# 6VIA90AP

## User's Manual Version 1.0

The information presented in this publication has been carefully prepared to ensure reliability ; however, no responsibility is assumed for inaccuracies. Specifications are subject to change without notice.

# Table of Contents

**Chapter 1**

**1**

# Introduction

## How This Manual is Organized

This manual is divided into the following sections:

**Chapter 1**   **Introduction**   : Manual information and checklist.

**Chapter 2**   **Features**   : Information and Specifications concerning this mainboard.

**Chapter 3**   **Installation**   : Instructions on setting up the board.

The mainboard is a high-performance mainboard based on the advanced Socket 370 microprocessor, the VGA, Audio , PCI Bus and the VIA 694X chipset.

## Package Checklist

Please check that your package is complete . Should any item be
damaged or missing , please contact your retailer immediately.

- ⧗ The 6VIA90AP mainboard.

- ⧗ The USB2 connector with bracket **(option)**.

- ⧗ 1 x IDE UDMA66/100 ribbon cable.

- ⧗ 1 x floppy ribbon cable.

- ⧗ CD  drivers and utilities

- ⧗ This user's Manual

**Chapter 2**

# 2

# Features

## Features of the 6VIA90AP Mainboard

⌛ VIA 694X chipset supports 66/100/133MHz FSB, UltraDMA66/100 AGP 4X.

⌛ Supports Intel's processor designed for socket 370 and package in PPGA/FCPGA.

⌛ **Integrated H/W monitor compensation engine.**

⌛ **supports "Touch Button Wake up" for soft power on/off and suspend mode multifunction.(option)**

- **Supports Resume by Ring through Modem.**
- **Use 168-Pin DIMM modules (supports Intel PC100/133-compliant SDRAMs) x3 .**

- 5x PCI Bus slots, and 1 x  AMR (Audio Modem Riser) slots.

- 1 x ISA Bus slots.

- All 5 PCI slots support Master mode.

- System BIOS support 4 IDE hard disk drivers that don't need device driver for S/W application.

- PCI Bus master IDE interface on board with two connectors support 4 IDE devices in 2 channel, the PCI IDE Controller supports PIO Mode 0 to Mode 4, Bus master IDE DMA Mode 2 and **Ultra DMA 66MB, Ultra DMA 100MB.**

- Supports PS/2™  mouse Connector.

- **System BIOS supports LS-120, ZIP driver firmware and Green feature function, Plug and Play Flash ROM.**

- **AC'97 DAC built into the audio CODEC reduces noise to improve audio quality and performance for a SNR (signal to noise ratio) of +90dB. These features greatly improve voice synthesis and recognition. If higher quality is required, an optional on-board Cyrstal PCI audio improves audio quality beyond software audio.**

- Supports Software Virus Warning in BIOS.

- Supports ACPI function Static Electricity Precautions.

- Supports STR (Suspend to RAM) function.

**Chapter 3**

**3**

# Installation

**Jumper**

| Jumper | | Refer to pages |
|--------|--|----------------|

# The 6VIA90AP Mainboard Layout

## The 6VIA90AP Mainboard Layout
## System Installation Setup

Before using your computer, you must finish the following steps:
1. Set jumpers on mainboard
2. Install SDRAM module.
3. Install the Processor.
4. Connect Ribbon Cables, Cabinet Wires, and Power supply.
5. Install Add-on Cards.
6. Setup the BIOS software.

## Static Electricity Precaution

- ⧗ Keep the mainboard and other system components in their anti-static packaging until you are ready to install them.

- ⧗ Do all preparative work on a static-free surface with the main board components facing up.

- ⧗ Unplug your computer when working on the inside.

- ⧗ Wear an Anti-static wrist strap.

- ⧗ Hold the system components, boards or cards by its edges only. Be careful not to touch any of the IC chips, circuitry, contacts or connections, especially gold contacts on the mainboard.

# Jumper  Settings

**Jumpers**

The several hardware setting are made through the use of jumper caps to connect jumper pins (Jxx) on the mainboard. See " Map of the mainboard" for locations of jumpers.

The jumper settings will be described numerically such as [----], [1-2], [2-3] for no connection, connect pins 1 & 2, and connect pins 2 & 3 respectively. Pin 1 for our mainboard is always on top one  or on the left when holding the mainboard with the keyboard away from yourself.  "P1" is written besides pin 1 on jumper with three pins. The jumpers will also be shown graphically such as  to connect pin 1&2 and  to connect 2&3. Jumpers with two pins will be shown as  for Short (on )and  for Open (off). For manufacturing simplicity may be sharing pins from other groups. Use the diagrams in this manual instead of following the pin layout on the board. Settings with two jumper numbers require that both jumpers be moved together. To connect the pin, simply place a plastic jumper cap over the two pins as illustrated.

## Real Time Clock (RTC) RAM - JBAT1 :

The CMOS RAM is powered by the onboard button cell battery. To clear the RTC data:
(1)Turn off your computer, (2) Move this jumper to "2-3Pin Clear Data", (3) Move the jumper back to "Default",  (4) Turn on your computer, (5) Hold down <Delete > during bootup and enter BIOS setup to re-enter user Preferences.



| JBAT1 CMOS Clear | |
|---|---|
| 1-2 | Normal (default) |
| 2-3 | Clear CMOS |
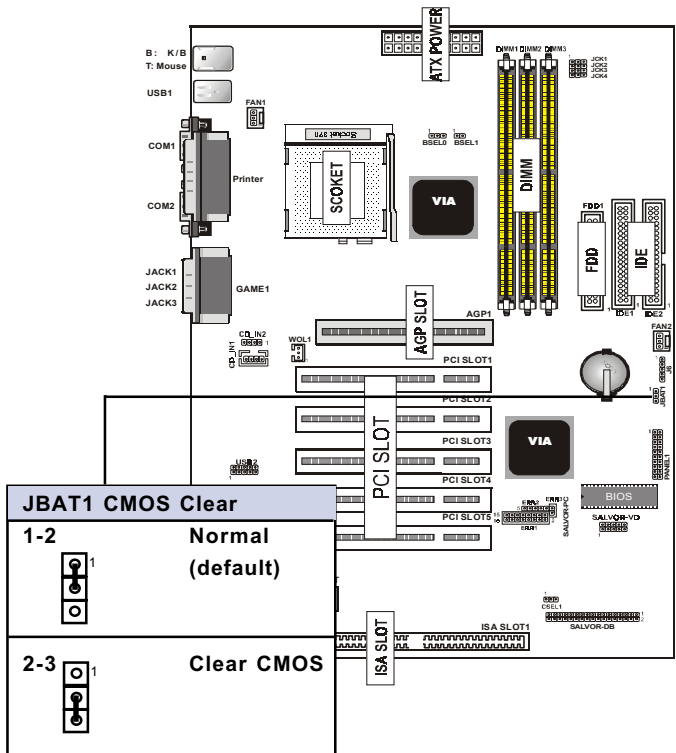
# System Memory ( DIMM Module)

This **6VIA90AP** main board supports three 168 pin DIMM of 16 MB, 32 MB, 64 MB, 128 MB, 256MB to form a memory size between 16MB to 256MB.
The DRAM can be either Intel PC133-compliant SDRAMs.
Install memory in any or all Banks in Combination:

| Bank | Memory module |
|---|---|
| DIMM 1 | 16MB,32MB,64MB,128MB,256MB |
| ( Bank 0-1 ) | 168 pin,3.3v SDRAM / EDO RAM |
| DIMM 2 | 16MB,32MB,64MB,128MB,256MB |
| ( Bank 2-3 ) | 168 pin 3.3v,SDRAM / EDO RAM |
| DIMM 3 | 16MB,32MB,64MB,128MB,256MB |
| ( Bank 4-5 ) | 168 pin 3.3v,SDRAM / EDO RAM |
| **Total System Memory(Max 768MB)** | |

## Note :

- **At the time this user's manual was written, 256MB DIMM's are only available as double-sided registered memory (128Mbit cells).**

- **The motherboard operates at 133MHz, therefore PC133-compliant modules must be used because of the strict timing issues involved under this speed.**

# DIMM Memory Installation

Insert the module (s) as shown. Because the number of pins are different on either side of the breaks,the module will only fit in the orientation as shown. SDRAM DIMM modules have different pin contacts on each side and therefore have a higher pin density.



168 Pin DIMM Socket

88 pins
60 pins
20 pins
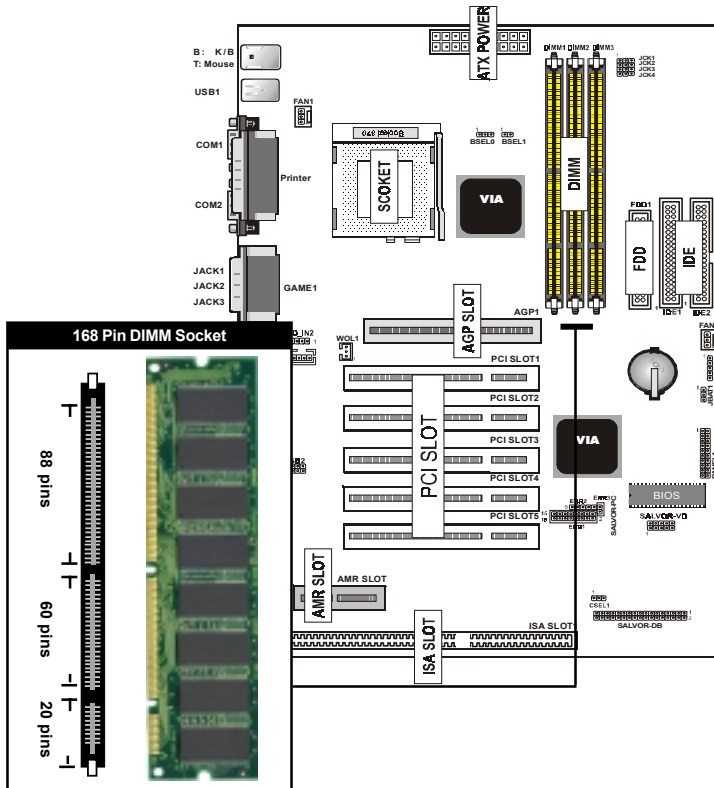
The Dual Inline Memory Module (DIMM) memory module must be 3.3v Extended Data Output (EDO) DRAM or SDRAM. You can identify the type of DIMM module by the illustration below:

RFU     Unbuffered     5.0V     Reserved

Buffered     3.3V

DRAM Key Position     Voltage Key Position
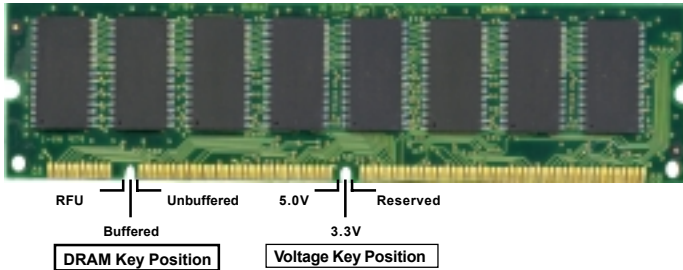
### 168 Pin DRAM DIMM Notch Key Definitions

The notch on the DIMM module will shift between left, center, or right to identify the type and also to prevent the wrong type to be inserted into the DIMM slot on the Mainboard. You must ask your retailer for Specifications before purchasing.
**Four clock signals are supported on this mainboard**

# CPU Installation

The motherboard provides a ZIF socket 370. The CPU that came with the motherboard should have a fan attached to it to prevent over-heating . If this is not the case then purchase a fan before you turn on your system.

