

**693ATX / 693ATL  
693BTX/693BTL**

**Socket 370**

**Pentium II/!!!**

**Celeron**

**ATX MAINBOARD**

**( VER. 2.x )**

**USER'S MANUAL**

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### SOMETHING IMPORTANT !

#### ☆ **TRADEMARKS**

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#### ☆ **LOAD SETUP DEFAULTS**

“LOAD SETUP DEFAULTS” is the function which will have the BIOS default settings loaded into the CMOS memory, these default settings are the best-case values which will optimize system performance and increase system stability. This function will be necessitated when you receive this mainboard, or when the system CMOS data is corrupted. Please refer to the [Section 4.11](#) for the procedures.

#### ☆ **DISCHARGE CMOS DATA**

Whenever you want to discharge the CMOS data or open the system chassis, Make sure to disconnect the AC power first because there is always the 5V standby voltage connected to the ATX form-factor mainboard. Without disconnecting the AC power connector from the PC system, the mainboard can be damaged by any improper action .

#### ☆ **WAKE ON LAN**

In order to support the Wake On LAN feature, the system requires a special SPS (Switching Power Supply), Such power supply must be able to provide at least 700 mA of driving capability on the “5V standby” voltage. Please refer to page 3-11 for pin assignment.

#### ☆ **WARNING !**

The "Static Electricity" may cause damage to the components on the mainboard, In order to avoid the damage to the mainboard accidentally, please discharge all static electricity from your body before touching this mainboard.

#### ☆ **NOTICE**

Information presented in this manual has been carefully checked for reliability; however, no responsibility is assumed for inaccuracies. The information contained in this manual is subject to change without notice.

## **1. INTRODUCTION**

### **1.1 OVERVIEW**

This Mainboard is the ATX form-factor with the Socket 370 CPU connector designed on the board. VT82C693A and VT82C686A (or VT82C686B) chipset is chosen as the system core logic of the mainboard for Pentium™ !!! and Celeron™ processors. VIA VT82C693A supports 66MHz, 100MHz and 133MHz high speed Front Side Bus frequency (FSB). So this mainboard allows you to install wide range of Pentium™ !!! and Celeron™ processors.

VT82C686A (or VT82C686B) is chosen as the southern bridge of the core logic on the mainboard. It is a high integration, power-efficient and high compatibility device. It supports the PCI bridge functionality to make a complete PC99-compliant PCI/ISA system. Beside the ISA extension bus functionality, there are two channels of "PIO" and "Ultra DMA Bus Master" IDE ports to support the most updated Ultra DMA HDD. There are one Floppy Disk controller, two high speed Serial ports (UARTs), one multi-mode Parallel port, one PS/2™ mouse port, one IR interface and four USB ports designed on the board for wide variety of peripheral connection.

#### **What is Socket 370?**

Basically, there are two different packages for the modern CPU – Slot type and Socket type. Because of the high integration of the semiconductor is getting sophisticated, the outlook of most Pentium™!!! and Celeron™ processors are the socket 370 package. This mainboard has the socket 370 connector designed on the board and it will support the most popular Pentium™!!! and Celeron™ processors.

#### **Accelerated Graphic Port (AGP)**

The demand for 3D graphic rendering and the throughput of screen display performance is increasing. AGP is the new interface which will increase massive bandwidth between VGA card and CPU to increase the display quality and performance to meet the high display performance requirement. There is the 2X AGP slot built on the board where you can install the AGP VGA card. When you have the AGP display card installed on the mainboard, it will enhance the system display performance tremendously.

**Hardware Monitoring**

There is the hardware monitoring designed on the mainboard. You can always use the hardware monitoring feature to monitor the system healthy status. Basically, the hardware monitoring feature will monitor the status of the cooling fan speed, system voltage and CPU temperature etc.

**AMR Slot**

AMR Slot – Audio Modem Riser Slot. It is the interface designed on the mainboard for the audio and modem interface card. Basically, the AMR slot is the cost effective solution for customers and it is the optional choice for customers. Since there is the 3D audio interface built on the mainboard, so you need not to install the audio interface card on the AMR slot. If you want to install a modem to the PC system, you may choose to install the AMR modem interface card on the AMR slot.

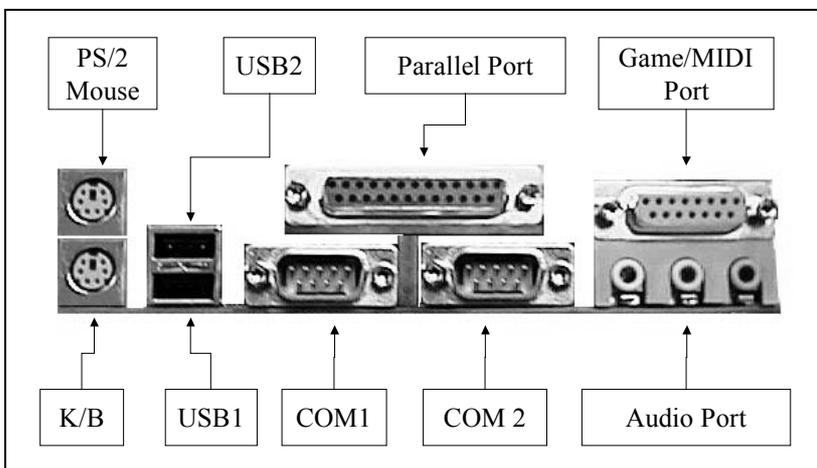
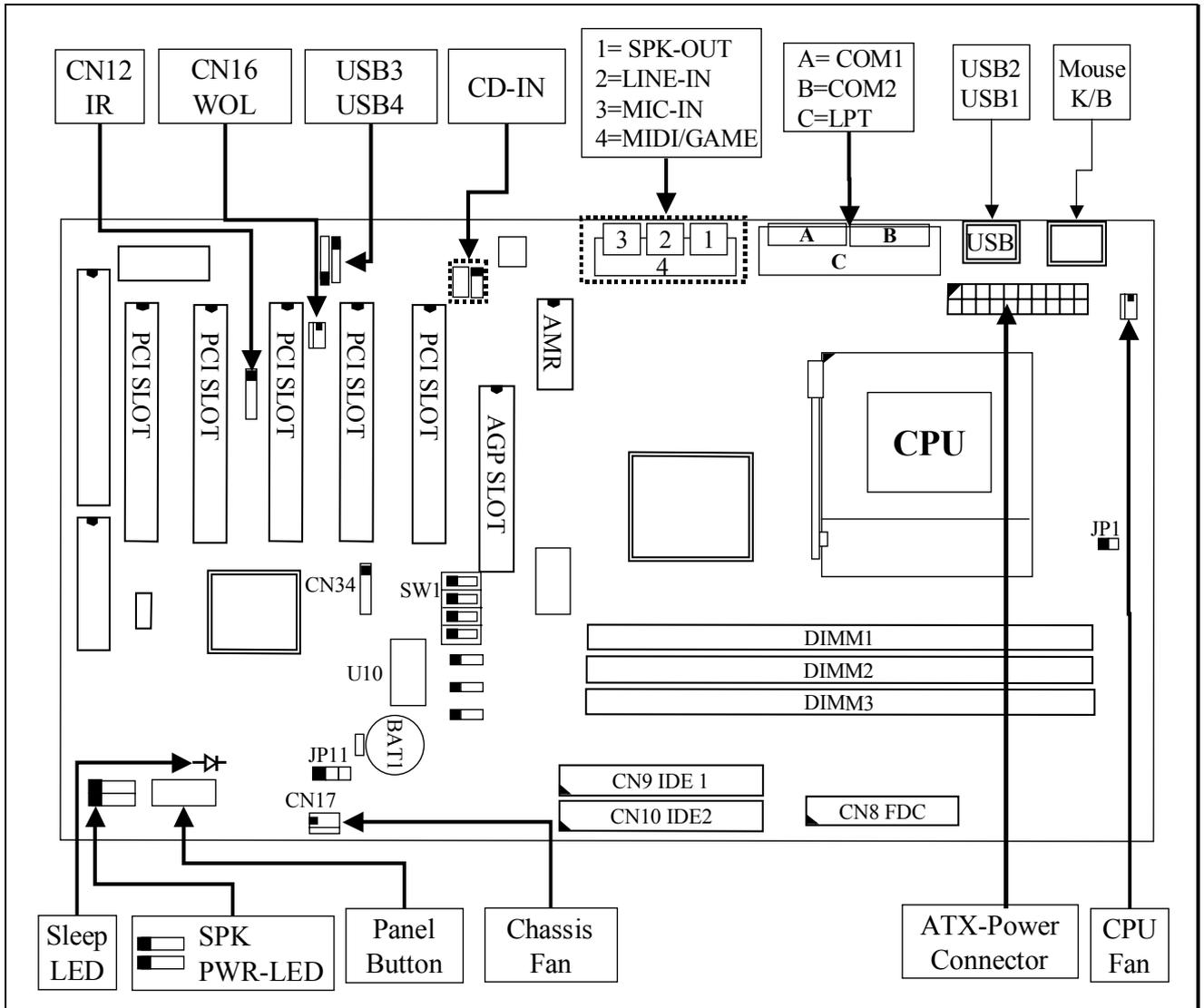
There is the 3D audio interface integrated on the mainboard Basically, the onboard audio interface is the optional choice for customers. (693ATX and 693BTX have the audio interface and AMR slot designed on the board, but 693ATL and 693BTL do not support audio interface and AMP slot.). If you find there is the audio interface on the mainboard, you can connect the speaker directly to the onboard audio interface (CN18, shown in section 1-2) and you will have the 3D sound effect in your PC system.

According to the logic applied on this mainboard, several different model will be created as shown in the following table: Please refer to the following table for the difference:

<b>MODEL</b>	<b>IDE Interface</b>	<b>AMR Slot</b>	<b>Onboard 3D Audio</b>
693ATX	Ultra DMA 33/66	Yes	Yes
693ATL	Ultra DMA 33/66	No	No
693BTX	Ultra DMA 33/66/100	Yes	Yes
693BTL	Ultra DMA 33/66/100	No	No

**Note** Pentium™ !!! and Celeron™ are the 32-bit processors with RISC technology, which offers several key features such as built-in 512K/256/128K L2 cache, 12-stage super-pipeline architecture, out of order execution ... etc. In order to optimize of its capabilities and performances, the 32-bit Operating System (such as Windows® and OS/2™) and 32-bit applications are recommended.

1.2 MAINBOARD LAYOUT



**Note:**  
Audio port (CN18) and AMR slot are the optional choices on the mainboard.

### 1.3 SPECIFICATIONS

#### ⊙ CPU

Intel® Socket 370 Pentium™ !!! or Celeron™ 300, 333, 366, 400, 433, 466, 500, 533, 550, 600MHz and higher speed processors

#### ⊙ CPU VCC

Switching Voltage Regulator circuits on board, supports +1.30V DC through +2.05V DC CPU Core Voltage.

*Note : The CPU Core Voltage will be Detected and adjusted automatically by the VID-pin on the CPU, so there is no manual-adjustment required to select the CPU voltage. Simply plug in the CPU and start immediately.*

#### ⊙ WORD SIZE

Data Path : 8-bit, 16-bit, 32-bit, 64-bit  
Address Path : 32-bit

#### ⊙ PC SYSTEM CHIPSET

693ATX and 693ATL: VIA VT82C693A and VT82C686A chipset  
693ATL and 693BTL: VIA VT82C693A and VT82C686B chipset

#### ⊙ FRONT SIDE BUS FREQUENCY

66 MHz 100MHz and 133MHz.

#### ⊙ MEMORY

Three 168-pin DIMM sockets are designed onboard. Maximum memory size can be up to 1.5GB with Parity/ECC.

#### ⊙ BIOS

AWARD System BIOS. 2M bit Flash ROM  
(Supports Plug & Play, ACPI, DMI and Green functions).

#### ⊙ EXPANSION SLOTS

AGP Slot : One 32-bit AGP Slot (Supports 1x, 2x AGP graphics cards)

PCI Slot : Five 32bit PCI slots.

ISA Slot : One 16-bit ISA slot (the ISA slot is PCI/ISA shared)

AMR Slot : One AMR slot for modem interface card.

*(Note: AMR slot is not installed on 693ATL and 693BTL mainboard.)*

**⊙ WOL PORTS**

One WOL connector supports Wake-On-LAN functionality.

**⊙ USB PORTS**

Four Universal Serial Bus (USB) ports..

**⊙ IDE PORTS**

Two channels of Ultra DMA33/66 (VT82C686B will support Ultra DMA/100) Bus Master IDE ports, which will support up to 4 IDE devices like IDE hard disk, ATAPI CD-ROM and LS-120/ZIP-100 devices. The IDE ports can be programmed to support PIO Mode 4, DMA mode 2 and Ultra DMA33/66 to support the modern IDE devices.

**⊙ SUPER I/O PORTS**

1. Two high speed NS16C550 compatible serial ports (UARTs).
2. One parallel port, supports SPP/EPP/ECP mode.
3. One Floppy Disk Control port.

**⊙ IR PORT**

One HPSIR and ASKIR compatible IR transmission connector (5-pin).

**⊙ MOUSE AND KEYBOARD**

One PS/2™ mouse connector, One PS/2™ keyboard connector.

**⊙ 3D SOUND (Optional)**

Integrated PCI-mastering dual full-duplex direct-sound AC97-link-compatible sound interface. ( 693ATL and 693BTL do not support the 3D sound interface)

**⊙ ACPI**

Advanced Configuration and Power Interface (ACPI) function is strongly recommended by PC'98 because it will let you have many additional features and that will make your PC system becomes very friendly and convenient. Followings are the ACPI features designed on the board:

1. On Now: power on the system by panel-switch, Modem ring-in, RTC alarm or LAN signal.
2. Power off (soft-off) by OS or Panel-switch.
3. Resuming of PC system. (such as Modem ring-in, RTC alarm, .... etc.)
4. Supports Full-On/Doze/Suspend operating modes.

**◎ HARDWARE MONITORING**

The hardware monitoring feature is designed on the board to monitor hardware healthy status like system voltage, CPU temperature, and cooling fans. When the hardware monitoring program is installed in the PC system, it will keep monitoring the mainboard status. If there is something which is not working normally, then you will receive a warning message on the screen display so that you can take proper action to prevent your system from damage.

There is the hardware monitoring program in the CD which comes with this mainboard. When you feel like to use the hardware monitoring feature to monitor the mainboard healthy status, please refer to the following for the procedure:

1. Insert the CD disc into the CD ROM drive.
2. Change the directory to "D:\Driver\Mainboard\VIA\Hardware Monitoring"
3. Click on the "SETUP" icon and follow the screen instruction to complete the setup.

**◎ DIMENSION**

1. Width & Length : 305 mm x 210 mm.
2. Height : 1 1/2 inches with CPU Retention Mechanism.
3. PCB Thickness : 4 layers, 0.05 inches normal.
4. Weight : 18 ounces.

