FW37T

MAINBOARD
MANUAL

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Table of Contents

Chapter 3   BIOS Setup

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 monting brackets.

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

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Handling Precautions

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Overview

The new Micro ATX, Socket 370 1stMainboard® FW37T supports a full range of the latest generation Intel® and VIA C3 Ezra® processors. Intel® Celeron and lightening fast processors of up to 1.4*GHz and up* are supported with Front Side Bus speeds up to 133 MHz. Built using the leading edge 0.13 micron technology and based on the VRM 8.5 spec., the Intel® FC-PGA Pentium® III processors provide a significant performance scaling boost over previous Pentium® processors. (*: not tested yet)

The Intel 810E accelerated Hub architecture provides exceptional onboard video. Direct AGP and its efficient memory makes use of Dynamic Video Memory Technology. The 1stMainboard FW37T also features onboard audio provided by the state of the art embedded Codec and onboard LAN feature.

Support for the Ultra DMA/100 protocol and its high-speed interface further ensures that data transfer speeds are improved, especially for long sequential transfers required by audio/visual applications. With 2 DIMM there is up to 512 MB available PC100/PC133 SDRAM.

The 1stMainboard FW37T comes with a versatile range of I/O features such as 2 serial port, 1 parallel port, 1 PS/2 mouse and keyboard connector, 4 USB connectors, 1 LAN jack, 1 VGA connector, 1 media connector (MIDI /game port, Line-in, Line-out and Mic-in). Ample expansion is available through 3 PCI and 1 CNR.

Other key features are Remote On/Off, Auto Power Failure Recovery, Key-board /Mouse Power On, Wake on Lan (WOL) and Wake on Ring (WOR), integrated temperature monitoring and system fan control. Included also is CD Pro with enhanced drivers and the new CD Plus package containing 9 bundled soft-ware solutions including Norton AntiVirus, Ghost, Virtual Drive.

Package Checklist

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

☑ The mainboard ☑ This user manual

☑ One FDD cable ☑ One HDD cable

☑ One ATA/66 cable ☑ Two Software CDs
(CD Pro, CD Plus)

NOTE: CDPro that contains patch files, onboard video/audio chip drivers, related online help and other useful information can be found in your mainboard package.

*Please install it right after your Windows operating system installation is done.*Place your CDPro in the drive, an operating menu will appears in your monitor. Please select *Auto Installation*. It will automatically detect which software tools (patch files, drivers) that the mainboard needs. Press **OK** button to go through the whole installation procedure in a very straight forward and easy way. It also provides you with a custom way to select wanted patch files and software drivers that for onboard chips use. **The top menu of the CD Pro lists all the functions that allowed by this board.**

The FW37T Mainboard

CNR Slot

3 PCI Slots

Integrated I/O Connectors

Intel ICH2 Chip

Intel 810E Chip

Primary Secondary IDE Connector

Floppy Drive Connector

2 DIMM Sockets

CPU 370 Socket
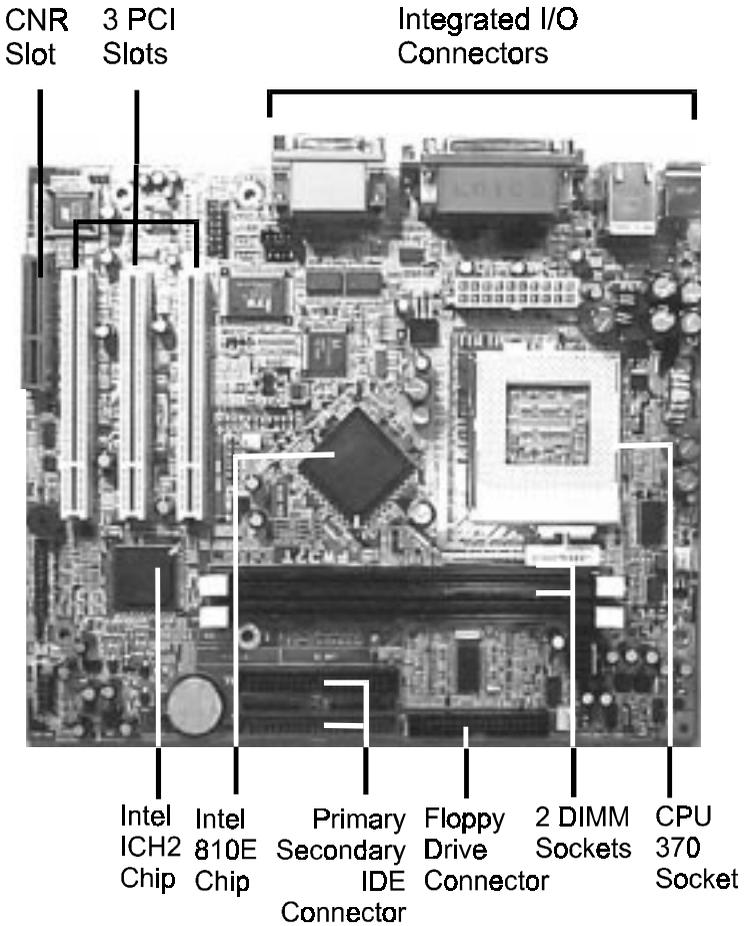
Main Features

■ Easy Installation

BIOS with support for Plug and Play, auto detection of IDE hard drives, LS-120 drives, IDE ZIP drives, Windows 98SE, Windows ME, Windows NT, Windows 2000, Windows XP, and OS/2.

■ Leading Edge Chipset

Intel 810E provides integrated DRAM controllers with new Dynamic Power Management Architecture (DPMA), concurrent PCI, AGP 2.0 compliant and USB. The built-in audio and vedio features of the Intel chipset provides better visual performance with the Dynamic Video Memory Technology (DVMT) properties.

■ Versatile Main Memory Support

Accepts up to 512MB DRAM using two DIMMs of 64, 128, 256, 512MB with support for lightning-fast PC100/PC133 SDRAM.

■ Flexible Processor Support

Onboard CPU socket supports:
.18u process Socket 370 Intel® Celeron 800 MHz - 1.1GHz at 100 MHz FSB
.13u process Socket 370 Intel® Celeron 1.2 GHz - 1.4*GHz at 100 MHz FSB
Intel® Pentium III FC-PGA 500 - 1.1GHz and up*at 100MHz FSB
Intel® Pentium III FC-PGA 533 - 1 GHz and up* at 133MHz FSB
.13u process Intel®Pentium III FC-PGA2 Tualatin 1.13/1.2/1.26 GHz at 133MHz FSB
VIA C3 Ezra® 800A to 866A at 100/133MHz FSB
(: not tested yet)*

■ PCI Expansion Slots and CNR Slot

Three 32-bit PCI Bus expansion slots provide the room to install a full range of add-on cards and an CNR slot for communicating and networking riser card.