To install a CPU, first turn off your system and remove its cover. Locate the ZIF socket and open it by first pulling the lever sideways away from the socket then upwards to a 90-degree right angle. Insert the CPU with the correct orientation shown . The notched corner should point towards the end of the lever. Because the CPU has a corner pin for two of the four corners, the CPU will only fit in the orientation as shown.



Notch
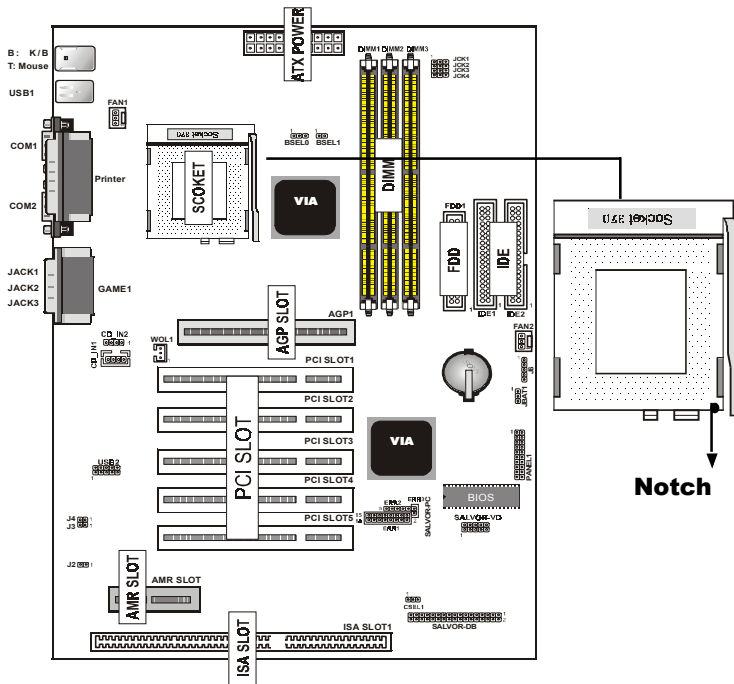
**CPU Type Selection -BSEL0, BSEL1**

Current PCI bus is limited to 33MHz, socket370 Celeron processors limited to 66MHz, and SDRAM limited to the DIMM type 66/100/133MHz. Other settings are for experienced users only.



**BSEL0 / BSEL1 CPU Type Selection**

| | | |
|---|---|---|
| 1 BSEL0 | 1 BSEL1 | **Auto detected by CPU** |
| 1 JCK1 | 1 JCK2 | |
| 1 JCK3 | 1 JCK4 | |
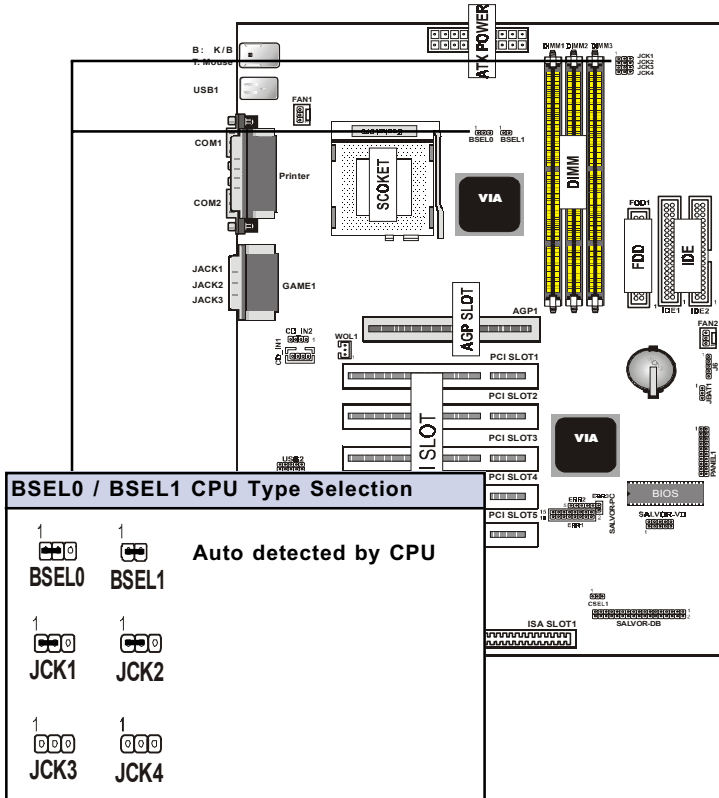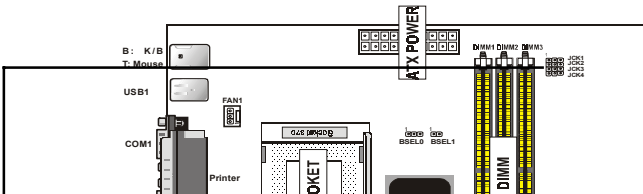
## CPU External (Bus) Frequency Selection -JCK1, JCK2, JCK3, JCK4

The JCK1~4 jumpers are used to set PCI and CPU external bus clock.

### NOTE:

In order to enhance the clock generator, jumpter setting should be changed as follow:



| CPU Freq. | CLK | PCI | JCK1 | JCK2 | JCK3 | JCK4 |
|-----------|-----|-----|------|------|------|------|
| **133MHz** | 132.99 | 33.25 | 1 | 1 | open | open |
| **OverClock** | 150 | 37.5 | 1 | 0 | open | open |
| **(Test Only)** | 140 | 35 | 0 | 0 | open | open |
| **100MHz** | 100.23 | 33.41 | 1 | 1 | open | open |
| **OverClock** | 112.01 | 37.34 | 1 | 0 | open | open |
| **(Test Only)** | 103 | 34.33 | 0 | 0 | open | open |
| **66MHz** | 66.82 | 33.41 | 1 | 1 | open | open |
| **OverClock** | 83.31 | 41.65 | 0 | 1 | open | open |
| **(Test Only)** | 75 | 37.5 | 1 | 0 | open | open |
| | 80 | 40 | 0 | 0 | open | open |

**1:1-2 Close**

**0:2-3 Close**

**1-2,2-3:Open**

## Onboard AC'97 Function Selection : J3, J4

**J3/J4 Onboard AC'97**

| OFF | Disabled |
|-----|----------|
| | J3 |
| | J4 |

| ON | Enabled |
|----|---------|
| | J3 |
| | J4 |

COM1

Printer

COM2

JACK1
JACK2
JACK3

GAME1

CD_IN2
CD_IN1

WOL1

USB2

J4
J3

J2

ATX POWER

DIMM1 DIMM2 DIMM3

JCK1
JCK2
JCK3
JCK4

BSEL0 BSEL1

SOCKET 370

SOCKET

VIA

DIMM

FDD1

FDD

IDE

IDE1    IDE2

FAN2

AGP SLOT    AGP1

PCI SLOT1

PCI SLOT2

PCI SLOT3

PCI SLOT4

VIA

PCI SLOT5

PCI SLOT

ERR1
ERR1

SALVDR-PC

BIOS

SALVDR-VD

PANEL1

AMR SLOT

AMR SLOT

CSEL1

SALVOR-DB

ISA SLOT    ISA SLOT1

## Audio/Modem Riser (AMR) Function Selection : J2

**J2 AMR Function Selection**

| ON | Primary |
|----|---------|

| OFF | Secondary |
|-----|-----------|
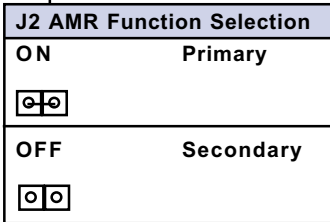
## Clearance Requirements

To maintain proper airflow once the processor is installed on the mainboard, the processor and fan heatsink require certain space clearances. The clearance above the processor must be at least 0.3 inches. The clearance on at least 3 of 4 sides of the processor and fan heatsink must be at least 0.2 inches. All cables (for Floppy drive,Hard drive,CD-ROM,and so on) must be routed clear of the processor and its airspace.

## Fan Exhaust

The processor must be kept cool by using a processor with heatsink and fan attached . The temperature of the air filled with the fan/ heatsink cannot exceed 45 $^{O}$C(113 $^{O}$F ) . The ambient or room temperature must be below 37 $^{O}$C ( 99 $^{O}$F) .

# EXTERNAL CONNECTORS

Both Ribbon cable and Connectors on board are with direction signs to prevent incorrent insertion. The ribbon cables should always be connected with the red stripe on the pin 1 side of the connector.
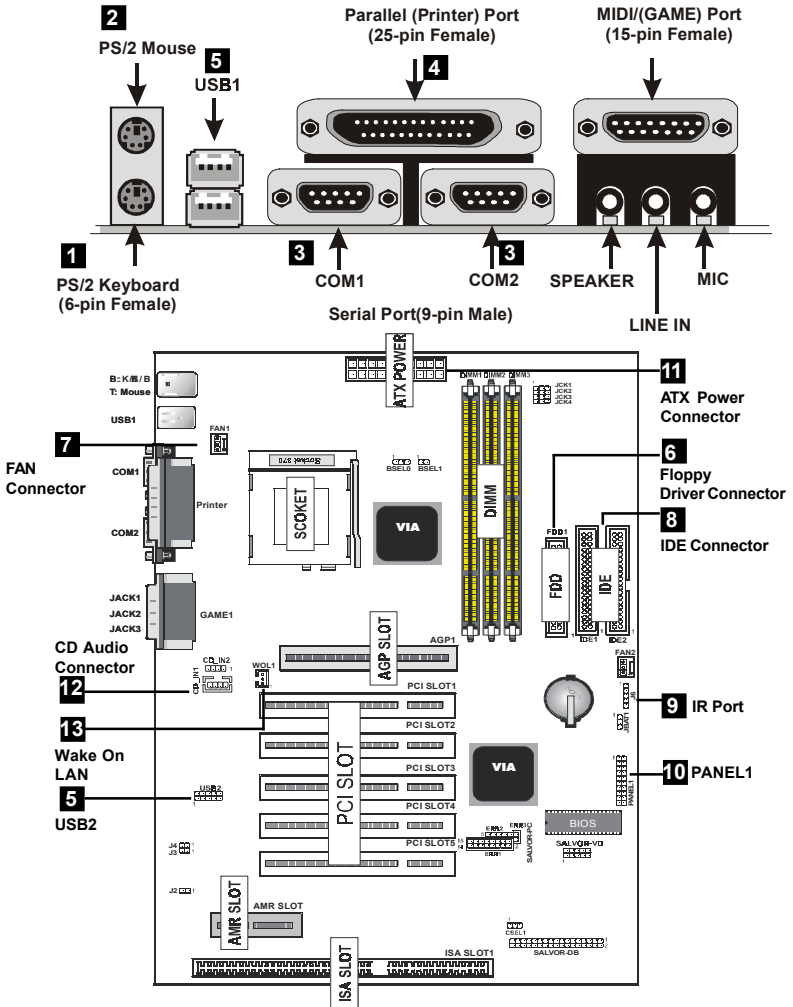
1. **PS/2 AT Keyboard port**
   This connection is for a standard keyboard using a PS/2 plug (mini DIN) . This connector will not allow standard AT size (large DIN) keyboard plugs. You may use a DIN to mini DIN adapter on standard AT keyboards.

2. **PS/2 Mouse port**
   This system will direct IRQ12 to PS/2 mouse.