## 2. INSTALLATION

### 2.1 UNPACKING

The mainboard contains the following components. Please inspect the following contents and confirm that everything is there in the package. If anything is missing or damaged, call your supplier for instructions before proceeding.

-  Mainboard
-  User's manual
-  One IDE cable
-  One FDD cable
- USB Cable (Optional)
-  One CD diskette for device driver and utility programs

The color box of the mainboard can protect the mainboard from unexpected damage during the transportation. Since this mainboard contains electrostatic sensitive components and it can be easily damaged by static electricity. So the mainboard is sealed inside a ESD bag so that the mainboard can be protected against the unexpected damage. Please always leave the mainboard sealed in the original packing until when installing.

A grounded anti-static mat is recommended when unpacking and installation. Please also attached an anti static wristband to your wrist and have it grounded to the same point as the anti-static mat.

After the opening of the mainboard carton, please observe the mainboard carefully to make sure there is no shipping and handling damage before you can start to install the PC system.

Having finished all the procedures above, you are now ready to install the mainboard to the chassis. Please make sure that the chassis is the ATX type so that the mounting hole will match with this mainboard.

***IMPORTANT NOTICE:***

*The standby voltage is always active. Whenever you are installing any component on the mainboard.*

***- BE SURE TO DISCONNECT THE POWER CABLE.***

## 2.2 QUICK INSTALLATION

This section provides a quick installation guide. If you do not have enough experience to install the mainboard the PC system correctly, please refer to the following procedures to install your PC system:

1. Refer to Section 2-1 to avoid the static electricity damage.
2. Remove the mainboard from the packing and put it on the table. (the surface must be very smooth)
3. Lift the actuation level of the CPU socket and then refer to the CPU user's guide to install the CPU onto the socket properly. (refer to Section 3-1 to find CPU socket)
4. When the CPU is installed on the socket, close the socket by lowering and locking the actuation lever.
5. Have the CPU cooling fan installed onto the CPU and connect it to the cooling fan power connector.
6. Install the DIMM module onto the DIMM socket. (refer to Section 3-3)
7. Install the mainboard into the cabinet. (**please do not connect the power cable!!**).
8. Connect the panel switch and LED to the mainboard. (refer to Section 3-4)
9. Use the ribbon cable to connect the FDD, IDE HDD and CD ROM drive.
10. Install the VGA card, LAN card and FAX/Modem card ... etc.
11. Have the power supply connected to the ATX power connector on the mainboard.
12. Connect the peripheral devices such as monitor, keyboard, mouse ... etc.
13. Connect the power cable and power on the PC system.
14. When you see the POST screen display (refer to Section 4-1), click the "Del" key to trigger the BIOS setup screen.
15. Select "LOAD SETUP DEFAULTS" in the BIOS setup program so that the suggested parameter will be loaded into the CMOS memory.
16. Exit the BIOS setup program and then restart the PC system.
17. Install the operation system (such as Windows).
18. Install the device drivers and other application software.

### IMPORTANT NOTICE:

1. *Do no power on the PC system unless a qualified cooling fan is installed properly.*
2. *Before all the components are installed in the PC system properly, please do not connect the power cable to the PC system.*
3. Do not install mainboard into the cabinet and then install DIMM module and CPU. Otherwise, this mainboard may be damaged when install CPU and DIMM module.

## 2.3 POWER ON THE PC SYSTEM

When the mainboard has been installed successfully, there are several ways to power on the system. Please read the following description for all the details.

### POWER BUTTON

The power button can be programmed by COMS setup program and it has different features. Please refer to page 3-16 for detail function description.

### RTC ALARM

PC system can be waked up by the RTC setting in the CMOS. You can set the alarming date and time in the BIOS setup program, When RTC alarms, the PC system will be triggered and wakes up automatically.

Enable the “RTC Alarm Resume” selection in the BIOS setup utility, and then you will see the input request for the date and time. (you can find the “RTC Alarm Resume” in the “POWER MANAGEMENT SETUP” in Section 4.7), When you have stored the RTC alarm setting, the PC system will be turned on automatically according to the date and time which is recorded in the CMOS memory.

### MODEM RING-IN

This mainboard supports the Modem Ring-In power on feature. In order to use the ring-in signal to wake up your PC system, you will have to use the **EXTERNAL MODEM** and have it connected to one of the **SERIAL PORTS** ( COM1 or COM2 ) on the mainboard. When the mainboard detects the ring-in signal from the serial port, the system power will be turned on instantly

To enable the Modem Ring-In feature, you have to run the BIOS setup utility and enable the “Modem Ring Resume” option (refer to Section 4-7 - “POWER MANAGEMENT SETUP”).

#### □ WAKE ON LAN ( WOL )

There is a WOL connector CN16 on the mainboard which is designed to connect to the signal from a LAN card which supports the Wake On LAN feature. When such LAN card is installed, you may turn on the PC system from the remote server and monitor the PC status. To enable this feature, you will have to use the BIOS setup utility to enable the “Modem Ring Resume” in the BIOS setup program.

*Note: This function will be disabled if you turn off the power before the system can verify the DMI pool data.*

## 2.4 POWER OFF THE PC SYSTEM

There are two ways to power off the system. They are “Shut Down by Power Button” and “ Shut Down by OS”. (such as Windows® 95 and Windows® 98, you can choose the **Shut Down** from the file menu and the system will be powered off immediately ).



### **IMPORTANT NOTICE:**

“Shut down by O/S” is always recommended because “Shut Down by Power Button” under Windows operation may cause data lost of wrong configuration problem. Unless your system hangs and you can not use the “Shut down by O/S” to power off the PC system, please do not use the power button on the front panel to power off the PC system.

### 3. HARDWARE SETUP

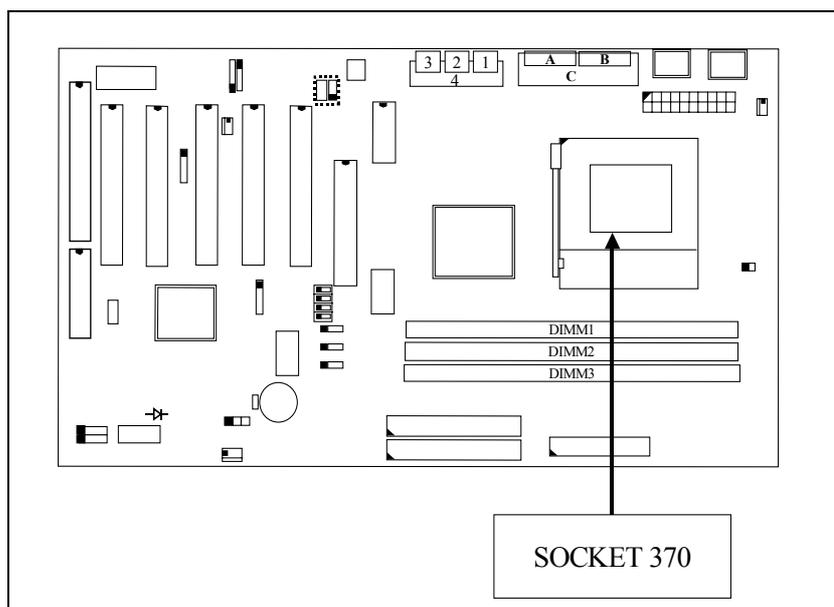
Before you can start to install this mainboard, some hardware setting is required so that it will work perfectly. To configure the mainboard is a simple task, only a few jumpers, connectors, cables and sockets need to be selected and configured. This section will show all the connectors and jumpers on the mainboard.

#### ***IMPORTANT***

***There is always the standby voltage active on the mainboard.  
Be sure to remove the power cable from the PC system when  
installing CPU or any other components onto the mainboard.***

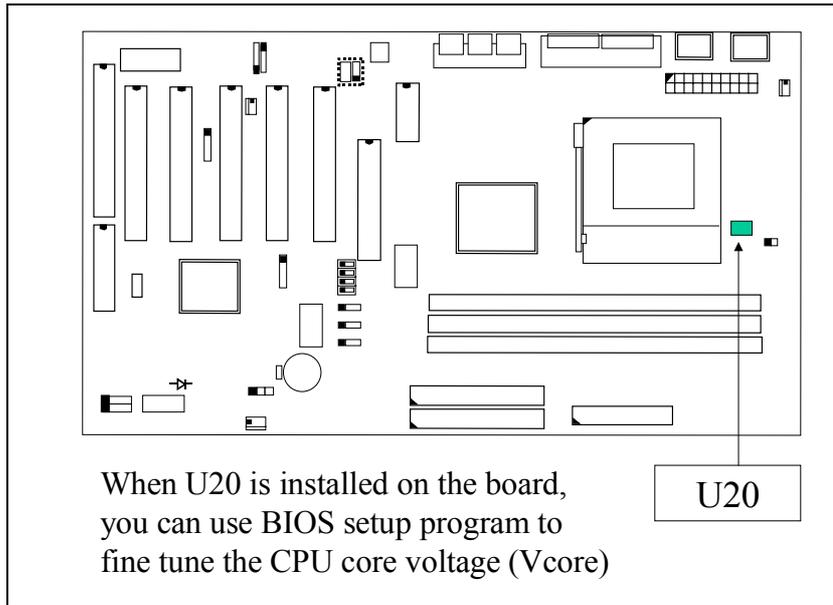
#### 3.1 INSTALLATION OF CPU

The connector on this mainboard where we can install the CPU is the socket 370 as shown in the following picture. The front side bus (FSB) speed of this mainboard will support from 66MHz, 100MHz and up to 133 MHz. So you may feel free to install the most popular socket type Pentium™ !!! or Celeron™ processor onto this mainboard.

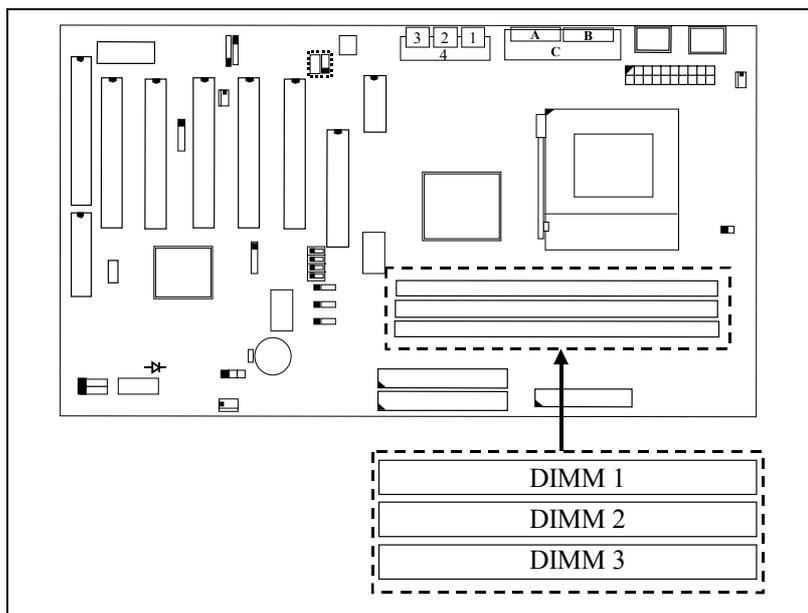


**3.2 ADJUST THE CPU VOLTAGE** (optional)

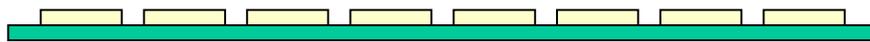
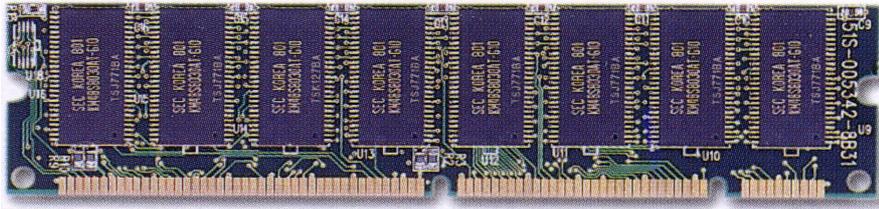
Under some circumstance (for example, over clocking), you may feel like to adjust the CPU voltage. When there is the FM3560 IC chip mounted on the mainboard as shown in the following picture, you can refer to Section 4- 6 and use the BIOS setup program to adjust the core voltage of the CPU (Vcore).



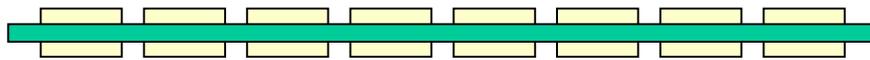
**3.3 INSTALL DRAM MODULES**



Picture of Memory sub-system.

**Outlook of DIMM modules:**

( Single-Side DIMM module )



( Double-Side DIMM Module )

This mainboard has three DIMM sockets designed on the mainboard and you can use the single-side or double-side DIMM module on the mainboard. In order to have a better performance and reliability to your PC system, please refer to the following suggestion to install the memory:

**Installation of DIMM modules:**

1. Minimum one DIMM module must be installed on the mainboard.
2. When the CPU FSB is 133MHz, please use 3.3V PC-133 DIMM module.
3. When the CPU FSB is 100MHz, please use 3.3V PC-100 or PC-133 DIMM module.
4. You can use single side or double side DIMM module on this mainboard.
5. Maximum memory size onboard will be **1536MB**.

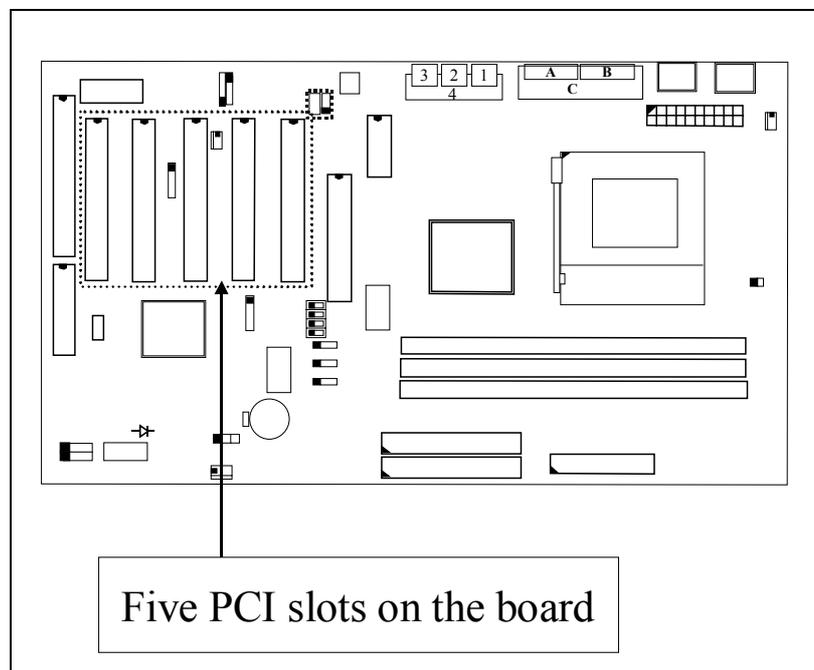
*If your DIMM module does not have the parity bit, please don't enable the Parity/ECC check feature in the BIOS setup. (see Section 4-5)*

### 3.4 CONNECTORS

The connectors on the mainboard are either the pin header type or D-type connectors, they are used to connect the accessories or peripheral devices (such as power, mouse, printer,...etc.). Followings are the connectors with its description and the pin assignment which is designed on the mainboard.