■ Enhanced PCI Bus Master IDE Controller with Ultra DMA/33 and Ultra DMA/66 Support
Integrated Enhanced PCI Bus Master IDE controller features two dual-channel connectors that accept up to four Enhanced IDE devices, including CD-ROM and Tape Backup Drives, as well as Hard Disk Drives supporting the new Ultra DMA/66 protocol. Standard PIO Mode 3, PIO Mode 4, DMA Mode 2, DMA Mode 4 devices are also supported.

■ Integrated Audio Subsystem
Embedded audio features in the ICH2 with an integrated PCI audio controller, DOS games compatible engine. The subsystem utilizes line-out, line-in, and MIC mini-jack external jacks, one joystick port with MIDI interface.

■ Super Multi Input/Output (I/O) Support
Integrated Plug and Play multi-I/O chipset features two high-speed UART 16550 compatible serial ports, one infrared port, one EPP/ECP capable parallel port, and one FDD connector.

■ Convenient Rear Panel USB Connection Support
Two USB ports integrated in the rear I/O panel and two extra USB ports for either front or rear panel connection allow convenient and high-speed Plug and Play connections to the growing number of USB compliant peripheral devices on the market.

■ Remote Wake-Up Support
One LAN wake-up connector, WOL, and one wake-on-ring, WOR, allow users to awake their systems by means of remote control.

FIC Unique Innovation for Users (NOVUS) -
Enhanced Mainboard Features and System Support

■ LogoGenie

A user friendly GUI supporting Windows 95/98/98SE (not Windows 2000/NT/ME), LogoGenie allows you to customize, create or select a Logo which will be displayed when the system is booting.

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 CD Pro. 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 (ver.), then select LogoGenie.
3. Press F1 to read Help file to understand how to use this software if it is new to you.

■ BIOS Guardian

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

WARNING: While excute Step3 below, please do not turn off the sytsem power in order to avoid BIOS damage.

BIOS Guardian can be disabled as follows:
1. Go to BIOS Set Up Menu. (Press **Del** key while booting.)
2. Go to Advanced BIOS Features Set Up Submenu.
3. Disable BIOS Guardian.
4. Save the setting, and restart system.

NOTE: However, if it is disabled and while boot the system, the POST screen will be held and shows you the message to let you know the current status of BIOS Guardian. To press **G** key will enable the BIOS Guardian again; or simply to press the **space bar** will continue the booting process.

■ Easy Key

Instead of completing the multi-layered BIOS setup process these 3 Easy Key functions provide direct access to Sub-Menu's when completing BIOS settings adjustments.

Easy-Keys are as follows:

Ctrl + c: To enter clock settings menu.

Ctrl + p: To load Performance Default settings and restart.

Ctrl + f: To load Fail-Safe Default settings and restart.

■ Overclock Partner

Should the system not start because clock speed settings have been increased to a speed incompatible with the system, the Overclock Partner allows you to reboot at system default settings, protecting hardware from any damages.

Complete the following steps:

1. Turn the system off.
2. Restart while holding down the **Insert** key. It is important that the **Insert** key is held down until the default clock speed is shown on the POST screen.
3. Enter BIOS settings menu, and re-set clock speed desired or default.

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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/switches**
- 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 mainboard sensitive components, you should follow the following precautions whenever working on the computer:

1. Unplug the computer 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 2-4)

Mainboard Layout
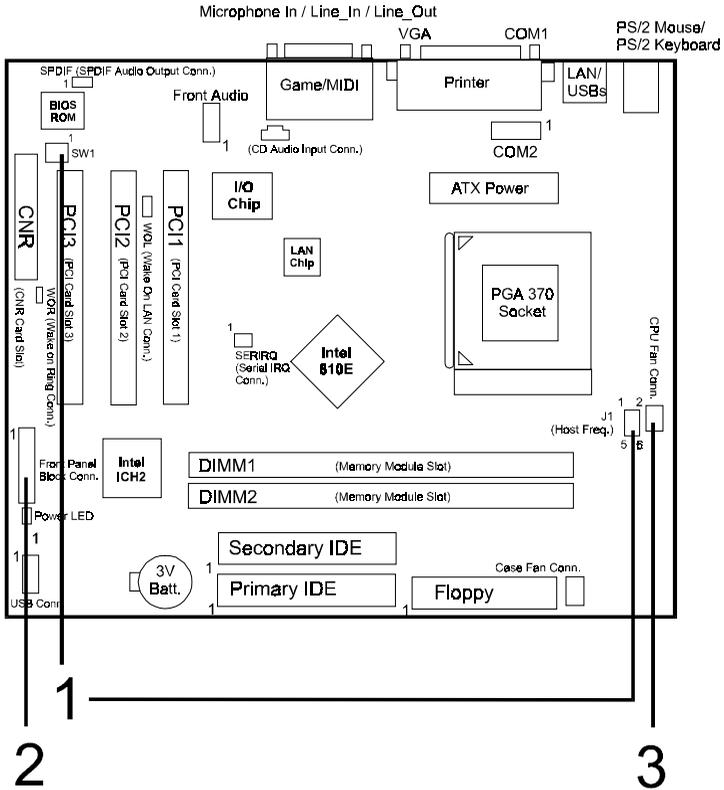
1). Clear CMOS, Clear Password, FSB Speed Select

Clear CMOS: SW1-1

Enable (Clear CMOS)

Disable (Default)

Clear Password: SW1-2

Enable (Clear Password)

Disable (Default)

FSB Speed Select: J1

Auto (Default)

66MHz

100MHz

133MHz

2). Front Panel Block Cable Connection

(3).

(2).

IR
(+5V)
(IRRX)
(GND)
(IRTX)

(1).

(4).

(5).

(6).

+5V
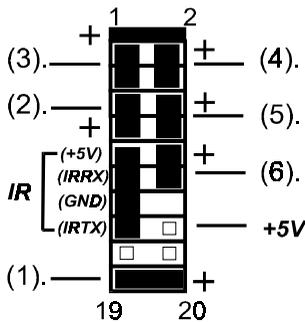
(6). Suspend Button   (1). Power LED

(5). Power Button   (2). Reset Button

(4). Dual Power LED   (3). HDD LED

3).   CPU Fan Installation

This connector is linked to the CPU fan. When the system is in some status of power saving modes, the CPU fan will turn off; when it reverts back to full on mode, the fan will turn back on. 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/Switches

Jumpers are used to select the operation modes for your system. Some jumpers on the board have three metal pins with each pin representing a different function. A **1** is written besides pin 1 on jumpers with three pins. To **set** a jumper, a black cap containing metal contacts is placed over the jumper pin/s according to the required configuration. A jumper is said to be **shorted** when the black cap has been placed on one or two of its pins. The types of jumpers used in this manual are shown below:

Jumper Cap   3-pin Jumper   2-pin Jumper   Jumper Block

"□" stands for pin 1

Jumper are shown like above

Jumper cap like above
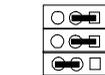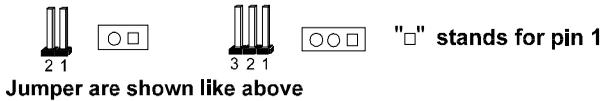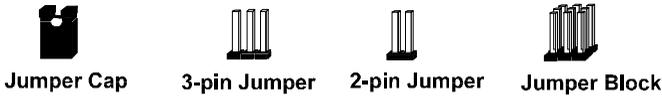
Jumpers in a Block

> **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: SW1-1

The CMOS RAM is powered by the onboard button cell battery. To clear the RTC data: (1) Turn off your computer. (2) Move the CMOS Clear switch SW1-1 to On (Enabled). (3) Turn on your computer to display *CMOS checksum error*. (4) Turn off your computer. (5) Move the CMOS Clear switch SW1-1 to Off (Disabled). (6) Turn on your computer. (7) Hold down the **Delete** key when boots. (8) Enter the BIOS Setup to re-enter user preferences.

Enable
(Clear CMOS)
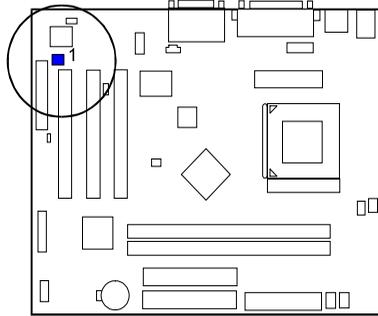
Disable
(Default)

Clear Password: SW1-2

This switch allows you to enable or disable the password configuration. You may need to enable this switch by moving it to the On(Enabled) position if you forget your password. To clear the password setting: (1) Turn off your computer. (2) Move the Clear Password switch SW1-2 to On (Enabled). (3) Turn on your computer. (4) Hold down the **Delete** key during bootup and enter BIOS Setup to re-enter user preferences. (5) Turn off your computer, (6) Move the Clear Password switch SW1-2 to Off (Disabled). (7) Turn on your computer for the new settings to take effect.

Enable
(Clear Password)

Disable
(Default)
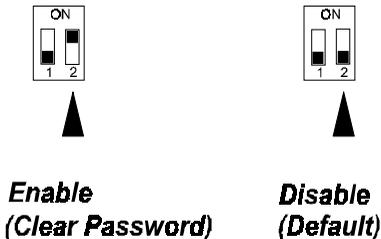
FSB Speed Select: J1

This 6-pin jumper allows you to select the FSB speed of your mainboard.

**Auto
(Default)**

66MHz

100MHz

133MHz
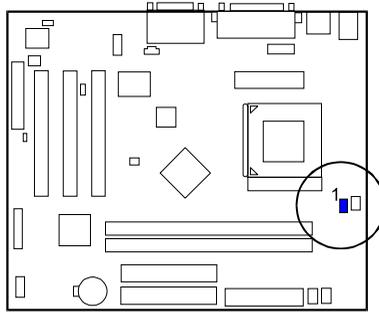
2). Install Memory Modules

1. Locate the DIMM slots on the mainboard.
2. Install the DIMM straight down into the DIMM slot using both hands.
3. The clip on both ends of the DIMM slot will close up to hold the DIMM in place when the DIMM reaches the slot's bottom.
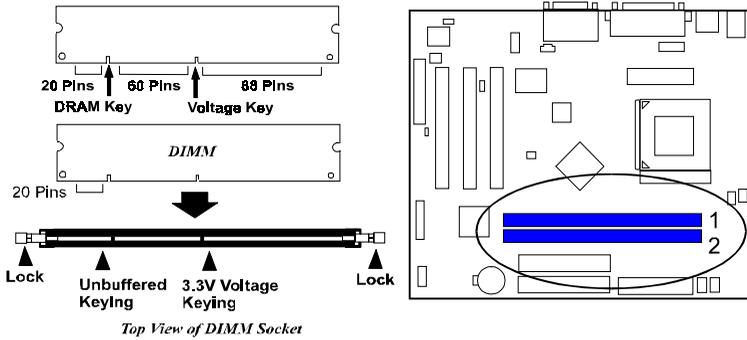
Press the clips with both hands to remove the DIMM.

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.
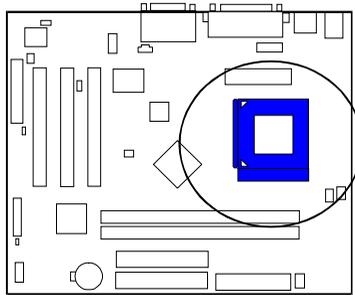
To install the CPU, do the following:
1. Lift the lever on the side of the CPU socket.
2. Handle the chip by its edges and try not to touch any of the pins.
3. Place the CPU in the socket. The chip has two notches to correctly locate the chip. Align two notches of the processor with the two triangular marks on 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.

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 CNR and three PCI bus slots.
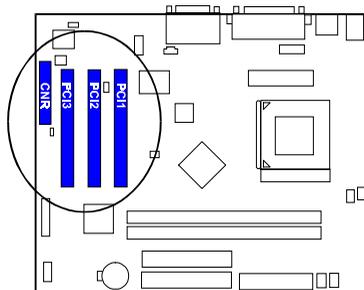
CAUTION: Make sure to unplug the power supply when adding or removing expansion cards or other system components. Failure to do so may cause severe damage to both the mainboard and expansioncards.
Always observe static electricity precautions.
Please read **Handling Precautions** at the start of this 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.

Connectors

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.
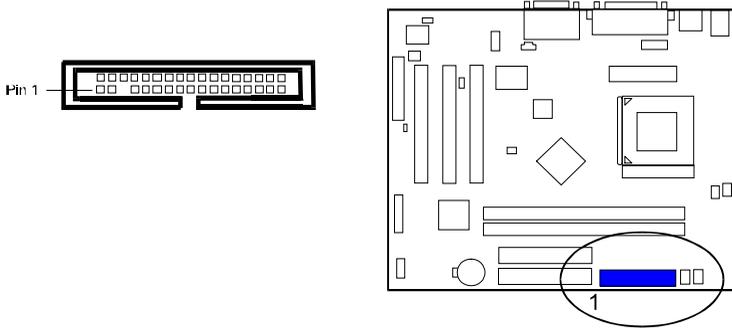
IDE Device Connectors

These two connectors 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.

ATX Power Connector

This 20-pin male block connector is connected to the 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.

Fan Connectors

The two connectors, CPU_FAN, SYS_FAN are linked to the CPU fan, system case fan, respectively; for preventing the CPU and system from overheat damage.

