

# AU13

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## MAINBOARD MANUAL

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## Notice

### Handling Precautions

#### Warning:

1. Static electricity may cause damage to the integrated circuits on the motherboard. Before handling any motherboard outside of its protective packaging, ensure that there is no static electric charge in your body.
2. There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or an equivalent type recommended by the manufacturer.
3. Discard used batteries according to the manufacturer's instructions.
4. Never run the processor without the heatsink properly and firmly attached. PERMANENT DAMAGE WILL RESULT!

Observe the following basic precautions when handling the motherboard or other computer components:

- Wear a static wrist strap which fits around your wrist and is connected to a natural earth ground.
- Touch a grounded or anti-static surface or a metal fixture such as a water pipe.
- Avoid contacting the components on add-on cards, motherboards, and modules with the *golden fingers* connectors plugged into the expansion slot. It is best to handle system components by their mounting brackets.

The above methods prevent static build-up and cause it to be discharged properly.

### Trademark

*All trademarks mentioned in this manual are registered properly of the respective owners.*

### Handling Precautions

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## Overview

The new 1stMainboard® AU13® is an ATX sized motherboard supporting the latest generation of AMD® Athlon® and Duron® processors at industry leading speeds.

By utilizing DDR ( Double Data Rate ) transfer rate the 100/133 MHz system bus effectively reaches Front Side Bus speeds of 200/266/333 MHz. The board provides users with an ATA133 data transaction for hard drives and has 3 PC1600/2100/2700/3200 64-bit DDR DIMMs for up to 3 GB.

The optional IEEE 1394 feature allows users to connect up to 63 devices to the serial bus on a computer system. The board is equipped with 2 dual channeled enhanced PCI bus master IDE connectors.

The board is based around the high performance nVIDIA nForce2 SPP (Crush 18D)® as North Bridge and the MCP-T AGPset® as South Bridge. Its AGP functions supported AGP v3.0 compliant and the most robust 3D games with software environments. The AGP slot allows 1.5/0.8 volt AGP 4X/8X card only and Maximum AGP interface bandwidth 2.1 GB/s.

The board features onboard 5.1-channel audio port that linked with an optional A73 daughter board and bracket and optional onboard LAN function audio port.

The serial ATA feature of AU13 replaces the standard parallel ATA physical storage interface and allows future enhancements to the computing platform. It completely software compatible with parallel ATA, requiring no modification to your operating system. The onboard serial ATA feature includes RAID function (level 0, 1) to provide you with a more efficient storage backup. For more detail, please read the help file in the accompanied driver CD.

## Package Checklist

If you discover any item below was damaged or lost, please contact your vendor.

- ☒ The mainboard      ☒ This user manual
- ☒ FDD cable              ☒ Drivers CD      ☒ ATA-66/100 cable
- ☒ IEEE 1394 cable      ☒ I/O shielding
- ☐ One A73 bracket with cable (optional)
- ☐ One serial ATA cable and one power cable (optional)



### IMPORTANT: AMD CPU HEAT SINK INSTALLATION

*Be ware finish heat sink install. Before you boot system, please check the heat sink is complete contact with die of CPU.*

The poor contact will bring about over heat, it may damage your processor.

It is strongly recommended that at least a 250-watt ATX power pupply be used for this motherboard. Make sure that your ATX power supply can supply at least 20 amperes on the +5-Volt lead and 1A on the +5-Volt standby lead (+5VSB). Your system may become unstable / unreliable and may experience difficulty in powering up if your power supply is inadequate.

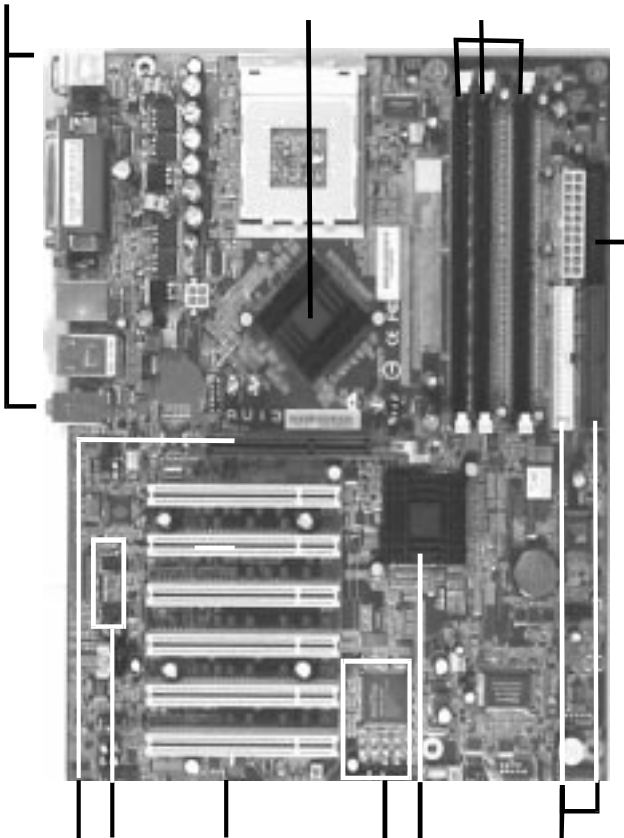
## The AU13 Mainboard

Integrated  
I/O Connectors

nForce2 SPP  
(North Bridge)

3 DDR SDRAM  
Sockets

Chapter 1  
Overview



AGP  
Slot

2 IEEE  
1394  
Ports

6 PCI  
Slots

2 SATA  
Ports

MCP-T  
(South  
Bridge)

Primary IDE/  
Secondary IDE/  
Floppy  
Connector

## Main Features

### ■ Processor Supported

Supports 462-pin SocketA for AMD Athlon XP and Duron processors with 200/266/333MHz Front Side Bus

- Athlon XP (1500+ to 2800+) @ 266/333MHz Front Side Bus,
- Duron (800 to 1.3GHz) @ 200MHz Front Side Bus

### ■ Chipset

nVIDIA nForce2 SPP (Crush 18D) +MCP-T AGPset

### ■ Main Memory

Three 184-pin DDR DIMM sockets for 64-bit, Unbuffered, Single/Double-side and Non-ECC DDR-200/266/333/400 DIMMs

- ◆ Supports 128-bit dual channel memory architecture
- ◆ Supports up to 3GB memory size
- ◆ Supports complete FSB/Memory and FSB/AGP Asynchronous scheme for over-clocking

### ■ BIOS

4Mb Flash EEPROM with Award BIOS

- ACPI v2.0 compliant
- S3 (Suspend to DRAM) sleep-state support
- SMBIOS (System Management BIOS) v2.2 compliant
- Supports Power failure recovery
- Capable to waked the computer up from specific states by LAN, Power switch, PME#, RTC alarm, USB, Modem ring on COM#1...



## ■ Onboard PCI Devices

- ◆ 1394 --> Embedded 1394 controller with [Agere FW803](#) for 3 ports solution
  - IEEE-1394a compliant with up to 400Mbps bandwidth
- ◆ LAN --> Embedded [3COM 3C920B-EMB](#) 10/100Mbps Fast Ethernet controller
- ◆ IDE --> Embedded IDE controller supports 2 IDE ports for up to 4 IDE devices
  - Supports ATA-133 with up to 133MB bandwidth

## ■ Legacy IO Controller

- ◆ [Winbond W83627HF](#) LPC IO controller with floppy, printer, serial and CIR/SIR interface

## ■ Audio

- ◆ [5.1](#) channel audio with analog and digital output using [ALC650E](#) AC97 CODEC
  - AC97 v2.2 compliant
  - In 5.1-CH mode, supports Center/Subwoofer (Pink), Rear out (Blue), Front out (Green) at rear panel
  - Supports CD-In, Aux-In interface
  - Supports Line-out and Mic-In for front panel

## ■ Peripheral Interfaces

- ◆ PS/2 keyboard and mouse ports (at rear panel)
- ◆ [One](#) Parallel (printer) port (at rear panel)

- ♦ **One** RJ45 LAN connector (at rear panel) (Optional)
- ♦ **Two** Serial ports (at rear panel)
- ♦ **One** floppy drive interface

### ■ Front Panel Controller

- ♦ Supports Reset & Soft-Off switches
- ♦ Supports HDD & Power LEDs
- ♦ Supports PC speaker

### ■ Expansion Slots

- ♦ **One** AGP slots supporting 1.5V/0.8V **4X/8X**-AGP cards
  - AGP v3.0 compliant
- ♦ **Six** PCI bus sockets with Bus Master support
  - PCI v2.3 compliant

# Installation Procedures

The mainboard has several user-adjustable jumpers on the board that allow you to configure your system to suit your requirements. This chapter contains information on the various jumper settings on your mainboard.