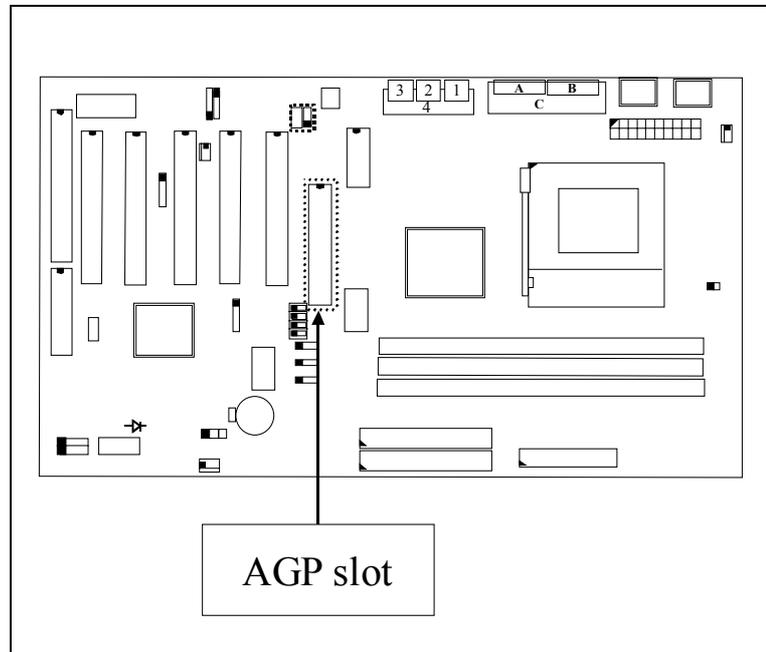
#### 3.4.1 PCI SLOT

There are five PCI slots on the mainboard which you can install PCI add-on cards. Please refer to the following picture to see the PC slot on the mainboard.



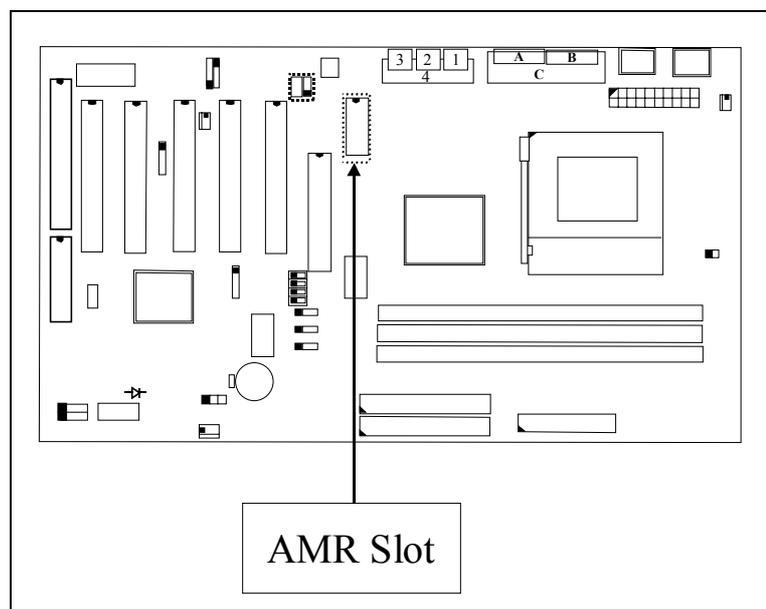
### 3.4.2 AGP SLOT

There is one AGP slot on the mainboard which you can install AGP VGA card.



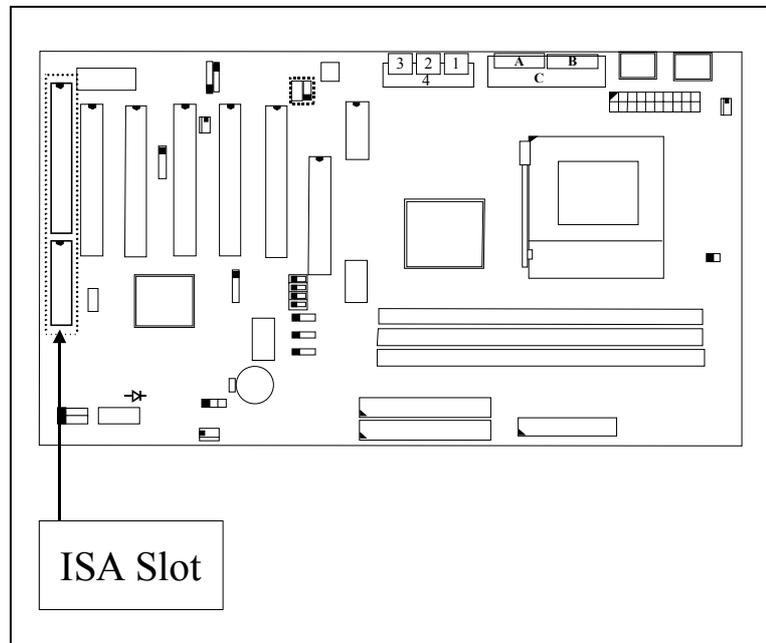
### 3.4.3 AMR SLOT (Optional)

There is one AMR slot designed on the mainboard. You can install such AMR modem card on the AMR slot. (Note: 693ATL and 693BTL do not have AMR slot on the mainboard.)

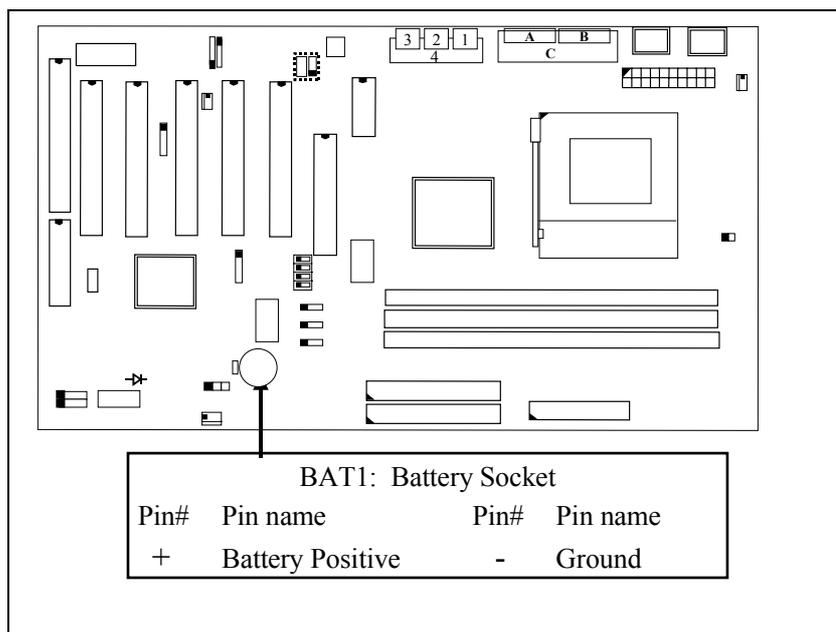


**3.4.4 ISA SLOT**

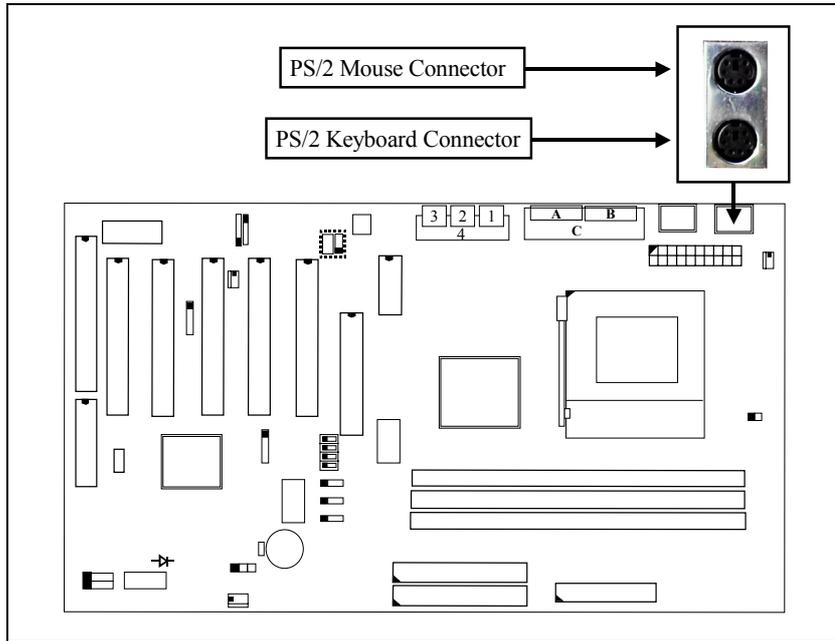
There is one 16-bit ISA slot designed on the mainboard which you can install the ISA interface card.



**3.4.5 BAT1: BATTERY SOCKET ( 3 Volt Lithium battery : CR2032)**

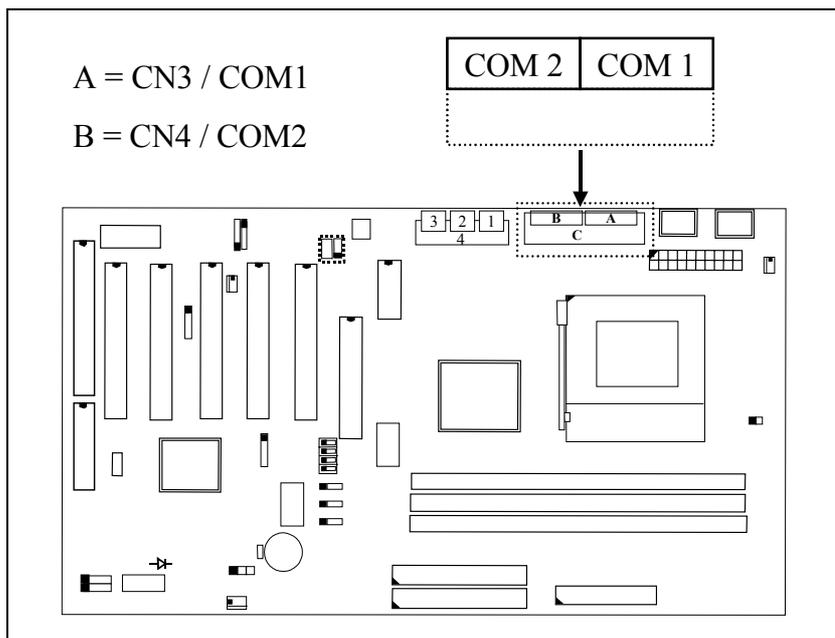


**3.4.6 CN1/CN2: PS/2 Mouse and Keyboard Connector**



**3.4.7 CN3: Serial Port COM 1 Connector**

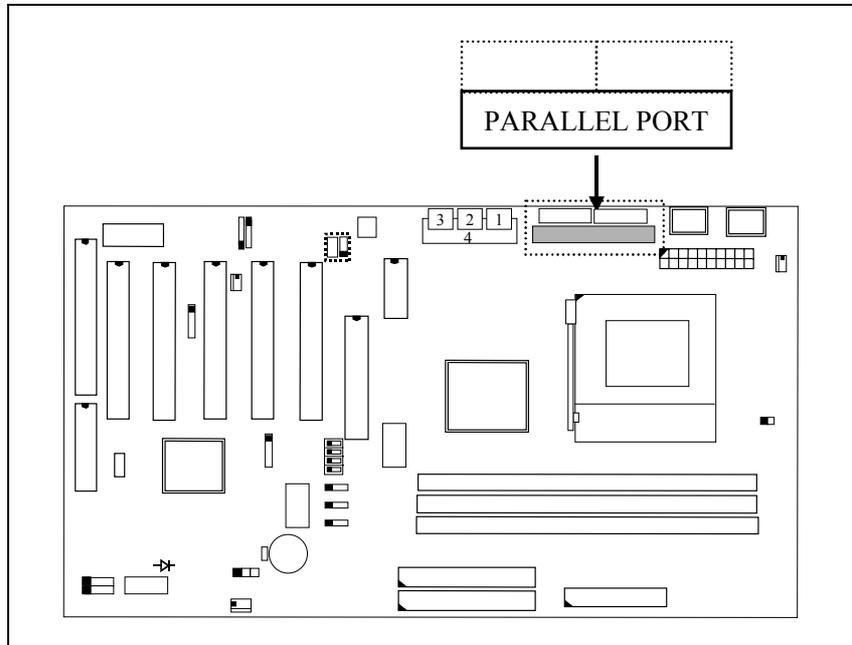
**3.4.8 CN4 : Serial Port COM 2 Connector**



(I/O address: 3F8H/2F8H/3E8H/2E8H, IRQ3/IRQ4, selected by BIOS setup.)