Front Panel Block and Power LED Connector

This block connector includes the connectors for linking with HDD LED, power LED (2 and 3 pins), dual power LED, power button, suspend button, reset button, and IR 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.
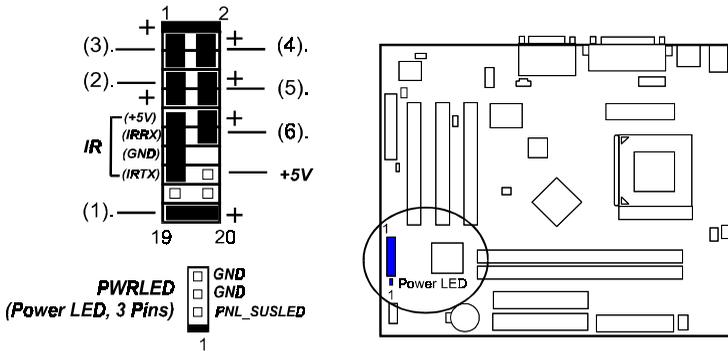
1. Power LED (2-Pin) is connected with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode. There is a 3-Pin Power LED connector on board for some cases that with a 3-pin plug.

2. Reset Button is connected to the reset button. Push this switch to reboot the system instead of turning the power button off and on.

3. HDD LED is connected to the IDE device indicator. This LED will blink when the hard disk drives are activated.

4. Dual Power LED it is in green light when the system in power on status. It is in yellow light when the system in suspend mode.

5. 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.

6. Suspend Button is connected with suspend button. To enter the system into power saving mode, simply press this button when the system is in full-on mode.

Wake-On-Lan Connector

This 3-pin connector allows the remote servers to manage the system that installed this mainboard via your network adapter which also supports WOL. When you install such a LAN card, please read its installation guide for more information.

Pin 1

+5_VR
GND
LAN_WAKE
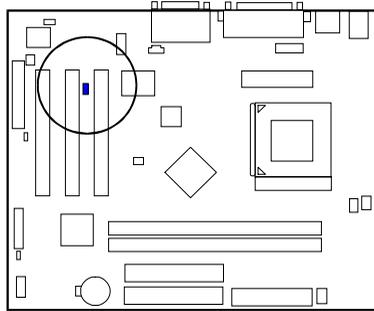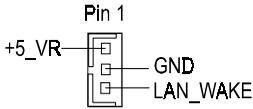
Wake-On-Ring Connector

This 2-pin connector allows the remote call via modem wake system.

Pin 1
GND
SIGNAL
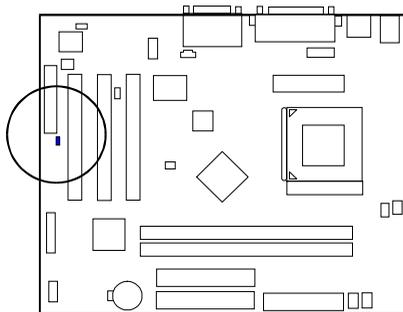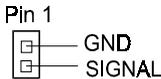
CD Audio Connector

The 4-pin connector is used for the audio input from your CD drive.
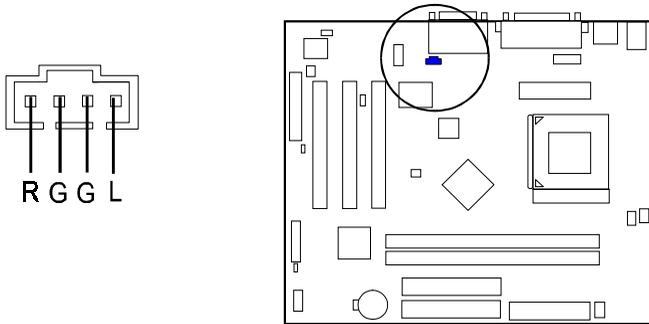
PS/2 Keyboard and Mouse Connector

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.
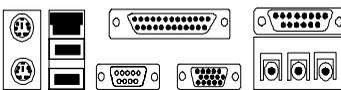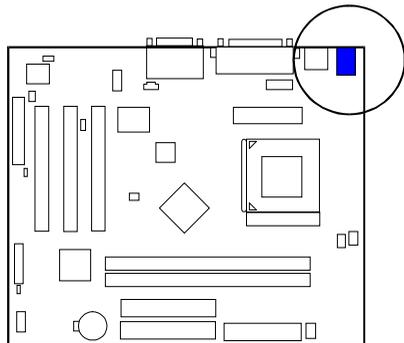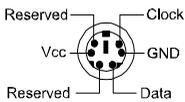
Universal Serial Bus Connectors

These two connectors that integrated on the edge of the board are used for linking with USB peripheral devices. Also, this board provides users with USB1 for linking with two extra USB devices on either front or rear panel. Your operating system must support USB features.

2 USBs

USBs
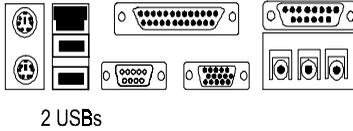
The pin assignments of the USB1 are listed below:

USB1

	Pin 1	Pin 2	
SVCC1			SVCC1
USB2+			USB3+
USB2-			USB3-
SGND1			SGND1
-OCP1			
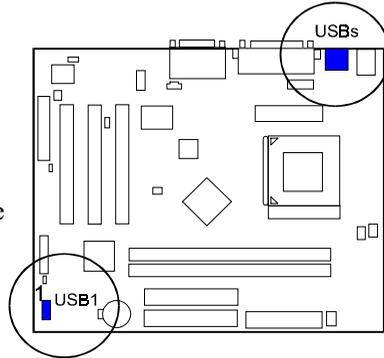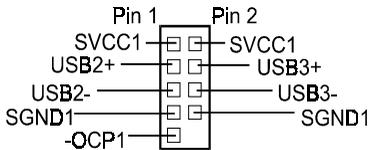
LAN Connector

The LAN jack is connected to the LAN cable.

LAN
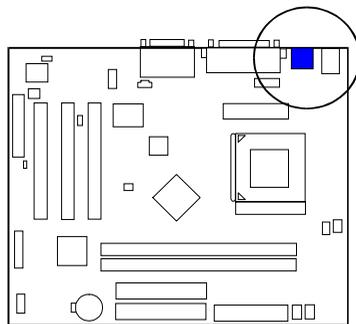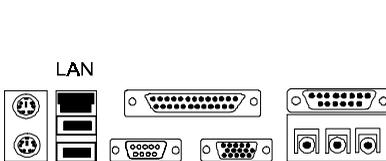
Serial Port Connectors

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

COM1

Pin 1: DCD
Pin 3: RX
Pin 5: TX
Pin 7: DTR
Pin 9: GND

Pin 2: DSR
Pin 4: RTS
Pin 6: CTS
Pin 8: RI

COM2 Port
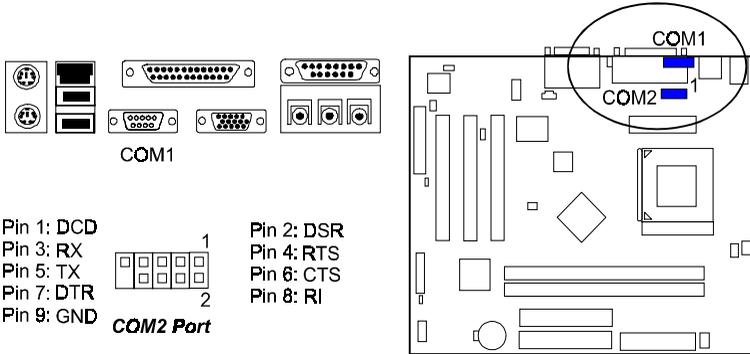
Video Graphics Accelerator Connector

This 15-pin female D-sub blue connector is connected to your display monitor.