To set up your computer, you must complete the following steps:

- Step 1 - **Set system jumpers**
- Step 2 - **Install memory modules**
- Step 3 - **Install the Central Processing Unit (CPU)**
- Step 4 - **Install expansion cards**
- Step 5 - **Connect ribbon cables, cabinet wires, and power supply**
- Step 6 - **Set up BIOS software**
- Step 7 - **Install supporting software tools**



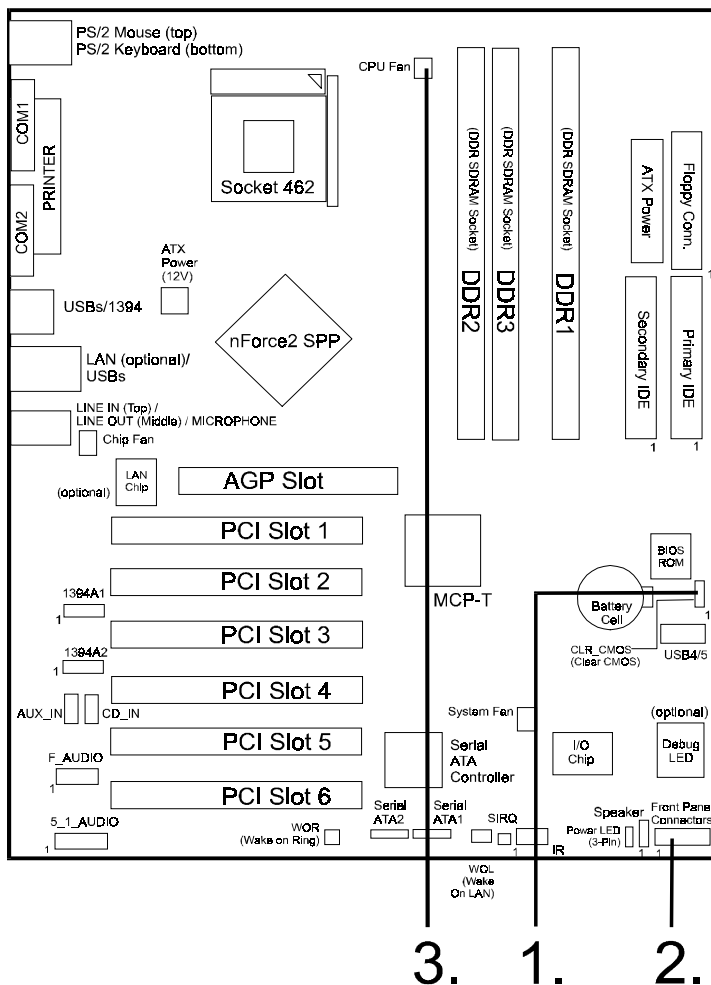
**WARNING:** Excessive torque may damage the mainboard. When using an electric screwdriver on the mainboard, make sure that the torque is set to the allowable range of 5.0 ~ 8.0kg/cm.

Mainboard components contain very delicate Integrated Circuit (IC) chips. To prevent static electricity from harming any of the sensitive components, you should follow the following precautions whenever working on the computer:

1. Unplug the computer power cord when working on the inside.
2. Hold components by the edges and try not to touch the IC chips, leads, or circuitry.
3. Wear an anti-static wrist strap which fits around the wrist.
4. Place components on a grounded anti-static pad or on the bag that came with the component whenever the components are separated from the system.

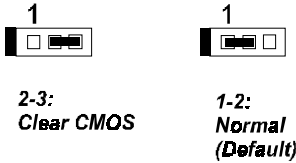
## Quick Reference (from Page 2-2 to 2-3)

### Mainboard Layout

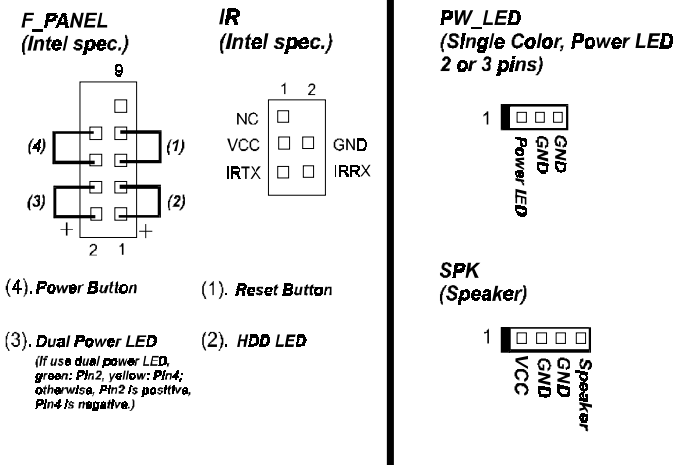


\* When link to Line\_Out jack, please use a speaker that with amplifier.

## 1). Clear CMOS



## 2). Front Panel Block Cable Connection



## 3). CPU Fan Installation

This connector is linked to the CPU fan. Without sufficient air circulation, the CPU may overheat resulting in damage to both the CPU and the mainboard.

**Damage may occur to the mainboard and/or the CPU fan if these pins are used incorrectly. These are not jumpers, do not place jumper caps over these pins.**

## 1). Set System Jumpers



**NOTE:** Users are not encouraged to change the jumper settings not listed in this manual. Changing the jumper settings improperly may adversely affect system performance.

### *Clear CMOS: CLR\_CMOS*

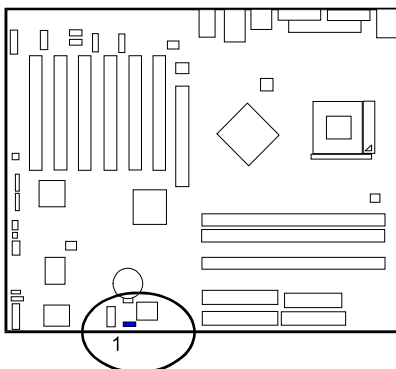
- (1) Turn off your computer
- (2) Place the jumper cap onto the pinpair 2-3 at least 6 seconds to clear CMOS
- (3) Place the jumper cap onto the pinpair 1-2 to Normal
- (4) Turn on your computer until CMOS checksum error appears
- (5) Hold down the **Delete** key when boots
- (6) Enter the BIOS Setup to re-enter user preferences, save it and exit.



2-3:  
Clear CMOS

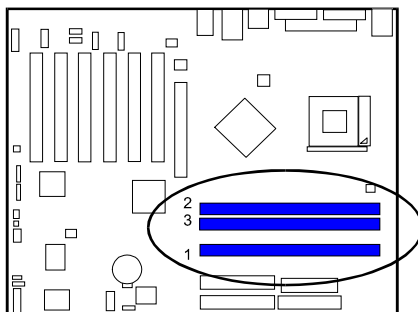


1-2:  
Normal  
(Default)



## 2). Install Memory Modules

1. Locate DDR DIMM sockets on the mainboard.
2. Install DDR DIMM straight down into the socket 1 using both hands, then socket 2, and so forth.
3. The clip on both ends of the socket will close up to hold the DDR DIMM in place when the DDR DIMM reaches the socket bottom.



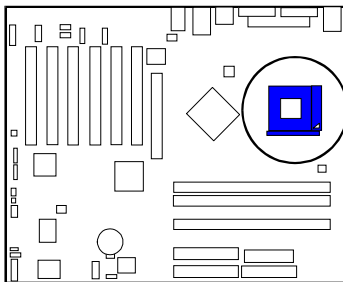
**NOTE:** For better system performance, it is suggested that DIMM installing starts from DIMM Socket 1.

Press the clips with both hands to remove the DIMM.

### 3). Install the CPU

The mainboard has built-in Switching Voltage Regulator to support CPU Vcore autodetection. That is, It has the ability to detect and recognize the CPU voltage, clock, ratio and enables users to set up the CPU frequency from the BIOS Setup Screen. Users can adjust the frequency through *Frequency / Voltage Control* of the BIOS Setup Screen.

When you install the CPU on this mainboard, please use a power supply that designed and manufactured only for your CPUs use. Your CPU fansink combined with its retention module must be completely closed and firmly attached on the top of the processor.



