

# **Chapter 2 Hardware Setup**

## **To Get Things Ready for Hardware Setup !**

1. We recommend to install your CPU before any other components. For detailed installation instructions of processor, you can also refer to the pamphlet enclosed in your CPU package.
2. Installing a cooling fan with a good heatsink is a must for proper heat dissipation for your CPU. Get ready an appropriate fan with heatsink for proper installation. Improper fan and installation will damage your CPU.
3. In case CPU Vcore, CPU clock or Frequency Ratio is adjustable on board, please follow the instructions described in the User Manual for proper setup. Incorrect setting will cause damage to your CPU.

**The following topics are included in this chapter:**

**2-1 CPU Identification and Installation**

**2-2 Memory Installation**

**2-3 AGP Slot Installation**

**2-4 IDE Connector Installation**

**2-5 Floppy Drive Connector ( FDC ) Installation**

**2-6 ATX Power Supply Installation**

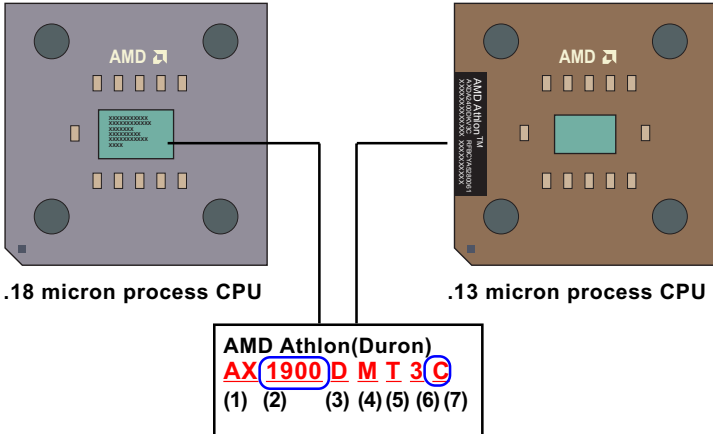
**2-7 Jumper Settings**

**2-8 Other Connectors Configuration**

**2-9 IRQ Description**

## 2-1 CPU Identification and Installation

### 2-1.1 CPU Identification Legends



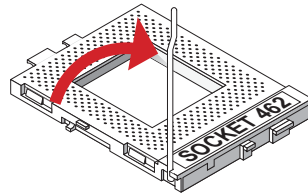
(1)	<b>Family / Architecture:</b> A, AX, AXDA=AMD Athlon Processor D, DHD=AMD Duron Processor
(2)	<b>Speed:</b> 1000=1000MHz, 1600=1400MHz, 1700=1467MHz, 1800=1533MHz, 1900=1600MHz, 2000=1667MHz, 2100=1733MHz, 2200=1800MHz, 2400=2000MHz, 2700=2167MHz
(3)	<b>Package Type:</b> M=Card Module, A=PGA, D=OPGA
(4)	<b>Voltage:</b> L=1.5V, U=1.6V, K=1.65V, P=1.7V, M=1.75V, N=1.8V
(5)	<b>Case Temperature:</b> Q=60°C, X=65°C, R=70°C, Y=75°C, T=90°C, S=95°C
(6)	<b>Size of L2 Cache:</b> 1=64Kbyte, 2=128Kbyte, 3=256Kbyte
(7)	<b>Max FSB:</b> A=B=200MHz, C=266MHz, D=333MHz <b>Note:</b> Get the Host CPU Clock by dividing FSB by 2.

## **2-1.2 CPU Installation with Socket 462**

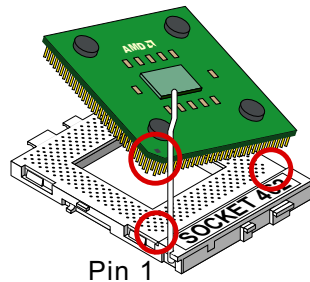
This mainboard is built with CPU Socket 462 supporting the AMD CPUs Athlon, Athlon XP and Duron:

- Follow the steps described in this section to install CPU into the on-board Socket 462.
- After installation of CPU, you must also install a proper cooling fan on top of the CPU and connect the Fan cable to the CPU fan connector.

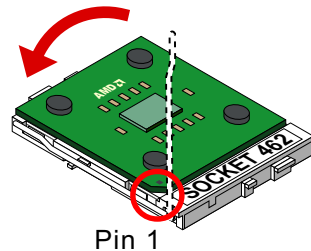
1. First pull sideways the lever of Socket 462, and then turn it up 90° so as to raise the upper layer of the socket from the lower platform.