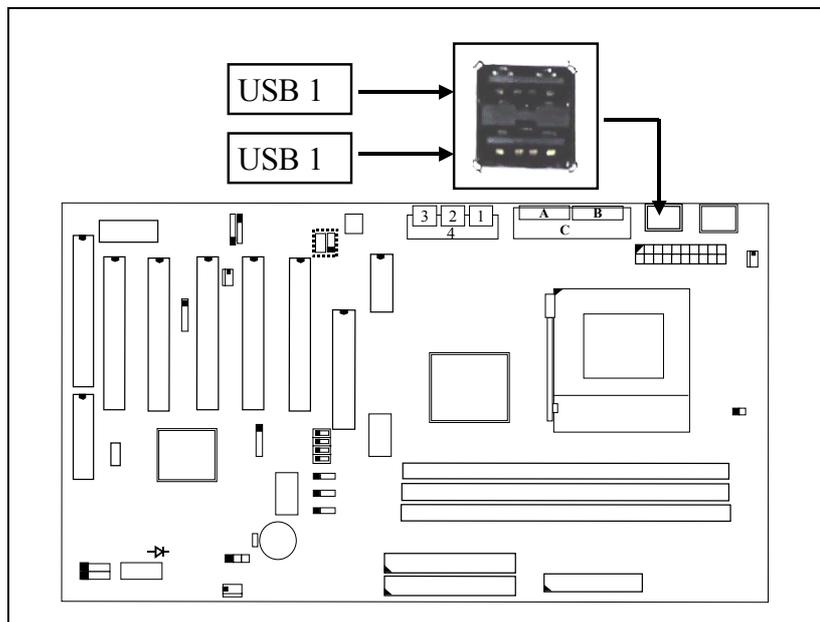
**3.4.9 CN5: Parallel Port Connector**

(Supports SPP/EPP/ECP modes, IRQ7 or IRQ5 is selectable, ECP mode will use either DMA 3 or DMA 1 which can be selected in the BIOS setup program)

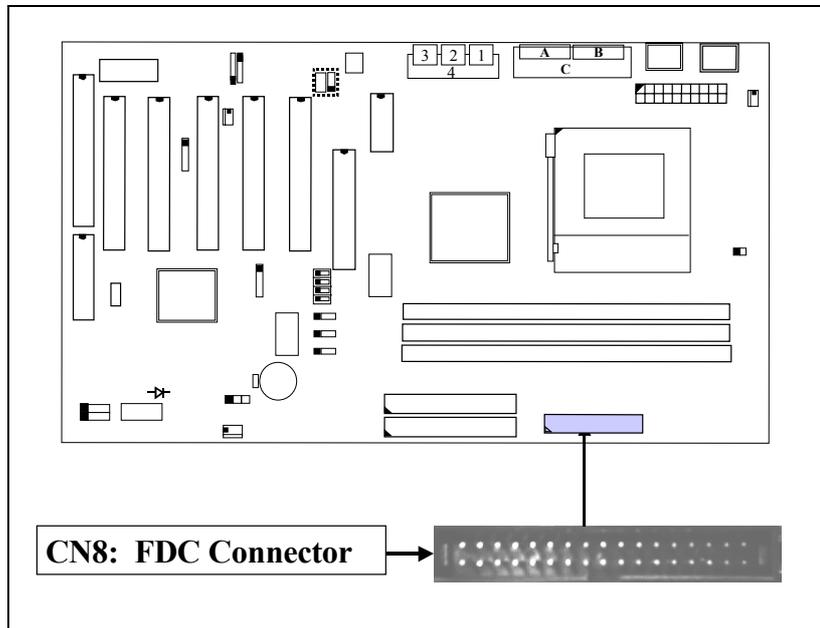


**3.4.10 CN6: USB 1 (Universal Serial Bus) Connector**

**3.4.11 CN7: USB 2 (Universal Serial Bus) Connector**

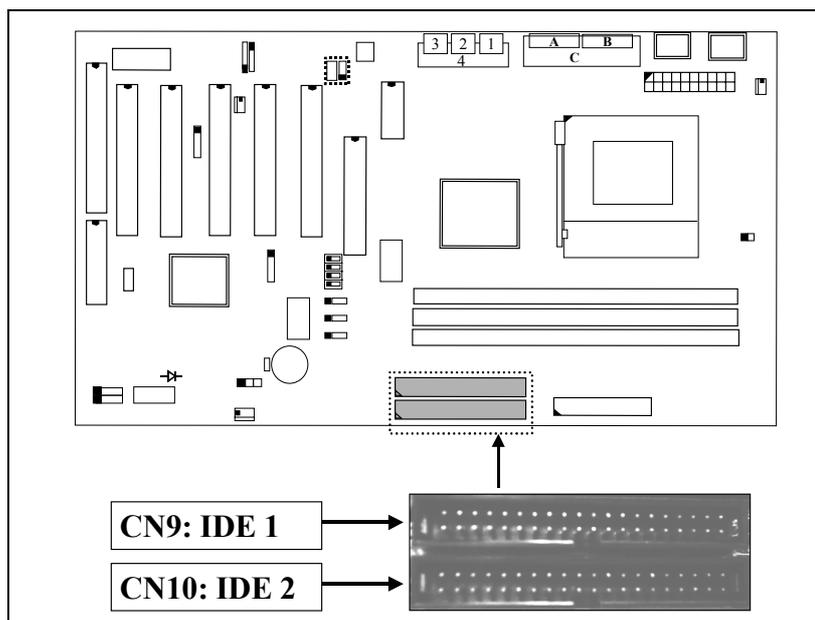


**3.4.12 CN8: Floppy Disk Connector (IRQ6, DMA 2)**

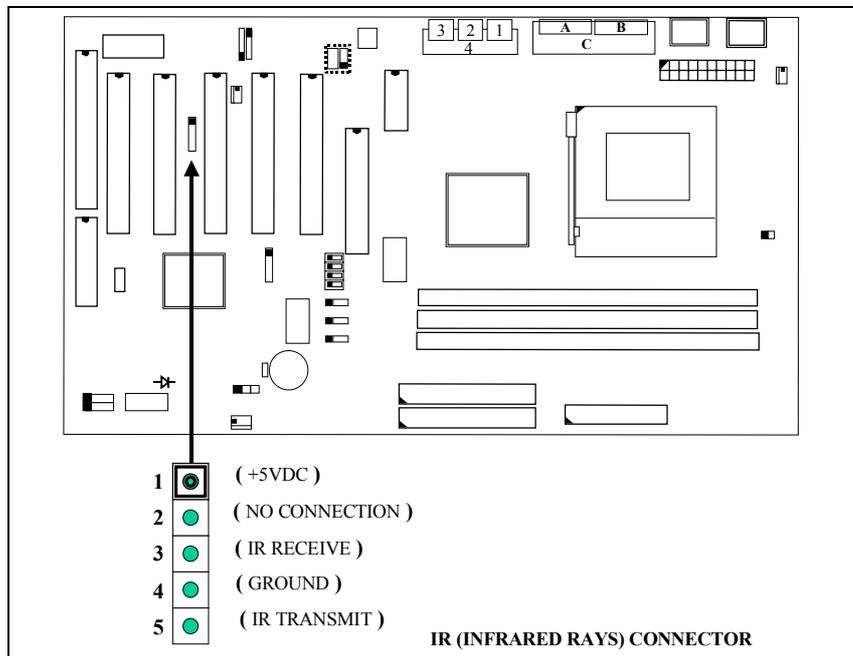


**3.4.13 CN9 : IDE 1 Connectors (Primary IDE Port: 1F0H, IRQ 14)**

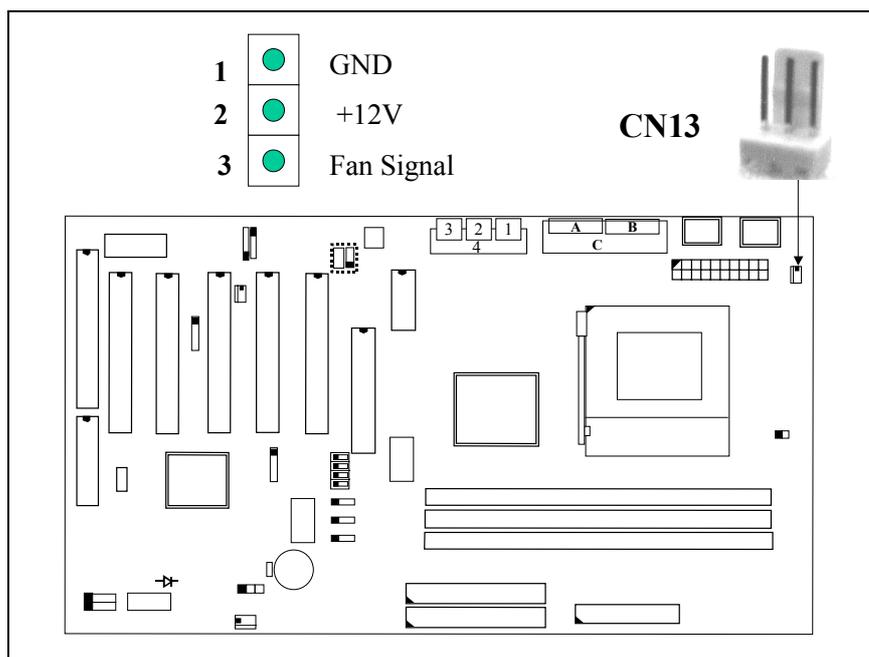
**3.4.14 CN10: IDE 2 Connectors (Secondary IDE Port: 170H, IRQ 15)**



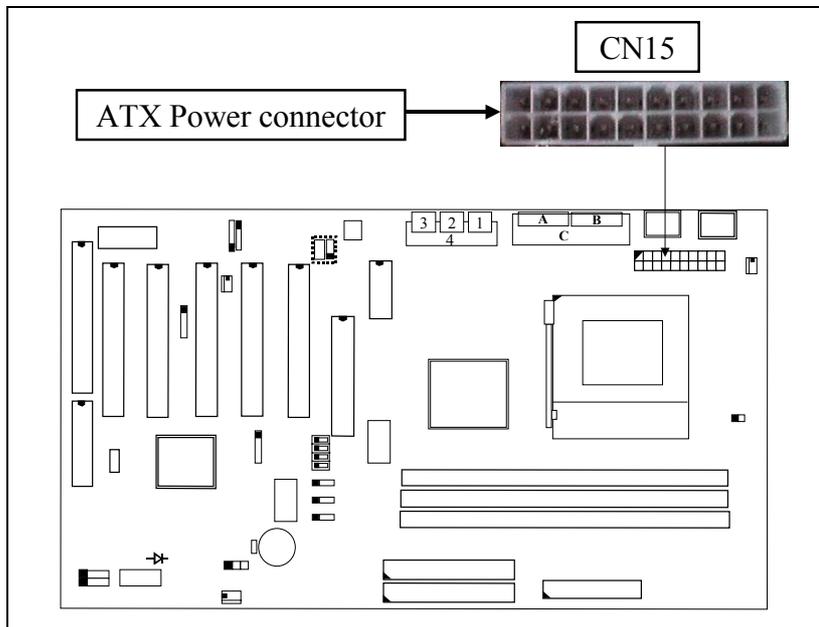
3.4.15 CN12: IR (Infrared Rays) Connector



3.4.16 CN13: CPU Cooling Fan Power Connector (FAN 1)

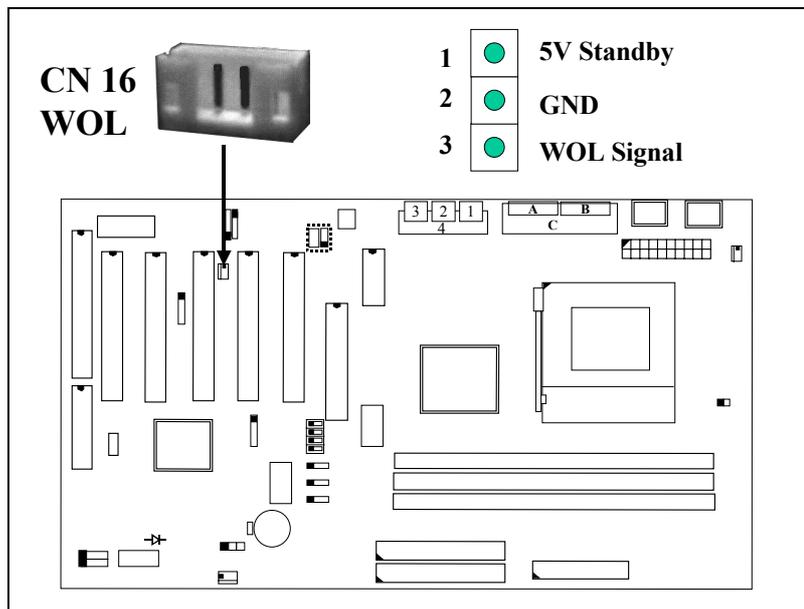


**3.4.17 CN15: ATX Power Connector**

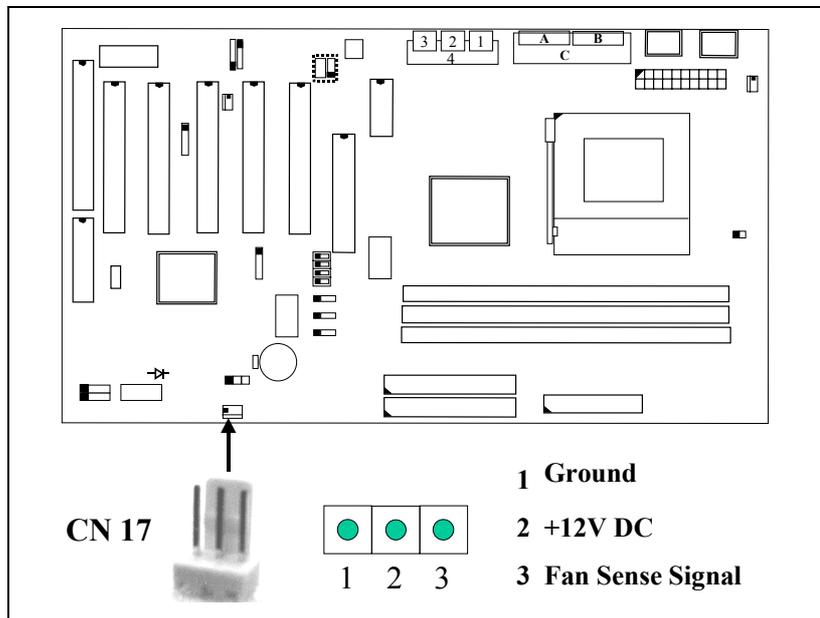


**3.4.18 CN16: WOL (Wake On LAN) Connector**

In order to use the WOL LAN card to trigger the power of the PC system, the switching power supply must be able to provide at least 700mA current driving ability on the “5V standby” voltage.

