

KT133TX / KT133BX

AMD Socket A

Duron™ / Athlon™

ATX MAINBOARD

(VER. 1.x)

USER'S MANUAL

TABLE OF CONTENTS

| Chapter & Section | Page |
|---|-------------|
| 1. INTRODUCTION | 1-1 |
| 1.1 OVERVIEW | 1-1 |
| 1.2 MAINBOARD LAYOUT | 1-3 |
| 1.3 SPECIFICATIONS | 1-4 |
| 2. INSTALLATION | 2-1 |
| 2.1 UNPACKING | 2-1 |
| 2.2 QUICK INSTALLATION | 2-3 |
| 2.3 HOW TO POWER ON THE PC SYSTEM | 2-4 |
| 2.4 POWER OFF THE PC SYSTEM | 2-6 |
| 3. HARDWARE SETUP | 3-1 |
| 3.1 INSTALLATION OF CPU | 3-1 |
| 3.2 INSTALL THE DRAM MODULES | 3-3 |
| 3.3 CONNECTORS | 3-5 |
| 3.3.1 PCI SLOT | 3-5 |
| 3.3.2 AGP SLOT | 3-6 |
| 3.3.3 AMR SLOT | 3-6 |
| 3.3.4 ISA SLOT | 3-7 |
| 3.3.5 BAT1: BATTERY SOCKET | 3-7 |
| 3.3.6 CN1/CN2: PS/2 MOUSE AND KEYBOARD | 3-8 |
| 3.3.7 CN3 : SERIAL PORT COM 1 CONNECTOR | 3-8 |
| 3.3.8 CN4 : SERIAL PORT COM 2 CONNECTOR | 3-8 |
| 3.3.9 CN5: PARALLEL PORT CONNECTOR | 3-9 |
| 3.3.10 CN6: USB 1 | 3-9 |
| 3.3.11 CN7: USB 2 | 3-9 |
| 3.3.12 CN8: FLOPPY DISK CONNECTOR | 3-10 |
| 3.3.13 CN9 : IDE 1 CONNECTOR | 3-10 |
| 3.3.14 CN10: IDE 2 CONNECTOR | 3-10 |
| 3.3.15 CN12: IR CONNECTOR | 3-11 |
| 3.3.16 CN13: COOLING FAN 1 POWER CONNECTOR | 3-11 |
| 3.3.17 CN15: ATX POWER CONNECTOR | 3-12 |
| 3.3.18 CN16: WOL (WAKE ON LAN) CONNECTOR | 3-12 |
| 3.3.19 CN17: COOLING FAN 2 POWER CONNECTOR | 3-13 |
| 3.3.20 CN18: AUDIO/GAME CONNECTOR | 3-13 |
| 3.3.21 CN21 / CN22: CD-IN CONNECTOR | 3-14 |
| 3.3.22 CN30: USB 3 CONNECTOR | 3-16 |

VIA KT133 ATX MAINBOARD

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|--------|---|------|
| 3.3.23 | CN31: USB 4 CONNECTOR | 3-16 |
| 3.3.24 | PUSH BUTTONS AND LED CONNECTORS | 3-17 |
| 3.3.25 | SPEAKER AND POWER LED CONNECTOR:..... | 3-19 |
| 3.4 | JUMPERS | 3-20 |
| 3.5 | INSTALLATION OF DEVICE DRIVERS..... | 3-23 |
| 4. | AWARD BIOS SETUP | 4-1 |
| 4.1 | GETTING STARTED | 4-1 |
| 4.2 | MAIN MENU..... | 4-2 |
| 4.3 | CONTROL KEYS..... | 4-3 |
| 4.4 | STANDARD CMOS SETUP..... | 4-4 |
| 4.5 | ADVANCED BIOS FEATURES | 4-6 |
| 4.6 | ADVANCED CHIPSET FEATURES | 4-9 |
| 4.7 | INTEGRATED PERIPHERALS | 4-13 |
| 4.8 | POWER MANAGEMENT SETUP..... | 4-16 |
| 4.9 | PNP/PCI CONFIGURATION | 4-21 |
| 4.10 | PC HEALTH STATUS..... | 4-23 |
| 4.11 | FREQUENCY/VOLTAGE CONTROL | 4-24 |
| 4.12 | LOAD OPTIMIZED DEFAULTS..... | 4-25 |
| 4.13 | SET SUPERVISOR PASSWORD..... | 4-26 |
| 4.14 | SET USER PASSWORD | 4-27 |
| 4.15 | SAVE & EXIT SETUP / EXIT WITHOUT SAVING | 4-29 |
| 5. | HOW TO UPDATE THE SYSTEM BIOS..... | 5-1 |



IMPORTANT

AMD Duron™ and Athlon™ processors require special care on the CPU cooling fan. Before you can make sure that the proper cooling fan is installed on the CPU correctly, **Please do not power on the PC system. Otherwise, the CPU will be destroyed because of the high temperature.**

SOMETHING IMPORTANT !

☆ **TRADEMARKS**

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

☆ **LOAD SETUP DEFAULTS**

“LOAD OPTIMIZED DEFAULTS” is the function which will have the BIOS default settings loaded into the CMOS memory, these default settings are the best-case values which will optimize system performance and increase system stability This function will be necessitated when you receive this mainboard, or when the system CMOS data is corrupted. Please refer to the Section 4.12 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 connected to the ATX form-factor mainboard. Without disconnecting the AC power connector from the PC system, the mainboard can be damaged by any improper action .

☆ **WAKE ON LAN**

In order to support the Wake On LAN feature, the system requires a special SPS (Switching Power Supply), Such power supply must be able to provide at least 700 mA of driving capability on the “5V standby” voltage. Please refer to the Section 3.3 for pin assignment.

☆ **WARNING !**

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

☆ **NOTICE**

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

1. INTRODUCTION

1.1 OVERVIEW

This Mainboard is the ATX form-factor with the Socket A CPU connector designed on the board. VIA KT133 chipset is chosen as the system core logic of the mainboard for the AMD Duron™ and Athlon™ processors. Basically, Duron™ and Athlon™ are the seventh-generation micro-architecture (K7) developed by AMD. Such processors are powerful enough to support wide range of application for various purposes. Please refer to the following for the brief specification of the Socket A processors:

- ⊙ Socket A (462 pin PGA packing).
- ⊙ Built-in L1 and L2 cache.
- ⊙ Superscalar floating point unit with AMD enhanced 3Dnow!™ technology.
- ⊙ 200MHz high speed front side system bus interface.

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

What is Socket A?

Basically, Socket A is the CPU connector designed for the socket type of AMD K7 processors. There is the L2 cache memory built inside the Socket A processor to give the most outstanding performance and reliability. The AMD K7 processor is an innovative processor designed for the value PC market. With the AMD K7 processor, computer users 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)

There is the AGP slot built on the board where you can install the AGP VGA card. Basically, the demand for 3D graphic rendering and the throughput of screen display is increasing. AGP is such a new interface which will increase massive bandwidth between VGA card and CPU to increase the display quality and performance. There is the full featured AGP slot designed on the mainboard which supports the 4X AGP mode. When you have the 4X AGP display card installed on the mainboard, it will enhance the system display performance tremendously.

Hardware Monitoring

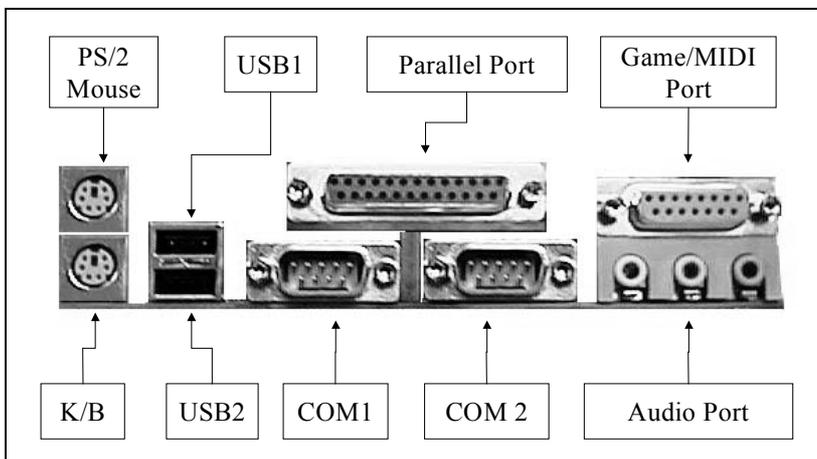
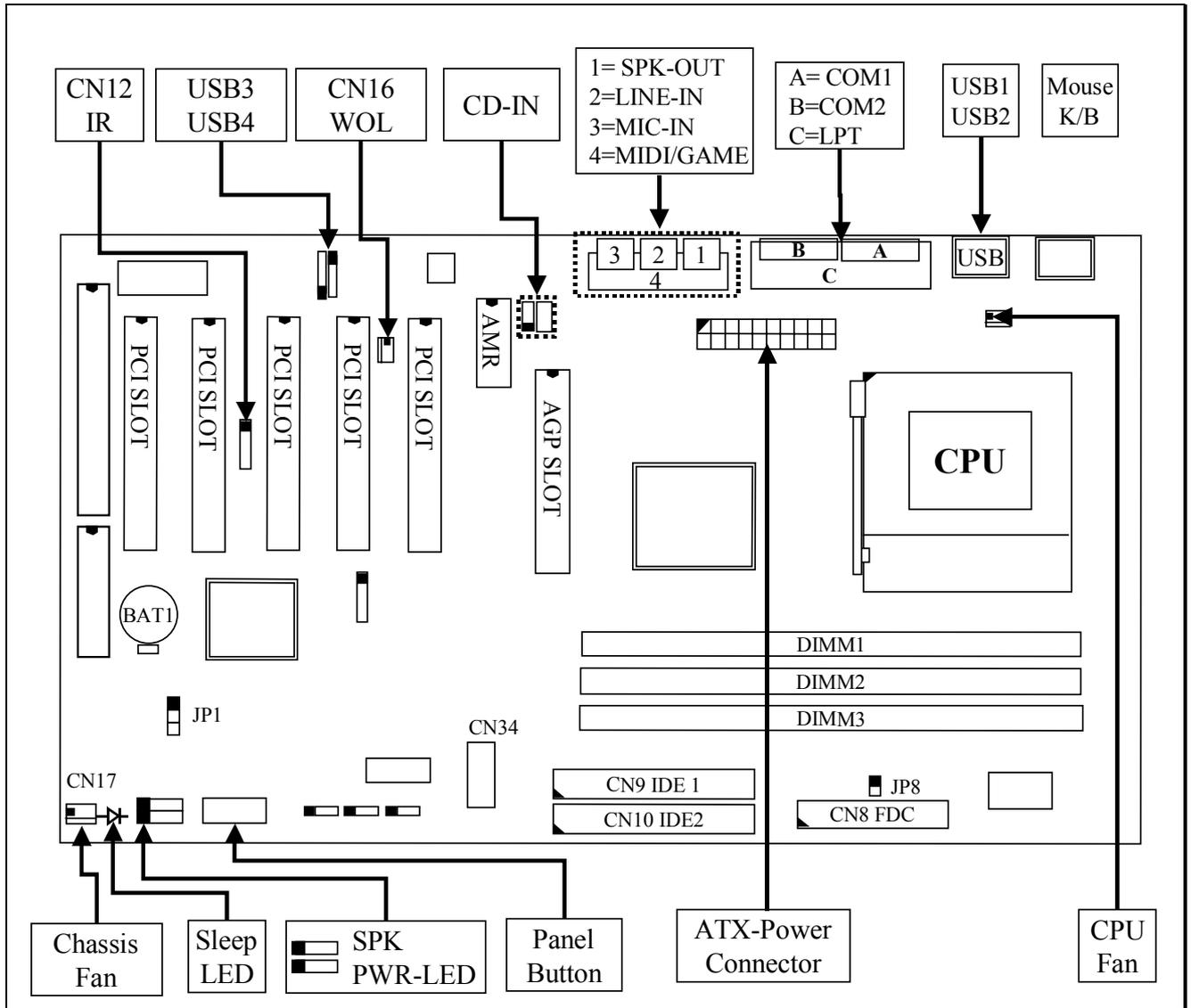
There is the hardware monitoring designed on the mainboard. You can always use the hardware monitoring feature to monitor the system healthy status. Basically, the hardware monitoring feature will monitor the status of the cooling fan speed, CPU voltage and system temperature etc.

