TS-AVE3/B
USER'S MANUAL
Intel Socket 370 Celeron/
Pentium III /Tualatin Series

Transcend

Your Supplier, Your Partner,
Your Friend.

TS-AVE3/B Motherboard

Supporting Intel® Socket 370 Celeron™/Pentium III™ FC-PGA Series Processor
66/100/133 MHz Front Side Bus Frequency
AGP 4X

VIA® Apollo Pro 133T Chipset

Welcome!!
Congratulations on your purchase of this great value motherboard, with its range of special features and innovative onboard functions, built around the advanced architecture of the VIA Apollo Pro 133T Chipset. More details will follow later in this manual.

Our Website
Please come and visit us at our website on http://www.transcendusa.com/. You'll find plenty of interesting information about this and many other quality Transcend products.

Your User's Manual
This User's Manual is designed to help end users and system manufacturers to setup and install the motherboard. All of the information within has been carefully checked for accuracy. However, Transcend Information, Inc. (hereafter referred to as "Transcend") carries no responsibility or liability for any errors or inaccuracies which this manual may contain. This includes references to products and software. In addition, the information and specifications are subject to change without prior notice.

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TS-AVE3/B

ezBIOS—Motherboard Shield and Upgrade Utility

ezBIOS—One Click is All it Takes!
Transcend is proud to inform you that your new motherboard comes with **ezBIOS** from Transcend. This BIOS updating program developed by Transcend will make BIOS updating easy, and enhance the security and stability of systems built with your Transcend motherboard.

ezBIOS Features:

- Anti-Virus BIOS Protection – Transcend's motherboards come with a new hardware monitoring function that can prevent any unauthorized BIOS updating caused by viruses. Only **ezBIOS**, the BIOS updating program developed by Transcend, can update a Transcend motherboard.

- BIOS Updating Confidence – Beyond preventing viruses, **ezBIOS** allows BIOS updating with confidence. In the past, any failure or incorrect operation during BIOS updating could crash the whole system. Normally the user wouldn't have the capability to retrieve and reestablish the system, they could only return the computer to the supplier for costly, time-consuming repairs. With the enhanced security of **ezBIOS**, Transcend's motherboards can completely avoid these problems. No matter what happens during BIOS updating, the user's system can still boot from the floppy drive, allowing the updating command to be executed again.

- One-Click, On-Line BIOS Updating – For users of Windows 9x/NT 4.0/2000/Me/XP **ezBIOS** allows you to use Transcend's innovative on-line updating technology. Just one click can detect the BIOS version of your system, download the latest version, and execute all the updating commands automatically from the Internet. Restarting the computer completes the BIOS updating. This feature should be very handy for users who need to update BIOS repeatedly, especially MIS staff. The online updating program is included on the drivers CD-ROM included in the box with your motherboard. Following the step-by-step instructions, you can easily update or backup your BIOS. (If you have a different OS, see "Chapter 4 BIOS Upgrade" for your BIOS updating procedure.)

- Linear Overclocking – **ezBIOS** also provides a linear overclocking function. Users can fine-tune the Front Side Bus (FSB) by increasing or reducing it by as little as 1.0MHz to find the optimum FSB setting for the system. Should the FSB be set too high, the system can be returned to the default setting by pressing the "INS" key.

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CHAPTER 1 INTRODUCTION

1.1 Essential Handling Precautions

IMPORTANT. Read this page before unpacking your motherboard!

- **Power Supply**

  Be careful! Always ensure that the computer is disconnected from the power supply when working on the motherboard and its components.

- **Static Electricity**

  Static electricity may cause damage to the delicate integrated circuit chips on your motherboard. Before handling the motherboard outside of its protective packaging, ensure that there is no static electrical charge in your body. A static discharge sufficiently strong enough to damage computer components is not perceptible by a human. To avoid this risk, please observe these simple precautions while handling the motherboard and other computer components:

  1. If possible, wear an anti-static wrist strap connected to a natural earth ground.
  2. Touch a grounded or anti-static surface, or a metal fixture such as a pipe or the chassis of your system, before touching the motherboard.
  3. When you have removed the motherboard from its anti-static packaging, try to hold it only by the edges, without touching any components.
  4. Avoid contacting the components on add-on cards, motherboards, and modules with the gold-colored connectors which plug into the expansion slots.
  5. It is safest to handle system components only by their mounting brackets.
  6. Keep components which are not connected to the system in the anti-static packaging whenever possible.

  These precautions help to reduce the risk of static build-up and ensure any static discharge is harmless to your equipment.

- **Battery Replacement**

  The battery which holds the system settings memory (CMOS RAM) on your motherboard should not require replacement for at least five years, and probably much longer. In picture 2.2, it is located near the center of the motherboard. Incorrect computer time and/or loss of time may indicate a weak motherboard battery. Please replace your battery only with the same type, or a similar type recommended by the battery manufacturer. If the battery is replaced incorrectly, there is a risk of a short circuit or explosion. Used batteries should be disposed of in accordance with the manufacturer's instructions and local environmental regulations.

- **Electric Screwdrivers**

  To reduce the risk of damage to the motherboard due to excessive torque, avoid setting electric screwdrivers above 7.5 kg/cm.

1.2 Package Contents

This motherboard package should contain the following items. Please check them as soon as you unpack. If you find any damaged or missing items, please contact your retailer.

- TS-AVE3/B motherboard
- 1 x CD-ROM
- 1 x FDD cable
- User's Manual
- Ultra DMA 66/100 cable x 1
- External USB connector (Optional) x 1

1.3 Specifications and Features

- **CPU**
  - Supports Intel Pentium III/Celeron™ Tualatin
  - Supports Intel Pentium III/ FC-PGA Celeron
  - Supports VIA C3
- **Chipset**
  - VIA 694T/686B

- **DRAM Memory**
  - Supports Synchronous DRAM
  - Supports Virtual Channel Memory
  - 3 x slots for 168-pin DIMM module
  - 8MB~1.5GB memory capacity
  - 8/16/32/64/128/256/512MB SDRAM DIMM
  - Supports ECC
  - 64 data bits structure only
  - PC100/PC133 SDRAM compliant

- **I/O Bus Slot**
  - 1 x AGP slot
  - 5 x Master/Slave PCI Bus slots (PCI 2.2 compliant)
  - 1 x ISA slot
  - 1 x AMR slot (Shared with ISA slot)

- **Award BIOS**
  - Supports Plug and Play, PC99
  - Supports ACPI, APM, DMI, Green Features
  - Easy BIOS Recovery

- **I/O Functions**
  - Supports PIO Mode 3, 4, 5 ATAPI devices and Ultra DMA/33/66/100
  - Supports 2 high speed UART 16550 COM ports
  - Supports SPP/EPP/ECP LPT port
  - Supports 1.44/2.88 MB floppy drive
  - Supports PS/2 Mouse and PS/2 Keyboard
  - Supports IrDA port
  - Supports 4 USB ports

- **Wake Up Features**
  - Supports Wake-on-LAN function
  - Remote Ring Wake Up
  - Time Wake Up

- **Switching Voltage Regulator**
  - Intel VRM 8.5 compliant
- **Other Features**
  - Supports Transcend ezBIOS
  - Year 2000 compliant
  - Anti-Virus Boot up
  - System voltage monitoring for CPU Vcore, +2.5V, +3.3V, +5V and +12V
  - CPU temperature monitoring
  - CPU and CASE FAN speed monitoring
- **PCB Dimensions**
  - ATX form factor, 4-layer PCB, 19cm x 30.5cm (8 in. x 12 in.)

CHAPTER 2 HARDWARE INSTALLATION

2.1   Transcend's TS-AVE3/B Motherboard

I/O Port

• Game Port & Audio Jack
  (Line-In, Line-Out, MIC-In)
• 2 x COM Ports & 1 x Parallel Port
• 2 x USB Ports
• PS/2 KB Port & PS/2 Mouse Port

CPU

• Intel Pentium III/Celeron ™ Tualatin
• Intel Pentium III/ FC-PGA Celeron
• VIA C3

Switching Reg.

• Intel ® VRM 8.5 Compliant

Memory

• 3 x 168pin DIMM Sockets
• 8MB~1.5GB SDRAM

FDD Connector

North Bridge

PCI IDE Connectors

• Bus Master
• PIO Mode 3/4
• DMA Mode 2
• Ultra DMA 33/66/100

Expansion Slots

• 1 x AGP Slot
• 5 x PCI Slots
• 1 x AMR Slot
• 1 x ISA Slot
  (Shared with AMR)

Audio Connectors

South Bridge

AC97 CODEC
• AC97 V2.1 Audio CODEC

Flash EEPROM

• Award BIOS
• PnP,DMI
• ACPI compliant

WOL Header

USB Connector

Panel Connectors

2.2　Layout of Transcend TS-AVE3/B Motherboard

KB MOUSE

PS/2
T:Mouse
B:Keyboard

USB

USB
T:Port 1
B:Port 2

COMB

Parallel Port

COMA

Game Port

PGA 370

CPU-FAN

Power Connector

Nouth
Bridge

DIMM1　DIMM2　DIMM3

JP4

FDC

IDE1　IDE2

AGP Slot

IrDA

JP5

VIDEO AUX

CD2

PCI Slot 1

Li Battery

PCI Slot 2

CD1

MODEM

PCI Slot 3

South
Bridge

PCI Slot 4

AC97
CODEC

WOL

CASE-FAN

PCI Slot 5

USB 3/4

JP6

AMR Slot

2M-bit Flash
BIOS(EEPROM)

Panel Connectors

ISA Slot

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2.3 CPU (Central Processing Unit) Installation

So far you have familiarized yourself with the handling precautions, checked that you have all of the necessary hardware for building your system, inspected the motherboard package contents, and looked at the layout of the motherboard. This chapter will take you step by step through the process of installing the different hardware devices onto the motherboard.

> **Caution!**
> 1. **Remember to always make sure the system power is off before installing or removing any devices.**
> 2. **Don't forget the static electricity precautions. (See Section 1.1.)**
> 3. **Be careful! Incorrectly inserting hardware onto your motherboard can permanently damage the motherboard.**

The motherboard has a ZIF Socket 370 which houses the CPU. A fan is necessary to cool the CPU to prevent overheating. If there is no fan installed on the CPU, please purchase one before you turn on your system.

> **Warning! CPUs generate tremendous heat while operating. Make sure to install a CPU fan with enough heat-dissipation grease to cover the CPU die before powering up the computer. Never run the processor without the heatsink properly and firmly attached.**
> **PERMANENT DAMAGE COULD RESULT!**

Please follow the steps below to install the CPU:

Step 1:

To install the 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 at a 90-degree right angle. Insert the CPU into the socket in the correct orientation. Install the CPU fan if you haven't already done so. With the added weight of the CPU fan, no force is required to insert the CPU. Once completely inserted, close the socket's lever while holding down the CPU.

Step 2:

Next, Connect the CPU's fan cable to the CPU-FAN connector indicated on the diagram below. Ensure that the cable is connected correctly! It will be obvious which way it fits.

Socket 370 CPU Installation

CPU_FAN

Socket
370 CPU
(Top View)

Notch

Notch

Socket
370 CPU
(Bottom View)
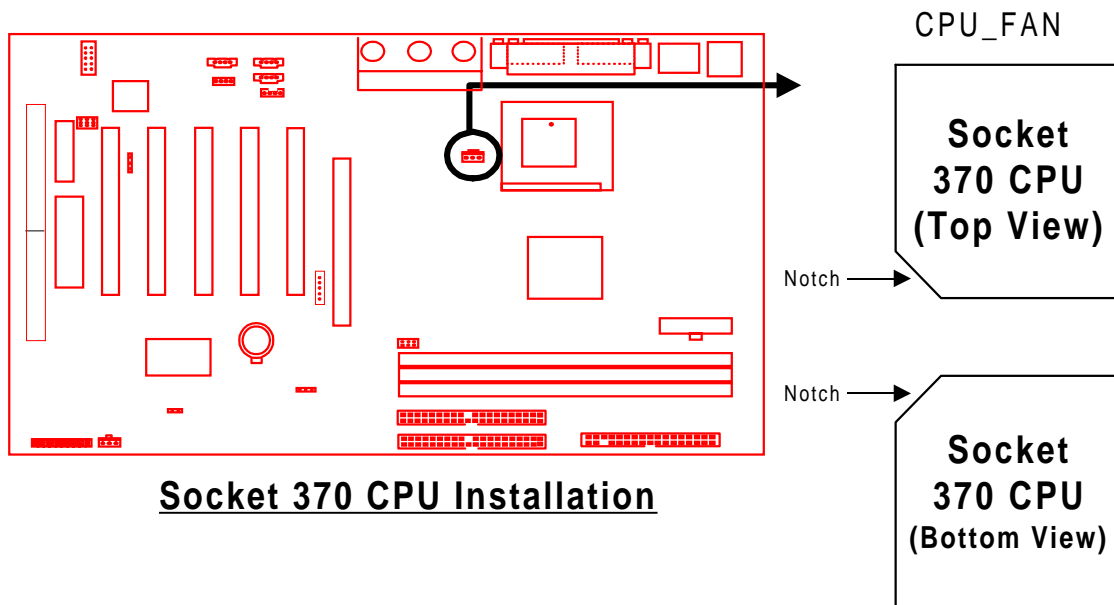
2.4   66/100/133 MHz System Configuration

This jumper (JP4) allows you to set the FSB (Front Side Bus) for Auto, 66, 100 or 133MHz configuration. When you set the FSB to 66MHz, you can select a system bus frequency from 66MHz to 95MHz through "CPU Host/PCI Clock" in "Frequency/Voltage Control" (Please refer to page 43). When you set the FSB to 100MHz, you can select a system bus frequency from 100MHz to 124MHz through "CPU Host/PCI Clock". When you set the FSB to 133MHz, you can select a system bus frequency from 124MHz to 150MHz through "CPU Host/PCI Clock".

