

TS-ACA1

USER'S MANUAL
Intel® Pentium® II / III Series

Transcend

*Your Supplier, Your Partner,
Your Friend.*

TS-ACA1 Motherboard

Supporting Intel® Slot 1 Pentium® II, Pentium® III Series Processor

100/133MHz Front Side Bus

Intel® 820 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 new Intel® 820 Chipset. More details to follow later in this manual.

Our Website

Please come and visit us at our website at <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 set up 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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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**

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 electric charge in your body. 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. This fits around your wrist and is 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 golden fingers (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 on your motherboard should not require replacement for at least five years, and probably much longer. In picture 2.2(Page 6), it is located near the bottom right hand corner.

Please replace your battery only with the same type, or a similar type recommended by the manufacturer. If the battery is replaced incorrectly, there is a risk of a short circuit or explosion. Used batteries should be disposed of according to the manufacturer's instructions.

● 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 Checklist: Hardware Required for Setup

It is advisable to have all of these items of hardware available *before* you unpack your motherboard from its anti-static packaging and start building your system.

- Computer case and chassis with appropriate power supply.
- Monitor.
- Slot 1 Central Processing Unit (CPU).
- Direct Rambus DRAM Module
- PS/2 or USB Keyboard.
- PS/2 or USB Mouse.
- Hard Disk Drive.
- Floppy Disk Drive.
- CD-ROM Drive.
- (Optional) External Peripherals: printer, speakers, plotter, modem.
- (Optional) Internal Peripherals: modem, LAN cards.

1.3 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-ACA1 motherboard
 - 1 x CD-ROM
 - 1 x FDD cable
 - 1 x Ultra DMA 66 cable
 - User's Manual
-

1.4 Specifications and Features

- **CPU**

- Supports Intel® Pentium® II /Pentium® III Series

- **Chipset**

- Intel® 820 Chipset (MCH, ICH)

- **DRAM Memory**

- Supports Direct Rambus DRAM
- 2 x 184-pin RIMM module sockets on board.
- Supports up to 32 Direct Rambus devices (one channel)
- Up to 1GB Memory Size (256MB using 64/72 Mb, 512MB using 128/144Mb, 1GB using 256/288Mb)

- **I/O Expansion Slot**

- 1 x AGP Slot (support 1X/2X/4X)
- 5 x Master / Slave PCI Bus slots (PCI 2.2 compliant)
- 1 x AMR (Audio/Modem Riser) slot

- **Award BIOS**

- Supports PC99, Plug-and-Play
- Supports ACPI, APM, DMI, "Green" Power Management features

- **I/O Function**

- Supports PIO Mode 3, 4 ATAPI devices and Ultra DMA 33/66
 - Supports 2 high speed UART 16550 COM ports
 - Supports SPP/EPP/ECP LPT port
 - Supports 3 mode/1.44/2.88MB floppy drive
 - Supports PS/2 Mouse and PS/2 Keyboard ports
 - Supports IrDA header
 - Supports 2 x USB (Universal Serial Bus) ports
 - Supports Line-out, Line-in and MIC-in jack
 - Supports Game/MIDI port
-

- **Built-in AC97 CODEC**

- AC97 2.1 compliant
- SB emulation and support 3D Wavetable synthesis

- **Switching Voltage Regulator**

- Intel VRM 8.4 compliant

- **Other Features**

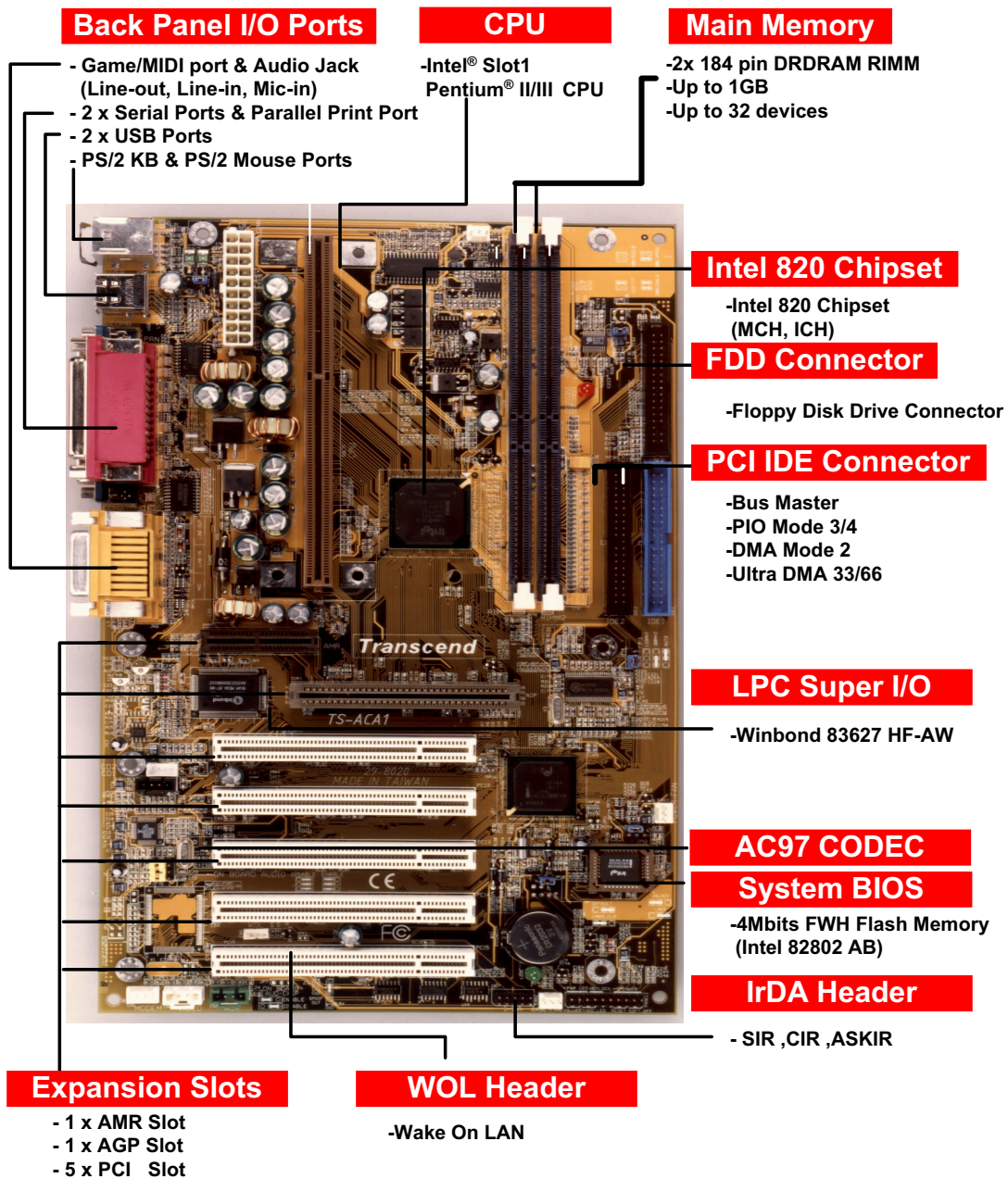
- Year 2000 compliant
- Power failure resume
- FWH (Firmware Hub) supports security manageability
- BIOS Virus protection (warning)
- PS/2 Mouse and Keyboard Wake Up
- Support Wake-on-LAN function
- Remote Ring Wake Up
- Time Wake Up
- Board voltage monitors for CPU core, +3.3V, +/-5.0V, +/-12.0V, VTT and 3.3VSB, 5VSB
- CPU overheat alarm
- CPU fan auto-off in sleep mode
- STR (Suspend to RAM)

