

## **Introduction**

### **System Overview**

This manual was written to help you start using this product as quickly and smoothly as possible. Inside you will find adequate explanations to solve most problems. In order for this reference material to be of greatest use, refer to the “expanded table of contents” to find relevant topics. This board incorporates the system board, I/O ,and PCI IDE into one board that provides a total PC solution. The mainboard,AMD Athlon and Duron processor based PC ATX system,support single processors with ISA Bus, PCI Local Bus, and AGP Bus to support upgrades to your system performance. It is ideal for multi-tasking and fully supports MS-DOS, Windows, Windows NT , Windows 2000 , Novell, OS/2, Windows95/98 , UNIX , SCO UNIX etc.

This manual also explains how to install the mainboard for operation, and how to setup your CMOS configuration with the BIOS setup program.

# **1.Motherboard Description**

## **1.1 Features**

### **1.1.1 Hardware**

#### **CPU**

- Single AMD Socket 462 Athlon/Duron.
- 200MHz System Interface speed.

#### **Speed**

- Supports 33MHZ PCI Bus speed.
- Supports 4X AGP Bus.

#### **DRAM Memory**

- Supports 8/16/32/64....MB DIMM module socket.
- Supports Synchronous DRAM(3.3V)
- Supports a maximum memory size of 1.536GB with SDRAM.

#### **Shadow RAM**

- A memory controller provide shadow RAM and supports 8-bit ROM BIOS.

#### **Green Function**

- Support power management operation via BIOS.
- Power down timer from 1 to 15 mins.
- Wakes from power saving sleep mode at the press of any key or any mouse activity.

#### **Bus Slots**

- Provide one AGP slot and one AMR.
- Five 32-bit PCI bus and one 16-bit ISA.

#### **Universal Serial Bus**

- Supports two back Universal Serial Bus(USB)Ports and two front Universal serial Bus(USB)Ports.

#### **Hardware Monitor Function**

- CPU Fan Speed Monitor.
- System (Optional) and CPU Temperature Monitor.
- System Voltage Monitor.

### **Flash Memory**

- Support flash memory.
- support ESCD Function.

### **IDE Bulit-in On Board**

- Supports four IDE hard disk drives.
- Supports PIO Mode 4, Master Mode, high performance hard disk drives.
- Support Ultra DMA 33/66/100 Bus Master Mode.

### **(Ultra DMA 100 only for 7KTAP)**

- Supports IDE interface with CD-ROM.
- Supports high capacity hard disk drives.
- Support LBA mode.

### **PCI-Based AC 97 Digital Audio Processor (Optional)**

- AC 97 2.1 interface.
- 16 channels of high-quality sample rate conversion.
- 16x8 channel digital mixer.
- Stereo 10 band graphic equalizer.
- Sound Blaster and Sound Blaster Pro emulation.
- S/PDIF output (allows standard interface to consumer electronics).
- 64-voice wavetable.

### **I/O Bulit-in On Board**

- Supports one multi-mode Parallel Port.
  - (1) Standard & Bidirection Parallel Port
  - (2) Enhanced Parallel Port (EPP)
  - (3) Extended Capabilities Port
- Supports two serial ports, 16550 UART.
- Supports one Infrared transmission (IR).
- Supports PS/2 mouse and PS/2 Keyboard.
- Supports 360KB, 720KB, 1.2MB, 1.44MB, and 2.88MB floppy disk drivers.

### **1.1.2 Software**

#### **BIOS**

- AWARD legal BIOS.
- Supports APM 1.2.
- Supports USB Function.
- Supports ACPI

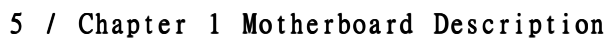
#### **Operation System**

- Offers the highest performance for MS-DOS, Windows, Windows NT , Windows 2000, Novell, OS/2, Windows95/98, UNIX, SCO UNIX etc.