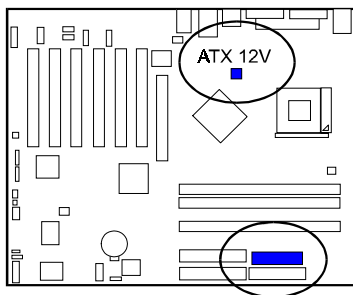
To install the CPU, do the following:

1. Lift the lever on the side of the CPU socket.
2. Handle the chip by its edges and try not to touch any of the pins.
3. Place the CPU in the socket. Do not force the chip. The CPU should slide easily into the socket.
4. Swing the lever to the down position to lock the CPU in place.
5. Place the cooling fan with heatsink on top of the installed CPU.



**NOTE:** Users The CPU installing procedures should be:

1. Insert the CPU (with its fansink and retention module) on the socket.
  2. Connect the 4-pin plug of the ATX\_12V power supply.
  3. Connect the 20-pin plug of ATX\_PWR power supply.
- To remove the processor, please do it in reverse order.





## CPU Overheating Protection

This board has CPU Overheating Protection when the temperature of CPU is overheating. This board supports automatically shutdown (to remove power) circuit when the CPU has reached the temperature of approximately 110°C. Meanwhile the speaker will sustained beep and the system will not be to power on. This protection is designed by hardware, you do not need to do the BIOS setup.

To power on your system normally, we recommend you to confirm the following steps:

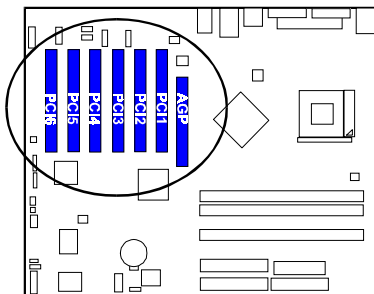
- Step1:** Unplug in the ATX power core (or turn off ATX power supply switch).
- Step2:** Please wait the beep to stop then plug in the ATX power cord again (or turn on ATX power switch) to turn on your system.



**NOTE:** The CPU Overheating Protection will function only when CPU has thermal diode design.

## 4). Install Expansion Cards

This section describes how to connect an expansion card to one of your system expansion slots. Expansion cards are printed circuit boards that, when connected to the mainboard, increase the capabilities of your system. For example, expansion cards can provide video and sound capabilities. The mainboard features one AGP and six PCI bus expansion slots.





**CAUTION:** Make sure to unplug the power supply when adding or removing expansion cards or other system components. Failure to do so may cause severe damage to both the mainboard and expansion cards.

Always observe static electricity precautions.

Please read Handling Precautions at the start of this manual.

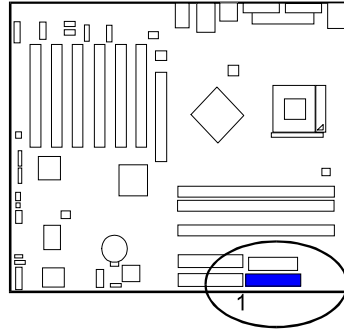
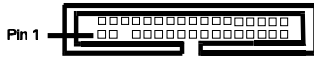
To install an expansion card, follow the steps below:

1. Remove the computer chassis cover and select an empty expansion slot.
2. Remove the corresponding slot cover from the computer chassis. Unscrew the mounting screw that secures the slot cover and pull the slot cover out from the computer chassis. Keep the slot cover mounting screw nearby.
3. Holding the edge of the peripheral card, carefully align the edge connector with the expansion slot.
4. Push the card firmly into the slot. Push down on one end of the expansion card, then the other. Use this rocking motion until the add-on card is firmly seated inside the expansion slot.
5. Secure the board with the mounting screw removed in Step 2. Make sure that the card has been placed evenly and completely into the expansion slot.
6. Replace the computer system cover.
7. Setup the BIOS if necessary.
8. Install the necessary software drivers for the expansion card.

## 5). Connect Devices

### *Floppy Diskette Drive Connector*

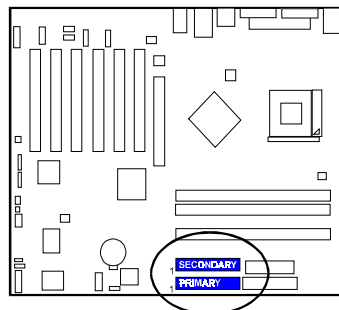
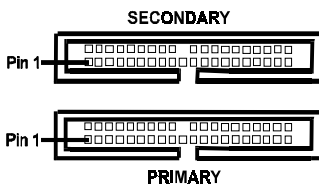
This connector provides the connection with your floppy disk drive.  
The red stripe of the ribbon cable must be the same side with the Pin 1.



**Chapter 2**  
**Installation**  
**Procedures**

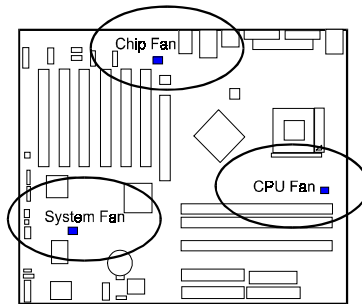
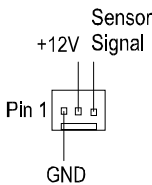
### *IDE Device Connectors*

The two connectors, PRIMARY and SECONDARY, are used for your IDE hard disk drives, CD drives, LS-120 drives, or IDE ZIP drives. The red stripe of the ribbon cable must be the same side with the Pin 1.



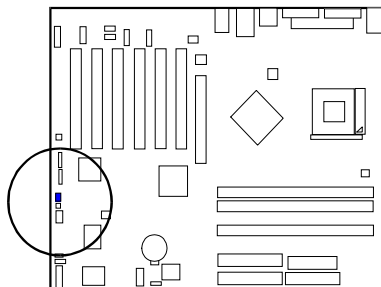
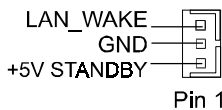
*Fan Connectors*

The two connectors, CPU Fan and System Fan are linked to the CPU fan, case fan, respectively. Chip Fan is connected with the cooling fan of North Bridge.



*Wake-On-Lan Connector*

This 3-pin connector is reserved for an NIC (Network Interface Card) to wake the system from power saving mode.



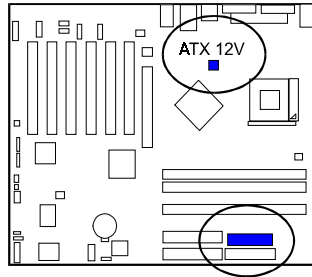
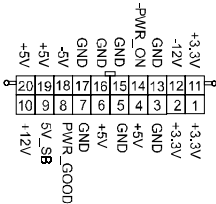
## Power Connectors

The 20-pin male block connector is connected to the ATX power supply. The 4-pin male block connector is for the ATX\_12V power use. All two connectors are linked with your ATX power supply. The plug from the power supply will only insert in one orientation because of the different hole sizes. Find the proper orientation and push down firmly making sure that the pins are aligned.

ATX\_12V

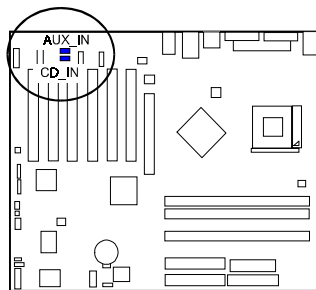
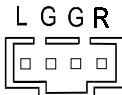


ATX\_PWR



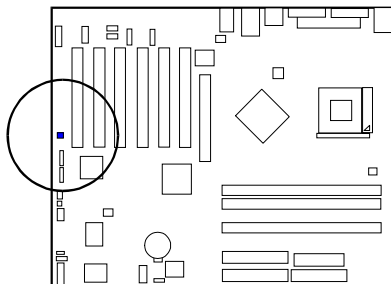
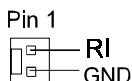
## CD Audio-In Connectors

The connectors, CD\_IN and AUX\_IN, are for CD-ROM drive audio analog input use.



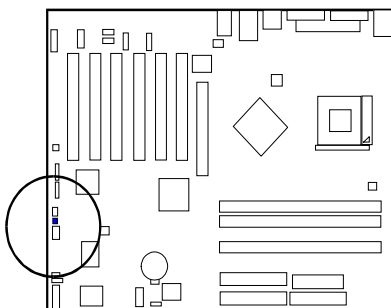
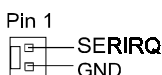
### ***Wake-On-Ring Connector***

The 2-pin connector allows you to link with your modem card which outputs a WOR signal; the system can be turned on from the power-off status by a remote phone call via the modem card.