- **PCB Dimensions**

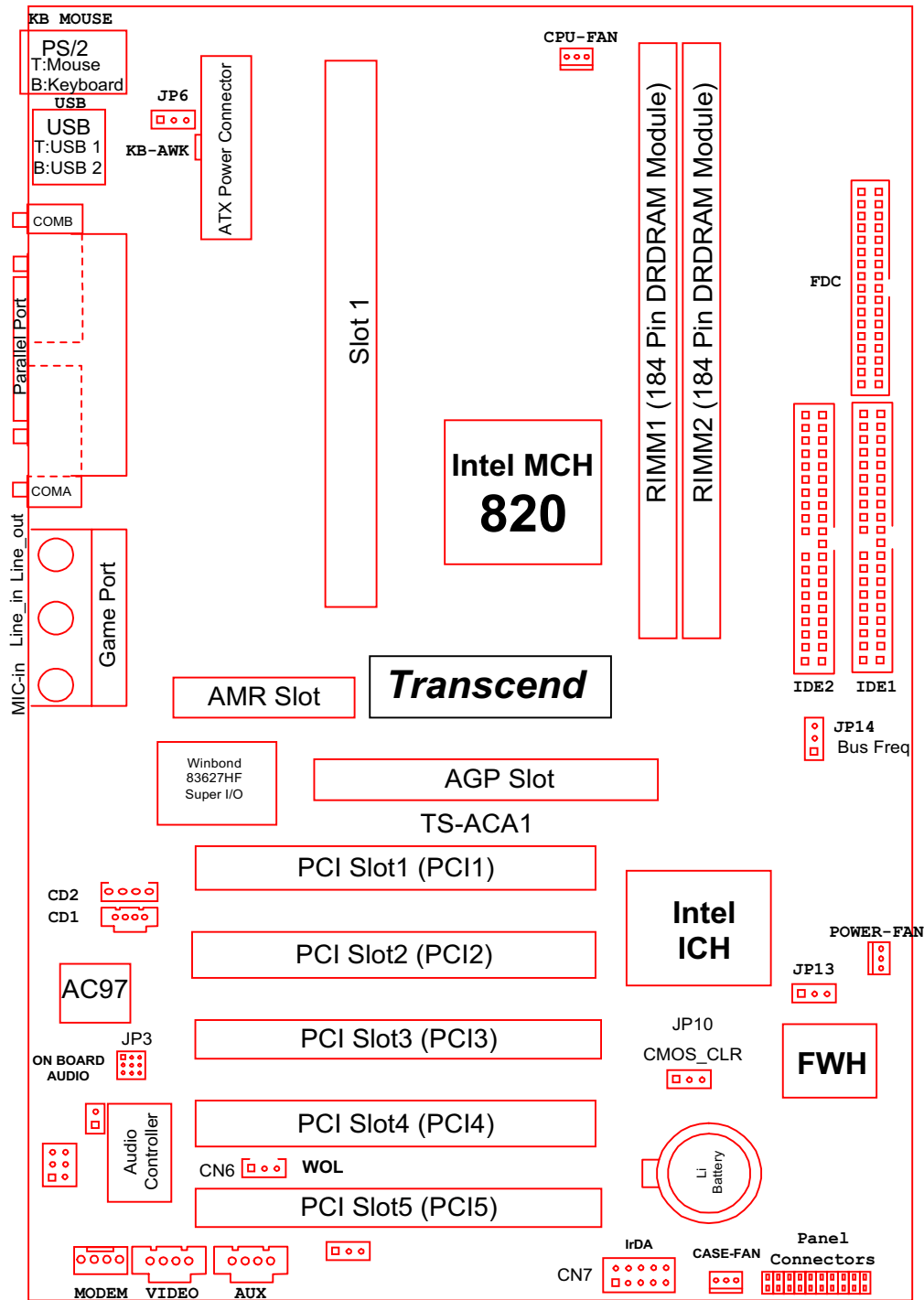
- ATX form factor, 4-layer PCB, 19.0cm x 30.5cm (7.5" x12")
-

CHAPTER 2 HARDWARE INSTALLATION

2.1 Transcend TS-ACA1 Motherboard



2.2 Layout of Transcend TS-ACA1 Motherboard



2.3 CPU (Central Processing Unit) Installation

So far you have familiarized yourself with the handling precautions, checked 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 it.

Caution

1. Remember to always make sure the system power is off before installing or removing any devices. You can check this by examining if the STBY LED Light is on.
2. Don't forget the static electricity precautions.
3. Be careful! Inserting hardware onto your motherboard incorrectly can damage it.

• UNIVERSAL RETENTION MODULE (URM) INSTALLATION

1. The Universal Retention Module (URM) should already be attached to your motherboard when you unpack. It consists of two separate "Ears" to support the CPU. Before installing the CPU, the ears must each be pulled upward 90 degree until they click into place when upright, as in Diagram 1.

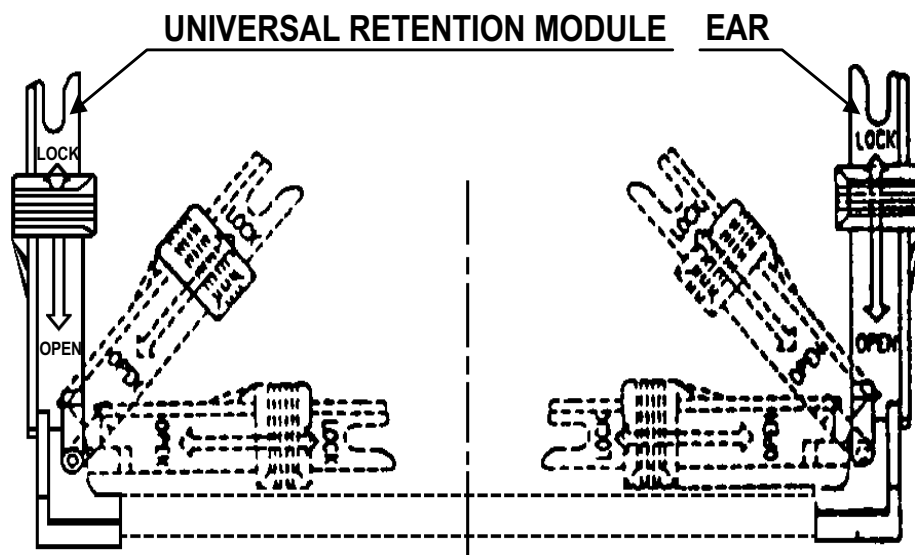
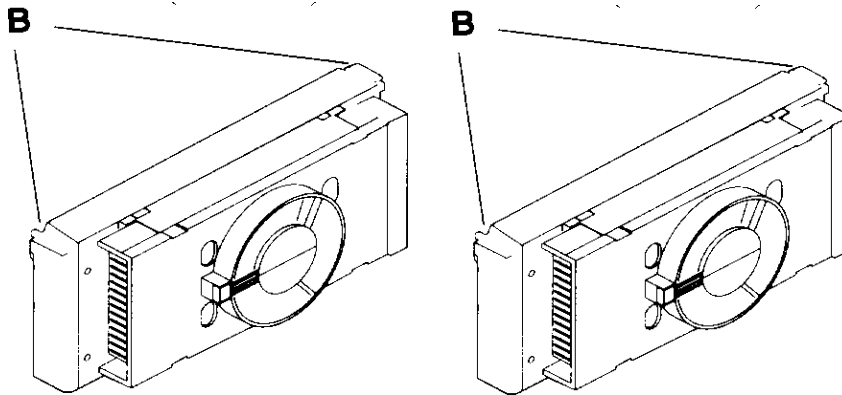


Diagram 1: Universal Retention Module (URM)

**Intel Pentium II
Processor
(S.E.C.C)**

**Intel Pentium III
Processor
(S.E.C.C.2)**



**Diagram 2: The Intel Processor Type
B Processor Latches**

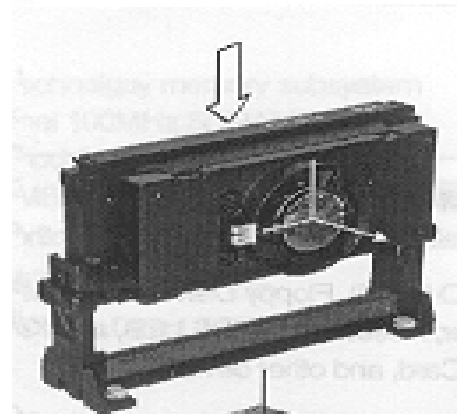
2. There are two types of Intel Processor compatible with your motherboard's URM. The Intel Pentium® II Processor (Single Edge Context Cartridge or SECC) and the Intel Pentium® III Processor (also SECC). Please refer to Diagram 2. If your URM is not compatible with your motherboard, please contact your motherboard retailer.
 3. To install the CPU, carefully slide it into the URM. If you have a Pentium II CPU, you will need to press in the Processor Latches (B) to install it.
 4. When the URM is installed on the PC Board, move the slider to the lock position to lock the CPU. To remove the CPU, push the Slider down to the Open position to unlock it.
-

• Installing the Intel Processor

Step 1: Install the Processor into Slot 1

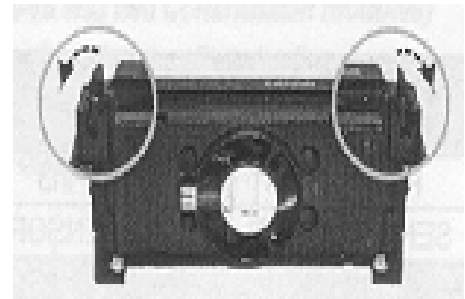
Slide the processor into the URM assembly and insert it into Slot 1, while making sure that the heat sink assembly is facing towards the chipset, as shown in the figure. Press down firmly on the CPU until it is fully seated in the Slot 1 connector.

IMPORTANT: The Slot 1 connector is directionally keyed and the processor will not go in unless it is properly oriented. DO NOT apply excessive force when installing the CPU.



Step 2: Lock the CPU in the URM

Lock the processor into the URM by pushing the top-right and top-left latches to the outward position as shown in the illustration.

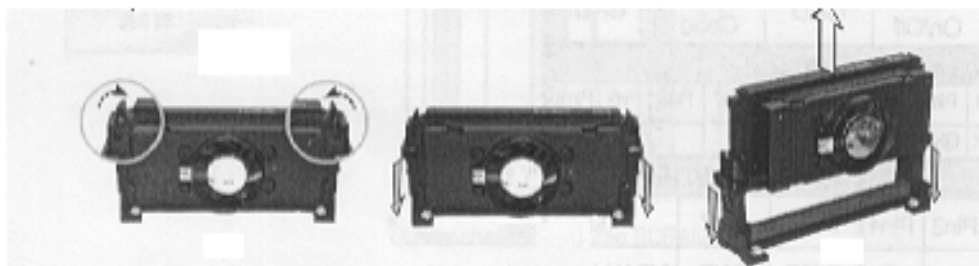


• Removing the Processor

Step 1: Unlock the CPU by pushing the top-right and top-left latches inward.

Step 2: Push both slides on the URM right and left branches downward.

Step 3: Remove the processor by pulling it upward while holding the two slides in the down position.