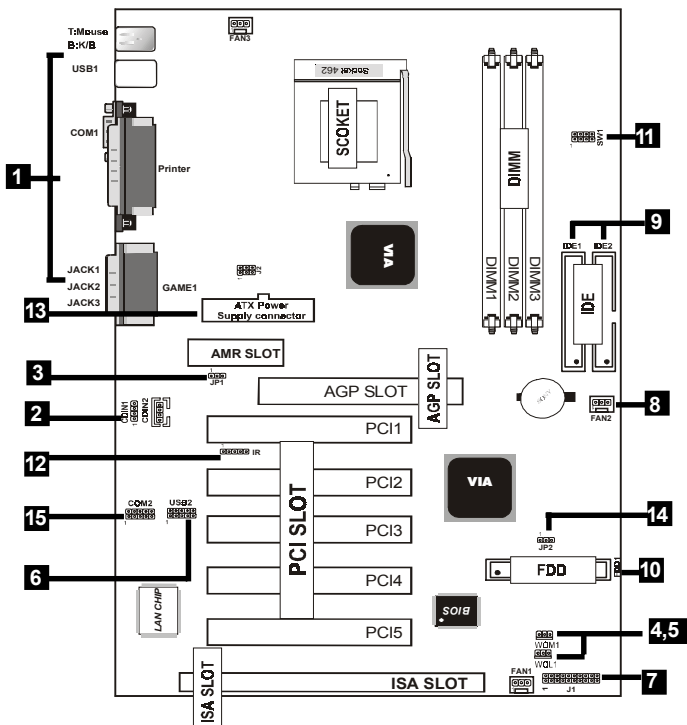
### **1.1.3 Attachments**

- HDD UDMA66/100 Cable.
- FDD Cable.
- Flash Memory Written for BIOS Update.
- USB2 Cable (**Optional**).
- COM2 Cable.
- Fully Setup Driver CD(Ghost, Anitivirus, Adobe Acrobat. . .).

### 1.2.1 Layout of Motherboard

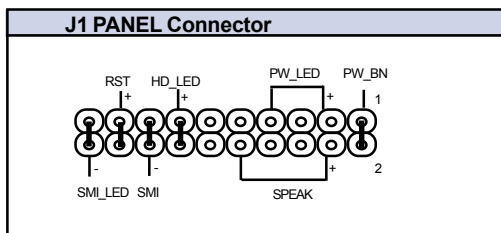


## 1.3 Motherboard Connectors



- 1.Back Pannel I/O Connectors
- 2.CD Audio-In Connector
- 3.AMR CODEC Function(JP1)
- 4.Wake-On MODEM Connector
- 5.Wake-On-LAN Connector
- 6.Front Two USB Connector
- 7.Front Panel Connector
- 8.Fan connectors(Fan1/2/3)
- 9.IDE Connectors
- 10.Floppy Connector
- 11.CPU Clock Selection(SW1)
- 12.IR Connector
- 13.ATX Power Connector
- 14.CMOS Function Select(JP2)
- 15.Front Two COM Connector(COM2)

### 1.3.1 Front Panel Connector(J1)



#### **Speaker Connector (SPEAKER)**

An offboard speaker can be installed onto the motherboard as a manufacturing option. An offboard speaker can be connected to the motherboard at the front panel connector. The speaker (onboard or offboard) provides error beep code information during the Power Self-Test when the computer cannot use the video interface. The speaker is not connected to the audio subsystem and does not receive output from the audio subsystem.

#### **Hard Drive LED Connector (HD\_LED)**

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

#### **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 below) connects to the case-mounted suspend switch. If you do not have a switch for the connector, you may use the Turbo Switch instead since it does not have a function. SMI is activated when it detects a short to open moment and therefore leaving it shorted will not cause any problems. 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, "Suspend Switch" in the Power Management Setup of the BIOS SOFTWARE section should be on the default setting of Enable.

**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 .

**Power LED Lead (PW\_LED)**

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

**SMI LED Lead (SMI\_LED)**

The system SMI LED lights when the system suspend is on.