2. Configure Pin 1 of CPU to Pin 1 of the Socket, just as the way shown in the diagram on the right. Adjust the position of CPU until you can feel all CPU pins get into the pin holes of the socket.



3. Make sure that all CPU pins have completely entered the socket and then lower down the lever to lock up CPU to socket.



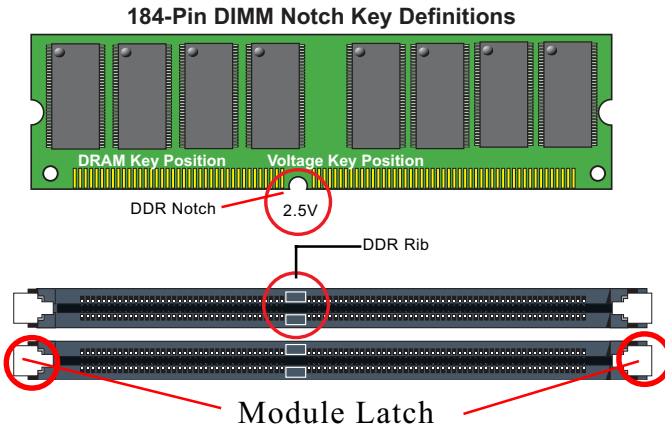
## 2-2 Memory Installation

How to tackle the memory Modules:

- Make sure to unplug your power supply before adding or removing memory module. Failure to do so may cause severe damage to both your mainboard and the memory module.
- Pay attention to the orientation of the DIMM slots. Forcing a DIMM into a slot improperly will damage the memory module and slot itself.
- Make sure you have the right type of memory module for your mainboard.

### 2-2.1 To Install DDR SDRAM Module

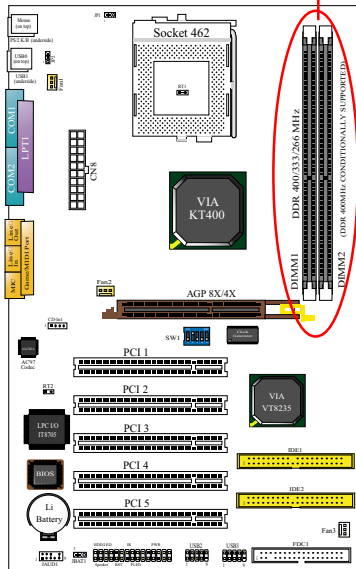
- This series supports up to 2GB unbuffered \*DDR 400/333/266 SDRAM, with 2 DDR DIMM slots on board. Do not insert other type of modules into these slots. Memory support is upgradable to DDR 400 without guarantee of success in BIOS Setup.
- \* DDR 400 Module is supported on condition that the module has passed Soltek DDR 400 Memory Module Validation Test. Soltek Computer Inc. typically runs a DDR 400 Memory Module Validation Program for Chipset VIA KT400/P4X400A. Detailed information is available in Soltek Web Site: [www.soltek.com.tw](http://www.soltek.com.tw)
- DDR DIMM slot has 184-pins and one notch. Insert a DDR SDRAM vertically into the 184-pin slot with the notch-to-rib matching.



## 2-2.2 To Remove a DIMM

Press down the holding latches on both sides of slot to release the module from the DIMM slot.

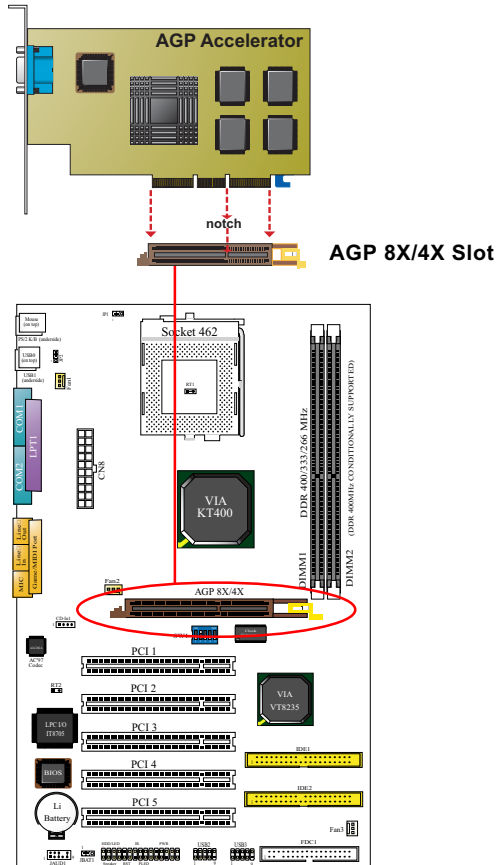
DDR DIMM Slots  
(184-pin)