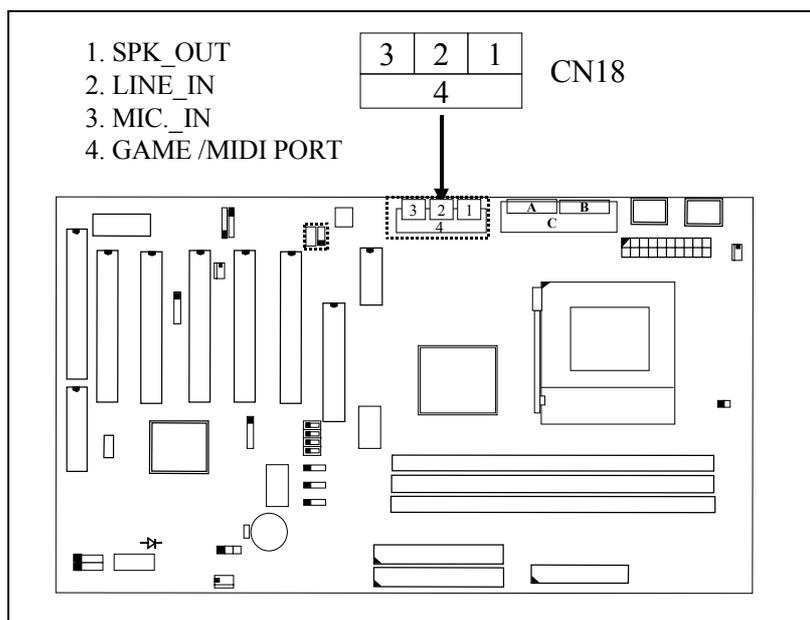


**3.4.19 CN17: Chassis Fan Power Connector (FAN2)**



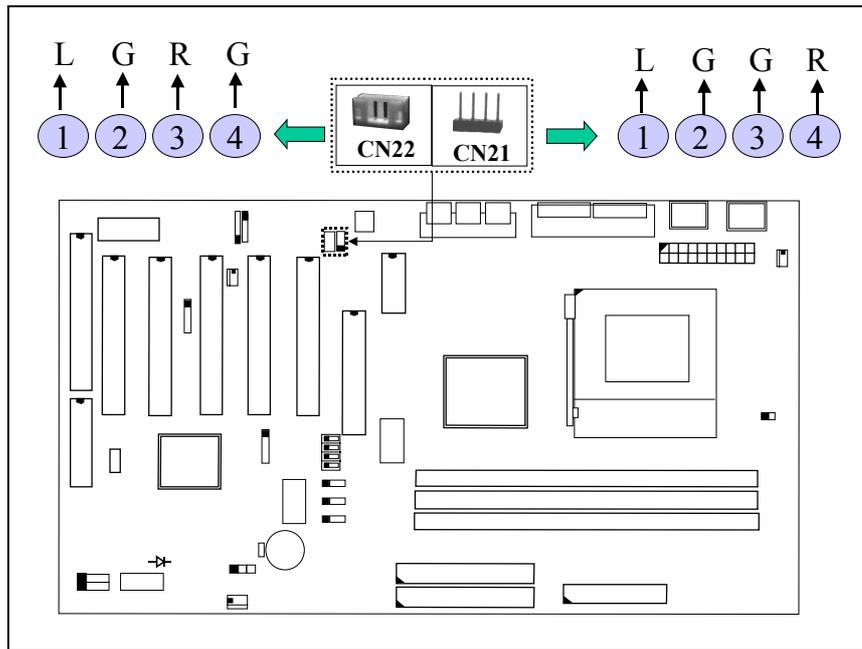
**3.4.20 CN18: Audio/Game Connector (optional)**

There is the 3D audio interface built on this mainboard (audio interface is optional on the board.). Please refer to the following picture for the audio interface.



**3.4.21 CN21 / CN22: CD-IN Connector (CN21 and CN22 are optional)**

The CD-IN connectors on the board can be used to connect to the CD ROM audio out. There are two different type of connectors designed on the mainboard, please check with your CD ROM drive and decide which connector can be used to connect to the CD ROM drive. ( these connectors are absent on 693ATL and 693BTL)

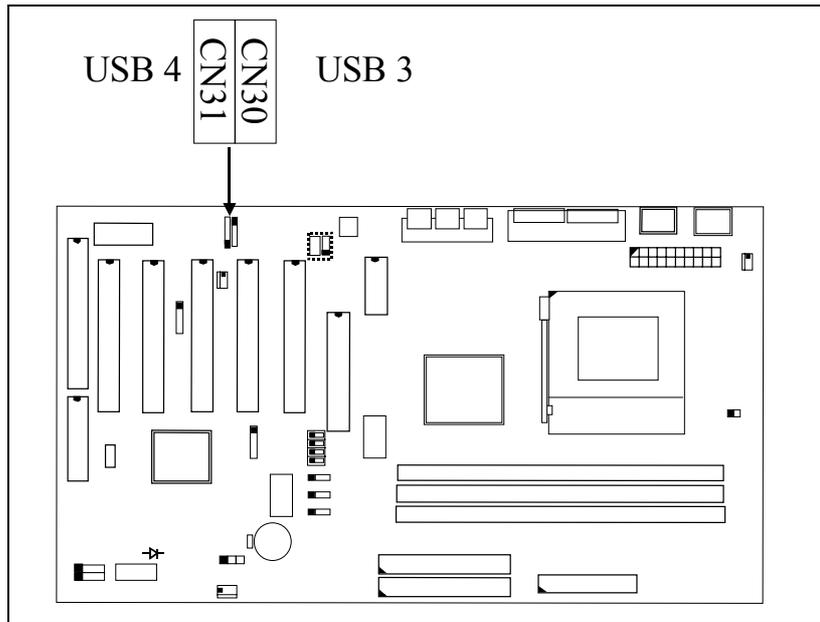


Note: L = Left channel audio-out  
R = Right channel audio-out  
G = Audio Ground

**3.4.22 CN30: USB 3 (Universal Serial Bus) Connector**

**3.4.23 CN31: USB 4 (Universal Serial Bus) Connector**

In order to connect the USB device, you will need to have the USB cable connected to the CN30 and CN31. Wrong USB cable may cause serious damage to this mainboard. Please contact your local supplier for the correct USB cable.



**Pin assignment of USB connector:**

CN 31 (USB4)

CN 30 (USB3)

Pin #	Assignment
• 5	Ground ( <b>BLACK WIRE</b> )
• 4	Ground ( <b>BLACK WIRE</b> )
• 3	DATA+ ( <b>GREEN WIRE</b> )
• 3	DATA- ( <b>WHITE WIRE</b> )
• 1	+5V DC ( <b>RED WIRE</b> )

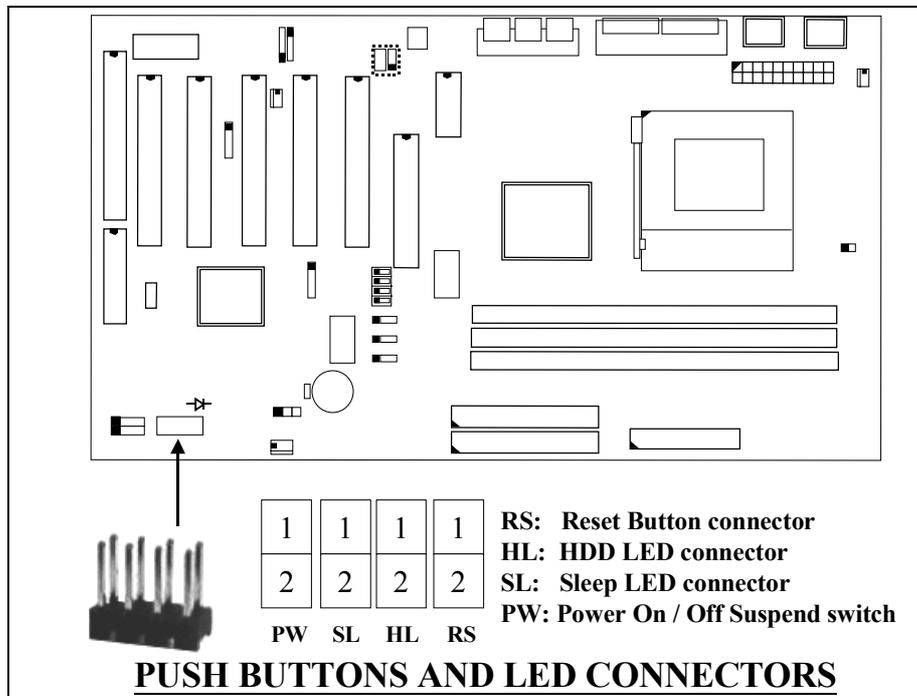
Pin #	Assignment
• 1	+5V DC ( <b>RED WIRE</b> )
• 2	DATA- ( <b>WHITE WIRE</b> )
• 3	DATA+ ( <b>GREEN WIRE</b> )
• 4	Ground ( <b>BLACK WIRE</b> )
• 5	Ground ( <b>BLACK WIRE</b> )

**IMPORTANT:**

**Wrong USB cable will destroy the mainboard, please make sure to use the correct USB cable on CN30 and CN31.**

### 3.4.24 Push buttons and LED connectors

A series of connectors are designed on the board to connect the push buttons and LED indicators. Followings are the details:



#### 1. **RS** Reset Button Connector

<u>Pin #</u>	<u>Signal name</u>	<u>Pin1&amp;2</u>	<u>Function</u>
1	Reset Control	Open	No action
2	Ground	Short	System Reset

#### 2. **HL** IDE HDD LED Connector

<u>Pin #</u>	<u>Signal name</u>
1	+ 5V DC Pull-up
2	HDD Active Signal

#### 3. **SL** Sleep LED Connector

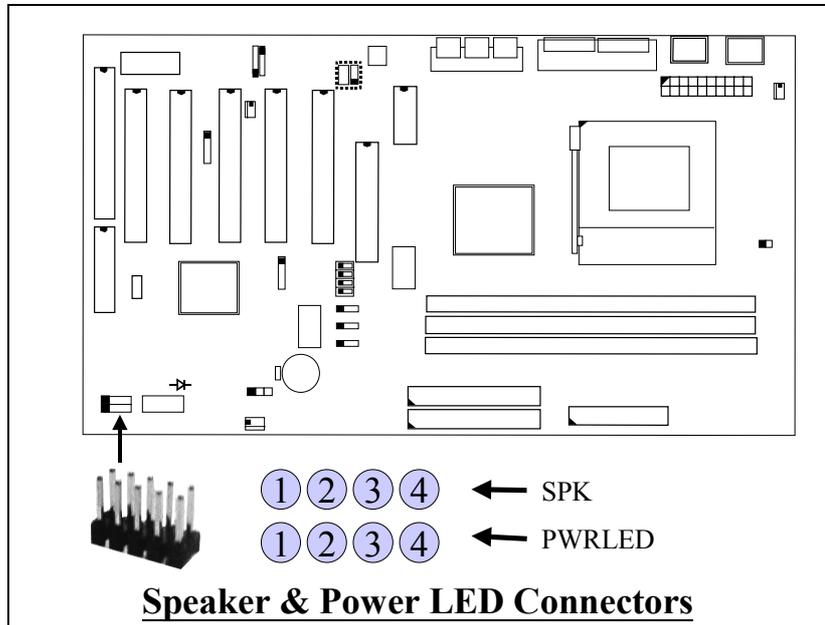
This LED will be lightened when the AC power is connected and the system is power off, darkened when the AC power is disconnected or the system is powered on.

<u>Pin #</u>	<u>Signal name</u>
1	Signal Pin
2	Ground

4. **PW** Power On / Off and External Suspend Switch Connector  
According to the setup in CMOS, the PW connector has two functions. It can be the Power Switch or Suspend Switch of your PC system.  
(please refer to the Aware BIOS setup in Section 4-7 – Soft-Off by PWRBTN)

- ① **If the setup in CMOS is “Delay 4 Sec.”, the function of “PW” will be:**
- A. When system power is "OFF":**  
Press this switch, the system will power on.
- B. When system power is "ON" :**
- a. The system is in Full-ON mode :*
- a-1. Click on this switch ( less than 4 seconds ), the system will be turned into Suspend mode. (turn into the GREEN mode)
- a-2. Press and hold this switch for more than 4 seconds, the system will be powered off.
- b. When the system is in Suspend mode :*
- b-1. Click on this switch ( less than 4 seconds ), the system will return to Full-ON mode.
- b-2. Press and hold this switch more than 4 seconds, the system will be powered off.
- ② **The setup in CMOS is “Instant-off”:**
- A. When system power is "OFF" :**  
Click on this switch, the system will be powered on.
- B. When system power is "ON" :**  
Click on this switch, the system will be powered off instantly.

## 3.4.25 Speaker and Power LED connector:

**SPK: Speaker connector**

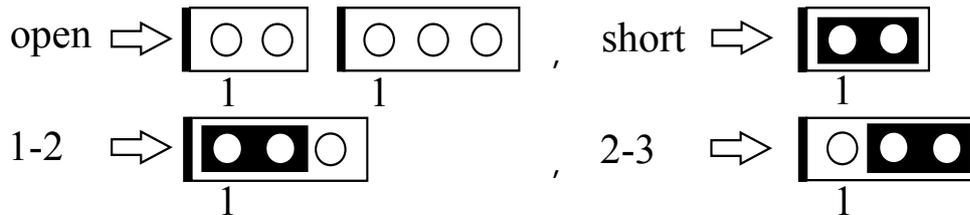
<u>Pin #</u>	<u>Signal name</u>
1	+ 5V DC
2	No Connection
3	No Connection
4	Speaker Data Signal

**PWRLED: Front Panel Power LED Connector**

<u>Pin #</u>	<u>Signal name</u>
1	Pullup (+ 5V DC for Power LED)
2	No Connection
3	Ground
4	No Connection

### 3.5 JUMPERS

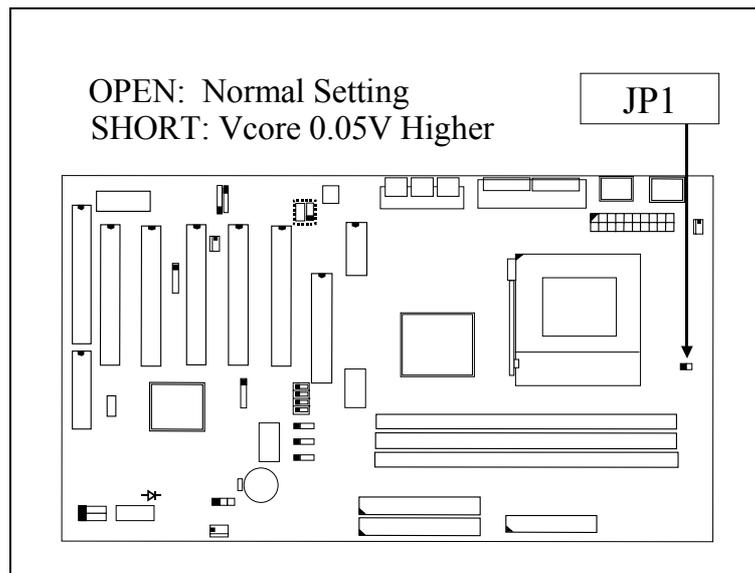
This section will discuss the jumper setting on the mainboard. In order to let you have better idea of the jumper setting, please see below for the explanation of jumper settings before you start this section.