There is also the 3D audio interface designed on the mainboard. When the audio interface is installed on the mainboard, you need not to invest any on the audio interface card. Simply have the speaker connected to the audio connector (CN18) on the mainboard and you will have the 3D sound effect in your PC system.

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

| MODEL NAME | IDE Interface | AMR Slot | Onboard 3D Audio |
|-------------------|----------------------|-----------------|-------------------------|
| KT133TX | Ultra DMA 33/66 | Yes | Yes |
| KT133TXL | Ultra DMA 33/66 | No | No |
| KT133BX | Ultra DMA 33/66/100 | Yes | Yes |
| KT133BXL | Ultra DMA 33/66/100 | No | No |

1.2 MAINBOARD LAYOUT



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

1.3 SPECIFICATIONS

⊙ CPU

AMD Duron™ and Athlon™ Socket A processors

⊙ CPU VCC

Switching Voltage Regulator circuits on board, supports +1.10V DC through +1.85V DC CPU Core Voltage.

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

⊙ WORD SIZE

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

⊙ PC SYSTEM CHIPSET

VIA VT8363 and VT82C686A (or VT82C686B) chipset

⊙ FRONT SIDE BUS FREQUENCY

200MHz. [100MHz DDR (Double Data Rate)]

⊙ MEMORY

Three 168-pin DIMM sockets are designed onboard. Supports PC-100, PC-133 and VCM SDRAM (Virtual Channel Memory). Maximum memory size up to 1.5GB

⊙ BIOS

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

⊙ EXPANSION SLOTS

AGP Slot : One 32-bit AGP Slot (Supports 1x, 2x and 4X AGP graphics cards)
PCI Slot : Five 32bit PCI slots.
ISA Slot : One 16-bit ISA slot (the ISA slot is PCI/ISA shared)
AMR Slot : One AMR slot for audio and modem interface card.
(Note: KT133TXL and KT133BXL do not have AMR slot on the mainboard.)

⊙ WOL PORTS

One WOL connector supports Wake-On-LAN functionality.

◎ USB PORTS

Four Universal Serial Bus (USB) ports..

◎ IDE PORTS

Two channels of Ultra DMA33/66 Bus Master IDE ports (when VT82C686B is installed on the board, it supports Ultra DMA /100).

◎ SUPER I/O PORTS

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

◎ IR PORT

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

◎ MOUSE AND KEYBOARD

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

◎ 3D SOUND (Optional)

Integrated PCI-mastering dual full-duplex direct-sound AC97-link-compatible sound interface. (*Note: KT133TXL and KT133BXL do not have the 3D audio interface on the mainboard.*)

◎ HARDWARE MONITORING

The hardware monitoring feature is designed on the board to monitor hardware healthy status like system voltage, system temperature, and cooling fans. When the hardware monitoring program is installed in the PC system, it will keep monitoring the mainboard status. If there is something wrong, then you will receive a warning message on the screen display so that you can take proper action to prevent your system from damage.

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

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

◎ ACPI

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

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

◎ DIMENSION

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

◎ ENVIRONMENT LIMITATION

1. Operating Temperature : 10□ to 40□ . (50□ to 104□)
2. Required Airflow : 50 linear feet per minute across CPU.
3. Storage Temperature : - 40□ to 70□. (- 40□ to 158□)
4. Humidity : 0 to 90% non-condensing.
5. Altitude : 0 to 10,000 feet.

2. INSTALLATION

2.1 UNPACKING

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

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

Note: there is the **Virtual Drive** and **Stop Virus** included in the CD, they are the most powerful and valuable software tools for your daily work. Please refer to the CD for detail function description.

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

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

When you have opened the color box of the mainboard, please observe the mainboard carefully to make sure there is no shipping and handling damage before you can start to install the PC system.

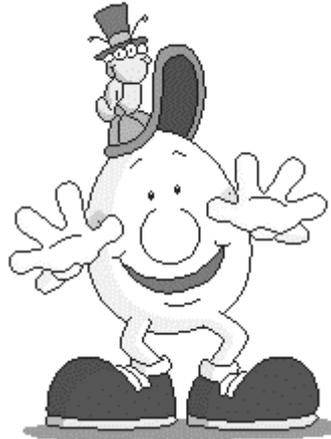
Having finished all the procedures above, you are now ready to install the mainboard to the chassis. Please make sure that the chassis is the ATX type so that the mounting hole will match with this mainboard.



IMPORTANT NOTICE:

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

- BE SURE TO DISCONNECT THE POWER CABLE.



***** IMPORTANT *****

AMD Duron™ and Athlon™ processors require special care on the CPU cooling fan. Before you can make sure that the proper cooling fan is installed on the CPU correctly, please do not power on the PC system. Otherwise, the CPU will be destroyed because of the high temperature.

2.2 QUICK INSTALLATION

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

1. Refer to Section 2-1 to avoid the static electricity damage.
2. Remove the mainboard from the packing and put it on the table. (the surface must be very smooth)
3. Lift the actuation level of the CPU socket and then refer to the CPU user's guide to install the CPU onto the socket properly. (refer to Section 3-1 to find CPU socket)
4. When the CPU is installed on the socket, close the socket by lowering and locking the actuation lever.
5. Have the CPU cooling fan installed onto the CPU and connect it to the cooling fan power connector.
6. Install the DIMM module onto the DIMM socket. (refer to Section 3-2)
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 VGA card, LAN card and FAX/Modem card ... etc.
11. Have the power supply connected to the ATX power connector on the mainboard.
12. Connect the peripheral devices such as monitor, keyboard, mouse ... etc.
13. Connect the power cable and power on the PC system.
14. When you see the POST screen display (refer to Section 4-1), click the "Del" key to trigger the BIOS setup screen.
15. Select "Load Optimized Default" in the BIOS setup program so that the suggested parameter will be loaded into the CMOS memory.
16. Exit the BIOS setup program and then restart the PC system.
17. Install the operation system (such as Windows).
18. Install the device drivers and other application software.

IMPORTANT NOTICE:

1. *Never power on the PC system unless a qualified cooling fan is installed properly.*
2. *Before all the components are installed in the PC system properly, please do not connect the power cable to the PC system.*
3. *Do not install mainboard into the cabinet and then install DIMM module and CPU. Otherwise, this mainboard may be damaged when install CPU and DIMM module.*

2.3 HOW TO POWER ON THE PC SYSTEM

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

□ POWER BUTTON

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

□ RTC ALARM

PC system can be started 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 waked up automatically on the date and time which you selected in the BIOS setup program.

Enable the "RTC Alarm Resume" selection in the BIOS setup utility, and then you will see the input request for the date and time. (the " RTC Alarm Resume" 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

The 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 a *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 PC system will be powered on and start to receive the incoming messages automatically..

To enable the Modem Ring-In feature, you have to run the BIOS setup utility and enable the "Wake Up On LAN/Ring" option (it is located in the "POWER MANAGEMENT SETUP", 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 " Wake Up On LAN/Ring" in the BIOS setup program.

2.4 POWER OFF THE PC SYSTEM

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



IMPORTANT NOTICE:

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

3. HARDWARE SETUP

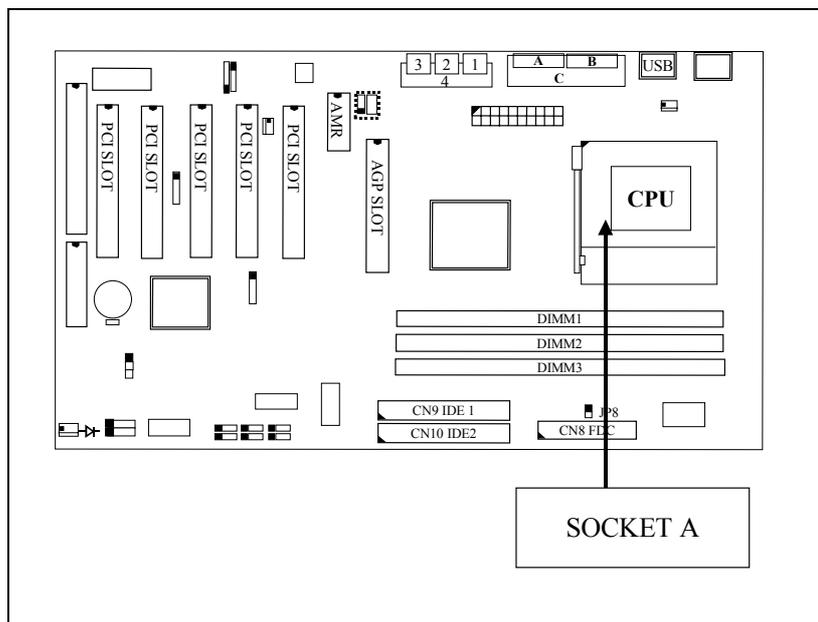
Before you can start to install this mainboard, some hardware setting is required. To configure the mainboard is a simple task, only a few jumpers, connectors, cables and sockets need to be selected and configured. This section will show all the connectors and jumpers on the mainboard.

IMPORTANT

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

3.1 INSTALLATION OF CPU

The connector on this mainboard where we can install the CPU is the “socket A” connector as shown in the following picture. The front side system bus speed of this mainboard will support up to 200 MHz amazing high speed. So you may feel free to install the most updated AMD Duron™ or Athlon™ processor onto this mainboard.



IMPORTANT IMPORTANT IMPORTANT IMPORTANT

AMD Duron™ and Athlon™ are the very high performance processors. However, you will easily find that the temperature measured on the surface of the CPU is cooking hot. So the thermal management becomes extremely important when installing AMD Duron™ and Athlon™ processors. If the CPU cooling fan is not attached to the CPU properly, fatal damage may occur to the CPU.

According to the document from AMD, Duron™ and Athlon™ processors require the larger heatsink. The rotation speed of the cooling fan shall be 6,600 RPM or above. The thermal grease must be applied between the heatsink and the CPU to improve the heat dissipation. Also, please make sure that the heatsink is fastened securely on the CPU to make sure the perfect surface contact so that the heat can be dissipated through the cooling fan.