## 2-3 AGP Slot Installation

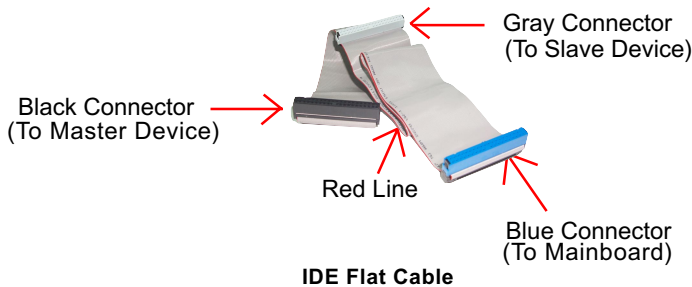
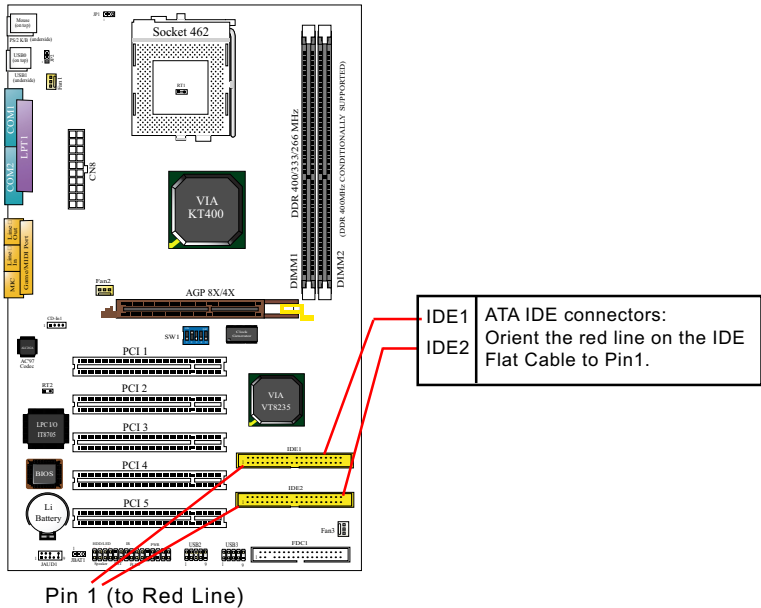
The AGP slot on board supports 1.5V AGP 8X/4X card only. A Rib is specifically added to the 8X/4X slot so as to match the AGP 8X/4X card. To insert a 3.3V AGP 2X card into the AGP 4X slot will damage the system chip and burn the 1.5V circuitry.

An AGP 8X card will support a data transfer rate up to 2GB/sec., while an AGP 4X card will provide 1GB/sec transfer rate.



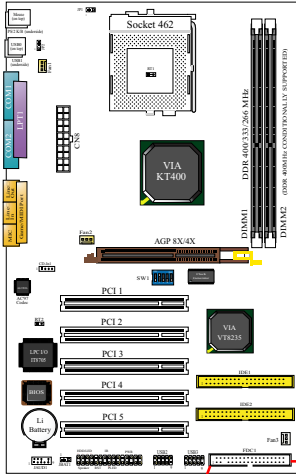
## 2-4 IDE Connector Installation

To install IDE Connector, you may connect the blue connector of IDE cable to the primary (IDE1) or secondary (IDE2) connector on board, and then connect the gray connector to your slave device and the black connector to your master device. If you install two hard disks, you must configure the second drive to slave mode by setting its jumpers correctly. Please refer to your hard disk documentation for the jumper settings.



## 2-5 Floppy Drive Connector ( FDC ) Installation

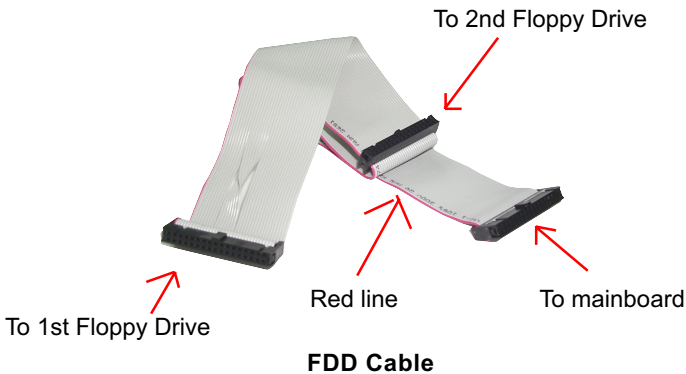
To install FDC, you should connect the end of FDC cable with single connector to the board, and connect the other end with two connectors to the floppy drives.