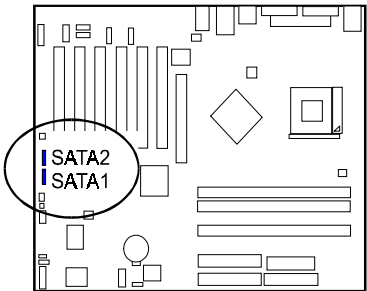
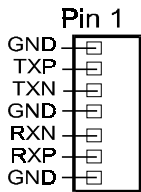
### ***SIRQ Connector***

The 2-pin connector provides with a connection for some add-on cards that require a serial IRQ linkage to the mainboard for the system operation use.



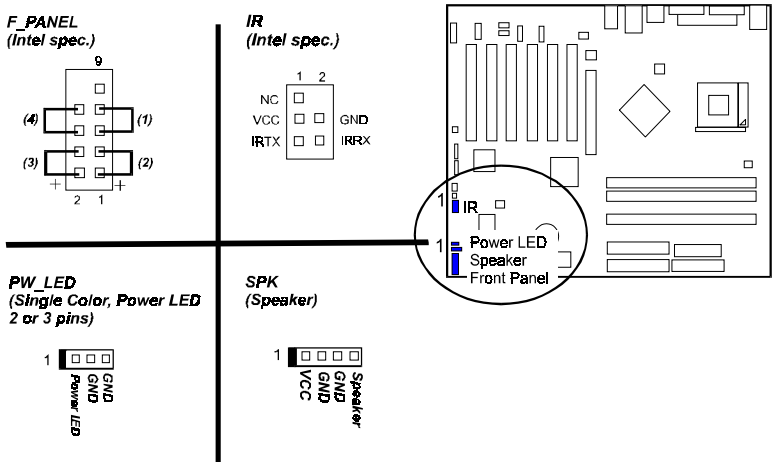
### ***Serial ATA Connectors***

The 2 optional connectors provide you with the connection two serial ATA devices that confirm to the Serial ATA specification. Serial ATA supports all ATA and ATAPI devices, including high capacity removable devices, optical devices, tape storage devices, and zip devices. The connectors also allows two RAID hard disks for level 0 and 1 RAID functions.



**Front Panel Block and IR Connector**

This block connector includes the connectors for linking with Power LED (2 pins or 3 pins), HDD LED, power/sleep button, power/sleep LED, reset button on the front panel of the system case. Please identify polarities of plug wires for the case speaker and LEDs. Please ask vendor about this information when you buy them and install the system by yourself. The plug wires polarities of these buttons will not affect the function.



(1) **Reset Switch** is connected to the reset button. Push this switch to reboot the system instead of turning the power button off and on.

(2) **HDD LED** is connected to the IDE device indicator. This LED will blink when the hard disk drives are activated.

(3) **Power /Sleep LED** (2-Pin/3-Pin)

Please refer to the tables below for the representations of LED states.

Single-Color (2, 3 Pins)

LED	Meaning	State
Off	Off	S4/S5
On	Full On	S0
Flash	Sleep	S1/S3

Dual-Color

LED	Meaning	State
Off	Off	S4/S5
Green	Full On	S0
Yellow	Sleep	S1/S3

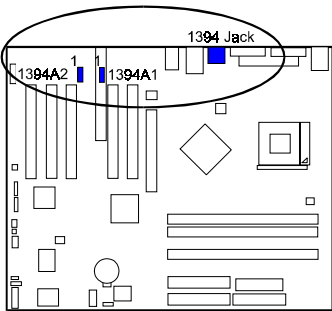
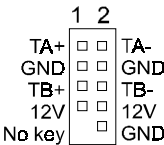
(4) **Power Button** is connected with power button. Push this switch allows the system to be turned on and off rather than using the power supply button.

**IR** is a pinheader that is used for linking with your ID device to allow transmission of data to another system that also supports the IR feature.

**Speaker** is a pinheader for connecting to speaker.

IEEE 1394 Connectors

400Mbps 1394a (FireWire) Connectors 1394A1 with 1394A2 (via 1394 power cable and data cable) plus one 1394 jack enable you to connect with external IEEE 1394 devices that conform to the IEEE 1394 specification.

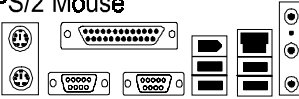




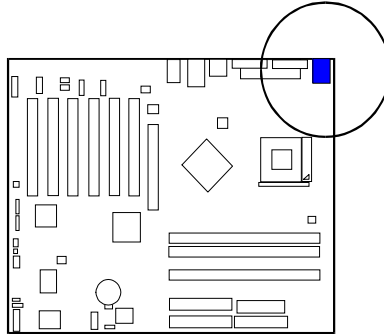
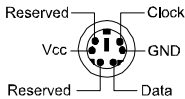
## PS/2 Keyboard and Mouse Connector

These two 6-pin female (PS/2 keyboard is purple color and PS/2 mouse is green color) connectors are used for your PS/2 keyboard and PS/2 mouse.

PS/2 Mouse



PS/2 Keyboard

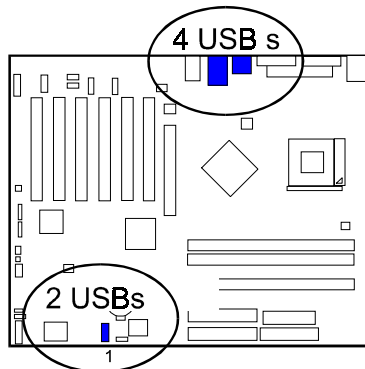
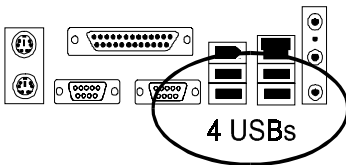


### CAUTION:

Please make sure the USB cable has the same pin assignment. The different pin assignment may be caused damage of system. If you need the USB cable, please contact our retailer.

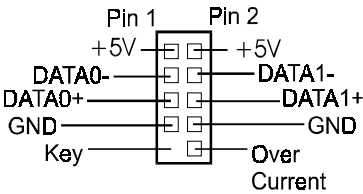
## Universal Serial Bus Connectors

These four black connectors integrated on the edge of the board are used for linking with USB2.0 peripheral devices. This board also provides a connector USB4/5 for linking with the two extra USB2.0 ports (pinheader). They can link with front panels of some system cases.



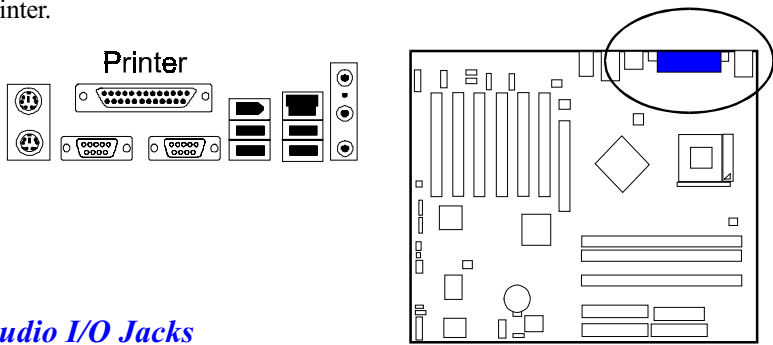
**NOTE:** Please make sure the USB cable has the same pin assignment. The different pin assignment may be caused damage of system. If you need the USB cable, please contact our retailer.

The figure below is the pin assignment of the USB4/5.



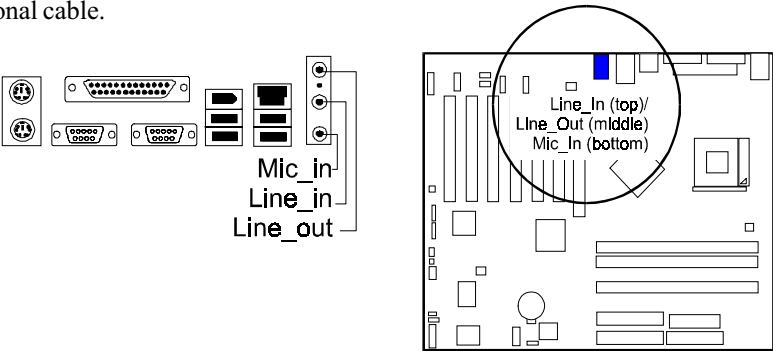
### Printer Connector

This 25-pin D-Sub female burgundy-colored connector is attached to your printer.