Please visit the following site to have more detail of the cooling fan and the qualified suppliers:

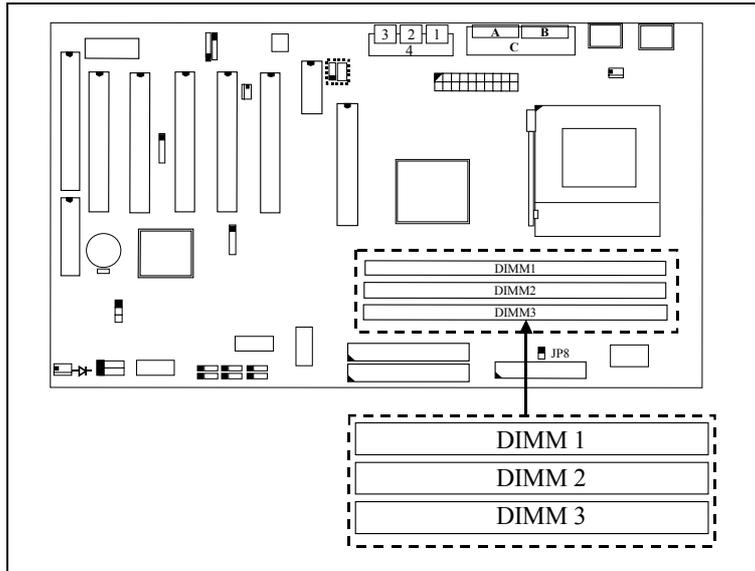
<http://www1.amd.com/products/athlon/thermals>

***IMPORTANT***

AMD Duron™ and Athlon™ processors require special care on the CPU cooling fan. Before you can make sure that the proper cooling fan is installed on the CPU correctly, please do not power on the PC system. Otherwise, the CPU will be destroyed because of the high temperature.

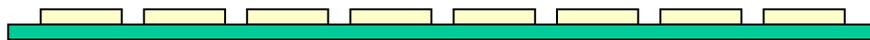
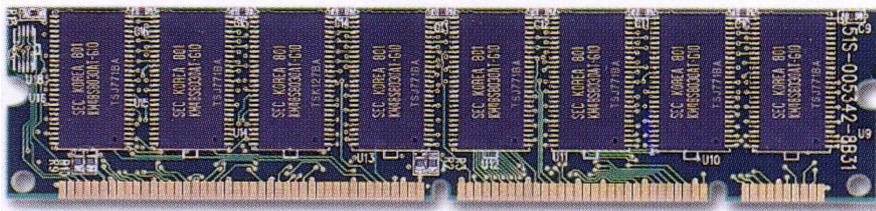
3.2 INSTALL THE DRAM MODULES

This mainboard has three DIMM sockets designed on the mainboard and you can use the single-side or double-side DIMM module on the mainboard. Please refer to the following picture to see the sockets for DIMM module:

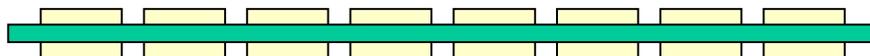


Picture of Memory sub-system.

Outlook of DIMM module



(Single-Side DIMM module)



(Double-Side DIMM Module)

In order to have a better performance and reliability to your PC system, please refer to the following suggestion to install the memory:

Installation of DIMM modules:

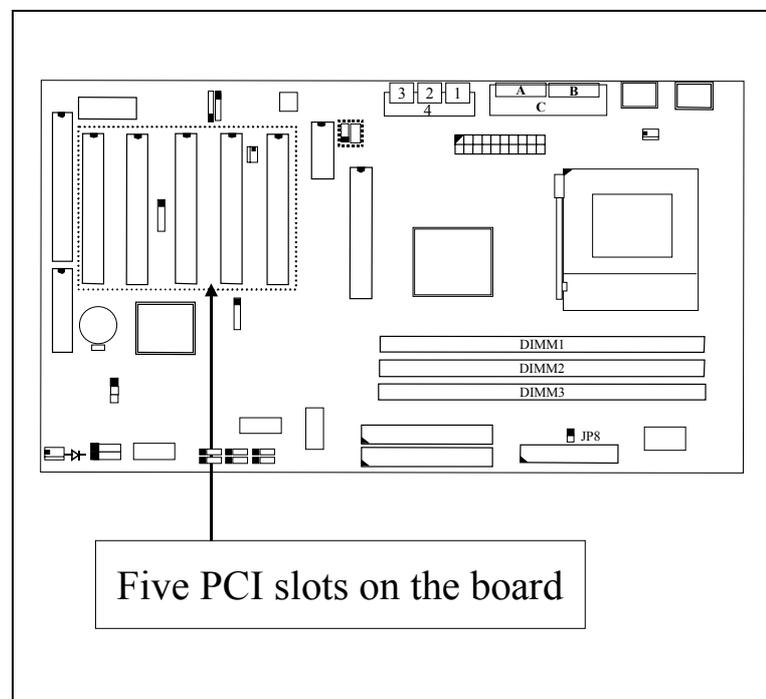
1. Minimum one DIMM module must be installed on the mainboard.
2. Please use 3.3V PC-100 or PC-133 un-buffered DIMM module.
3. You can use single side or double side DIMM module on this mainboard.
4. Please install the DIMM module starting from DIMM1 or DIMM2 first.
5. Maximum memory size: 1536MB

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.

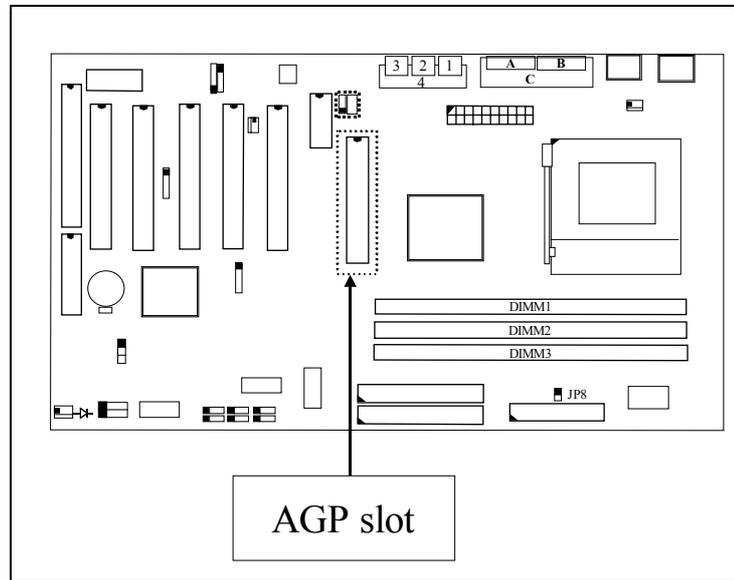
3.3.1 PCI SLOT

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



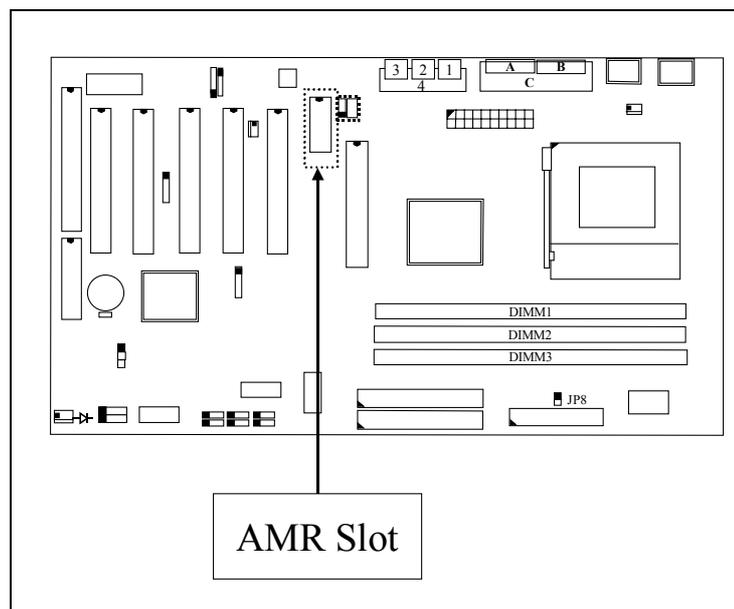
3.3.2 AGP SLOT

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



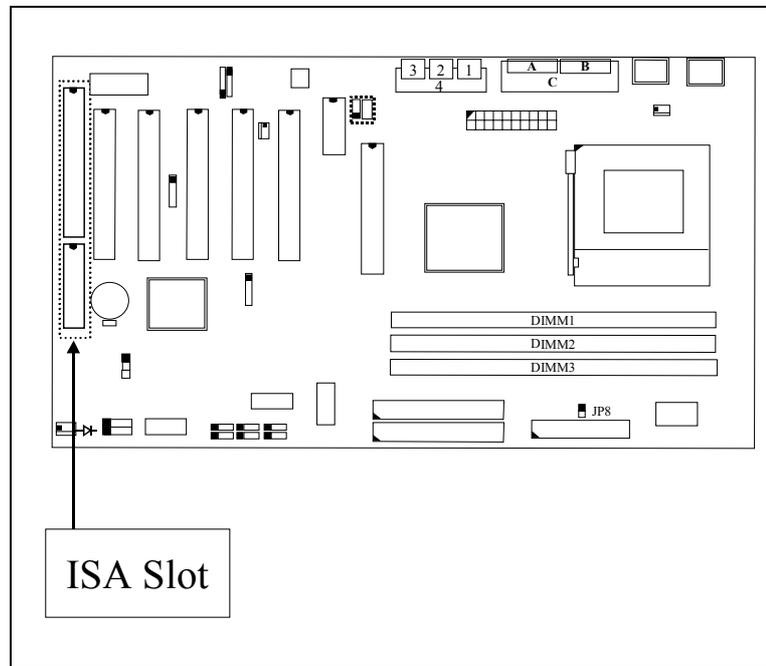
3.3.3 AMR SLOT (OPTIONAL)

There is one AMR slot designed on the mainboard. You can install such AMR modem card on the AMR slot. (Note: KT133TXL and KT133BXL do not have AMR slot on the mainboard.)

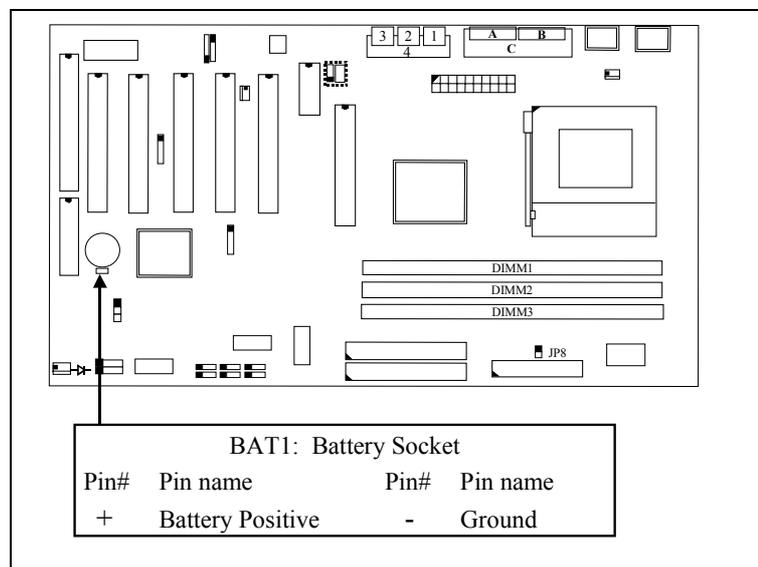


3.3.4 ISA SLOT

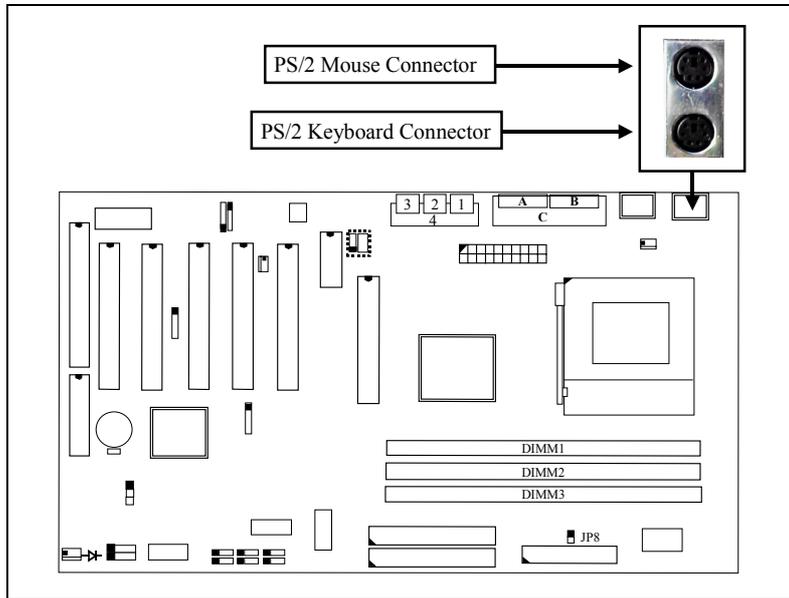
There is one 16-bit ISA slot designed on the mainboard which you can install the ISA interface card.