VGA
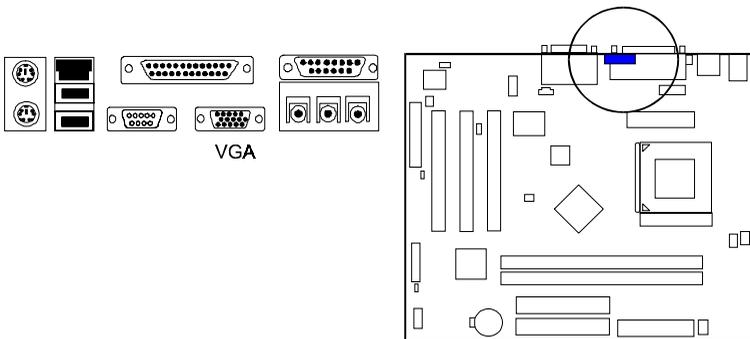
Printer Connector

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 powered speakers. LINE_IN (light blue) allows tape players or other audio sources to be recorded by your computer. MIC_IN (pink) allows microphones to be connected for voice input. The mainboard also provides you with a front panel audio port connector, FNT_AUD1, when needed. Its pin definitions were presented below.
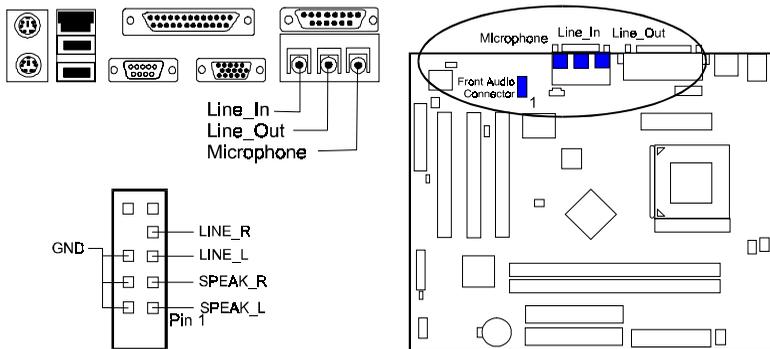
Game/MIDI Connector

This 15-pin female gold-colored connector allows you to connect game joy-sticks or game pads. Connect MIDI devices for playing or editing audio.

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**Chapter 2
Installation
Procedures**
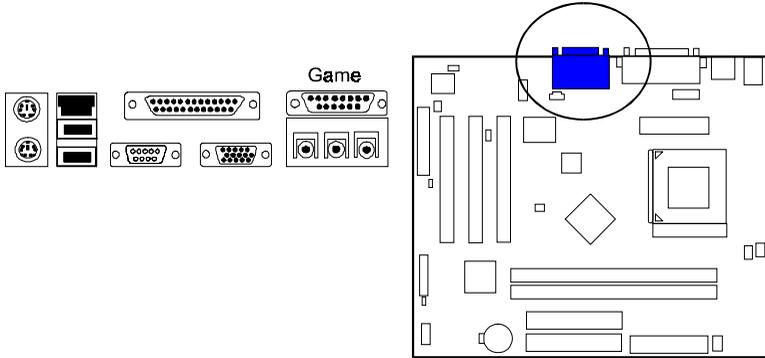
BIOS Setup

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

```
CMOS Setup Utility - Copyright (c) 1984-2001 Award Software

   ► Standard CMOS Features        ► Frequency/Voltage Control
   ► Advanced BIOS Features          Load Fail-Safe Defaults
   ► Advanced Chipset Features       Load Optimized Defaults
   ► Integrated Peripherals          Set Supervisor Password
   ► Power Management Setup          Set User Password
   ► PnP/PCI Configurations          Save & Exit Setup
   ► PC Health Status               Exit Without Saving

   Esc :  Quit      F9 : Menu In BIOS    ↑ ↓ → ← : Select Item
   F10 :  Save & Exit Setup

                  Time, Date, Hard Disk Type ...
```

A Setup program, built into the system BIOS, the settings are stored in the CMOS. This Setup utility program allows updates to the mainboard configuration settings. 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

```
          CMOS Setup Utility - Copyright (c) 1984-2001 Award Software
                          Standard CMOS Features

    Date  (mm:dd:yy)       Tue, May 8  2001          Item Help
    Time  (hh:mm:ss)       18 :  3  : 57
                                                Menu Level  ►
  ► IDE Primary Master
  ► IDE Primary Slave
  ► IDE Secondary Master                        Change the day, month,
  ► IDE Secondary Slave                         year and century

    Drive A                [1.44M, 3.5 in.]
    Drive B                [None]
    Floppy 3 Mode Support  [Disabled]

    Video                  [EGA/VGA]
    Halt On                [All Errors]

    Base Memory            640K
    Extended Memory        48128K
    Total Memory           49152K

  ↑↓→ Move   Enter : Select   +/-/PU/PD:Value   F10 : Save   ESC : Exit  F1 : General Help
        F5 : Previous Values         F6 : Fail-Safe Defaults      F7 : Optimized Defaults
```

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.

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 **Page Up** or **Page Down** 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.

Chapter 3
BIOS Setup

Advanced BIOS Features

```
CMOS Setup Utility - Copyright (c) 1984-2001 Award Software
                    Advanced BIOS Features

Virus Warning                [Disabled]          Item Help
CPU Internal Cache           [Enabled]
External Cache               [Enabled]      Menu Level  ►
CPU L2 Cache ECC Checking    [Enabled]
Processor Number Feature     [Enabled]      Allows you to choose
Quick Power On Self Test     [Enabled]      the VIRUS warning
► Hard Disk Boot Priority    [Press Enter]  feature for IDE Hard
First Boot Device            [Floppy]       Disk boot sector
Second Boot Device           [Hard Disk]    protection. If this
Third Boot Device            [CDROM]        function is enabled
Boot Other Device            [Enabled]      and someone attempt to
Swap Floppy Drive            [Disabled]     write data into this
Boot Up Floppy Seek          [Enabled]      area, BIOS will show
Boot Up NumLock Status       [On]           a warning message on
Gate A20 Option              [Fast]         screen and alarm beep
Typematic Rate Setting       [Disabled]
x Typematic Rate (Chars/Sec)  6
x Typematic Delay (Msec)      250
Security Option              [Setup]

↑↓→ Move  Enter : Select  +/-/PU/PD:Value  F10 : Save  ESC : Exit F1 : General Help
    F5 : Previous Values   F6 : Fail-Safe Defaults   F7 : Optimized Defaults
```

Virus Warning

This feature will prompt uses a warning message, when any write boot sector commend executed.