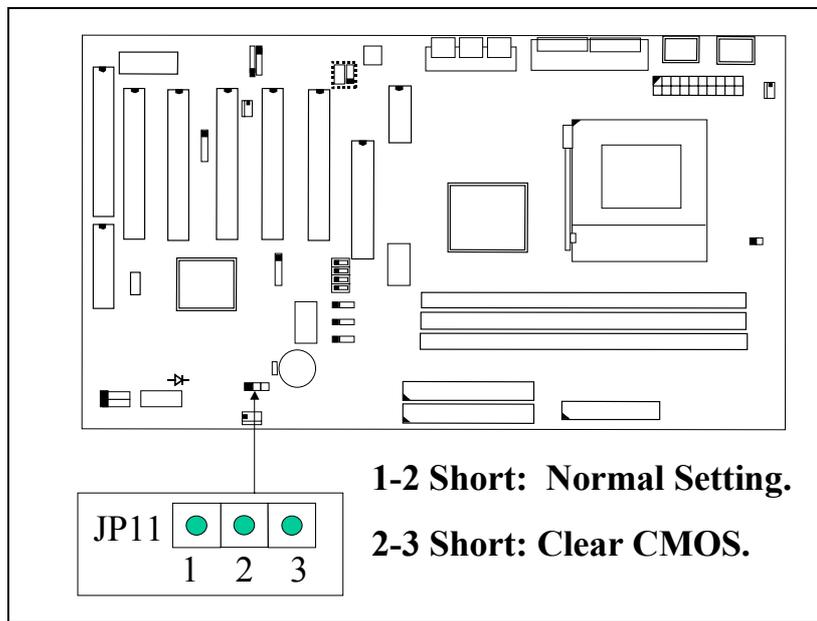
A jumper is a set of two, three or more jumper pins which allow users to make different system configuration by putting the plastic connector plug (mini-jumper) on it. The jumper setting is necessary when installing different components onto the mainboard.

#### (A) JP1: CPU Voltage Adjustment (Optional)

JP1 is designed for some special purpose. Sometimes you may feel that the CPU voltage detected by the mainboard can not meet your requirement and you want your CPU voltage a little bit higher than regular setting. In this case, you may use JP1 adjust the CPU voltage. When "SHORT" is selected, the CPU voltage will be 0.05V higher than normal voltage.



**Note: When you use JP1 to raise the CPU voltage, it does not mean that CPU over clock is guaranteed!.**

**(B) JP11: CMOS Data Clear Button**

Basically, the BIOS setup program will have all the setting saved in the CMOS memory. If you want to clear the setting which is saved in the CMOS memory, you may use JP11 and refer to the following procedure to clear the information in the CMOS.

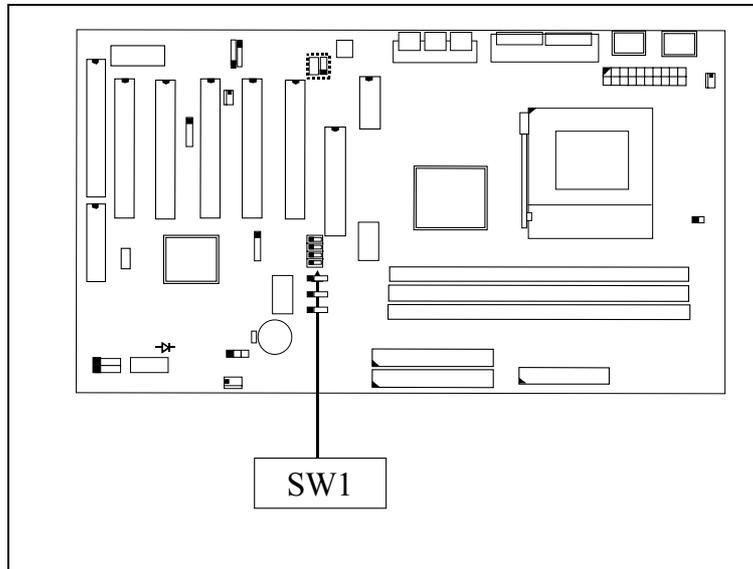
- 1. Unplug the AC power cable from the PC system.*
- 2. Open the cabinet of the PC system.*
- 3. Put the mini jumper on pin 2-3 of JP11 around 3 to 5 seconds and then return it to the original position ( pin 1-2 ).*
- 4. Close the cabinet*
- 5. Re-connect the AC power cable.*
- 6. Power on the PC system and then run BIOS setup program to reconfigure the PC system.*

**IMPORTANT:**

After you have use JP11 and clear the setting which is saved in the CMOS memory, we suggest that you use **“Load Setup Defaults”** and have the optimized parameters loaded into the BIOS setup program. Such parameters were fine tuned and they will let you have the optimized performance and stability.

**(D) SW1: CPU Front Side Bus (FSB) Speed Selection**

SW1 is designed on the mainboard to select the CPU FSB speed. Please refer to the following for the settings:

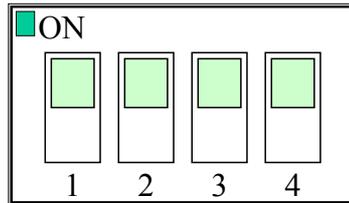


FSB Clock	SW 1-1	SW 1-2	SW 1-3	SW 1-4
AUTO	ON	OFF	OFF	ON
66MHZ	OFF	ON	ON	OFF
100MHZ	OFF	OFF	ON	OFF
133MHZ	OFF	OFF	OFF	OFF

Note. The "Auto" setting shown in the above table is strongly recommended because it will detect the CPU type and decide the proper FSB clock automatically. If you use the SW1 setting to select one of FSB clocks from the above table, then no matter what kind of CPU is installed on the mainboard, the FSB clock will be fixed at what was chosen by the table above.

**SWITCH SETTINGS**

The "toggle switch" (SW1) on the mainboard can be used to select the CPU FSB clock. In order to let you have some better idea of the toggle switch setting, please refer to the following illustration. The following pictures will show you how to make the setting on the "toggle switch":



( Picture of "toggle switch" )

In order to let you have better idea of the switch setting, please refer to the following for the detail setting of the SW1 setting:

CPU FSB Clock	SW1 Setting
<p>This setting will tell mainboard to detect the CPU type and select CPU FSB clock automatically.</p>	<p>ON OFF OFF ON</p>
<p>This setting will tell mainboard to use 66MHz as the CPU FSB clock all the time.</p>	<p>OFF ON ON OFF</p>
<p>This setting will tell mainboard to use 100MHz as the CPU FSB clock all the time.</p>	<p>OFF OFF ON OFF</p>
<p>This setting will tell mainboard to use 133MHz as the CPU FSB clock all the time.</p>	<p>OFF OFF OFF OFF</p>

### 3.6 INSTALLATION OF DEVICE DRIVERS

**IMPORTANT NOTE:**

Please refer to the following sequence to install the related device drivers:

1. Install the device drivers for the mainboard.
2. Install the device driver for the onboard sound interface.
3. Install the device driver for the hardware monitoring.

**A. Install the device drivers for this mainboard:**

Please refer to the following procedure to install the device drivers for different operation system.

**Step1.** Insert the CD into the CD ROM drive .

**Step2.** Select "D:\Driver\Mainboard\VIA\Pentium\_II" directory. ( Note: "D:" is the device name of your CD ROM drive)

**Step3.** Run "SETUP.EXE" in this directory and follow the screen display to install the mainboard device driver.

**B. Install the device driver for the onboard audio interface:**

When there is the 3D sound interface installed on this mainboard. Please refer to the following procedure to install the device drivers: ( you don't have to install these device drivers for 693ATL and 693BTL mainboards.)

**Step1.** Insert the CD into the CD ROM drive when Windows requests for the sound card device driver. (Windows will detects the sound interface)

**Step2.** Select "D:\Driver\Mainboard\VIA\Sound" directory.

**Step3.** Run "SETUP.EXE" to install the device driver.

**Note: You may need the Service Pack 4 (or the service pack which is newer) when installing the device driver for Microsoft Windows NT 4.0)**

**C. Install the device driver for the hardware monitoring:**

This mainboard has the hardware monitoring feature designed on the board. Please refer to the following procedures to install the device driver of the hardware monitoring.

**Step1.** Insert the CD disc into the CD ROM drive.

**Step2.** Change the path to "D:\Driver\Mainboard\VIA\Hardware Monitoring"

**Step3.** Click on the "SETUP.EXE" icon and follow the screen instruction to complete the setup.

## 4. AWARD BIOS SETUP

### 4.1 GETTING STARTED

When you turn the system powered on or reset the PC system, the system BIOS will enter the POST routines (Power On Self Test routines). POST will execute a series of diagnostics and system initialization, and you will see the copyright message displayed on the screen.) In case that there is any error or malfunction detected, the BIOS will give a series of beeping sound or display the error message on screen.

During the power on self test (POST), the following message appears at the lower left corner of the screen:

" Press **DEL** to enter SETUP "

To execute the Award® BIOS CMOS Setup program, please press the **DEL** key when you see the above message displayed on the screen, and it will trigger the BIOS setup utility. When you start the BIOS setup program, you will see the "STANDARD CMOS SETUP" displayed on the screen as shown in the next page:

4.2 MAIN MENU

CMOS Setup Utility – Copyright ( C ) 1984 - 2000 Award Software.

<b>Standard CMOS Setup</b>	PC Health Status
BIOS Features Setup	Supervisor Password
Chipset Features Setup	User Password
Power Management Setup	IDE HDD Auto Detection
PNP/PCI Configuration	Save & Exit Setup
Integrated Peripherals	Exit Without Saving
Load Setup Defaults	
ESC : Quit	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> : Select Item
F10 : Save & Exit Setup	(Shift)F2 : Change Color
Time, Date, Hard Disk Type ...	

From the screen above, you will find many different setup screen in the BIOS setup program where you can make the setting of the mainboard configuration. In the following sections, we are going to give explanation of each selection field. Please refer to the following section and make proper configuration to your PC system.

### 4.3 CONTROL KEYS

When you have started the BIOS setup program, you will see a list of control key show at the bottom of the screen. You can use the keyboard to move the selection bar and choose the proper setting in each selection field. Please refer to the following for the definition of the control keys:

---

**Arrow Keys** : Use the arrow keys to move the cursor to the desired item.

---

**Enter** : Select the desired item.

---

**F1** : Display the help screen for the selected feature.

---

**ESC** : Exit to the previous screen.

---

**PgUp(-)/PgDn(+)**: Modify or change the content of the highlighted item.

---

**F5** : Retrieves the previous value from CMOS data,  
( only the current page setup will be retrieved ).

---

**F7** : Loads the SETUP default values from BIOS default table,  
(only the current page setup will be loaded ).

---

**F10** : Save all changes to CMOS RAM from the MAIN MENU

---

## 4.4 STANDARD CMOS SETUP

CMOS Setup Utility - Copyright (C) 1984 - 2000 Award Software.

Date (mm : dd : yy) : Mon, <b>Aug</b> 7 2000								
Time (hh : mm : ss) : 16 : 03 : 33								
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master	: Auto	0M	0	0	0	0	0	AUTO
Primary Slave	: None	0M	0	0	0	0	0	-----
Secondary Master	: Auto	0M	0	0	0	0	0	AUTO
Secondary Slave	: None	0M	0	0	0	0	0	-----
Drive A	1.44, 3.5 in.			Base Memory : 640K				
Drive B	None							
Floppy 3 Mode Support:	Disabled			Extended Memory : 195584K				
Video	EGA/VGA			Other Memory : 384K				
Halt On	All Errors			Total Memory : 196608K				
ESC : Quit	↑ ↓ → : Select Item				PU / PD / +/- : Modify			
F1 : Help	(Shift) F2 : Change Color							

### Date / Time:

These two selection fields allow you to set the system date and time. When you have made the setting, the system date and time will be saved in the CMOS memory.

### HARD DISK::

These selection fields allow you to select the type of the Hard Disk Drive (HDD). Most of the time, "AUTO" is recommended because it will detect the HDD type and select the related parameter automatically.

### Drive A /B:

These two selection fields allow you to select the type of the floppy drive. Check the floppy drive installed in the system and then use this field to select the correct type.

**Floppy 3 Mode Support:** (Default setting: disabled )

This mode is for the Japanese 3.5 inch high capacity floppy disk drive. If you have such drive installed in your PC system, please select enable, otherwise, use the default setting.

**Video:**

This selection field allows you to select the display mode. Check the video display card installed in the PC system and then use this selection field to choose the proper display mode.

**Halt On:**

This selection field allows you to decide whether the PC system will be halted when the system board detects any error during Power On Self Test. Basically, Halt on All Error is recommended because you will be informed whenever the system BIOS detects any error during the Power On Self Test.

## 4.5 BIOS FEATURES SETUP

BIOS FEATURES SETUP  
AWARD SOFTWARE, INC.

Virus Warning	: Disabled	HDD S.M.A.R.T. capability: Disabled
CPU Internal Cache	: Enabled	Video BIOS Shadow : Enabled
External Cache	: Enabled	C8000-CBFFF Shadow : Disabled
CPU L2 Cache ECC Checking	: Enabled	CC000-CFFFF Shadow : Disabled
Processor Number Feature	: Disabled	D0000-D3FFF Shadow : Disabled
Quick Power On Self Test	: Enabled	D4000-D7FFF Shadow : Disabled
Boot Sequence	: A, C, SCSI	D8000-DBFFF Shadow : Disabled
Swap Floppy Drive	: Disabled	DC000-DFFFF Shadow : Disabled
Boot Up Floppy Seek	: Enabled	
Boot Up NumLock Status	: On	
IDE HDD Block Mode	: Enabled	
Gate A20 Option	: Fast	
Memory Parity / ECC Check	: Disabled	
Typematic Rate Setting	: Disabled	
Typematic Rate (Chars/Sec)	: 6	
Typematic Delay (Msec)	: 250	ESC : Quit    ↑ ↓ → : Select Item
Security Option	: Setup	F1 : Help    PU / PD / +/- : Modify
PS/2 mouse function control	: Enabled	F5 : Old Values (Shift) F2 : Color
PCI / VGA palette Snoop	: Disabled	F7 : Load Setup Defaults
OS Select For DRAM > 64MB	: Non-OS2	

**Virus Warning :**

This is the virus intruding warning feature in the BIOS. During and after the operation system is loaded, any attempt to write to the boot sector or partition table on the IDE hard disk drive will trigger this feature and give you some warning messages on the screen and then halt the system. When you find the message on your screen, please run the anti-virus program to see whether your system is infected by a virus or not.

**Enabled** : A warning message will be displayed on the screen when something attempts to access the boot sector or hard disk partition table.

**Disabled** : No warning message will appear on the screen when anything attempts to access the boot sector or hard disk partition table.

**CPU Internal Cache / External Cache :**

These fields allow you to turn on or turn off the Level 1 and Level 2 cache that built-in Pentium™ II/!!! or Celeron™ processors.

**CPU L2 Cache ECC Checking:**

This option will enable or disable the ECC checking on the CPU L2 cache. The ECC checking will ensure the accuracy of the data stored on the L2 cache.

**Processor Number Feature:**

You can not see this selection option unless you have the Pentium !!! processor installed on the mainboard. There is the serial code inside every Pentium !!! processor and it will be accessed by application to show your personal ID. If you don't feel like to give your serial code to other people, select the "Disabled" setting.

**Quick Power on Self Test:**

The Quick Power On Self Test will skip some test and speed up the boot process. If you find the system is working normally, you can always enable this feature so that you don't have to wait too long on the POST.