A

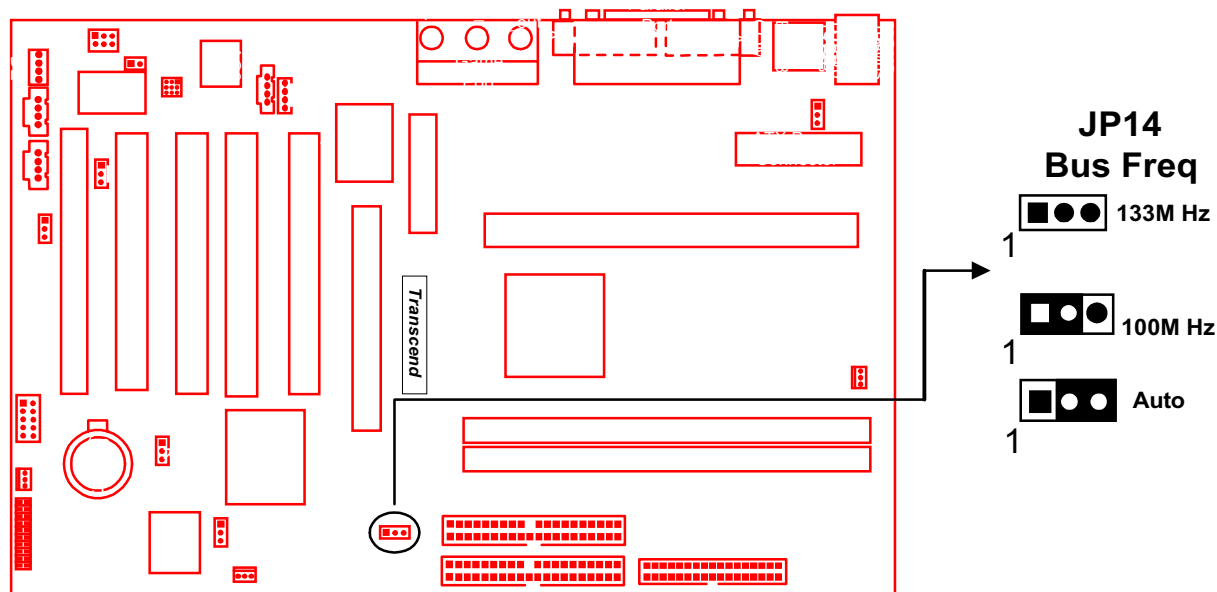
B

C

2.4 100 /133MHz System Configuration (3-pin Bus Freq.)

The JP14 allows you to set the FSB (Front Side Bus) to either 100 or 133MHz configuration. When you set the FSB to 100MHz, you can select a system bus frequency from 100MHz to 124MHz through “CPU Host/PCI Clock” of “Frequency/Voltage Control” in the BIOS Setup menu (please refer to page 46). When you set the FSB to 133MHz, you can select a system, but frequency from 133MHz to 160 MHz through “CPU HOST/PCI Clock” of “Frequency / Voltage Control” in the BIOS Setup menu (please refer to page 46).

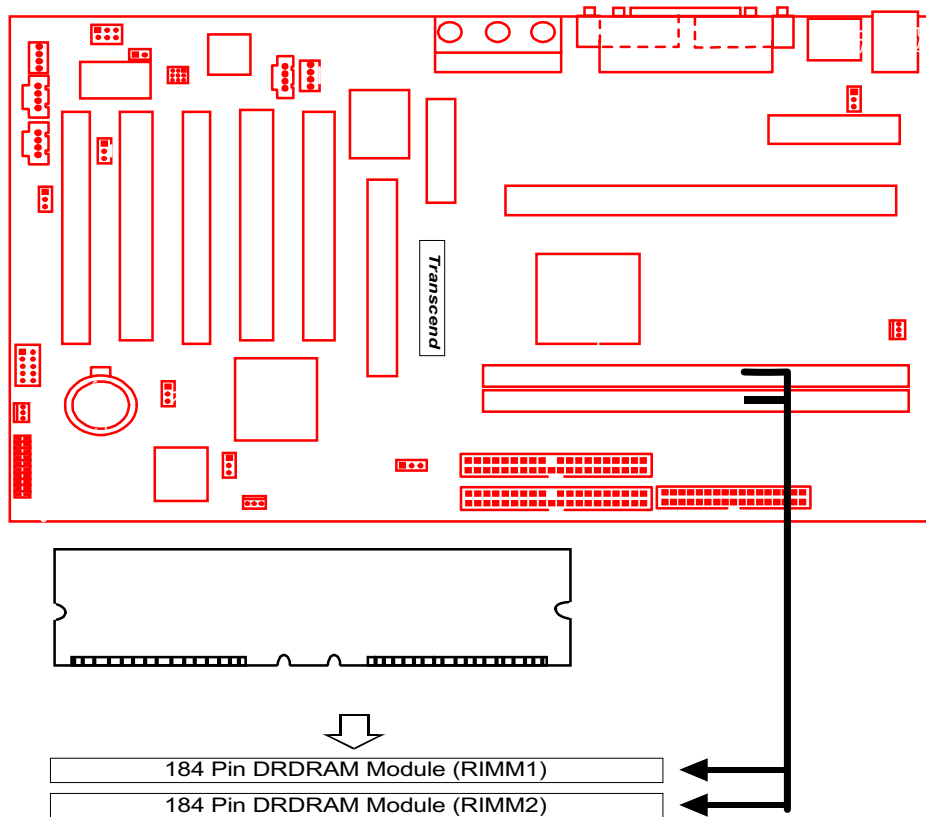
NOTE: The 820 chipset doesn't support 66MHz FSB CPU . If you install a 66MHz FSB CPU, the system will not start up.



100/133MHz FSB Jumper Configuration

2.5 Memory Configuration

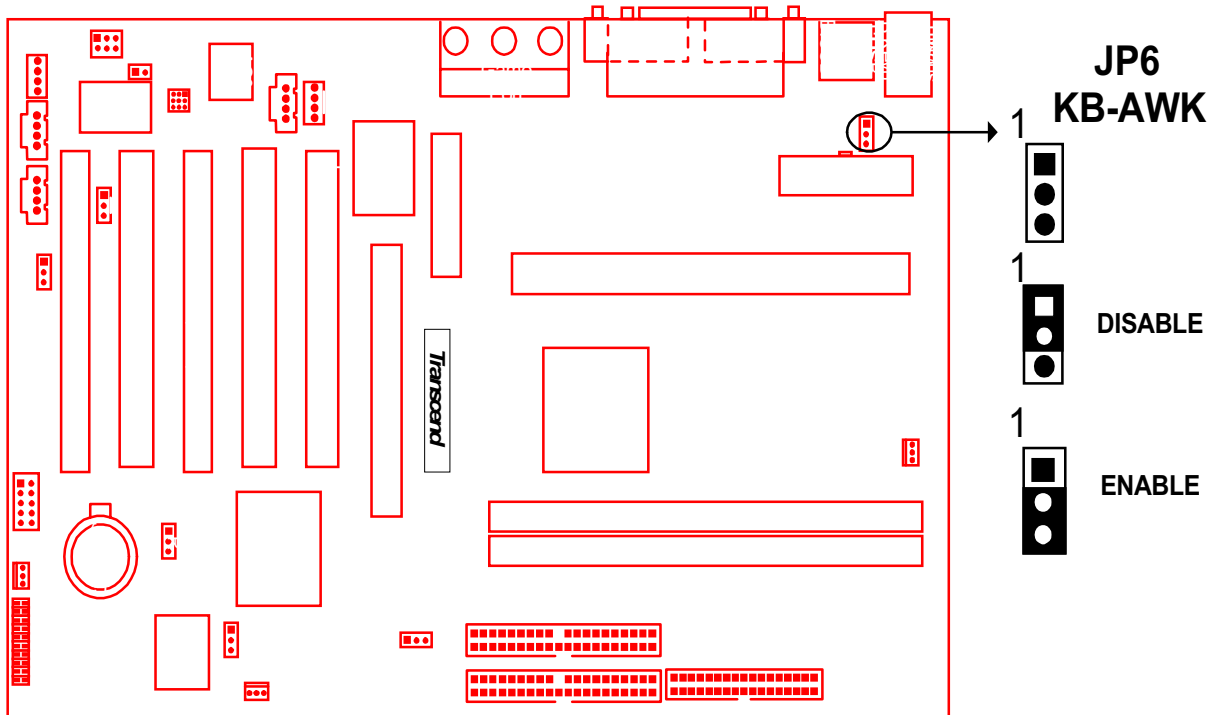
This motherboard must be installed with at least one Direct Rambus In-line Memory Module RIMM. If you install one RIMM, place a CRIMM (Continuity) in the other slot. Remember that every slot must be occupied by a RIMM or CRIMM.



184Pin Memory RIMM Sockets

2.6 Keyboard Wake Up (3-pin KB-AWK)

This function makes the Keyboard Power Up the system. Set this jumper to “Enable” if you would like your Keyboard to Power Up your computer. Then, go to the “Integrated Peripherals” in the BIOS Setup Menu (please refer to page 36), and choose the setting you prefer.