> **NOTE: If you are not familar with this feature, we recommend you set this jumper to "AUTO".**

66/100/133MHz FSB Configuration Jumper
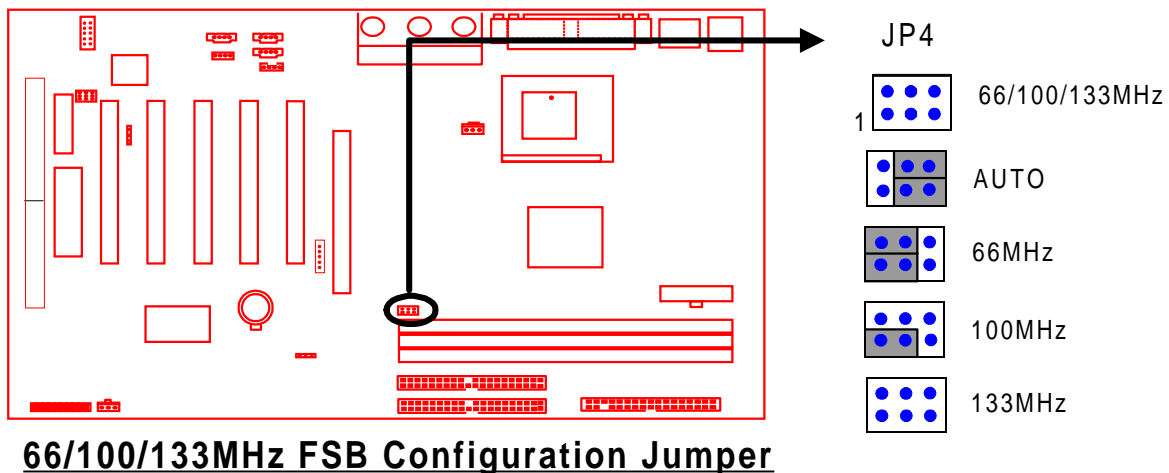
2.5　Using Jumper JP5 to Clear CMOS

To clear the CMOS data, you should turn off your computer's power and put Jumper JP5 in the CMOS_CLR position as shown below for at least 10 seconds. Return the jumper to Default and reboot.

JP5

1

| 1 | Default |
| 1 | CMOS_CLR |
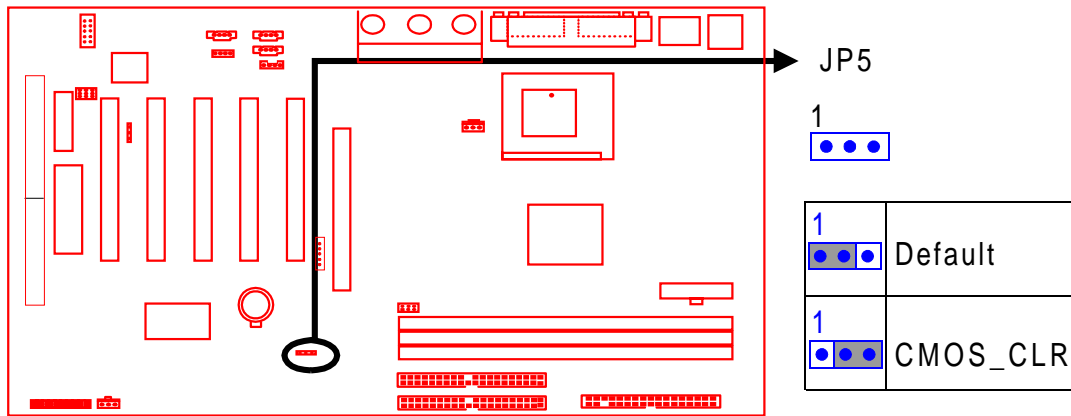
Clear CMOS Jumper

2.6　Onboard Audio Setting (9-Pin JP6)

The onboard audio CODEC can be enabled or disabled via this jumper. Please disable the onboard audio CODEC if you want to use an external AMR Sound Card.

> **NOTE:**　**If you want to use a PCI Sound Card with audio controller on it, please disable the "OnChip Sound" function in "Advanced Chipset Features" (Please reference Page 32).**

JP6

1
2
3

| 1 2 3 | Disable onboard Audio |
| 1 2 3 | Enable onboard Audio |
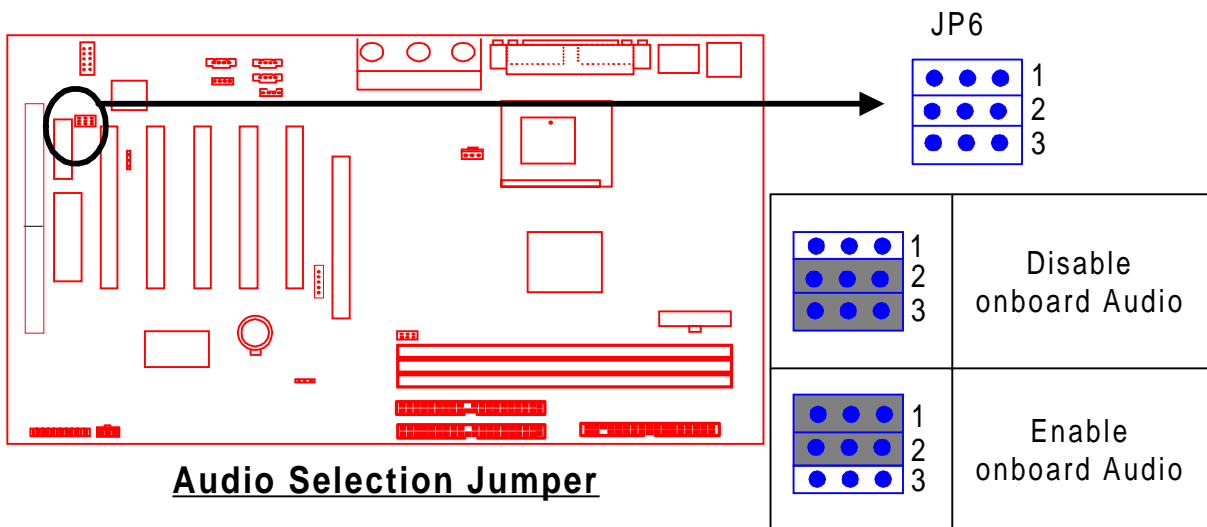
Audio Selection Jumper

2.7   Primary/Secondary IDE Connectors (Two 40-pin IDE)

This mainboard supports two 40-pin IDE connectors marked as IDE1 (primary IDE channel) and IDE2 (secondary IDE channel). Each channel supports two IDE devices for a total of four devices. Connect your Hard Disk (the main one if you are using more than one) to the "Master" connector (at the end of the cable) and connect it to IDE1 (see important note below). If your HDD supports UltraDMA/66/100, you must use an 80-wire cable, otherwise the HDD won't be able to reach the higher speeds.

If you intend to operate two IDE devices from the same channel, one device must be set to "Master" mode, the other to "Slave" mode. A HDD, CD ROM or other IDE device can have either setting, depending on device's jumper. Please refer to the device's manual for more information.

> **NOTE: The connectors must be attached to the IDE channels in the correct direction. Make sure that the red stripe on one edge of the ribbon cable (this may be faint and could also be a dotted line) is nearest to PIN1 (on the left for IDE1 and IDE 2 as the motherboard is shown in the following picture).**

Note: Orient the red stripe to Pin1

Secondary IDE Connector

PIN1 ← IDE1

PIN1 ← IDE2

Primary IDE Connector
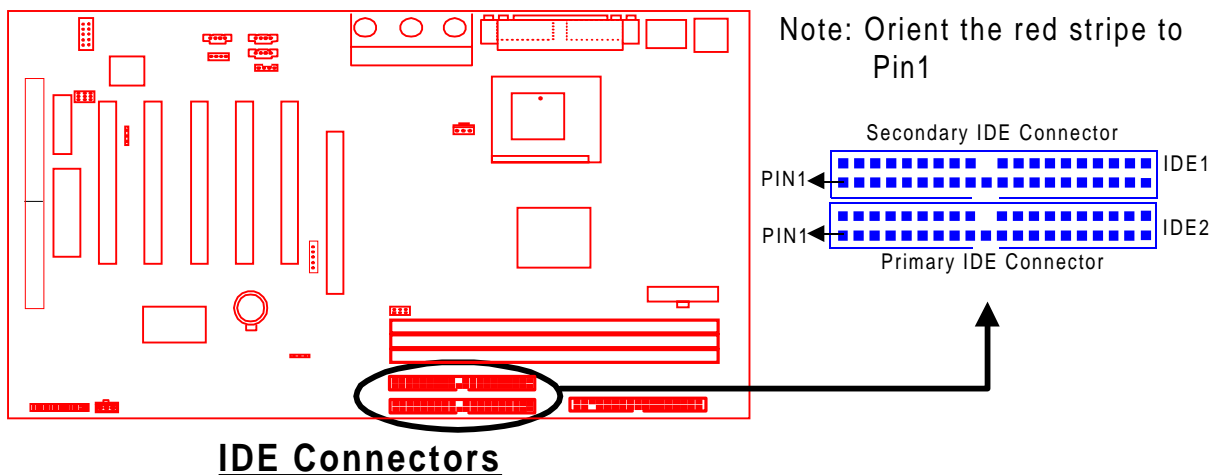
IDE Connectors

2.8 Floppy Disk Drive Connector (34-pin FDC)

This connector supports up to two floppy disk drives (FDDs). A FDD ribbon cable is provided in your motherboard package. After connecting the single end to the board, connect the plug(s) at the other end to the FDD(s). Remember, the red stripe on the edge of the ribbon cable must be the nearest to PIN1 or your connection won't work.

Note: Orient the red stripe to Pin1

Floppy Drive Connector

PIN1

Floppy Disk Drive Connector
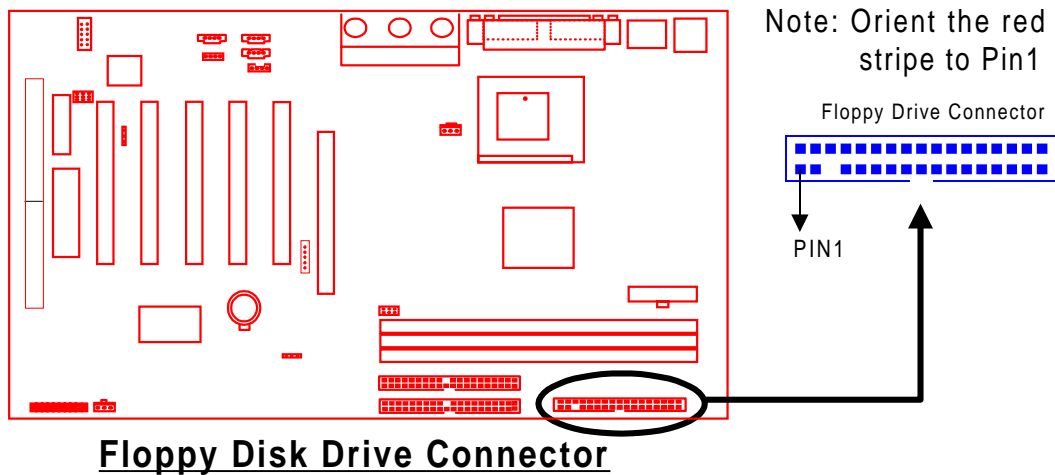
2.9 Fan Power Connectors

There are two fan power connectors on the motherboard: the CPU-FAN and the CASE-FAN. Each connector provides +12V power. The cables can only be attached the correct way. If you try to put them in the wrong way, they won't fit. These connectors support cooling fans of 500 mA (6W) or less.

CPU FAN

CASE FAN

GND
+12V
Rotation

Fan Power Connectors

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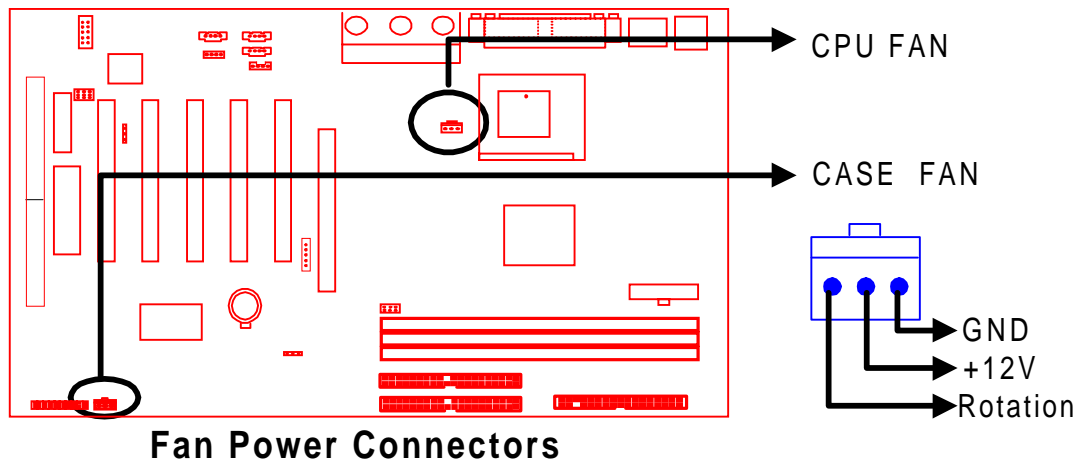
2.10 Memory Configuration

This motherboard must be installed with DIMMs (Dual Inline Memory Modules). The DIMMs must be 3.3 Volt synchronous DRAM modules. The VIA Apollo Pro 133T chipset supports PC100, PC133 and Virtual Channel Memory (VCM). It also supports ECC (Error Checking and Correcting) modules. You can install memory in any combination as follows:

DIMM Location	168pin DIMM
DIMM1	SDRAM 8, 16, 32, 64, 128, 256, 512MB
DIMM2	SDRAM 8, 16, 32, 64, 128, 256, 512MB
DIMM3	SDRAM 8, 16, 32, 64, 128, 256, 512MB
Total Memory	1.5GB (max.)

NOTE: Different types of DRAM modules should not be installed on one motherboard at the same time.