The options are: Enabled, Disabled.

CPU Internal Cache

When enabled, improves the system performance. Disable this item when testing or trouble-shooting. The options are: Enabled, Disabled.

External Cache

When enabled, supports CPU L2 cache. This feature allows you to disable the cache function when the system performance is unstable to run some software. The options are: Enabled, Disabled.

CPU L2 Cache ECC Checking

When enabled, it activates the CPU L2 cache check and error correction. The options are: Enabled, Disabled.

Processor Number Feature

If a Pentium III processor is installed on this mainboard, the system BIOS will allow other utilities to access the Intel Pentium III serial number while this feature set at 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.

First/Second/Third Boot Device

This feature allows user to select the boot device priority. The options are:
Floppy, LS120, Hard Disk, CDROM, ZIP100, 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.
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 of address Line No. 20.
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.

**Chapter 3
BIOS Setup**

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 you to set the security level of the system.
The options are: 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.

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 are: Disabled, Enabled.

Report No FDD For WIN 95

When the field under the Standard CMOS Setup Menu for Drive A and/or Drive B is set at None, users must set this field is set at Yes for it to function properly. Otherwise, set at No, even if field for Drive A and/or Drive B is set at None, system will still detect and recognize of a floppy drive(s).
The options are: Yes, No.

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 about BIOS Guardian before you start to reflash BIOS.

Advanced Chipset Features
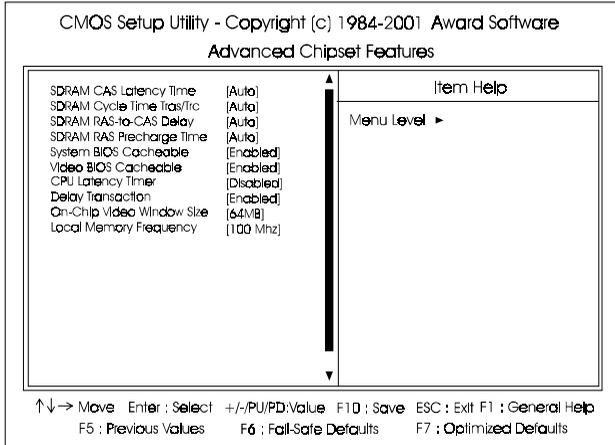
SDRAM CAS Latency Time

If the CAS latency of your installed SDRAM DIMM is 2, set it at 2 to enhance system performance. If the CAS latency is 3, stay with the default setting of 3. The options are: 2, 3, Auto.

SDRAM Cycle Time Tras/Trc

This item controls the number system clock for an access cycle.
The options are: 6/8, 5/7, Auto.

SDRAM RAS-to-CAS Delay

This item, which is available only when the above item Auto Configuration is set at *Disabled*, allows you to define the time delay from DRAM CAS# active to CAS# active, depending on the CPU frequency and DRAM type used, whether 2 clocks or 3 clocks. The options are: 3, 2, Auto.

Chapter 3
BIOS Setup

SDRAM RAS Precharge Time

This item, which is available only when the above item Auto Configuration is set at Disabled, allows you to select the DRAM RAS# precharge time whether 3 clocks or 4 clocks. The options are: 3, 2.

System BIOS Cacheable

When enabled, allows the ROM area of F000H-FFFFH to be cacheable when the cache controller is activated.
The options are Enabled, Disabled.

Video BIOS Cacheable

As with caching the system BIOS above, enabling the video BIOS cache will cause access to the video BIOS addressed at C0000H-C7FFFH to be cached, if the cache controller is also enabled.
The options are Enabled, Disabled.

CPU Latency Timer

CPU latency item setting to fix Japanese Win 95 problem.
The options are: Disabled, Enabled.

Delayed Transaction

When enabled, it allows the current PCI bus master to retry the current PCI bus master cycle and to accept the new PCI bus master request. It re-accepts the original PCI bus master and returns data to the original PCI bus master, thereby enhancing system performance.
The options are: Disabled, Enabled.

On-Chip Video Window Size

This feature allows you to select the main memory frame size of AGP use.
The options are: 64MB, Disabled.

Local Memory Frequency

This item allows users to select the SDRAM frequency.
The options are: 100MHz, 133MHz.

Integrated Peripherals
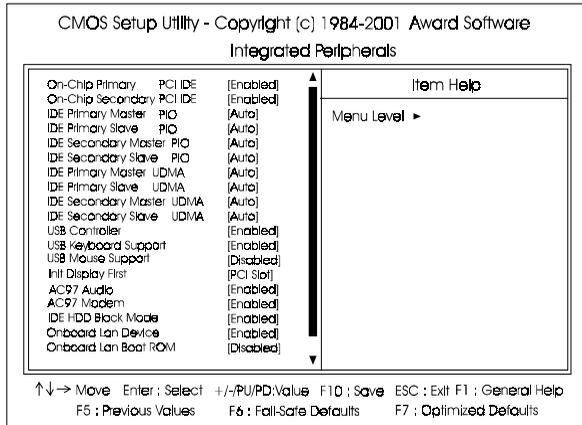
On-Chip Primary PCI IDE

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

On-Chip Secondary PCI IDE

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

IDE Primary Master PIO

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

IDE Primary Slave PIO

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

IDE Secondary Master PIO

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

IDE Secondary Slave PIO

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

IDE Primary Master UDMA

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

IDE Primary Slave UDMA

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

IDE Secondary Master UDMA

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

IDE Primary Slave UDMA

Allows you to select the first PCI IDE channel of the first slave hard disk mode or to detect it by the BIOS if the hard disk supports UDMA (Ultra DMA, faster than DMA). The options are: Auto, Disabled.

USB Controller

Disable this option if you are not using the onboard USB feature.
The options are: Disabled, Enabled.

USB Keyboard Support

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

USB Mouse Support

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

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, Onboard.

AC97 Audio

This feature allows users to enable or disable the AC97 audio function. The options are: Auto, Disabled.

AC97 Modem

This feature allows users to enable or disable the AC97 modem function. The options are: Auto, 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 Device

This feature allows users to enable or disable the onboard Lan device. The options are: Enabled, Disabled.