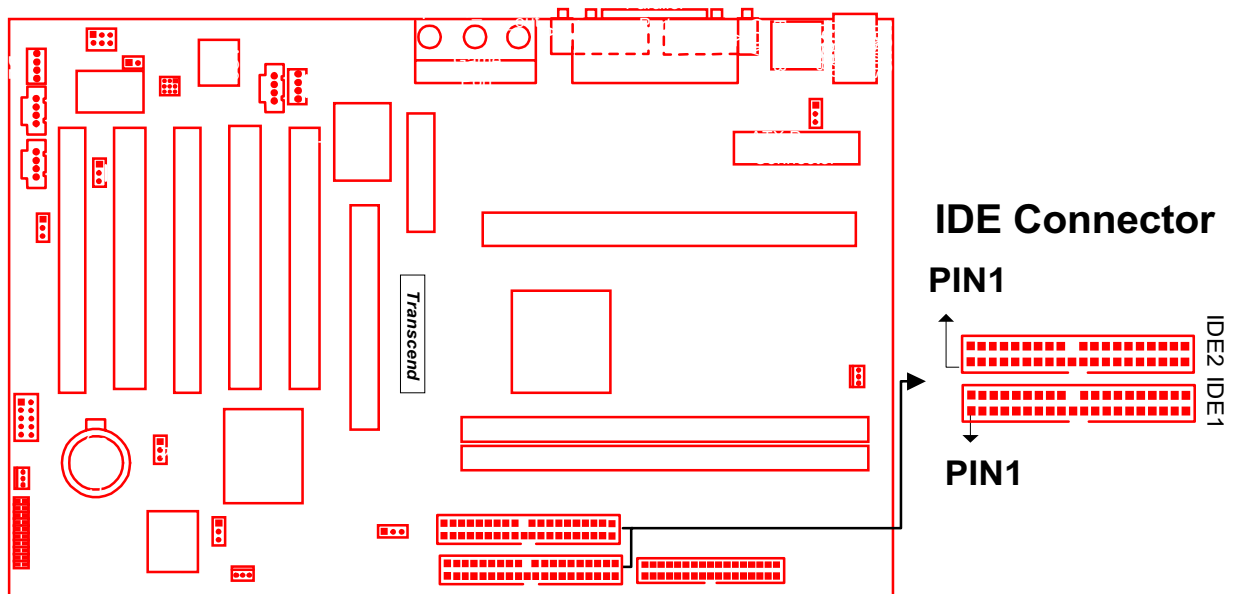
Keyboard Wake Up

2.7 Primary / Secondary IDE Connectors (Two 40-1-pin IDE)

This motherboard supports two 40-1-pin IDE connectors marked as IDE1 (primary channel) and IDE2 (secondary channel). Each channel supports two IDE devices, making 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 the IDE1 (see important note below). If your HDD supports Ultra DMA 66, you must use an 80-wire cable, otherwise the HDD won't be able to reach this speed.

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 Hard Disk, CD ROM or other IDE devices can have either setting, depending on device's jumper. Please refer to the device's manual for more information.

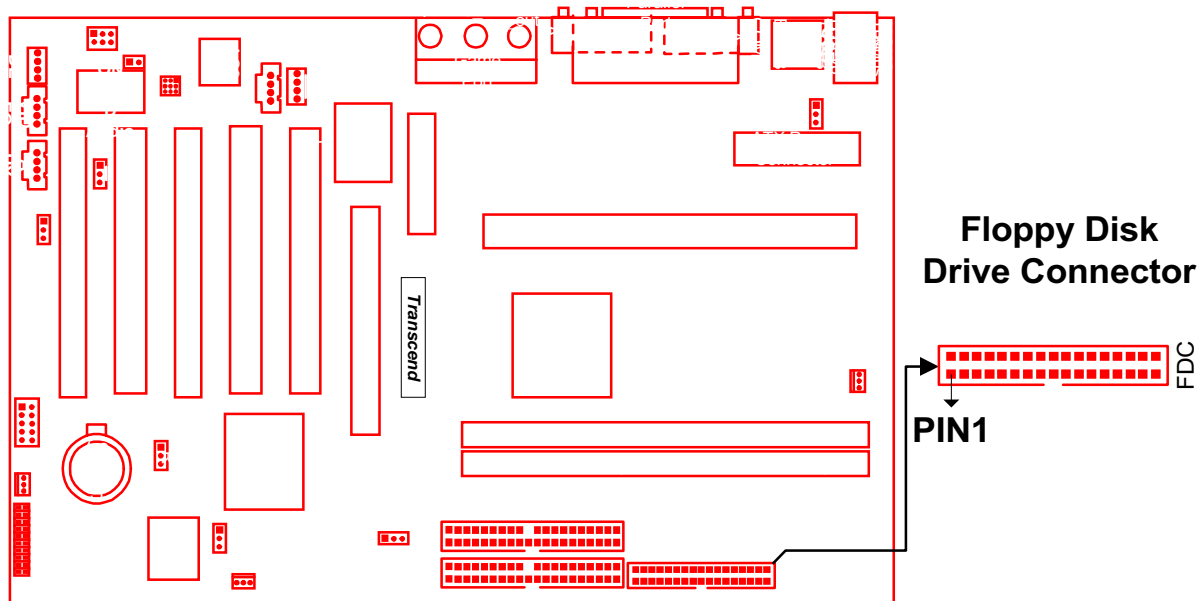
NOTE: The Connectors must be attached to the IDE channels the right way round. Make sure that the red stripe on one edge of the ribbon cable (this may be faint) is the nearest to PIN 1 (on the left as the motherboard is shown in the picture below).



IDE Connector

2.8 Floppy Disk Drive Connector (34-pin FDC)

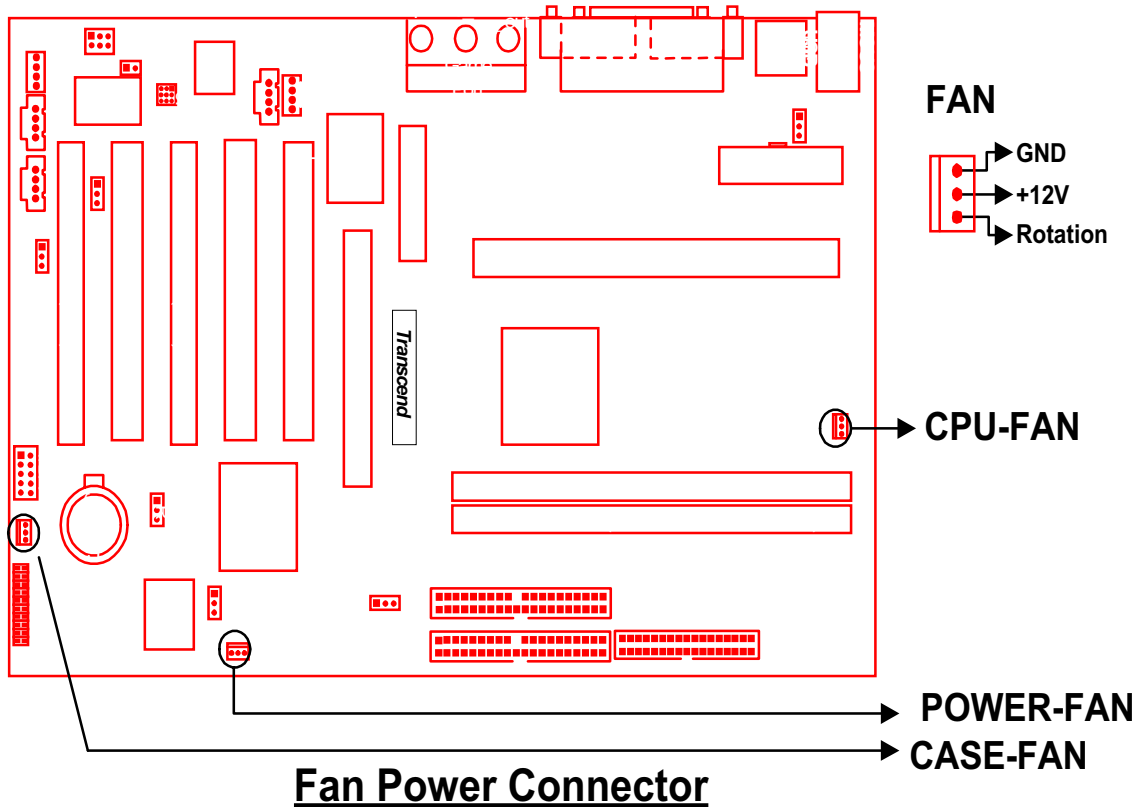
This connector supports the floppy disk drive ribbon cable which is one of the items in your motherboard package. After connecting the single end to the board, connect the two plugs at the other end to the floppy drives. Remember, as in the last section, the red stripe on the edge of the ribbon cable must be the nearest to PIN 1, otherwise your connection won't work.



