

**815EX / 815EPX / 815EPL**

**Pentium !!!  
ATX MAINBOARD**

**( VER. 1.x )**

**USER'S MANUAL**

**DOC. NO. UM-815EX-E1**

.....

**.PRINTED IN TAIWAN**

CHAPTER & SECTION	Page
<b>1. INTRODUCTION</b> .....	<b>1-1</b>
<b>1.1 OVERVIEW</b> .....	<b>1-1</b>
<b>1.2 MAINBOARD LAYOUT</b> .....	<b>1-3</b>
<b>1.2.1 OUTLOOK OF 815EX</b> .....	<b>1-3</b>
<b>1.2.2 OUTLOOK OF 815EPX AND 815EPL</b> .....	<b>1-3</b>
<b>1.3 SPECIFICATIONS</b> .....	<b>1-5</b>
<b>2. INSTALLATION</b> .....	<b>2-1</b>
<b>2.1 UNPACKING</b> .....	<b>2-1</b>
<b>2.2 QUICK INSTALLATION</b> .....	<b>2-2</b>
<b>2.3 AMAZING WAYS TO POWER ON THE PC SYSTEM</b> .....	<b>2-3</b>
<b>2.4 POWER OFF THE PC SYSTEM</b> .....	<b>2-5</b>
<b>3. HARDWARE SETUP</b> .....	<b>3-1</b>
<b>3.1 INSTALLATION OF CPU</b> .....	<b>3-1</b>
<b>3.2 INSTALLING THE DRAM MODULES</b> .....	<b>3-2</b>
<b>3.3 CONNECTORS</b> .....	<b>3-5</b>
<b>3.3.1 SLOT:</b> .....	<b>3-5</b>
<b>3.3.2 BAT1: BATTERY SOCKET</b> .....	<b>3-6</b>
<b>3.3.3 CN1: PS/2 KEYBOARD CONNECTOR</b> .....	<b>3-6</b>
<b>3.3.4 CN2: PS/2 MOUSE CONNECTOR</b> .....	<b>3-6</b>
<b>3.3.5 CN3 : SERIAL PORT COM 1 CONNECTOR</b> .....	<b>3-7</b>
<b>3.3.6 CN4 : SERIAL PORT COM 2 CONNECTOR</b> .....	<b>3-7</b>
<b>3.3.7 CN5: PARALLEL PORT CONNECTOR</b> .....	<b>3-8</b>
<b>3.3.8 CN6: USB 1 CONNECTOR</b> .....	<b>3-9</b>
<b>3.3.9 CN7: USB 2 CONNECTOR</b> .....	<b>3-9</b>
<b>3.3.10 CN8: FLOPPY DISK CONNECTOR</b> .....	<b>3-9</b>
<b>3.3.11 CN9 : IDE 1 CONNECTOR</b> .....	<b>3-10</b>
<b>3.3.12 CN10: IDE 2 CONNECTOR</b> .....	<b>3-10</b>
<b>3.3.13 CN12: IR (INFRARED RAYS) CONNECTOR</b> .....	<b>3-10</b>
<b>3.3.14 CN13: COOLING FAN 1 POWER CONNECTOR</b> .....	<b>3-11</b>
<b>3.3.15 CN15: ATX POWER CONNECTOR</b> .....	<b>3-11</b>
<b>3.3.16 CN16: WOL CONNECTOR</b> .....	<b>3-12</b>
<b>3.3.17 CN17: COOLING FAN2 POWER CONNECTOR</b> .....	<b>3-12</b>
<b>3.3.18 CN18: AUDIO/GAME CONNECTOR:</b> .....	<b>3-13</b>
<b>3.3.19 CN19: VGA CONNECTOR:</b> .....	<b>3-13</b>
<b>3.3.20 CN21 / CN22: CD-IN CONNECTOR:</b> .....	<b>3-14</b>
<b>3.3.21 CN25: AIR BUS CONNECTOR</b> .....	<b>3-14</b>
<b>3.3.22 CN27: COOLING FAN3 POWER CONNECTOR</b> .....	<b>3-15</b>
<b>3.3.23 CN30: USB 3 CONNECTOR</b> .....	<b>3-15</b>
<b>3.3.24 CN31: USB 4 CONNECTOR</b> .....	<b>3-15</b>

- 3.3.25 CN39: FRONT AUDIO CONNECTOR.....3-16
- 3.3.26 PUSH BUTTONS AND LED CONNECTORS .....3-17
- 3.3.27 SPEAKER AND KEY LOCK CONNECTOR: .....3-20
- 3.4 JUMPER SETTINGS.....3-21
- 3.5 INSTALLATION OF DEVICE DRIVERS.....3-29
- 4. AWARD BIOS SETUP..... 4-1
  - 4.1 GETTING STARTED.....4-1
  - 4.2 MAIN MENU .....4-1
  - 4.3 CONTROL KEYS.....4-2
  - 4.4 STANDARD CMOS FEATURES.....4-3
  - 4.5 ADVANCED BIOS FEATURES.....4-4
  - 4.6 ADVANCED CHIPSET FEATURES.....4-7
  - 4.7 INTEGRATED PERIPHERALS .....4-10
  - 4.8 POWER MANAGEMENT SETUP .....4-14
  - 4.9 PNP/PCI CONFIGURATION.....4-18
  - 4.10 PC HEALTH STATUS.....4-19
  - 4.11 FREQUENCY/VOLTAGE CONTROL .....4-20
  - 4.12 LOAD OPTIMIZED DEFAULTS.....4-22
  - 4.13 SET SUPERVISOR PASSWORD.....4-23
  - 4.14 SET USER PASSWORD .....4-24
  - 4.15 SAVE & EXIT SETUP / EXIT WITHOUT SAVING.....4-25
- 5. HOW TO UPDATE THE SYSTEM BIOS.....5-1

**SOMETHING IMPORTANT !**

☆ **TRADEMARKS**

All trademarks used in this manual are the property of their respective owners.

☆ **LOAD OPTIMIZED DEFAULTS**

“LOAD OPTIMIZED DEFAULTS” will have the BIOS default settings loaded into the CMOS memory. These default settings will optimize system performance and system stability. Load the optimized default is recommended when you receive this mainboard or when the system CMOS data is corrupted. Refer to Section 4.12 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 active in the PC system. Without disconnecting the AC power connector from the PC system, the mainboard can be damaged by improper operation .

☆ **WAKE ON LAN**

In order to support the onboard Wake On LAN feature, the system requires a special Switching Power Supply, Such power supply must be able to provide at least 1A of driving capability on the “5V standby” voltage.

☆ **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.

**IMPORTANT NOTICE:**

- 1. The standby voltage is always active. Whenever you are installing any component on the mainboard.  
- BE SURE TO DISCONNECT THE POWER CABLE.***
- 2. This mainboard supports the S3 suspend mode (suspend to RAM). So the quality of the power supply will be very important. Please make sure that that the power supply will have the enough driving capability to support S3 function. Basically, the 5V standby voltage shall be above 5 Volt otherwise, you may be unable to start the PC system.***

# 1. INTRODUCTION

## 1.1 OVERVIEW

This Mainboard is a high performance personal computer mainboard. It is the ATX form-factor with Socket 370 designed on the board for Pentium™ !!! processors. The Intel® i815e or i815ep chipsets is chosen as the core logic of the mainboard to give the most outstanding performance and reliability.

Intel® i815e and i815ep chipset are the high integration, high performance, power-efficient and high compatibility device which supports Intel® and non-Intel® processors to PCI bridge functionality for complete PC99-compliant PCI system. Intel® i815e and i815ep chipsets provide two channels of "PIO" and "Ultra DMA33/66/100 Bus Master" PCI IDE ports to provide the lightning data throughput. In addition, 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 are designed on the board for various of peripheral device.

This CPU Vcore and FSB clock selection on the mainboard is the state of the art design. It allows users to fine-tune the CPU core voltage and Front Side Bus frequency by utilizing the software setup in the BIOS setup utility (refer to Section 4-9 and Section 4-10 for the setting). When users feel like to increase system performance, they may have to over clock the CPU so that the PC system will be running at higher speed. In this case, the fine-tune design on this mainboard will let users to select the proper CPU FSB clock and core voltage so that the PC system will be working faster and remain stable at the same time.

There are the 3D PCI audio and AGP VGA interfaces built on the board. (815EX has both the audio and VGA interface built on the board. 815EPX and 815EPL only have the audio on the board.) These onboard interfaces are the PnP devices (Plug and Play) and they are fully compatible with the Windows environment. So you don't have to purchase another sound card or VGA card because the onboard interfaces will meet the multimedia requirement.

According to the requirement from different customers, this mainboard will have different feature as shown in the following table:

<b>Model Name</b>	<b>Onboard VGA</b>	<b>Onboard Audio</b>
<b>815EX</b>	<b>Yes</b>	<b>Yes</b>
<b>815EPX</b>	<b>No</b>	<b>Yes</b>
<b>815EPL</b>	<b>No</b>	<b>No</b>

**What is Socket 370?**

Basically, Socket 370 is the CPU connector designed for the socket type of Pentium™ !!! processors. The Socket 370 processor is designed for the value PC with outstanding performance. With the Pentium™ !!! processors installed on the mainboard, you will get a PC capable of running today's applications with ease, and with enough power to run the applications of tomorrow

**Accelerated Graphic Port (AGP)**

Basically, the demand for 3D graphic rendering and the throughput of screen display is increasing. AGP is such a new technology that will increase massive bandwidth between VGA and CPU to increase the display quality and performance. The AGP interface designed on the mainboard supports the 4X AGP mode and it will let you have the most outstanding system display performance.

**Ultra DMA**

Ultra DMA is one of the measurements, which is used to indicate the HDD data transfer rate. This mainboard supports the Ultra DMA 33/66/100 mode and the maximum HDD data transfer rate can be up to 100 MB per second..

**What is CNR?**

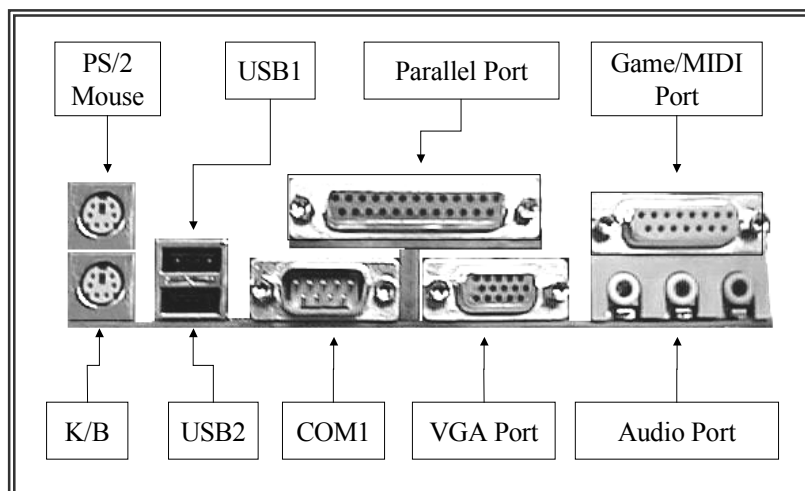
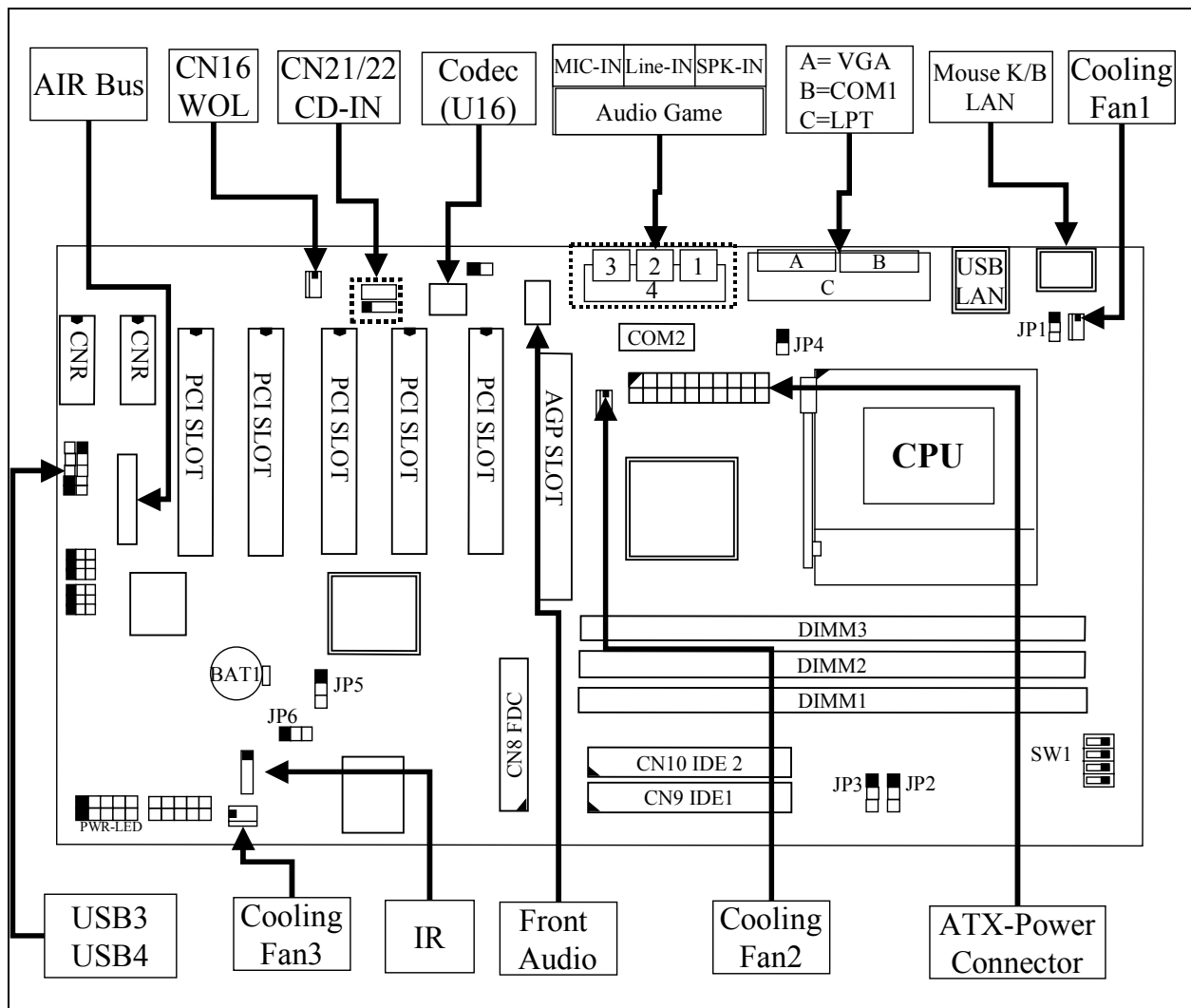
CNR (Communication Network Riser) is the new expansion interface for the modern mainboard. In order to provide a low cost solution for various add on cards, the CNR interface is introduced on the mainboard. Basically, will support the CNR interface card with the combination of the following functions: USB, Modem, LAN, HomePNA and audio interface.

