE First" & "Boot Sequence" in the BIOS Features Setup of the BIOS SOFTWARE) (Pin 20 is removed to prevent inserting in the wrong orientation when using ribbon cables with pin 20 plugged) .

Tip :

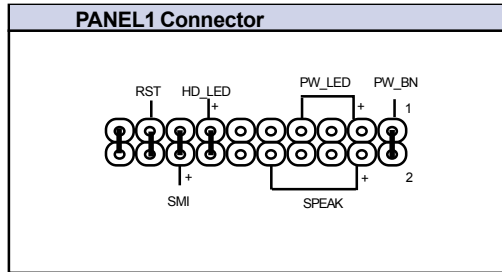
You may configure two hard disks to be both Masters using one ribbon cable on the primary IDE connector. You may install one operating system on an IDE drive and another on a SCSI drive and select the right one through the BIOS Feature Setup.

9. IrDA / Fast IR-Compliant infrared module connector - J6

This connector supports the optional wireless transmitting and receiving infrared module. This module mounts to a small opening on system cases that support this feature. You must also configure the setting through “UART2 Use Infrared” in Chipset Feature Setup to select whether UART2 is directed for use with COM2 or IrDA. Use the five pins as shown on the Back View and connect a ribbon cable from the module to the motherboard according to the pin definitions.



10. PANEL1



a. IDE activity LED (HD-LED)

This connector supplies power to the cabinet's IDE activity LED. Read and write activity by devices connected to the Primary or Secondary IDE connectors will cause the LED to light up.

b. Power LED Lead (PW_LED)

The system power LED lights when the system's power is on.

c. SMI Suspend Switch Lead (SMI)

This allows the user to manually place the system into a suspend mode or "Green" mode where systematic activity will be instantly decreased to save electricity and expand the life of certain components when the system is not in use. This 2-pin connector (see the figure) connects to the case-mounted suspend switch. If you do not have a switch for the connector, you may apply the "Turbo Switch" since it does not have a function. SMI is activated when it detects a short to open moment. It may require one or two pushes depending on the position of the switch. Wake-up can be controlled by settings in the BIOS but the keyboard will always allow wake-up (the SMI lead cannot wake-up the system). If you want to use this connector, the "Suspend Switch" in the Power Management Setup of the BIOS SOFTWARE section should be on the default setting of Enable .

d. Reset Switch Lead (RST)

This 2-pin connector connects to the case-mounted reset switch for rebooting your computer without having to turn off your power switch. This is a preferred method of rebooting in order to prolong the life of the system's power supply.

e. Speaker Connector (SPEAKER)

This 4-pin connector connects to the case-mounted speaker.

f. ATX Power Switch (PW_BN)

The system power is controlled by a momentary switch connected to this lead. Pushing the button once will switch the system ON. The system power LED lights when the system's power is on.

11. ATX Power Supply Connector (20-pin block) - PW1

This connector connects to a ATX power supply. The plug from the power supply will only insert in one direction because of the different hole sizes. Find the proper direction and push down firmly making sure that the pins are aligned.

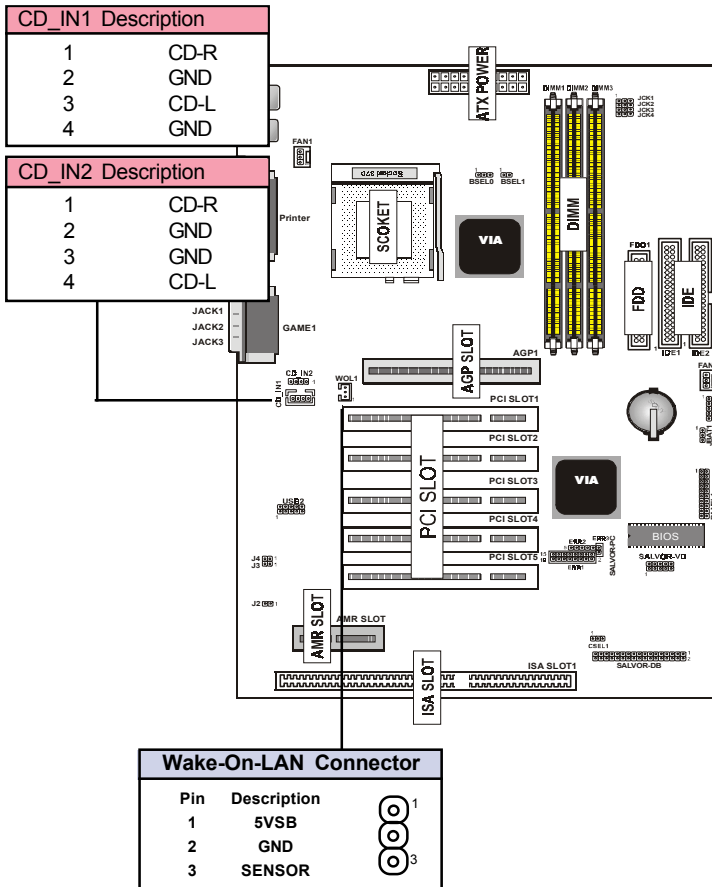
IMPORTANT:

Make sure that the ATX power supply can take at least 10mAmp load on the 5Volt standby lead (5VSB). You may experience difficulty in powering on your system without this.

| Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|
| 1 | 3.3V | 2 | 3.3V |
| 3 | GND | 4 | 5V |
| 5 | GND | 6 | 5V |
| 7 | GND | 8 | PW-OK |
| 9 | 5VSB | 10 | 12V |
| 11 | 3.3V | 12 | -12V |
| 13 | GND | 14 | PS-ON |
| 15 | GND | 16 | GND |
| 17 | GND | 18 | -5V |
| 19 | 5V | 20 | 5V |

12. CD Audio Connector- CD_IN1/CD_IN2

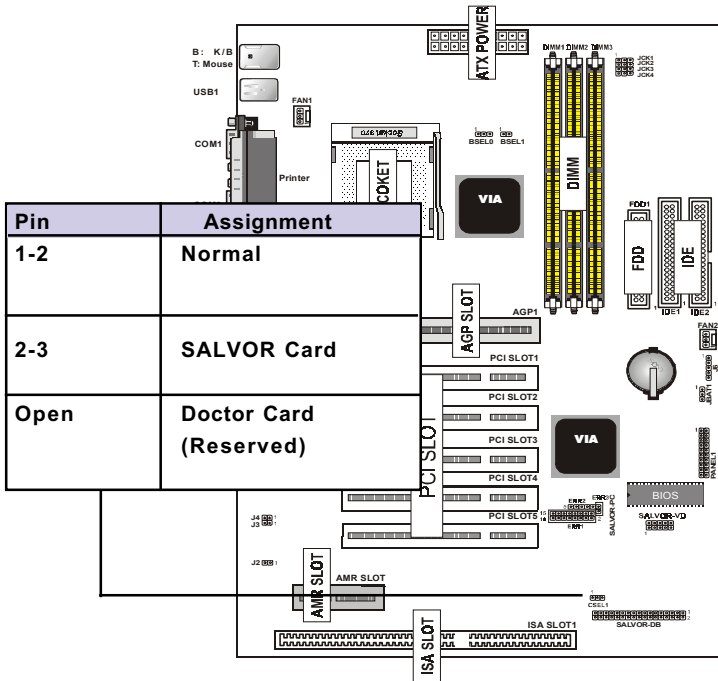
The 4-pin connectors enable the system to receive the audio output from the CD-ROM.



13. Wake Up On LAN : WOL1

This connector connects LAN cards and a Wake On LAN output. When the system is in soft-off mode LAN activity will power on the system.

14. BIOS Selet Function - CSEL1



15. SALVOR_DB:

Support Dual BIOS Card Connector.

16. SALVOR_VD:

Support Voice Debug Card Connector.

17. SALVOR_PC: (ERR1/ERR2)

Support BIOS POST Error Code Card Connector.

POST Error Code

| POST (hex) | Description |
|------------|---|
| CFh | Test CMOS R/W functionality. |
| C0h | Early chipset initialization: -Disable shadow RAM -Disable L2 cache (socket 7 or below) -Program basic chipset registers |
| C1h | Detect memory -Auto-detection of DRAM size, type and ECC. -Auto-detection of L2 cache (socket 7 or below) |
| C3h | Expand compressed BIOS code to DRAM |
| C5h | Call chipset hook to copy BIOS back to E000 & F000 shadow RAM. |
| 01h | Expand the Xgroup codes locating in physical address 1000:0 |
| 02h | Reserved |
| 03h | Initial Superio_Early_Init switch. |
| 04h | Reserved |
| 05h | 1. Blank out screen 2. Clear CMOS error flag |
| 06h | Reserved |
| 07h | 1. Clear 8042 interface 2. Initialize 8042 self-test |
| 08h | 1. Test special keyboard controller for Winbond 977 series Super I/O chips. 2. Enable keyboard interface. |