Floppy Disk Drive Connector

2.9 Fan Power Connectors

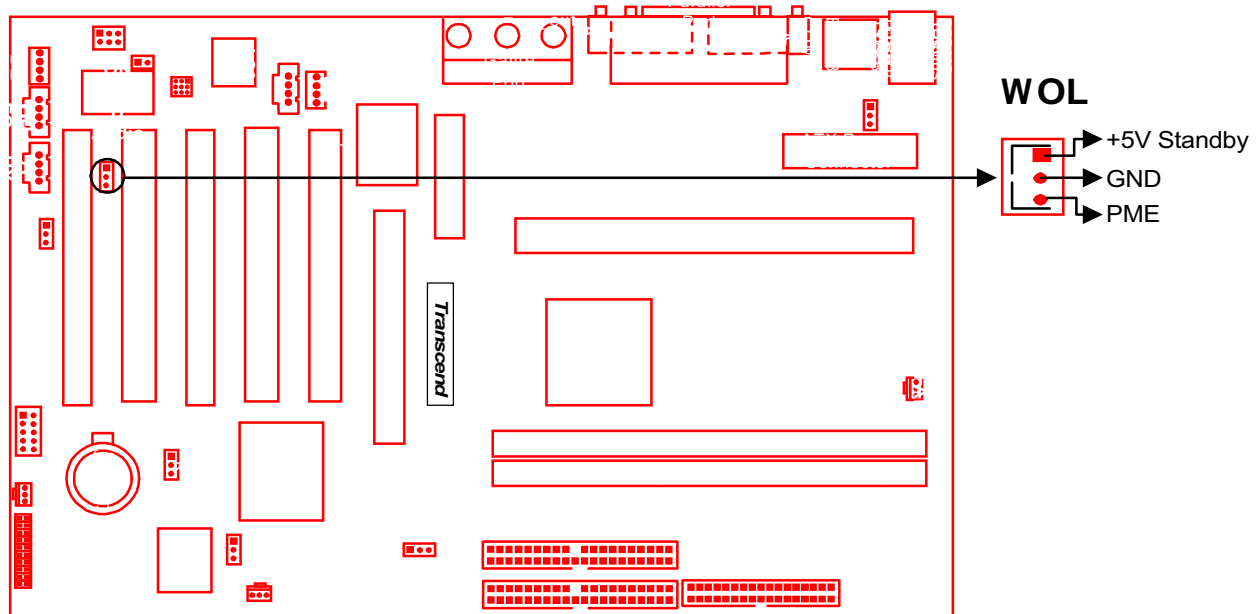
There are three fan power connectors on the motherboard: CPU-FAN, POWER-FAN, and CASE-FAN. Each connector provides +12V power. The cables can only be attached a certain way. If you try to put them in the wrong way, they won't fit. These connectors support cooling fans of 500 mA (6W) or less.



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

This connector connects to LAN cards with a Wake-on-LAN output. The system can be Powered Up when a wake up packet or signal is received from the LAN card.

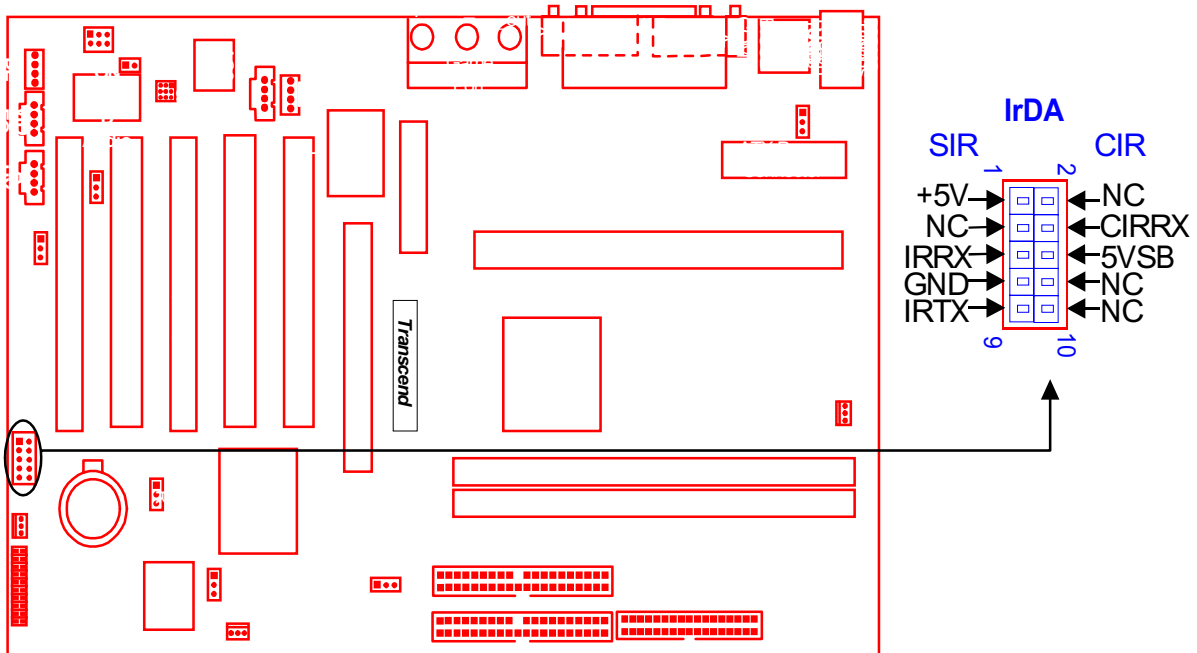
NOTE: This function requires that the “Wake-Up by PCI & WOL” function in the “Power Management Setup” is set to “Enabled” and that your system has an ATX power supply with at least 720mA +5V standby power.



Wake-on LAN Connector

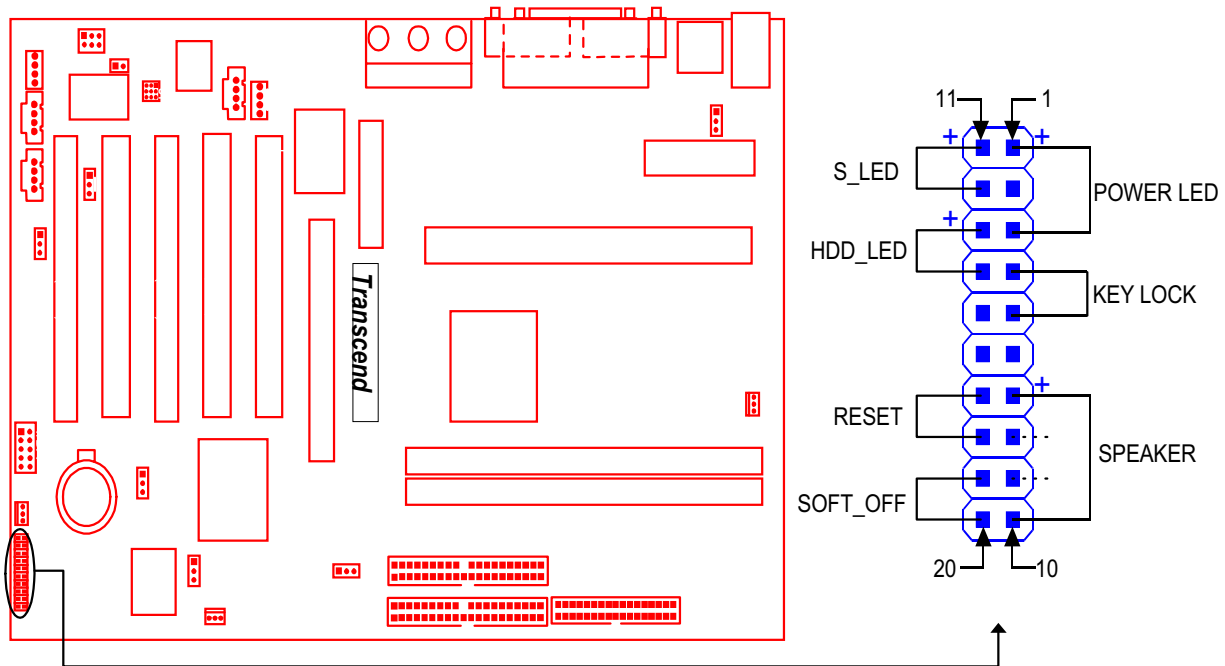
2.11 IrDA-Compliant Infrared Module Connector (10-pin IrDA)

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 the setting through “UART Mode Select” in the “Integrated Peripherals” (please refer to page 38) to select “IrDA”. Connect the Standard IR (SIR) device to the onboard SIR connector according to the pin definitions. An optional Consumer Infrared (CIR) set connects to the CIR and SIR connectors simultaneously for both wireless transmitting and remote control functions through one external infrared module.



IrDA Connector

2.12 Panel Connectors



Panel Connectors

Power LED Lead (3-pin POWER LED)

This 3-pin connector attaches to the power LED.

Pin1 : +5V

Pin2 : NC

Pin3 : GND

Keylock Lead (2-pin KEYLOCK)

Use the keylock to enable or disable the Keyboard.

Pin4 : KEYLOCK

Pin5 : GND

Speaker Lead (4-pin SPEAKER)

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

Pin7 : +5V

Pin8 : GND

Pin9: NC

Pin10: SPK

Hard Disk LED Lead (2-pin HDD_LED)

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

Pin13 : +5V

Pin14 : GND

Reset Switch Lead (2-pin RESET)

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

Pin17 & Pin18

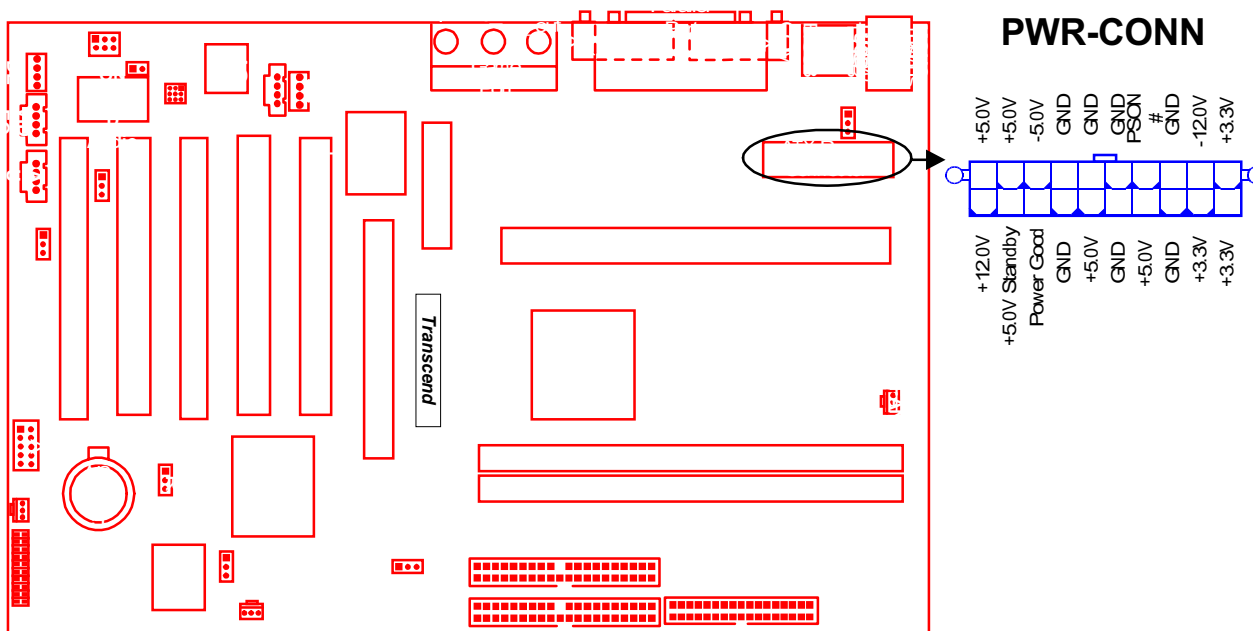
Software Power-Off Lead (2-pin SOFT_OFF)

Attach the SOFT_OFF switch of the panel to this connector. Use the switch to Power On/Off your system.