**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, CPU voltage and system temperature etc.

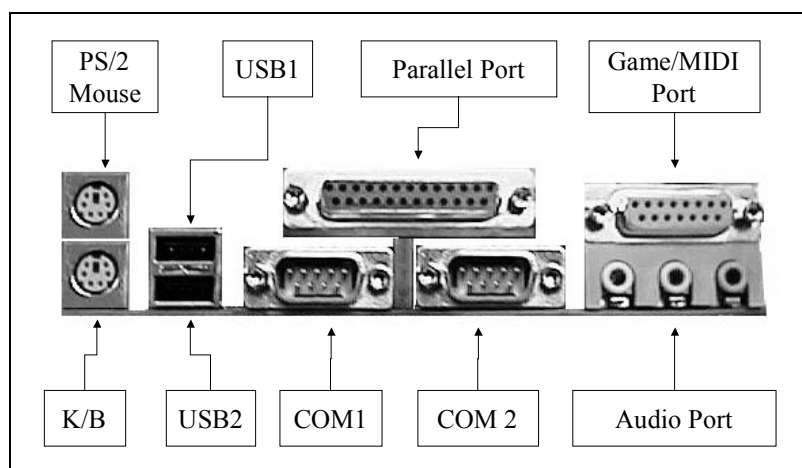
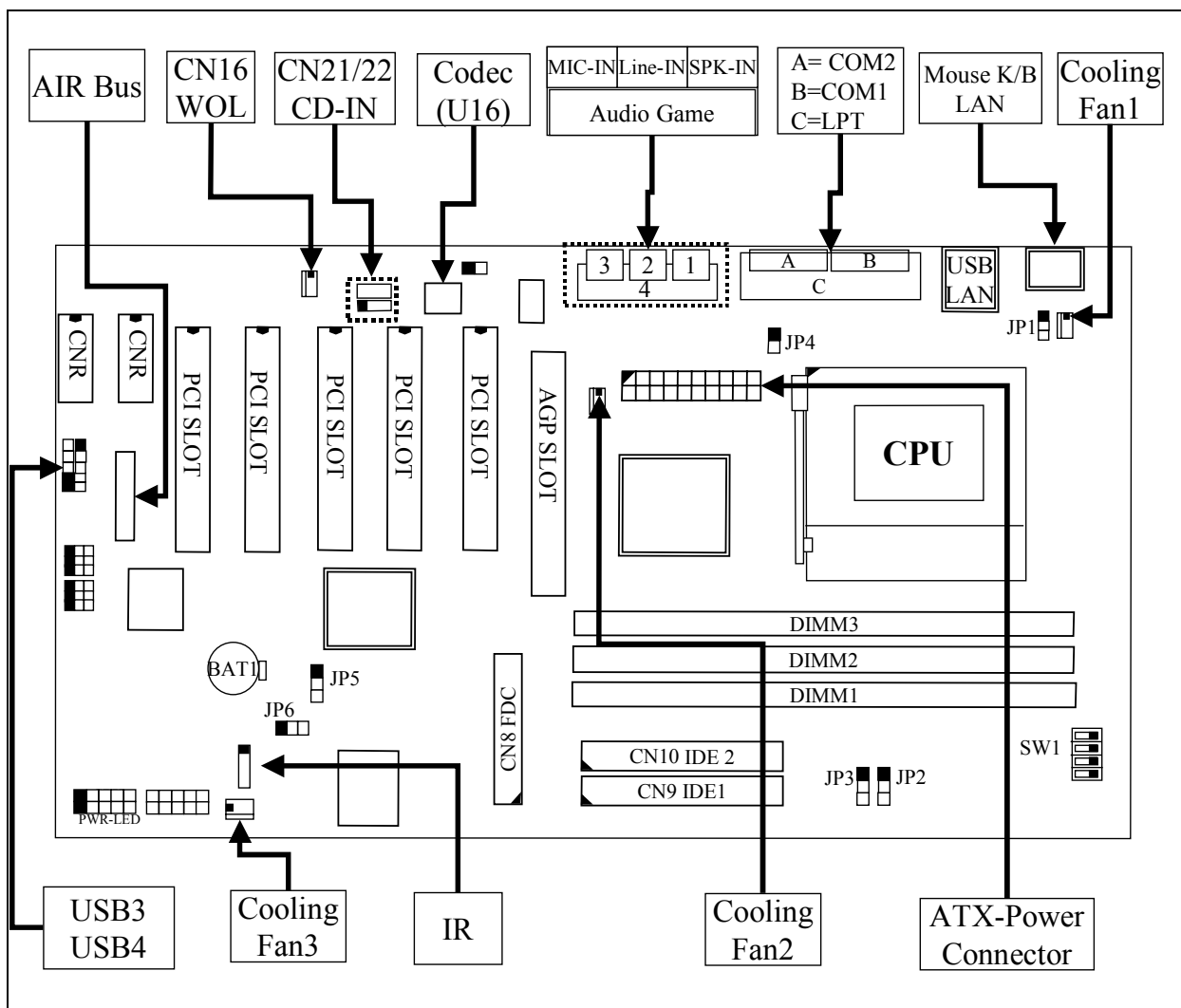
## 1.2 MAINBOARD LAYOUT

### 1.2.1 OUTLOOK OF 815EX



**1.2.2  
OUTLOOK  
OF 815EPX  
AND 815EPL**





### 1.3 SPECIFICATIONS

#### ⊙ CPU

Intel® Socket 370 Pentium™ !!! or Celeron™ (CU-128 processors) 500, 533, 550, 600, ,650, 667, 700, 733, ,750, 766, 800, 866, 900, 933MHz and upto1GHz high speed processors.

#### ⊙ CPU VCC

Switching Voltage Regulator circuits onboard, supports +1.30V DC through +2.05V DC CPU Core Voltage, auto-detected by the CPU.

#### ⊙ WORD SIZE

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

#### ⊙ PC SYSTEM CHIPSET

815EX: Intel i815e chipset  
815EPX and 815EPL: Intel i815ep chipset

#### ⊙ SUPER I/O CHIPSET

Winbond W83627HF or W83627F I/O chip.  
(W83627HF supports the hardware monitoring, while W83627F doesn't. )

#### ⊙ FRONT SIDE BUS FREQUENCY

66 MHz, 100MHz and 133MHz selectable.

#### ⊙ MEMORY

There are three 168-pin DIMM sockets onboard. Support up to 1536MB.

#### ⊙ 3D SOUND

The AC97 audio interface is designed onboard for 3D Sound Effect.

#### ⊙ VGA INTERFACE

4X AGP VGA interface is designed on the board.

#### ⊙ BIOS

AWARD System BIOS. 4Mbit Flash ROM

#### ⊙ EXPANSION SLOTS

CNR Slots : Two CNR slots for USB, Modem, HPNA, LAN and audio riser cards.  
PCI Slots : Five 32bit PCI slots.  
AGP Slot : One AGP slot for 4X AGP card.



**⊙ ACPI FUNCTIOS (PC99 COMPLIANT)**

Advanced Configuration and Power Interface (ACPI) features are available on this mainboard. 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. Microsoft PC99 compliant, fully supports S0, S1, S3, and S5 system operating status
2. System resumes by Panel-switch, Keyboard, PS/2 Mouse, Modem ring-in, Phone ring-in ,LAN signal .... etc.
3. Two LED onboard for system operating status indicating the S3 and S5 status.

**⊙ WOL PORTS**

One WOL connector supports Wake-On-LAN (WOL up-designed)

**⊙ USB PORTS (Universal Serial Bus)**

Four USB ports designed on the board.

**⊙ IDE PORTS**

Two channels of Ultra DMA 33/66/100 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 DMA modes.

**⊙ SUPER I/O PORTS**

1. One PS/2 Mouse connector and One PS/2 Keyboard connector.
2. Two high speed NS16C550 compatible serial ports (UARTs).
3. One SPP/EPP/ECP mode Bi-directional parallel port.
4. One Floppy Disk Control port.
5. One HP-SIR, SHARP-IR compatible IR port. Consumer Remote Control supports RC-5, RC-6, NEC, RCA and RECS 80.
6. One digital Game and MIDI (compatible with MPU-401 UART mode) port.

**⊙ MISCELLANEOUS**

Three cooling Fan Connectors on the board. (Some of the cooling fan is optional)  
One Chassis intrusion detection connector. (Optional)

**© HARDWARE MONITORING (Optional)**

Winbond W83627HF is designed on the board to monitor hardware healthy status like system voltage, system temperature, and cooling fans. (When W83627F is installed on the board, then there will be no hardware monitoring feature on the mainboard. please refer to U18 on page 1-3 and page 1-4). The hardware monitoring is a useful feature for the modern PC system. For example, when the CPU temperature is too high, the system BIOS will tell the system board to give a series of beeping alarm and slow down the CPU speed (throttling speed) so that you can take proper action to prevent your system from damage. When you hear the beeping alarm, turn the power off and check on the mainboard components to see whether it is working properly or not. If you don't know how to handle it, send the PC system to your dealer for technical support.

There is the hardware monitoring program in the CD which comes with this mainboard. You can use it to monitor the system healthy status. When you find there is the W83627HF installed on U18, you can install the hardware monitoring program so that it will monitor the system healthy status all the time.

**© DIMENSION**

4-layers PCB, 305mm x 210mm  
(ATX Form-Factor, double-decker I/O connector).

**© OPERATION SYSTEM**

This mainboard is compatible with the operation system such as MS-DOS, Windows NT, OS/2, NOVELL, Windows 95, Windows 98, Windows 2000, Windows Me ....etc.

## 2. INSTALLATION

### 2.1 UNPACKING

The mainboard contains the following components. Please refer to the following checking list and make sure that everything is included in the package properly. If you find anything is missing or damaged, call your supplier for replacement.

- Mainboard
- User's manual
- One IDE cable
- One FDD cable
- One COM2 cable ( for 815EX, optional choice)
- USB Cable (for USB3 and USB4, optional choice)
- CD diskette (for device driver and utility programs)

The color box of the mainboard will protect the mainboard from unexpected damage during transportation. Since this mainboard contains electrostatic sensitive components and it can be easily damaged by static electricity. So the mainboard is sealed inside an 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.

When you have opened the color box of the mainboard, check the outlook of mainboard carefully to make sure there is no shipping and handling damages.

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.

## 2.2 QUICK INSTALLATION

This section provides the quick installation guide. 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 3-2)
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 3-3)
9. Use the ribbon cable to connect the FDD, IDE HDD and CD ROM drive.
10. Install the 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, speaker, keyboard, mouse ... etc.
13. Connect the power cable and power onto 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 Optimized 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 98).
18. Install the device drivers and other application software.

### IMPORTANT NOTICE:

1. *Never power on the PC system unless a qualified cooling fan is installed properly.*
2. *If you are connecting the cable to USB3 and USB4, be sure to use the correct USB cable. Wrong USB cable will destroy the mainboard.*
3. *Before all the components are installed in the PC system properly, please do not connect the power cable to the PC system.*
4. *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 AMAZING WAYS TO POWER ON THE PC SYSTEM

This mainboard has the ACPI (Advanced Configuration Power Interface) designed on the board. When the mainboard has the ATX type power supply connected, 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 3-18 for detail function description.

### □ KEYBOARD (PASSWORD OR HOT KEY)

This mainboard allows you to use your personal password or a combination of hot key to power on your PC system. When the jumper setting on JP1 is “Enabled”, the keyboard OnNow function will be activated. Under this circumstance, this mainboard will keep scanning the keyboard status waiting for the correct password or hot key input even when the system power is off (the stand-by 5V is still working and the power LED on the keyboard is still active). When you have selected the keyboard hot key to power on the PC system, you will be able to use keyboard hot key to power on the PC system. (You can use the power button to power on the PC system all the time.) ( Please refer to Section 4.7.- "**Integrated Peripherals**")

When the “Password” and “Hot KEY” is selected, you will have to reboot the PC system to activate the setting, when you see the POST (Power On Self Test) is completed, the setting is changed and stored in the CMOS memory. Having finished the procedure, you may turn the power off and then you can use the keyboard to power-on the PC system afterward.

In case that you forget the “Password” or “Hot Key”, you may use JP6 (see Section 3-4) to clear the password setting. When the password is cleared, the power button will be activated once again and you can use the power button to turn on the system. Input your personal password again in the BIOS setup program, and then you may use the new password to power-on the PC system afterward.



### □ PS/2™ MOUSE (LEFT OR RIGHT MOUSE BUTTON)

If you have a PS/2™ mouse connected to the system, you may change the setup in the BIOS and use the mouse click to turn on the PC system power. Please refer to section 4.5 for the BIOS setting

To use the mouse key to turn on the PC system power, the mouse click must be done quickly and continually. Basically, 2-5 quick clicks on the mouse key ( left key or right key ) will turn the power immediately.

In order to activate the mouse key feature, you will have to reboot the PC system after the BIOS setting and wait until the POST (Power On Self Test) is completed. Having finished the procedure, you may use the mouse key to power-on the PC system afterward..

*Note: 1. This feature is not available on the COM port mouse (serial mouse).  
2. To use the PS/2 mouse power-on the PC system, JP1 must be "Enabled"*

### □ 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 RTC memory, When RTC alarms, the PC system will be triggered and wakes up automatically on the date and time which you selected in the BIOS setup program.

Enable the “Resume by Alarm” selection in the BIOS setup utility, and then you will see the input request for the date and time. ( “Resume by Alarm” is located in the “POWER MANAGEMENT SETUP”, please refer to Section 4.8), 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

Everyone knows that a PC system can be used as a fax machine to send or receive fax messages. But most people still use fax machine to receive their messages because it is not practical to have the system powered on all day long waiting for the incoming messages. Now the problem can be solved because this mainboard can be triggered by a modem ring-in signal.

When you have an *external* modem installed, you can leave the PC system power off. Whenever there is the incoming message, the PC system will be triggered by the ring-in signal and wake up automatically to receive the message for you. From now on, you can tell your PC system to receive the fax message for you.

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 and start to receive the incoming messages automatically. (You need to get the software like Award Zero-Volt Data-Suspend Utility so that you can use the fax utility to receive the incoming fax message ). To enable the Modem Ring-In feature, you have to run the BIOS setup utility and enable the “Power On by Ring / LAN” option (please refer to Section 4.8 for the settings).

**Note:** *This function is not available when using the internal MODEM card.*

#### **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 “Resume by Ring / LAN” 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 Start 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.**

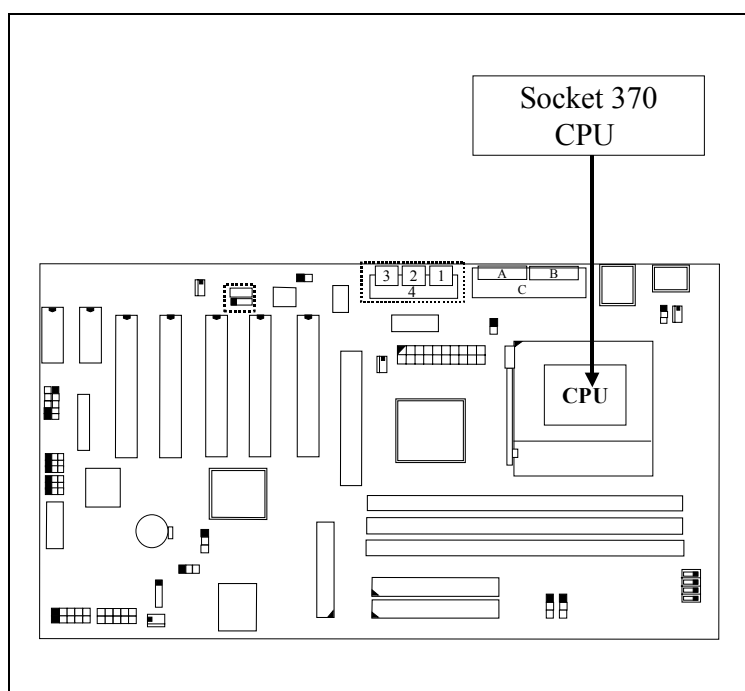
### 3. HARDWARE SETUP

Before you can start to install this mainboard, some hardware settings is required to make sure it will work perfectly with the devices which you are going to install in your PC system. To configure the mainboard is a simple task, only a few jumpers, connectors, cables and sockets needs to be selected and configured. (Please refer to page 1-3 and page 1-4 to see the mainboard layout)

*The following connectors labeled with “Optional” means they are the optional choice and the related components are normally not populated on the board.*

#### 3.1 INSTALLATION OF CPU

There is the Socket 370 CPU connector on the mainboard which is designed for Pentium™ !!! processor. Refer to the following diagram for the CPU socket:

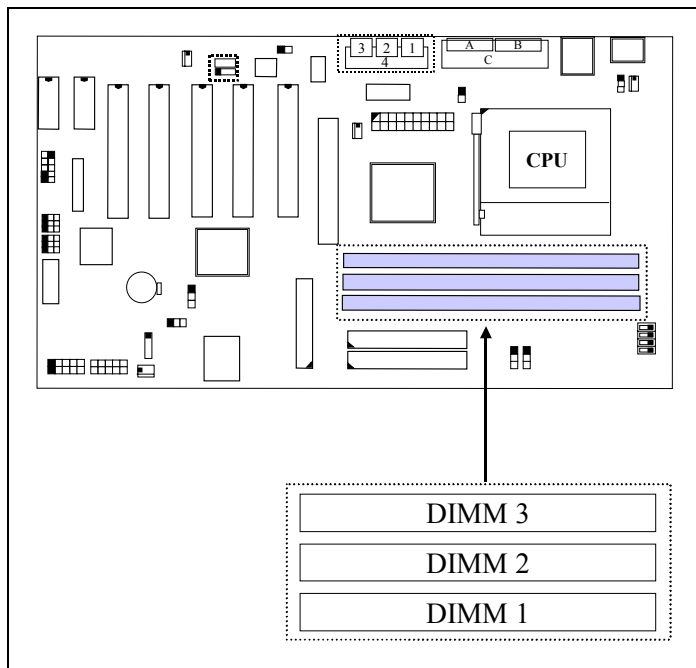


When you have installed the processor onto the mainboard, it will detect the CPU type and decide the CPU voltage automatically. So you don't have to make any jumper setting to select the CPU voltage and CPU FSB clock. If you want to choose other FSB clock and Vcore, please refer to Section 4-11 for the detail.