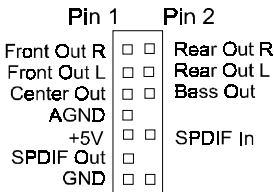
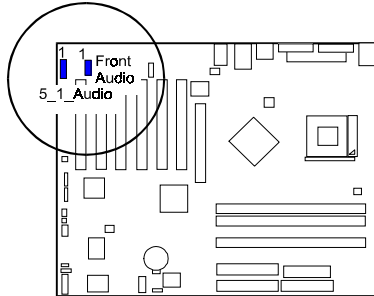
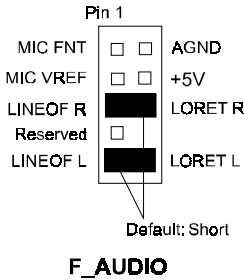
### Audio I/O Jacks

LINE\_OUT (lime) can be connected to headphones or preferably powered speakers. LINE\_IN (light blue) allows tape players or other audio sources to be recorded by your computer or played through the LINE\_OUT. MIC\_IN (pink) allows microphones to be connected for voice input. The mainboard also has a front panel audio connector (Intel spec.), F\_AUDIO, with an optional cable.



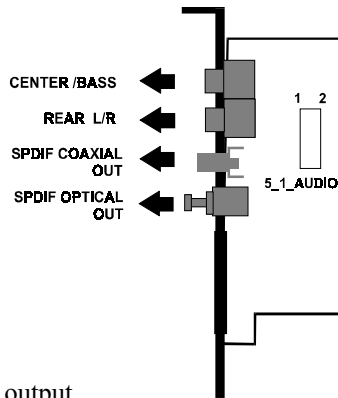


**NOTE:** If you do not use F\_AUDIO, please keep the pinpair 5-6, 9-10 short as default; also, when the front headphone is plugged in, the rear audio output will be disabled.



## 5\_1\_AUDIO

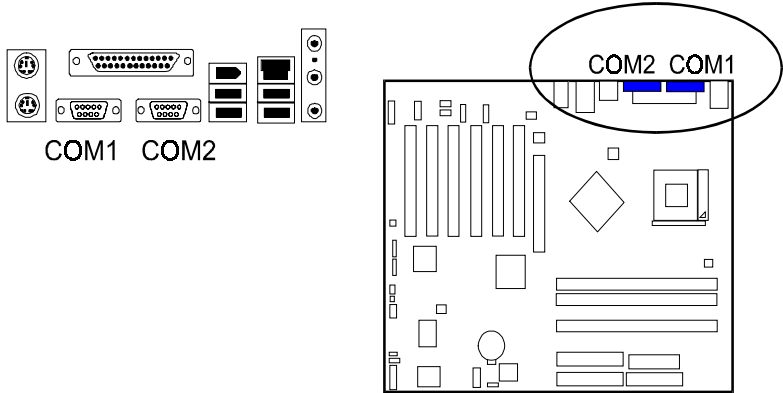
The mainboard 5.1 audio feature is used with an optional A73 audio bracket. When use this bracket, plug in the LINE\_OUT jack for the front speaker audio output. If do not have A73, LINE\_IN, LINE\_OUT, MICROPHONE jack can be used as the 5.1-channel audio output.



**NOTE:** In 5.1-Channel audio mode, the Mic-In is dedicated for front panel used, and rear panel Mic-In function will switch to Center and subwoofer support.

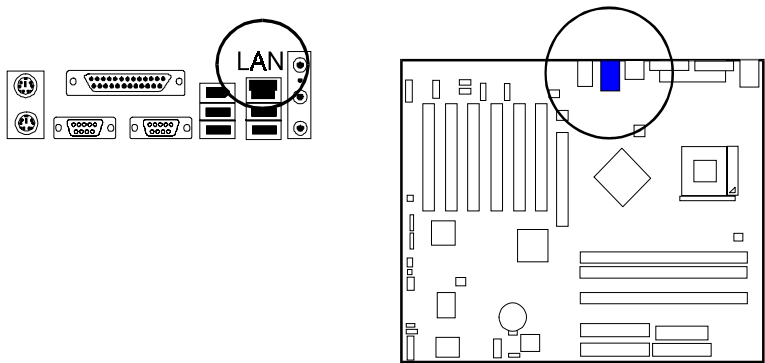
**Serial Port Connectors**

COM1 (9-pin D-sub male connector with teal color) and COM2 (9-pin D-sub teal male connector with teal color) allow you to connect with your devices that use serial ports, such as a serial mouse or an external modem.



**LAN Connector (optional)**

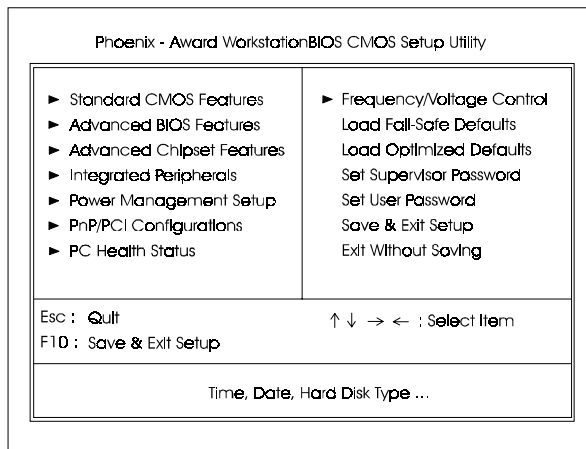
The RJ45 LAN jack is used for the LAN cable plug.



# BIOS Setup

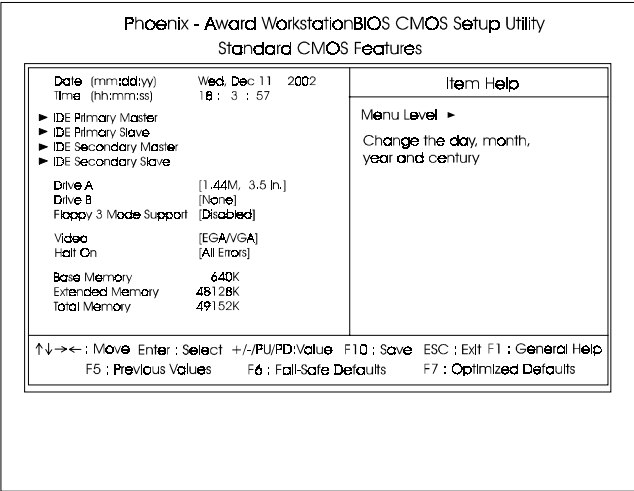
The mainboard comes with the chip that Award BIOS that contains the ROM Setup information of your system. (This chip serves as an interface between the processor and the rest of the mainboard components.) This section explains the information contained in the Setup program and tells you how to modify the settings according to your system configuration.

## CMOS Setup Utility



The Setup utility program allows updates to the mainboard configuration settings. The BIOS setup values will be saved in the CMOS. It is executed when the user changes system configuration; user changes system backup battery; or the system detects a configuration error and asks the user to run the Setup program. Use the arrow keys to select and press **Enter** to run the selected program.

## Standard CMOS Setup



The Standard CMOS Setup screen is displayed above. Each item may have one or more option settings. The system BIOS automatically detects memory size, thus no changes are necessary. Use the arrow keys to highlight the item and then use **PgUp** or **PgDn** keys to select the value you want in each item.

### Date

To set the date, highlight the *Date* field and then press **Page Up/Page Down** or **+/-** keys to set the current date. Follow the month, day and year format.

### Time

To set the time, highlight the *Time* field and then press **Page Up/Page Down** or **+/-** keys to set the current time. Follow the hour, minute, and second format.

Hard Disks

This field records the specifications for all non-SCSI hard drives installed in the system. The onboard PCI IDE connectors provide Primary and Secondary channels for connecting up to four IDE hard disks or other IDE devices. Each channel can support up to two hard disks, the first of which is the *Master* and the second is the *Slave*.