3.3V Position
Unbuffered Position

168Pin SDRAM Module (DIMM1)
168Pin SDRAM Module (DIMM2)
168Pin SDRAM Module (DIMM3)

168Pin DIMM Sockets
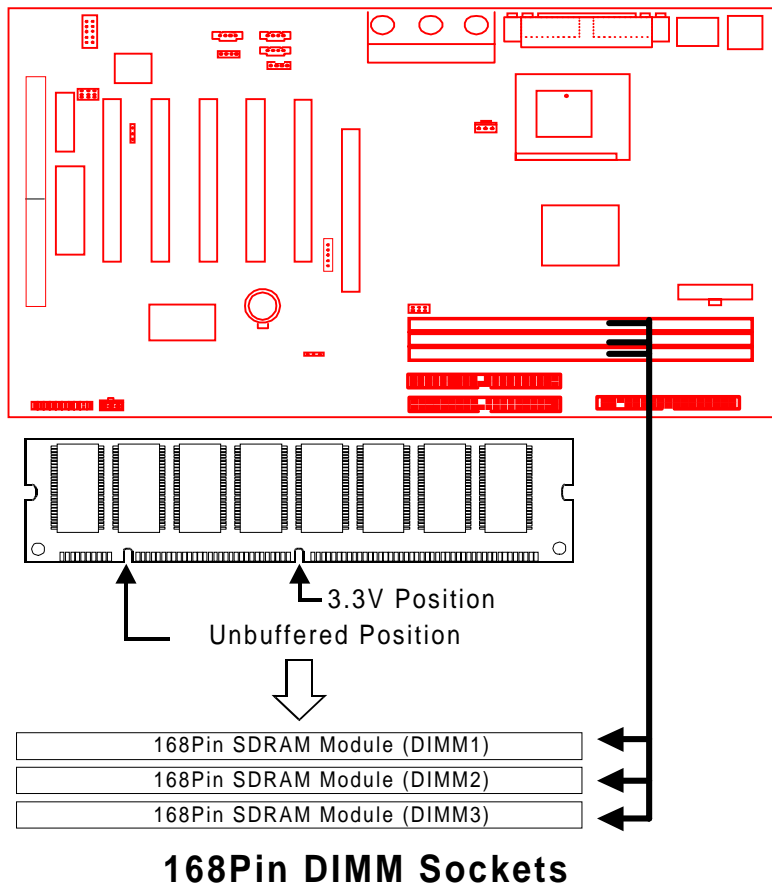
2.11   Panel Connectors

Panel Connectors
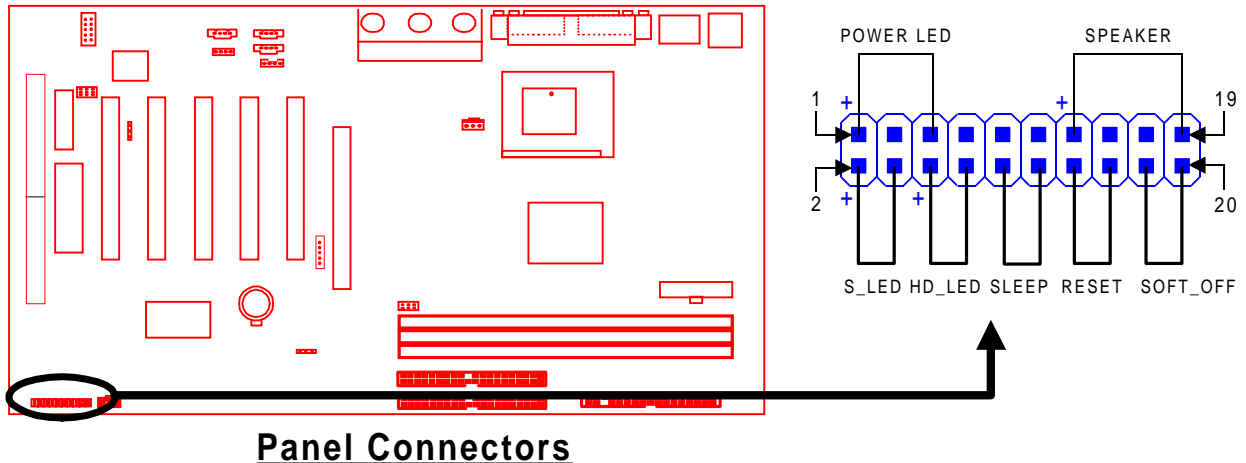
Power LED Lead (3-pin POWER LED)

This 3-pin connector attaches to the power LED.

Pin1:   +5V
Pin3:   NC
Pin5:   GND

Speaker Lead (4-pin SPEAKER)

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

Pin13:   +5V
Pin15:   GND
Pin17:   NC
Pin19:   SPK

Suspend Mode LED Lead (2-pin S_LED)

The S_LED will light when the system is in suspend mode.

Pin2:   +5V
Pin4:   GND

Hard Disk LED Lead (2-pin HD_LED)

This 2-pin connector connects to the LED of the hard disk. The LED lights up when the HDD is active.

Pin6:   +5V
Pin8:   GND

Sleep Button Lead (2-pin SLEEP)

> Pin10:   SLEEP
>
> Pin12:   GND

Reset Switch Lead (2-pin RESET)

This 2-pin connector connects to the case-mounted reset switch for rebooting your computer without turning off your power switch.

> Pin14:   RESET
>
> Pin16:   GND

Soft Power-Off Lead (2-pin SOFT_OFF)

Attach the PW_BTTN Switch of the panel to this connector. Use the switch to power On/Off your system. Set "Soft-Off by PWR-BTN" in "Power Management Setup" in BIOS to either "Instant-Off" or "Delay 4 Sec."

> Pin18:   SOFT-OFF
>
> Pin20:   GND

2.12   Power Connector (20-pin PWR-CONN)

Make sure to plug the ATX power supply into the connector properly. The pin definition is shown below. Make sure that your ATX power supply can support at least 720mA +5V standby power for the Advanced Configuration and Power Interface (ACPI) functions.
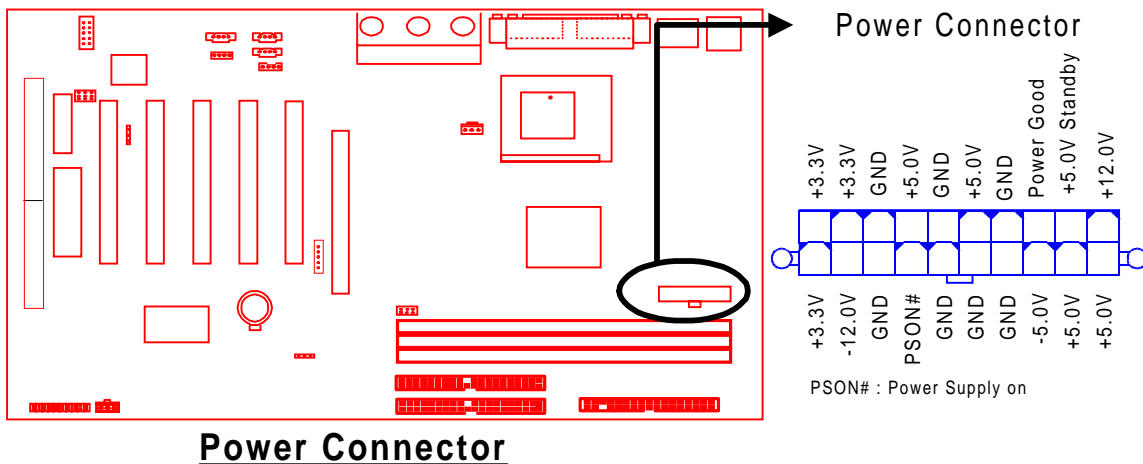
Power Connector

2.13   Wake-on-LAN Connector (3-pin WOL)

This connector connects to LAN cards with a Wake-on-LAN (WOL) output. The system can Power-up when a wakeup packet or signal is received from the LAN card.

> **NOTE:**   **This function requires that the "Ring/WOL Resume" function be set "ON" in "Wake Up Events" in POWER MANAGEMENT SETUP and that your system has an ATX power supply with at least 720mA +5V standby power.**

Wake-On-LAN Connector
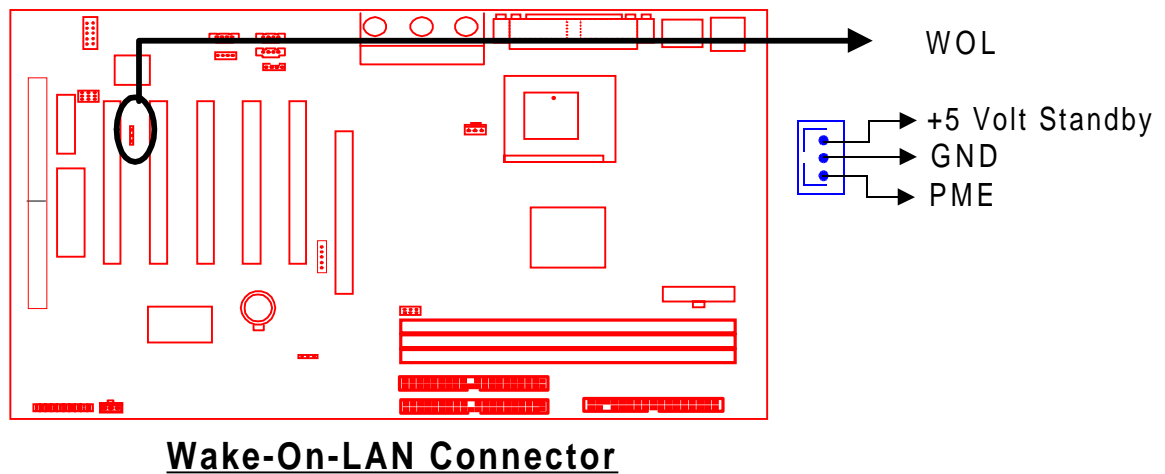
2.14 IrDA-Compliant Infrared Module Connector (5-pin IrDA)

The IrDA connector can be configured to support a wireless infrared module. With this module and application software such as Laplink or Win95 Direct Cable Connection, users can transfer files to or from laptops (notebooks), PDAs and printers. You must also configure settings through "UART 2 Mode" in "Integrated Peripherals" in BIOS.
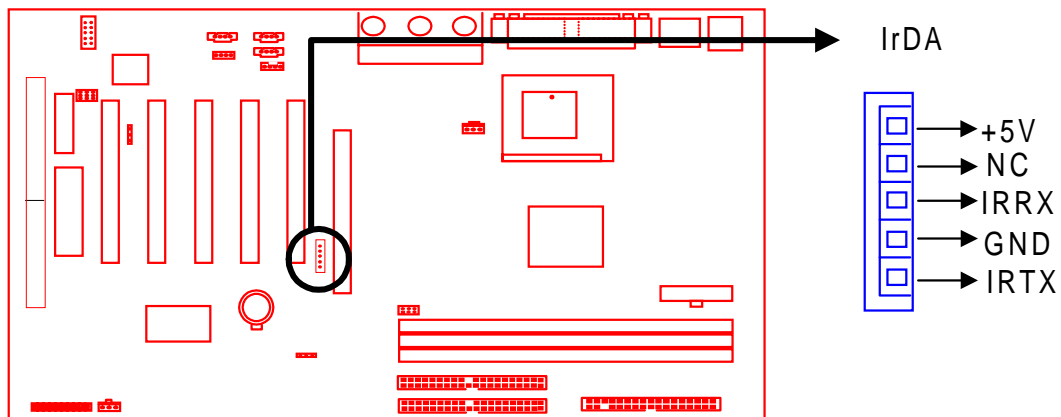
IrDR Connecotr

2.15 Internal Audio Connectors

These connectors allow you to receive stereo audio input from sound sources such as a CD-ROM, TV tuner, or MPEG card. The MODEM connector allows the onboard audio to interface a voice modem card with a matched connector. It also allows the sharing of mono_in (such as a phone) and mono_out (such as a speaker) between the onboard audio and the voice modem card.

Internal Audio Connecotrs

Left Audio Channel
GND
Right Audio Channel
VIDEO (White)

Left Audio Channel
GND
Right Audio Channel
AUX(Green)

GND
Right Audio Channel
Left Audio Channel
CD2(White)

Left Audio Channel
GND
Right Audio Channel
CD1(Black)

Modem-In
(Voice to Modem)
Modem-Out
(Voice from Modem)
GND
MODEM(White)
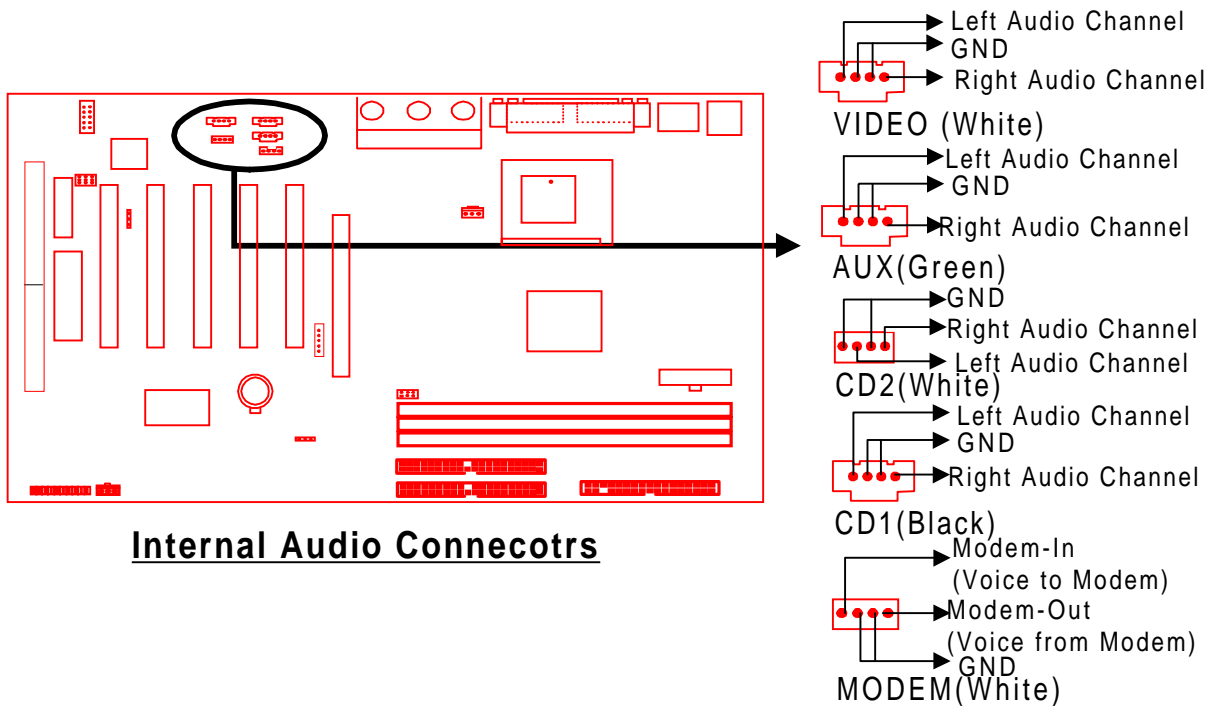
2.16   External Back Panel I/O Ports

There are 9 kinds of external I/O connectors on the motherboard. The drawing shown below depicts the back panel of the **TS-AVE3/B** motherboard.