Pin19 & Pin20

2.13 Power Connector (20-pin PWR-CONN)

Make sure you plug the ATX power supply connector in the right direction. 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

2.14 External Back Panel I/O Ports

There are 10 kinds of external ports on the motherboard.

The view angle of the drawing shown here is from the back panel of the housing.

1. PS/2 Mouse Port (Green, 6-pin MOUSE)

The onboard PS/2 Mouse port is a 6-pin Mini-Din connector marked "MOUSE".

2. PS/2 Keyboard Port (Purple, 6-pin KB)

The onboard PS/2 Keyboard port is a 6-pin Mini-Din connector marked "KB".

3. USB (Universal Serial Bus) Ports 1 & 2 (Black, two 4-pin USBs)

You can plug any USB device into one of the USB ports. The motherboard contains two USB ports, which are marked "USB".

4. Parallel Port (Burgundy, 25-pin PRN)

The onboard printer port is a 25-pin D-type connector marked "PRN".

5. Serial Ports (Turquoise, two 9-pin COMA/ COMB)

The onboard serial ports are 9-pin D-type connectors on the back panel of the motherboard. The serial port 1 is marked as "COMA" and the serial port 2 is marked as "COMB".

6. Game Port / MIDI Port (Gold, 15-pin GAME)

The onboard Game port / MIDI port is a 15-pin D-type connector marked "GAME".

7. Line-out (Lime Green, 1/8" LINE-OUT)

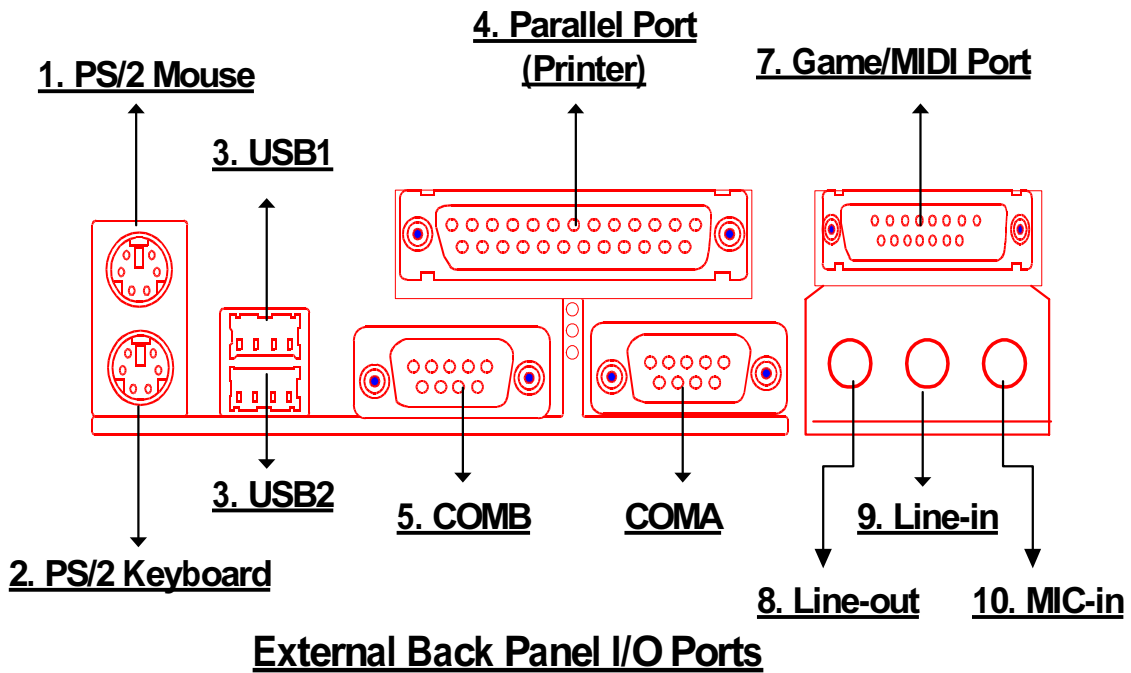
The onboard Line-out port is a 1/8" stereo audio jack marked "LINE-OUT".

8. Line-in (Light blue, 1/8" LINE-IN)

The onboard Line-in port is a 1/8" stereo audio jack marked "LINE-IN".

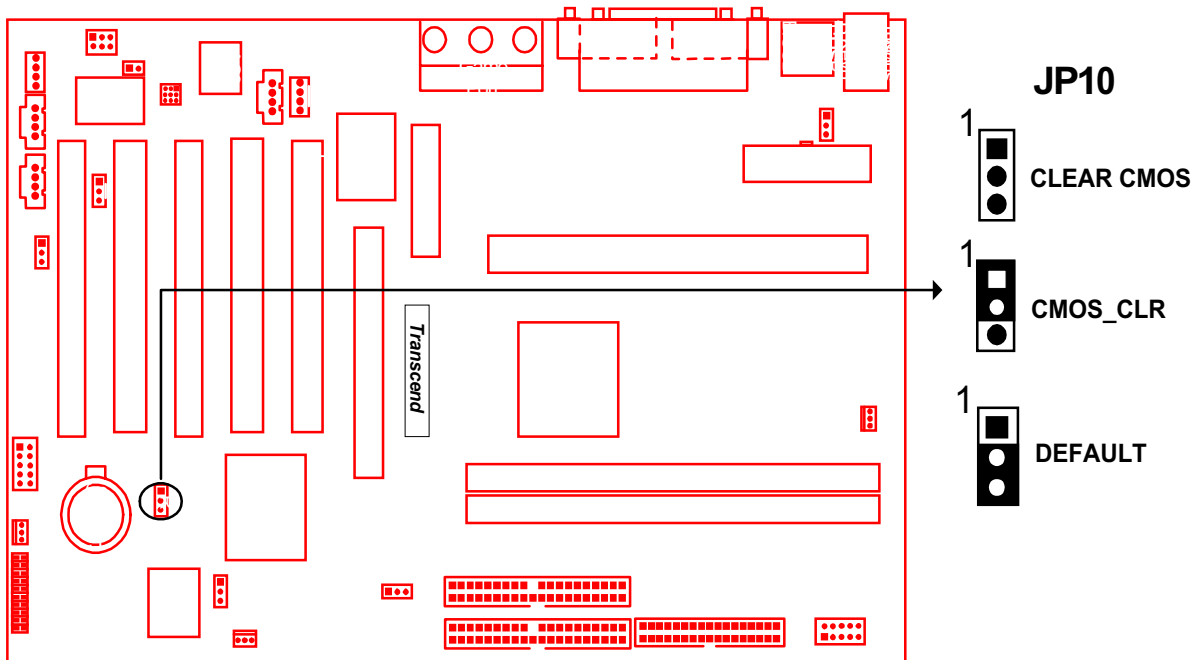
9. MIC-in (Pink, 1/8" MIC)

The onboard MIC-in port is a 1/8" stereo audio jack connector marked "MIC".