**Reset Switch Lead (RST)**

The connector can be connected to a momentary SPST type switch that is normally open. When the switch is closed, the motherboard resets and runs the POST.

**1.3.2 Floppy Disk Connector(FDD1)**

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

**1.3.3 Hard Disk Connectors(IDE1/IDE2)**

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 .

If you install two hard disks, you must configure the second drive to Slave mode by setting its jumper settings. 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) .



### 1.3.4 ATX 20-pin Power Connector(PW1)

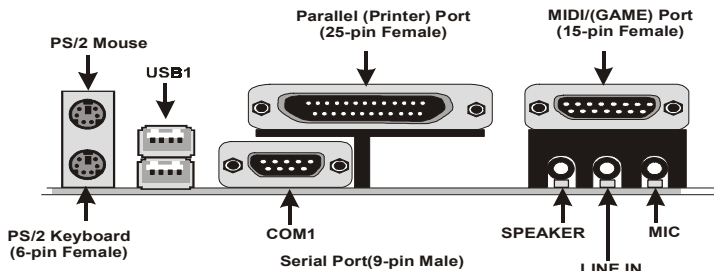
This connector supports the power button on-board. Using the ATX power supply, functions such as Modem Ring Wake-Up and Soft Power Off are supported on this motherboard . This power connector supports instant power-on functionality, which means that the system will boot up instantly when the power connector is inserted on the board.

Pin	Signal	Pin	Signal
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

### 1.3.5 Infrared Connector(IR)

After the IrDA interface is configured, files can be transferred from or to portable devices such as laptops, PDAS, and printers using application software.

## 1.4 Back Pannel Connectors



### 1.4.1 PS/2 Mouse /Keyboard CONN.

The motherboard provides a standard PS/2 mouse / Keyboard mini DIN connector for attaching a PS/2 mouse. You can plug a PS/2 mouse / Keyboard directly into this connector.

### 1.4.2 USB Connectors:USB1(RJ45+USB)

The motherboard provides a OHCI(Open Host Controller Interface)Universal Serial Bus Roots for attaching USB devices such as:keyboard, mouse and other USB devices. You can plug the USB devices directly into this connector.

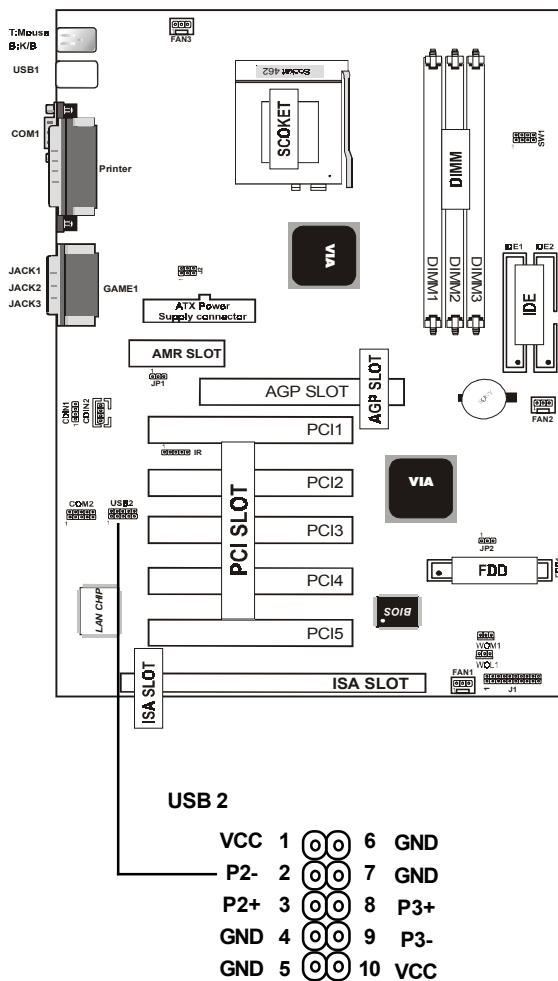


Pin	Signal
1	+5v
2	USBP0-(USBP1-)
3	USBP0+(USBP1+)
4	GND



Pin	Signal
1	+5v
2	USBP0-(USBP1-)
3	USBP0+(USBP1+)
4	GND
RJ45	10/100M LAN Port (option)