1. PS/2 Mouse Port (Green 6-pin MOUSE)
2. PS/2 Keyboard Port (Purple 6-pin KB)
3. USB (Universal Serial Bus) Ports 1 and 2 (Black two 4-pin USBs) (See "2.17 Internal USB Port Connector" regarding USB Ports 3 and 4.)
4. Parallel Port (Burgundy 25-pin Printer)
5. Serial Ports COMA and COMB (Turquoise two 9-pin COMA and COMB)
6. Game Port/MIDI Port (Gold 15-pin GAME)
7. Line_out (Lime Green 1/8" LINE_OUT)
8. Line_in (Light blue 1/8" LINE_IN)
9. MIC_in (Pink 1/8" MIC)

4. Parallel Port (Printer)

6. Game/MIDI Port

1. PS/2 Mouse

3. USB1

3. USB2

5. COMB   **5. COMA**   **8. Line-in**

2. PS/2 Keyboard

7. Line-out   **9. MIC-in**

External Back Panel I/O Ports
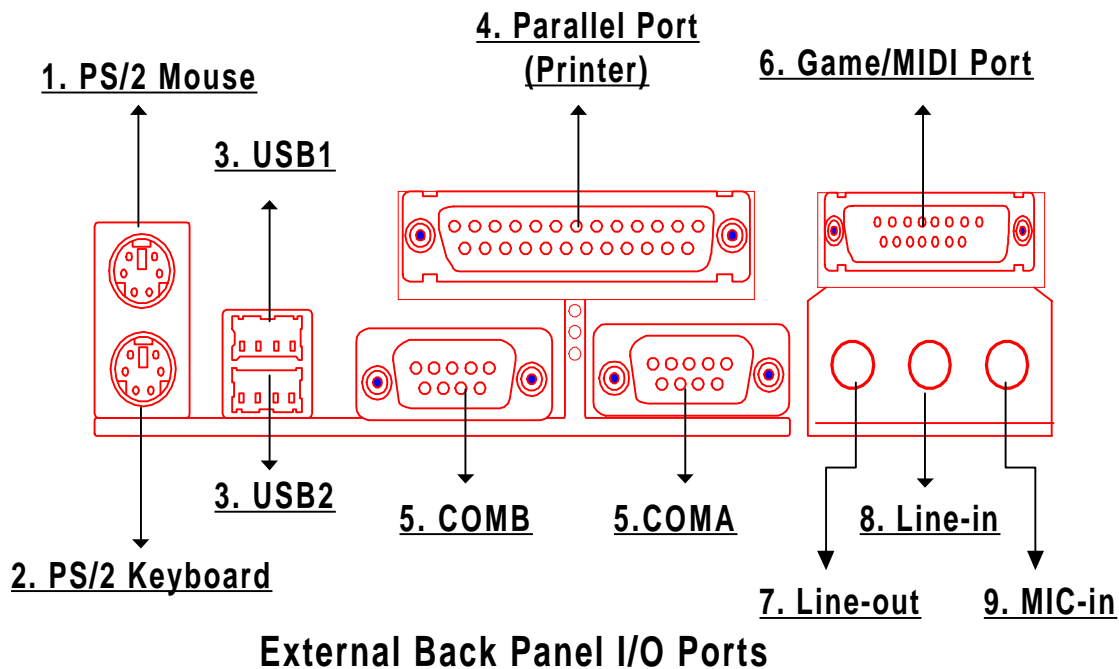
2.17   Internal USB Port Connector (10-Pin USB3/4)

You can use the optional USB port bracket to add two USB ports for additional USB devices. Regarding the external USB Ports 1 and 2, please refer to "2.16   External Back Panel I/O Ports".

> **NOTE: Please make sure that the two red stripes on the cable are seated on Pin1 and Pin2.**

USB3

USB3		USB4
1		2
VCC		VCC
USB3-		USB4-
USB3+		USB4+
GND		GND
		GND
9		10

Internal USB Port Connector
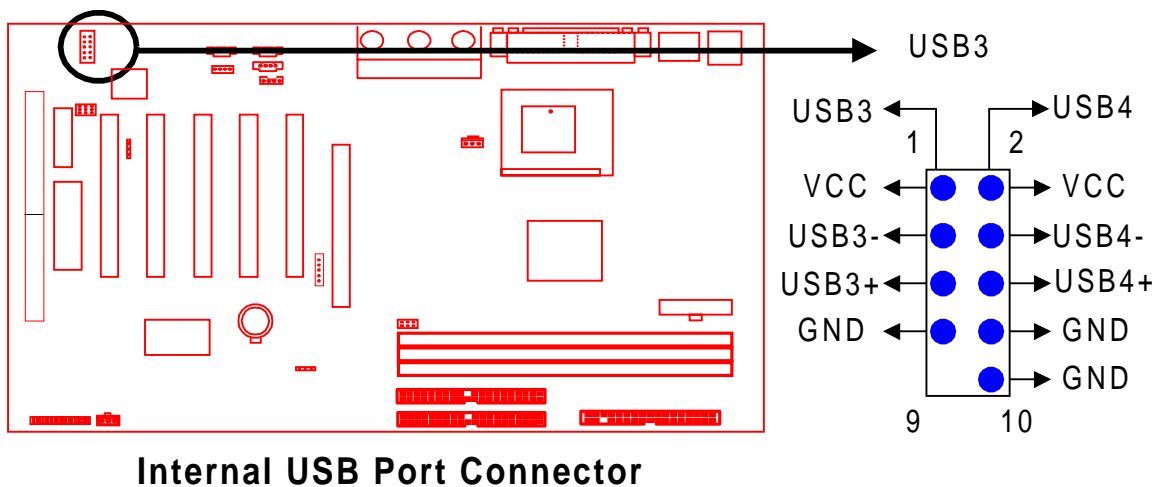
Congratulations! You have completed Hardware Setup!

You may now continue with "Chapter 3 BIOS Setup" and turn on your PC.

CHAPTER 3 BIOS SETUP

3.1 BIOS Setup

Award BIOS has a built-in Setup program that allows users to modify the basic system configuration. This information is stored in CMOS RAM, so it can retain the Setup information when the power is turned off. If the battery for CMOS fails, these data will be lost. If that happens, please set up your configuration parameters again after replacing the battery. Please refer to Section 1.1, Essential Handling Precautions for instructions on replacing the battery.

3.2 The Main Menu

As you turn on or reboot the system, the BIOS is immediately activated. It will read the system configuration information and check the system through the Power On Self Test (POST). During the POST process, pressing the [Del] key allows you to enter the Award BIOS configuration system. The following screen will appear.

```
          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...
```

In the Award BIOS system you can use the arrows **(↑ ↓ → ←)** to highlight an item and then enter its submenu by pressing the [Enter] key. The following keys help you navigate in Setup.

    [Esc]   Main Menu: Quit without saving changes into CMOS RAM

                 Other pages: Exit the current page and return to the Main Menu

    [PgUp]   Increase the numeric value or make changes

    [PgDn]   Decrease the numeric value or make changes

[+]	Increase the numeric value or make changes
[-]	Decrease the numeric value or make changes
[F1]	General help on Setup navigation keys
[F5]	Load previous values from CMOS
[F6]	Load the Fail-Safe Defaults from the BIOS default table
[F7]	Load the Optimized Defaults
[F10]	Save all the CMOS changes, and exit

The Following is a brief summary of each Setup category:

- **Standard CMOS Features**

  Options in the original PC AT-compatible BIOS

- **Advanced BIOS Features**

  Award enhanced BIOS options

- **Advanced Chipset Features**

  Available options specific to your system's Chipset

- **Integrated Peripherals**

  I/O subsystems that depend on the integrated peripheral controllers in your system

- **Power Management Setup**

  Advanced Power Management (APM) and Advanced Configuration Power Interface (ACPI) options

- **PnP/PCI Configurations**

  Plug and Play standard and PCI Local Bus configuration options

- **PC Health Status**

  To display the status of the fans, CPU temperature, and voltage monitoring

- **Frequency/Voltage Control**

  To control the frequency and voltage of the CPU

- **Load Fail-Safe Defaults**

  To load the most basic BIOS default values required for your system to operate

- **Load Optimized Defaults**

  To load the BIOS default values that are factory settings for optimal system performance

- **Set Supervisor/User Password**

  To change, set, or disable a password

- **Save & Exit Setup**

  To save settings in nonvolatile CMOS RAM and exit Setup

- **Exit Without Saving**

  To abandon all changes and exit Setup

3.3 Standard CMOS Features
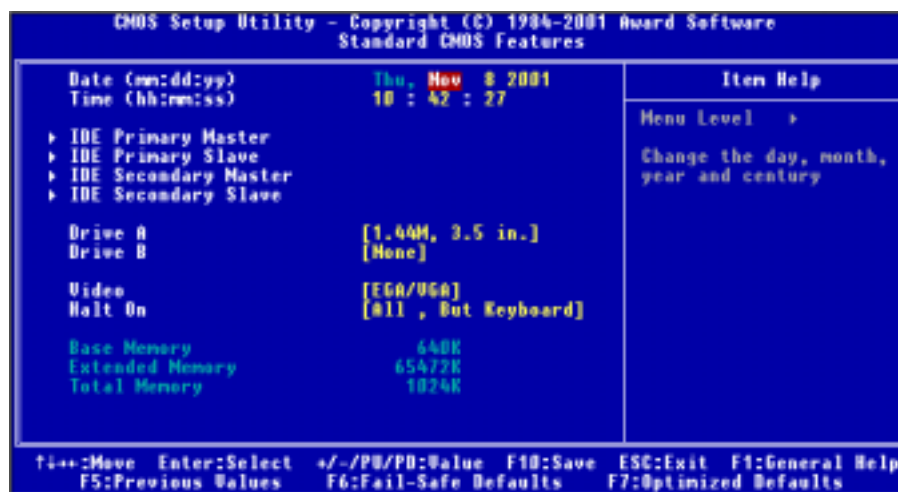
- **Date (mm:dd:yy)/Time (hh:mm:ss)**

  Highlight the items and use [PageUp]/[PageDown] to change the value of Date/Time.

- **IDE Primary/Secondary Master/Slave**

  Press [Enter] to enter the submenu shown below.
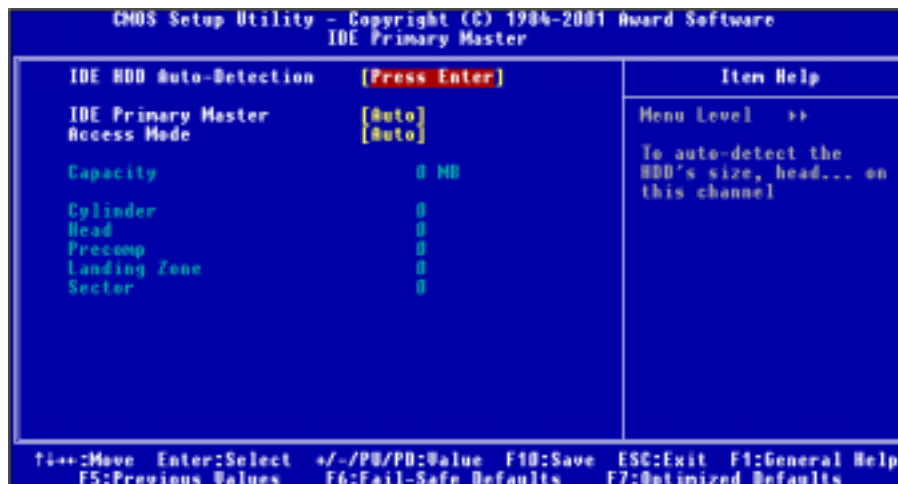
- IDE HDD Auto-Detection: Detect the HDD on this channel. If the detection is successful, it fills the remaining fields on this menu.
- IDE Primary/Secondary Master/Slave: We recommand that you select "AUTO" for all drives. The BIOS can automatically detect the specifications during POST while the system boots. You can also choose "Manual" to set the specifications yourself. "None" indicates that there is no device installed on this IDE channel.
- Access Mode : "CHS", "LBA", "Large", or "Auto".
  - CHS: Maximum number of cylinders, heads, and sectors supported are 1024,16, and 63 respectively.
  - LBA (Logical Block Addressing): During drive access, the IDE controller transforms the data address described by sector, head, and cylinder number into a physical block address. This will significantly improve data transfer rates for drives with more than 1024 cylinders.
  - Large: For drives that do not support LBA and have more than 1024 cylinders.
  - Auto: The BIOS automatically determines the optimal access mode.
- Capacity: Disk drive capacity. Note that this size is slighty greater than the size of a formatted disk given by a disk-checking program.
- Cylinder: Number of cylinders
- Head: Number of heads
- Precomp: Write precompensation cylinder
- Landing Zone: Landing zone
- Sector: Number of sectors
- **Drive A/Drive B**

  Select the correct types of diskette drive(s) installed in the computer.
  - None: No diskette drive installed
  - 360K, 5.25 in.: 5-1/4 inch standard drive; 360 kilobyte capacity
  - 1.2M, 5.25 in.: 5-1/4 inch high-density drive; 1.2 megabyte capacity
  - 720K, 3.5 in.: 3-1/2 inch double-sided drive; 720 kilobyte capacity
  - 1.44M, 3.5 in.: 3-1/2 inch double-sided drive; 1.44 megabyte capacity
  - 2.88M, 3.5 in.: 3-1/2 inch double-sided drive; 2.88 megabyte capacity

- **Video**

  Select the type of primary video subsystem in your computer. The BIOS will detect the correct video type automatically.