3.3.5 BAT1: BATTERY SOCKET (3 Volts Lithium battery : CR2032)

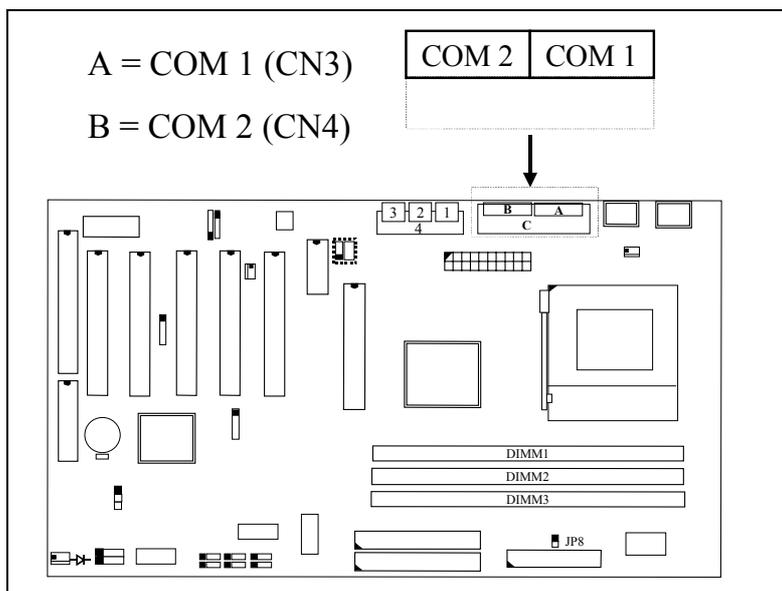


3.3.6 CN1/CN2: PS/2 MOUSE AND KEYBOARD CONNECTOR



3.3.7 CN3 : SERIAL PORT COM 1 CONNECTOR

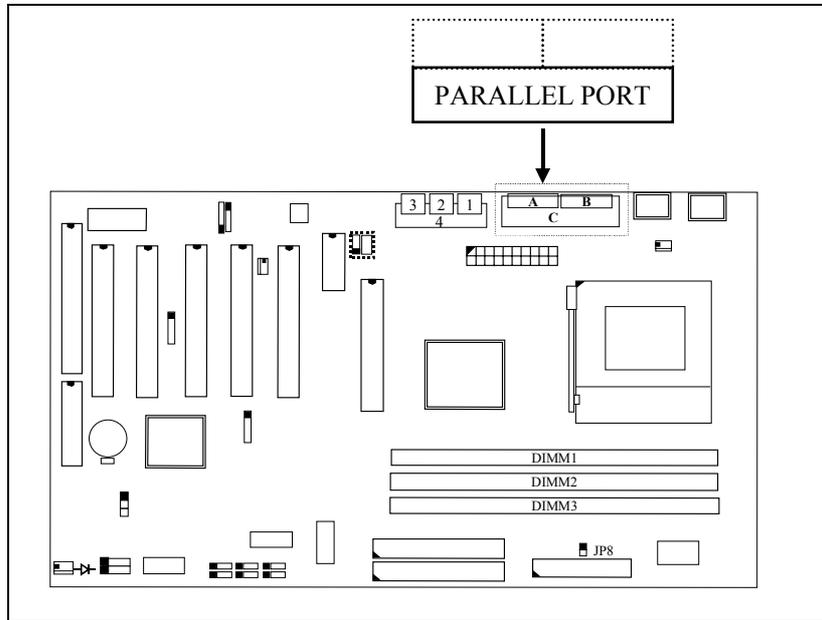
3.3.8 CN4 : SERIAL PORT COM 2 CONNECTOR



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

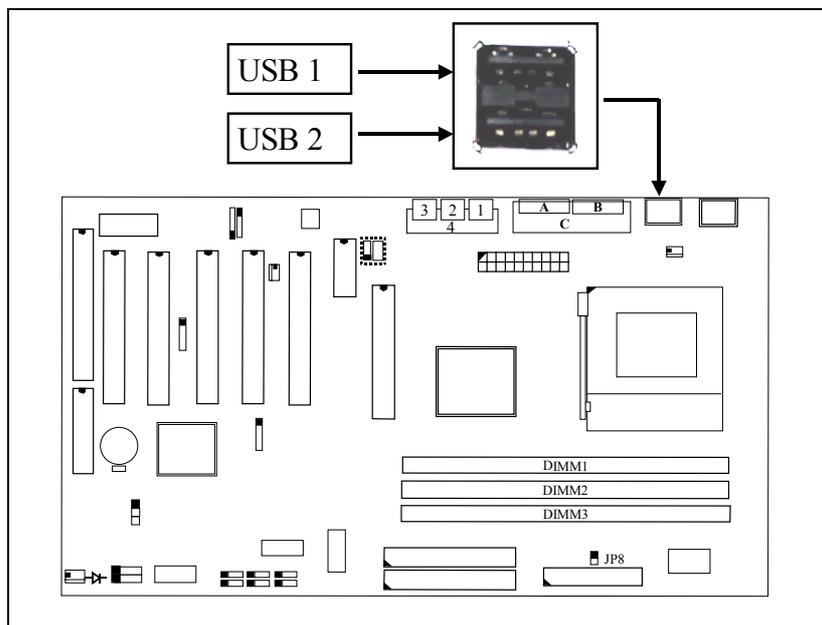
3.3.9 CN5: PARALLEL PORT CONNECTOR

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

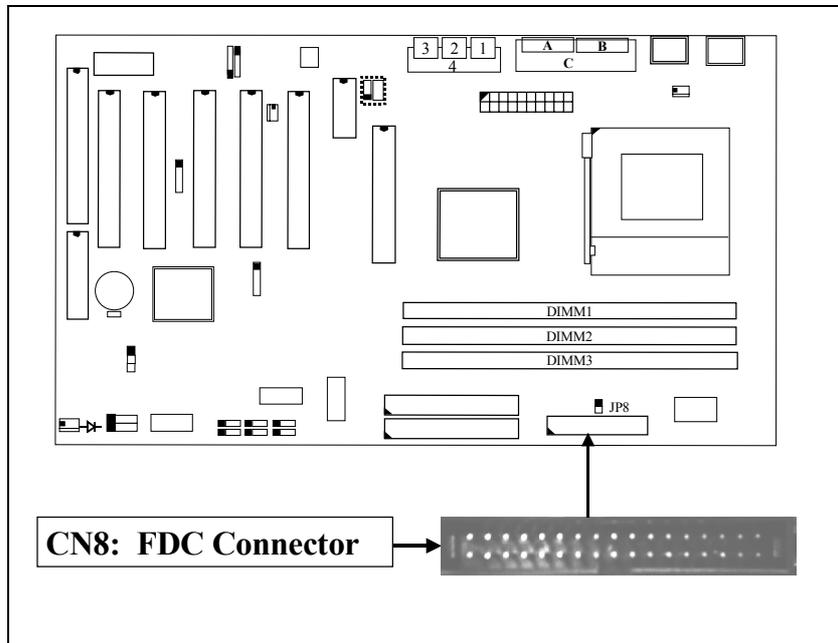


3.3.10 CN6: USB 1 (UNIVERSAL SERIAL BUS) CONNECTOR

3.3.11 CN7: USB 2 (UNIVERSAL SERIAL BUS) CONNECTOR

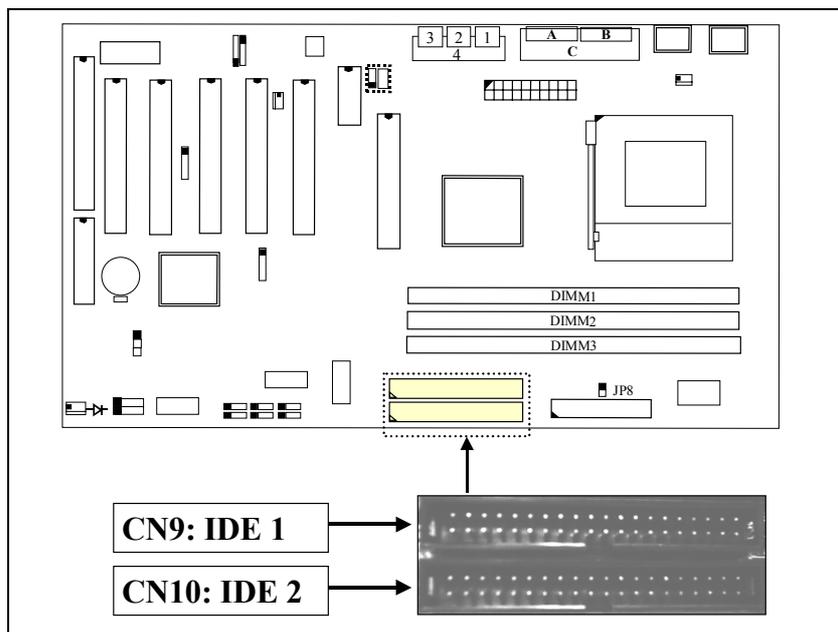


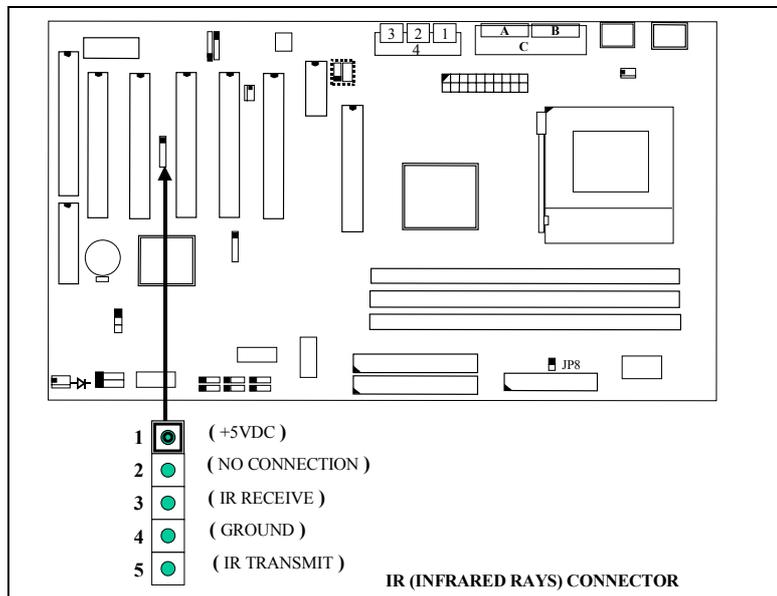
3.3.12 CN8: FLOPPY DISK CONNECTOR (IRQ6, DMA 2)