Floppy Drive Connector:

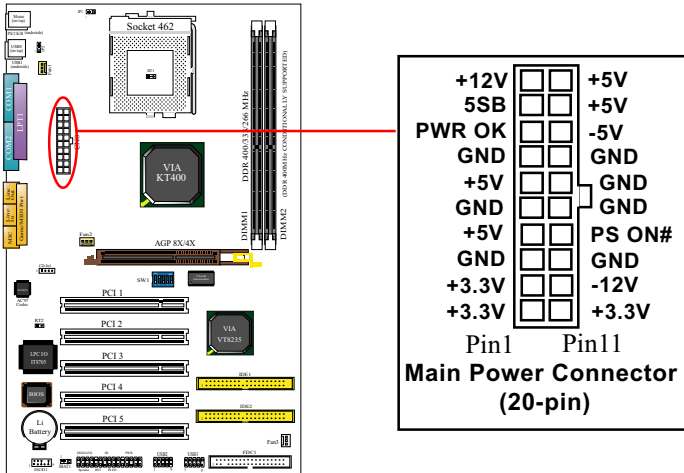
Orient the red line of the Floppy Flat Cable to Pin1.

Pin 1 (to Red Line)





## 2-6 ATX Power Supply Installation



To set up Power Supply on this series:

1. Connect the on-board Main Power Connector (20-pin) to the Main Power Connector (20-pin) of an ATX Power Supply which can be either of the latest version 2.03 or of earlier ATX model.

## 2-7 Jumper / Switch Settings

The following diagrams show the locations and settings of jumper / switch blocks on the mainboard.

**JP1: Anti-burn Shield (ABSII)**  
(Overheated CPU Shutdown)  
(only for Athlon XP/Duron Morgan)

1 1-2 closed (default)  
Enable overheated CPU (85°C) shutdown function

1 2-3 closed  
Disable overheated CPU shutdown function

**JP2: Keyboard/Mouse Power On / Wake Up**

1 1-2 closed  
KB/Mouse Power On / Wake Up Enabled

1 2-3 closed (default)  
KB/Mouse Power On / Wake Up Disabled

**JBAT1 Clear CMOS**

1 1-2 closed (default)  
To hold data

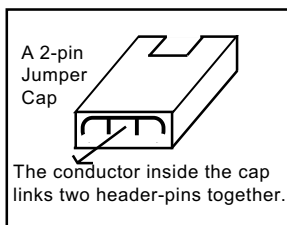
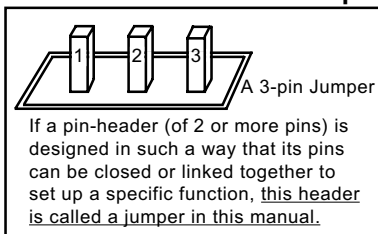
1 2-3 closed  
To clear CMOS

**SW1 (5-Dip)** On   
Off

**SW1 (5-Dip): CPU Clock/Overclock Select**

CPU Clock	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5
100MHz (default)	Off	On	Off	Off	Off
133MHz	On	Off	On	Off	Off
166MHz	On	Off	On	On	On

### 2-7.1 How to tackle the Jumpers:



- A Jumper is usually but not necessarily given a “JpX” legend.
- In the Jumper setting diagram, all jumper pins covered with black marks stand for closed pins with jumper cap.

Jp X    1   3  
Jumper with  
Pin 2-3 closed

1   3  
Jumper with  
all pins open


1   3  
Jumper with  
Pin 1-2 closed

- Do not remove any jumper cap when power is on. Always make sure the power is off before changing any jumper settings. Otherwise, mainboard could be damaged.

### 2-7.2 SW1: CPU Clock/Overclock Select

SW1 is designed on board as a 5-dip switch for CPU clock select.

1. Before setting the CPU clock, read the Identification Legend on the CPU, find the Max FSB and divide it by two. The result is the default CPU clock.
2. Select the CPU clock you want from 100/133/166MHz and set SW1 to match your choice.
3. If you select a CPU clock which is higher than your default CPU clock, it means that an overclock is desired. However, if an overclock fails to boot system, you should restore the default setting and then clear CMOS to rebooting your system. (See Clear CMOS in next paragraph.)