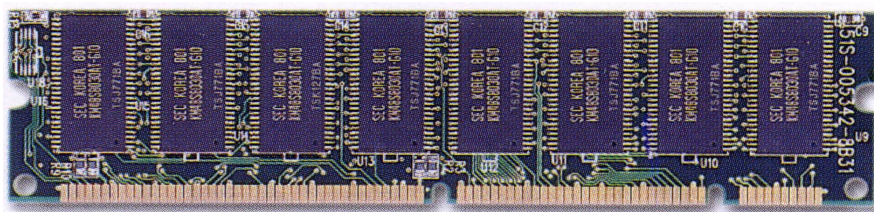
***Be sure to remove the power cable from the PC system when installing CPU or any other components .***

### 3.2 INSTALLING THE DRAM MODULES

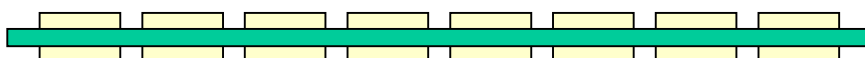
This mainboard has three DIMM sockets designed on the mainboard as shown in the following diagram:



**Outlook of DIMM modules:**



(Single-Side DIMM Module)



( Double-Side DIMM Module )

**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 66 or 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. Please install the DIMM module starting from DIMM1 or DIMM2 first.
6. Maximum memory size: 1536MB

**Configuration of memory sub-system:**

Intel i815e chipset supports PC-100 and PC-133 DIMM modules. Basically, you may choose the memory access time by using the CMOS setup utility. (Refer to CMOS setup “system memory frequency” in section 4-6). There are three different choices in the CMOS setup program, please refer to the following for the details:

**AUTO:** The system BIOS will read the memory chip information stored in the EEPROM on the DIMM module via SPD technology and then decide the way of memory frequency automatically.

**100MHz:** No matter what kind of DIMM module is installed on the mainboard, the system BIOS will force the PC system running at 100 MHz.

**133MHz:** When 133MHz CPU is installed on the mainboard, no matter what kind of DIMM module is installed on the mainboard, the system BIOS will force the PC system running at 133 MHz. However, when 100MHz CPU is installed on the mainboard, the memory frequency will be fixed at 100MHz no matter what kind of DIMM module is installed.



*According to the feature of Intel i815e and 815ep chipsets, there is some limitation when installing DIMM modules on the mainboard, Different setup of “System Memory Frequency” setting in the CMOS setup may have different requirement (refer to section 4-6 for details), please refer to the table in the next page for details:*

When the CPU installed on the mainboard is the 66MHz or 100MHz CPU, the “System Memory Frequency” selection field will not be displayed on the screen as shown in Section 4-6. When the CPU installed on the mainboard has the 133MHz FSB, please refer to the following table for the memory configuration.

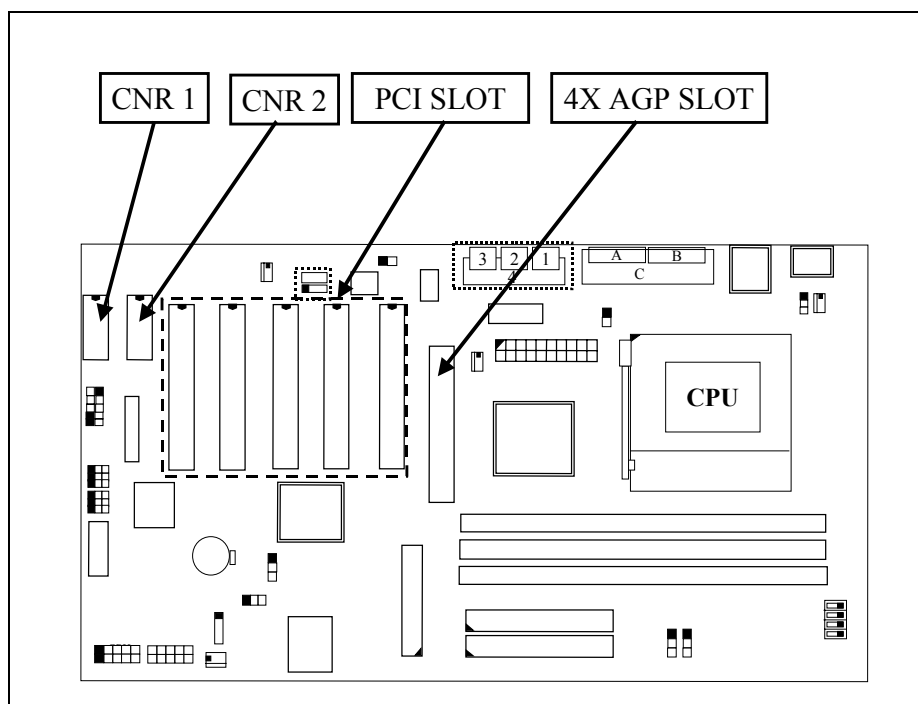
<b>DIMM MODULES</b>	<b>System Memory Frequency Setting in CMOS</b>		
	<b>AUTO</b>	<b>100 MHz</b>	<b>133 MHz</b>
PC-100 Single-side * 1	OK	OK	Not supported
PC-100 Single-side * 2	OK	OK	Not supported
PC-100 Single-side * 3	OK	OK	Not supported
PC-100 Double-side * 1	OK	OK	Not supported
PC-100 Double -side * 2	OK	OK	Not supported
PC-100 Double -side * 3	OK	OK	Not supported
PC-133 Single-side * 1	OK	OK	OK
PC-133 Single-side * 2	OK	OK	OK
PC-133 Single-side * 3	OK	OK	OK
PC-133 Double-side * 1	OK	OK	OK
PC-133 Double-side * 2	OK	OK	OK
PC-133 Double-side * 3	Not supported	OK	Not supported

### 3.3 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.

#### 3.3.1 SLOT:

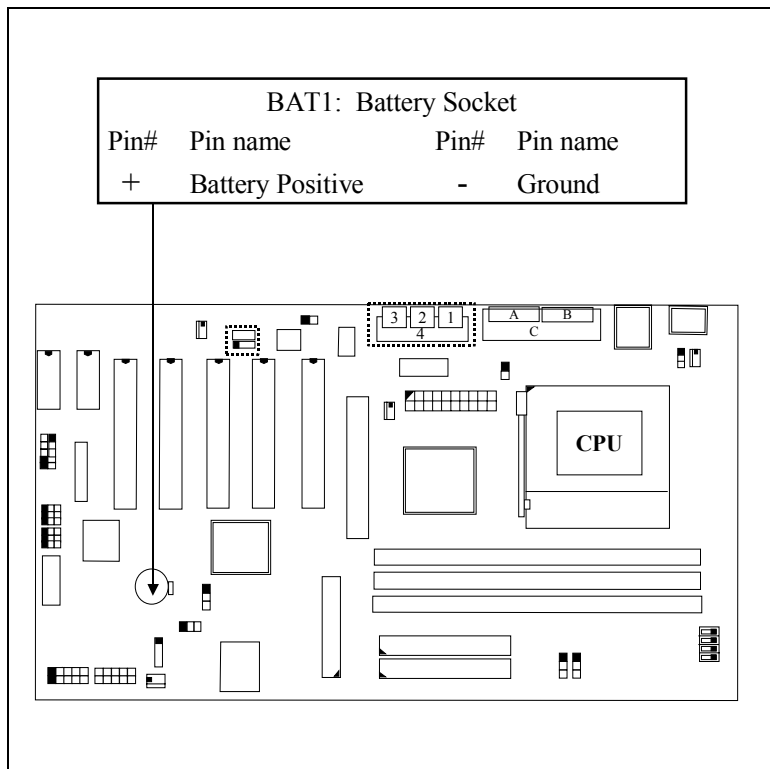
There are the PCI, AGP and CNR slots designed on the mainboard, please refer to the following diagram for the details.



#### **IMPORTANT NOTICE:**

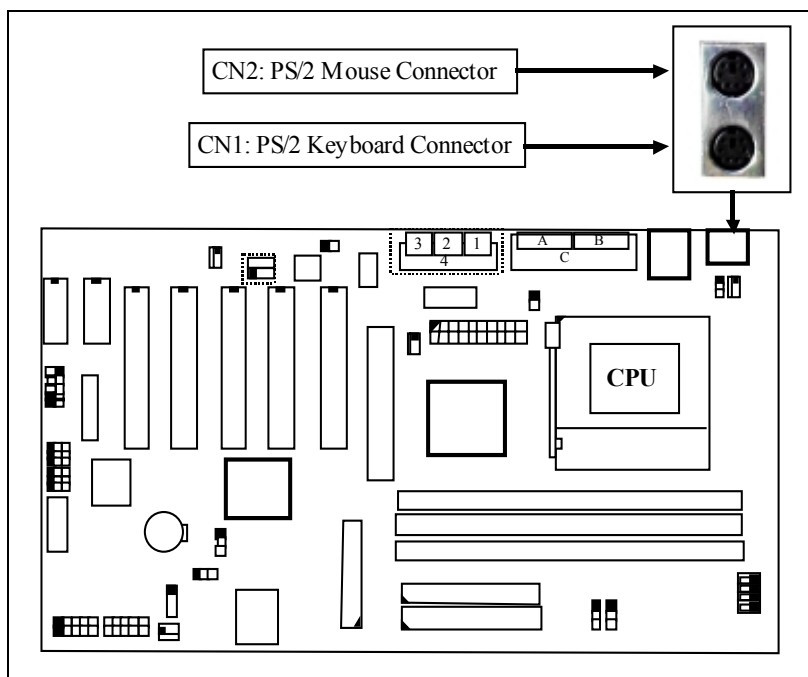
If you are installing the CNR interface card with the USB Hub function designed on it, please refer to the jumper setting of JP8 ~ JP13 so that the USB Hub on the CNR card won't be conflicting with the onboard USB port.

**3.3.2 BAT1: Battery Socket (Use 3 Volts Lithium battery : CR2032)**

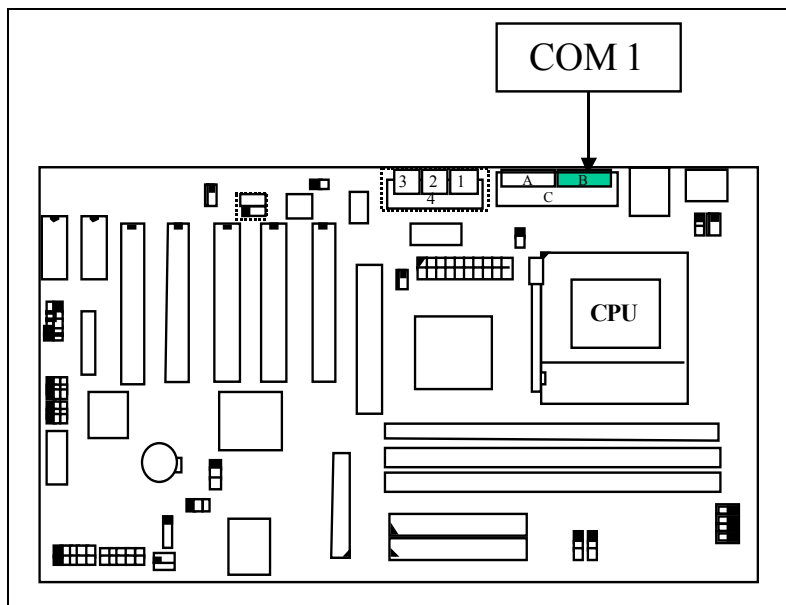


**3.3.3 CN1: PS/2 Keyboard Connector**

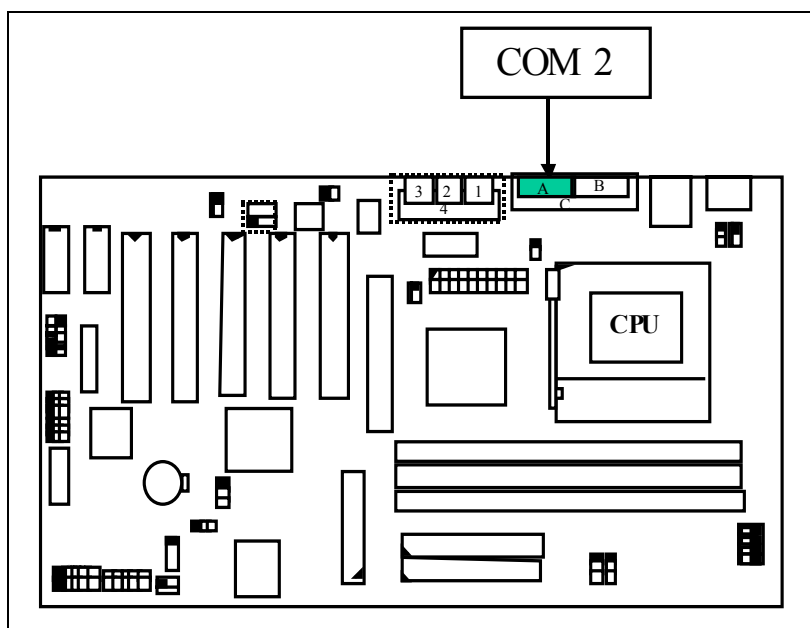
**3.3.4 CN2: PS/2 Mouse Connector**

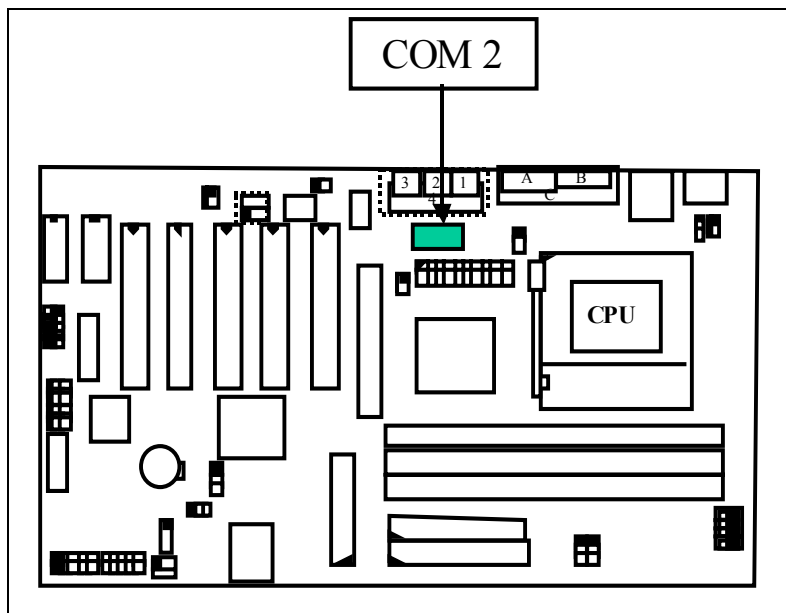




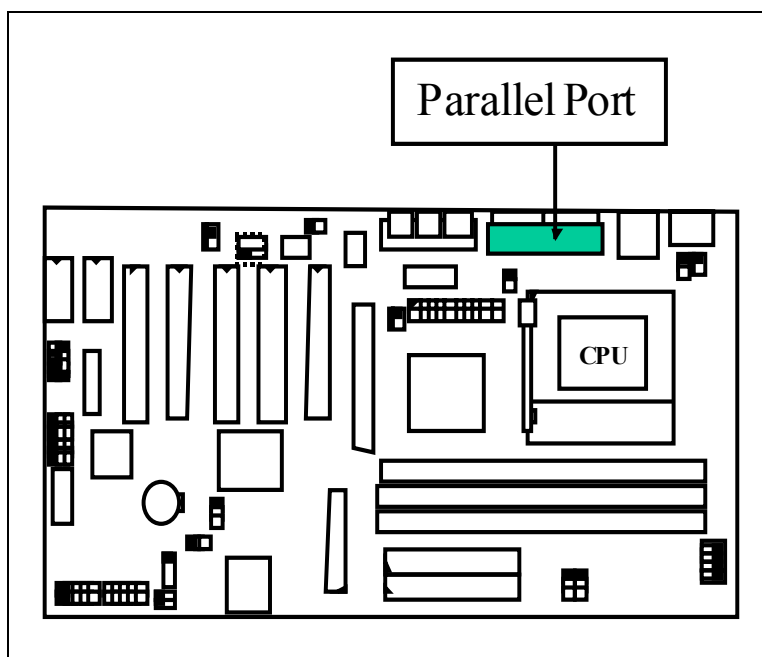
**3.3.5 CN3 : Serial Port COM 1 Connector****3.3.6 CN4 : Serial Port COM 2 Connector**

The location of COM 2 will be different according to the mainboard models. Please refer to the following pictures for the correct COM 2 location:

**Location of COM 2 on 815EPX and 815EPL**

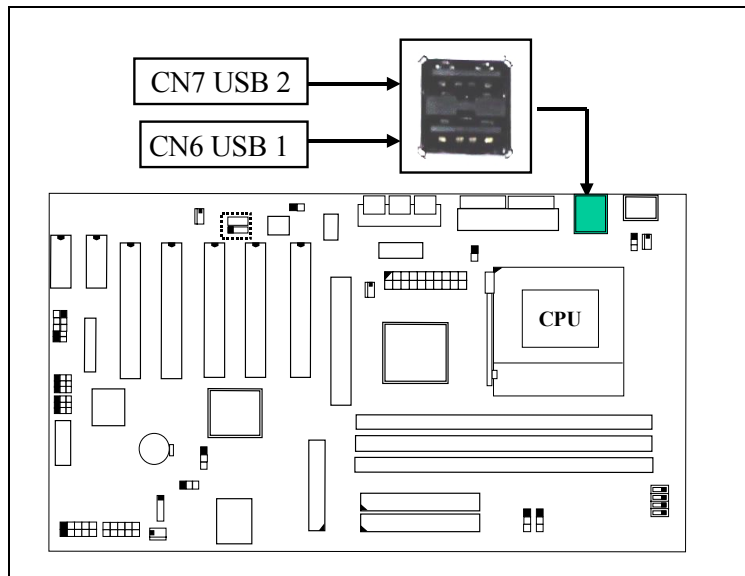
**Location of COM 2 on 815EX****3.3.7 CN5: Parallel Port Connector**

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

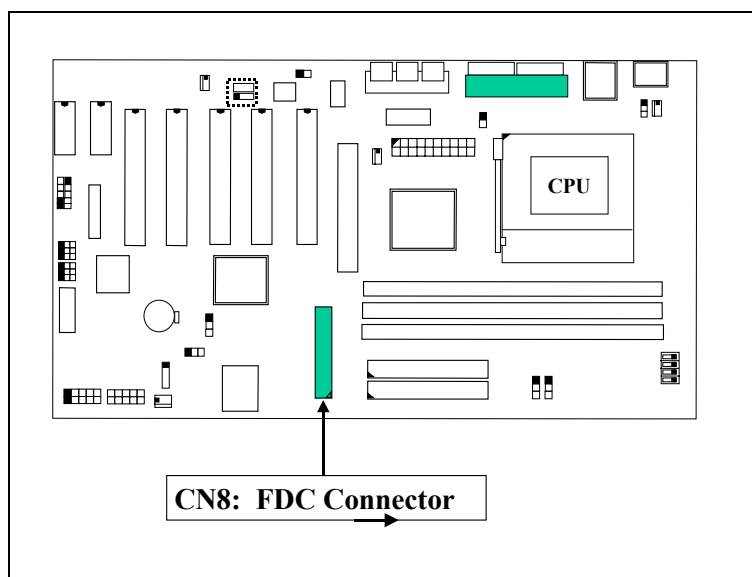


**3.3.8 CN6: USB 1 (Universal Serial Bus) Connector**

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



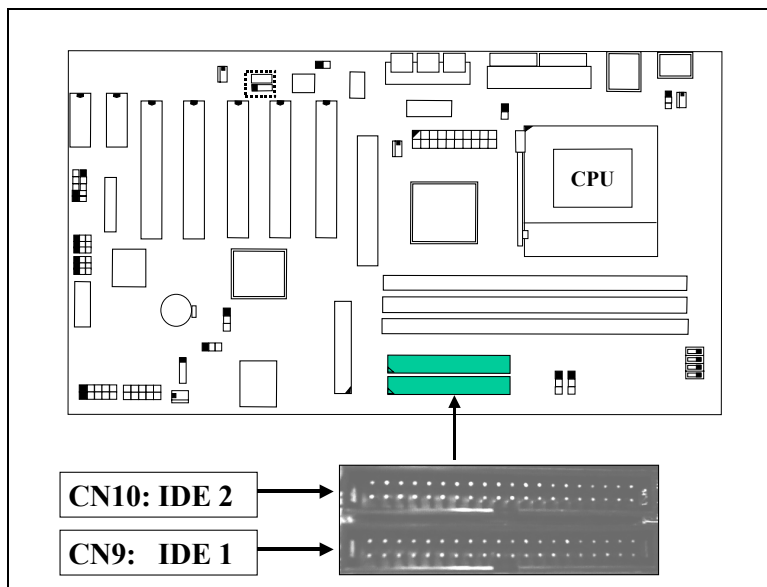
**3.3.10 CN8: Floppy Disk Connector (IRQ6, DMA 2)**



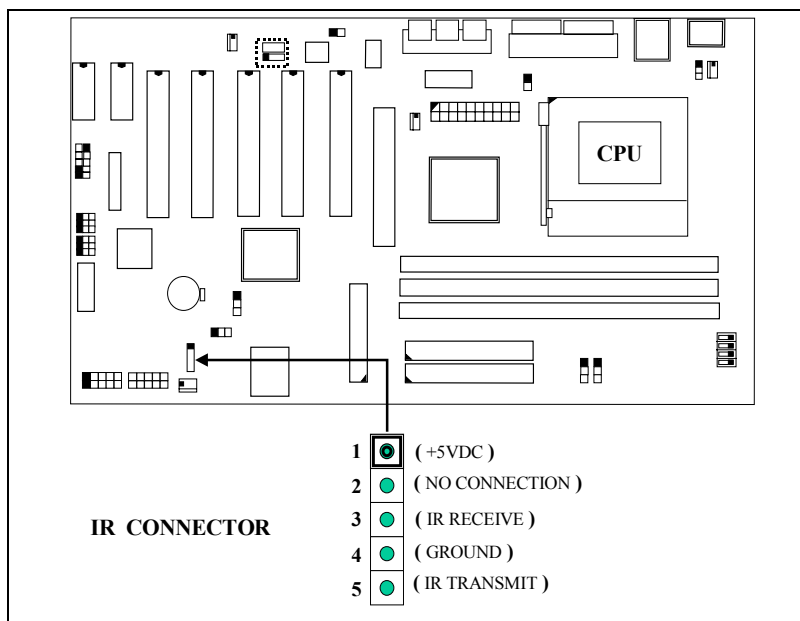
**3.3.11 CN9 : IDE 1 Connector (Primary IDE Port: 1F0H, IRQ 14)**

**3.3.12 CN10: IDE 2 Connector (Secondary IDE Port: 170H, IRQ 15)**

The onboard IDE interfaces support Ultra DMA 33/66/100 data transfer modes.

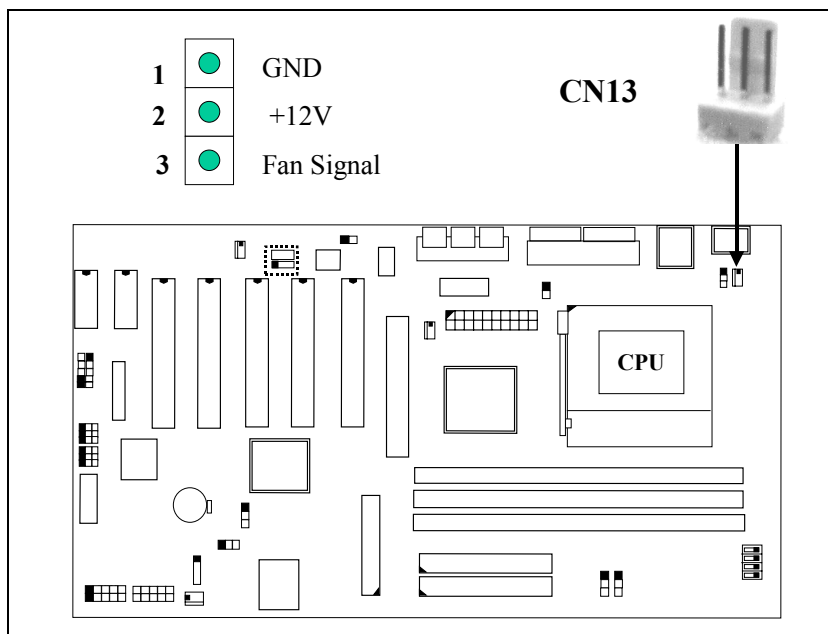
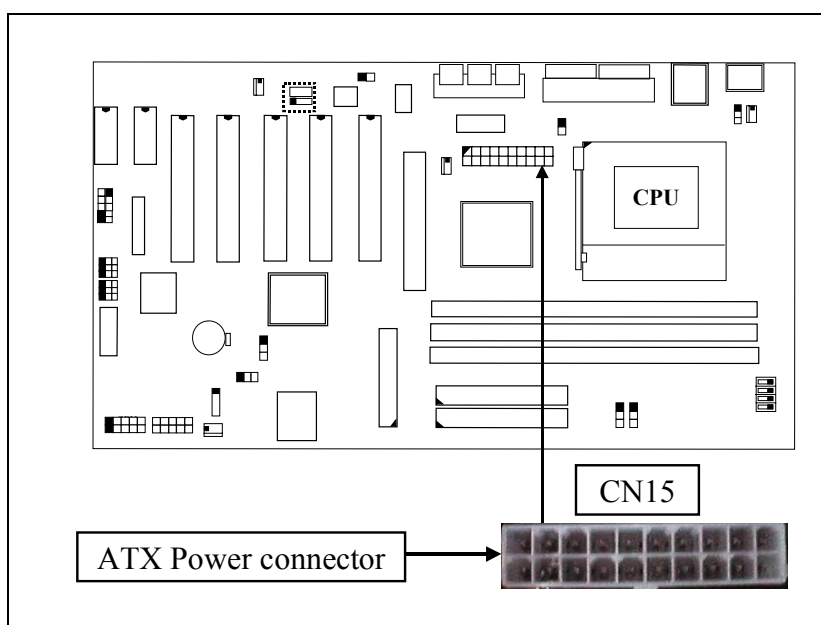


**3.3.13 CN12: IR (Infrared Rays) Connector**



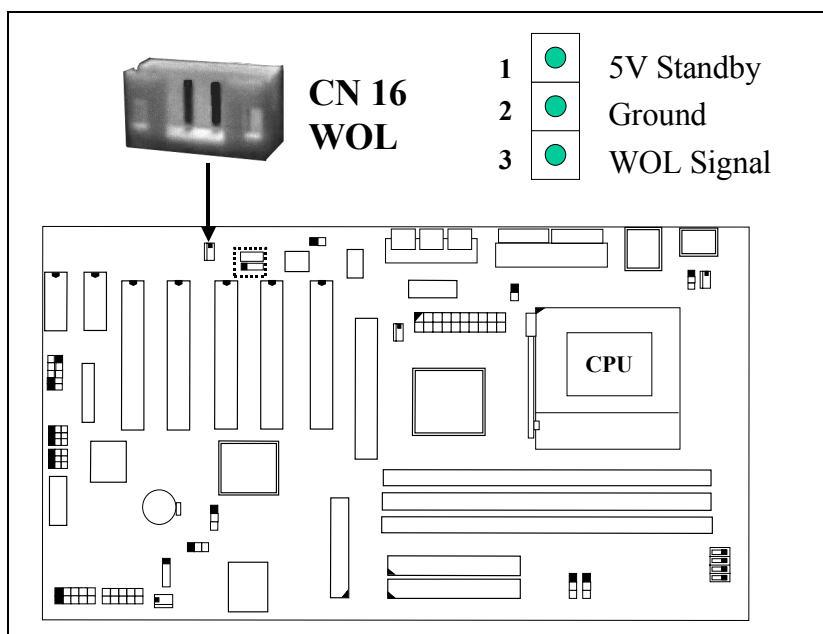
**3.3.14 CN13: Cooling FAN 1 Power Connector**

The Cooling Fan1 power connector can be connected to the CPU cooling fan or chassis cooling fan so that it will cool down the system temperature.

**3.3.15 CN15: ATX Power Connector**

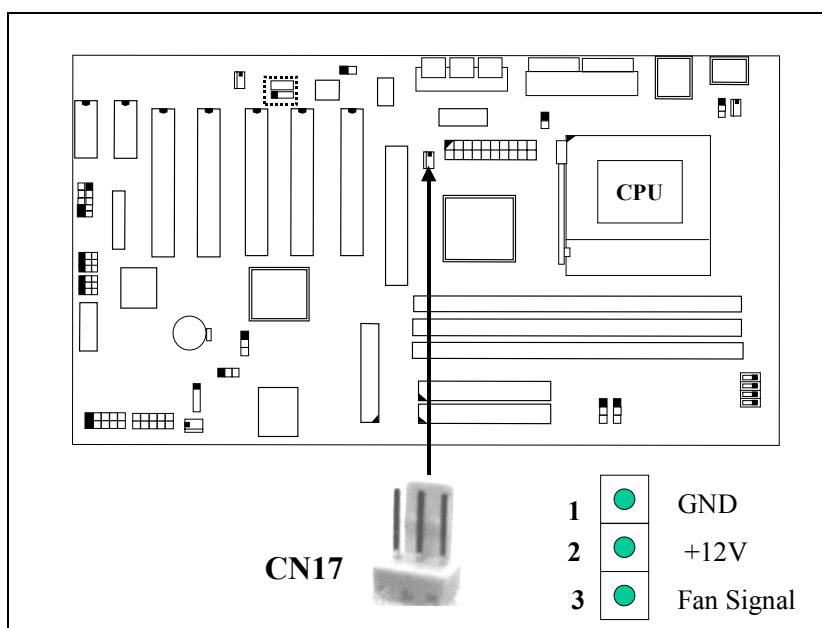
### 3.3.16 CN16: WOL (Wake On LAN) Connector

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 1A current driving ability on the “+5V standby” voltage.



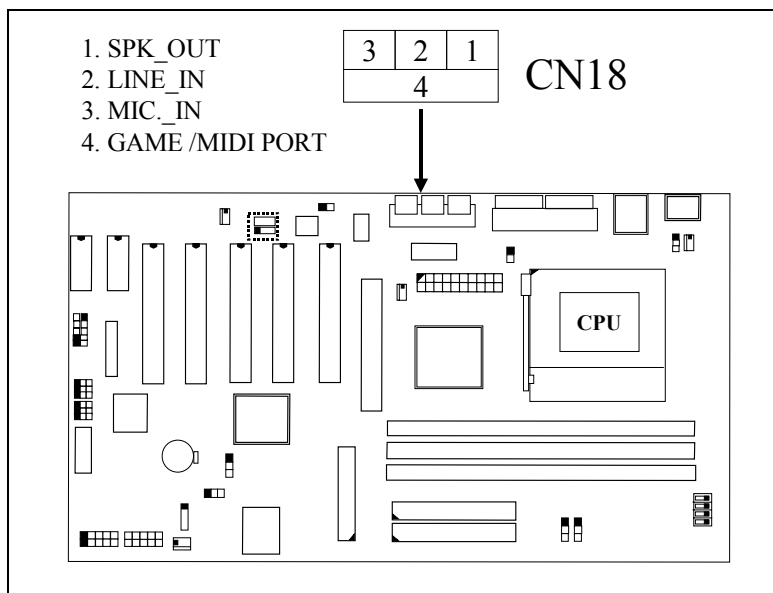
### 3.3.17 CN17: Cooling FAN2 Power Connector

The Cooling Fan2 power connector can be connected to the CPU cooling fan or chassis cooling fan so that it will cool down the system temperature.