## Front Two USB Connectors:USB2



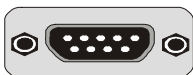
## 1.5 Serial and Parallel Interface Ports

This system comes equipped with two serial ports and one parallel port. Both types of interface ports will be explained in this chapter.

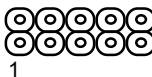
### The Serial Interfaces:COM1/COM2

The serial interface port is sometimes referred to as an RS-232 port or an asynchronous communication port. Mice, printers, modems and other peripheral devices can be connected to a serial port. The serial port can also be used to connect your computer system. If you wish to transfer the contents of your hard disk to another system it can be accomplished by using each machine's serial port.

COM1



COM2



The serial port on this system has one 9-pin connector. Some older computer systems and peripherals used to be equipped with only 25-pin connectors. Should you need to connect your 9-pin serial port to an older 25-pin serial port, you can purchase a 9-to-25 pin adapter.

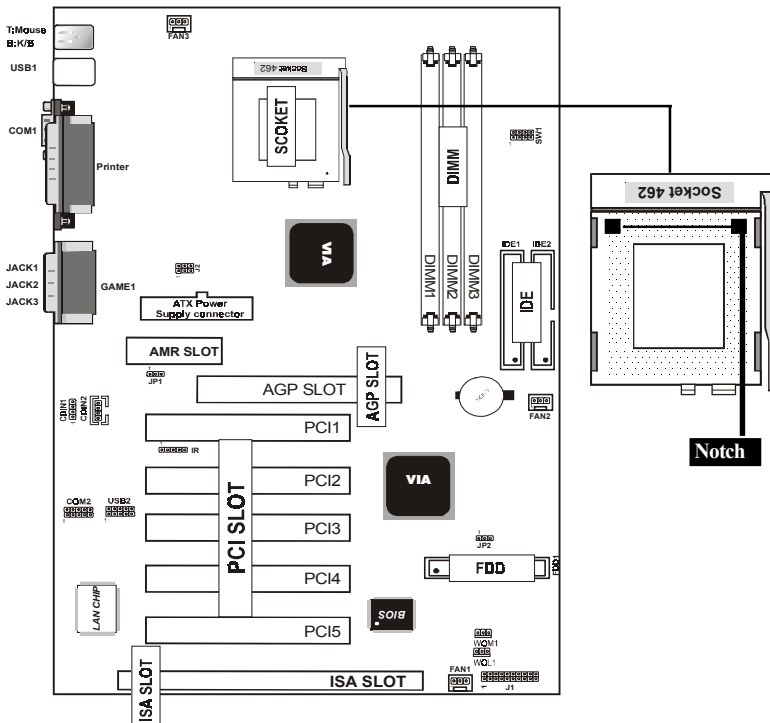
Signal	DB9 Pin	DB25 Pin
DCD	1	8
RX	2	3
TX	3	2
DTR	4	20
GND	5	7
DSR	6	6
RTS	7	4
CTS	8	5
RI	9	22



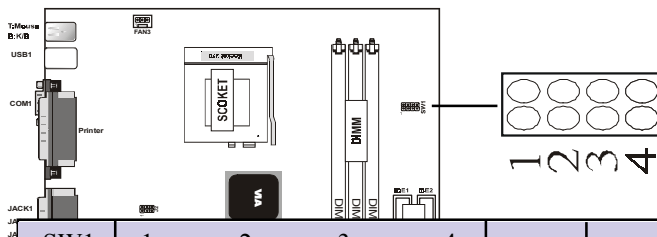
## 1.6 CPU Installation














### 1.6.1 CPU Installation Procedure:Socket 462

- 1.Pull the lever sideways away from the socket then raise the lever to a 90-degree angle.
- 2.Locate Pin 1 in the socket and look for the white dot or cut edge in the CPU. Match Pin 1 with the white dot/cut edge then insert the CPU.
- 3.Press the lever down to complete the installation.
- 4.**Make sure the spec of heatsink is good enough.**