  - EGA/VGA: Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SEGA, SVGA or PGA monitor adapters.
  - CGA 40: Color Graphics Adapter, powers up in 40-column mode.
  - CGA 80: Color Graphics Adapter, powers up in 80-column mode.
  - MONO: Monochrome adapter, including high resolution.

- **Halt On**

  During POST, the computer stops if the BIOS detects a hardware error. You can set the BIOS to ignore certain errors during POST and continue the boot-up process. The following are the available selections.

  - All Errors: If the BIOS detects any nonfatal errors, POST stops and prompts you to take corrective action.
  - No Errors: POST does not stop for any error.
  - All, But Keyboard: If the BIOS detects any nonfatal errors except keyboard, POST stops and prompts you to take corrective action.
  - All, But Diskette: If the BIOS detects any nonfatal errors except the disk drive, POST stops and prompts you to take corrective action.
  - All, But Disk/Key: If the BIOS detects any nonfatal errors except keyboard or the disk drive, POST stops and prompts you to take corrective action.

3.4 Advanced BIOS Features

This "Advanced BIOS Features" option allows you to improve your system performance and setup system features according to your preferences.

```
         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  [Disabled]
    Processor Number Feature   [Disabled]             Allows you to choose
    Quick Power On Self Test   [Enabled]              the VIRUS warning
    First Boot Device          [Floppy]               feature for IDE Hard
    Second Boot Device         [HDD-0]                Disk boot sector
    Third Boot Device          [CDROM]                protection. If this
    Boot Other Device          [Enabled]              function is enabled
    Swap Floppy Drive          [Disabled]             and someone attempt to
    Boot Up Floppy Seek        [Enabled]              write data into this
    Boot Up NumLock Status     [On]                   area ,  BIOS will show
    Gate A20 Option            [Fast]                 a warning message on
    Typematic Rate Setting     [Disabled]             screen and alarm beep
  x Typematic Rate (Chars/Sec) 6
  x Typematic Delay (Msec)     250
    Security Option            [Setup]
    OS Select For DRAM > 64MB  [Non-OS2]
    Video BIOS Shadow          [Enabled]
    C8000-CBFFF Shadow         [Disabled]
    CC000-CFFFF Shadow         [Disabled]
    D0000-D3FFF Shadow         [Disabled]
    D4000-D7FFF Shadow         [Disabled]
    D8000-DBFFF Shadow         [Disabled]
    DC000-DFFFF Shadow         [Disabled]
    Delay For HDD (Secs)       [ 0]             ▼

  ↑↓←→: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**

    When this function is enabled, you will receive a warning message if a program (specifically, a virus) attempts to write to the boot sector or the partition table of the hard disk drive. You should then execute an anti-virus program. Keep in mind that this feature protects the boot sector only, not the entire hard drive.

NOTE: Many disk diagnostic programs that access the boot sector table can trigger the virus warning message. If you plan to run such a program, we recommend that you disable the virus warning first.

- **CPU Internal Cache/External Cache**

    Cache memory is additional memory that is much faster than conventional DRAM (system memory). CPUs from 486-type and up contain internal cache memory. Most, but not all, modern PCs have additional (external) cache memory. When the CPU requests data, the system transfers the requested data from the main DRAM into cache memory for even faster access by the CPU. The "External Cache" field may not appear if your system does not have external cache memory.

Transcend Information, Inc.

- **CPU L2 Cache ECC Checking**

  Select "Enabled" to make sure the data are accurate.

- **Processor Number Feature**

  "Enabled" makes the CPU Serial number function active. (Only for PIII CPUs)

- **Quick Power On Self Test**

  Select "Enabled" to reduce the amount of time required to run POST. The Quick POST skips certain steps. We recommend that you normally disable Quick POST. It is better to find a problem during POST than to lose data during your work.

- **First/Second/Third/Other Boot Device**

  The original IBM PCs loaded the DOS operating system from drive A (floppy disk). Therefore, IBM PC-compatible systems are designed to search for an operating system first on drive A, and then on drive C (HDD-0). However, the BIOS attempts to load the operating system from the devices in the sequence selected in these fields. In addition to "Floppy" and "HDD-0", options include "LS120", "HDD-1", "HDD-2", "HDD-3", "CDROM", "ZIP100", a "LAN" drive, plus a "SCSI" hard drive. If your boot device is not included in the list, you can set the "Boot Other Device" field to "Enabled", and let the system detect the drive automatically.

- **Swap Floppy Drive**

  This field is effective only in systems with two floppy drives. Selecting "Enabled" assigns physical drive B to logical drive A, and physical drive A to logical drive B.

- **Boot Up Floppy Seek**

  When you select "Enabled", the BIOS tests (seeks) floppy drives to determine whether they have 40 or 80 tracks. Only 360KB floppy drives have 40 tracks; drives with 720KB, 1.2MB, and 1.44MB capacity all have 80 tracks. Because very few modern PCs have 40-track floppy drives, we recommend that you set this field to "Disabled" to save time.

- **Boot Up NumLock Status**

  Toggle between "On" and "Off" to control the state of the NumLock key when the system boots. When toggled "On", the numeric keypad area of the keyboard generates numbers instead of controlling cursor operations.

- **Gate A20 Option**

  Choose "Fast" (default) or "Normal". "Fast" allows RAM access above 1MB to use the fast Gate A20 line.

- **Typematic Rate Setting**

  When this function is "Disabled" keystrokes repeat at a rate determined by the keyboard controller in your system. When this function is "Enabled", you can select a typematic rate and typematic delay.

- **Typematic Rate (Chars/Sec)**

  When the Typematic Rate setting is "Enabled", you can select a typematic rate (the rate at which a character repeats when you hold down a key) of "6", "8", "10", "12", "15", "20", "24" or "30" characters per second.

- **Typematic Delay (Msec)**

  When the Typematic Delay setting is "Enabled", you can select a typematic delay (the delay before key strokes begin to repeat) of "250", "500", "750" or "1000" milliseconds.

- **Security Option**

  If you have set a password, you can select whether the password is required while the system boots ("System"), or only when you enter "Setup".

- **OS Select for DRAM > 64MB**

  Select "OS2" only if you are running the OS/2 operating system with more than 64 MB of RAM in your system. Otherwise select "Non-OS2".

- **Video BIOS Shadow**

  Select "Enabled" to change the video BIOS location form ROM to RAM, where the CPU can read data through the 64-bit DRAM bus. This can enhance system performance.

- **C8000-DFFFF Shadow**

  You can shadow the ROM on other expansion cards by setting these fields. If you install other expansion cards with ROMs, you need to know specifically which address the ROMs use. Shadowing a ROM reduces the memory available between 640K and 1024K depending on the used amount.

- **Delay For HDD (Secs)**

  Default is "0". You may need to increase the delay time for BIOS to detect the right type of HDD for some older HDDs.

3.5 Advanced Chipset Features

This option will change the values of the chipset registers and the system settings will alter. Do not change any values if you are unfamiliar with the chipset.

```
          CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                          Advanced Chipset Features

     DRAM Timing By SPD        [Enabled]        ▲          Item Help
   x DRAM Clock                 Host CLK
   x SDRAM CAS Latency          3                      Menu Level    ▶
   x Bank Interleave            Disabled
     DRAM Drive Strength       [Auto]
   x DRAM Drive Value           2F
     Memory Hole               [Disabled]
     CPU/PCI Concurrency       [Enabled]
     Fast R-W Turn Around      [Disabled]
     System BIOS Cacheable     [Disabled]
     Video RAM Cacheable       [Disabled]
     AGP Aperture Size         [64M]
     AGP-4X Mode               [Enabled]
     AGP Driving Control       [Auto]
   x AGP Driving Value          DA
     AGP Fast Write            [Disabled]
     OnChip USB                [Enabled]
     USB Keyboard Support      [Enabled]
     USB Mouse Support         [Enabled]
     OnChip Sound              [Auto]             system DRAM contains
     OnChip Modem              [Disable]          parity
     CPU to PCI Write Buffer   [Enabled]
     PCI Dynamic Bursting      [Enabled]
     PCI Master 0 WS Write     [Enabled]
     PCI Delay Transaction     [Enabled]
     PCI Master Read Caching   [Enabled]
     PCI#2 Access #1 Retry     [Enabled]
     AGP Master 1 WS Write     [Disabled]
     AGP Master 1 WS Read      [Disabled]
     Memory Parity/ECC Check   [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 Timing By SPD**

  This controls the SDRAM performance: default is "Enabled".   BIOS will auto detect the SPD information of the Memory Module and choose the proper setting. "Disabled" allows the timing to be set manually.

- **DRAM Clock**

  Set the clock frequency of the DRAMs. The default value is "Host CLK". You can select "HCLK+33M" if your DRAM modules are faster than the CPU (a 66MHz FSB CPU with a PC100 SDRAM, or a 100MHz FSB CPU with PC133 SDRAM); or select "HCLK-33M" for a faster CPU with slower SDRAMs.

- **SDRAM CAS Latency**

  This controls the SDRAM performance, default is "3" clocks. If your SDRAM DIMM specification is 2 CAS latency, change "3" to "2" for better performance.

- **Bank Interleave**

  Options are: "Disabled", "2 Bank", and "4 Bank".

- **DRAM Drive Strength**

  Selecting "Manual" instead of "Auto" allows you to set the DRAM Drive Value.

- **DRAM Drive Value**

  This field allows you to adjust the DRAM diving force (from 0000~00FF).

- **Memory Hole**

  "15M-16M" reserves memory address space (between 15 and 16MB) to ISA expansion cards that specifically require this setting. This makes between 15 and 16MB of memory unavailable to the system. Expansion cards can only access memory up to 16MB. The default setting is "Disabled".

- **CPU/PCI Concurrency**

  When "Disabled" the CPU bus will be occupied during the entire PCI operation period.

- **Fast R-W Turn Around**

  This is a DRAM optimization feature: If a memory read is addressed to a location whose latest write is being held in a buffer before being written to memory, the read is satisfied through the buffer contents, and the read is not sent to the DRAM. The choices are: "Enabled" and "Disabled".

- **System BIOS Cacheable**

  Selecting "Enabled" allows caching of the system BIOS. This action can increase system performance.

- **Video RAM Cacheable**

  Selecting "Enabled" allows caching of the video RAM. This action can increase system performance.

- **AGP Aperture Size**

  Memory-mapped graphics data structures can reside in a Graphics Aperture. We suggest you leave this field on the default setting.

- **AGP-4X Mode**

  Select "Enabled" if you use a AGP-4X VGA card.

- **AGP Driving Control**

  This function allows you to adjust the AGP driving force. Choosing 'Manual' allows you key in an AGP Driving Value. We recommend that you set this field to "Auto" to avoid errors.

- **AGP Driving Value**

  This field allows you to adjust the AGP driving parameters (from 0000~00FF).

- **AGP Fast Write**

  Options are: "Enabled" or "Disabled".

- **OnChip USB**

  Select "Enabled" if you intend to use any USB device.

- **USB Keyboard Support**

  Select "Enabled" if you want to use a USB keyboard.

- **USB Mouse Support**

  Select "Enabled" if you want to use a USB mouse.

- **OnChip Sound**

  Select "Auto" to enable the OnChip Audio Controller, which lets you use Onboard CODEC or Add-On CODEC on an AMR card (depends on the JP6 setting). If you use an Add-On Audio Card with an Audio Controller built-in, please set this field to "Disabled".

- **OnChip MODEM**

  Select "Auto" to enable the OnChip MODEM Controller, which lets you use Add-On MODEM CODEC on an AMR card. If you use an Add-On card with a MODEM Controller built-in, please set this field to "Disabled".

- **CPU to PCI Write Buffer**

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

- **PCI Dynamic Bursting**

  When "Enabled", every write transaction goes to the write buffer. Burstable transactions then burst on the PCI bus, while nonburstable transactions will write to the PCI bus immediately.

- **PCI Master 0 WS Write**

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

- **PCI Delay Transaction**

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

- **PCI Master Read Caching**

  Options are: "Enabled" and "Disabled".

- **PCI #2 Access #1 Retry**

  Options are: "Enabled" and "Disabled".

- **AGP Master 1 WS Write**

  Selecting "Enabled" will implement a single delay when writing to the AGP Bus. By default, two wait states are used by the system, allowing for greater stability.
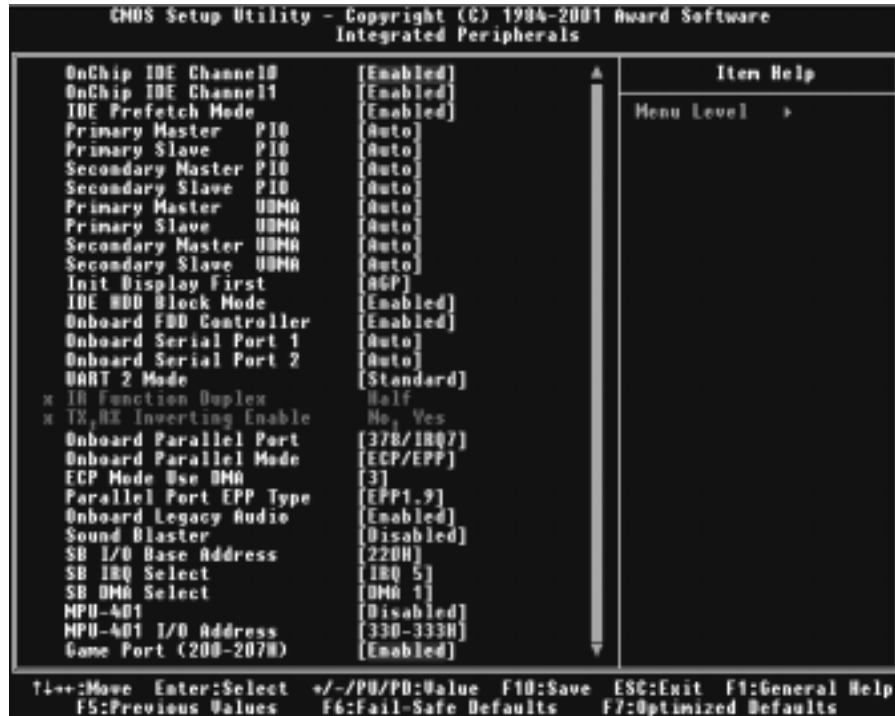
- **AGP Master 1 WS Read**

  This implements a single delay when reading to the AGP Bus. By default, two-wait states are used by the system, allowing for greater stability.