| POST (hex) | Description |
|-------------------|--|
| 09h | Reserved |
| 0Ah | 1.Disable PS/2 mouse interface (optional). 2.Auto detect ports for keyboard & mouse followed by a port & interface swap (optional). 3.Reset keyboard for Winbond 977 series Super I/O chips. |
| 0Bh | Reserved |
| 0Ch | Reserved |
| 0Dh | Reserved |
| 0Eh | Test F000h segment shadow to see whether it is R/W-able or not. If test fails, keep beeping the speaker. |
| 0Fh | Reserved |
| 10h | Auto detect flash type to load appropriate flash R/W codes into the run time area in F000 for ESCD & DMI support. |
| 11h | Reserved |
| 12h | Use walking 1's algorithm to check out interface in CMOS circuitry. Also set real-time clock power status, and then check for override. |
| 13h | Reserved |
| 14h | Program chipset default values into chipset. Chipset default values are MODBINable by OEM customers. |

| POST (hex) | Description |
|-------------------|--|
| 15h | Reserved |
| 16h | Initial onboard clock generator if <code>Early_Init_Onboard_Generator</code> is defined. See also POST 26h. |
| 17h | Reserved |
| 18h | Detect CPU information including brand, SMI type (Cyril or Intel) and CPU level (586 or 686). |
| 19h | Reserved |
| 1Ah | Reserved |
| 1Bh | Initial interrupts vector table. If no special specified, all H/W interrupts are directed to <code>SPURIOUS_INT_HDLR</code> & S/W interrupts to <code>SPURIOUS_soft_HDLR</code> . |
| 1Ch | Reserved |
| 1Dh | Initial <code>EARLY_PM_INIT</code> switch. |
| 1Eh | Reserved |
| 1Fh | Load keyboard matrix (notebook platform) |
| 20h | Reserved |
| 21h | HPM initialization (notebook platform) |
| 22h | Reserved |
| 23h | <ol style="list-style-type: none"> 1. Check validity of RTC value: e.g. a value of 5Ah is an invalid value for RTC minute. 2. Load CMOS settings into BIOS stack. If CMOS checksum fails, use default value instead. |

| POST (hex) | Description |
|-------------------|--|
| 24h | Prepare BIOS resource map for PCI & PnP use. If ESCD is valid, take into consideration the ESCD's legacy information. |
| 25h | Early PCI Initialization: -Enumerate PCI bus number. -Assign memory & I/O resource. -Search for a valid VGA device & VGA BIOS, and put it into C000:0. |
| 26h | 1.If Early_Init_Onboard_Generator is not defined Onboard clock generator initialization. Disable respective clock resource to empty PCI & DIMM slots. 1.Init onboard PWM 2.Init onboard H/W monitor devices |
| 27h | Initialize INT 09 buffer |
| 28h | Reserved |
| 29h | 1.Program CPU internal MTRR (P6 & PII) for 0-640K memory address. 2.Initialize the APIC for Pentium class CPU. 3.Program early chipset according to CMOS setup. Example: onboard IDE controller. 4.Measure CPU speed. |
| 2Ah | Reserved |
| 2Bh | Invoke Video BIOS |
| 2Ch | Reserved |

| POST (hex) | Description |
|------------|---|
| 2Dh | 1.Initialize double-byte language font (Optional) 2.Put information on screen display, including Award title, CPU type, CPU speed, full screen logo. |
| 2Eh | Reserved |
| 2Fh | Reserved |
| 30h | Reserved |
| 31h | Reserved |
| 32h | Reserved |
| 33h | Reset keyboard if Early_Reset_KB is defined e.g. Winbond 977 series Super I/O chips. See also POST 63h. |
| 34h | Reserved |
| 35h | Test DMA Channel 0 |
| 36h | Reserved |
| 37h | Test DMA Channel 1. |
| 38h | Reserved |
| 39h | Test DMA page registers. |
| 3Ah | Reserved |
| 3Bh | Reserved |
| 3Ch | Test 8254 |
| 3Dh | Reserved |
| 3Eh | Test 8259 interrupt mask bits for channel 1. |
| 3Fh | Reserved |
| 40h | Test 8259 interrupt mask bits for channel 2. |
| 41h | Reserved |
| 42h | Reserved |

| POST (hex) | Description |
|-------------------|--|
| 43h | Test 8259 functionality. |
| 44h | Reserved |
| 45h | Reserved |
| 46h | Reserved |
| 47h | Initialize EISA slot |
| 48h | Reserved |
| 49h | 1.Calculate total memory by testing the last double word of each 64K page. 2.Program write allocation for AMD K5 CPU. |
| 4Ah | Reserved |
| 4Bh | Reserved |
| 4Ch | Reserved |
| 4Dh | Reserved |
| 4Eh | 1.Program MTRR of M1 CPU 2.Initialize L2 cache for P6 class CPU & program CPU with proper cacheable range. 3.Initialize the APIC for P6 class CPU. 4.On MP platform, adjust the cacheable range to smaller one in case the cacheable ranges between each CPU are not identical. |
| 4Fh | Reserved |
| 50h | Initialize USB Keyboard & Mouse. |
| 51h | Reserved |
| 52h | Test all memory (clear all extended memory to 0) |