SW1 (5-Dip) 					
SW1 (5-Dip): CPU Clock/Overclock Select					
CPU Clock	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5
100MHz (default)	Off	On	Off	Off	Off
133MHz	On	Off	On	Off	Off
166MHz	On	Off	On	On	On

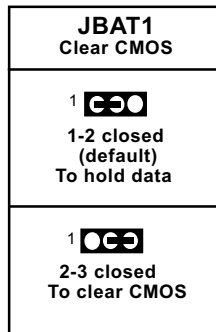
Further notes on CPU Overclocking:

1. If you have successfully booted system with or without CPU overclock, you still can do another CPU overclock in BIOS Setup. Please enter BIOS Setup, choose "Frequency/Voltage Control" menu, and take the "Use Linear" option of the "Use CPU Linear Frequency". Then configure the "CPU Clock" item to raise your CPU clock.
2. CPU overclocking should take all components on board into account. If you fail in BIOS overclocking, you will not be able to restart system. In such case, power off system and clear CMOS by JBAT1 as stated below and then restart your system. And remember to reconfigure whatever should be reconfigured.
3. If your system is already fixed in a cabinet or case, you may not like to take the trouble to clear CMOS. Then power on your system with the power button on the case and simultaneously press down the "Insert" key of the keyboard until you see the initial bootup screen appear. And remember you should also enter CMOS BIOS Setup and choose "Load Optimized Defaults" to restore default BIOS .



### **2-7.3 JBAT1: Clear CMOS**

When you have problem with rebooting your system, you can clear CMOS data and restore it to default value. To clear CMOS with Jumper JBAT1, please follow the steps below:

1. Power off system.
2. Set JBAT1 to Pin 2-3 closed.
3. After 2 or 3 seconds, return the JBAT1 setting to Pin1-2 closed.
4. CMOS data are restored to default. Remember never clear CMOS when system power is on.



## 2-7.4 Jp1: Anti-burn Shield (ABSII)

<b>JP1:</b> <b>Anti-burn Shield (ABSII)</b> <b>(Overheated CPU Shutdown)</b> <b>(only for Athlon XP/ Duron Morgan)</b>	
	<b>1-2 closed (default)</b> Enable overheated CPU (85°C) shutdown function
	<b>2-3 closed</b> Disable overheated CPU shutdown function

JP1 is designed to enable the overheat safeguard for some CPUs which are incorporated with a protective thermal diode. The latest AMD Athlon XP and Duron Morgan CPUs are incorporated with such thermal diode and can be protected by this function. Setting JP1 1-2 closed (default setting) will get system shutdown when any of the above-mentioned CPUs gets to 85°C (the default protection temperature.) Only when the CPU returns to a cooler state can you restart your system.



For other CPUs that are not incorporated with a protective thermal diode, please set JP1 2-3 closed to disable the function because it is a vain design now.

Reminder: If a sudden shutdown happens to your system which has been running well for a while with an AMD Athlon XP/Duron Morgan CPU, this might be caused by the “Overheated CPU Shutdown” design. Please use a better CPU cooling fan to restart your system.

### **2-7.5 JP2: KB/Mouse Power On / Wake Up**

JP2 is designed on board as a jumper to enable/disable the PS/2 keyboard/mouse Power On/Wake Up from system off or suspend mode. Yet users should still enter BIOS setup to choose the Wake Up/ Power On mode.

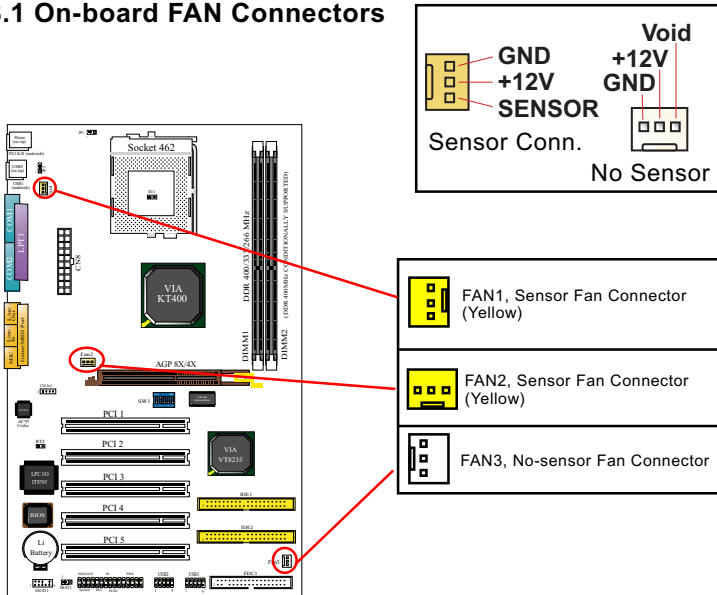
USB keyboard/mouse Wake Up function is not supported in this mainboard.