3. **Serial Port COM 1 and COM 2 port**
   The COM1/2 serial ports can be used for pointing devices or other serial devices. See "Onboard Serial Port" in chipset Feature Setup of the BIOS SOFTWARE.

   > **NOTE:**
   > **Serial {D-type 9pin (F) } must be connected to the serial port.**

4. **Parallel Printer port**
   You can enable the parallel port and choose the IRQ through "Onboard Parallel Port" in Chipset. Feature Setup of the BIOS SOFTWARE.

5. **Universal Serial BUS Ports 1 & 2**
   Two USB ports are available for connecting USB devices.

6. **Floppy drive connector**
   This connector supports the provided floppy drive ribbon cable. After connecting the single end to the board, connect the two plugs on the other end to the floppy drives.

## 7. FAN1 , FAN2 CPU Cooling Fan (FAN1,2)

These connectors support cooling fans of 500mAmp (6Watt) or less. Adjust the fans so that the heat sink fins allow airflow to go across the onboard heat sink(s) instead of the expansion slots. Depending on the fan manufacturer, the wiring and plug may be different. The red wire should be positive, while the black should be ground. Connect the fan's plug to the board taking into consideration the polarity of this connector.

| Pin | Assignment |
|-----|------------|
| 1 | Ground |
| 2 | +12VDC |
| 3 | Signal |
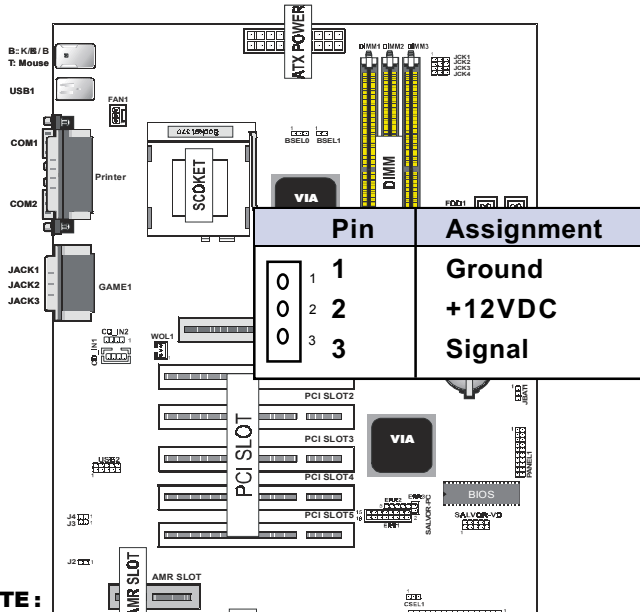
**NOTE :**

The "Rotation" signal is to be used only by a specially designed fan with rotation signal.

**WARNING :**

The CPU and/or motherboard will overheat if there is no air flowing across the CPU and onboard heatsinks. Damage may occur to the motherboard and/or the CPU fan if these pins are incorrectly used. These are not jumpers, do not place jumper caps over these pins.

8. **Primary / Secondary IDE connectors (Two 40-pin Block)**
These connectors support the provided IDE hard disk ribbon cable. After connecting the single end to the board, connect the two plugs at the other end to your hard disk (s) . If you install two hard disks, you must configure the second drive to Slave mode by setting its jumper setting. BIOS now supports SCSI device or IDE CD-ROM boot up (see "HDD Sequence SCSI/ IDE First" & "Boot Sequence" in the BIOS Features Setup of the BIOS SOFTWARE) (Pin 20 is removed to prevent inserting in the wrong orientation when using ribbon cables with pin 20 plugged) .

**Tip** :
**You may configure two hard disks to be both Masters using one ribbon cable on the primary IDE connector. You may install one operating system on an IDE drive and another on a SCSI drive and select the right one through the BIOS Feature Setup.**

9. **IrDA / Fast IR-Compliant infrared module connector - J6**
   This connector supports the optional wireless transmitting and receiving infrared module. This module mounts to a small opening on system cases that support this feature. You must also configure the setting through UART2 Use Infrared" in Chipset Feature Setup to select whether UART2 is directed for use with COM2 or IrDA. Use the five pins as shown on the Back View and connect a ribbon cable from the module to the motherboard according to the pin definitions.



| J6 (IR) Connector | |
|---|---|
| Pin | Description |
| 1 | +5V |
| 2 | NC |
| 3 | IRRX |
| 4 | GND |
| 5 | IRTX |

10. **PANEL1**



PANEL1 Connector

RST   HD_LED       PW_LED   PW_BN

SMI       SPEAK
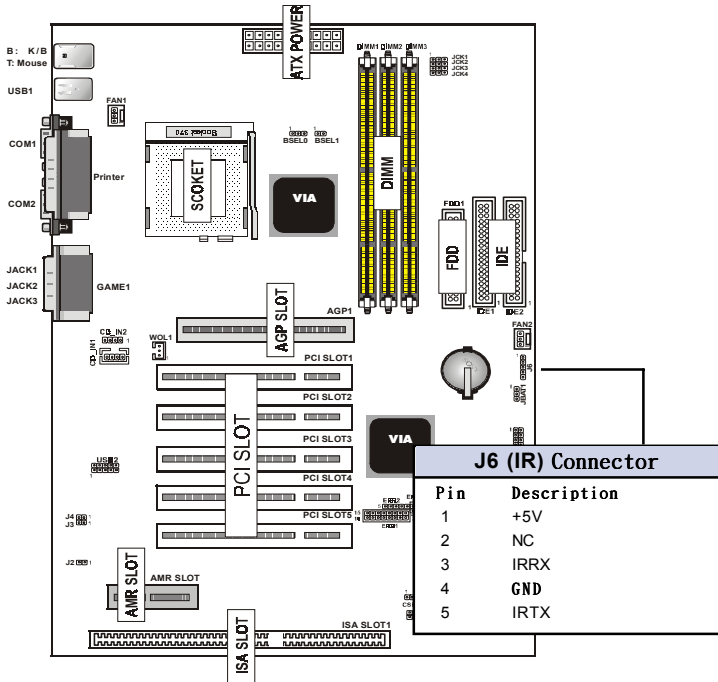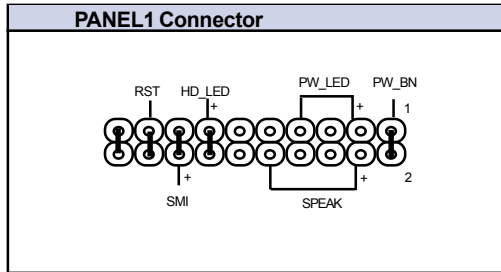
a. **IDE activity LED  (HD-LED)**
   This connector supplies power to the cabinet's IDE activity LED.
   Read and write activity by devices connected to the Primary or
   Secondary IDE connectors will cause the LED to light up.

b. **Power LED Lead (PW_LED)**
   The system power LED lights when the system's power is on.

c. **SMI Suspend Switch Lead  (SMI)**
   This allows the user to manually place the system into a suspend
   mode or "Green" mode where systematic activity will be in-
   stantly decreased to save electricity and expand the life of cer-
   tain components when the system is not in use. This 2-pin con-
   nector (see the figure ) connects to the case-mounted suspend
   switch. If you do not have a switch for the connector, you may
   apply the "Turbo Switch" since it does not have a function. SMI
   is activated when it detects a short to open moment. It may re-
   quire one or two pushes depending on the position of the switch.
   Wake-up can be controlled by settings in the BIOS but the key-
   board will always allow wake-up (the SMI lead cannot wake-up
   the system). If you want to use this connector, the "Suspend
   Switch" in the Power Management Setup of the BIOS SOFT-
   WARE section should be on the default setting of Enable .

d.**Reset Switch Lead (RST)**

This 2-pin connector connects to the case-mounted reset switch for rebooting your computer without having to turn off your power switch. This is a preferred method of rebooting in order to prolong the life of the system's power supply.

e. **Speaker Connector  (SPEAKER)**

This 4-pin connector connects to the case-mounted speaker.

f. **ATX Power Switch (PW_BN)**

The system power is controlled by a momentary switch connected to this lead. Pushing the button once will switch the system ON. The system power LED lights when the system's power is on.

11. **ATX Power Supply Connector (20-pin block) - PW1**

This connector connects to a ATX power supply. The plug from the power supply will only insert in one direction because of the different hole sizes. Find the proper direction and push down firmly making sure that the pins are aligned.

**IMPORTANT:**

**Make sure that the ATX power supply can take at least 10mAmp load on the 5Volt standby lead (5VSB). You may experience difficulty in powering on your system without this.**

| Pin | Description | Pin | Description |
|-----|-------------|-----|-------------|
| 1 | 3.3V | 2 | 3.3V |
| 3 | GND | 4 | 5V |
| 5 | GND | 6 | 5V |
| 7 | GND | 8 | PW-OK |
| 9 | 5VSB | 10 | 12V |
| 11 | 3.3V | 12 | -12V |
| 13 | GND | 14 | PS-ON |
| 15 | GND | 16 | GND |
| 17 | GND | 18 | -5V |
| 19 | 5V | 20 | 5V |

## 12. **CD Audio Connector- CD_IN1/CD_IN2**

The 4-pin connectors enable the system to receive the audio output from the CD-ROM.

| CD_IN1 | Description |
|--------|-------------|
| 1 | CD-R |
| 2 | GND |
| 3 | CD-L |
| 4 | GND |

| CD_IN2 | Description |
|--------|-------------|
| 1 | CD-R |
| 2 | GND |
| 3 | GND |
| 4 | CD-L |



| Wake-On-LAN Connector | | |
|-----------------------|------------|---|
| **Pin** | **Description** | |
| **1** | **5VSB** | 1 |
| **2** | **GND** | |
| **3** | **SENSOR** | 3 |
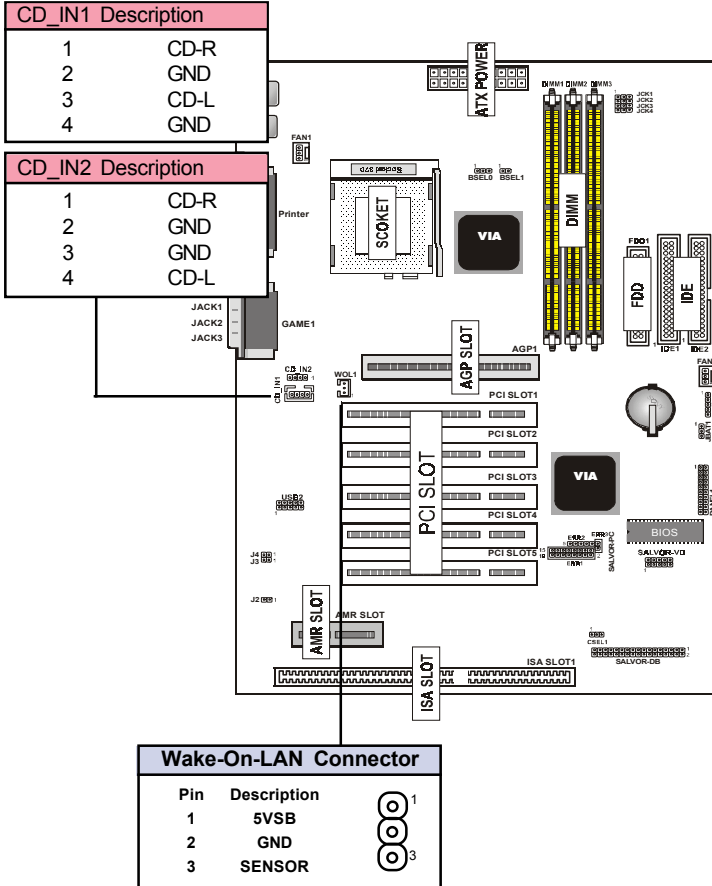
## 13. **Wake Up On LAN : WOL1**

This connector connects LAN cards and a Wake On LAN output. When the system is in soft-off mode LAN activity will power on the system.