- **Memory Parity/ECC Check**

  When parity DRAM modules are installed, select "Enabled" to correct 1 bit memory errors in the memory. Otherwise, select "Disabled".

3.6   Integrated Peripherals

Choose this option and the following display appears.

```
CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                    Integrated Peripherals

   OnChip IDE Channel0        [Enabled]         ▲        Item Help
   OnChip IDE Channel1        [Enabled]
   IDE Prefetch Mode          [Enabled]              Menu Level   ▶
   Primary Master    PIO      [Auto]
   Primary Slave     PIO      [Auto]
   Secondary Master PIO       [Auto]
   Secondary Slave  PIO       [Auto]
   Primary Master    UDMA     [Auto]
   Primary Slave     UDMA     [Auto]
   Secondary Master UDMA      [Auto]
   Secondary Slave  UDMA      [Auto]
   Init Display First         [AGP]
   IDE HDD Block Mode         [Enabled]
   Onboard FDD Controller     [Enabled]
   Onboard Serial Port 1      [Auto]
   Onboard Serial Port 2      [Auto]
   UART 2 Mode                [Standard]
 x IR Function Duplex         Half
 x TX,RX Inverting Enable     No, Yes
   Onboard Parallel Port      [378/IRQ7]
   Onboard Parallel Mode      [ECP/EPP]
   ECP Mode Use DMA           [3]
   Parallel Port EPP Type     [EPP1.9]
   Onboard Legacy Audio       [Enabled]
   Sound Blaster              [Disabled]
   SB I/O Base Address        [220H]
   SB IRQ Select              [IRQ 5]
   SB DMA Select              [DMA 1]
   MPU-401                    [Disabled]
   MPU-401 I/O Address        [330-333H]
   Game Port (200-207H)       [Enabled]      ▼

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

- **OnChip IDE Channel 0/Channel 1**

  The chipset contains a PCI IDE interface which supports two IDE channels. Select "Enabled" to activate the first and/or second IDE interface. Select "Disabled" to deactivate this interface if you install a primary and/or secondary add-in IDE interface.

- **IDE Prefetch Mode**

  The Onboard IDE drive interface supports IDE prefetching for faster drive access. If your IDE drive has add-in IDE interface and doesn't support prefetching, please set this field to "Disabled".

- **Primary/Secondary Master/Slave PIO**

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

- **IDE Primary/Secondary Master/Slave UDMA**

  Ultra DMA/33/66/100 implementation is possible only if your IDE HDD(s) can support it, and if the operating environment includes a DMA driver (Windows 95 OSR2 or higher or a third-party IDE bus master driver). If both your HDD(s) and your system software can support Ultra DMA/33/66/100, select "Auto" to enable BIOS support.

- **Init Display First**

  This item allows you to decide which to activate first depending on the location of your video card: the "PCI Slot" or the "AGP" slot.

- **IDE HDD Block Mode**

  Block Mode is also called Block Transfer, Multiple Commands, or Multiple Sector Read/Write. If your IDE hard drive supports Block Mode (most new drives do), select "Enabled" for automatic detection of the optimal number of Block Read/Writes per sector that the drive can support.

- **Onboard FDD Controller**

  You can use this function to enable or disable the onboard FDD controller.

- **Onboard Serial Port 1/Port 2**

  Select an address and the corresponding interrupt for each of the first and second serial ports. The choices are: "Disabled", "3F8/IRQ4", "2F8/IRQ3", "3E8/IRQ4", "2E8/IRQ3", and "Auto". The second serial port shares resources (address and IRQ) with the IrDA.

- **UART 2 Mode**

  Choose the right type of infrared device:
    – Standard: Normal operation
    – HPSIR: IrDA compliant serial infrared port
    – ASKIR: Amplitude Shift Keyed Infrared Port

  If HPSIR or ASKIR are selected, you must make the correct selections for the following two parameters: "IR Function Duplex" and "TX, RX Inverting Enable".

- **IR Function Duplex**

    Consult your IR peripheral documentation to select the setting for IR "Half" or "Full" duplex function.

- **TX, RX Inverting Enable**

    Consult your IR peripheral documentation to set this field. The item "Yes" means "Low Active" and "No" means "High Active". Options are: "No, No", "No, Yes", "Yes, No", and "Yes, Yes".

- **Onboard Parallel Port**

    Select a logical LPT port name and matching address for the physical parallel (printer) port. The choices are: "378/IRQ7", "278/IRQ5", "3BC/IRQ7" and "Disabled".

- **Onboard Parallel Mode**

    This field allows you to set the operation mode of the parallel port.

    – Normal: Allows normal-speed operation, but in one direction only.

    – EPP: Allows bidirectional parallel port operation at maximum speed.

    – ECP: Allows DMA and bidirectional operation. It is faster than EPP mode.

    – ECP/EPP: Allows normal speed operation in two-way mode.

- **ECP Mode Use DMA**

    Assign DMA channel "1" or "3" to the port for ECP mode operation.

- **Parallel Port EPP Type**

    Select EPP port type "EPP1.7" or "EPP1.9".

- **Onboard Legacy Audio**

    This field controls the onboard legacy audio related selection. If "Disabled" all of the following selections will be disabled. Select "Enabled" if you want to use the onboard audio.

- **Sound Blaster**

    Select "Enabled" to use Sound Blaster.

- **SB I/O Base Address**

    Assign Sound Blaster resources. We recommend you leave this field on default. Options are: "220H", "240H", "260H", and "280H".

- **SB IRQ Select**

    Assign Sound Blaster resources. We recommend you leave this field on default. Options are: "IRQ5", "IRQ7", "IRQ9", and "IRQ10".

- **SB DMA Select**

  Assign Sound Blaster resources. We recommend you leave this field on default. Options are: "DMA 0", "DMA 1", "DMA 2", and "DMA 3".

- **MPU-401**

  Select "Enabled" to use a MPU-401 device.
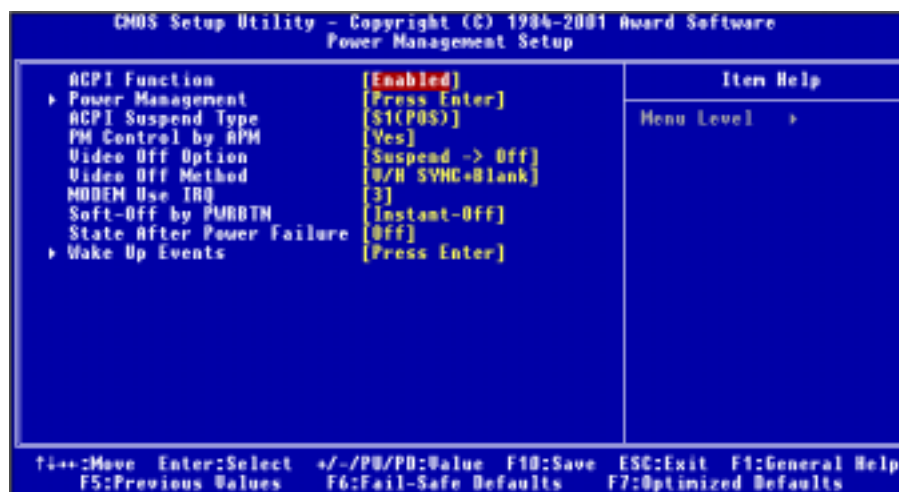
- **MPU-401 I/O Address**

  Assign MPU-401 I/O resource. Options are: "300-303H", "310-323H", "320-323H", and "330-333H".

- **Game Port (200-207H)**

  Select "Enabled" to assign Game Port to "200-207H".

3.7 Power Management Setup

Power Management Setup allows you to configure your system to minimize energy consumption, according to your own style of computer use.
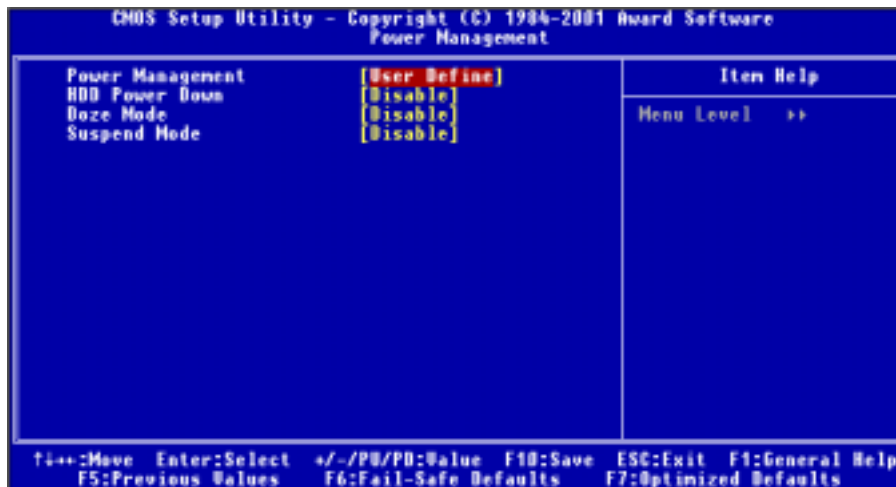

- **ACPI Function**

  This item allows the Advanced Configuration and Power Interface (ACPI) to be "Enabled or "Disabled".

- **Power Management**

  Press Enter to access the submenu shown on the next page, which allows you to select either minimum or maximum power saving, or to manually define the power saving parameters.

```
CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                          Power Management

  Power Management          [User Define]              Item Help
  HDD Power Down            [Disable]
  Doze Mode                 [Disable]        Menu Level    ▸▸
  Suspend Mode             [Disable]




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

The Power Management submenu allows you to select the type (or degree) of power saving. In addition to allowing you to set the inactivity period resulting in HDD Power Down, inactivity periods can be set for the Doze and Suspend modes. The HDD can be set to Power Down after inactivity periods of from "1 min." to "15 min.", or the parameter can be "Disabled" keeping the HDD powered up at all times. There are three selections for Power Management. Two of them have fixed mode settings.

1. Min. Power Saving:

   Minimum power management mode. Inactivity period is defined below:

       Suspend Mode = 1 hr.   HDD Power Down = 1 hr.

2. Max. Power Saving:

   Maximum power management mode. Inactivity period is defined below:

       Suspend Mode = 1 min.   HDD Power Down = 1 min.

3. User Define:

   Allows you to set each mode individually. Select the time-out period for each mode shown above.

- **ACPI Suspend Type**

  Select the ACPI Suspend Type: "S1 (POS)" or "S3 (STR)". If your expansion cards do not support the STR (Suspend-to-RAM) function, you must leave this field on "S1 (POS)" setting. The STR is an energy-saving feature. It takes only a few seconds to wake up the system and return to the previous situation.

NOTE: STR requires an ATX power supply with at least 720mA and 5V standby power for the Advanced Configuration and Power Interface (ACPI) functions. Otherwise, the system will fail to return from suspend mode.

- **VIDEO Off Option**

  This function lets you set the VGA adapter for power saving modes. Options are:
  - Always On: Monitor will remain on during all power saving modes.
  - Suspend Off: Monitor blanked when the system enters the suspend mode.
  - All Modes: Monitor blanked when the system enters any power saving mode.

- **Video Off Method**

  Defines the Video Off features.
  - Blank Screen: Only blanks the screen. Use this for monitors without power management and "green" features.
  - V/H SYNC+BLANK: Blanks the screen and turns off vertical and horizontal scanning.
  - DPMS: The DPMS (Display Power Management System) feature allows the BIOS to control the video display card if it supports the DPMS feature.

- **PM Control by APM**

  When "Yes", an Advanced Power Management device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock.

- **MODEM Use IRQ**

  You can select one of the following interrupt resources for modem use: "N/A", "3", "4", "5", "7", "9", "10", or "11".

- **Soft-Off by PWRBTN**

  When set to "Instant-off", the ATX switch can be used as a normal system Power Off button. When set to "Delay 4 seconds", you need to press the ATX switch down for more than 4 seconds if you want to Power Off the system.

- **State After Power Failure**
  - On: After a power failure, the system will automatically reboot as soon as power is restored.
  - Off: After a power failure, the system will not reboot when power is restored. The system needs to be turned on again manually.
  - Auto: After a power failure, the system will automatically reboot as soon as power is restored if the PC was turned on when the power failed. If the PC was turned off when the power failed, the system needs to be turned on again manually.
- **Wake Up Events**

  Press Enter to access the following submenu, which allows you to determine what events will wake up the system.
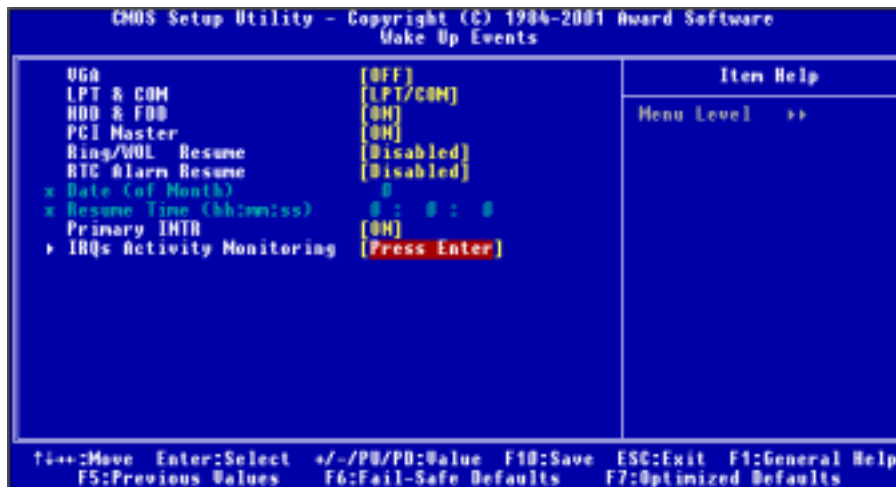
- **VGA**

  If you select "ON", you can set the VGA to wake up the system.
- **LPT & COM**

  Select "LPT", "COM" or "LPT/COM" to wake up the system when activity occurs associated with the selected I/O Port(s).
- **HDD & FDD**

  If you select "ON", any activity from any HDD or FDD wakes up the system.
- **PCI Master**

  If you select "ON", any activity on the PCI Master wakes up the system.