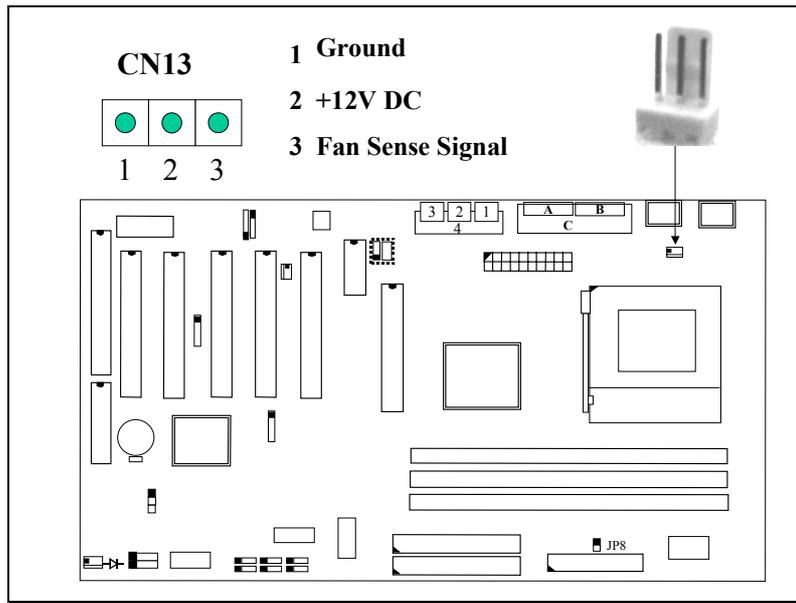
3.3.13 CN9 : IDE 1 CONNECTOR (Primary IDE Port: 1F0H, IRQ 14)

3.3.14 CN10: IDE 2 CONNECTOR (Secondary IDE Port: 170H, IRQ 15)

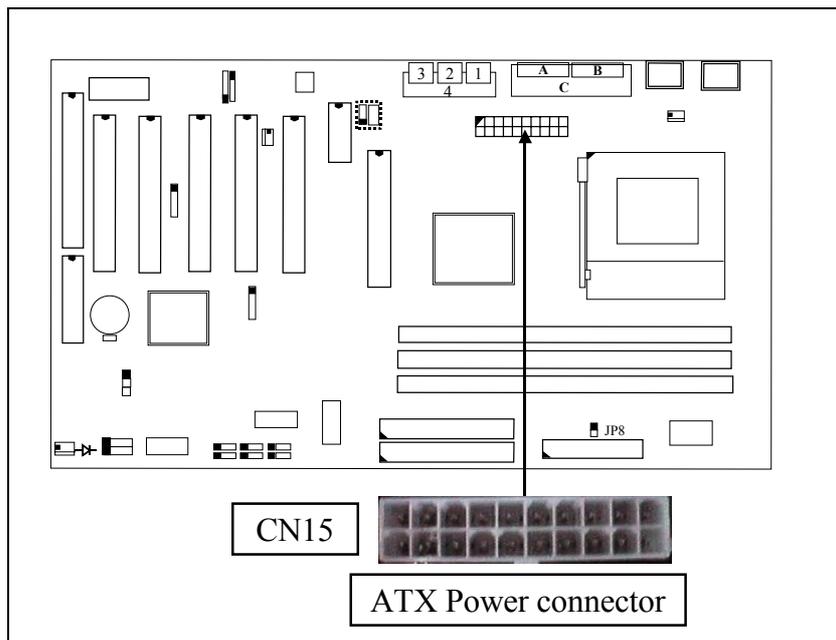


3.3.15 CN12: IR (INFRARED RAYS) CONNECTOR**3.3.16 CN13: COOLING FAN 1 POWER CONNECTOR**

CN13 is the cooling fan power connector designed on the mainboard. Since it is very close to the Socket A connector, so CN13 is recommended to connect to the CPU cooling fan. You can see from the BIOS setup program the cooling fan speed. When the device driver of the hardware monitoring is installed, you can monitor the rotating speed of the CPU cooling fan in the Windows operation system.

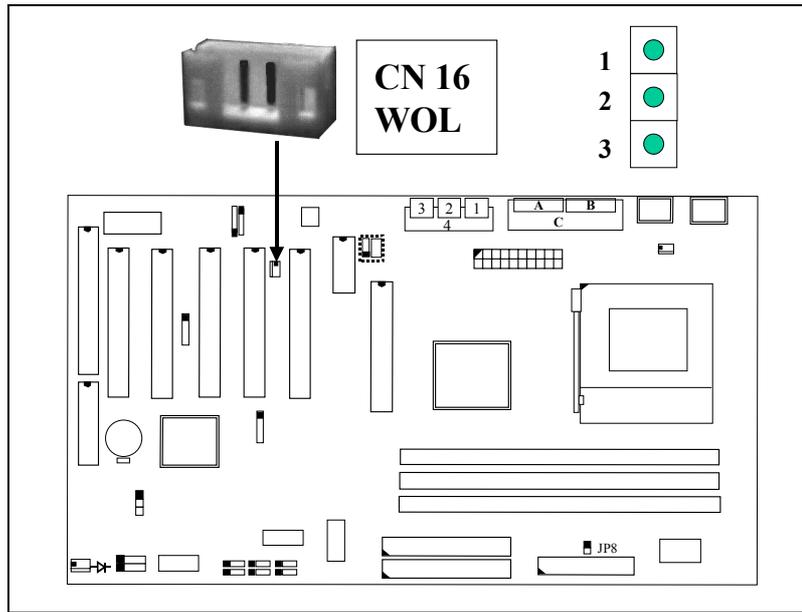


3.3.17 CN15: ATX POWER CONNECTOR



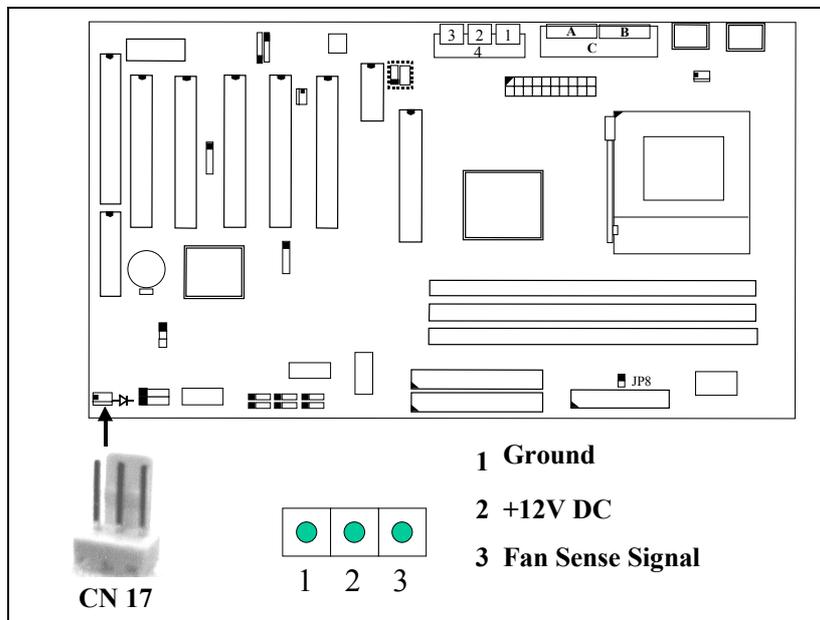
3.3.18 CN16: WOL CONNECTOR (WAKE ON LAN)

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



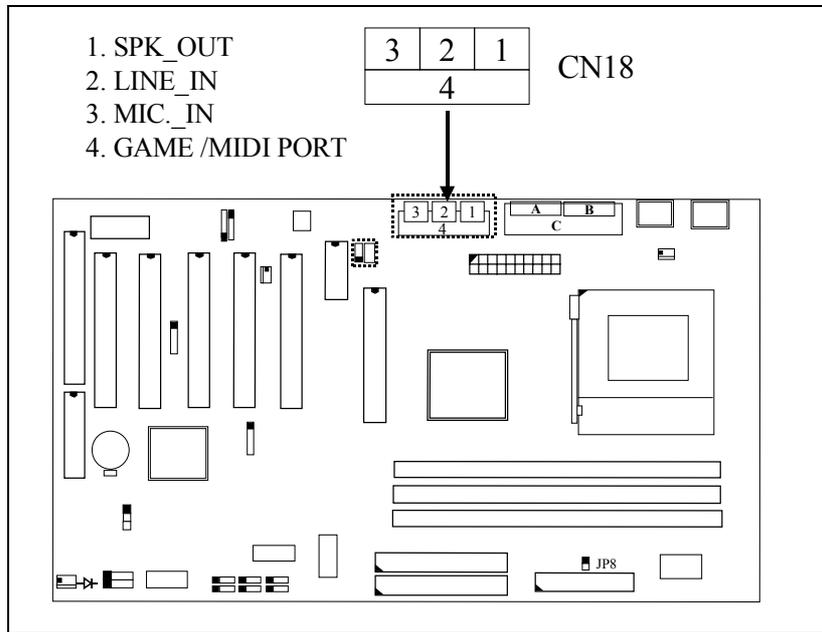
3.3.19 CN17: COOLING FAN 2 POWER CONNECTOR

CN17 is the cooling fan power connector designed on the mainboard. The location of CN17 is very close to the panel switch connector. If you have the chassis cooling fan in your PC system, you can have it connected to CN17 to reduce the temperature inside the PC system.



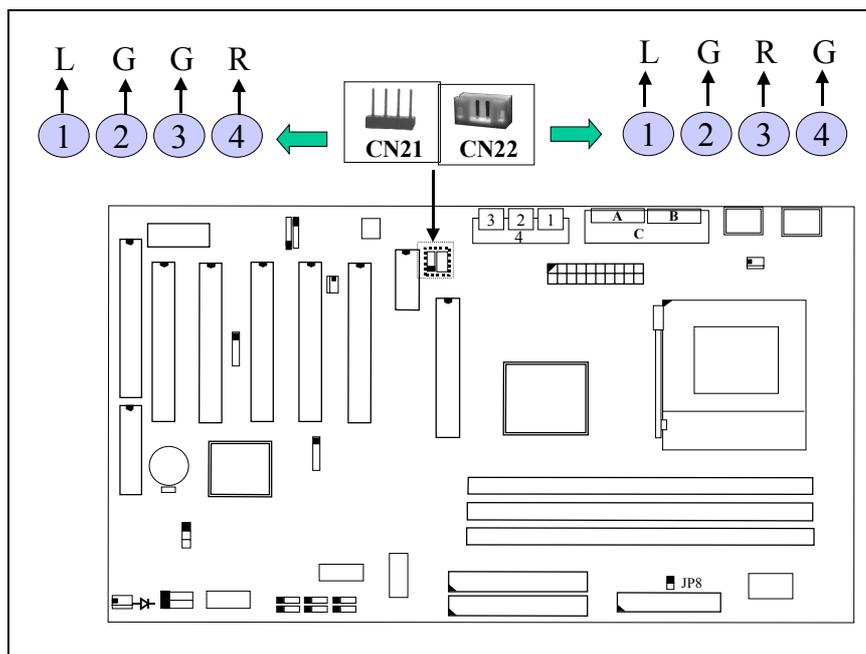
3.3.20 CN18: AUDIO/GAME CONNECTOR (OPTIONAL)