## 1.6.2 CPU Clock Selection:SW1



SW1	1	2	3	4	CPU(MHZ)	PCI(MHZ)
 1234	1	0	1	1	100	33.33
 1234	0	0	0	1	101	33.67
 1234	0	0	1	1	102	34.00
 1234	1	0	1	0	103	34.33
 1234	1	0	0	1	105	35.00
 1234	0	1	0	0	107	35.67
 1234	0	1	1	0	109	36.33
 1234	0	1	0	1	110	36.67
 1234	0	1	1	1	111	37.00
 1234	1	1	0	0	113	37.67
 1234	1	1	1	0	115	38.33
 1234	1	1	0	1	117	39.00
 1234	1	1	1	1	133.3	33.33

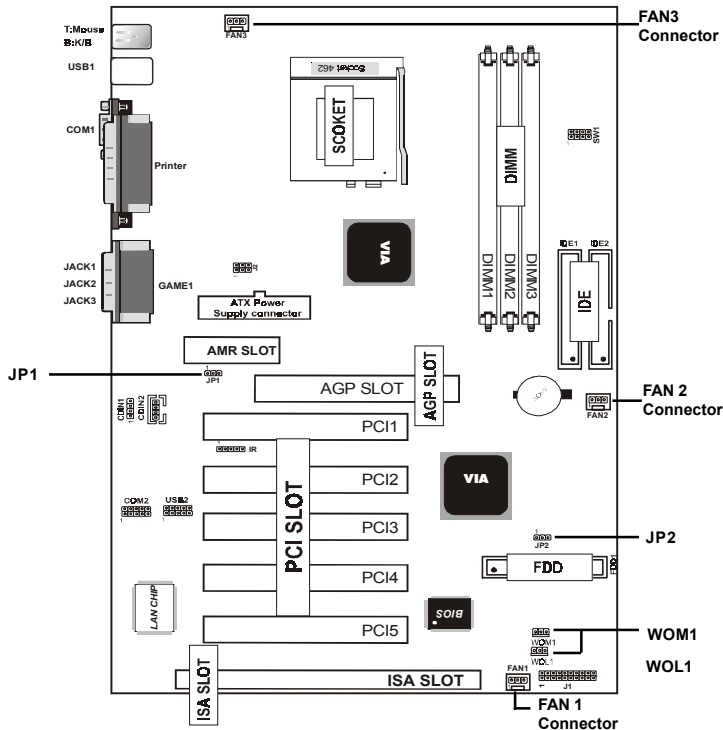
0:ON (Close) 

1:OFF (Open) 

**NOTES:CPU clock speed over 100MHZ is not recommended.**

## 1.7 Jumper Setting

A jumper has two or more pins that can be covered by a plastic jumper cap, allowing you to select different system options.

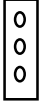


### 1.7.1 CPU/System Fan Connectors: Fan1/3


Pin	Assignment
1	Ground
2	+12VDC
3	Signal




### 1.7.1 CPU/System Fan Connectors:Fan2

Pin	Assignment
 1	Ground
2	+12VDC
3	Ground

### 1.7.2 Wake-On Modem Header:WOM1

Pin	Assignment
 1	5VSB
2	Ground
3	Signal

### 1.7.3 Wake-On LAN Header:WOL1

Pin	Assignment
 1	5VSB
2	Ground
3	Signal

#### 1.7.4 AMR Code Function:JP1

Pin	Assignment
1-2	On board CODEC
2-3	AMR Primary CODEC

#### 1.7.5 CMOS Function Select:JP2

Pin	Assignment
1-2	Normal (Default)
2-3	Clear CMOS

#### NOTE:

**(Please follow the procedure as below to clear CMOS data.)**  
(1)Remove AC power line.(2)JP2(2-3)Closed.(3)Wait five seconds.(4)JP2(1-2) Closed.(5)AC Power on.(6)Reset your desired password or clear CMOS data.