14. **BIOS Selet Function - CSEL1**



| Pin | Assignment |
|-----|------------|
| 1-2 | Normal |
| 2-3 | SALVOR Card |
| Open | Doctor Card (Reserved) |
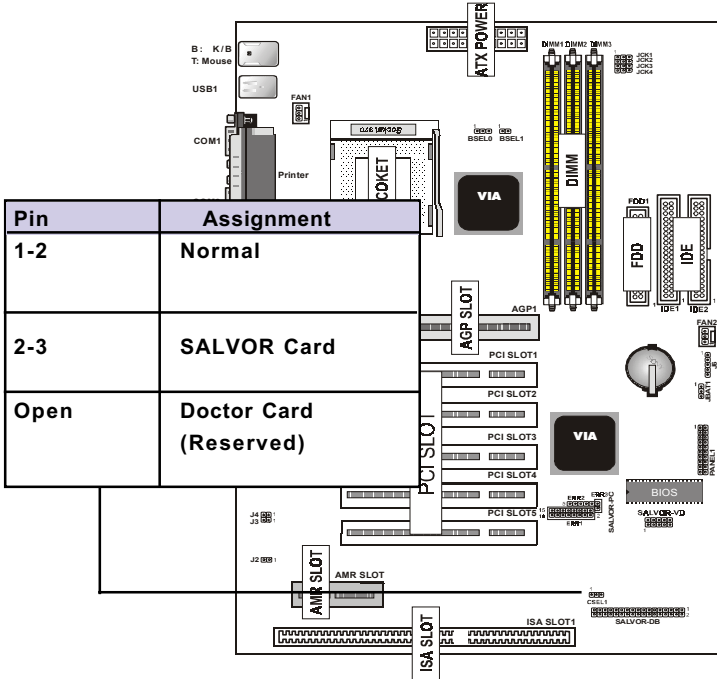
15. **SALVOR_DB:**
     Support Dual BIOS Card Connector.

16. **SALVOR_VD:**
     Support Voice Debug Card Connector.

17. **SALVOR_PC: (ERR1/ERR2)**
     Support BIOS POST Error Code Card Connector.

## POST Error Code

| POST (hex) | Description |
|---|---|
| CFh | Test CMOS R/W functionality. |
| C0h | Early chipset initialization:<br>-Disable shadow RAM<br>-Disable L2 cache (socket 7 or below)<br>-Program basic chipset registers |
| C1h | Detect memory<br>-Auto-detection of DRAM size, type and ECC.<br>-Auto-detection of L2 cache (socket 7 or below) |
| C3h | Expand compressed BIOS code to DRAM |
| C5h | Call chipset hook to copy BIOS back to E000 & F000 shadow RAM. |
| 01h | Expand the Xgroup codes locating in physical address 1000:0 |
| 02h | Reserved |
| 03h | Initial Superio_Early_Init switch. |
| 04h | Reserved |
| 05h | 1. Blank out screen<br>2. Clear CMOS error flag |
| 06h | Reserved |
| 07h | 1. Clear 8042 interface<br>2. Initialize 8042 self-test |
| 08h | 1. Test special keyboard controller for Winbond 977 series Super I/O chips.<br>2. Enable keyboard interface. |

| POST (hex) | Description |
|------------|-------------|
| 09h | Reserved |
| 0Ah | 1.Disable PS/2 mouse interface (optional). 2.Auto detect ports for keyboard & mouse followed by a port & interface swap (optional). 3.Reset keyboard for Winbond 977 series Super I/O chips. |
| 0Bh | Reserved |
| 0Ch | Reserved |
| 0Dh | Reserved |
| 0Eh | Test F000h segment shadow to see whether it is R/W-able or not. If test fails, keep beeping the speaker. |
| 0Fh | Reserved |
| 10h | Auto detect flash type to load appropriate flash R/W codes into the run time area in F000 for ESCD & DMI support. |
| 11h | Reserved |
| 12h | Use walking 1's algorithm to check out interface in CMOS circuitry. Also set real-time clock power status, and then check for override. |
| 13h | Reserved |
| 14h | Program chipset default values into chipset. Chipset default values are MODBINable by OEM customers. |

| POST (hex) | Description |
|------------|-------------|
| 15h | Reserved |
| 16h | Initial onboard clock generator if Early_Init_Onboard_Generator is defined. See also POST 26h. |
| 17h | Reserved |
| 18h | Detect CPU information including brand, SMI type (Cyrix or Intel) and CPU level (586 or 686). |
| 19h | Reserved |
| 1Ah | Reserved |
| 1Bh | Initial interrupts vector table. If no special specified, all H/W interrupts are directed to SPURIOUS_INT_HDLR & S/W interrupts to SPURIOUS_soft_HDLR. |
| 1Ch | Reserved |
| 1Dh | Initial EARLY_PM_INIT switch. |
| 1Eh | Reserved |
| 1Fh | Load keyboard matrix (notebook platform) |
| 20h | Reserved |
| 21h | HPM initialization (notebook platform) |
| 22h | Reserved |
| 23h | 1.Check validity of RTC value: e.g. a value of 5Ah is an invalid value for RTC minute. 2. Load CMOS settings into BIOS stack. If CMOS checksum fails, use default value instead. |

| POST (hex) | Description |
|------------|-------------|
| 24h | Prepare BIOS resource map for PCI & PnP use. If ESCD is valid, take into consideration the ESCD's legacy information. |
| 25h | Early PCI Initialization:<br>-Enumerate PCI bus number.<br>-Assign memory & I/O resource.<br>-Search for a valid VGA device & VGA BIOS, and put it into C000:0. |
| 26h | 1.If Early_Init_Onboard_Generator is not defined Onboard clock generator initialization. Disable respective clock resource to empty PCI & DIMM slots.<br>1.Init onboard PWM<br>2.Init onboard H/W monitor devices |
| 27h | Initialize INT 09 buffer |
| 28h | Reserved |
| 29h | 1.Program CPU internal MTRR (P6 & PII) for 0-640K memory address.<br>2.Initialize the APIC for Pentium class CPU.<br>3.Program early chipset according to CMOS setup. Example: onboard IDE controller.<br>4.Measure CPU speed. |
| 2Ah | Reserved |
| 2Bh | Invoke Video BIOS |
| 2Ch | Reserved |

| POST (hex) | Description |
|------------|-------------|
| 2Dh | 1.Initialize double-byte language font (Optional) 2.Put information on screen display, including Award title, CPU type, CPU speed, full screen logo. |
| 2Eh | Reserved |
| 2Fh | Reserved |
| 30h | Reserved |
| 31h | Reserved |
| 32h | Reserved |
| 33h | Reset keyboard if Early_Reset_KB is defined e.g. Winbond 977 series Super I/O chips.  See also POST 63h. |
| 34h | Reserved |
| 35h | Test DMA Channel 0 |
| 36h | Reserved |
| 37h | Test DMA Channel 1. |
| 38h | Reserved |
| 39h | Test DMA page registers. |
| 3Ah | Reserved |
| 3Bh | Reserved |
| 3Ch | Test 8254 |
| 3Dh | Reserved |
| 3Eh | Test 8259 interrupt mask bits for channel 1. |
| 3Fh | Reserved |
| 40h | Test 8259 interrupt mask bits for channel 2. |
| 41h | Reserved |
| 42h | Reserved |

| POST (hex) | Description |
|---|---|
| 43h | Test 8259 functionality. |
| 44h | Reserved |
| 45h | Reserved |
| 46h | Reserved |
| 47h | Initialize EISA slot |
| 48h | Reserved |
| 49h | 1.Calculate total memory by testing the last double word of each 64K page. 2.Program write allocation for AMD K5 CPU. |
| 4Ah | Reserved |
| 4Bh | Reserved |
| 4Ch | Reserved |
| 4Dh | Reserved |
| 4Eh | 1.Program MTRR of M1 CPU 2.Initialize L2 cache for P6 class CPU & program CPU with proper cacheable range. 3.Initialize the APIC for P6 class CPU. 4.On MP platform, adjust the cacheable range to smaller one in case the cacheable ranges between each CPU are not identical. |
| 4Fh | Reserved |
| 50h | Initialize USB Keyboard & Mouse. |
| 51h | Reserved |
| 52h | Test all memory (clear all extended memory to 0) |

| POST (hex) | Description |
|------------|-------------|
| 53h | Clear password according to H/W jumper (Optional) |
| 54h | Reserved |
| 55h | Display number of processors (multi-processor platform) |
| 56h | Reserved |
| 57h | 1.Display PnP logo<br>2.Early ISA PnP initialization<br>-Assign CSN to every ISA PnP device. |
| 58h | Reserved |
| 59h | Initialize the combined Trend Anti-Virus code. |
| 5Ah | Reserved |
| 5Bh | (Optional Feature)<br>Show message for entering AWDFLASH.EXE from FDD (optional) |
| 5Ch | Reserved |
| 5Dh | 1.Initialize Init_Onboard_Super_IO<br>2.Initialize Init_Onbaord_AUDIO. |
| 5Eh | Reserved |
| 5Fh | Reserved |
| 60h | Okay to enter Setup utility; i.e. not until this POST stage can users enter the CMOS setup utility. |
| 61h | Reserved |
| 62h | Reserved |
| 63h | Reset keyboard if Early_Reset_KB is not defined. |

| POST (hex) | Description |
|------------|-------------|
| 63h | Reset keyboard if Early_Reset_KB is not defined. |
| 64h | Reserved |
| 65h | Initialize PS/2 Mouse |
| 66h | Reserved |
| 67h | Prepare memory size information for function call: INT 15h ax=E820h |
| 68h | Reserved |
| 69h | Turn on L2 cache |
| 6Ah | Reserved |
| 6Bh | Program chipset registers according to items described in Setup & Auto-configuration table. |
| 6Ch | Reserved |
| 6Dh | 1.Assign resources to all ISA PnP devices. 2.Auto assign ports to onboard COM ports if the corresponding item in Setup is set to "AUTO". |
| 6Eh | Reserved |
| 6Fh | 1.Initialize floppy controller 2.Set up floppy related fields in 40: hardware. |
| 70h | Reserved |
| 71h | Reserved |
| 72h | Reserved |
| 73h | Reserved |
| 74h | Reserved |

| POST (hex) | Description |
|------------|-------------|
| 75h | Detect & install all IDE devices: HDD, LS120, ZIP, CDROM….. |
| 76h | (Optional Feature) Enter AWDFLASH.EXE if: -AWDFLASH.EXE is found in floppy drive. -ALT+F2 is pressed. |
| 77h | Detect serial ports & parallel ports. |
| 78h | Reserved |
| 79h | Reserved |
| 7Ah | Detect & install co-processor |
| 7Bh | Reserved |
| 7Ch | Init HDD write protect. |
| 7Dh | Reserved |
| 7Eh | Reserved |
| 7Fh | Switch back to text mode if full screen logo is supported. -If errors occur, report errors & wait for keys. -If no errors occur or F1 key is pressed to continue: ◆Clear EPA or customization logo. |
| 80h | Reserved |
| 81h | Reserved |
| 82h | 1.Call chipset power management hook. 2.Recover the text font used by EPA logo (not for full screen logo) 3.If password is set, ask for password. |