• **Ring/WOL Resume**

Select "Enabled" to Power On your system when the external modem and LAN card receives a call.

NOTE: **This function requires an external modem and LAN card which supports the Ring Wake Up function.**
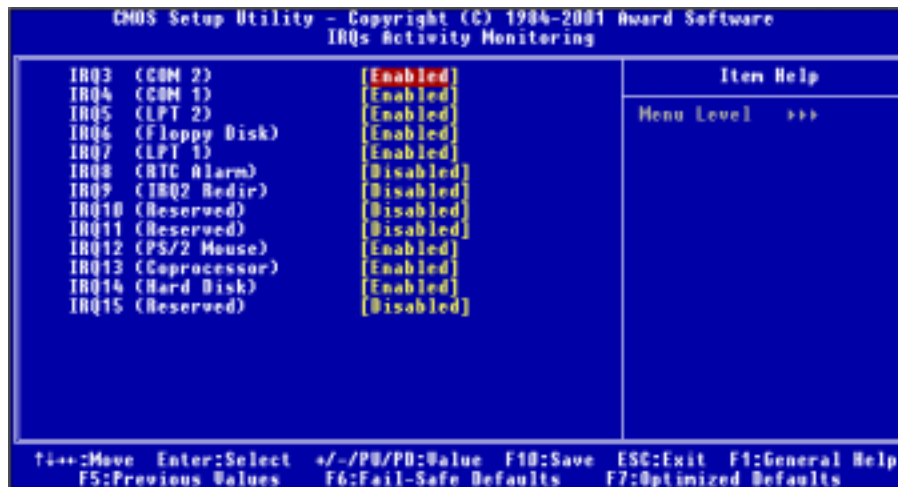
• **RTC Alarm Resume**

Select "Enabled" if you want to Power On your system at a certain time on the same day every month or at a certain time every day.
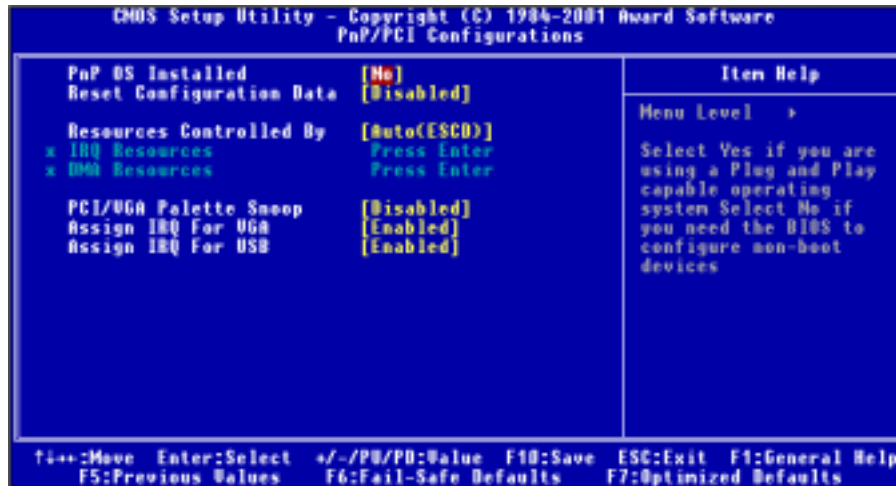
• **Date/Time**

Set the Date and Time to Power On the system. These fields are activated only when the "RTC Alarm Resume" field is "Enabled".

• **Primary INTR/IRQs Activity Monitoring**

If you select "ON" for "Primary INTR", the IRQs Activity Monitoring submenu will be activated, allowing you to enter the submenu to select IRQs to be monitored by being "Enabled". The system will wake up if activity occurs associated with monitored IRQs.

```
CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                     IRQs Activity Monitoring

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

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

3.8 PnP/PCI Configuration Setup

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

  PnP OS Installed        [No]                        Item Help
  Reset Configuration Data [Disabled]
                                               Menu Level    ►
  Resources Controlled By  [Auto(ESCD)]
x IRQ Resources           Press Enter         Select Yes if you are
x DMA Resources           Press Enter         using a Plug and Play
                                               capable operating
  PCI/VGA Palette Snoop    [Disabled]          system Select No if
  Assign IRQ For VGA       [Enabled]           you need the BIOS to
  Assign IRQ For USB       [Enabled]           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**

    This field allows you to use a Plug and Play (PnP) OS to configure the PCI bus slots instead of using BIOS. Thus, interrupts may be reassigned by the OS when "Yes" is selected. To prevent reassigning of interrupt settings when a non-PnP OS is installed, select the default setting of "No".

- **Reset Configuration Data**

    Normally, leave this field on "Disabled". Select "Enabled" to reset Extended System Configuration Data (ESCD) if you have just installed a new add-on card and the system reconfiguration has caused such a serious conflict that the OS cannot boot. The setting will automatically be set back to "Disabled" when the system reboots.

- **Resources Controlled by**

    The Award Plug and Play BIOS can automatically configure all the boot and Plug and Play (PnP) compatible devices. If you select "Auto(ESCD)", the Interrupt Requests (IRQs) and DMA assignment fields will be deactivated as the BIOS automatically assigns them. If you select "Manual" you may enter the "IRQ Resources" and "DMA Resources" submenus to make manual assignments.

- **IRQ Resources**
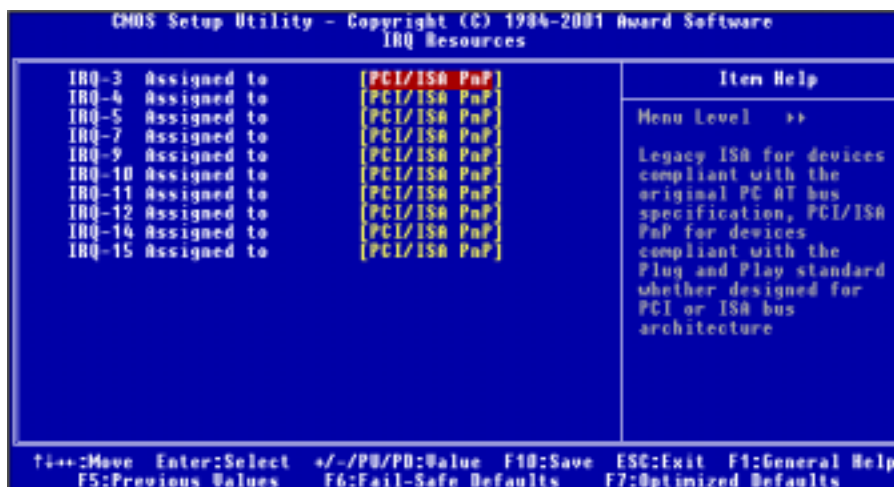
- **DMA Resources**
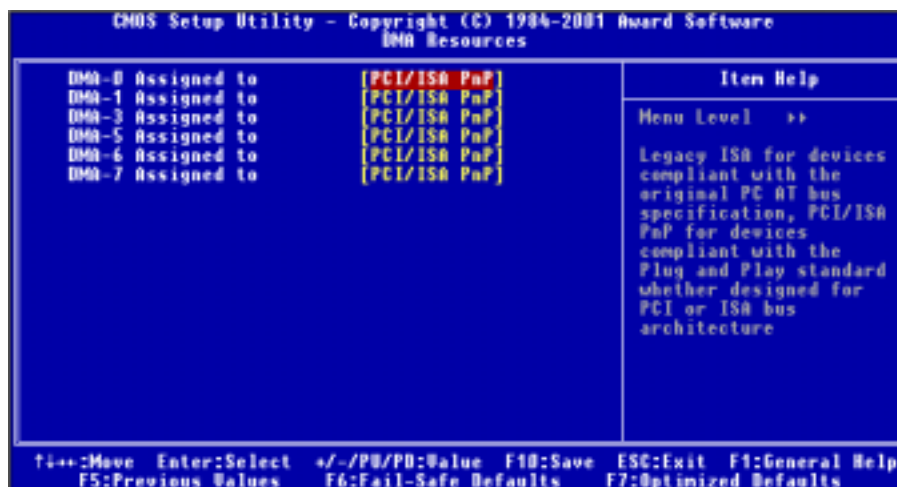
- **IRQ-n Assigned to/DMA-n Assigned to**

  Select "Legacy ISA" for devices compliant with the original PC AT bus specification. Select "PCI/ISA PnP" for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture.

- **PCI/VGA Palette Snoop**

  Some VGA cards, such as graphics accelerators or MPEG video cards, might not show colors properly. Select "Enabled" to correct this problem. If you don't have such problems, leave this field at "Disabled".

- **Assign IRQ For VGA**

  Select "Enabled" only if your VGA card requires an assigned IRQ. Most ordinary cards do not, but some high-end cards with video capture function do. Consult your VGA documentation to set this field. Activity of the selected IRQ always awakens the system.

- **Assign IRQ For USB**

  When "Enabled", BIOS will assign an IRQ channel for the USB controller.

3.9 PC Health Status

This menu provides a hardware monitoring center. These features let you know the health status of your PC. There are no user selectable parameters in this menu.

```
         CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                             PC Health Status

   Current CPU Temperature                            Item Help
   Current CPU  FAN Speed
   Current CASE FAN Speed                      Menu Level    >
   Vcore
    2.5V
    3.3V
     5V
    12V




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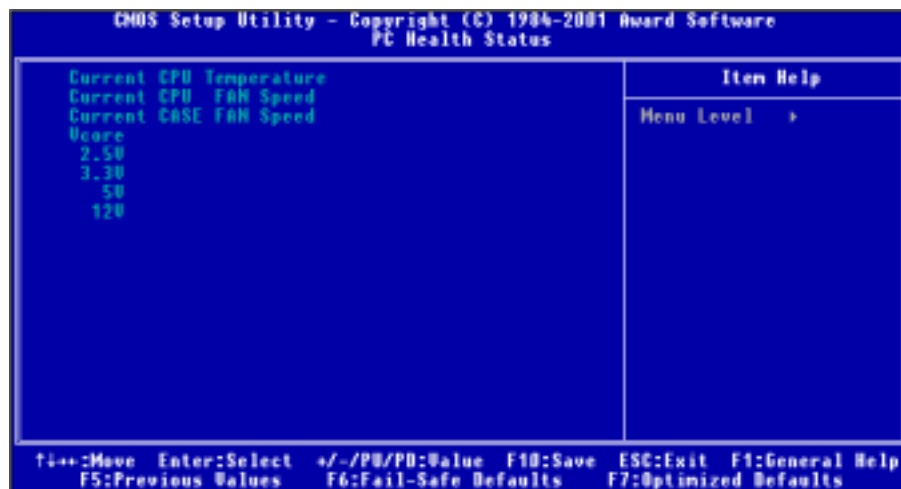
- **Current CPU Temperature**

  This field displays the current CPU temperature.

- **Current CPU FAN Speed/Current CASE FAN Speed**

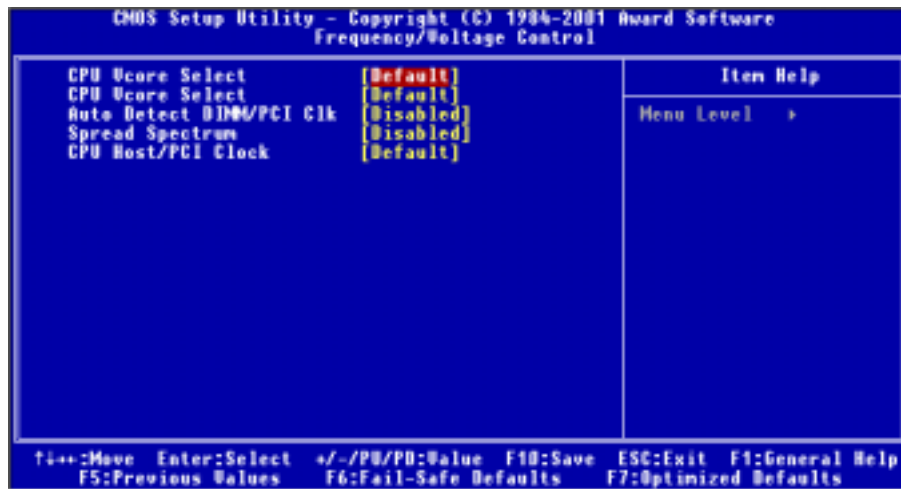 These fields display the speeds of the CPU and Case fans.

- **VCORE**

  This field displays the CPU working voltage.

- **2.5V/3.3V/5V/12V**

  These fields show the power supply voltages.

3.10 Frequency/Voltage Control

- **CPU Vcore Select**

  This option adjusts the CPU voltage. Available selections depend on CPU type.

  1.PIII and Celeron CPU: Default/+0.05V/+0.10V/+0.15V/+0.20V/+0.25V/+0.30V/+0.35V.

  2.Tualatin CPU: Default/+0.025V/+0.050V/+0.075V/+0.100V/+0.125V/+0.150V/+0.175V.

- **Auto Detect PCI Clk**

  "Enabled" can stop the frequency output for unused DIMM/PCI slots.

- **Spread Spectrum**

  If "Enabled", you may manually input settings for the fields "Linear Spread Model" and "Linear Spread Range."