Hard Disk Configurations

- Capacity:** The hard disk size. The unit is Bytes.
- Cylinder:** The cylinder number of the hard disk.
- Head:** The read/write head number of hard disk.
- Precomp:** The cylinder number at which the disk drive changes the write current.
- Landing Zone:** The cylinder number that the disk drive heads (read/write) are seated when the disk drive is parked.
- Sector:** The sector number of each track defined on the hard disk.

Chapter 3  
BIOS Setup

Drive A / Drive B

This field records the types of floppy drives installed in the system. To enter the configuration value for a particular drive, highlight its corresponding field and then select the drive type using the **left-** or **right-arrow** key.

Floppy 3 Mode Support

This is a Japanese standard floppy type drive. The standard stores 1.2MB in a 3.5 inch diskette.

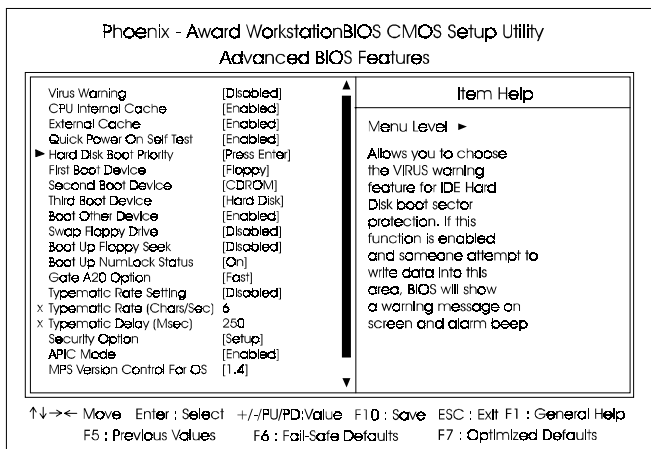
Video

Set this field to the type of video display card installed in the system.

Halt On

This field determines which types of errors will cause the system to halt.

## Advanced BIOS Features



### Virus Warning

This feature starts the virus scan tool to detect if boot virus in boot sector of the first hard disk drive when booting up.

The options are: Enabled, Disabled.

### CPU Internal Cache

This controls the status of the processor's internal cache area. The default is Enabled. The options are: Enabled, Disabled.

### External Cache

This controls the status of the external (L2) cache area. The default is Enabled. The options are: Enabled, Disabled.

### Quick Power On Self Test

When enabled, allows the BIOS to bypass the extensive memory test.

The options are: Enabled, Disabled.

### Hard Disk Boot Priority

This feature will auto detect all hard disks of bootable device on the system. It also allows users to select hard disk device booting priority.



### First/Second/Third Boot Device

This feature allows user to select the boot device priority. The options are: Floppy, LS120, Hard Disk, CDROM, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, Disabled.

### Boot Other Device

This feature allows user to select the boot device priority. The options are: Enabled, Disabled.

### Swap Floppy Drive

Allows you to switch the order in which the operating system accesses the floppy drives during boot up. The options are: Enabled, Disabled.

### Boot Up Floppy Seek

When enabled, assigns the BIOS to perform floppy diskette drive tests by issuing the time-consuming seek commands. The options are: Enabled, Disabled.

### Boot Up Numlock Status

When set to On, allows the BIOS to automatically enable the Num Lock Function when the system boots up. The options are: On, Off.

### Gate A20 Option

When set at Fast, allows a faster access response under Protected mode. The options are: Fast, Normal.

### Typematic Rate Setting

The term typematic means that when a keyboard key is held down, the character is repeatedly entered until the key is released. The options are: Disabled, Enabled.

### Typematic Rate (Chars/Sec)

This feature is available only if the above item, Typematic Rate Setting, is set at Enabled. Sets the rate of a character repeat when the key is held down. The options are: 6, 8, 10, 12, 15, 20, 24, 30.

### Typematic Delay (Msec)

This feature is available only if the item, Typematic Rate Setting, is set at Enabled. Sets the delay time before a character is repeated.

The options are: 250, 500, 750, 1000 millisecond.

### Security Option

Allows to set the security level of the system. The options: Setup, System.

### APIC Mode

Allows you to decide if the system enters the APIC (Advanced Programmable Interrupt Controller) mode or not for more IRQs can be released.

The options are: Enabled, Disabled.

### MPS Version Control For OS

When two CPUs onboard (not this board) this feature allows you to select MPS (Multi-Processor Spec.) version control for OS when logo test executes. The options are: 1.1, 1.4.

### OS Select For DRAM > 64MB

If your operating system (OS) is OS/2, select the option OS2. Otherwise, stay with the default setting Non-OS2. The options are: Non-OS2, OS2.

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

S.M.A.R.T. stands for Self-Monitoring and Analysis Reporting Technology which allows your hard disk drive to report any read/write errors and issues a warning with LDCM installed. The options: Disabled, Enabled.

### BIOS Guardian

It allows the system to prevent computer viruses. Users will need to disable it to update BIOS. The options are: Enabled, Disabled.



#### **NOTE:**

Please disable this BIOS feature before you start to reflash BIOS.

### ***BIOS Guardian and Reflash BIOS***

BIOS Guardian by default is enabled, thus effectively acts as a fire-wall against viruses that can attack the BIOS while the system is running. It must be disabled before reflash BIOS.

The steps below show you how to off and on BIOS Guardian when reflash BIOS:

1. Press **Del** key while booting. Go to *CMOS Setup Utility* menu.
2. Go to *Advanced BIOS Features* submenu.
3. Set the feature *BIOS Guardian* at Disabled.
4. Save the setting and exit. The system restarts.
5. POST screen holds. A message about BIOS Guardian shows.
6. Press Space bar.
7. Reflash BIOS. Restart the system after complete it.
8. POST screen holds. A message about BIOS Guardian shows.
9. Press **G** key. The feature BIOS Guardian will be enabled again.

### Full Screen LOGO Show

It decides whether or not the full screen logo is shown during system booting up. The options are: Enabled, Disabled.



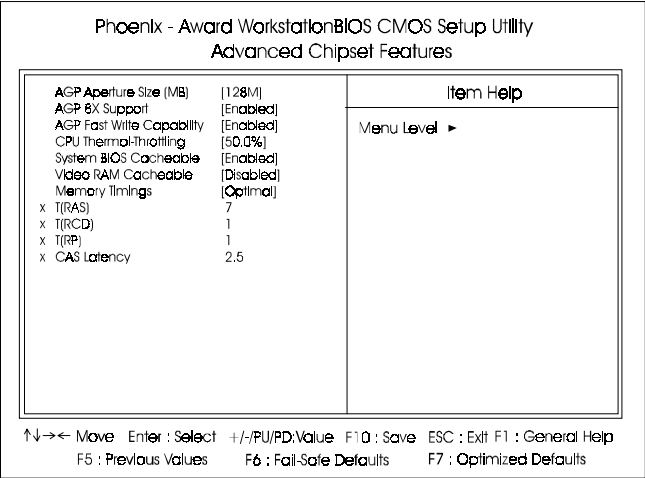
#### NOTE:

1. LogoGenie supports Award BIOS only.
2. If you create a Logo file (.bmp) by LogoGenie, the file size must be 640 x 464 x 256 colors.

To enable this utility, please proceed as follows:

1. Insert software CD. Select LogoGenie from the Menu and follow the installation instructions.
2. After LogoGenie has been installed, go to Windows Start Box. In Programs Menu, select LogoGenie, then select LogoGenie.
3. Press F1 to read Help file to understand how to use this software if it is new to you.

## Advanced Chipset Features



### AGP Aperture Size (MB)

This item defines the size of the aperture if you use an AGP graphics adapter. It refers to a section of the PCI memory address range used for graphics memory. The default is 64 MB.

Options: 32, 64, 128, 256, 512 MB.

### AGP 8X Support

Enables AGP 8X supports. Options: Disabled, Enabled.

### AGP Fast Write Capability

Enables Fast Write protocol for AGP cards. Options: Disabled, Enabled.

### Memory Timings

For setting DRAM Timing. Options: Optimal, Aggressive, Expert.

### CPU THRM-Throttling

This item sets the percentage of time that the CPU is idled if CPU throttling is initiated by excess heat. The default setting is 50%.

Options: 12.5%, 25.0%, 37.5%, 50.0%, 62.5%, 75.0%, 87.5%.

### System BIOS Cacheable

This item allows the system to be cached in memory for faster execution. The default is Enabled. The options are: Disabled, Enabled.

### Video RAM Cacheable

This option allows the CPU to cache read/writes of the video RAM. The default is Enabled. The options are: Disabled, Enabled.