| POST (hex) | Description |
| --- | --- |
| 83h | Save all data in stack back to CMOS |
| 84h | Initialize ISA PnP boot devices |
| 85h | 1.USB final Initialization<br>2.Switch screen back to text mode |
| 86h | Reserved |
| 87h | NET PC: Build SYSID Structure. |
| 88h | Reserved |
| 89h | 1.Assign IRQs to PCI devices<br>2.Set up ACPI table at top of the memory. |
| 8Ah | Reserved |
| 8Bh | 1.Invoke all ISA adapter ROMs<br>2.Invoke all PCI ROMs (except VGA) |
| 8Ch | Reserved |
| 8Dh | 1.Enable/Disable Parity Check according to CMOS setup<br>2.APM Initialization |
| 8Eh | Reserved |
| 8Fh | Clear noise of IRQs |
| 90h | Reserved |
| 91h | Reserved |
| 92h | Reserved |
| 93h | Read HDD boot sector information for Trend Anti-Virus code |

| POST (hex) | Description |
|------------|-------------|
| 94h | 1.Enable L2 cache |
| | 2.Program Daylight Saving |
| | 3.Program boot up speed |
| | 4.Chipset final initialization. |
| | 5.Power management final initialization |
| | 6.Clear screen & display summary table |
| | 7.Program K6 write allocation |
| | 8.Program P6 class write combining |
| 95h | Update keyboard LED & typematic rate |
| 96h | 1.Build MP table |
| | 2.Build & update ESCD |
| | 3.Set CMOS century to 20h or 19h |
| | 4.Load CMOS time into DOS timer tick |
| | 5.Build MSIRQ routing table. |
| FFh | Boot attempt (INT 19h) |

**Chapter 4**

**4**

# Award BIOS Setup

### Introduction

This manual covers the Award Setup program built into the ROM BIOS. The Setup program allows the user to modify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the setup information when the power is turned off.

The Award BIOS installed in your computer system's ROM (Read Only Memory)is a custom version of an industry standard BIOS. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

The rest of this manual is intended to guide you through the process of configuring your system using Setup.

**Plug and Play Support**
This AWARD BIOS supports the Plug and Play Version 1.0A specification.  ESCD(Extended System Configuration Data)write is supported.

**EPA Green PC Support**
These AWARD BIOS supports Version 1.03 of the EPA Green PC specification.

**PCI Bus Support**
This AWARD BIOS also supports Version 2.1 of the Intel PCI (Peripheral Component Interconnect)local bus specification.

**APM Support**
These AWARD BIOS supports Version 1.1&1.2 of the Advanced Power Management(APM) specification.Power management features are implemented via the System Management Interrupt(SMI).  Sleep and Suspend power management modes are supported.  Power to the hard disk drives and video monitors can be managed by this AWARD BIOS.

**DRAM Support**

SDRAM (Synchronous DRAM) are supported.

**Support CPU**

This AWARD BIOS supports the Intel Celeron/Coppermine PII/PIII Processor.

**Using Setup**

In general, you use the arrow keys to highlight items, press <Enter>to select, use the <PgUp>and <PgDn>keys to change entries, press<F1>for help and press <Esc>to quit. The following table provides more detail about how to navigate in the Setup program by using the keyboard.

---

*Note:*

**(BIOS version 1.0 is for reference only. If there is a change in  BIOS version, please use the actual version on the BIOS.)**

---

| Keystroke | Function |
|-----------|----------|
| Up arrow | Move to previous item |
| Down arrow | Move to next item |
| Left arrow | Move to the item on the left(menu bar) |
| Right arrow | Move to the item on the right(menu bar) |
| Esc | Main Menu: Quit without saving changes<br>Submenus: Exit Current page to the next higher level menu |
| Move Enter | Move to item you desired |
| PgUp key | Increase the numeric value or make changes |
| PgDn key | Decrease the numeric value or make changes |
| +Key | Increase the numeric value or make changes |
| -Key | Decrease the numeric value or make changes |
| Esc Key | Main menu-Quit without saving changes into CMOS<br>Status Page Setup Menu and option Page Setup Menu-Exit Current page and return to Main Menu |
| F1 Key | General help on Setup navigation keys. |
| F5 Key | Load previous values from CMOS |
| F6 Key | Load the fail-safe defaults from BIOS default table |
| F7 Key | Load the optimized defaults |
| F10 Key | Save all the CMOS changes and exit |

## 2.1 Main Menu

Once you enter AWARD BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup function. Use the arrow keys to select among the items and press<Enter> to accept and enter the sub-menu.

*"WARNING"*
*The information about BIOS defaults in the manual (Figure 1,2,3,4,5,6,7,8,9,10,11,12,13,14)is just for reference, please refer to the BIOS installed on the board for updated information.*

◎ **Figure 1. Main Menu**

CMOS Setup Utility-Copyright(C) 1984-2000 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 Configuration | 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 ... | |

**Standard CMOS Features**

This setup page includes all the items in the standard compatible BIOS.

**Advanced BIOS Features**

This setup page includes all the items of the BIOS special enchanced features.

**Advanced Chipset Features**

This setup page includes all the items of the Chipset special enchanced features.

**Integrated Peripherals**

This selection page includes all the items of the IDE hard drive and Programmed Input/Output features.

**Power Management Setup**

This setup page includes all the items of the power management features.

**PnP/PCI Configuration**

This setup page includes the user defined or default IRQ Setting.

**PC Health Status**

This page shows the hardware Monitor information of the system.

**Frequency / Voltage Control**

This setup page controls the CPU's clock and frequency ratio.

**Load Fail-Safe Defaults**

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

**Load Optimized Defaults**

These settings are more likely to configure a workable computer when something is wrong. If you cannot boot the computer successfully, select the BIOS Setup options and try to diagnose the problem after the computer boots. These settings do not provide optional performance.

**Set Supervisor Password**

Change, set, or, disable password.It allows you to limit access to the system and Setup, or just to Setup.

**Set User Password**

You can specify both a User and a Supervisor password. When you select either password option, you are prompted for a 1-6 character password. Enter the password and then retype the password when prompted.

**Save & Exit Setup**

Save CMOS value changes to CMOS and exit setup.

**Exit Without Saving**

Abandon all CMOS value changes and exit setup.

## 2.2 Standard CMOS Features

This item in the Standard CMOS Setup Menu is divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

◎ **Figure 2. Standard CMOS Features**

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

| | | |
|---|---|---|
| Date(mm:dd:yy) | Tue,Jun 6 2000 | Item Help |
| Time (hh:mm:ss) | 11:26:10 | |
| | | Menu Level |
| IDE Primary Master | Press Enter **13022MB** | |
| IDE Primary Slave | Press Enter None | Change the day, |
| IDE Secondary Master | Press Enter None | month,year |
| IDE Secondary Slave | Press Enter None | and century. |
| Drive A | 1.44M,3.5 in | |
| Drive B | None | |
| Video | EGA/VGA | |
| Halt On | All,But Keyboard | |
| Base Memory | 640K | |
| Extended Memory | 391168K | |
| Total | 392192K | |

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

**Main Menu Selections**

This table shows the selections that you can make on the Main Menu.

| Item | Options | Description |
|------|---------|-------------|
| Date | Month DD YYYY | Set the system,date. Note that the 'Day' automatically changes when you set the data. |
| IDE Primary Master | Options are in its sub menu. | Press<Enter> to enter the sub menu of detailed. |
| IDE Primary Slave | Options are in its sub menu. | Press<Enter> to enter the sub menu of detailed. |
| IDE Secondary Master | Options are in its sub menu. | Press<Enter> to enter the sub menu of detailed. |
| IDE Secondary Slave | Options are in its sub menu. | Press<Enter> to enter the sub menu of detailed. |
| Drive A Drive B | None 360K,5.25in 1.2M,5.25in 720K,3.5in 1.44M,3.5in 2.88M,3.5in | Select the type of floppy disk drive installed in your system. |
| Video | EGA/VGA CGA 40 CGA 80 MONO | Select the default video device. |

| Item | Options | Description |
|------|---------|-------------|
| Halt On | All Errors<br>No Errors<br>All, but Keyboard<br>All, but Diskette<br>All, but Disk/Key | Select the situation in which you want the BIOS to stop the POST process and notify. |
| Base Memory | N/A | Displays the amount of conventional memory detected during boot up. |
| Extended Memory | N/A | Displays the amount of conventional memory detected during boot up. |
| Total Memory | N/A | Displays the total memory available in the system. |

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

```
┌─────────────────────────────────────────────────────────┬──────────────┐
│ IDE HDD Auto-Detection          Press Enter              │ Item Help    │
│                                                          │              │
│ IDE Primary Master              Auto                     │              │
│ Access Mode                     Auto                     │ Menu Level   │
│                                                          │              │
│ Capacity                        13022MB                  │              │
│                                                          │              │
│ Cylinder                        25232                    │              │
│ Head                            16                       │              │
│ Precomp                         0                        │              │
│ Landing Zone                    25231                    │              │
│ Sector                          61                       │              │
└─────────────────────────────────────────────────────────┴──────────────┘
←→↑↓: Move    Enter:Select    +/-/PU/PD:Value    F10:Save    ESC:Exit
F1:General Help    F5:Previous Values    F6:Fail-Safe Defaults
F7:Optimized Defaults
```

## 2.3 Advanced BIOS Features

◎ **Figure 3. Advanced BIOS Features**

CMOS Setup Utility-Copyright(C) 1984-2000 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 |
| Quick Power On Self Test | Disabled | choose the |
| First Boot Device | Floopy | VIRUS warning |
| Second Boot Device | HDD-0 | feature for IDE |
| Third Boot Device | LS120 | Hard Disk boot |
| Boot Other Device | Enabled | sector protection. |
| Swap Floppy Drive | Disabled | If this function |
| Boot Up Floppy Seek | Enabled | is enabled and |
| Boot Up NumLock Status | On | someone attempts |
| Gate A20 Option | Fast | to write data into |
| Typematic Rate Setting | Disabled | this area,BIOS |
| Typematic Rate (Chars/Sec) | 6 | will show a |
| Typematic Delay (Msec) | 250 | warning message |
| Security Option | Setup | on screen and |
| OS Select For DRAM >64MB | Non-OS2 | sound an alarm |
| Video BIOS Shadow | Enabled | |
| C8000-CBFFF | Disabled | |
| CC000-CFFFF | Disabled | |
| D0000-D3FFF | Disabled | |
| D4000-D7FFF | Disabled | |
| D8000-DBFFF | Disabled | |
| DC000-DFFFF | Disabled | |

←→↑↓: 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 option allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection.  If this function is enabled and someone attempts to write data into this area, BIOS will show a warning message on screen and sound an alarm.

**The Choices: Disabled**(default), Enabled.

**CPU Internal Cache**

These two categories speed up memory access. However, it depends on CPU/chipset design.

**Enabled(default)**        Enabled cache.

**Disabled**              Disabled cache.

**External Cache**

This fields allow you to Enable or Disable the CPU'S "Level 2" secondary cache. Caching allows better performance.

**Enabled(default)**        Enabled cache.

**Disabled**              Disabled cache.

**CPU L2 Cache ECC Checking**

The item allows you to enable/disable CPU L2 Cache ECC Checking.