Onboard Lan Boot ROM

This feature allows users to enable or disable the onboard Lan boot ROM to boot system.
The options are: Enabled, Disabled.

POWER ON Function

Allows you to set the method for powering-on the system. The default option of *BUTTON ONLY* allows system power-on using the standard system case mounted ON/OFF switch. The option *Password* allows you to set up to 5 alphanumeric characters to power-on the system. The option *Hot KEY* allows you to set which of the 12 keyboard function keys (**F1** to **F12**) in combination with the **Ctrl** key to power-on the system. The option *Mouse Click* allows you to use the PS/2 mouse to power-on the system by double-clicking on the mouse button.

The options are: Password, Hot KEY, Mouse Move, Mouse Click, Any Key, BUTTON ONLY, Keyboard 98.

NOTE: When using Password option for the item POWER ON Function will render the power button on the system case ineffective. In case user forgets password or hot key setting, use the clear password switch or jumper to clear RTC data.

Hot Key power ON

Allows you to set which of the 12 keyboard function keys (F1 to F12) in combination with the Ctrl key will be used to power-on the system. The options are: Ctrl-F1 up to Ctrl-F12.

Onboard FDC Controller

When enabled, the floppy diskette drive (FDD) controller is activated. The options are: 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, Auto.

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, SCR.

UR2 Duplex Mode

Allows you to select the IR modes.
The options are: Full, Half.

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, 378H/IRQ7, 278H/IRQ5, 3BCH/IRQ7.

Parallel Port Mode

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

ECP Mode Use DMA

This feature allows you to select Direct Memory Access (DMA) channel if the ECP mode selected. The options are: 3, 1.

PWRON After PWR-Fail

When the system is shut down owing to the power failure, the system will not be back to power on by itself. This feature allows you to set the system back to which power status of the system when the system power is resumed. The options are: Off, On, Former-Sts.

Game Port Address

This feature allows you to select the game port address or disable it.
The options are: Disabled, 201, 209.

Midi Port Address

This feature allows you to select the Midi port address or disable it.
The options are: Disabled, 330, 300.

Midi Port IRQ

It allows you to select Midi IRQ if Midi is enabled.
The options are: 5, 10.

**Chapter 3
BIOS Setup**

Power Management Setup
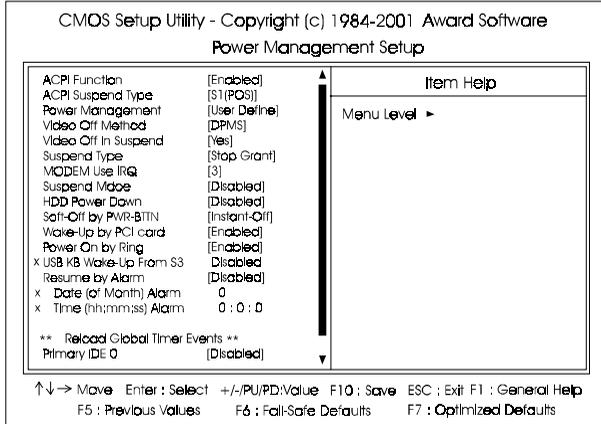
ACPI Function

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

ACPI Suspend Type

This item allows you to select suspend mode when the system in ACPI mode. The options are: S1 (POS), S3 (PTR).

Power Management

This item allows you to adjust the power management features.
Select User Define for configuring your own power management features. Min Saving initiates all predefined timers in their minimum values. Max Saving, on the other hand, initiates maximum values. The options are: User Define, Min Saving, Max Saving.

Video Off Method

The option *V/H SYNC+Blank* allows the BIOS to blank off screen display by turning off the V-Sync and H-Sync signals sent from add-on VGA card. *DPMS* allows the BIOS to blank off screen display by your add-on VGA card which supports DPMS (Display Power Management Signaling function). *Blank Screen* allows the BIOS to blank off screen display by turning off the red-green-blue signals.
The options are: Blank Screen, V/H SYNC+Blank, DPMS.

Video Off In Suspend

The option allows you to select VGA status when the system goes to suspend mode. The options are: Yes, No.

Suspend Type

The option allows you to select VGA status when the system goes to suspend mode. The options are: Stop Grant, PwrOn Suspend.

MODEM Use IRQ

This feature allows you to select the IRQ# to meet your modem IRQ#. The options are: NA, 3, 4, 5, 7, 9, 10, 11.

Suspend Mode

When disabled, the system will not enter Suspend mode. The specified time option defines the idle time the system takes before it enters Suspend mode. The options are: Disabled, 1, 2, 4, 8, 12, 20, 30, 40 Min, 1 Hour.

HDD Power Down

The option lets the BIOS turn the HDD motor off when system is in Suspend mode. Selecting 1 Min..15 Min allows you define the HDD idle time before the HDD enters the Power Saving Mode.
The options 1 Min..15 Min will not work concurrently. When HDD is in the Power Saving Mode, any access to the HDD will wake the HDD up.
The options are: Disabled, 1 Min..15 Min.

Soft-Off by PWR-BTTN

The selection Delay 4 Sec. will allow the system shut down after 4 seconds after the power button is pressed. The selection Instant-Off will allow the system shut down immediately once the power button is pressed.
The settings are: Delay 4 Sec, Instant-Off.

Wake-Up by PCI card

When set at Enabled, any PCI-PM event awakes the system from a PCI-PM controlled state. The options are Disabled, Enabled.

Power On by Ring

An incoming call via modem awakes the system from its soft-off mode. The options are Disabled, Enabled.

USB KB Wake-Up From S3

When set at Enabled, it allows USB keyboard to activate the system from ACPI S3 power saving mode. The options are Disabled, Enabled.

Resume by Alarm

This feature allows you to set the when the system being turned on from the system power-off status.

The options are: Enabled, Disabled.

Date (of Month) Alarm

This feature allows you to set the day of the alarm starts when the RTC Alarm Resume From Soft Off is set to be Enabled. The options are: 0, 1..31.

Timer (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.

Reload Global Timer Events

Primary IDE 0/1

When the primary master/slave HDD is working, the system timer will be reloaded and the system will not be into the suspend mode.

The options are: Disabled, Enabled.

Secondary IDE 0/1

When the secondary master/slave HDD is working, the system timer will be reloaded and the system will not be into the suspend mode.

The options are: Disabled, Enabled.

FDD, COM, LPT Port

When FDD, COM, or LPT is working, the system timer will be reloaded and the system will not be into the suspend mode.
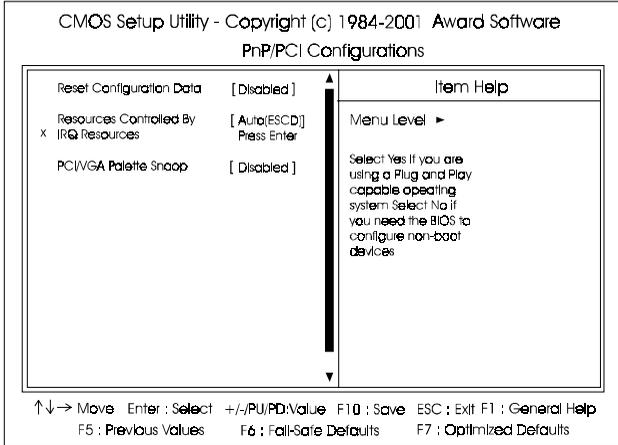
The options are: Disabled, Enabled.