**Boot Sequence :**

These fields allow you to decide the sequence of the boot devices.

**Swap Floppy Drive :**

When enable this option, the device name of the floppy drives will be swapped, For example, drive A will be treated as drive B, and drive B as Drive A.

**Boot Up Floppy Seek :**

When enabled, the floppy drive will be initialized during POST.

**Boot Up NumLock Status :**

When enabled, the NumLock LED will be lightened after the POST. When the NumLock LED is "ON", the right hand side of the keyboard with digital number printed on it will be used as the numeric keypad. If the NumLock LED is "OFF", then the keypad will be used as the direction control key.

**IDE HDD Block Mode**

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

**Gate A20 Option**

This selection field allows you to decide which component will be used to control the GateA20 address signal.

<b>Normal</b>	A pin in the keyboard controller controls GateA20
<b>Fast</b>	Lets chipset control GateA20

**Memory Parity/ ECC Check**

This mainboard support the Parity / ECC checking function. If you select "Enabled" in this selection field, it will detect the memory parity and Error Checking & Correcting.

**Security Option :**

This selection field allows you to select how to secure the PC system for you. There are two choice selectable - "Setup" and "System". Before you can apply the security option to your PC system, you have to select your own "Supervisor Password" or "User Password" in the BIOS setup program.

When "Setup" is selected, you will have to input your "Passwords" before you can start the BIOS setup program. When you select "System", you will be unable to load the operation system if you don't key-in your personal "password"

**PS/2 mouse function control :**

This mainboard built-in a PS/2™ mouse port. In case that you prefer to connect a serial mouse to the serial port instead of using the PS/2™ mouse, you may choose "Disable" in this field so that the IRQ12 can be released for the other devices. If you are using the PS/2™ mouse, please leave this field "Enabled".

**PCI/VGA Palette Snoop:**

Some display cards are non-standard VGA card (such as graphics accelerator or MPEG Card) which may not display color properly on your screen. "Enable" the setting in this field may correct this problem. Please leave it "Disabled" as the default setting shown above if you are using the normal display card.

**OS Select For DRAM > 64MB :**

When you are using the "OS/2™" operating system and the system memory is more than 64MB, you will have to select the setting to "OS2", otherwise, leave this on the default setting "Non-OS2" for all other operating systems.

**HDD S.M.A.R.T Capability**

There is the HDD which support the S.M.A.R.T. technology (Self Monitoring Analysis Reporting Technology). If your HDD support the SMART feature, you may enable this item and it will monitor and report the HDD healthy status to you.

**Video BIOS / XXXX-XXXX Shadow**

These fields allow you to enable / disable the shadow feature for the Video BIOS and the appropriate memory segment.

## 4.6 CHIPSET FEATURES SETUP

### CHIPSET FEATURES SETUP

AWARD SOFTWARE, INC.

Bank 0/1 DRAM Timing	: <b>SDRAM 8/10ns</b>	Auto Detect DIMM/PCI Clk: Disabled
Bank 2/3 DRAM Timing	: SDRAM 8/10ns	Spread Spectrum : Disabled
Bank 4/5 DRAM Timing	: SDRAM 8/10ns	CPU Host / PCI Clock : 100 / 33MHz
SDRAM Cycle Length	: 3	<b>CPU Vcore Select : Default</b>
DRAM Clock	: Host CLK	
Memory Hole	Disabled	
Read Around write	Disabled	
Concurrent PCI/Host	Disabled	
System BIOS Cacheable	Disabled	
Video RAM Cacheable	Disabled	
AGP Aperture Size	64M	
AGP 2X Mode	Enabled	ESC : Quit ↑ ↓ → : Select Item
On Chip USB	Enabled	F1 : Help PU / PD / +/- -: Modify
USB Keyboard Support	Disabled	F5 : Old Values (Shift) F2 : Color
OnChip Sound	Auto	F7 : Load Setup Defaults
OnChip Modem	Auto	

This section allows you to configure the system based on the features of the VIA 82C693A chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. The default settings have been chosen because they provide the best operating conditions for your system. So please do not change the default setting unless when necessary.

### DRAM Settings

The first chipset settings deal with CPU access to dynamic random access memory (DRAM). The default timings have been carefully chosen and should only be altered if data is being lost. Such a scenario might well occur if your system had mixed speed DRAM chips installed so that greater delays may be required to preserve the integrity of the data held in the slower memory chips.

### BANK0/1, 2/3, 4/5 DRAM Timing:

This item allows you to select the value in this field, depending on whether the board has paged DRAMs or EDO (extended data output) DRAMs.

**SDRAM Cycle Length**

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system designer.

**DRAM Clock**

This selecting option allows you to control the DRAM speed.

**Memory Hole**

In order to improve performance, certain space in memory is reserved for ISA cards. This memory must be mapped into the memory space below 16MB. This field allows you to decide the memory mapping.

**Read Around write**

This item will optimize the DRAM feature: If a memory read is addressed to a location whose latest write is being held in a buffer before being written to memory, the read is satisfied through the buffer contents, and the read is not sent to the DRAM

**Concurrent PCI / Host**

When disabled, CPU bus will be occupied during the entire PCI operation period.

**System BIOS Cacheable**

Selecting *Enabled* allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

**Video RAM Cacheable**

Select *Enabled* allows caching of the video RAM , resulting in better system performance. However, if any program writes to this memory area, a system error may result.

**AGP Aperture Size**

Select the size of Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

**AGP- 2X Mode**

This item allows you to enable / disable the AGP-2X Mode. Please make sure your AGP card supports the 2X AGP display mode before you can select *Enable*.

**OnChip USB**

This should be enabled if your system has a USB installed on the system board and you want to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature.

**USB Keyboard Support**

Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

**OnChip Sound**

This item allows you to control the onboard AC 97 audio.

**OnChip Modem**

This item allows you to control the onboard MC 97 Modem.

**Auto Detect DIMM/PCI Clk**

When “Enabled” is selected, the mainboard will detect the presence of devices on DIMM and PCI slots. When there is no device presented on some of the PCI or DIMM connector, the clock on the related DIMM and PCI slot will be disabled to reduce the Electro-Magnetic Interference (EMI).

**Spread Spectrum**

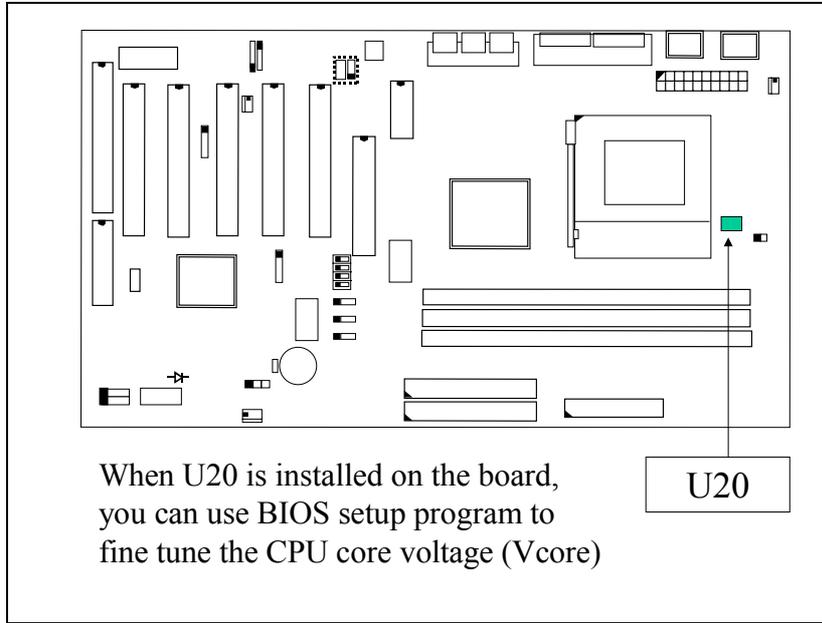
When Spread Spectrum is enabled, the EMI radiation on this mainboard will be reduced.

**CPU Host / PCI Clock**

According to different CPU installed on this mainboard, you will see different clock frequency available for your choice in this field. This field allows to select the CPU FSB and PCI clock speed.

**CPU Vcore Select**

This selection field allows you to select the CPU core voltage. When U20 has the FM3560 IC mounted onboard, you can use this field to adjust CPU core voltage.



Move the selection bar to this selection field and then click the F1 key, you will see the following screen display indicating the voltage range which you can select. Use the “PgUP” and “PgDN” on the keypad to select the desired voltage.

Bank 0/1 DRAM Ti	Available Options:	Disabled
Bank 2/3 DRAM T		Disabled
Bank 4/5 DRAM T	Default	3MHz
SDRAM Cycle Len	+0.05V	Default
DRAM Clock	+0.1V	
Memory Hole	+0.2V	
Read Around write	+0.3V	
Concurrent PCI/Ho	+0.4V	
System BIOS Cach	-0.05V	
Video RAM Cache	-0.1V	
AGP Aperture Size		
AGP 2X Mode		tem
On Chip USB		fy
USB Keyboard Sup	Press F1 or ESC to exit help	olor
OnChip Sound		
OnChip Modem	Auto	

## 4.7 POWER MANAGEMENT SETUP

POWER MANAGEMENT SETUP  
AWARD SOFTWARE, INC.

ACPI Function	: Disabled	Primary INTR	: ON
Power Management	: User Define	IRQ3 (COM2)	: Primary
PM Control By APM	: Yes	IRQ4 (COM 1)	: Primary
Video Off After	: Suspend	IRQ5 (LPT 2)	: Primary
Video Off Method	: Blank Screen	IRQ6 (Floppy Disk)	: Primary
Modem Use IRQ	: 3	IRQ7 (LPT 1 Disk)	: Primary
Soft-Off by PWRBTN	: Instant – off.	IRQ8 (RTC Alarm)	: Disabled
HDD Power Down	: Disable	IRQ9 (IRQ2 Redir)	: Secondary
Doze Mode	: Disable	IRQ10 (Reserved)	: Secondary
Suspend Mode	: Disable	IRQ11 (Reserved)	: Secondary
** PM Events **		IRQ12 (PS/2 Mouse)	: Primary
VGA	: OFF	IRQ13 (Coprocessor)	: Primary
LPT & COM	: LPT / COM	IRQ14 (Hard Disk)	: Primary
HDD & FDD	: ON	IRQ15 (Reserved)	: Disabled
PCI Master	: OFF	ESC : Quit    ↑ ↓ → : Select Item	
Modem Ring Resume	: Disabled	F1 : Help    PU / PD / +/- -: Modify	
RTC Alarm Resume	: Disabled	F5 : Old Values (Shift) F2 : Color	
		F7 : Load Setup Defaults	

The Power Management Setup allows you to configure you system to most effectively save energy while operating in a manner consistent with your own style of computer use.

**ACPI function**

This item allows you to enable/disable the Advanced Configuration and Power Management (ACPI).

**Power Management**

This selection field allows you to select different degrees of power saving modes. Please refer to the following table for the differences:

Min. Saving	Minimum power management. Doze Mode = 1 hr. Suspend Mode = 1 hr.,
Max. Saving	Maximum power management. Doze Mode = 1 min., Suspend Mode = 1 min
User Defined	Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

**PM Control by APM**

When enabled, an Advanced Power Management device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock. If Advance Power Management (APM) is installed on your system, selecting Yes gives better power savings.

**Video Off After**

This selection field allows you to select when will the monitor turn into the power saving mode:

NA	Monitor will remain on during power saving modes.
Suspend	Monitor blanked when the systems enters the Suspend mode.
Doze	Monitor blanked when the system enters the Doze mode.

**Video Off Method**

This determines the manner in which the monitor is blanked.

V/H SYNC+Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
Blank Screen	This option only writes blanks to the video buffer.
DPMS	Select this option if your monitor supports the Display Power Management Signaling (DPMS) standard of the Video Electronics Standards to select video power management values.

**MODEM Use IRQ**

This determines the IRQ in which the MODEM can use for power saving purpose. This mainboard has the ACPI feature designed on the board and it will “wakeup” automatically when it detects the incoming modem Ring-in signal. Before you can use the Ring-in signal to wakeup your PC system, you have to install the “External” modem to your PC system and tell the PC system which serial port connects to the modem by selecting the IRQ in this field. ( officially, COM 1 uses IRQ4, and COM 2 uses IRQ3 )

**Soft-Off by PWRBTN**

This selection field will make the power button on the front panel has different function. Please refer to page 3-16 for the detail function description.

**HDD Power Down**

When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

**Doze Mode**

When enabled and after the set time of system inactivity, the CPU clock will run at slower speed while all other devices still operate at full speed.

**Suspend Mode**

When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

**\*\* PM Events\*\*****VGA**

When *Enabled*, you can set the VGA awakens the system.

**LPT & COM**

When *On of LPT & COM*, any activity from one of the listed system peripheral devices or IRQs wakes up the system.

**HDD & FDD**

When *On of HDD & FDD*, any activity from one of the listed system peripheral devices wakes up the system.

**PCI Master**

When *On of PCI Master*, any activity from one of the listed system peripheral devices wakes up the system.

**Modem Ring Resume**

An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.

**RTC alarm Resume**

When **RTC Alarm Resume** is enabled, your can set the date and time at which the **RTC (real-time clock) alarm** awakens the system from Suspend mode.

**\*\* IRQs Activity Monitoring \*\***

The following is a list of IRQ's, Interrupt ReQuests, which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service. Please refer to the following table for the default settings:

Primary INTR	: ON
IRQ3 (COM2)	: Primary
IRQ4 (COM 1)	: Primary
IRQ5 (LPT 2)	: Primary
IRQ6 (Floppy Disk)	: Primary
IRQ7 (LPT 1 Disk)	: Primary
IRQ8 (RTC Alarm)	: Disabled
IRQ9 (IRQ2 Redir)	: Secondary
IRQ10 (Reserved)	: Secondary
IRQ11 (Reserved)	: Secondary
IRQ12 (PS/2 Mouse)	: Primary
IRQ13 (Coprocessor)	: Primary
IRQ14 (Hard Disk)	: Primary
IRQ15 (Reserved)	: Disabled

## 4.8 PNP/PCI CONFIGURATION

### PNP/PCI CONFIGURATION

AWARD SOFTWARE, INC.