2.15 Clear CMOS Jumper (3-pin JP10)

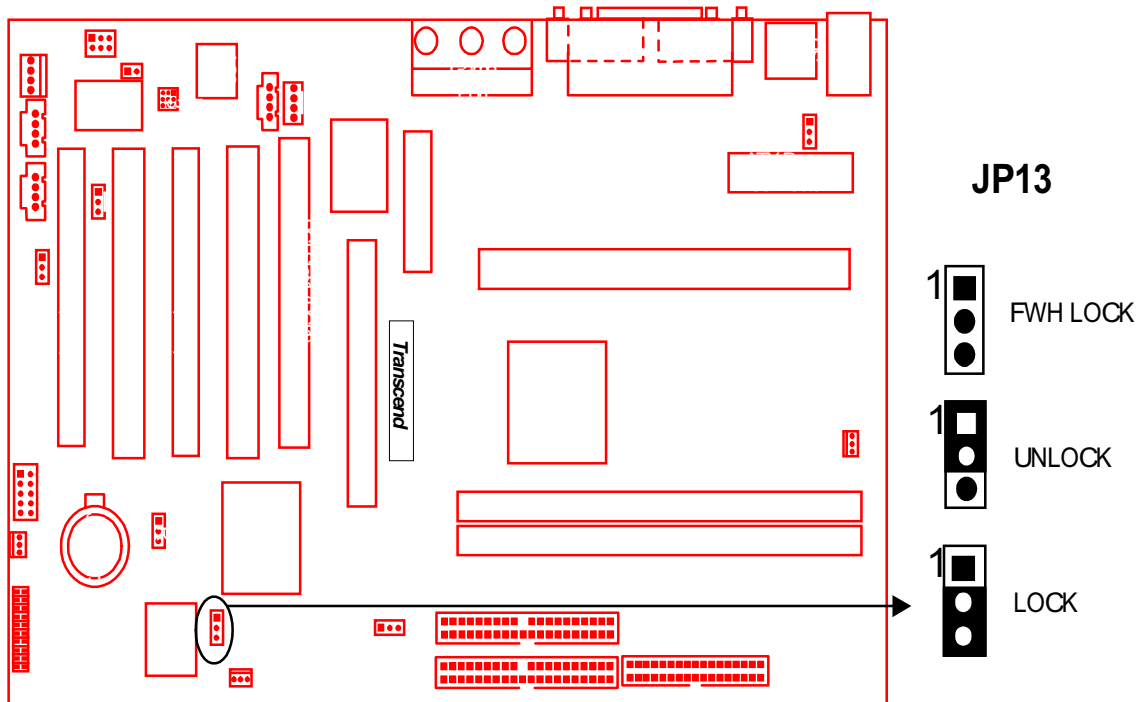
To clear the CMOS data, you should turn off your computer's power and short pin1 and pin2 in JP10.



2.16 FWH Lock Jumper (JP13)

This jumper controls the Firmware Hub (FWH) locking function. When set to “LOCK”, it prevents programming or block erase to the top block of FWH. There are 8 blocks of addressable space controlled by the FWH. The top block (block 7, also called “Boot Block”) stores some critical codes. To guard against accidents (such as a virus, program bugs etc.), we recommend that you lock this block. Even if other blocks were to be erased, you could still recover your system easily by following the 2 steps below:

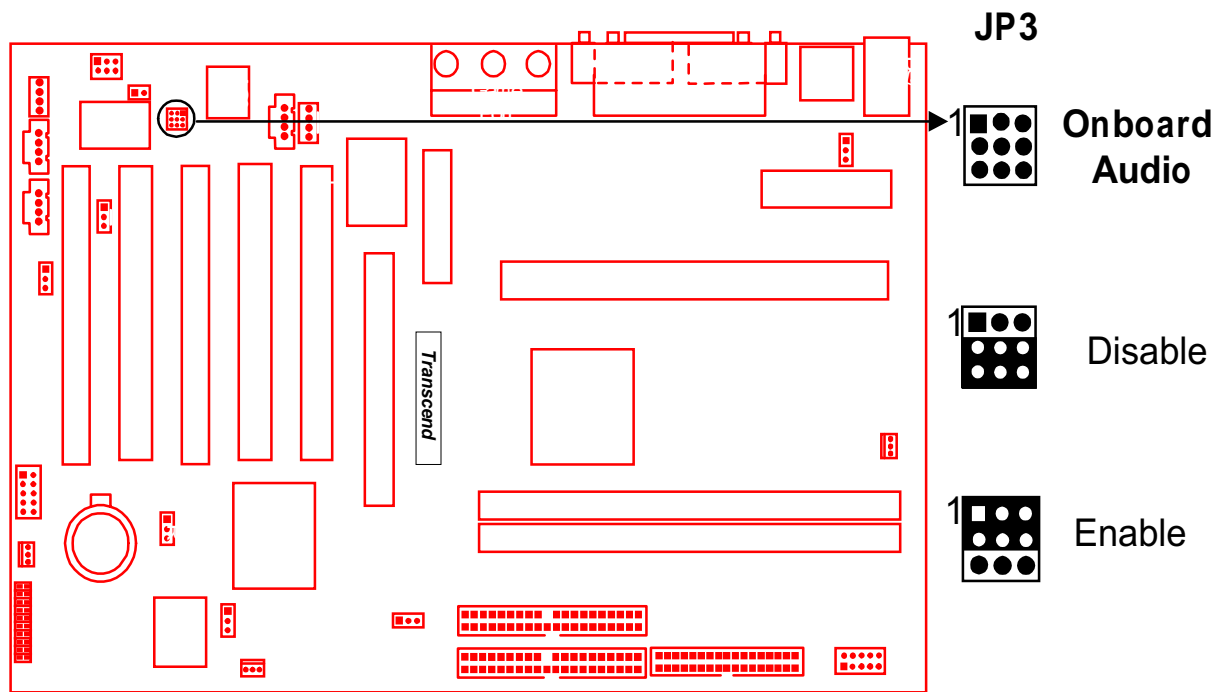
1. Reboot with a DOS (95/98) system boot floppy disk.
2. Reflash the BIOS according to section 5.3, Step 5 (Page 59).



FWH LOCK Jumper

2.17 Onboard Audio Setting (JP3)

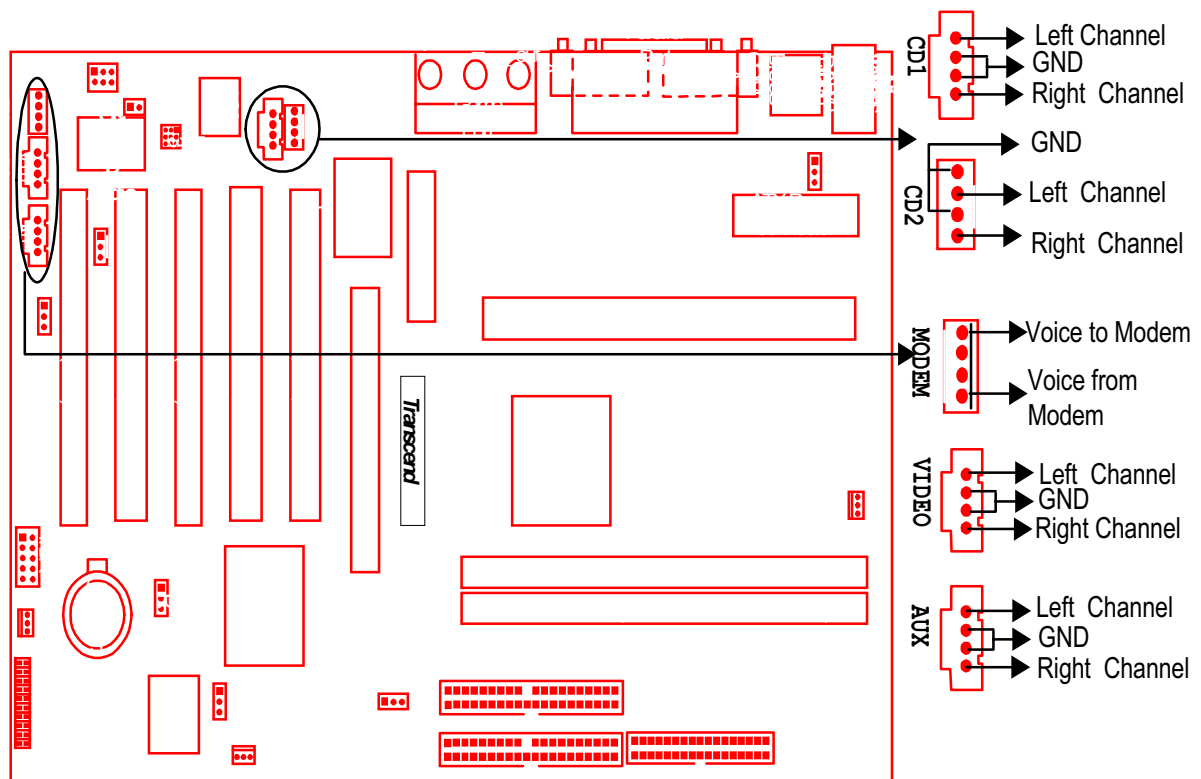
For the external AMR card, the onboard audio CODEC can be enabled or disabled via this jumper. Please disable the onboard audio CODEC, if you want to use a PCI Sound Card or an AMR Sound Card.



Onboard Audio Setting

2.18 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.



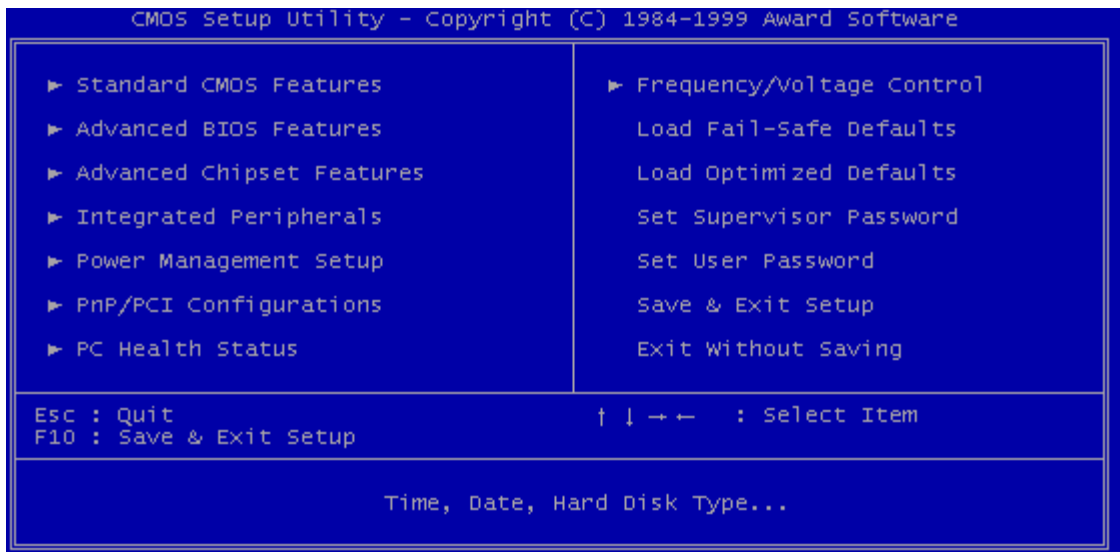
Internal Audio Connectors





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. When the CMOS fails battery, it will cause the data to 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 (Page 1).