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



3.3.21 CN21 / CN22: CD-IN CONNECTOR (CN21 and CN22 are optional)

The CD-IN connectors on the board can be used to connect to the CD ROM audio out. There are two different type of connectors designed on the mainboard, please check with your CD ROM drive and decide which connector can be used to connect to the CD ROM drive. (these connectors is absent on KT133TXL and KT133BXL mainboards)

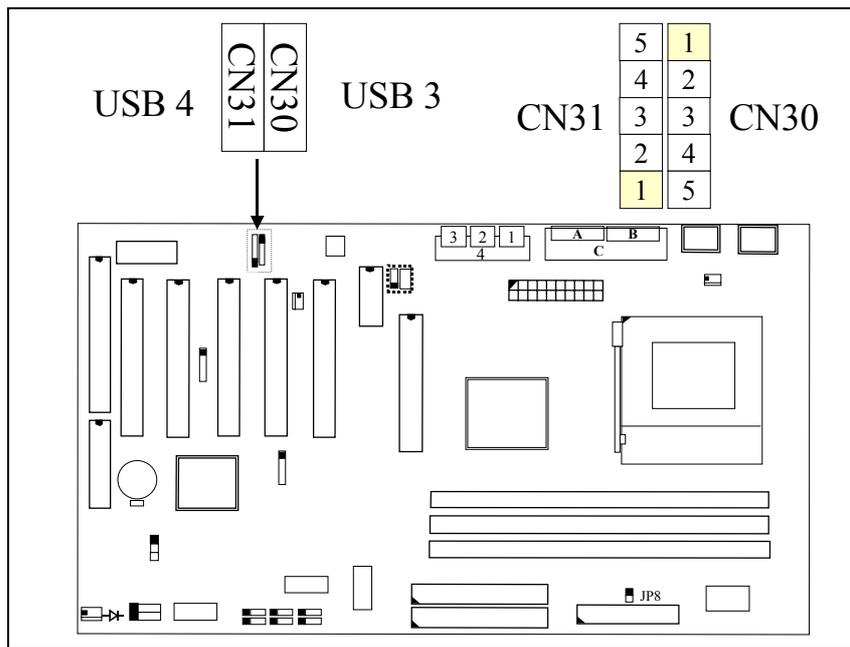


L = Left channel audio-out
R = Right channel audio-out
G = Audio Ground

3.3.22 CN30: USB 3 (UNIVERSAL SERIAL BUS) CONNECTOR

3.3.23 CN31: USB 4 (UNIVERSAL SERIAL BUS) CONNECTOR

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



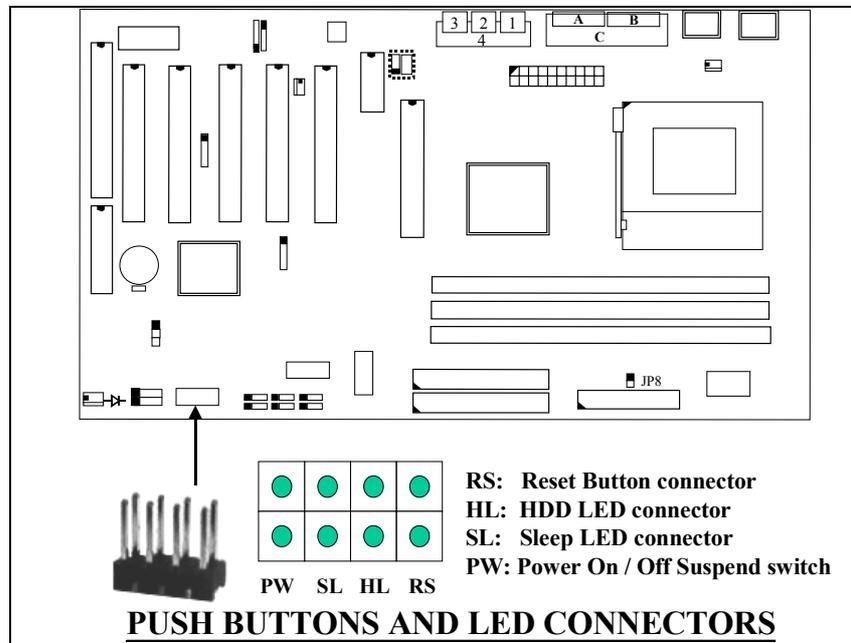
Pin assignment of USB connector:

| CN 31 (USB4) | | | CN 30 (USB3) | | |
|--------------|---------------------|--|--------------|---------------------|--|
| <u>Pin #</u> | <u>Assignment</u> | | <u>Pin #</u> | <u>Assignment</u> | |
| ● 5 | Ground (BLACK WIRE) | | ● 1 | +5V DC (RED WIRE) | |
| ● 4 | Ground (BLACK WIRE) | | ● 2 | DATA- (WHITE WIRE) | |
| ● 3 | DATA+ (GREEN WIRE) | | ● 3 | DATA+ (GREEN WIRE) | |
| ● 3 | DATA- (WHITE WIRE) | | ● 4 | Ground (BLACK WIRE) | |
| ● 1 | +5V DC (RED WIRE) | | ● 5 | Ground (BLACK WIRE) | |

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

3.3.24 PUSH BUTTONS AND LED CONNECTORS

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



1. **RS** Reset Button Connector

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

2. **HL** IDE HDD LED Connector

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

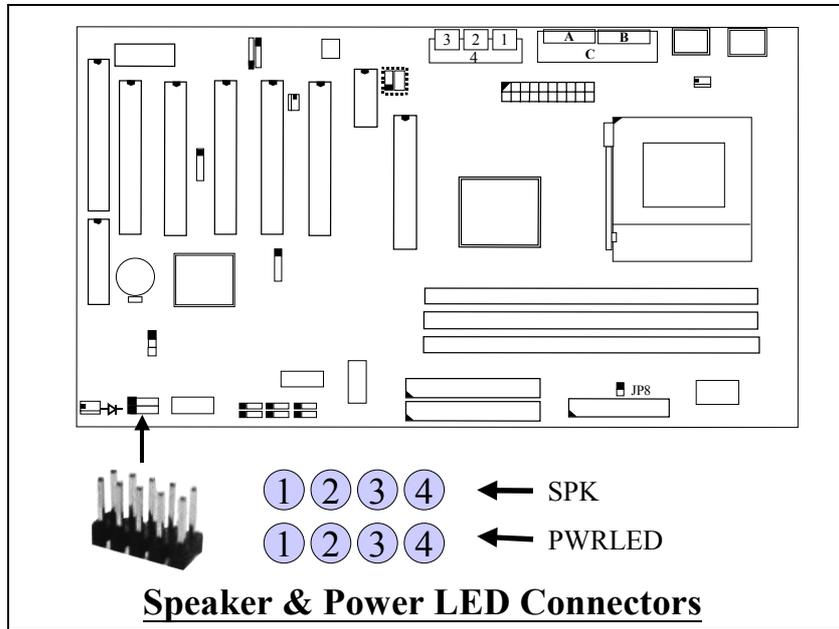
3. **SL** Sleep LED Connector

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

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

4. **PW** Power On / Off and External Suspend Switch Connector
According to the setup in CMOS, the PW connector has two functions. It can be the Power Switch or Suspend Switch of your PC system.
(please refer to the Aware BIOS setup in Section 4)
- ① **If the setup in CMOS is “Delay 4 Sec.”, the function of “PW” will be:**
- A. When system power is "OFF":**
Press this switch, the system will power on.
- B. When system power is "ON" :**
- a. The system is in Full-ON mode :
- a-1. Click on this switch (less than 4 seconds), the system will be turned into Suspend mode. (turn into the GREEN mode)
- a-2. Press and hold this switch for more than 4 seconds, the system will be powered off.
- b. When the system is in Suspend mode :
- b-1. Click on this switch (less than 4 seconds), the system will return to Full-ON mode.
- b-2. Press and hold this switch more than 4 seconds, the system will be powered off.
- ② **The setup in CMOS is “Instant-off”:**
- A. When system power is "OFF" :**
Click on this switch, the system will be powered on.
- B. When system power is "ON" :**
Click on this switch, the system will be powered off instantly.

3.3.25 SPEAKER AND POWER LED CONNECTOR



SPK: Speaker connector

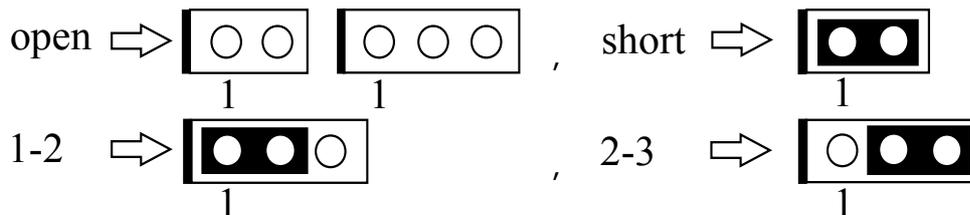
| 1 | <u>Pin #</u> | <u>Signal name</u> |
|--------------------------|--------------|---------------------|
| <input type="checkbox"/> | 1 | + 5V DC |
| <input type="checkbox"/> | 2 | No Connection |
| <input type="checkbox"/> | 3 | No Connection |
| <input type="checkbox"/> | 4 | Speaker Data Signal |
| 5 | | |

PWRLED: Front Panel Power LED Connector

| 1 | <u>Pin #</u> | <u>Signal name</u> |
|--------------------------|--------------|--------------------------------|
| <input type="checkbox"/> | 1 | Pullup (+ 5V DC for Power LED) |
| <input type="checkbox"/> | 2 | No Connection |
| <input type="checkbox"/> | 3 | Ground |
| <input type="checkbox"/> | 4 | No Connection |
| 5 | | |

3.4 JUMPERS

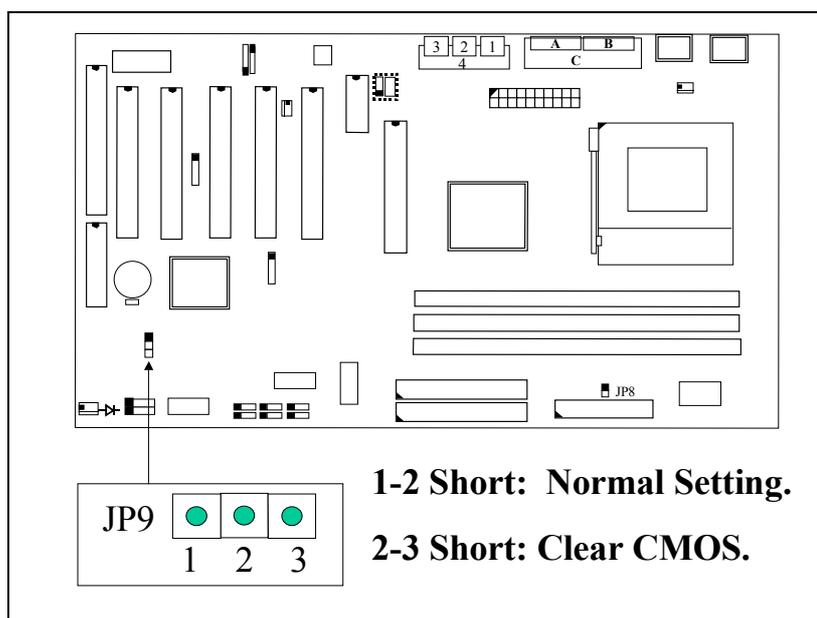
This section will discuss the jumper setting on the mainboard. In order to let you have better idea of the jumper setting, please see below for the explanation of jumper settings before you start this section.