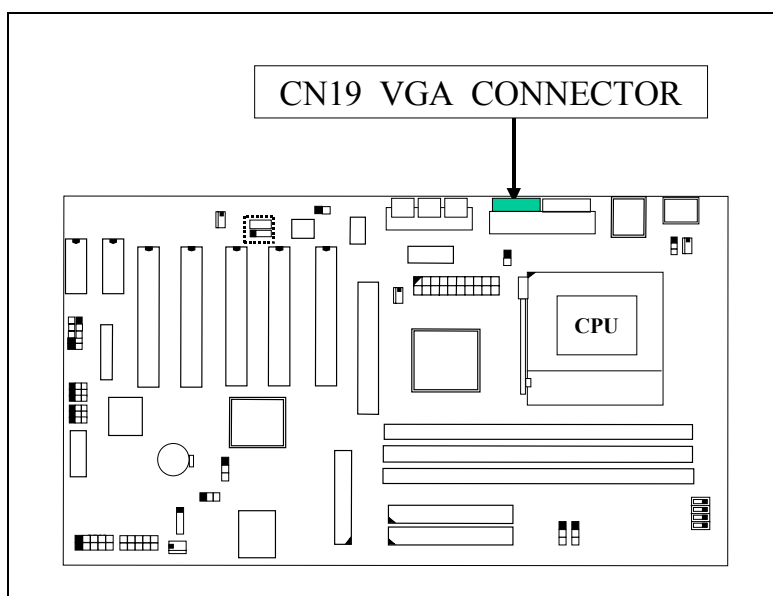


**3.3.18 CN18: Audio/Game Connector:**

There is the 3D PCI audio interface installed on the mainboard. Please refer to the following picture for the connection:

**3.3.19 CN19: VGA Connector:**

There is the VGA designed on the 815EX, following is the VGA interface:

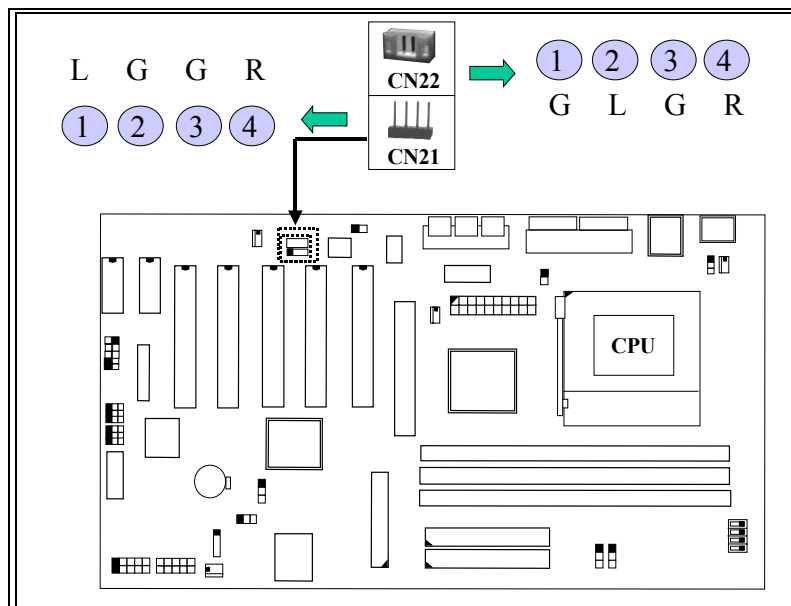


The VGA connector on the board is the AGP VGA interface and you can connect it direct to your VGA monitor. Be sure to refer to Section 3-5 to install the device driver

so that the onboard VGA interface can be recognized by the operation system.

### 3.3.20 CN21 / CN22: CD-IN Connector:

The CD-IN connectors on the board can be used to connect to the CD ROM audio out. There are two different types of connectors for CD ROM audio out connector.

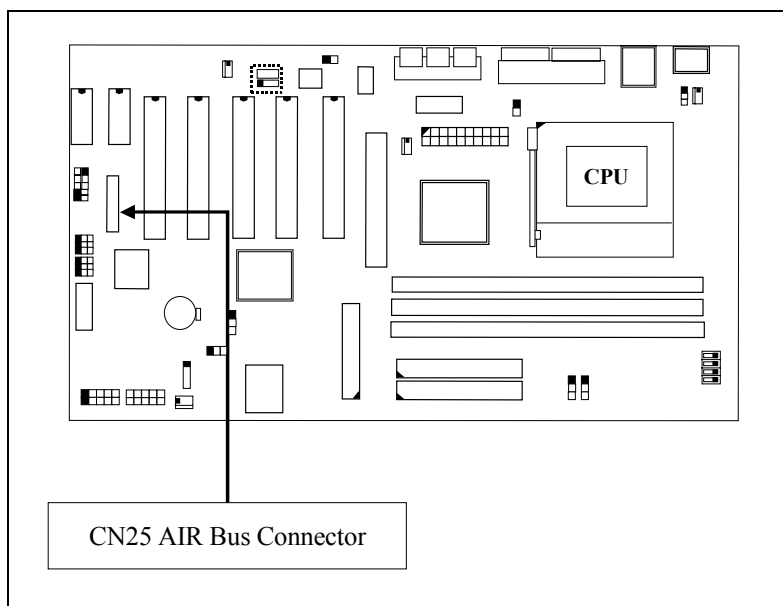


L = Left channel audio-out  
R = Right channel audio-out  
G = Audio Ground

### 3.3.21 CN25: AIR Bus Connector

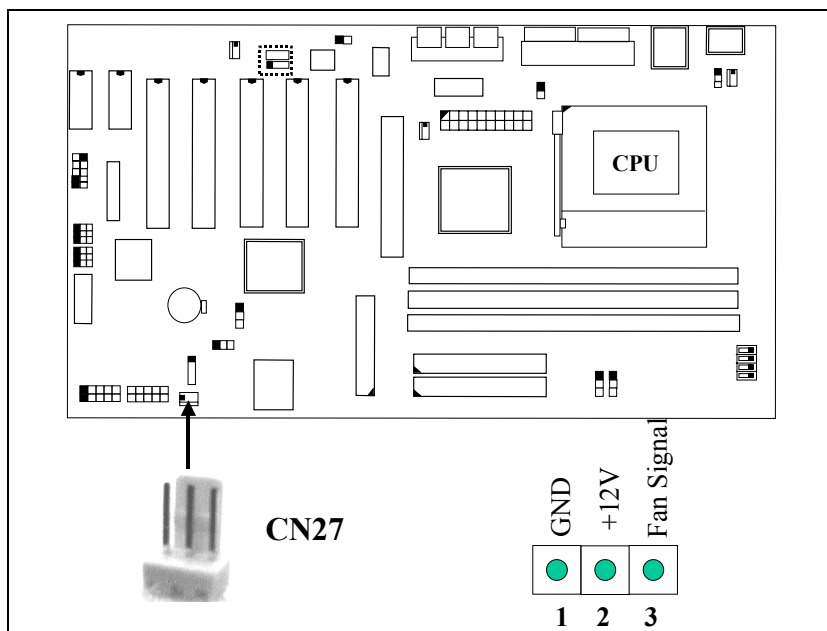
The AIR Bus is a revolutionary technology and it will provide you lots of stunning features. For example, it will rescue your system BIOS from virus attack automatically when the Portable BIOS is connected to the AIR bus.





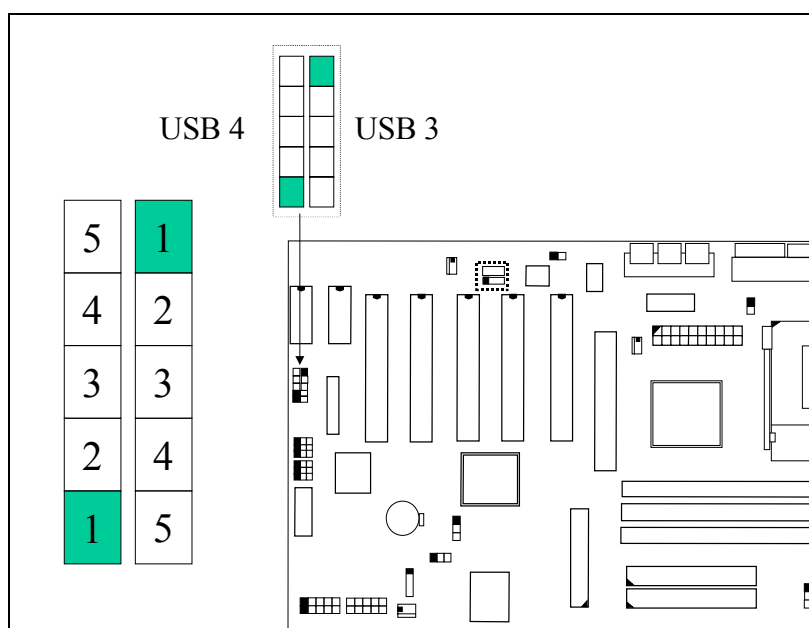
### 3.3.22 CN27: Cooling FAN3 Power Connector (Optional)

The Cooling Fan3 power connector can be connected to the CPU cooling fan or chassis cooling fan so that it will cool down the system temperature.



### 3.3.23 CN30: USB 3 (Universal Serial Bus) Connector

### 3.3.24 CN31: USB 4 (Universal Serial Bus) Connector



**Pin assignment of USB3 and USB4**

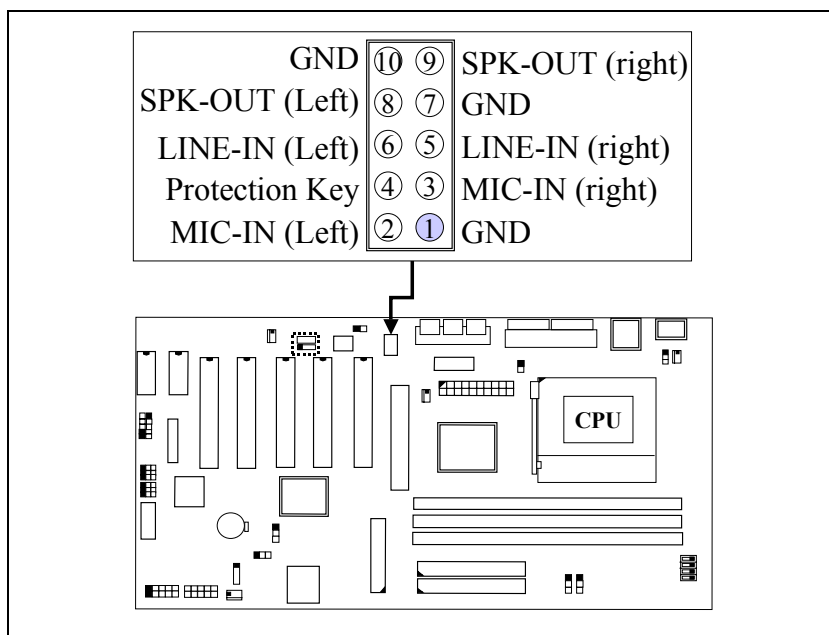
<u>Pin #</u>	<u>Pin Assignment</u>	<u>Pin #</u>	<u>Pin Assignment</u>
5	Ground ( <b>BLACK WIRE</b> )	1	+5V DC ( <b>RED WIRE</b> )
4	Ground ( <b>BLACK WIRE</b> )	2	DATA- ( <b>WHITE WIRE</b> )
3	DATA+ ( <b>GREEN WIRE</b> )	3	DATA+ ( <b>GREEN WIRE</b> )
2	DATA- ( <b>WHITE WIRE</b> )	4	Ground ( <b>BLACK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

### **IMPORTANT!**

- 1. Please make sure to use correct USB cable on USB3 and USB4. Wrong USB cable will destroy the mainboard or USB devices. Warranty will be void if the mainboard is damaged caused by wrong USB cable connection. If you are not sure of the USB cable, please contact your dealer for the proper USB cable.*
- 2. If you are installing the USB Hub CNR interface card, please refer to Section 3-4 and make the correct jumper setting on JP8~JP13 so that it won't cause any conflict with USB3 and USB4.*

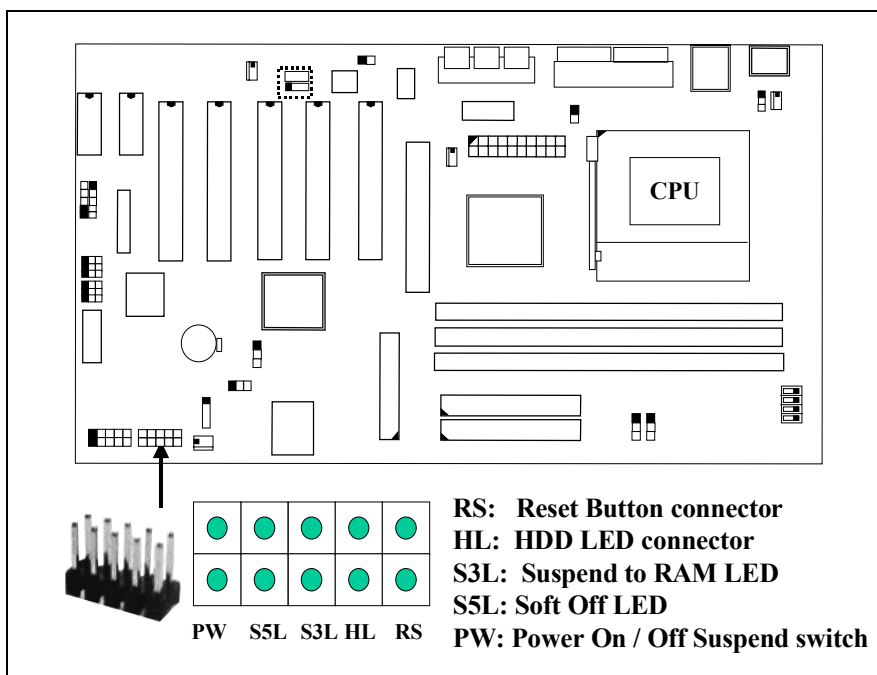
### **3.3.25 CN39: Front Audio Connector**

The Front Audio Connector is designed to have the audio signals connected to the front panel of your PC system. Please contact your dealer for the connection cable and its accessories.



**3.3.26 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**

Pin #	Signal name	Pin1&2	Function
1	Reset Control	Open	No action
2	Ground	Short	System Reset

**2. HL IDE HDD LED Connector**

Pin #	Signal Name
1	+ 5V DC Pull-up
2	HDD Active Signal

**3. S3L** Power on suspend / Suspend to RAM LED Connector ( S1 / S3 State )  
 This LED will be used to indicate the status of Power on suspend (S1) or suspend to RAM (S3) state depend on ACPI setting.

Pin #	Signal Name
1	Signal Pin
2	Ground

**4. S5L** Soft-OFF LED Connector ( S5 State )  
 This LED will be used to indicate the status of Soft-Off ( S5 ) state.

Pin #	Signal Name
1	Signal Pin
2	Ground



**When the PC is in the Soft-OFF state, please do not install or remove any component from the mainboard because the standby electricity is still active. Please remove the power cable from the electricity outlet before you can proceed with the installation / remove.**

**Otherwise, it will cause -**

**SERIOUS DAMAGE TO THE PC SYSTEM!**

**5. 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 Section- 4.7 for BIOS setup)

① **If the setup in CMOS is “Delay 4 Sec.”, the function of “PW” will be:**

**A. When system is power off :**

Press this switch, the system will power on.

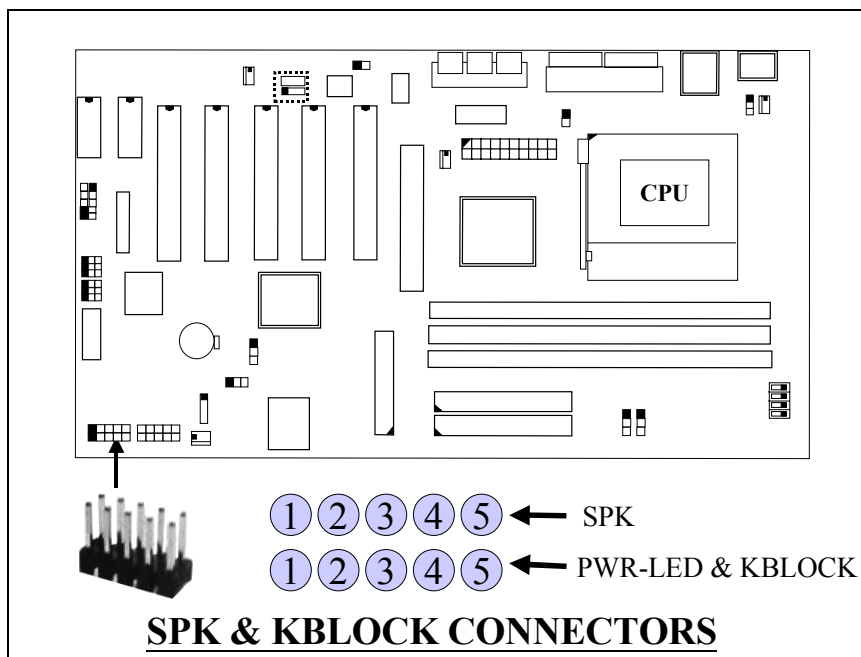
**B. When system power is on :**

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.

**3.3.27 Speaker and Key Lock connector**

The connectors shown in the following picture will be connected to the speaker, Keyboard Lock and Power LED connector on the chassis.