PCI PIRQ[A-D]#

When the PCI PIRQ[A-D]# has been alerted, the system timer will be reloaded and the system will not be into the suspend mode.

The options are: Disabled, Enabled.

PnP/PCI Configurations

```
CMOS Setup Utility - Copyright (c) 1984-2001  Award Software
                     PnP/PCI Configurations

  Reset Configuration Data    [ Disabled ]          Item Help

  Resources Controlled By     [ Auto(ESCD)]     Menu Level  ►
X IRQ Resources                  Press Enter
                                              Select Yes if you are
  PCI/VGA Palette Snoop       [ Disabled ]     using a Plug and Play
                                              capable opeating
                                              system Select No if
                                              you need the BIOS to
                                              configure non-boot
                                              devices

↑↓→ Move   Enter : Select   +/-/PU/PD:Value  F10 : Save  ESC : Exit F1 : General Help
    F5 : Previous Values      F6 : Fail-Safe Defaults      F7 : Optimized Defaults
```

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 featrue 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.

IRQ Resources

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

IRQ-3/4/5/7/9/10/11/12/14/15

Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with PnP standard whether designed for PCI or ISA bus architecture.
The options are: PCI Device, Reserved.

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
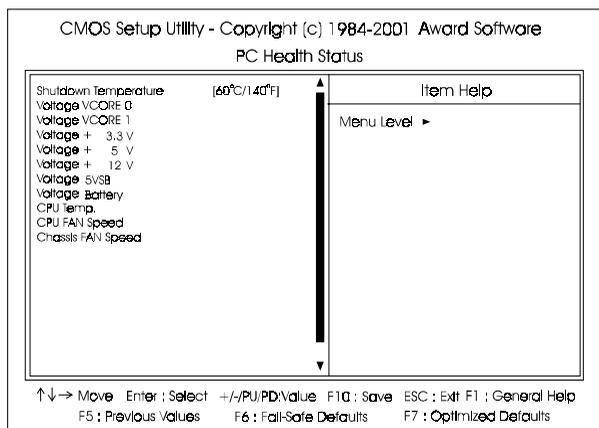
Shutdown Temperature

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.

Voltage VCORE 0 / Voltage VCORE 1 / Voltage +3.3V / Voltage +5V / Voltage +12V / Voltage 5VSB / Voltage Battery / CPU Temp. / CPU FAN Speed / Chassis FAN Speed

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

Frequency/Voltage Control

```
         CMOS Setup Utility - Copyright (c) 1984-2001 Award Software
                          Frequency/Voltage Control

   Auto Detect DIMM/PCI Clk      [Enabled]  ▲  │         Item Help
   CPU Host/SDRAM/PCI Clk/Sst    [Default]     │
   CPU Clock Ratio               [X 3]         │  Menu Level  ►
                                               │
                                               │
                                               │
                                               │
                                               │
                                               │
                                               │
                                               │
                                               │
                                            ▼

   ↑↓→ Move   Enter : Select   +/-/PU/PD:Value   F10 : Save   ESC : Exit  F1 : General Help
        F5 : Previous Values      F6 : Fail-Safe Defaults    F7 : Optimized Defaults
```
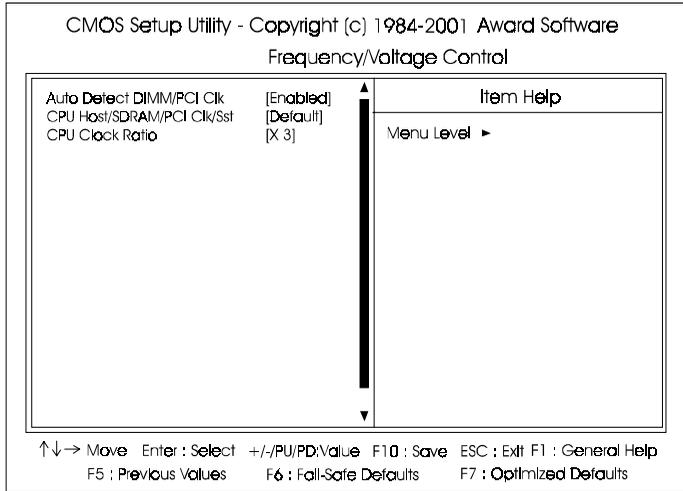
Auto Detect DIMM/PCI Clk

When set at Enabled, the system BIOS will detect the PCI slots and DIMM slots. If a slot is found no device on it, the system BIOS will automatically disable the slot clock.
The options are: Enabled, Disabled.

CPU Host/SDRAM/PCI Clk/Sst

This feature is used to set the CPU host, SDRAM, PCI clock frequencies and spread spectrum percentage. The option list presents all available combinations allowed by this system.

CPU Clock Ratio

This feature allows you to select the frequency mulitplier for CPU host clock. The option list offers the ratios from X 3 to X 8.

Load Fail-Safe Defaults

This submenu is selected to diagnose the problem after the computer boots, if the computer will not boot. These settings do not give optimal performance.

Load Optimized Defaults

This submenu is selected for default settings which provide the best system performance.

Supervisor/User Password

To enable the Supervisor/User passwords, select the item from the Standard CMOS Setup. You will be prompted to create your own password. Type your password up to eight characters and press Enter. You will be asked to confirm the password. Type the password again and press Enter. To disable password, press Enter twice when you are prompted to enter a password. A message appears, confirming the password is disabled.

Under the BIOS Feature Setup, if *Setup* is selected under the Security Option field and the Supervisor/User Password is enabled, you will be prompted password every time you try to enter the CMOS Setup Utility. If *System* is selected and the Supervisor/User Password is enabled, you will be requested to enter the Password every time when you reboot the system or enter the CMOS Setup utility.

Save and Exit Setup

After you have made changes under Setup, press Esc to return to the main menu. Move cursor to Save and Exit Setup or press F10 and then press Y to change the CMOS Setup. If you did not change anything, press Esc again or move cursor to Exit Without Saving and press Y to retain the Setup settings. The following message will appear at the center of the screen to allow you to save data to CMOS and exit the setup utility: **SAVE to CMOS and EXIT (Y/N)?**

Exit without Saving

If you select this feature, the following message will appear at the center of the screen to allow you to exit the setup utility without saving CMOS modifications: **Quit Without Saving (Y/N)?**