| POST (hex) | Description |
|-------------------|---|
| 53h | Clear password according to H/W jumper (Optional) |
| 54h | Reserved |
| 55h | Display number of processors (multi-processor platform) |
| 56h | Reserved |
| 57h | 1.Display PnP logo 2.Early ISA PnP initialization -Assign CSN to every ISA PnP device. |
| 58h | Reserved |
| 59h | Initialize the combined Trend Anti-Virus code. |
| 5Ah | Reserved |
| 5Bh | (Optional Feature) Show message for entering AWDFLASH. EXE from FDD (optional) |
| 5Ch | Reserved |
| 5Dh | 1.Initialize Init_Onboard_Super_IO 2.Initialize Init_Onboard_AUDIO. |
| 5Eh | Reserved |
| 5Fh | Reserved |
| 60h | Okay to enter Setup utility; i.e. not until this POST stage can users enter the CMOS setup utility. |
| 61h | Reserved |
| 62h | Reserved |
| 63h | Reset keyboard if Early_Reset_KB is not defined. |

| POST (hex) | Description |
|-------------------|---|
| 63h | Reset keyboard if Early_Reset_KB is not defined. |
| 64h | Reserved |
| 65h | Initialize PS/2 Mouse |
| 66h | Reserved |
| 67h | Prepare memory size information for function call: INT 15h ax=E820h |
| 68h | Reserved |
| 69h | Turn on L2 cache |
| 6Ah | Reserved |
| 6Bh | Program chipset registers according to items described in Setup & Auto-configuration table. |
| 6Ch | Reserved |
| 6Dh | 1.Assign resources to all ISA PnP devices. 2.Auto assign ports to onboard COM ports if the corresponding item in Setup is set to “AUTO”. |
| 6Eh | Reserved |
| 6Fh | 1.Initialize floppy controller 2.Set up floppy related fields in 40: hardware. |
| 70h | Reserved |
| 71h | Reserved |
| 72h | Reserved |
| 73h | Reserved |
| 74h | Reserved |

| POST (hex) | Description |
|-------------------|--|
| 75h | Detect & install all IDE devices: HDD, LS120, ZIP, CDROM..... |
| 76h | (Optional Feature) Enter AWDFLASH.EXE if: -AWDFLASH.EXE is found in floppy drive. -ALT+F2 is pressed. |
| 77h | Detect serial ports & parallel ports. |
| 78h | Reserved |
| 79h | Reserved |
| 7Ah | Detect & install co-processor |
| 7Bh | Reserved |
| 7Ch | Init HDD write protect. |
| 7Dh | Reserved |
| 7Eh | Reserved |
| 7Fh | Switch back to text mode if full screen logo is supported. -If errors occur, report errors & wait for keys. -If no errors occur or F1 key is pressed to continue: ♦Clear EPA or customization logo. |
| 80h | Reserved |
| 81h | Reserved |
| 82h | 1.Call chipset power management hook. 2.Recover the text font used by EPA logo (not for full screen logo) 3.If password is set, ask for password. |

| POST (hex) | Description |
|-------------------|---|
| 83h | Save all data in stack back to CMOS |
| 84h | Initialize ISA PnP boot devices |
| 85h | 1.USB final Initialization 2.Switch screen back to text mode |
| 86h | Reserved |
| 87h | NET PC: Build SYSID Structure. |
| 88h | Reserved |
| 89h | 1.Assign IRQs to PCI devices 2.Set up ACPI table at top of the memory. |
| 8Ah | Reserved |
| 8Bh | 1.Invoke all ISA adapter ROMs 2.Invoke all PCI ROMs (except VGA) |
| 8Ch | Reserved |
| 8Dh | 1.Enable/Disable Parity Check according to CMOS setup 2.APM Initialization |
| 8Eh | Reserved |
| 8Fh | Clear noise of IRQs |
| 90h | Reserved |
| 91h | Reserved |
| 92h | Reserved |
| 93h | Read HDD boot sector information for Trend Anti-Virus code |

| POST (hex) | Description |
|-------------------|--|
| 94h | <ol style="list-style-type: none"> 1.Enable L2 cache 2.Program Daylight Saving 3.Program boot up speed 4.Chipset final initialization. 5.Power management final initialization 6.Clear screen & display summary table 7.Program K6 write allocation 8.Program P6 class write combining |
| 95h | Update keyboard LED & typematic rate |
| 96h | <ol style="list-style-type: none"> 1.Build MP table 2.Build & update ESCD 3.Set CMOS century to 20h or 19h 4.Load CMOS time into DOS timer tick 5.Build MSIRQ routing table. |
| FFh | Boot attempt (INT 19h) |