**SPKR: Speaker connector**

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

5

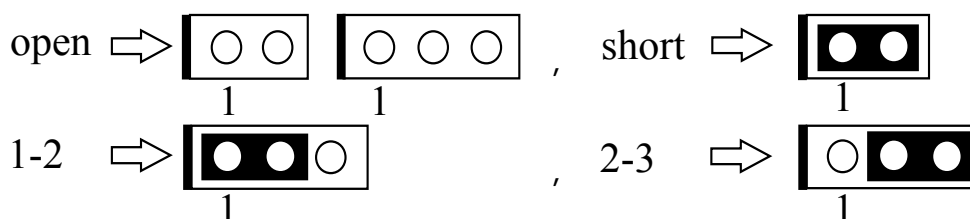
**PWR-LED & KBLOCK: Front Panel Power LED and Key-Lock Connector**

1	<u>Pin #</u>	<u>Signal name</u>
●	1	Pull-up (+ 5V DC for Power LED)
●	2	Ground
●	3	Ground
●	4	Keyboard Lock
●	5	Ground

5

### 3.4 JUMPER SETTINGS

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.

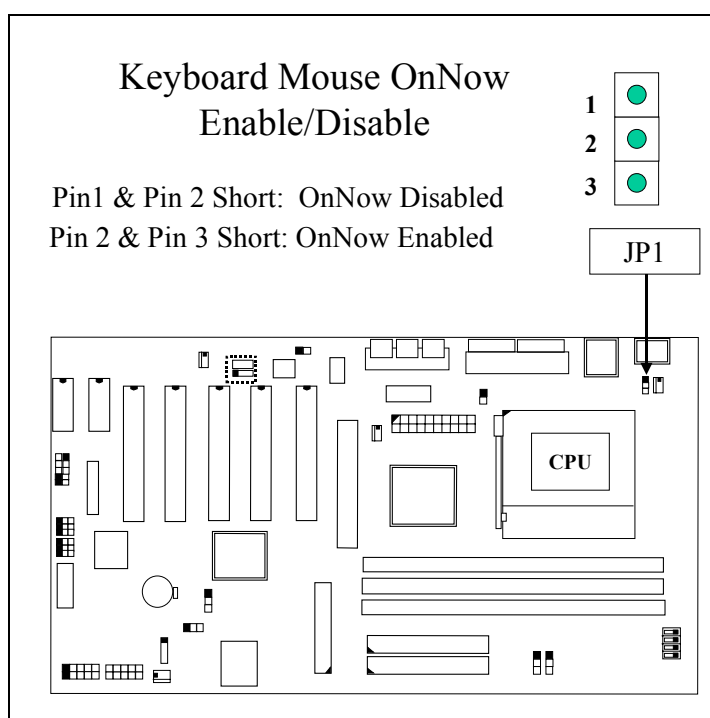


A jumper is a set of two, three or more jumper pins which allows users to make different system configuration by putting the plastic connector plug (mini-jumper) on it. The jumper setting is necessary when installing different components onto the mainboard.

*The following jumpers which labeled with “Optional” means they are the optional choice for customers and the related components are normally not populated on the mainboard.*

#### (A) JP1: Keyboard and PS/2 Mouse OnNow function selection

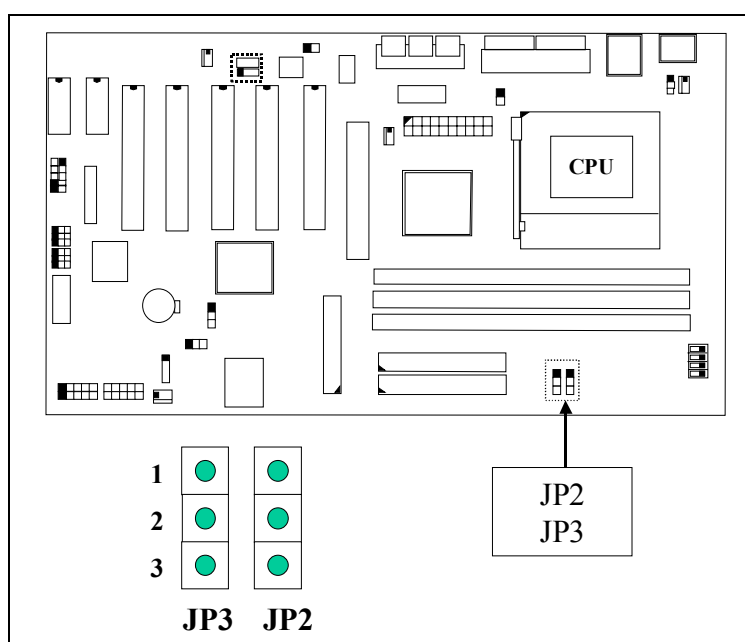
The Keyboard and PS/2 Mouse OnNow function is designed on the mainboard and you can use keyboard and mouse key clicks to power on the PC system. However, there may have some keyboard and mouse are not compatible with the OnNow function. In this case, please use JP1 to disable the OnNow function.



**(B) JP2 / JP3: S3 (Suspend To RAM) Function Selection**

There are many mainboards support the Suspend to RAM (S3) function. But many of them will be failed when improper components such as SDRAM module is installed on the mainboard. When S3 is not working properly, it will cause the PC system become extremely unstable. In order to make sure the S3 function on the mainboard has the better compatibility and reliability, JP2 and JP3 are introduced on this mainboard to control the S3 function. When you want to use the S3 function, please refer to the following for the setting:

1. Refer to Section 4-8. Select “S3” in the “ACPI Suspend Type” selection field.
2. Refer to the following picture and set the mini-jumper to 2-3 on JP2 and JP3.



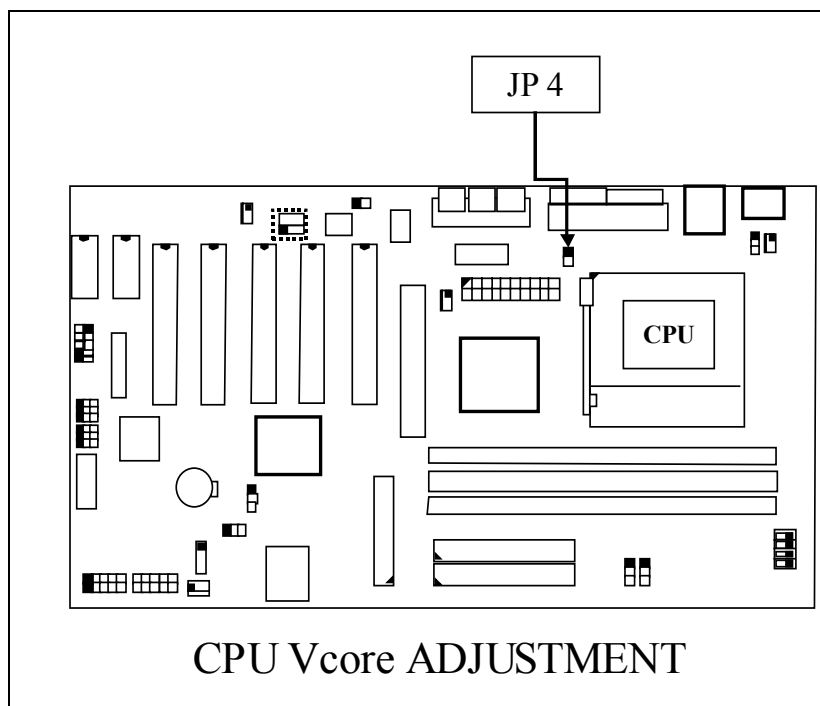
JP2	JP3	S3 FUNCTION
1 – 2 Short	1 – 2 Short	Disabled S3 function
2 – 3 Short	2 – 3 Short	Enabled S3 function

The plastic connector plug (mini-jumper) used on JP2 / JP3 is different from the others on this mainboard, it is a 2\*2 mini-jumper (the others are 1\*2), it is used for setting both plugs to 1-2 or 2-3 simultaneously, the separate setting may be damaged to this mainboard, so it is strongly recommend do not use two separate mini-jumpers for this selection to avoid wrong setting. Furthermore, the appearance of this mini-jumper is hard to differentiate the right direction but the wrong direction of this mini-jumper will cause the mainboard malfunction, so please pay attention to the direction of mini-jumper while setting this jumper.



**(C) JP4: CPU Voltage Adjustment (optional)**

Sometimes you may feel that the CPU voltage detected by the mainboard can't meet your requirement and you want to make the CPU voltage a little bit higher than regular setting. In this case, you may use the JP4 setting to adjust the CPU voltage. When "SHORT" is selected, the CPU voltage will be 0.05V raised.

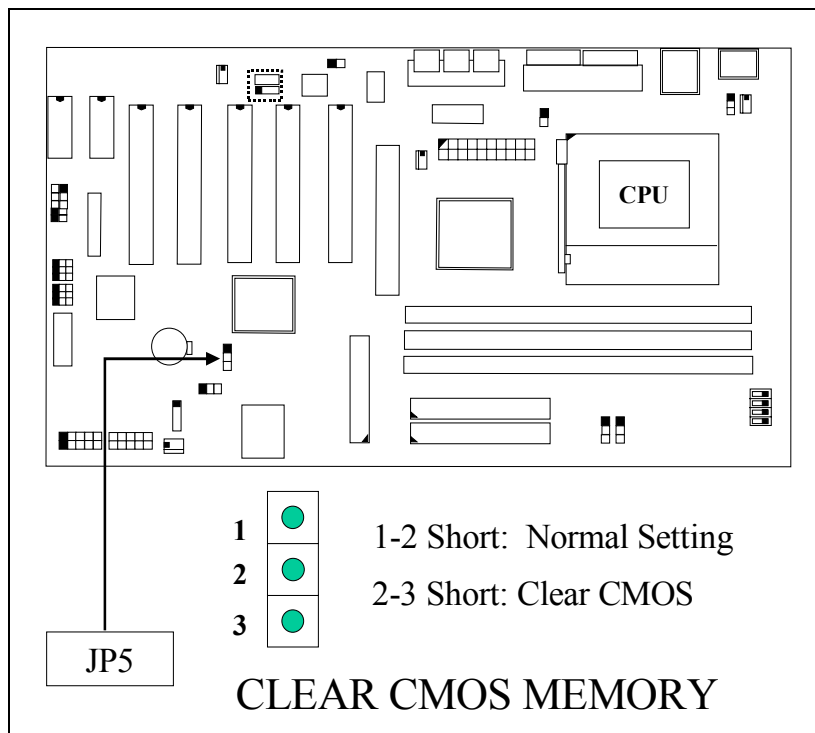


<b>JP4</b>	<b>Vcore</b>
OPEN	Vcore remain unchanged
SHORT	Vcore will be 0.05V higher adjusted

*The voltage of the CPU Vcore can be either detected by this mainboard or selected by the BIOS setup program. In either of the case above, when JP4 is short connected, the CPU Vcore will be 0.05V higher raised.*

**(D) JP5: Clear CMOS Data Button**

In case that you made improper setting in the CMOS setup program and cause the PC system not working, you may use JP5 to clear all the setting which is recorded in the CMOS memory.

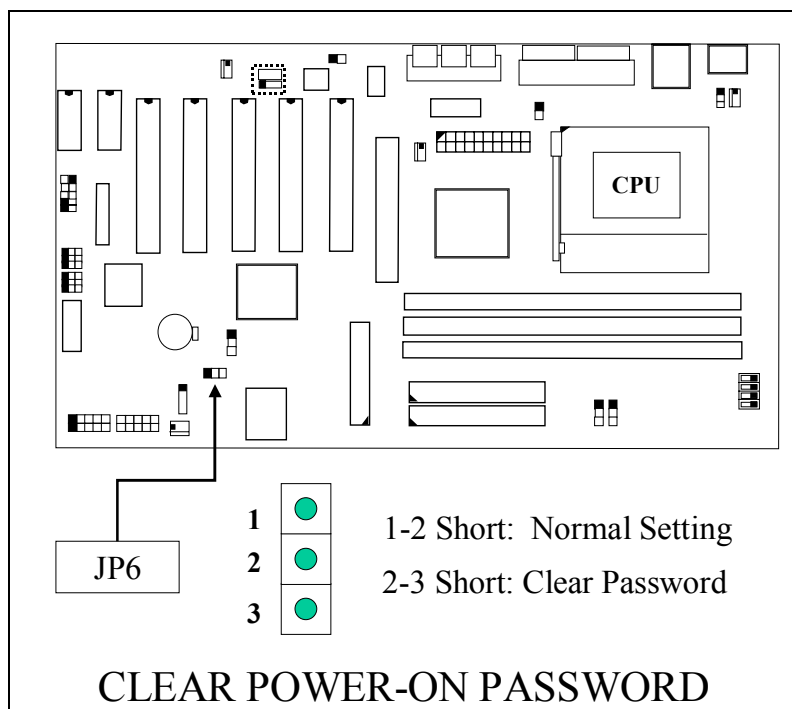


When you want to use JP5 to clear the CMOS setting, refer to the following procedures:

1. Turn the system power “OFF”
2. Put the shorting rod on Pin2 and Pin3 for 3 ~ 5 second.
3. Put the shorting rod the default position Pin 1 and Pin2.
4. Power on the PC system and run the BIOS setup program.

**(E) JP6: Clear Power-On Password Button**

In case that you forget the Keyboard Hot Key and Power-On password and that you can not start the PC system, you can use JP6 to clear the password which is recorded in the W83627HF I/O chip. (refer to page 2-3 and Section 4-7 for more details)

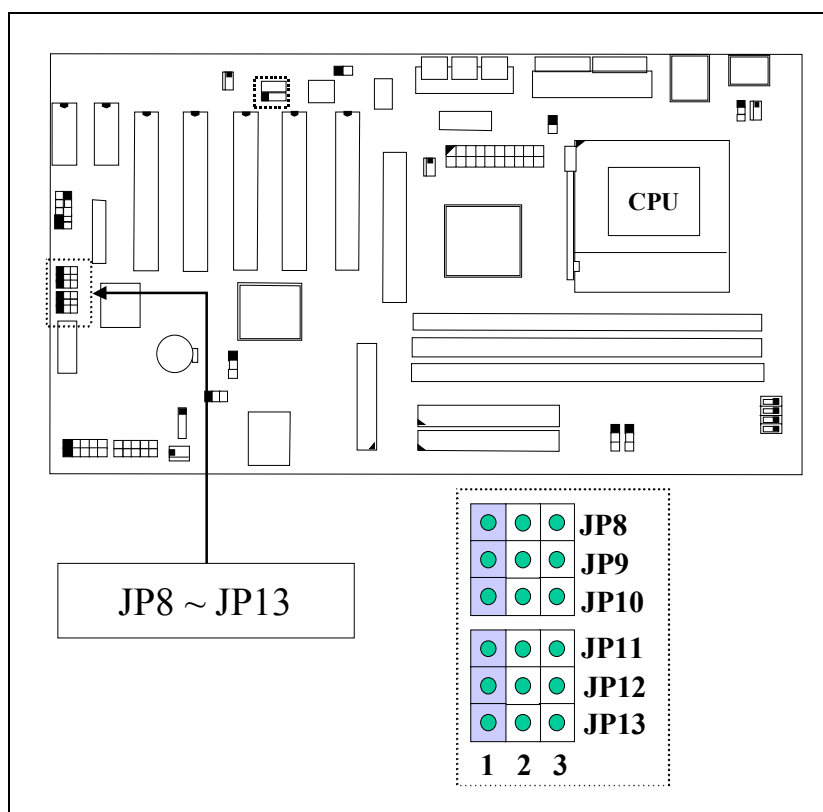


*When you want to use JP6 to clear the password, refer to the following procedures:*

- 1. Turn the system power "OFF"*
- 2. Put the shorting rod on Pin2 and Pin3 for 3 ~ 5 second.*
- 3. Put the shorting rod the default position Pin 1 and Pin2.*
- 4. Password is cleared and you can use the power button to power on the PC system.*

**(F) JP8~JP13: USB3, USB4 Function Control**

There are the CNR slots designed on the board and it allows users to install CNR interface card. If you install CNR card with the USB Hub function onto the CNR slot, it may cause conflicting with the onboard USB3 or USB4. In order to avoid the conflicting, a series of jumpers (JP8 ~ JP13) are designed on the mainboard to control the USB resource. Please refer to the following for the details.