<b>JP2: Keyboard/Mouse Power On / Wake Up</b>	
 1	<b>1-2 closed</b> KB/Mouse Power On / Wake Up Enabled
 1	<b>2-3 closed (default)</b> KB/Mouse Power On / Wake Up Disabled

## 2-8 Other Connectors Configuration

This section lists out all connectors configurations for users' reference.

### 2-8.1 On-board FAN Connectors



Both Sensor and No-sensor Fan Connectors support CPU/AGP/System/Case cooling fan with +12V mode. When connecting the wire to any Fan Connector, user should make sure that the red wire is for the positive current and should be connected to pin +12V, and the black wire is Ground and should be connected to pin GND. A Hardware Monitor chipset is on board, with which user can install a Hardware Monitor Utility and read the fan speed transmitted from the sensor fan connector. Otherwise, user can read the fan speed from the "Hardware Monitor Status" in CMOS BIOS.

A running fan will send out 2 electric pulses per rotation of its fan blade to a Sensor Fan Connector which in turn will count the electric pulses and send the information to the System Hardware Monitor. The hardware Monitor Program will work out the fan rotation speed and display it on screen.

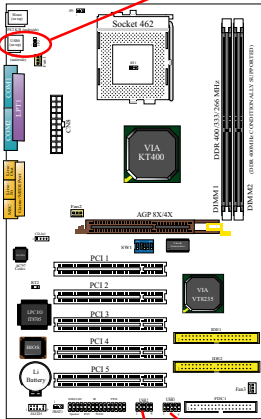
## 2-8.2 USB Ports and USB Pin-headers

This series provides two USB ports USB0 and USB1 on board supporting various USB devices. In addition, two USB pin-headers are added on board to provide expansion of four more optional USB ports by using two additional USB Cables. User can order the optional USB cables from your mainboard dealer or vender.

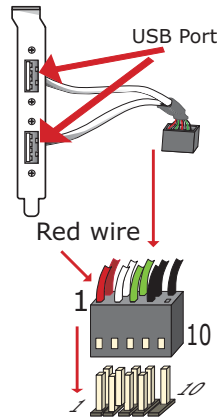
When plugging the USB cable to USB Header, user must make sure the red wire is connected to Pin 1.

All 6 USB ports are compliant with 1.0 / 2.0 USB Bus. USB 2.0 supports Win 98 and above. USB 1.0 / 2.0 drivers are provided in Support CD for user's installation.

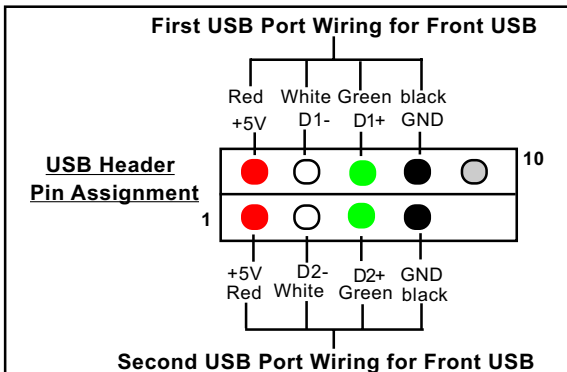
USB connectors USB0 and USB1 (underside)



USB Cable (Optional)