**The Choices: Enabled**(default), Disabled.

**Processor Number Feature**

The item will show up when you install the Pentium III processor.

**Enabled(default)**        Pentium  Processor Number Feature.

**Disabled**              Disabled.

**Quick Power On Self Test**

This category speeds up Power on self-Test(POST) after you power up the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

**Enabled(default)**        Enabled quick POST.

**Disabled**              Normal POST.

**First/Secondary/Third/Boot Other Device**

This BIOS attempts to load the operating system from
the devices in the sequence selected in these items.
**The Choices:** Floppy, LS120, HDD-0, HDD-1, HDD-2,
HDD-3, SCSI, CDROM, Enabled, ZIP, LAN, Disabled.

**Swap Floppy Drive**

If the system has two floppy drives, you can swap the
logical drive name assignments.
**The Choices: Disabled**(default), Enabled.

**Boot Up Floppy Seek**

Seek disk drives during boot up.  Disabled speeds boot-up.
**The Choices: Enabled**(default), Disabled.

**Boot Up NumLock Status**

Select power on for Numlock.

| | |
|---|---|
| **On(default)** | Numpad is number keys. |
| **Off** | Numpad is arrow keys. |

**Gate A20 Option**

Select if chipset or keyboard controller should control
Gate A20.

| | |
|---|---|
| **Normal** | A pin in the keyboard controller controls Gate A20. |
| **Fast(default)** | Lets chipset control Gate A20. |

**Typematic Rate Setting**

| | |
|---|---|
| **Enabled** | Enabled this option to adjust the keystroke repeat rate. |
| **Disabled(default)** | Disabled. |

**Typematic Rate (Char/Sec)**

Range between 6**(default)** and 30 characters per second.
This option controls the speed of repeating keystrokes.

**Typematic Delay (Msec)**
> This option sets the time interval for displaying the first
> and the second characters.
> **The Choices: 250(default)**, 500, 750, 1000

**Security Option**
> This category allows you to limit access to the system and
> Setup, or just to Setup.

| | |
|---|---|
| **System** | The system will not boot and access to Setup will be defined if the correct password is not entered in prompt. |
| **Setup(default)** | The system will boot, but access to Setup will be defined if the correct password is not entered in prompt. |

**OS Select For DRAM >64MB**
> Select the operating system that is running with greater
> than 64MB of RAM on the system.
> **The Choices: Non-OS2(default), OS2**

**Video BIOS Shadow**
> Determines whether video BIOS will be copied to RAM
> for faster execution.

| | |
|---|---|
| **Enabled(default)** | Optional ROM is enabled. |
| **Disabled** | Optional ROM is disabled. |

> C8000-CFFFF Shadow / D0000-DFFFF Shadow
> Determines whether video BIOS will be copied to RAM
> for faster execution.

| | |
|---|---|
| **Enabled** | Optional ROM is Shadowed. |
| **Disabled(default)** | Optional ROM is not Shadowed. |

> **Note:** For C8000-DFFFF option-ROM on PCI BIOS,
> BIOS will automatically enable the shadow RAM. User
> does not have to select the item.

## 2.4 Advanced Chipset Features

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and external cache. It also coordinates communications of the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.

◎ **Figure 4. Advanced Chipset Features**

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

| | | |
|---|---|---|
| DRAM Timary By SPD | Enabled | Item Help |
| DRAM Clock | Host CLK | |
| SDRAM Cycle Length | 3 | |
| Bank Interleave | Disabled | |
| Memory Hole | Disabled | Menu Level |
| P2C/C2P Concurrency | Enabled | |
| Fast R-W Turn Around | Disabled | |
| System BIOS Cacheable | Disabled | |
| Video RAM Cacheable | Disabled | |
| Frame Buffer Size | 8M | |
| AGP Aperture Size | 64M | |
| AGP-4X Mode | Enabled | |
| AGP Driving Control | Auto | |
| AGP Driving Value | DA | |
| On Chip USB | Enabled | |
| USB Keyboard | Disabled | |
| USB Mouse Support | Disabled | |
| On Chip Sound | Auto | |
| On Chip Modem | Auto | |
| CPU to PCI Write Buffer | Enabled | |
| PCI Dynamic Bursting | Enabled | |
| PCI Master 0 WS Write | Enabled | |
| PCI Delay Transaction | Disabled | |
| PCI #2 Access #1 Retry | Enabled | |
| AGP Master 1WS Write | Disabled | |
| AGP Master 1WS Read | Disabled | |

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

**DRAM Timary by SPD**
**The Choices: Enabled**(default), Disabled.

**DRAM Clock**
> This item determines DRAM Clock following the CPU
> host clock.
> **The Choices: Host CLK**(default), Host CLK+33M, Host
> CLK-33M.

**SDRAM Cycle Length**
> When synchronous DRAM is installed, the number of
> clock cycle of CAS latency depends on the DRAM timing.
> Do not reset this field from the default value specified by
> the system designer.
> **The Choices: 3**(default), 2, Auto.

**Memory Hole**
> In order to improve performace, certain space in memory
> can be reserved for ISA cards.  This memory must be
> mapped into the memory's space below 16MB.
> **The Choices: Diasbled**(default), Enabled.

**P2C/C2P Concurrency**
> The item allows you to enable/disable the PCI to CPU to
> PCI concurrency.
> **The Choices: Enabled**(default), Disabled.

**System BIOS Cacheable**
> When enabled, the access to the system BIOS ROM
> address at F0000H-FFFFFFH is cached.
> **The Choices: Diasbled**(default), Enabled.

**Video RAM Cacheable**
> When enabled, the access to the system VGA RAM
> address is cached.
> **The Choices: Diasbled**(default), Enabled.

**Fast R-W Turn Around**

The item controls the DRAM timing. It allows you to
enable/disable the fast read/write turn around.
**The Choices: Disabled**(default), Enabled.

**Frame Buffer Size**

This option allows you to select the memory size allocated
to onboard VGA.
**The Choices: 8M**(default), 2M/4M/16M/32M/NA.

**AGP Aperture Size**

Select the size of the Accelerated Graphic Port(AGP)
aperture.  The aperture is a portion of the PCI memory
address range dedicated for graphics memory address
space.  Host cycle that hit the aperture range are forwarded
to the AGP without any translation.
**The Choices: 64MB**(default), 32M, 16M, 8M, 4M,
128M.

**AGP-4X Mode**

The item allows you to enable/disable the AGP-4X Mode.
**The Choices: Enabled**(default), Disabled.

**AGP Driving Control**

By choosing "Auto" the system BIOS will the AGP output
Buffer Drive strength that were defined by AGP Card.  By
choosing  "Manual", it allows user to set AGP output
Buffer Drive strength by manual.
**The Choices: Auto**(default), Manual.

**AGP Driving Value**

This item allows you to adjust the AGP driving force.
**The Choices:** Min=0000~Max=00FF.

**Onchip USB**

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

**The Choices: Enabled**(default), Disabled.

**USB Keyboard Support**

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

**The Choices: Disabled**(default), Enabled.

**USB Mouse Support**

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

**The Choices: Disabled**(default), Enabled.

**Onchip Sound**

The default setting of this item utilizes an onboard sound chip for audio output. There is no need to buy and insert a sound card. If a sound card is installed, disable this item.

**The Choices: Auto**(default), Disabled

**Onchip Modem**

The item allows you to control the onboard MC97 Modem controller.

**The Choices: Auto**(default), Disabled.

**AGP Master 1WS Write**

When Enabled, write data to the AGP (Accelerated Graphic Port) that will be executed with one wait states.

**The Choices: Disabled**(default), Enabled.

**AGP Master 1WS Read**

When Enabled, read data to the AGP (Accelerated Graphic Port) that will be executed with one wait states.

**The Choices: Disabled**(default), Enabled.

**CPU to PCI Write Buffer**

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

**PCI Dynamic Bursting**

**The Choices: Enabled**(default), Disabled.

**PCI Delay Transaction**

**The Choices: Disabled**(default), Enabled.

**PCI #2 Access #1**

**The Choices: Enabled**(default), Disabled.

**PCI Master 0 WS Write**

When this field is Enabled, write to the PCI bus are executed with zero wait states.
**The Choices: Enabled**(default), Disabled.

## 2.5 Integrated Peripherals

◎ **Figure 5. Integrated Peripherals**

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

| | | Item Help |
|---|---|---|
| On-Chip IDE Channel 0 | Enabled | |
| On-Chip IDE Channel 1 | Enabled | Menu Level |
| Primary Master PIO | Auto | |
| Primary Slave PIO | Auto | |
| Secondary Master PIO | Auto | |
| Secondary Slave PIO | Auto | |
| Primary Master UDMA | Auto | |
| Primary Slave UDMA | Auto | |
| Secondary Master UDMA | Auto | |
| Secondary Slave UDMA | Auto | |
| Init Display First | PCI Solt | |
| IDE HDD Block Mode | Enabled | |
| Onboard FDC Controller | Enabled | |
| Onboard Serial Port 1 | Auto | |
| Onboard Serial Port 2 | Auto | |
| UART 2 Mode | Standard | |
| IR Function Duplex | Half | |
| RxD,TxD Active | No,Yes | |
| Onboard Parallel Port | 378/IRQ7 | |
| Parallel Onboard Mode | Normal | |
| ECP Mode Use DMA | 3 | |
| EPP Mode Type | EPP1.9 | |
| Onboard Legacy Audio | Enabled | |
| Sound Blaster | Disabled | |
| SB I/O Base Address | 220H | |
| SB IRQ Select | IRQ 5 | |
| SB DMA Select | DMA1 | |
| MPU - 401 | Disabled | |
| MPU - 401 I/O Address | 330-333H | |
| Game Port (200-270H) | Enabled | |

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

**On-Chip IDE Channel 0**

    **Enabled(default)**               Enabled onboard 1st channel IDE port.

    **Disabled**                    Disabled onboard 1st channel IDE port.

**On-Chip IDE Channel 1**

    **Enabled(default)**               Enabled onboard 2nd channel IDE port.

    **Disabled**                    Disabled onboard 2nd channel IDE port.

**Primary Master PIO(for onboard IDE 1st channel)**

    **Auto(default)**                  BIOS will automatically detect the IDE HDD Accessing mode.

    **Mode 0~4**                  Manually set the IDE Accessing mode.

**Primary Slave PIO(for onboard IDE 2nd channel)**

    **Auto(default)**                  BIOS will automatically detect the IDE HDD Accessing mode.

    **Mode 0~4**                  Manually set the IDE Accessing mode.

**Secondary Master PIO(for onboard IDE 1st channel)**

    **Auto(default)**                  BIOS will automatically detect the IDE HDD Accessing mode.

    **Mode 0~4**                  Manually set the IDE Accessing mode.

**Secondary Slave PIO(for onboard IDE 2nd channel)**

    **Auto(default)**                  BIOS will automatically detect the IDE HDD Accessing mode.

    **Mode 0~4**                  Manually set the IDE Accessing mode.

**Primary Master UDMA**
    **Auto(default)**             BIOS will automatically detect
                                    the IDE HDD Accessing mode.
    **Disabled**                  Disabled.

**Primary Slave UDMA**
    **Auto(default)**              BIOS will automatically detect
                                    the IDE HDD Accessing mode.
    **Disabled**                  Disabled.

**Secondary Master UDMA**
    **Auto(default)**              BIOS will automatically detect
                                    the IDE HDD Accessing mode.
    **Disabled**                  Disabled.