JP8 ~ JP10 are used to control the resource between USB3 (CN30) and CNR1. Following is the details:

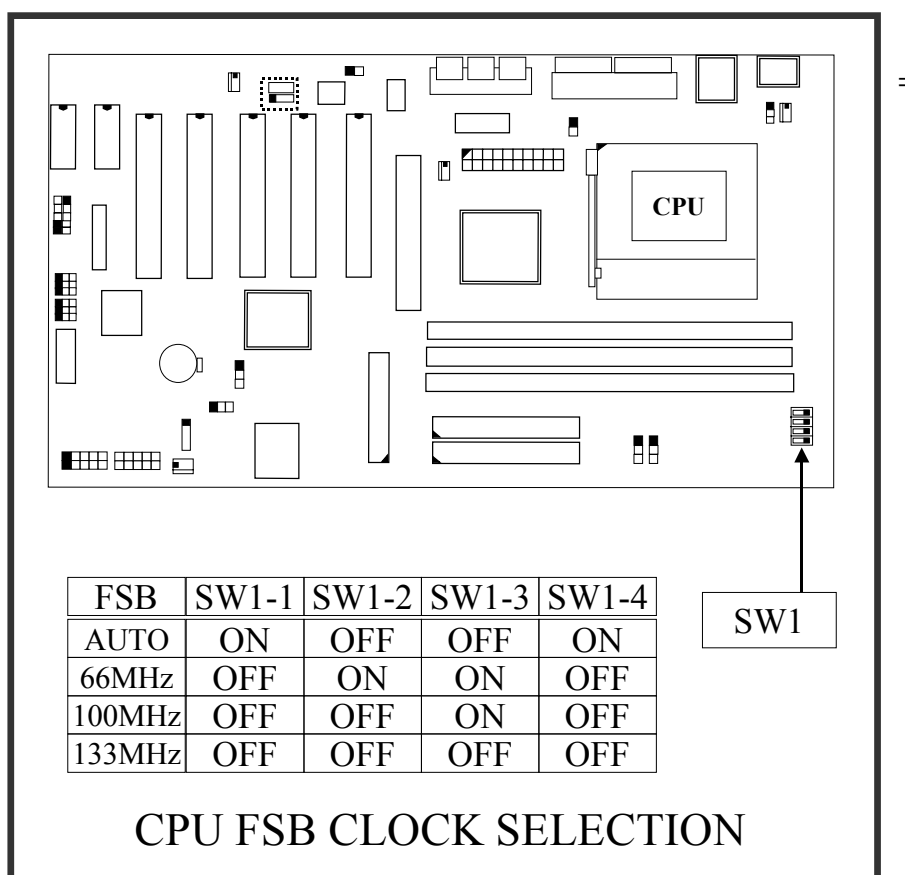
JP8	JP9	JP10	USB3 (CN30)	USB on CNR1
1-2 short	1-2 short	1-2 short	Disabled	Enabled
2-3 short	2-3 short	2-3 short	Enabled	Disabled

JP11 ~ JP13 are used to control the resource between USB4 (CN31) and CNR2. Following is the details:

JP11	JP12	JP13	USB4 (CN31)	USB on CNR2
1-2 short	1-2 short	1-2 short	Disabled	Enabled
2-3 short	2-3 short	2-3 short	Enabled	Disabled

**(G) SW1: FSB Clock Selection**

SW1 is designed on the board to choose the CPU FSB clock (Front Side Bus Clock). Basically, you don't have to worry about the FSB clock setting most of the time, because it will be detected by the mainboard BIOS automatically. However, sometimes you may feel like to select different FSB clock for some special purpose. In this case, you may use the BIOS setting to select different FSB clock or use the switch setting on SW1 to force your CPU to use the selected FSB clock. *(Please do not attempt to change this setting unless you are the technician).*

**Note:**

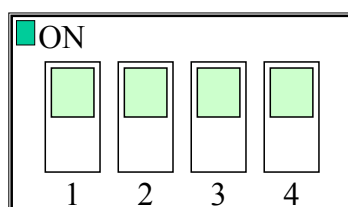
- SW1 will have no function unless "Default" is selected in the "CPU Host / SDRAM / PCI Clock" selection field in the BIOS setup program (refer to Section. 4-11). Please do not to make jumper setting on SW1 unless you are the professional technician.**
- When "Default" is selected, you may use SW1 to select different speed of CPU clock and force your CPU to use that clock speed instead of letting the system BIOS to select the CPU clock automatically.**

**IMPORTANT NOTICE:**

*When you are changing the setting on SW1, please make sure to remove the power core from the PC system. According to the i815e chipset feature, the PC system may hang up if you change the setting without removing the power core.*

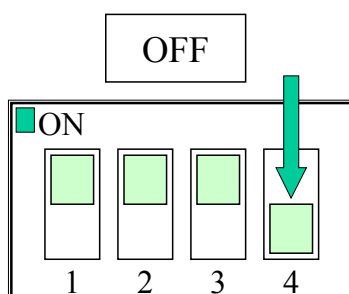
### SWITCH SETTINGS

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":



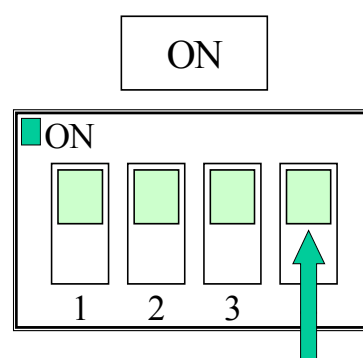
( Picture of "toggle switch" )

#### Toggle Switch "OFF" Setting



Push the switch downward to select "OFF"

#### Toggle Switch "ON" Setting



Push the switch upward to select "ON"

### 3.5 INSTALLATION OF DEVICE DRIVERS

There is a CD diskette which comes with the mainboard. It contains the device drivers which is necessary when installing the mainboard. Please refer to the following procedures to install the device drivers. Note that, there are many “readme files” consist in the CD, please read those files before installing.

1. When you have install the operation system, you will have to install some device driver of the mainboard so that it will work normally.
2. Insert the CD diskette into the CD ROM Drive ( suppose it is "D:") which comes with the mainboard
3. Change the directory to D:\Driver\mainboard\Intel\815\inf"
4. Double click on the program –“InfInst-autol.exe” and the program will install the related device drivers for the mainboard automatically.

Note: You have to run “InfInst-autol.exe” to install the related device driver when you are using the Windows 95/98 and Windows 2000 operation system. If you are using the operation system like Windows NT or Windows ME, you need not to run this program because the device driver is unnecessary or supported by these operation systems already.

5. Change the directory to "\Driver\mainboard\Intel\815\VGA" and then choose the operation system to install the device driver of the onboard VGA interface.
6. Install the device driver for the on board audio interface. ( The CODEC installed on the board can be different and they will need the different device driver. Please refer to page 1-3 and page 1-4 to find out the code name of the CODEC (U16) and follow the procedures to install the correct device driver:

Onboard Codec on U16 is “ad1881A”:

Change the directory to "\Driver\mainboard\Intel\815\ad1881A" and then choose the operation system to install the onboard audio device driver.

Onboard Codec on U16 is “Cirrus 4299”:

Change the directory to "\Driver\mainboard\Intel\815\4299" and then choose the operation system to install the onboard audio device driver.



#### **NOTICE !!**

**The sequence of the device driver installation is very important, please follow the procedure above to install the related device driver, and please execute “Reset” when every time Windows prompted during driver installing, don’t by-pass any “Reset”.**

## 4. AWARD BIOS SETUP

### 4.1 GETTING STARTED

When the system powered on or reset by user, the system BIOS will enter the POST routines (Power On Self Test routines, it 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 testing (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. The STANDARD CMOS SETUP screen as shown in the following will be triggered:

### 4.2 MAIN MENU

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

<b>Standard CMOS Features</b>	Frequency / Voltage Control
Advanced BIOS Features	Load Optimized Defaults
Advanced Chipset Features	Set Supervisor Password
Integrated Peripherals	Set User Password
Power Management Setup	Save & Exit Setup
PNP/PCI Configuration	Exit Without Saving
PC Health Status	
ESC : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	
Time, Date, Hard Disk Type ...	



### 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

---

The following sections will introduce the setup function according to the selection fields which you will see on the screen:

## 4.4 STANDARD CMOS FEATURES

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

Standard CMOS Features

		Item Help
Date (mm : dd : yy) : Wed, Oct 4 2000		
Time (hh : mm : ss) : 16 : 03 : 33		
➤ IDE Primary Master	Maxtor 91024D4	Menu Level ➤
➤ IDE Primary Slave	None	
➤ IDE Secondary Master	None	Change the day, month, Year and century
➤ IDE Secondary Slave	None	
Drive A	1.44M 3.5 in.	
Drive B	None	
Floppy 3 Mode Support Disabled		
Video	EGA/VGA	
Halt On	All errors	
Base Memory	640K	
Extended Memory	129024K	
Total Memory	130048K	

### IDE Primary / Secondary Master / Slave:

These two selection fields allow you to select the HDD type which is installed on the primary/secondary IDE port. Move the selection bar to the appropriate field and then click on "ENTER" key and the system BIOS will detect the HDD type 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 halt when the system board detects any error during Power On Self Test.

## 4.5 ADVANCED BIOS FEATURES

CMOS Setup Utility - Copyright (C) 1984 - 2000 Award Software  
Advanced BIOS Features

Virus Warning	<b>Disabled</b>	Item Help
CPU Internal Cache	: Enabled	Menu Level      ➤  Allows you to choose The Virus warning Feature for IDE Hard Disk boot sector Protection. If this Function is enabled And some attempt to Write data into this Area, BIOS will show a Warning message on Screen and alarm beep.
External Cache	: Enabled	
CPU L2 Cache ECC Checking	: Enabled	
Processor Number Feature	: Disabled	
Quick Power On Self Test	: Enabled	
First Boot Device	: Floppy	
Second Boot Device	: HDD-0	
Third Boot Device	: LS120	
Fourth Boot Device	: Disabled	
Swap Floppy Drive	: Disabled	
Boot Up Floppy Seek	: Enabled	
Boot Up NumLock Status	: On	
Gate A20 Option	: Fast	
Typematic Rate Setting	: Disabled	
Typematic Rate (Chars/Sec)	: 6	
Typematic Delay (Msec)	: 250	
Security Option	: Setup	
PS/2 Mouse Function Control	: Enabled	
OS Select For DRAM > 64MB	: Non-OS2	
HDD S.M.A.R.T Capability	: Disabled	
Report No FDD For Win95	: NO	

### Virus Warning :

In order to avoid virus infection happens on your PC system, This mainboard provides the virus warning features in the BIOS. When you find any warning message displayed 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™ !!! 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.

**First / Second / Third / Fourth Boot Device :**

These fields allow you to decide the sequence of the boot up 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 (located on the keyboard) will be lightened after the POST.

**Security Option :**

This selection field allows you to select how to secure the PC system for you. There are two choices 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 selection field allows you to select the function for the onboard PS/2 mouse port. If you are installing the PS/2 type mouse to the onboard PS/2 mouse port, select "Enabled" in this selection port. If you are installing the serial mouse, then select "Disabled" in this field, this operation will release IRQ 12 for the other devices.

**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.


**Report NO FDD for WIN 95 :**

If there is no FDD installed in the PC system, you may select "YES" in this field so that WIN 95 will "KNOW" there is no FDD connected to the mainboard.


## 4.6 ADVANCED CHIPSET FEATURES

The CMOS setup screen will be unlike according to the different CPU installed on the mainboard. Please refer to the following for the setup screen:

### When the CPU FSB clock is 66 or 100MHz:

		Item Help
SDRAM CAS Latency Time	<b>3</b>	
SDRAM Cycle Time Tras / Trc	: 7/9	
SDRAM RAS-to-CAS Delay	: 3	Menu Level 
SDRAM PAS Precharge Time	: 3	
System BIOS Cacheable	: Disabled	
Video BIOS Cacheable	: Disabled	
Memory Hole at 15M-16M	: Disabled	
CPU Latency Timer	: Disabled	
Delayed Transaction	: Enabled	
AGP Graphics Aperture Size	: 64MB	
On-Chip Video Windows Size	: 64MB	
CPU Vcore Select	: Default	

### When the CPU FSB clock is 133MHz:

		Item Help
SDRAM CAS Latency Time	<b>3</b>	
SDRAM Cycle Time Tras / Trc	: 7/9	
SDRAM RAS-to-CAS Delay	: 3	Menu Level 
SDRAM PAS Precharge Time	: 3	
System BIOS Cacheable	: Disabled	
Video BIOS Cacheable	: Disabled	
Memory Hole at 15M-16M	: Disabled	
CPU Latency Timer	: Disabled	
Delayed Transaction	: Enabled	
AGP Graphics Aperture Size	: 64MB	
On-Chip Video Windows Size	: 64MB	
System Memory Frequency	: 100MHz	
CPU Vcore Select	: Default	

**SDRAM Speed Selection :**

The first four fields on the screen are used to adjust the SDRAM timing. Use these fields to configure the DRAM parameter properly will give you the best performance. However, improper setting on these fields will cause your PC system become extremely unstable. Basically, please do not attempt to make the change on these fields unless you are the professional technician.

**System BIOS Cacheable:**

Select Enabled allows caching of the system BIOS ROM at F000h-FFFFh, resulting in better system performance.

Enabled	BIOS access cached
Disabled	BIOS access not cached

**Video BIOS Cacheable:**

Selecting Enabled allows caching of the video BIOS ROM at C0000h to C7FFFh, resulting in better video performance.

<b>Enabled</b>	Video BIOS /RAM access cached
<b>Disabled</b>	Video BIOS /RAM access not cached

**Memory Hole At 15M-16M:**

In order to improve performance, certain space in memory can be reserved for ISA cards. Such memory must be mapped into the memory space below 16 MB.

Enabled	Memory hole supported.
Disabled	Memory hole not supported.

**Delayed 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.. The Choice: Enabled, Disabled.

**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.

**On-Chip Video Window Size :**

This mainboard provides the most DVMT technology (Dynamic Video Memory Technology) and it will increase the video display performance. There is the AGP VGA interface on this mainboard and the AGP display card will use some of the system memory to store 3D texture mapping data to increase the video display performance. You may use this field to define the memory size which you prefer to use for the AGP card. The memory size selectable in this field can be "Disable" or 32MB or 64MB DVMT. When you select 64MB DVMT, it does not mean that the PC system will use that much memory. Then memory size defined in this field will be the maximum memory which Windows 95/98 can use to store the 3D texture.

When you select the 64MB DVMT, you will see 1024K memory is allocated as the share memory when you power on the PC system. When you start the Windows operation system, Windows will allocate the required display share memory dynamically.

**System Memory Frequency:**

This selection field allows you to select the frequency of the system memory, please refer to Section 3-2 for the function description. The parameters selectable in this field are 100MHz, 133MHz and Auto.

**CPU Vcore Select:**

This selection field allows you to fine-tune the CPU core voltage (Vcore). Basically, this mainboard will detect the CPU type and select the proper Vcore for the CPU automatically. So you need not to make the choice to select the Vcore most of the time. However, under some special circumstance such as over clocking, you may have to adjust the CPU voltage so that the CPU will be able to work at higher speed. In this case, you can use this field to select other Vcore for the CPU. Followings are the choices:

**Default:** Such selection will use the Vcore which is detected by the mainboard.

**+0.05V:** Make the Vcore 0.05V higher than the default CPU core voltage.

**+0.1V:** Make the Vcore 0.1V higher than the default CPU core voltage.

**+0.2V:** Make the Vcore 0.2V higher than the default CPU core voltage.

**+0.3V:** Make the Vcore 0.3V higher than the default CPU core voltage.

**+0.4V:** Make the Vcore 0.4V higher than the default CPU core voltage.

**-0.05V:** Make the Vcore 0.05V lower than the default CPU core voltage.

**-0.1V:** Make the Vcore 0.1V lower than the default CPU core voltage.



## 4.7 INTEGRATED PERIPHERALS

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

On-Chip Primary PCI IDE	<b>Enabled</b>	Item Help
On-Chip Secondary PCI IDE	: Enabled	
IDE Primary Master PIO	: Auto	Menu Level      ➤
IDE Primary Slave PIO	: Auto	
IDE Secondary Master PIO	: Auto	
IDE Secondary Slave PIO	: Auto	
IDE Primary Master UDMA	: Auto	
IDE Primary Slave UDMA	: Auto	
IDE Secondary Master UDMA	: Auto	
IDE Secondary Slave UDMA	: Auto	
USB Controller	: Enabled	
USB Keyboard Support	: Disabled	
Init Display first	: PCI Slot	
AC97 Audio	: Auto	
IDE HDD Block Mode	: Enabled	
POWER ON Function	: BUTTON ONLY	
x KB Power ON Password	: Enter	
x Hot Key Power ON Password	: Ctrl-F1	
Onboard FDC Controller	: Enabled	
Onboard Serial Port 1	: 3F8/IRQ4	
Onboard Serial Port 2	: 2F8/IRQ3	
UART Mode Select	: Standard	
x Rx/D , Tx/D Active	: Hi , Lo	
x IR Transmission Delay	: Enabled	
x UR2 Duplex Mode	: Half	
x Use IR Pins	: IR-Rx2Tx2	
Onboard Parallel Port	: 378/IRQ7	
Parallel Port Mode	: SPP	
EPP Mode Select	: EPP 1.7	
ECP Mode Use DMA	: 3	
PWRON After PWR-Fail	: Off	
Game Port Address	: 201	
Midi Port Address	: 330	
Midi Port IRQ	: 10	

### On-Chip Primary / Secondary PCI IDE:

These options allow you to enable / disable the onboard IDE interface..