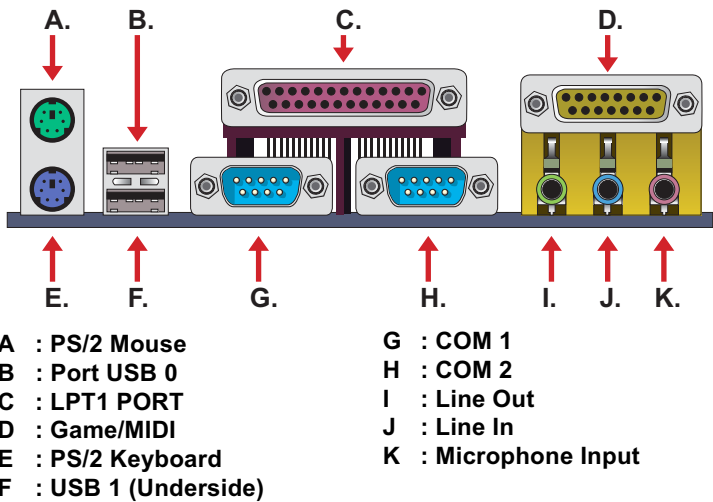


USB Pin-headers USB2 and USB3



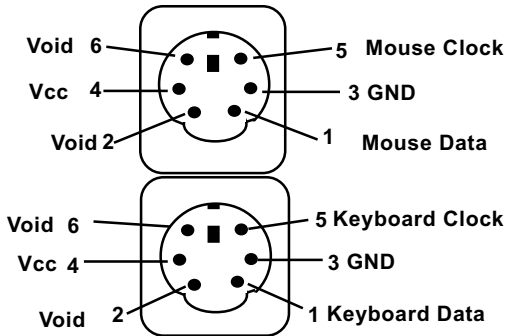


2-8.3 Chassis Panel Connectors



2-8.4 PS/2 Mouse and PS/2 Keyboard

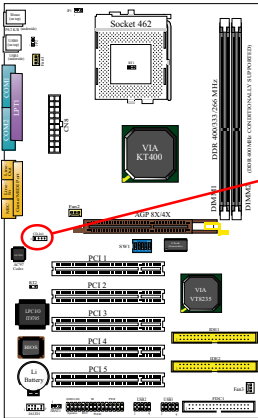
(PS/2 Mouse: On top of keyboard connector, Green Color)



(PS/2 Keyboard Connector: Underside, Purple Color)

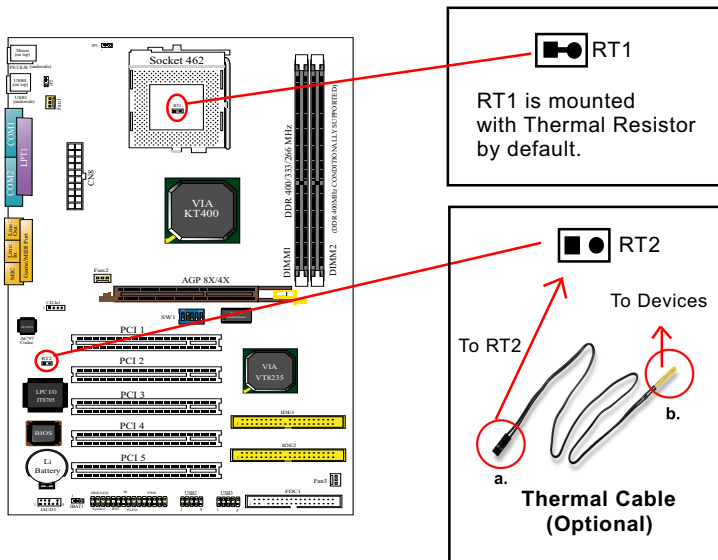
## 2-8.5 CD-ROM Audio Connectors (CD-In1)

CD-In1 is an audio connector connecting CD-ROM audio to mainboard.



CD-ROM Audio Connector	
CD-In1 1	Pin Signal
Pin 1	Left Channel
Pin 2	GND
Pin 3	GND
Pin 4	Right Channel