### Memory Timings

For setting DRAM Timing.  
Options: Optimal, Aggressive, Expert.

### T(RAS)

This item specifies the number of clock cycles needed after a bank active command before a precharge can occur (sets the minimum RAS pulse width.).  
Options: 1 ~ 15.

### T(RCD)

This item sets the timing parameters for the system memory such as the CAS (Column Address Strobe) and RAS (Row Address Strobe).  
Options: 1 ~ 7.

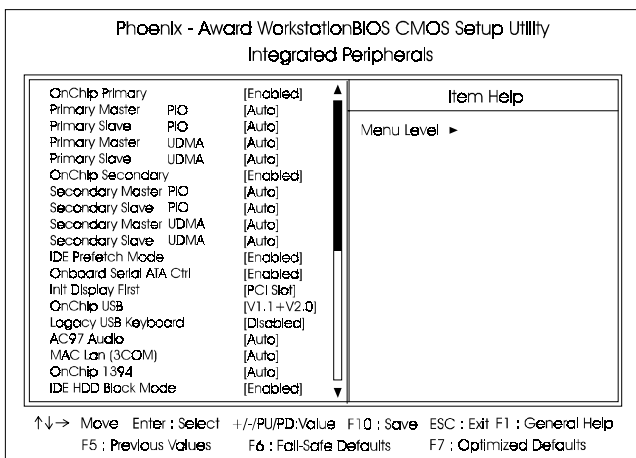
### T(RP)

This item refers to the number of cycles required to return data to its original location to close the bank or the number of cycles required to page memory before the next bank activate command can be issued.  
Options: 1 ~ 7.

### CAS Latency

Enables you to select the CAS latency time. The value is set at the factory depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM.  
Options: 2.0, 2.5, 3.0.

## Integrated Peripherals



### OnChip Primary PCI IDE

When enabled, it allows you to use the onboard primary PCI IDE. The options are: Enabled, Disabled.

### Primary Master/Slave PIO

Allows an automatic or a manual configuration of the PCI primary IDE hard drive (master/slave) mode. The options are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

### Primary Master UDMA

Allows an automatic configuration of the PCI primary IDE hard drive (master/slave) mode if Ultra DMA is supported both on the motherboard and the hard disk. The options are: Auto, Disabled.

### OnChip Secondary PCI IDE

When enabled, it allows you to use the onboard secondary PCI IDE. The options are: Enabled, Disabled.

### Secondary Master/Slave PIO

Allows an automatic or a manual configuration of the PCI secondary IDE hard drive (master/slave) mode. The options are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

### Secondary Master/Slave UDMA

Allows an automatic configuration of the PCI secondary IDE hard drive (master/slave) mode if Ultra DMA is supported both on the motherboard and the hard disk. The options are: Auto, Disabled.

### IDE Prefetch Mode

Selecting Enabled reduces latency between each drive read/write cycle, but may cause instability in IDE subsystems that cannot support such fast performance. If you are getting disk drive errors, try setting this value to Disabled. This field does not appear when the Internal PCI/IDE field, above, is Disabled. The options are: Enabled, Disabled.

### Init Display First

When you install an AGP VGA card and a PCI VGA card on the board, this feature allows you to select the first initiation of the monitor display from which card. The options are: PCI Slot, AGP.

### Onchip USB

Enables the USB controllers.  
Options: Disabled, V1.1+V2.0, V1.1.

### Legacy USB Keyboard

When a USB keyboard is installed, please set at Enabled.  
The options are: Disabled, Enabled.

### AC97 Audio

This feature auto detects if you use a card that with a CODEC to enable or disable the AC97 audio function.  
The options are: Auto, Disabled.

### MAC Lan (3COM)

Enables the onboard LAN feature.  
Options: Auto, Disabled.

### OnChip 1394

Enables the onboard IEEE 1394 feature.

Options: Auto, Disabled.

### Onboard Serial ATA Ctrl

Allows users to diable the onboard SATA feature.

The options are: Enabled, Disabled.

### IDE HDD Block Mode

When enabled, the system executes read/write requests to hard disk in block mode. The options are: Enabled, Disabled.

### Onboard Lan Boot ROM

Enables and disables the onboard LAN Boot ROM. The default is Disabled. Options: Enabled, Disabled.

### Onboard FDC Controller

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

Options: Enabled, Disabled.

### Onboard Serial Port 1/2

If the serial port 1/2 uses the onboard I/O controller, you can modify your serial port parameters. If an I/O card needs to be installed, COM3 and COM4 may be needed. The options are: Disabled, 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3.

### UART Mode Select

Allows you to select the IR modes if the serial port 2 is used as an IR port. Set at Standard, if you use COM2 as the serial port as the serial port, instead as an IR port. The options are: Normal, IrDA, ASKIR.

### RxD , TxD Active

This feature is available only if the item, UART 2 Mode, is set at ASKIR or HPSIR. The feature allows you to select the active signals of the reception end and the transmission end. This is for technician use only.

The options are: Hi, Lo; Hi, Hi; Lo, Hi; Lo, Lo.



### IR Transmission Delay

When Enabled, the transmission delays 4 characters-time (40 bit-time) if SIR is changed from RX mode to TX mode. When Disabled, no transmission delay if SIR is changed from RX mode to TX mode.

The options are: Enabled, Disabled.

### UR2 Duplex Mode

Allows you to select the IR modes.

The options are: Full, Half.

### Use IR Pins

Allows you to select IR pin mode.

The options are: Rx2D2, Tx2D2; IR-Rx2Tx2.

### Onboard Parallel Port

Allows you to select from a given set of parameters if the parallel port uses the onboard I/O controller.

The options are: Disabled, 378/IRQ7, 278/IRQ5, 3BC/IRQ7.

### Parallel Port Mode

Allows you to connect with an advanced printer via the port mode it supports. The options are: SPP, EPP1.9+SPP, ECP, EPP1.9+ECP, EPP1.7+SPP, EPP1.7+ECP.

### EPP Mode Select

This feature allows you to select the EPP type version.

The options are: EPP1.7, EPP1.9.

### ECP Mode Use DMA

This feature allows you to select Direct Memory Access (DMA) channel.

The options are: 1, 3.

### State After Power Failure

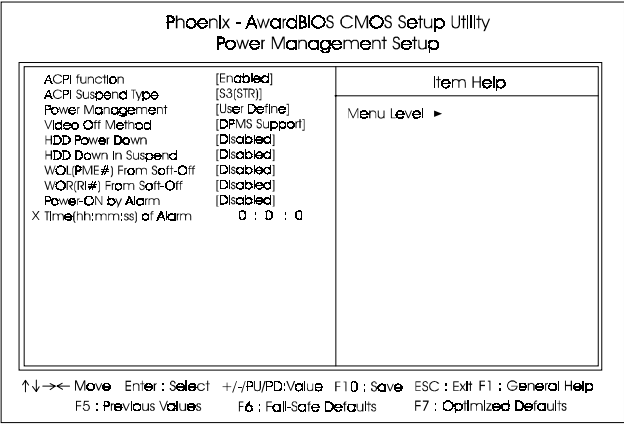
The system will stay off or power on after a power interrupt. The default is Off.

Off: System always stay off after a power interrupt.

On: System always power on after a power interrupt.

Auto: Stay off or power on depend on system safe shutdown or power fail.

## Power Management Setup



### ACPI Function

This item allows you to disable the ACPI function.  
The options are: Enabled, Disabled.

### ACPI Suspend Type

This item allows you to select S1(POS) or S3(STR) function. When set to S3(STR) or S1&S3 the following two fields become available.  
Options: S1(POS), S3(STR), S1&S3.

### Power Management

Use this to select your Power Management selection. **Max. saving:** Maximum power savings. Inactivity period is 1 minute in each mode. **Min. saving:** Minimum power savings. Inactivity period is 1 hour in each mode. **User define:** Allows user to define PM Timers parameters to control power saving mode.

### Video Off Method

This option allows you to select how the video will be disabled by the power management. **V/H Sync + Blank:** System turns off vertical and horizontal synchronization ports and writes blanks to the video buffer.

**DPMS Support:** Select this option if your monitor supports the Display Power Management Signaling (DPMS) standard of the Video Electronics Standards Association (VESA). Use the software supplied for your video subsystem to select video power management values. **Blank Screen:** System only writes blanks to the video buffer.