PnP OS Installed	: <b>No</b>	CPU to PCI Write Buffer	: Enabled
Resources Controlled By	: Manual	PCI Dynamic Bursting	: Enabled
Reset Configuration Data	: Disabled	PCI Master 0 WS Write	: Enabled
IRQ-3 assigned to	: PCI/ISA PnP	PCI Delay Transaction	: Enabled
IRQ-4 assigned to	: PCI/ISA PnP	PCI#2 Access #1 Retry	: Disabled
IRQ-5 assigned to	: PCI/ISA PnP	AGP Master 1 WS Write	: Enabled
IRQ-7 assigned to	: PCI/ISA PnP	AGP Master 1 WS Read	: Disabled
IRQ-9 assigned to	: PCI/ISA PnP	Assign IRQ Fro USB	: Enabled
IRQ-10 assigned to	: PCI/ISA PnP	Assign IRQ For VGA	: Enabled
IRQ-11 assigned to	: PCI/ISA PnP		
IRQ-12 assigned to	: PCI/ISA PnP		
IRQ-14 assigned to	: PCI/ISA PnP		
IRQ-15 assigned to	: PCI/ISA PnP		
DMA-0 assigned to	: PCI/ISA PnP		
DMA-1 assigned to	: PCI/ISA PnP	ESC : Quit	↑ ↓ → : Select Item
DMA-3 assigned to	: PCI/ISA PnP	F1 : Help	PU / PD / +/- : Modify
DMA-5 assigned to	: PCI/ISA PnP	F5 : Old Values (Shift)	F2 : Color
DMA-6 assigned to	: PCI/ISA PnP	F7 : Load Setup Defaults	
DMA-7 assigned to	: PCI/ISA PnP		

### PNP OS Installed

This item allows you to determine PnP OS is installed or not.

### Resource controlled by

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows®98.

**Reset Configuration Data**

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot.

**IRQ 3/4/5/7/9/10/11/12/14/15 assigned to**

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt

Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific interrupt ( such as IRQ4 for serial port 1). PCI/ISA PnP Devices compliant with the Plug and Play standard, whether designed for PCI or ISA bus architecture.

**DMA 0/1/3/5/6/7 assigned to**

Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture.

Choices are *Legacy ISA* and *PCI/ISA PnP*.

**CPU to PCI Write buffer**

When this field is *Enabled*, writes from the CPU to the PCI bus are buffered, to compensate for the speed differences between the CPU and the PCI bus. When *Disabled*, the writes are not buffered and the CPU must wait until the write is complete before starting another write cycle.

**PCI Dynamic Bursting**

When *Enabled*, every write transaction goes to the write buffer. Burstable transactions then burst on the PCI bus and nonburstable transactions don't.

**PCI Master 0 WS Write**

When *Enabled*, writes to the PCI bus are executed with zero wait states.

**PCI Delay Transaction**

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select *Enabled* to support compliance with PCI specification version 2.1.

**PCI#2 Access #1 Retry**

When disabled, PCI#2 will not be disconnected until access finishes (default). When enabled, PCI#2 will be disconnected if max retries are attempted without success.

**AGP Master 1 WS Write**

When *Enabled*, writes to the AGP(Accelerated Graphics Port) are executed with one wait states.

**AGP Master 1 WS Read**

When *Enabled*, read to the AGP (Accelerated Graphics Port) are executed with one wait states.

**Assign IRQ For VGA/USB:**

Enable/Disable to assign IRQ for USB/VGA

## 4.9 INTEGRATED PERIPHERALS

### INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.

On-Chip IDE Chanel0	: <b>Enabled</b>	Onboard Parallel Mode	: Normal
On-Chip IDE Chanel1	Enabled	Onboard Legacy Audio	: Enabled
IDE Prefetch Mode	Enabled	Sound Blaster	: <b>Disabled</b>
Primary Master PIO	Auto	SB I/O Base Address	: <b>220H</b>
Primary Slave PIO	Auto	SB IRQ Select	: <b>IRQ 5</b>
Secondary Master PIO	Auto	SB DMA Select	: DMA 1
Secondary Slave PIO	<b>Auto</b>	MPU-401	: <b>Disabled</b>
Primary Master UDMA	Auto	MPU-401 I/O Address	: <b>330 – 333H</b>
<b>Primary Slave UDMA</b>	<b>Auto</b>	Game Port (200-207H)	: <b>Enabled</b>
Secondary Master UDMA	Auto		
Secondary Slave UDMA	Auto		
Init Display first	PCI Slot		
Onboard FDC Controller	Enabled	ESC : Quit	↑ ↓ → : Select Item
Onboard Serial Port 1	Auto	F1 : Help	PU / PD / +/- : Modify
Onboard Serial Port 2	Auto	F5 : Old Values (Shift)	F2 : Color
UART 2 Mode	Standard	F7 : Load Setup Defaults	
Onboard Parallel Port	378/IRQ7		

### OnChip IDE Channel 0/1

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the IDE interfaces which is installed on the mainboard. Select Disabled to deactivate these IDE interfaces.

### IDE Prefetch Mode

The onboard IDE drive interfaces supports IDE prefetching for faster drive accesses. If you install a primary and/or secondary add-in IDE interface, set this field to *Disabled* if the interface does not support prefetching.

**Primary/Secondary, Master/Slave PIO**

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

**Primary/Secondary, Master/Slave UDMA**

Ultra DMA implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 98 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/66, select Auto to enable BIOS support.

**Init Display First**

This field allows you to decide to active whether PCI Slot of VGA card or AGP first.

**Onboard FDD Controller**

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you want to use it. If you install add-in FDC or the system has no floppy drive, select Disabled in this field.

**Onboard Serial Port 1/Port 2**

These two selection fields allow you to select the I/O address and corresponding interrupt for the first and second serial ports.

**UART 2 Mode**

This item allows you to select which mode for the Onboard Serial Port 2.

**Onboard Parallel Port**

This item allows you to determine onboard parallel port controller I/O address setting.

**Onboard Parallel Port Mode**

Select an operating mode for the onboard parallel (printer) port. Select *Normal*, *Compatible*, or *SPP* unless you are certain your hardware and software both support one of the other available modes.

**Onboard Legacy Audio**

This field controls the onboard legacy audio.

Sound Blaster

SB I/O Base Address

SB IRQ Select

SB DMA Select

MPU-401

MPU-401 I/O Address

Game Port (200-207H)

## 4.10 PC HEALTH STATUS

PC Health Status  
AWARD SOFTWARE, INC.

Current CPU Temp.	57°C/134°F	
Current CPUFAN1 Speed	4647 RPM	
Current CPUFAN2 Speed	0 RPM	
Vcore : 1.64V	2.5V : 2.53V	
3.3V : 3.54V	5V : 5.05V	
12V : 12.12V		

The table above allows you to monitor the PC system healthy status. You can check on the related field and monitor the status like voltage, Temperature ... etc.

### Current CPU Temp.

This field will show you the current CPU temperature

### Current CPUFAN1 Speed

This field will show you the current CPU Cooling FAN1 speed.

### Current CPUFAN2 Speed

This field will show you the current CPU Cooling FAN2 speed.

### Vcore

This field and the files blow show you the current system voltage

## 4.11 LOAD SETUP DEFAULTS

CMOS Setup Utility – Copyright ( C ) 1984 - 2000 Award Software.

Standard CMOS Setup	PC Health Status
BIOS Features Setup	Supervisor Password
Chipset Features Setup	User Password
Power Management Setup	IDE HDD Auto Detection
PNP/PCI Configuration	Save & Exit Setup
Integrated Peripherals	Exit Without Saving
<b>Load Setup Defaults</b>	
ESC : Quit	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> : Select Item
F10 : Save & Exit Setup	(Shift)F2 : Change Color
Time, Date, Hard Disk Type ...	

There is the CMOS memory on the mainboard which can be used to store the system settings. In case that you don't know how to use the Award BIOS setup program to select the settings, you may use this field to load the optimized default which is defined in the system BIOS. Basically, the optimized default is chosen by the factory and it will give a series of parameters to make sure the best reliability and performance.

If you lost the CMOS data or you don't know how to complete the setup procedure, you may use this option to load the Optimized default values from the BIOS default table. The optimized default value is the suggested setting which will give the best reliability and also the good performance.

Incase that the CMOS data is corrupted, or if you made some CMOS setting and found that the PC system becomes very stable, then you may try to load the optimized default value and the CMOS will be changed to its default setting.

## 4.12 SUPERVISOR PASSWORD

CMOS Setup Utility – Copyright ( C ) 1984 - 2000 Award Software.

Standard CMOS Setup	PC Health Status
BIOS Features Setup	<b>Supervisor Password</b>
Chipset Features Setup	User Password
Power Management Setup	IDE HDD Auto Detection
PNP/PCI Configuration	Save & Exit Setup
Integrated Peripherals	Exit Without Saving
Load Setup Defaults	
ESC : Quit	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> : Select Item
F10 : Save & Exit Setup	(Shift)F2 : Change Color
Time, Date, Hard Disk Type ...	

The "SUPERVISOR PASSWORD" will be used to check the authority when power-on the PC system. The Supervisor Password will have different function according to the "Security Option" setup in Section 4.5:

### When "Setup" is selected in Security Option:

If you want to change the BIOS setting, you will have to key-in the Supervisor Password so that you can start the BIOS setup program and change the system setting..

### When "System" is selected in Security Option:

When turn on the PC system, it will request you to enter the Password. Without the correct password, the PC system will stop and the operation system will not be loaded.



**1. When "Setup" is selected in Security Option:**

Users can use the "User Password" to log into the BIOS setup program, and they can make all the change in the BIOS setup program.

**2. When "System" is selected in Security Option:**

When turn on the PC system, it will request you to enter the Password. Without the correct password, the PC system will stop and the operation system will not be loaded.

#### 4.14 IDE HDD AUTO DETECTION

CMOS Setup Utility – Copyright ( C ) 1984 - 2000 Award Software.

Standard CMOS Setup	PC Health Status
BIOS Features Setup	Supervisor Password
Chipset Features Setup	User Password
Power Management Setup	<b>IDE HDD Auto Detection</b>
PNP/PCI Configuration	Save & Exit Setup
Integrated Peripherals	Exit Without Saving
Load Setup Defaults	
ESC : Quit	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> : Select Item
F10 : Save & Exit Setup	(Shift)F2 : Change Color
Time, Date, Hard Disk Type ...	

In order to make the Hard Disk Drive (HDD) work properly in the PC system, you have to give a series of HDD parameters to the system BIOS. Without the HDD parameters, you won't be able to start the PC system because the system BIOS can not identify the type of HDD.

Somehow, it is difficult for most users to give the correct HDD parameters. One of the most easy ways to give the correct HDD parameter to the system BIOS will be the "IDE HDD AUTO DETECTION" as mentioned in the following.

IDE HDD AUTO DETECTION will load the HDD parameters saved in the Hard Disk Drive automatically. Such parameters will be saved in the CMOS memory and the system BIOS will refer to these information to access the HDD. (Note, In case that there is the new HDD and the system BIOS failed to detect the HDD automatically, you may refer to [section 4-4](#) and give the parameter manually or refer to Chapter 5 to have the system BIOS get updated so that the system BIOS will recognize the new HDD)



## 5. UPDATE THE SYSTEM BIOS

Before we start to discuss system BIOS update, there are some important issues which you need to pay attention on it:

**1. You can not exchange the system BIOS with another mainboard:**

The system BIOS on different mainboard are different. If you take the system BIOS from another mainboard and have it installed on this mainboard, you may find that the mainboard fail to boot. Even the mainboard from the same manufacturer, the content of the system BIOS can be different. So please do not exchange the system BIOS.

**2. Where to get the updated BIOS?**

You can visit the web page of the supplier and down load the updated system BIOS. Please note that you will “kill” the PC system if you have the wrong BIOS written into the PC system. So please be sure to double check the system BIOS before you can use it to update the system BIOS.

**3. No interruption is allowed during the BIOS updating:**

When the BIOS updating, please do not restart the PC system or turn the power off. Otherwise, you will have a fragmentary system BIOS in your PC system and it will make you unable to start the PC system. If you reset or power off the PC system while the system BIOS is updating, you may have to send the PC system to the suppler for troubleshooting because you do not have the system BIOS in the PC system.

**4. Do not change the onboard flash ROM:**

The flash ROM is the storage device which is designed on the mainboard to store the system BIOS. There are different kinds of the flash ROM selling in the market. They have different capacity and different architecture. If you install improper flash ROM onto the mainboard, it may cause unexpected damage to the mainboard. So please never change the flash ROM on the mainboard, otherwise, the warranty will be void.

**SYSTEM BIOS UPDATE PROCEDURE****Step 1. Download the system BIOS from the web page:**

1. Visit the following web page:  
**<http://www.azza.com.tw>**
2. Select "TECH SUPPORT"
3. Down load "AWDFLASH.EXE" program.
4. Scroll the screen downward and find the 693ATX mainboard..
5. Select the BIOS and start to down load. (Suppose the file name is 693ATX.BIN)

**Step 2. Prepare for the BIOS updating:**

1. Windows is the multi task environment and some unexpected interruption can be occurred and stop the BIOS updating. Since no interruption is allowed during the BIOS updating. so the BIOS updating can not be made under the Windows environment.
2. Get a floppy diskette and put it into the floppy disk drive.
3. Key-in the following command under the DOS prompt:

**C:> FORMAT A:/S**

4. When the diskette formatting is completed, have the files which you down loaded from the web page copied into the floppy diskette. (693ATX.BIN and AWDFLASH.EXE).

**Step 3. Start to update the system BIOS:**

1. Have the diskette which we made in Step 2 inserted in the floppy disk drive..
2. Start the PC system and click on the “del” key to start the BIOS setup program. Select the “BIOS Features Setup” and then make sure to select the floppy disk drive as the first boot device.
3. Having made the boot sequence selection, save the setup and restart the PC system.
4. When the DOS prompt “A:>” appears, run the AWDFLASH.EXE program. (You can use “AWDFLASH /?” to more detail of the program.)
5. When you have started the “AWDFLASH.EXE”, it will ask you to input the file name of the new BIOS. Key-in “693ATX.BIN” and then click the “ENTER” key.
6. When you see the message - Do you want to save BIOS (Y/N)?. you may choose “Y” to have the onboard BIOS copied in to the floppy diskette. If you do not want to make the backup copy of the onboard BIOS, simply chose “N” and start to update the system BIO. (if you want to make a backup copy of the onboard system BIOS, then select “Y” and then give a file name to the backup copy.)
7. You will see from the screen whether you are going to start the BIOS update. If you are sure that the new BIOS is correct and nothing is wrong, chose “Y” to start the BIOS update. ( you can chose “N” and terminate the BIOS update program.)
8. During the BIOS updating, you will see the “Programming Flash Memory” message display on the screen. (**IMPORTANT: you can not stop or reset the PC system when the BIOS is updating.**)
9. When the BIOS update is completed, remove the floppy diskette from the floppy disk drive and restart the PC system..
10. When you see the PC system start to boot, it indicate that the BIOS update is successful.
11. Click the “del” key during the Power On Self Test to trigger the BIOS setup program..
12. Chose "Load Setup Default" and have the default setting written into the CMOS memory.
13. Chose "Save and Exit" and then restart the PC system.
14. Having finished the procedures above, the BIOS update is completed.