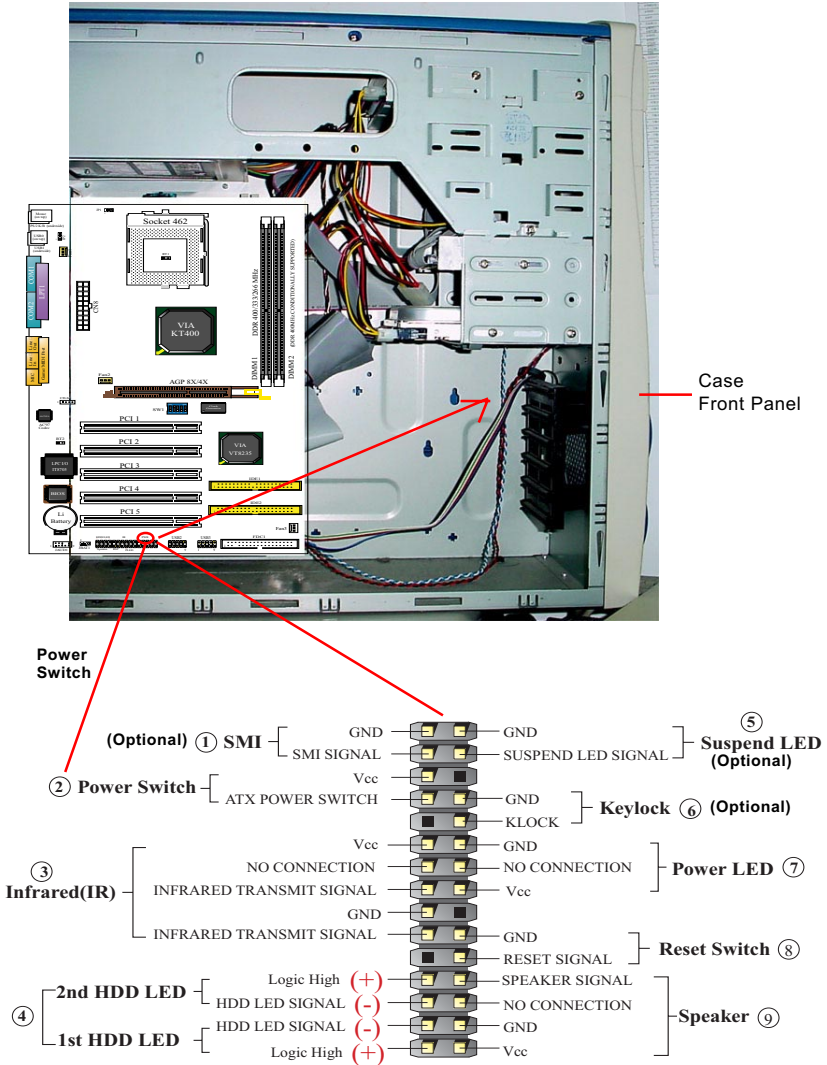
## 2-8.6 Thermal Connectors



1. Connector RT1: A thermal resistor is mounted by default to connector RT1 so as to detect the temperature of the CPU. What RT1 does is to transmit the thermal signal to BIOS or Hardware Monitor.
2. Connector RT2: A thermal cable is needed to connect RT2 to on-board devices such as HDD, Graphics card etc., so as to detect the temperature generated therein. Please connect the end (a) of the thermal cable to RT2, and tape another end (b) of the thermal cable on to the device which you want to monitor. After you have finished the thermal cable installation, you will **see the detected temperature in BIOS setup or Hardware Monitor utility.**

## 2-8.7 Complex Pin-header (Front Panel Connectors)

This complex Pin-header consists of the following connectors for various front panel supports. When you have fixed the mainboard to the case, join the connectors of this Complex Pin-header to the case Front Panel.



**(1) SMI Connector (Optional):**

Connectedion: Connected to the Suspend Switch.

Function: Manually selecting DOS system into the Suspend Mode or "Green Mode" by System Mangement Interrupt.

**(2) Power Switch Connector:**

Connectedion: Connected to a momentary button or switch.

Function: Manually switching the system between "On" and "Soft Off". Pressing the momentary button for more than 4 seconds will also turn the system off.

**(3) IR Connector (Infrared Connector):**

Connectedion: Connected to Connector IR on board.

Function: To support wireless transmitting and receiving module on board.

**(4) 1st HDD LED Connector/2nd HDD LED Connector:**

Connectedion: Connected to HDD LED.

Function: To supply power to HDD LED.

**(5) Suspend LED Connector (Optional):**

Connectedion: Connected to Suspend Indicator.

Function: To supply power to "Suspend Indicator".

**(6) Keylock Connector (Optional):**

Connectedion: Connected to keyboard.

Function: To lock keyboard and disable keyboard function.

**(7) Power LED Connector:**

Connectedion: Connected to System Power LED.

Function: To supply power to "System Power LED".

**(8) Reset Switch Connector:**

Connectedion: Connected to "Reset Switch".

Function: To supply power to "Reset Switch" and support system reboot function.

**(9) Speaker Connector:**

Connectedion: Connected to the case-mounted Speaker.

Function: To supply power to the case-mounted Speaker.

## 2-8.8 JAUD1: Front Panel Audio Connector (optional)

This Mainboard is designed with a Front Panel Audio connector “JAUD1” which provides connection to your chassis.

1. When JAUD1 is set to 5-6 closed and 9-10 closed, this default setting disables this connector and leaves the Back Panel Audio enabled.
2. To use this Front Panel Audio Connector, please open all pins of JAUD1 and connect it to the Front Panel Audio Connector.