**Secondary Slave UDMA**
    **Auto(default)**               BIOS will automatically detect
                                    the IDE HDD Accessing mode.
    **Disabled**                  Disabled.

**USB Controller**
    **Enabled(default)**          Enabled.
    **Disabled**                  Disabled.

**USB Keyboard Support**
    **Enabled(default)**          Enabled.
    **Disabled**                  Disabled.

**Init Display First**
    **PCI Slot(default)**         Set Init Display First to PCI
                                    Slot.
    **Onboard AGP**           Set Init Display First to
                                    onboard AGP.

**IDE HDD Block Mode**
    **Enabled(default)**        Enabled.
    **Disabled**                Disabled.

**Onboard FDC Controller**
    **Enabled(default)**        Enabled.
    **Disabled**                Disabled.

**Onboard Serial Port1/Port2**
    Select an address and corresponding interrupt for the first
    and second serial ports.
    **The Choices: Auto(default)**, (3F8/IRQ4), (2F8/IRQ3),
    (3E8/IRQ4), (2E8/IRQ3).

**UART 2 Mode**
    This item allows you to select which Infra Red(IR)
    function of the onboard I/O chip you wish to use.
    **The Choices: Standard** (default), SCR, ASKIR.

**IR Function Duplex**
    This item allows you to select which Infra Red(IR)
    function of the onboard I/O chip you wish to use.
    **The Choices: Half** (default), Full.

**Parallel Onboard Mode**
    **Normal(default)**
    **SPP**                Using Parallel port as Standard
                            Parallel Port.
    **EPP**                Using Parallel port as En-
                            hanced Parallel Port.
    **ECP**                Using Parallel port as Ex-
                            tended Capabilites Port.
    **ECP+EPP**          Using Parallel port as
                            ECP+EPP mode.

**Onboard Parallel Port**

This item allows you to select the I/O address with which to access the onboard parallel port controller.
**The Choices: 378/IRQ7** (default)**, Disabled, 278/IRQ5, 3BC/IRQ7.**

**Onboard Legacy Audio**

**The Choices: Enabled**(default), Disabled.

**Sound Blaster**

**The Choices: Disabled**(default), Enabled.

**MPU -401**

**The Choices: Disabled**(default), Enabled.

**MPU -401 I/O Address(330-333H)**

Change the SoundBlaster Pro MPU-401 I/O address.

**Game Port (200-270H)**

Change the joystick connection address.
**The Choices: Enabled**(default), Disabled.

## 2.6 Power Management Setup

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

◎ **Figure 6. Power Management Setup**

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

```
┌─────────────────────────────────────────────┬──────────────┐
│ ACPI Function              Enabled           │ Item Help    │
│ Power Management           Press Enter        │              │
│ ACPI Suspend Type          S1(POS)            │ Menu Level   │
│ PM Control by APM          Yes                │              │
│ Video Off Option           Suspend->Off       │              │
│ Video Off Method           V/H SYNC+Blank     │              │
│ Modem Use IRQ              3                  │              │
│ Soft-Off by PWRBTN         Instant-Off        │              │
│ Wake Up Events             Press Enter        │              │
│                                               │              │
└─────────────────────────────────────────────┴──────────────┘
```

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

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

```
┌─────────────────────────────────────────────┬──────────────┐
│ Power Management           User Define        │ Item Help    │
│ HDD Power Down             Disabled           │              │
│ Doze Mode                  Disabled           │ Menu Level   │
│ Suspend Mode               Disabled           │              │
│                                               │              │
│                                               │              │
│                                               │              │
│                                               │              │
│                                               │              │
└─────────────────────────────────────────────┴──────────────┘
```

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

**ACPI Function**

This item displays the status of the Advanced Configuration and Power Management (ACPI).

**Power Management**

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

1.HDD Power Down.

2.Doze Mode.

3.Suspend Mode.

If you highlight the "Press Enter" next to the "Power Management" label and then press the enter key, it will take you to a submenu with the following options:

**Power Management**

This option allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

**The Choices: User Define** (default), Min Saving, Max Saving.

**HDD Power Down**

By default, this is "Disabled", meaning that no matter the mode of the rest of the system, the hard drive will remain ready. Otherwise, you have a range of choices from 1 to 15 minutes or Suspend. This means that you can select to have your hard disk drive be turned off after a selected number of minutes or when the rest or the system goes into a suspend mode.

**Disabled**(default).

**Doze Mode/Suspend Mode**

The **Doze Mode**, and **Suspend Mode** set the Period of time after each of these modes activates. At Max Saving, these modes activate sequentially (in the given order) after one minute; at Min Saving after one hour.

**ACPI Suspend Type**

The item allows you to select the suspend type under ACPI operating system.

**S1(POS)**(default)          Power on Suspend.
**S3(STR)**                   Suspend to RAM.

**PM Control by APM**

**No**                        System BIOS will ignore APM when Power Management is on.
**Yes**(default)              System BIOS will wait for APM'S prompt before it enters any PM mode.

**Video Off Option**

This field determines when to activate the video off feature for monitor power management.

**Video Off Method**

This determines the manner in which the monitor is blanked.

**V/H SYNC+Blank**            This selection will cause the
(default)                     system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
**Blank Screen**              This option only writes blanks to the video buffer.
**DPMS Support**              Initial display power management signaling.

**Modem Use IRQ**

This determines the IRQ, which can be applied in Modem use.
**3**(default)
**4/5/7/9/10/11/NA**

**Soft-Off by PWRBTN**

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

**The Choices: Instant-Off**(default), Delay 4 Sec.

**Wake Up Events**

If you highlight "Press Enter" next to the "Wake Up Events" label and then press the enter key, it will take you to a submenu with the following options:

**VGA**

When set to On, any event occurring at a VGA port will awaken a system which has been powered down.

**LPT & COM**

When set to On, any event occurring at a COM(serial) / LPT(printer) port will awaken a system which has been powered down.

**HDD & FDD**

When set to On(default), any event occurring at a hard or floppy drive will awaken a system which has been powered down.

**PCI Master**

When set to On, any event occurring at a PCI port will awaken a system which has been powered down.

**Modem Ring Resume**

To use this function, you need a LAN add-on card which supports power on function. It should also support the wake-up on LAN jump. **The Choices: Disabled**(default).

**RTC Alarm Resume**

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

**Primary INTR**
When set to On(default), any event occurring at Primary INTR will awaken a system which has been powered down.
The following is a list of IRQ, Interrupt ReQuests, which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service. As above, the choices are On and Off. Off is the default. When set On, activity will neither prevent the system from going into a power management mode nor awaken it.

| | |
|---|---|
| IRQ3 | (COM1) |
| IRQ4 | (COM2) |
| IRQ5 | (LPT2) |
| IRQ6 | (Floppy Disk) |
| IRQ7 | (LPT1) |
| IRQ8 | (RTC Alarm) |
| IRQ9 | (IRQ2 Redir) |
| IRQ10 | (Reserved) |
| IRQ11 | (Reserved) |
| IRQ12 | (PS/2 Mouse) |
| IRQ13 | (Coprocessor) |
| IRQ14 | (Hard Disk) |
| IRQ15 | (Reserved) |

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Wake Up Events

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

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

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IRQ Activity Monitoring

| | | |
|---|---|---|
| IRQ 3 (COM2) | Enabled | Item Help |
| IRQ 4 (COM1) | Enabled | |
| IRQ 5 (LPT2) | Enabled | Menu Level |
| IRQ 6 (Flppy Disk) | Enabled | |
| IRQ 7 (LPT1) | Enabled | |
| IRQ 8 (RTC Alarm) | Enabled | |
| IRQ 9 (IRQ2 Redir) | Enabled | |
| IRQ 10 (Reserved) | Enabled | |
| IRQ 11 (Reserved) | Enabled | |
| IRQ 12 (PS2/Mouse) | Enabled | |
| IRQ 13 (Coprocessor) | Enabled | |
| IRQ 14 (Hard Disk) | Enabled | |
| IRQ 15 (Reserved) | Enabled | |

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

## 2.7 PnP/PCI Configurations

This section describes configuring the PCI bus system. PCI or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced uses make any changes to the default settings.

◎ **Figure 7. PnP/PCI Configurations**

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

```
┌─────────────────────────────────────────────────────────┬──────────────────┐
│ PNP OS Installed              No              │ Item Help        │
│ Reset Configuration Data      Disabled        │ Menu Level       │
│                                               │                  │
│ Resources Controlled By       Auto(ESCD)      │ Select Yes if    │
│ IRQ Resources                 Press Enter     │ you are using a  │
│ DMA Resources                 Press Enter     │ Plug and Play    │
│                                               │ capable          │
│                                               │ operating system │
│ PCI/VGA Palette Snoop         Disabled        │ select No if you │
│ Assign IRQ For VGA            Enabled         │ need the BIOS    │
│ Assign IRQ For USB            Enabled         │ 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

**PNP OS Installed**

When set to YES, BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Windows 95. When set to No, BIOS will initialize all the PnP cards. Therefore for non-PnP operating systems (DOS, Netware), this option must be set to No.

**Reset Configuration Data**

The system BIOS supports the PnP feature so the system needs to record which resource is assigned and proceeds resources from conflict. Every peripheral device has a node, which is called ESCD. This node records which resources are assigned to it. The system needs to record and update ESCD to the memory locations. These locations (4K) are reserved at the system BIOS. If Disabled (Default)is chosen, the system's ESCD will update only when the new configuration varies from the last one. If Enabled is chosen, the system is forced to update ESCDs and then is automatically set to the "Disabled" mode.

| | |
|---|---|
| IRQ3 | assigned to:PCI/ISA PnP |
| IRQ4 | assigned to:PCI/ISA PnP |
| IRQ5 | assigned to:PCI/ISA PnP |
| IRQ6 | assigned to:PCI/ISA PnP |
| IRQ7 | assigned to:PCI/ISA PnP |
| IRQ8 | assigned to:PCI/ISA PnP |
| IRQ9 | assigned to:PCI/ISA PnP |
| IRQ10 | assigned to:PCI/ISA PnP |
| IRQ11 | assigned to:PCI/ISA PnP |
| IRQ12 | assigned to:PCI/ISA PnP |
| IRQ13 | assigned to:PCI/ISA PnP |
| IRQ14 | assigned to:PCI/ISA PnP |
| IRQ15 | assigned to:PCI/ISA PnP |
| DMA-0 | assigned to:PCI/ISA PnP |
| DMA-1 | assigned to:PCI/ISA PnP |
| DMA-2 | assigned to:PCI/ISA PnP |
| DMA-3 | assigned to:PCI/ISA PnP |
| DMA-4 | assigned to:PCI/ISA PnP |
| DMA-5 | assigned to:PCI/ISA PnP |
| DMA-6 | assigned to:PCI/ISA PnP |
| DMA-7 | assigned to:PCI/ISA PnP |

The above settings will be shown on the screen only if "Manual" is chosen for the resources controlled by function.

Legacy is the term which signifies that a resource is assigned to the ISA Bus and provides for non-PnP ISA add-on cards.  PCI/ISA PnP signifies that a resource is assigned to the PCI Bus or provides for ISA PnP add-on cards and peripherals.

**Resources Controlled By**

By Choosing "Auto" (default), the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral.  By Choosing "Manual" the user will need to assign IRQ & DMA for add-on cards. Be sure that there are no IRQ/DMA and I/O port conflicts.

**IRQ Resources**

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

**DMA Resources**

When resources are controlled manually, assign each DMA channel a type, depending on the type of device using the DMA channel.

**PCI / VGA Palette Snoop**

Choose Disabled or Enabled. Some graphic controllers which are not VGA compatible take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility.

However, the color information coming from the VGA controller is drawn from the palette table inside the VGA controller to generate the proper colors, and the graphic controller needs to know what is in the palette of the VGA controller. To do this, the non-VGA graphic controller watches for the write access to the VGA palette and registers the snoop data. In PCI based systems, the Write Access to the palette will not show up on the ISA bus if the PCI VGA controller responds to the Write.

In this case, the PCI VGA controller should not respond to the Write, it should only snoop the data and permit the access to be forwarded to the ISA bus. The non-VGA ISA graphic controller can then snoop the data on the ISA bus. Unless you have the above situation, you should disable this option.

| | |
|---|---|
| **Disabled**(default) | Function disabled. |
| **Enabled** | Function enabled. |

**Assign IRQ For VGA**

Lets the user choose which IRQ to assign for the VGA.

**Assign IRQ For USB**

Lets the user choose which IRQ to assign for the USB.

## 2.8 PC Health Status

### ◎ Figure 8. PC Health Status

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Software PC Health Status