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

(A) JP9: CMOS DATA CLEAR BUTTON

Basically, the BIOS setup program will have all the setting saved in the CMOS memory so that the system BIOS will know how to initialize the core logic of the mainboard. In case that you made some wrong setting in the BIOS setup program and caused the PC system failed to boot, you can use JP9 to clear all the setting which is saved in the CMOS memory.



Followings are the procedures to use JP9 to clear the BIOS setting which is saved in the CMOS memory.

- 1. Unplug the AC power cable from the PC system.*
- 2. Open the cabinet of the PC system.*
- 3. Put the mini jumper on pin 2-3 of JP9 around 3 to 5 seconds and then return it to the original position (pin 1-2).*
- 4. Close the cabinet*
- 5. Re-connect the AC power cable.*
- 6. Power on the PC system and then run BIOS setup program to reconfigure the PC system.*

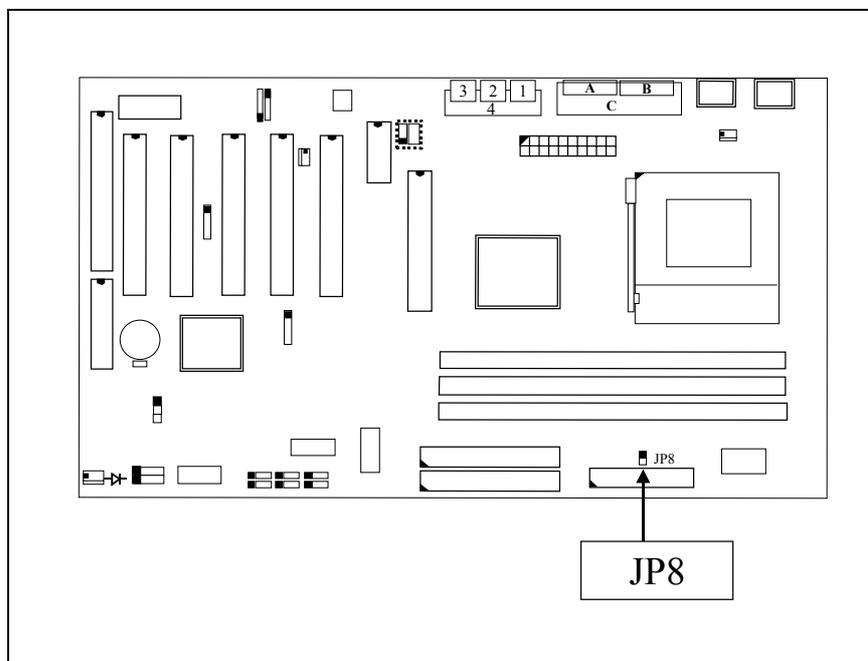
Note: Improper BIOS setting may cause hang-up to the PC system, Should it be happened, you may use JP9 to clear the information which is stored in the CMOS memory and get the PC system back to normal. Improper connection may cause permanent damage to the mainboard. Please refer to the following steps to clear the CMOS

IMPORTANT:

After you have use JP9 and clear the setting which is saved in the CMOS memory, we suggest that you use “Load Optimized Defaults” and have the optimized parameters loaded into the BIOS setup program. Such parameters were fine tuned and they will let you have the optimized performance and stability.

(B) JP8: CPU FRONT SIDE BUS SPEED SELECTION (optional)

AMD K7 CPU uses the DDR transfer technology on its data and address busses. Simply speaking, there are two 100MHz clock inputs connected to the K7 CPU and the CPU will use the DDR technology to generate the 200MHz front side system bus speed. (scalable beyond 400MHz in the feature.) Beside the 100MHz clock frequency for the CPU which you can find from the market, this mainboard also has the 133MHz designed onboard to support the CPU which might be using 266MHz (or possibly 533MHz) system bus frequency in the feature. If you find JP8 on the board, you can use JP8 to select the front side bus speed between 100MHz and 133 MHz for different CPU. Please refer to the following for the setting of JP8:



| |
|-----------------------|
| Setting of JP8 |
|-----------------------|

| SETTING | SYSTEM BUS CLOCK SPEED |
|-----------|--|
| JP8 Open | 200MHz (Default, Scalable up to 400MHz) |
| JP8 Short | 266MHz (Scalable up to 533MHz) |

Note : You can always refer to Section 4-11 and use the “ Clock By Slight Adjust) selection field to fine tune the system bus frequency.

3.5 INSTALLATION OF DEVICE DRIVERS

IMPORTANT NOTE:

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

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

A. Install the device drivers for this mainboard:

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

Step1. Insert the CD into the CD ROM drive .

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

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

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

When there is the 3D sound interface installed on this mainboard. Please refer to the following procedure to install the device drivers: (you don't have to install these device drivers for KT133TXL and KT133BXL mainboards.)

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

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

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

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

C. Install the device driver for the hardware monitoring:

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

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

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

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

4. AWARD BIOS SETUP

4.1 GETTING STARTED

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

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

" Press **DEL** to enter SETUP "

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

4.2 MAIN MENU

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

| | |
|--------------------------------|---|
| Standard CMOS Setup | 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 | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> : Select Item |
| F10 : Save & Exit Setup | (Shift)F2 : Change Color |
| Time, Date, Hard Disk Type ... | |

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

4.3 CONTROL KEYS

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

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

Enter : Select the desired item.

F1 : Display the help screen for the selected feature.

ESC : Exit to the previous screen.

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

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

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

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

4.4 STANDARD CMOS SETUP

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

| | |
|---|---|
| Date (mm : dd : yy) : Tue, Aug 1 2000 | Item Help |
| Time (hh : mm : ss) : 16 : 03 : 33 | Menu Level |
| IDE Primary Master Press Enter 1316 MB | Change this day, month, Year and century |
| IDE Primary Slave Press Enter None | |
| IDE Secondary Master Press Enter None | |
| IDE Secondary Slave Press Enter None | |
| Drive A 1.44, 3.5 in. | |
| Drive B None | |
| Video EGA/VGA | |
| Halt On All, But Keyboard | |
| Base Memory 640K | |
| Extended Memory 130048K | |
| Total Memory 131072K | |

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 the "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.

Video:

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

Halt On:

This selection field allows you to decide whether the PC system will be halted when the system board detects any error during Power On Self Test.

Base Memory / Extended Memory / Total Memory

These selection fields show you the capacity of memory which is installed in the PC system, please refer to the following for the details:

to decide whether the PC system will be halted when the system board detects any error during Power On Self Test.

Base Memory :This field shows you the memory installed below the conventional 1MB space.

Extended Memory :This field shows you the memory installed above the 1MB space.

Total Memory :This field shows you the total memory installed in the PC system.

4.5 ADVANCED BIOS FEATURES

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

Advanced BIOS Features

| | | Item Help |
|-----------------------------|------------|--|
| Virus Warning | Disabled | |
| CPU Internal Cache | : Enabled | |
| External Cache | : Enabled | Menu Level  |
| CPU L2 Cache ECC Checking | : Enabled | |
| Quick Power On Self Test | : Enabled | Allows you to choose |
| First Boot Device | : Floppy | The Virus warning |
| Second Boot Device | : HDD-0 | Feature for IDE Hard |
| Third Boot Device | : LS120 | Disk boot sector |
| Boot Other Device | : Enabled | Protection. If this |
| Swap Floppy Drive | : Disabled | Function is enabled |
| Boot Up Floppy Seek | : Enabled | And some attempt to |
| Boot Up NumLock Status | : On | Write data into this |
| Gate A20 Option | : Fast | Area, BIOS will show a |
| Typematic Rate Setting | : Disabled | Warning message on |
| Typematic Rate (Chars/Sec) | : 6 | Screen and alarm beep. |
| Typematic Delay (Msec) | : 250 | |
| Security Option | : Setup | |
| PS/2 mouse function control | : Enable | |
| OS Select For DRAM > 64MB | : Non-OS2 | |
| HDD S.M.A.R.T Capability | : Disabled | |
| Video BIOS Shadow | : Enabled | |
| C8000-CBFFF Shadow | : Disabled | |
| CC000-CFFFF Shadow | : Disabled | |
| D0000-D3FFF Shadow | : Disabled | |
| D4000-D7FFF Shadow | : Disabled | |
| D8000-DBFFF Shadow | : Disabled | |
| DC000-DFFFF Shadow | : Disabled | |

Virus Warning

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

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

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

CPU Internal Cache / External Cache :

These fields allow you to turn on or turn off the Level 1 and Level 2 cache that built inside the AMD K7 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.

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 Boot Device :

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

Swap Floppy Drive :

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

Boot Up Floppy Seek :

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

Boot Up NumLock Status

When enabled, the NumLock LED will be lightened after the POST.

Security Option

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

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

PS/2 mouse function control

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

OS Select For DRAM > 64MB

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

HDD S.M.A.R.T Capability

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

Video BIOS / XXXX-XXXX Shadow

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

4.6 ADVANCED CHIPSET FEATURES

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Advanced Chipset Features

| | Disabled | Item Help |
|-------------------------|----------|--------------|
| DRAM Timing By SPD | Disabled | |
| DRAM Clock | 100MHz | |
| SDRAM Cycle Length | 3 | Menu Level > |
| Bank Interleave | Disabled | |
| Memory Hole | Disabled | |
| PCI Master Pipeline Req | Enabled | |
| P2C/C2P Concurrency | Enabled | |
| Fast R-W Turn Around | Disabled | |
| System BIOS Cacheable | Disabled | |
| Video RAM Cacheable | Disabled | |
| AGP Aperture Size | 64M | |
| AGP 4X Mode | Disabled | |
| AGP Driving Control | Auto | |
| AGP Driving Value | DA | |
| AGP Fast Write | Disabled | |
| K7 CLK_CTL Select | Optimal | |
| On Chip USB | Enabled | |
| USB Keyboard Support | Disabled | |
| OnChip Sound | Auto | |
| OnChip Modem | Auto | |
| CPU to PCI Write Buffer | Enabled | |
| PCI Dynamic Bursting | Enabled | |
| PCI Master 0 WS Write | Enabled | |
| PCI Delay Transaction | Enabled | |
| PCI #2 Access #1 Retry | Enabled | |
| AGP Master 1 WS Write | Disabled | |
| AGP Master 1 WS Read | Disabled | |

This section allows you to configure the system based on the features of the VIA KT133 chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. The default settings have been chosen because they provide the best operating conditions for your system. So please do not change the default setting unless you have the enough technical background.

DRAM Timing By SPD

When enabled, the system BIOS will read the DRAM parameters from the SPD chip on the DIMM module and set the DRAM timing automatically.

DRAM Clock

This field allows you to select the DRAM access speed to control the memory performance.

DRAM Cycle Length

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified unless you have the technical background.

BANK Interleave

This field allows you to select how many bank of DRAM is installed on the mainboard so that the system BIOS will be able to adjust the SDRAM interleave access mode to optimize the SDRAM performance.

Memory Hole

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

Enabled: The memory space between 15 ~ 16MB will be remapped for ISA cards.

Disabled: No memory will be remapped.

PCI Master Pipeline Req

This field allows you to enable or disable the PCI pipeline access.

P2C/C2P Concurrency

This selection field allows you to enable/disable the PCI to CPU, CPU to PCI concurrency.

Fast R-W Turn Around

This item controls the DRAM timing. It allows you to enable/ disable the fast read/write turn around.

System BIOS Cacheable

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

Video RAM Cacheable

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

AGP Aperture Size

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

AGP- 4X Mode

This item allows you to enable / disable the AGP-4X Mode. Please make sure your AGP card supports the 4X AGP display mode before you can select *Enable*.