### 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.

Options: Disabled, 1 ~ 15 Min.

### HDD Down In Suspend

Lets you enable the HDD to power off in suspend mode.

Options: Enabled, Disabled.

### WOL (PME#) From Soft-Off

An input signal form PME on the PCI card awakens the system from a soft off state. Options: Enabled, Disabled.

### WOR (RI#) From Soft-Off

An input signal form RI on the PCI card awakens the system from a soft off state. Options: Enabled, Disabled.

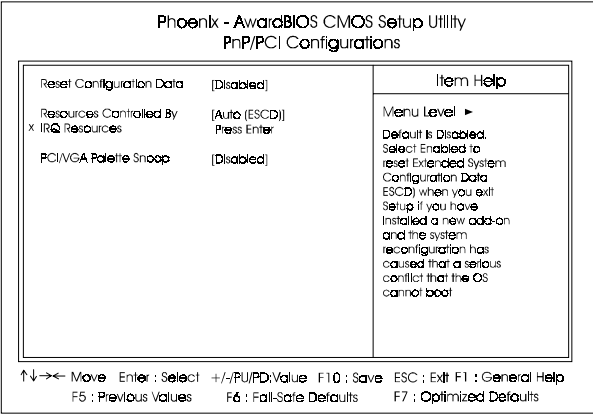
### Power-On by Alarm

When enabled, you can set the date and time in the following two fields. Any event occurring at the specified date or time awakens the system from power savings mode.

### Time (hh:mm:ss) Alarm

If an ATX power supply is installed and when RTC Alarm Resume is Enabled, this feature allows you to set the time of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled. The options are: hh (*hour*) - 0, 1, 2,..., 23; mm (*minute*) - 0, 1, 2,...,59; ss (*second*) - 0, 1, 2,...,59.

## PnP/PCI Configurations



### Reset Configuration Data

Enabling it to reset the system Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on card and the system reconfiguration has caused such a serious conflict that the operating system can not boot. The options are: Disabled, Enabled.

### Resources Controlled By

If set at Auto, the BIOS arranges all system resources. If there exists conflict, select Manual. The options are: Auto (ESCD), Manual.

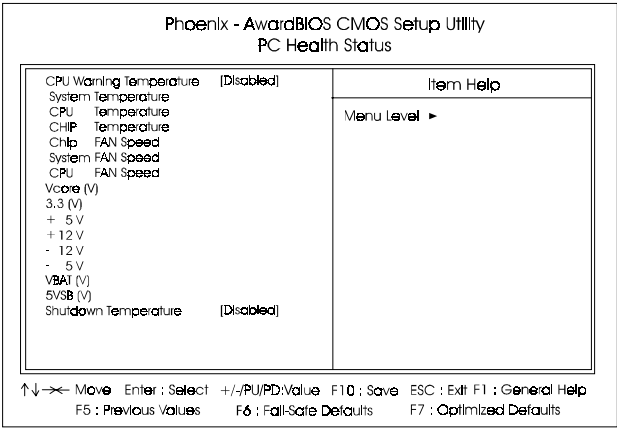
If the manual options, after the feature **IRQ Resources** being pressed, of **IRQ- Assigned To** are: PCI Device, Reserved. When resources were controlled manually, assign each system interrupt a type, depending on each device type to use the interrupt.

### PCI/VGA Palette Snoop

Set this feature to be enabled if any ISA adapter card installed in the system requires the VGA palette snoop function.

The options are: Disabled, Enabled.

## PC Health Status



### CPU Warning Temperature

This feature allows you to set the temperature to slow down the CPU clock frequency. The option list presents all the temperatures that supported by the board and Disabled.

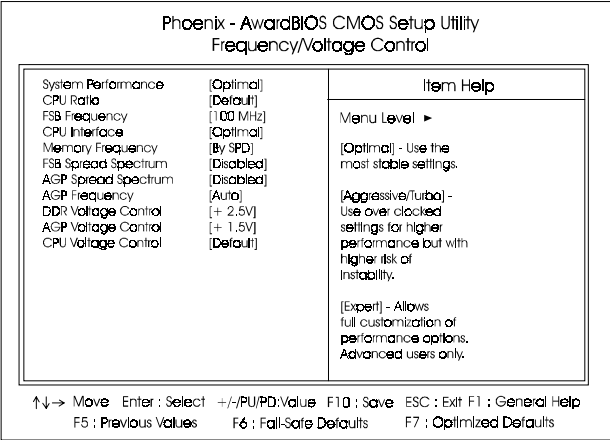
System Temperature / CPU Temperature / CHIP Temperature / Chip FAN Speed / System FAN Speed / CPU FAN Speed / Vcore (V) / 3.3V / +5V / +12V / -12V / -5V / VBAT(V) / 5VSB(V)

These items allow end users and technicians to monitor data provided by the BIOS on this mainboard. It is not user-configurable.

### Shutdown Temperature

This feature helps to shutdown the system when the system temperature is as high as the selected temperature to prevent from the overheat problem. The option list presents all the temperatures that supported by the board and Disabled.

## Frequency/Voltage Control



### System Performance

This item will help you to configure your system performance.  
Options: Optimal, Aggressive, Expert.

### FSB Frequency

Enables you to set the CPU frontside bus speed. Enables you to subtle tuning FSB.

### CPU Interface

Allows you to set CPU/FSB parameters for CPU most stable or overlocked.  
Options: Optimal, Aggressive.

### Memory Frequency

Enables you to select the memory frequency.  
Options: By SPD, 50%, 60%, 66%, 75%, 80%, 85%, Sync, 120%, 125%, 133%, 150%, 166%, 200%.

### FSB Spread Spectrum

This item can significantly reduce the EMI (ElectroMagnetic Interference) generated by the CPU.  
Options: Disabled, 0.50%, 1.00%.

### AGP Spread Spectrum

This item can significantly reduce the EMI (ElectroMagnetic Interference) generated by the AGP.

Options: Disabled, 0.50%, 1.00%.

### AGP Frequency

This item allows you to select the AGP frequency.

Options: Auto, 90MHz, 93MHz, 95MHz, 97MHz, 100MHz, 50MHz~87MHz in 1MHz increments.

### DDR Voltage Control

This item allows you to set the DIMM slot voltage.

Options: +2.5V to +2.8V in +0.1V increments. We recommend that you leave this at the default value.

### AGP Voltage Control

This item allows you to set the AGP slot voltage.

Options: +1.5V to +1.8V in +0.1V increments. We recommend that you leave this at the default value.

### CPU Voltage Control

This item allows you to set the CPU Vcore voltage.

Options: 1.100V to 1.925V in 0.025V increments. We recommend that you leave this at the default value.

## Load Fail-Safe Defaults

When you press <Enter> on this item you get a confirmation dialog box:

**Load Fail-Safe Defaults (Y/N) ? N**

Pressing **Y** loads the BIOS default values for the most stable, minimal-performance system operations.

## Load Optimized Defaults

When you press <Enter> on this item you get a confirmation dialog box:

**Load Optimized Defaults (Y/N) ? N**

Pressing **Y** loads the default values that are factory settings for optimal performance system operations.

## Supervisor/User Password

These items are used to install a password. A Supervisor password takes precedence over a User password, and the Supervisor limits the activities of a User. You can set either a supervisor or user password, or both of them:

**Supervisor password:** authorized to enter and change the options of the setup menus.

**User password:** authorized to enter, but not authorized to change the options of the setup menus.

When you select Set User/Supervisor Password, the following message appears prompting you to type a password:

### ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now clears any previously entered password from CMOS memory. You will be prompted to confirm the password. Type the password and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.



To disable a password, press <Enter> when you are prompted to enter the password. A message will confirm the password is disabled:

### **PASSWORD DISABLED.**

Once the password is disabled, the system will boot and you can enter Setup freely. When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration. Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This prevents unauthorized use of your computer.

You determine when the password is required within the **BIOS Features Setup menu Security** option. If the Security option is set to *System*, the password will be required both at boot and at entry to Setup. If set to *Setup*, prompting only occurs when trying to enter Setup.

## **Save and Exit Setup**

Pressing <Enter> on this item asks for confirmation:

**Save to CMOS and EXIT (Y/N)? Y**

Pressing **Y** stores the selections made in the menus in CMOS - a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

## **Exit Without Saving**

Pressing <Enter> on this item asks for confirmation:

**Quit without saving (Y/N)? Y**

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.

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