## 1.8 DRAM Installation

### 1.8.1 DIMM

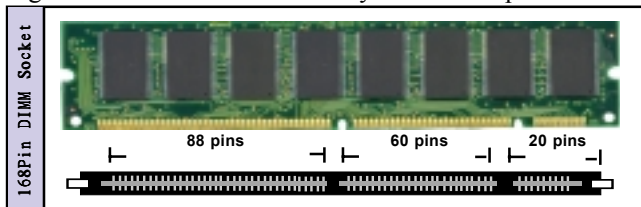
DRAM Access Time:3.3V Unbuffered SDRAM/ PC66/  
PC100 and PC133 Type required.

DRAM Type:8MB,16MB,32MB,64MB,128MB,256MB  
,512MBDIMM Module.(168 pin)

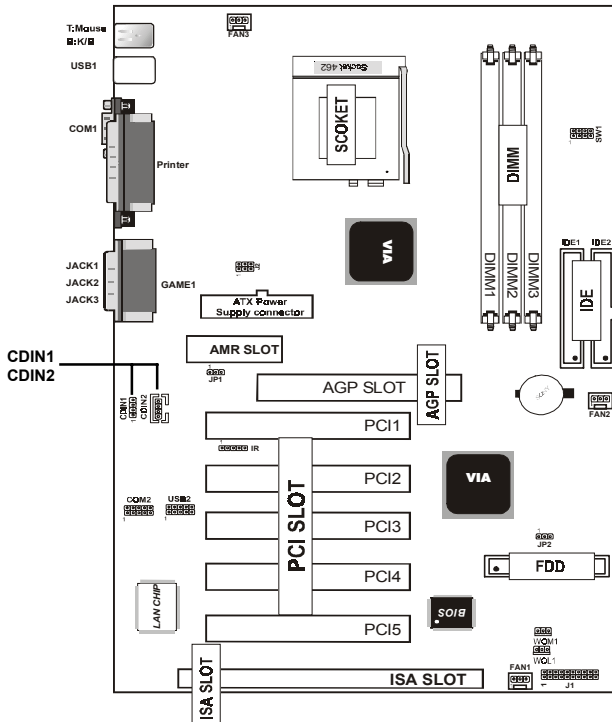
Bank	Memory module
DIMM 1 ( Bank 0-1 )	16MB,32MB,64MB,128MB,256MB,512MB 168 pin,3.3v SDRAM
DIMM 2 ( Bank 2-3 )	16MB,32MB,64MB,128MB,256MB,512MB 168 pin 3.3v,SDRAM
DIMM 3 ( Bank 4-5 )	16MB,32MB,64MB,128MB,256MB,512MB 168 pin 3.3v,SDRAM
	<b>Total System Memory(Max 1.536MB)</b>

### 1.8.2 How to install a DIMM Module

- 1.The DIMM socket has a “Plastic Safety Tab” and the DIMM memory module has an asymmetrical notch”, so the DIMM memory module can only fit into the slot in one direction.
- 2.Push the tabs out. Insert the DIMM memory modules into the socket at a 90-degree angle then push down vertically so that it will fit into place.
- 3.The Mounting Holes and plastic tabs should fit over the edge and hold the DIMM memory modules in place.



## 1.9 Audio Subsystem



### 1.9.1 CD Audio-In Connectors:CDIN1/CDIN2

Pin CDIN1	Assignment
1	CD-R
2	GND
3	GND
4	CD-L

Pin CDIN2	Assignment
1	CD-R
2	GND
3	CD-L
4	GND