### IDE 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.

**IDE 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 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA, select Auto to enable BIOS support.

The Choice: Auto, Disabled

**USB Controller:**

This field allows you to enable or disable the onboard USB controller.

**USB Keyboard Support:**

If you're using the Legacy OS (such as MS-DOS) and you're installing a USB keyboard, please select "Enable" in this field. If you are using the PnP O/S like Windows 98, Windows 2000, Windows ME ... etc, use the default setting.

**Init AGP Display First:**

When you have both the onboard/AGP and PCI VGA card installed in the system, you can use this field to decide the display priority.

**Onboard/AGP:** The display will be active on the onboard or AGP slot.

**PCI slot:** The display will be active on the PCI VGA adapter

**AC97 Audio:**

There is the Audio interface built in the system chipset. You can use this field to configure the onboard Audio interface or disable the audio interface.

**IDE HDD Block Mode:**

This selection allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive (HDD).

<b>Enabled</b>	IDE controller uses block mode.
<b>Disabled</b>	IDE controller uses standard mode.

**POWER ON Function:**

The Power ON function allows you to select different way to power on your PC system.

**KB Power ON Password:**

When you select KB Password to power ON the PC system in the previous selection field, you may enter your personal password in this field. When finished, you may use the password to power on your PC system. ( In case that you forget the password, you can refer to Section 3-4 and use JP6 to clear the password)

**Hot Key Power ON:**

When you select KB Password to power ON the PC system in the previous selection field, you may select a set of "Hot Key" in this field. When finished, you may use the combination of hot key to power on your PC system. (you can refer to Section 3-4 and use JP6 to clear the Hot Key setting)

**Onboard FDD Controller:**

This should be enabled if your system has a floppy disk drive (FDD) installed on the system board and you wish to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature.

The Choice: Enabled, Disabled

**Onboard Serial Port 1/Port 2:**

This item allows you to determine access onboard serial port 1/port 2 controller with which I/O address.

The Choice: 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

**UART Mode Select:**

This field allows you to determine the mode of the UART port.

**RxD, TxD Active:**

This item allows you to determine the active of RxD, TxD

**IR Transmission delay:**

This item allows you to enable/disable IR transmission delay.

**UR2 Duplex Mode:**

This item allows you to select the IR half/full duplex function.

**Use IR Pins:**

This item allows you to select IR transmission routes, one is RxD2m, TxD2 (COM Port) and the other is IR-Rx2Tx2.

**Onboard Parallel Port:**

Select a logical LPT port name and matching address for the physical parallel (printer) port.

The choice: 378H/IRQ7, 278H/IRQ5, 3BCH/IRQ7, Disabled

**ECP Mode Use DMA:**

The Parallel port on the mainboard support ECP/EPP, ECP, EPP/SPP and SPP modes. When you select ECP mode, you may specify the DMA# for the parallel port so that it will support ECP mode properly.

**Game Port Address:**

This field allows you to select the I/O address for the onboard Game port.

**Midi Port Address:**


This field allows you to select the I/O address for the onboard Midi port.

**Midi Port IRQ:**

This field allows you to select the IRQ# for the onboard Midi port.

## 4.8 POWER MANAGEMENT SETUP

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

		Item Help
ACPI Function	<b>Enabled</b>	
ACPI Suspend Type	: S1 (POS)	
Power Management	: User Define	Menu Level 
Video Off Method	: Blank Screen	
Video Off In Suspend	: Yes	
Suspend Type	: Stop Grant	
Modem Use IRQ	: 3	
Suspend Mode	: Disabled	
HDD Power Down	: Disabled	
Soft-Off by PWR-BTTN	: Instant – off.	
Power on by Ring / LAN	: Disabled	
CPU Thermal-throttling	: 50.0%	
Resume by Alarm	: Disabled	
x Date ( of Month) Alarm	: 0	
x TIME (HH:MM:SS) ALARM	: 0 0 0	
*** Reload Global Timer Events **		
Primary IDE 0	: Disabled	
Primary IDE 1	: Disabled	
Secondary IDE 0	: Disabled	
Secondary IDE 1	: Disabled	
FDD, COM, LPT Port	: Disabled	
PCI PIRQ (A-D)#	: Disabled	

### ACPI function :

When Enabled, the PC system will have the ACPI function. However, if you want to use the ACPI function, you have to use the most updated operation system like Windows 98 at the same time. When installing Windows 98, you will have to give some specific parameter so that the ACPI function will be installed into your PC system.. ( please refer to the manual of Windows 98 for the parameters )

When the ACPI function is installed in your PC system successfully, you will find the ACPI function in the power management icon. The PW switch (mentioned in Section 3-4) defined by the ACPI is different to the BIOS setup and it always has the higher priority than what was defined in the system BIOS.

According to what was defined by the ACPI in Windows 98, the PW switch can be either the "Standby switch" or "shutdown switch". When "Standby switch" is selected, the first click on the PW switch will have the PC system turn into standby mode. If you want to "wake up" the PC system, you will have to use the devices (such as keyboard, mouse .. etc) which is specified in the Windows 98 ACPI function to trigger the PC system so that it will be back to full-on mode. For more detail of ACPI function, please refer to Windows 98 user's manual for more detail information.

### ACPI Suspend Type :

This field allows you to select the mode of suspend state.

The choice: S1(POS), S3 (STR)

**S1 (POS):** Power On Suspend.

**S3 (STR):** Suspend To Ram.

### Power Management :

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

1. Doze Mode
2. Standby Mode
3. Suspend Mode
4. HDD Power Down

Disable (default)	No power management. Disables all four modes
Min. Power Saving	Minimum power management. Doze Mode = 1 hr. Standby Mode = 1 hr., Suspend Mode = 1 hr., and HDD Power Down = 15 min.
Max. Power Saving	Maximum power management -- <b>ONLY AVAILABLE FOR SL CPU</b> . Doze Mode = 1 min., Standby Mode = 1 min., Suspend Mode = 1 min., and HDD Power Down = 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.

**Video Off Method:**

When you are using the Green Monitor with your PC system, there are three modes selectable in this field to save the power energy

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	Initial display power management signaling.

**Video Off In Suspend:**

When you select Yes, the screen display will be disabled ( no display on the screen) when the PC system is in the suspend mode.

**Suspend Type:**

This field allows to select the suspend type, you can choose the CPU Stop Grand Suspend or the PwrOn Suspend.

**Modem Use IRQ:**

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 )

**Suspend Mode:**

This field allows you to choose the time interval which PC system will turn into suspend mode.

The choice: Disabled, 1, 2, 4, 8, 12, 20, 30,40 Min and 1Hr.

**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.

**Soft-Off by PWR-BTTN :**

This field allows user to define the feature of the “PW” connector (it is used to connect the power button ). The setting can be either “Delay 4 Sec.” or “Instant-Off”. Please refer to page 3-18 for details of function description.

**Power On by Ring / LAN:**

When "Enabled", you can use the Modem Ring signal or the LAN wake up signal to power on the PC system.

**CPU Thermal-Throttling :**

This field allows you to select the CPU throttle rate. When CPU temperature is too high, the onboard hardware monitoring will tell the CPU to reduce to the throttling speed to protect the CPU. The choice available for the CPU throttling rate are: 12.5%, 25.0%, 37.5%, 50.0%, 62.5%, 75.0%, 87.5%. This function will not work when the "CPU Warning Temperature" is Disabled. (refer to section 4-10)

**Resume by Alarm :**

When "Enabled", you can use the following two selection fields - "Date (of Month) Alarm" and "Time (hh:mm:ss) Alarm" to select the alarm date and time. You can use these two fields to set the date and time which you want to resume the system from Sleep or Suspend mode. The "Time" must be set in a 24-hour format.

**\*\*\*\* Reload Global Timer Events \*\*\*\***


When "Enabled", an event occurring on each device listed below restarts the global time for Standby mode.

Primary IDE 0  
Primary IDE 1  
Secondary IDE 0  
Secondary IDE 1  
FDD, COM, LPT Port  
PCI PIRQ [A-D]



## 4.9 PNP/PCI CONFIGURATION

CMOS Setup Utility - Copyright (C) 1984 - 2000 Award Software  
PnP/PCI Configuration

Reset Configuration Data	<b>Disabled</b>	Item Help
Resources Controlled By x IRQ Resources	Auto (ESCD) Press Enter	Menu Level  Default is Disabled. Select Enabled to Reset Extended System Configuration Data
PCI/VGA Palette Snoop	Disabled	
Assign IRQ For VGA	Enabled	:
Assign IRQ For USB	Enabled	:

### 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.

### Resources 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®95. If you set this field to “manual” choose specific resources by going into each of the sub menu that follows this field.

### IRQ Resources:

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

### 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. Leave it “Disabled” as the default setting shown above if you are using the normal display card.

### Assign IRQ For VGA / USB:

If you have the VGA card installed in the PC system which need the IRQ signal, or you have the USB device connected to the onboard USB port, then select “Enabled” in this field. Otherwise, you may select “Disabled” so that the related IRQ will be released for other devices.

## 4.10 PC HEALTH STATUS

CMOS Setup Utility - Copyright (C) 1984 - 2000 Award Software  
PC Health Status

CPU Warning Temperature	Disabled	Item Help
Current CPU Temperature	40□ / 104 □	
Current FAN1 Speed	4687 RPM	Menu Level ▶
Current FAN2 Speed	4440 RPM	
Current FAN3 Speed	3835 RPM	
VCC Core	1.64 V	
2.5 (V)	2.51 V	
3.3 (V)	3.37 V	
+ 5 V	5.02 V	
+12 V	11.97 V	
- 12 V	-12.44 V	
- 5 V	-5.80 V	
VBAT (V)	3.10 V	
5VSB (V)	5.01 V	
Shutdown Temperature	Disabled	

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.

When the on board I/O controller on the mainboard is Winbond W83627F, the status display on the screen above will be disappeared because it does not support the hardware monitoring.

When the on board I/O controller on the mainboard is Winbond W83627HF, you will see the status display on the screen and you will be able to monitor the mainboard healthy status.

### CPU Warning Temperature

This item will prevent CPU from overheating

### Current CPU Temperature

This field shows you the current system temperature

### Current FAN1/FAN2/FAN3 Speed

Show you the current CPU FAN and/or System FAN operating speed.

### Shutdown Temperature

This item allows you to set up the CPU shutdown Temperature. This item only effective under Operation System supported ACPI mode (such as Windows 98 SE).

## 4.11 FREQUENCY/VOLTAGE CONTROL

The screen display will be different according to the CPU installed on the mainboard, Refer to the following for the details:

### When the CPU FSB clock is 66MHz:

CMOS Setup Utility - Copyright (C) 1984 - 2000 Award Software  
Frequency/Voltage Control

Auto Detect DIMM/PCI Clk	: Disabled	Item Help
Spread Spectrum	: Disabled	
CPU Host / SDRAM / PCI Clock	: 66	Menu Level ▶
CPU Clock Ratio	: X 3	

### When the CPU FSB clock is 100MHz:

CMOS Setup Utility - Copyright (C) 1984 - 2000 Award Software  
Frequency/Voltage Control

Auto Detect DIMM/PCI Clk	: Disabled	Item Help
Spread Spectrum	: Disabled	
CPU Host / SDRAM / PCI Clock	: 100	Menu Level ▶
CPU Clock Ratio	: X 3	

### When the CPU FSB clock is 133MHz:

CMOS Setup Utility - Copyright (C) 1984 - 2000 Award Software  
Frequency/Voltage Control

Auto Detect DIMM/PCI Clk	: Disabled	Item Help
Spread Spectrum	: Disabled	
Clock By Slight Adjust	: 133	Menu Level ▶
CPU Clock Ratio	: X 3	

**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).

**Clock By Slight Adjust :**

This field allows you to adjust the CPU FSB, SDRAM and PCI clock speed. The specific clock chip is chosen to control the CPU FSB clock and it allows users to fine tune the “CPU Host Clock” by 1MHz increment. Such feature makes user to select the CPU clock speed become extremely flexible. The selection range will be different according to the CPU installed on the board. Followings are the details:

<b>CPU FSB Clock = 66MHz:</b>	<b>66MHz ~ 99MHz</b>
<b>CPU FSB Clock = 100MHz:</b>	<b>100MHz ~ 132MHz</b>
<b>CPU FSB Clock = 133MHz:</b>	<b>133MHz ~ 166MHz</b>

**CPU Clock Ratio:**

This field allows to select the CPU clock ratio. Basically, most CPU clock ratio is fixed inside the CPU and user can not change it. In this case, the setting in this field will make no change to the default CPU clock ratio because it is decided by the CPU automatically.

**4.12 LOAD OPTIMIZED DEFAULTS**

CMOS Setup Utility - Copyright (C) 1984 - 1999 Award Software

Standard CMOS Features Advanced BIOS Features Advanced Chipset Features Integrated Peripherals Power Management Setup PNP/PCI Configuration PC Health Status	Frequency / Voltage Control <b>Load Optimized Defaults</b> Set Supervisor Password Set User Password Save & Exit Setup Exit Without Saving
ESC : Quit F10 : Save & Exit Setup	↑↓→← : Select Item
Time, Date, Hard Disk Type ...	

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.

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

### 4.13 SET SUPERVISOR PASSWORD

CMOS Setup Utility - Copyright (C) 1984 - 1999 Award Software

Standard CMOS Features	Frequency / Voltage Control
Advanced BIOS Features	Load Optimized Defaults
Advanced Chipset Features	<b>Set Supervisor Password</b>
Integrated Peripherals	Set User Password
Power Management Setup	Save & Exit Setup
PNP/PCI Configuration	Exit Without Saving
PC Health Status	
ESC : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	
Time, Date, Hard Disk Type ...	

The password entry in this field is different to the "Power On Function" mentioned in Section 2-2 and Section 4-7. Those password settings are used to power on your PC system, However, 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.

## 4.14 SET USER PASSWORD

CMOS Setup Utility - Copyright (C) 1984 - 1999 Award Software

Standard CMOS Features	Frequency / Voltage Control
Advanced BIOS Features	Load Optimized Defaults
Advanced Chipset Features	Set Supervisor Password
Integrated Peripherals	<b>Set User Password</b>
Power Management Setup	Save & Exit Setup
PNP/PCI Configuration	Exit Without Saving
PC Health Status	
ESC : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	
Time, Date, Hard Disk Type ...	

The User Password can be used to check the user's authority. However, this password entry is somewhat different to the "SUPERVISOR PASSWORD" mentioned in previous page. The User Password will have different function according to the "Supervisor Password" and the "Security Option" setup in Section 4.5:

### A. When there is the password stored in the "SUPERVISOR PASSWORD"

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

When you use the "User Password" to log into the BIOS setup program, you can only select "User Password", "SAVE & EXIT SETUP" and "EXIT WITHOUT SAVING" from the main menu. (Use Supervisor Password to log into the PC system, you will have the complete right to on all BIOS settings.)

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

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

### B. When there is no password stored in the "SUPERVISOR PASSWORD"

#### 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.

**4.15 SAVE & EXIT SETUP / EXIT WITHOUT SAVING**

CMOS Setup Utility - Copyright (C) 1984 - 1999 Award Software

Standard CMOS Features	Frequency / Voltage Control
Advanced BIOS Features	Load Optimized Defaults
Advanced Chipset Features	Set Supervisor Password
Integrated Peripherals	Set User Password
Power Management Setup	<b>Save &amp; Exit Setup</b>
PNP/PCI Configuration	<b>Exit Without Saving</b>
PC Health Status	
ESC : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	
Time, Date, Hard Disk Type ...	

**Save & Exit Setup:**

This option will save all setup values to CMOS RAM & EXIT SETUP routine. Move the selection bar to “SAVE & EXIT SETUP” and pressing “Enter” key, then types “Y” and “Enter” key, the values will be saved and all the information will be stored in the CMOS memory, and then the setup program will be terminated and the system will start to reboot.

**Exit Without Saving**

This item exit the setup routine without saving any changed values to CMOS RAM, When you do not want to save your change to the CMOS memory, you may choose to run this option and the setting what you made in the BIOS setup routine will be given away.

Move the selection bar to “EXIT WITHOUT SAVING” and click on the “Enter” key, then you will be asked to confirm the action to exit, press the “Y” and “Enter” key, the setup program will be terminated and the system will start to reboot.



## 5. How to 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 supplier 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 815EX mainboard.
5. Select the BIOS and start to down load. (suppose that the file name is 85TXE201.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. (BIOS file 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 “Advanced BIOS features” and then make sure to select the floppy disk drive is 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 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 “85TXE201.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 BIOS. (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 Optimized 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.