- **CPU Host/PCI Clock**

  This function allows you to set the FSB frequency of the CPU and the speed of the PCI bus. When JP4 is set to 66MHz, you can select a system bus and PCI bus frequency from 66/33MHz to 95/31 MHz. When JP4 is set to 100MHz, you can select a system bus frequency from 100/33MHz to 124/31MHz. When JP4 is set to 133MHz, you can select a system bus and PCI bus frequency from 133/33MHz to 150/37MHz.

3.11 Load Fail-Safe Defaults

This option allows you to load the troubleshooting default values permanently stored in the BIOS ROM.

> **NOTE:** **These default settings are non-optimal and disable all high performance features.**
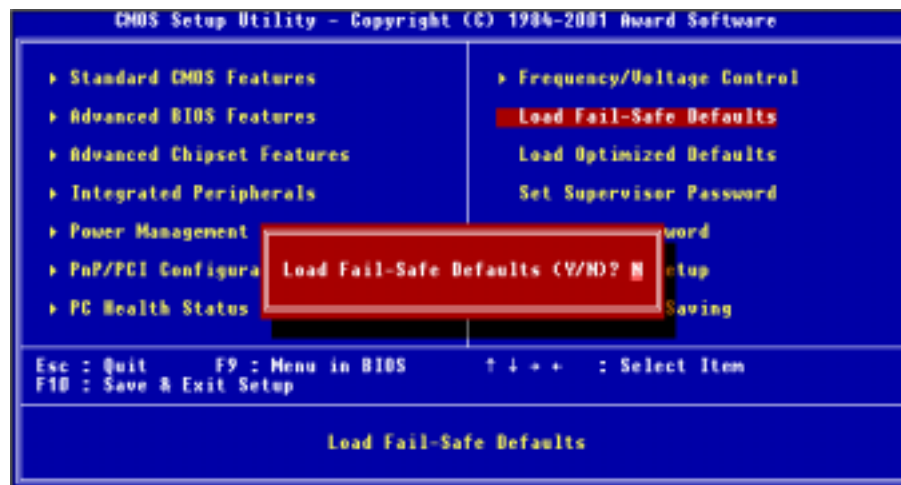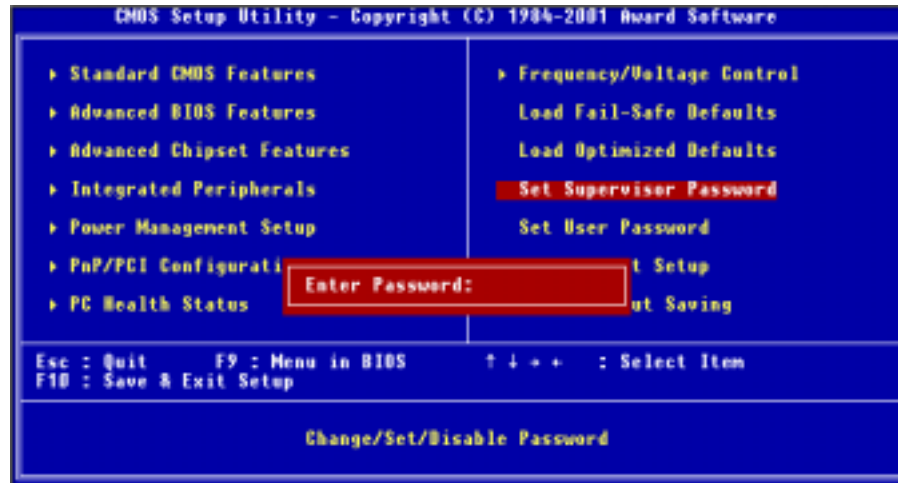

3.12 Load Optimized Defaults

This option allows you to load the default values to the system configuration fields. These default values are the optimized configuration settings for the system.
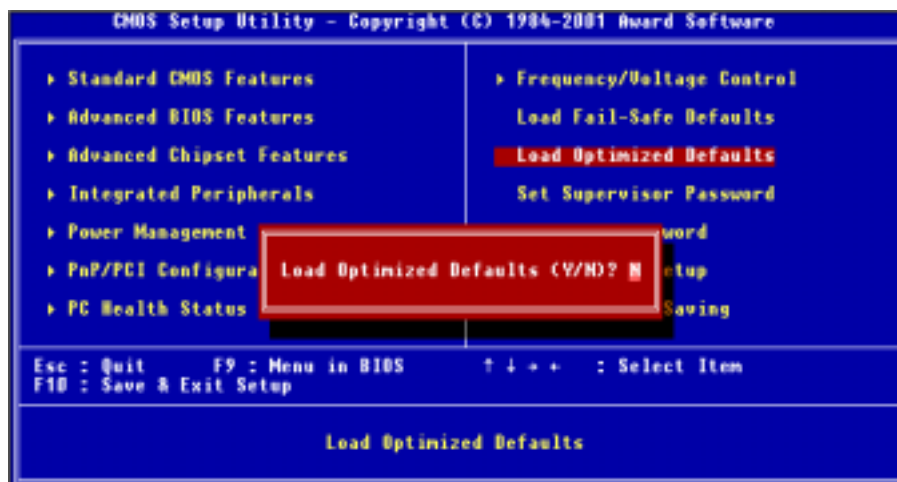
3.13   Supervisor Password

This option allows you to set a password to prevent others from changing the BIOS settings of your system.

The password prevents any unauthorized use of your computer. If you set a password, the system prompts for the correct password before you boot or access "Setup".

To set a password:

1. At the prompt, type your password. Your password can be up to 8 alphanumeric characters. When you type the characters, they appear as asterisks (*) on the password screen box.

2. After typing the password, press the [Enter] key.

3. At the next prompt, re-type your password and press the [Enter] key again to confirm the new password. After password entry, the screen automatically reverts to the main menu. To disable the password, press the [Enter] key when prompted to enter the password. The screen displays a message confirming that the password has been disabled.

Forget the password?

If you forget the password, you can clear it by erasing the CMOS Real Time Clock (RTC) RAM with jumper JP5. To erase the RTC RAM:

1. Unplug your computer.

2. Set JP5 to "Clear CMOS" for about 10 seconds. Return JP5 to "NORMAL".

3. Turn on your computer.

4. Hold down the [Delete] key during POST. Enter BIOS setup to re-configure the settings.
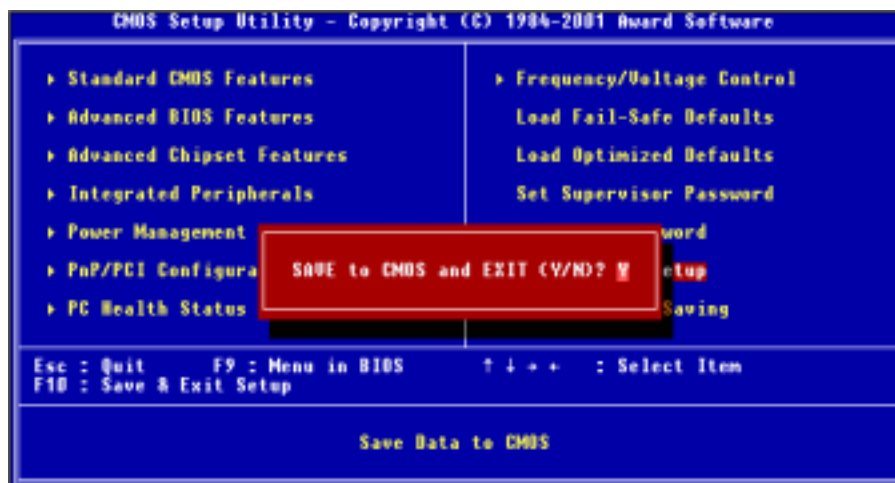
3.14   User Password

This option allows you to set a password to prevent others from changing the BIOS settings of your system. This operation is the same as Supervisor Password.
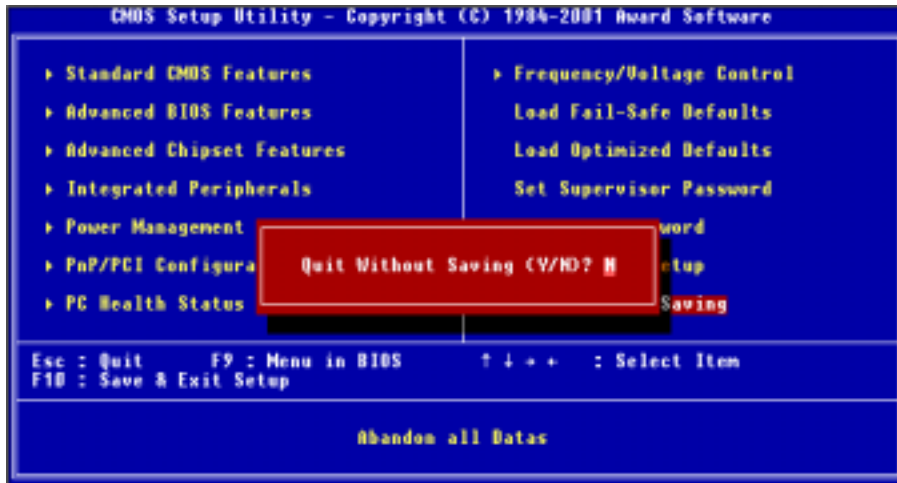

3.15 Save & Exit Setup

Save the settings and exit the BIOS utility.

3.16 Exit Without Saving
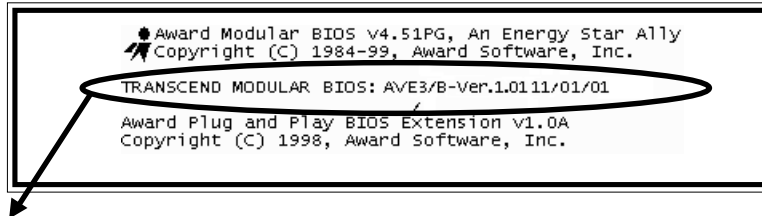
Abort current changes and exit the BIOS utility.

CHAPTER 4 BIOS UPGRADE

Caution!

Only users familiar with the upgrade procedure are recommended to update the BIOS of the motherboard and only when there is a need to do so. Please note that you have to download and install the right file for your motherboard. Otherwise, you might cause some serious system malfunctions.

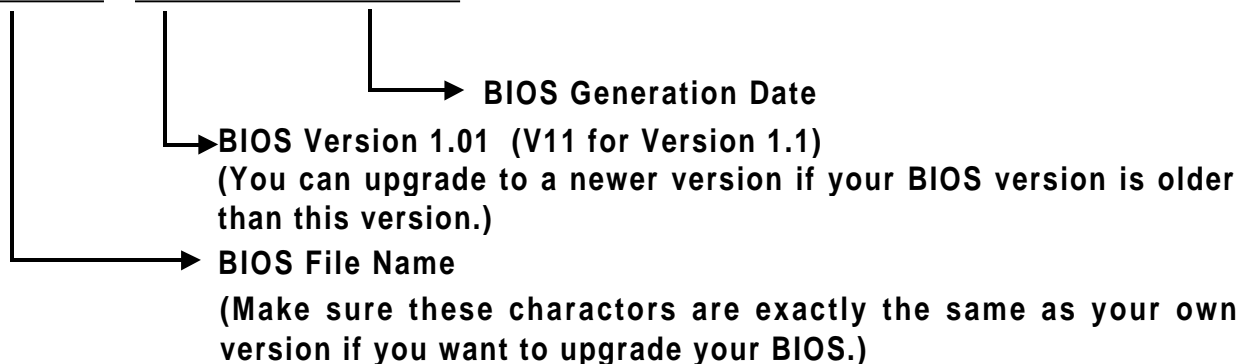## 4.1 How to Check Your BIOS File Name and Version

Please turn on your PC. The first screen will display as follows (For example):

```
 ✦Award Modular BIOS V4.51PG, An Energy Star Ally
 ⚡Copyright (C) 1984-99, Award Software, Inc.

 TRANSCEND MODULAR BIOS: AVE3/B-Ver.1.0111/01/01

 Award Plug and Play BIOS Extension v1.0A
 Copyright (C) 1998, Award Software, Inc.
```

TRANSCEND MODULAR BIOS: AVE3/B-Ver.1.01 11/01/01.

You can see the BIOS description on the third line.

AVE3/B - Ver 1.01   11/01/01

> **BIOS Generation Date**

BIOS Version 1.01 (V11 for Version 1.1)
(You can upgrade to a newer version if your BIOS version is older than this version.)

BIOS File Name
(Make sure these charactors are exactly the same as your own version if you want to upgrade your BIOS.)

4.2 How to Download the Correct BIOS File from Our Web Site

Please enter the Transcend website at: http://www.transcendusa.com/ On the front page, click on the "Motherboard" icon, which is the third item down on the far left. Then click on the "BIOS" icon. At the next page click on "Update your BIOS manually". The BIOS page contains important information. Please take the time to read this page carefully. Choose your motherboard model. Your BIOS file name must absolutely match the one shown on our web site. Download the suitable version to your disk or other storage device.

> **Warning! Your system could be damaged if the wrong BIOS version is accidentally used. If you are not sure what version you should choose, please contact us at: techsupport@transcend.com.tw**

4.3 How to Upgrade Your Motherboard BIOS

Please follow the 5 steps listed below to upgrade your BIOS.

Step 1: Make a record of your original or existing BIOS Setup parameters.

  – Press [Del] during the Power On Self Test to enter the BIOS Setup Program when you start your system.

  – Write down the value of each parameter in order to re-configure your system after BIOS updating.

Step 2: Make a System Disk

  – Put a clean 3.5" disk in Drive A

     MS-DOS: Key in **Format A:/S** and press [Enter].

     Windows O/S: Select the **My Computer** icon.

                   Click [3.5" Floppy (A:)]

                   Select [File/Format] from Command Bar

                   Under **Format 3.5 **Floppy (A:) **Menu** select

                   Format type = Full item, and

                   Other Options = Copy system files

                   Click [Start] button

Step 3: Download the updated **Bios.exe** file from the web site to a floppy disk or other storage device.

     (Ref 4.1 and 4.2)

Step 4: Type **Bios.exe** to decompress it.

Step 5: Please read the **Readme.txt** file carefully, and follow the instructions step-by-step.

Continue upgrading BIOS and reconfigure your system