```
┌─────────────────────────────────────────────────┬──────────────┐
│ Current CPU Temp.          36℃/96℉              │ Item Help    │
│ Current System Temp.       ℃/32℉                │              │
│ Current CPU Fan1 Speed     5120RPM               │ Menu Level   │
│ Current CPU Fan2 Speed     0RPM                  │              │
│ Vcore                      1.53V                 │              │
│ 2.5V                       2.50V                 │              │
│ 3.3V                       3.28V                 │              │
│ 5V                         5.00V                 │              │
│ 12V                        11.76V                │              │
│                                                  │              │
│                                                  │              │
│                                                  │              │
└─────────────────────────────────────────────────┴──────────────┘
```

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

**Current CPU Temp.**

This field displays the current CPU temperature, if your computer contains a monitoring system.

**Current System Temp.**

This field displays the current system temperature, if your computer contains a monitoring system.

**Current CPU Fan1/2 Speed**

This field displays the current speed of the CPU Fans, if your computer contains a monitoring system.

**Current CPU Vcore ,2.5V,3.3V,5V,12V**

Detect system's voltage status automatically.

## 2.9 Frequency / Voltage Control

◎ **Figure 9. Frequency / Voltage Control**

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

```
┌────────────────────────────────────────────┬──────────────────┐
│ Auto Detect DIMM / PCI CLK      Enabled     │ Item Help        │
│ CPU Host Clock (CPU/PCI)        Default     ├──────────────────┤
│                                             │ 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**

This item allows you to enable/disable auto detect DIMM /
PCI CLOCK.
**The Choices: Enabled**(default), Disabled.

**CPU Host Clock (CPU/PCI)**

This item allows you to select the CPU Host Clock (CPU/
PCI).

> *NOTE:*
> *If the frequency you have selected is not functioning,*
> *there are two methods of booting up the system.*

Method1: Clear the COMS data by setting the J8((2-3)
closed) as "On" status.  All the COMS data will be loaded
as default setting.
Method2: Press the<Insert>key and Power button
simultaneously, after that keep-on pressing the<Insert>
key until the Power-on screen shows.  This action will
boot-up the system according to the FSB of the processor.

**66MHz**
**The Choices:Default**, 66/33MHz , 68/34MHz ,
75/37MHz, 83/41MHz , 95/31MHz.

**100MHz**
**The Choices: Default**, 100/33MHz , 103/34MHz ,
112/37MHz, 124/31MHz.

**133MHz**
**The Choices: Default**, 133/33MHz , 138/34MHz ,
140/35MHz, 150/37MHz.

## 2.10 Load Fail-Safe Defaults

When you press <Enter> on this item, you get a

confirmation dialog box with a message similar to:

◎ **Figure 10. Load Fail-Safe Defaults**

CMOS Setup Utility-Copyright(C) 1984-2000 Award
Software
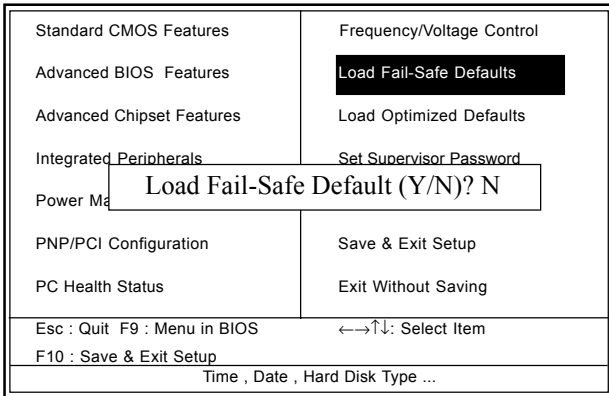
```
┌─────────────────────────────────────────────────────────────┐
│  Standard CMOS Features        │  Frequency/Voltage Control   │
│                                │                              │
│  Advanced BIOS  Features       │  ███Load Fail-Safe Defaults██│
│                                │                              │
│  Advanced Chipset Features     │  Load Optimized Defaults     │
│                                │                              │
│  Integrated Peripherals        │  Set Supervisor Password     │
│        ┌───────────────────────────────────────────┐         │
│  Power Ma│   Load Fail-Safe Default (Y/N)? N       │         │
│        └───────────────────────────────────────────┘         │
│  PNP/PCI Configuration         │  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 ...                 │
└───────────────────────────────────────────────────────────────┘
```

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

## 2.11 Load Optimized Defaults

When you press <Enter> on this item, you get a

confirmation dialog box with a message similar to:

◎ **Figure 11. Load Optimized Defaults**

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| | |
|---|---|
| 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 Manage | Load Optimized Default (Y/N)? N |
| PNP/PCI Configuration | 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 ... | |

Pressing 'Y' loads the default values that are factory settings

for optimal performance of system operations.

## 2.12 Set Supervisor / User Password

◎ **Figure 12. Set Supervisor / User Password**

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

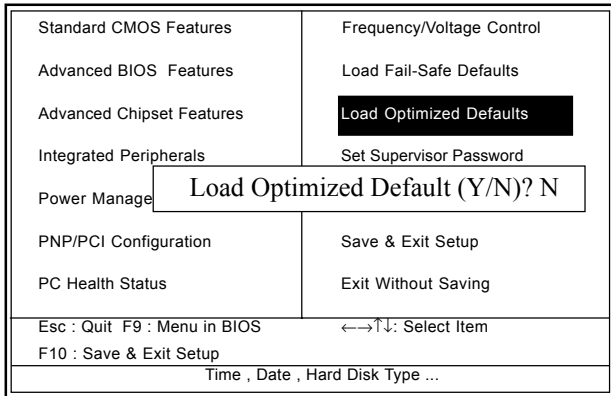| | |
|---|---|
| Standard CMOS Features | Frequency/Voltage Control |
| Advanced BIOS Features | Load Fail-Safe Defaults |
| Advanced Chipset Features | Load Optimized Defaults |
| Integrated Peripherals | **Set Supervisor Password** |
| Power Management Setup | Set User Password |
| PNP/PCI Configuration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

Enter Password:

Esc : Quit  F9 : Menu in BIOS   ←→↑↓: Select Item
F10 : Save & Exit Setup
Time , Date , Hard Disk Type ...

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

**Enter Password**

Type a password, up to eight characters, and press <Enter>. The password you type now will clear any previously entered password from CMOS memory.  You will be asked to confirm the password.  Type the password again and press <Enter>. You may also press <ESC> to abort the selection and not enter a password. To disable the password,  just press <Enter> when you are prompted to enter a password.  A message will confirm that you wish to disable the password. Once the password is disabled, the system will boot and you can enter setup freely.

**Password Disabled**

If you select "System" at the Security Option of BIOS Features Setup Menu, you will be prompted for the password every time when the system is rebooted, or any time when you try to enter Setup. If you select "Setup" at the Security Option of the BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

## 2.13 Save & Exit Setup

◎ **Figure 13. Save & Exit Setup**

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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 Configuration | Save & Exit Setup |
| PC Health Status | Exit Without Saving |

Save & Exit Setup (Y/N)? Y

Esc : Quit  F9 : Menu in BIOS        ←→↑↓: Select Item
F10 : Save & Exit Setup
Time , Date , Hard Disk Type ...
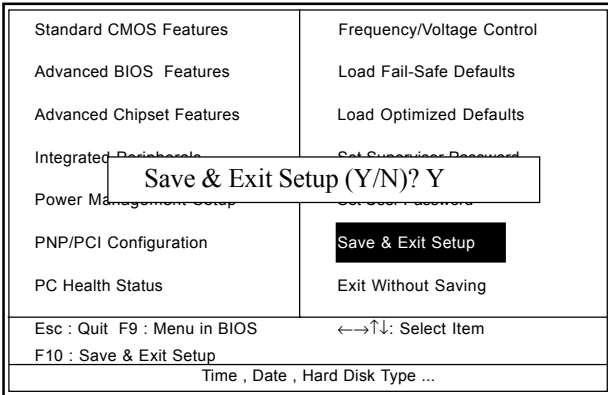
Typing "Y" will quit the Setup Utility and save the user setup
value to RTC CMOS RAM.

Typing "N" will return to the Setup Utility.

## 2.14 Exit Without Saving

◎ **Figure 14. Exit Without Saving**

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

```
┌─────────────────────────────────────────────────────────────────┐
│  Standard CMOS Features            Frequency/Voltage Control      │
│                                                                   │
│  Advanced BIOS  Features           Load Fail-Safe Defaults        │
│                                                                   │
│  Advanced Chipset Features         Load Optimized Defaults        │
│                                                                   │
│  Integrated ┌──────────────────────────────────────────┐         │
│             │   Exit Without Saving (Y/N)? Y           │         │
│  Power Mana └──────────────────────────────────────────┘ord      │
│                                                                   │
│  PNP/PCI Configuration             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 ...                    │
└─────────────────────────────────────────────────────────────────┘
```
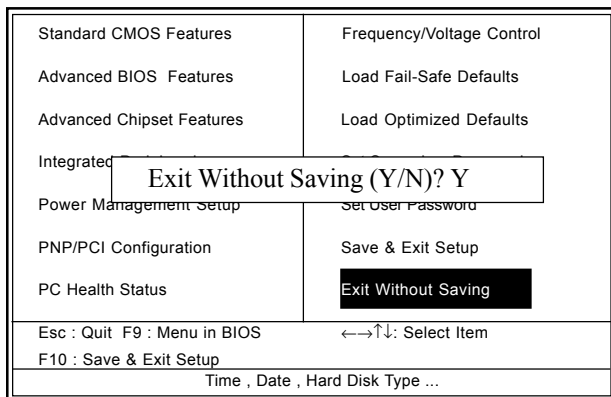
Typing "Y" will quit the Setup Utility without saving to RTC CMOS RAM.

Typing "N" will return to the Setup Utility.

**Date :     /     /**

## Guarantee Sheet/Technical Fault Report

**M/B Model No.:**_____ **Vender**

**Serial No.      :**_____

**Date of Purchase:**_____

**Hardware Configuration Used :**

| CPU | |
|-----|--|
| RAM | |
| Video Card | |
| Hard Drive | |
| Other Card | |

**Diagnostic Software Used :**

**Fault Description :**