AGP Driving Control

This item allows you to adjust the AGP driving force. Choose *Manual* to key in a AGP Driving Value in the next selection. Basically, "Auto" is recommended to avoiding any error in your system.

AGP Driving Value

This item allows you to adjust the AGP driving force.

AGP Fast Write

When *Enabled*, writes to the AGP(Accelerated Graphics Port) are executed with fast writing mode.

K7 CLK_CTL Select

This field is used to specify the clock control for ramp rate. The choice selectable in this field will be Default and Optimal. The selection in the field is highly depend on the CPU ratio.

OnChip USB

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

USB Keyboard Support

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

OnChip Sound

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

OnChip Modem

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

CPU to PCI Write buffer

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

PCI Dynamic Bursting

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

PCI Master 0 WS Write

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

PCI Delay Transaction

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

PCI#2 Access #1 Retry

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

AGP Master 1 WS Write

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

AGP Master 1 WS Read

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

4.7 INTEGRATED PERIPHERALS

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Integrated Peripherals

| | | Item Help |
|-------------------------|----------------|--------------|
| On-Chip IDE Chanel0 | Enabled | |
| On-Chip IDE Chanel1 | Enabled | |
| IDE Prefetch Mode | Enabled | Menu Level ➤ |
| Primary Master PIO | Auto | |
| Primary Slave PIO | Auto | |
| Secondary Master PIO | Auto | |
| Secondary Slave PIO | Auto | |
| Primary Master UDMA | Auto | |
| Primary Slave UDMA | Auto | |
| Secondary Master UDMA | Auto | |
| Secondary Slave UDMA | Auto | |
| Init Display first | PCI Slot | |
| IDE HDD Block Mode | Enabled | |
| Onboard FDD Controller | Enabled | |
| Onboard Serial Port 1 | Auto | |
| Onboard Serial Port 2 | Auto | |
| UART 2 Mode | Standard | |
| IR Function Duplex | Half | |
| TX, RX inverting enable | No, Yes | |
| Onboard Parallel Port | 378/IRQ7 | |
| Onboard Parallel Mode | Normal | |
| ECP Mode Use DMA | 3 | |
| Parallel Port EPP Type | EPP 1.9 | |
| Onboard Legacy Audio | Enabled | |
| Sound Blaster | Disabled | |
| SB I/O Base Address | 220H | |
| SB IRQ Select | IRQ 5 | |
| SB DMA Select | DMA 1 | |
| MPU-401 | Enabled | |
| MPU-401 I/O Address | 330-333H | |
| Game Port (200-207H) | Enabled | |

OnChip IDE Channel 0/1

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the primary IDE interface. Select Disabled to deactivate this interface.

IDE Prefetch Mode

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

Primary/Secondary, Master/Slave PIO

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

Primary/Secondary, Master/Slave UDMA

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

Init Display First

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

IDE HDD Block Mode

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

Onboard FDD Controller

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

Onboard Serial Port 1/Port 2

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

UART 2 Mode

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

IR Function Duplex

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

TX,RX inverting enable

This item allows you to enable the TX, RX inverting which depends on different H/W requirement. This field is not recommended to change its default setting for avoiding any error in your system.

Onboard Parallel Port

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

Onboard Parallel Port Mode

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

ECP Mode Use DMA

This item allows you to select a DMA channel for the parallel port for use during ECP mode.

EPP Mode Select

This field allows you to select EPP port type between 1.7 or 1.9.

Onboard Legacy Audio

This field controls the onboard legacy audio.

Sound Blaster

SB I/O Base Address

SB IRQ Select

SB DMA Select

MPU-401

MPU-401 I/O Address

Game Port (200-207H)

4.8 POWER MANAGEMENT SETUP

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Power Management Setup

| | | |
|--------------------|-----------------|--------------|
| ACPI Function | Disabled | Item Help |
| Power Management | Press Enter | Menu Level ➤ |
| ACPI Suspend Type | S1 (POS) | |
| PM Control By APM | Yes | |
| Video Off Option | Suspend -> off | |
| Video Off Method | Blank Screen | |
| Modem Use IRQ | 3 | |
| Soft-Off by PWRBTN | Instant – off. | |
| Wake-Up Events | Press Enter | |

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

ACPI function

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

Power Management:

When click the "Enter" key on this selection field, the following setup screen will be triggered:

| | | |
|------------------|--------------------|--------------|
| Power Management | User Define | Item Help |
| HDD Power Down | Disabled | Menu Level ➤ |
| Doze Mode | Disabled | |
| Suspend Mode | Disabled | |

Power Management

| | |
|-------------------|---|
| Disable | No power management. Disable all power saving 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 -- ONLY AVAILABLE FOR SL CPU . 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. |

HDD Power Down

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

Doze Mode

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

Suspend Mode

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

PM Control by APM

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

Video Off Option

When enabled, this feature allows the VGA adapter to operate in a power saving mode.

| | |
|-----------|---|
| Always On | Monitor will remain on during power saving modes. |
|-----------|---|

| | |
|-------------------|---|
| Suspend --> Off | Monitor blanked when the systems enters the Suspend mode. |
| Susp,Stby --> Off | Monitor blanked when the system enters either Suspend or Standby modes. |
| All Modes --> Off | Monitor blanked when the system enters any power saving mode. |

Video Off Method

This determines the manner in which the monitor is blanked.

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

MODEM Use IRQ

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

Soft-Off by PWRBTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has “hung.”.

Suspend Type: (Default setting: "Stop Grant")

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

Wake Up Events:

When click the "Enter" key on this selection field, the following setup screen will be triggered:

| | | |
|--------------------------|-------------|--------------|
| VGA | OFF | Item Help |
| LPT & COM | LPT / COM | Menu Level ➤ |
| HDD & FDD | ON | |
| PCI Master | OFF | |
| Wake Up On LAN/Ring | Disabled | |
| RTC Alarm Resume | 0 | |
| Date (of Month) | 0 | |
| Resume Time (hh:mm:ss) | 0 0 0 | |
| Primary INTR | ON | |
| IRQs Activity Monitoring | Press Enter | |

VGA

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

LPT & COM

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

HDD & FDD

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

PCI Master

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

Wake Up On LAN/Ring

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

RTC Alarm Resume

When enabled, you can use the following two fields to select the time and date to wake up the PC system from power saving mode.

Date (of Month)

Resume Time (hh:mm:ss)

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

IRQs Activity Monitoring

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

When set *On*, activity will neither prevent the system from going into a power management mode nor awaken it.

| IRQ3 (COM 2) | Enabled | Item Help |
|---------------------|----------|--------------|
| IRQ4 (COM 1) | Enabled | Menu Level ➤ |
| IRQ5 (LPT 2) | Enabled | |
| IRQ6 (Floppy Disk) | Enabled | |
| IRQ7 (LPT 1 Disk) | Enabled | |
| IRQ8 (RTC Alarm) | Disabled | |
| IRQ9 (IRQ2 Redir) | Disabled | |
| IRQ10 (Reserved) | Disabled | |
| IRQ11 (Reserved) | Disabled | |
| IRQ12 (PS/2 Mouse) | Enabled | |
| IRQ13 (Coprocessor) | Enabled | |
| IRQ14 (Hard Disk) | Enabled | |
| IRQ15 (Reserved) | Disabled | |

4.9 PNP/PCI CONFIGURATION

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 PnP/PCI Configuration

| | | |
|--------------------------|---------------|--------------|
| PnP OS Installed | : No | Item Help |
| Reset Configuration Data | : Disabled | |
| Resources Controlled By | : Auto (ESCD) | Menu Level > |
| x IRQ Resources | : Press Enter | |
| x DMA Resources | : Press Enter | |
| PCI/VGA Palette Snoop | : Disabled | |
| Assign IRQ For VGA | : Enabled | |
| Assign IRQ for USB | : Enabled | |

Select yes if you are Using a plug and play Capable operating system. Select No if you need the BIOS to configure non-boot device.

PNP OS Installed

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

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.

Resource controlled by

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

IRQ Resources

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

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

DMA Resources

When resources are controlled manually, assign each system DMA channel as one of the following types, depending on the type of device using the interrupt.

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

PCI/VGA Palette Snoop

Leave this field at *Disabled* all the time

Assign IRQ For VGA/USB:

Enable/Disable to assign IRQ for USB/VGA

4.10 PC HEALTH STATUS

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PC Health Status

| | | |
|-----------------------|------------|--------------|
| Current CPU Temp. | 40°C/104°F | Item Help |
| Current System Temp. | 22°C/71°F | |
| Current CPUFAN1 Speed | 5080 RPM | Menu Level ▶ |
| Current CPUFAN2 Speed | 0 RPM | |
| Vcore | 1.83 V | |
| 2.5V | 2.57 V | |
| 3.3V | 3.38 | |
| 5V | 4.92 V | |
| 12V | 12.48V | |

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

Current CPU Temp.

This field will show you the current CPU temperature

Current System Temp.

This field will show you the current temperature inside the PC system.

Current CPUFAN1 Speed

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

Current CPUFAN2 Speed

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

Vcore

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

4.11 FREQUENCY/VOLTAGE CONTROL

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Frequency/Voltage Control

| | | |
|--------------------------|----------|--------------|
| Auto Detect DIMM/PCI Clk | Disabled | Item Help |
| Spread Spectrum | Disabled | |
| Clock By Slight Adjust | 100 | Menu Level > |

Auto Detect DIMM/PCI Clk

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

Spread Spectrum

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

Clock By Slight Adjust

You can use this field to adjust the front side system bus clock speed of the CPU. The adjustment of the clock frequency in this field is +/- 1MHz increment so you can fine tune the system performance.

4.12 LOAD OPTIMIZED DEFAULTS

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| | |
|--------------------------------|---|
| 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 | Save & Exit Setup |
| PNP/PCI Configuration | Exit Without Saving |
| PC Health Status | |
| ESC : Quit | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> : Select Item |
| F10 : Save & Exit Setup | |
| Time, Date, Hard Disk Type ... | |

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

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

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

4.13 SET SUPERVISOR PASSWORD

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| | |
|--|--------------------------------|
| 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 | 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 "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 | 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 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 section. 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

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| | |
|--|------------------------------|
| 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 | 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 ... | |

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.

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.

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 KT133TX mainboard.
5. Select the BIOS and start to down load. (Suppose the file name is **KT133I.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. (**KT133I.BIN** and **AWDFLASH.EXE**).

Step 3. Start to update the system BIOS:

1. Have the diskette which we made in Step 2 inserted in the floppy disk drive..
2. Start the PC system and click on the “del” key to start the BIOS setup program. Select the “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 “KT133I.BIN” and then click the “ENTER” key.
6. When you see the message - Do you want to save BIOS (Y/N)?. you may choose “Y” to have the onboard BIOS copied in to the floppy diskette. If you do not want to make the backup copy of the onboard BIOS, simply chose “N” and start to update the system BIO. (if you want to make a backup copy of the onboard system BIOS, then select “Y” and then give a file name to the backup copy.)
7. You will see from the screen whether you are going to start the BIOS update. If you are sure that the new BIOS is correct and nothing is wrong, chose “Y” to start the BIOS update. (you can chose “N” and terminate the BIOS update program.)
8. During the BIOS updating, you will see the “Programming Flash Memory” message display on the screen. (***IMPORTANT: you can not stop or reset the PC system when the BIOS is updating.***)
9. When the BIOS update is completed, remove the floppy diskette from the floppy disk drive and restart the PC system..
10. When you see the PC system start to boot, it indicate that the BIOS update is successful.
11. Click the “del” key during the Power On Self Test to trigger the BIOS setup program..
12. Chose "Load 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.