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 Power On Self Test (POST). During the POST process, press the [Del] key, and you can enter the Award BIOS configuration system. The following screen will appear.



In the Award BIOS system, you can use the arrows (   ) to highlight an item , and press the [Enter] key to enter the sub-menu. The following keys help you navigate in Setup.

[Esc] Main Menu: Quit and not save changes into CMOS RAM

Other pages: Exit current page and return to 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 BIOS default table
- [F7] Load the Optimized Defaults
- [F10] Save all 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 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 and Power Interface (ACPI) options

- **PnP/PCI Configurations**

- Plug and Play standard and PCI Local Bus configuration options

- **PC Health Status**

- To display the fan status, CPU temperature, system temperature, etc., and provide the temperature monitoring option

- **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

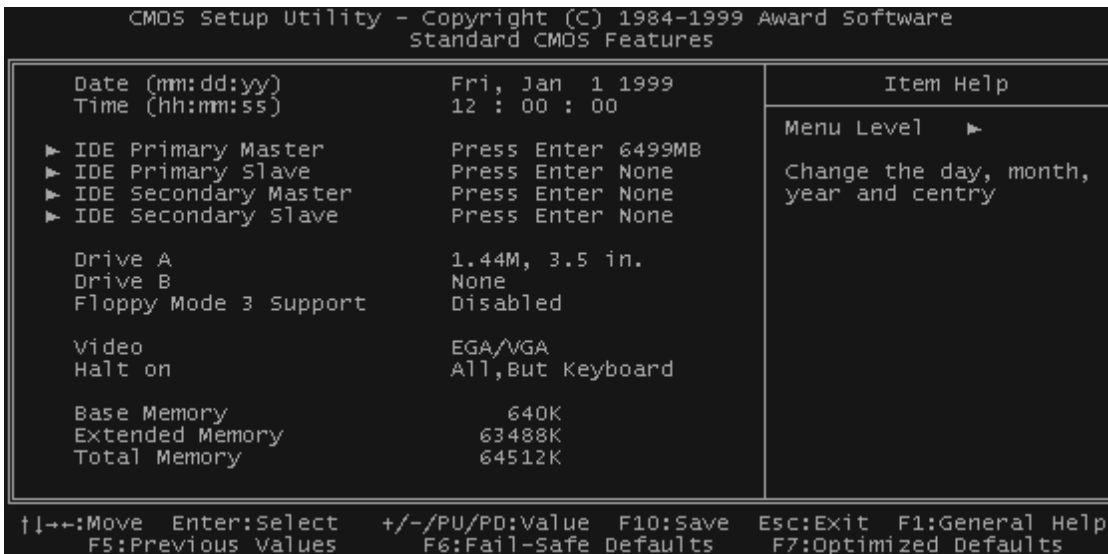
- **Save & Exit Setup**

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

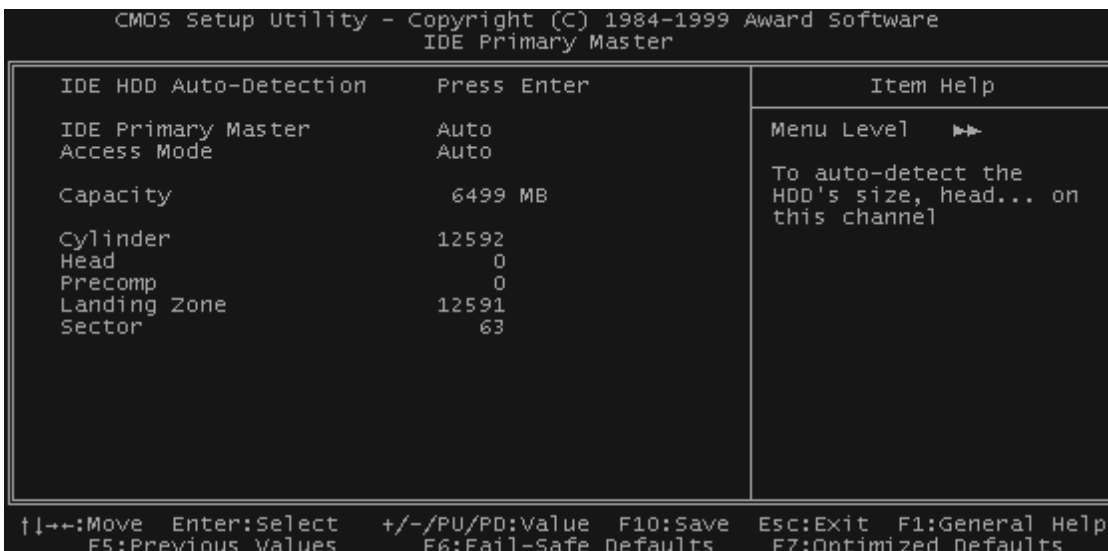


- **Date (mm:dd:yy) / Time (hh:mm:ss)**

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

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

Press [Enter] to enter the sub menu.



- 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 recommend that you select type "AUTO" for all drives. The BIOS can automatically detect the specifications during POST (Power On Self Test) while the system boots. You can also choose "Manual" to set the specifications by yourself. As to "None", it means there is no device installed on this IDE channel.
 - Access Mode : "Normal", "LBA", "Large", or "Auto".
 - Normal : Maximum number of cylinders, heads, and sectors supported are 1024, 16, and 63 respectively.
 - LBA (Logical Block Addressing) : During drive access, the IDE controller transfers 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 slightly greater than the size of 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

• Floppy Mode 3 Support

Support some particular Japanese floppy drives (3.5 inch drive with 1.2 MB capacity).

• Video

Select the type of primary video subsystem in your computer. The BIOS will detect the correct video type automatically. The BIOS supports a secondary video subsystem, but do not select it in this Setup.

- 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.

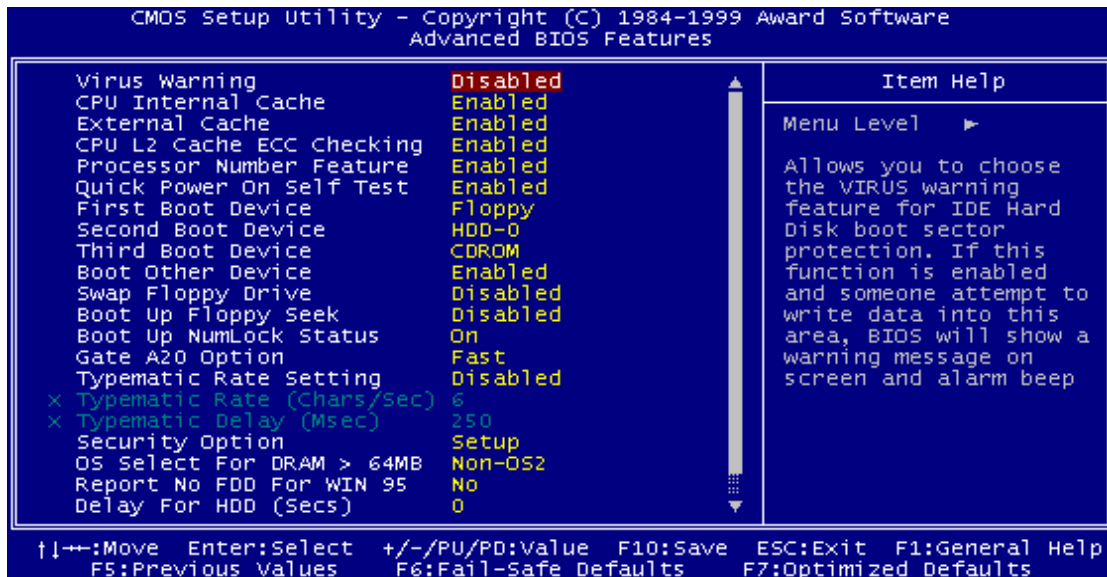
• Halt On

During the Power On Self Test (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 followings are the selections.

- All Errors : If the BIOS detects any non-fatal 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 non-fatal errors except keyboard, POST stops and prompts you to take corrective action.
 - All,But Diskette : If the BIOS detects any non-fatal error except floppy disk drive, POST stops and prompts you to take corrective action.
 - All,But Disk / Key : If the BIOS detects any non-fatal error except floppy disk drive or keyboard, 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 sets up system features according to your preference.



- **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 first disable the virus warning.

- **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 accessed by the CPU. The “External Cache” field may not appear if your system does not have external cache memory.

- **CPU L2 Cache ECC Checking**

Select “Enabled” to make sure the data is accurate.

- **Processor Number Feature**

This function was designed with the internet in mind. Select “ Enable” to make the processor serial number serve as a means of identifying your system.

- **Quick Power On Self Test**

Select “Enabled” to reduce the amount of time required to run the Power On Self Test (POST). The Quick POST skips certain steps. We recommend that you normally disable Quick POST. It’s better to find a problem during POST than to lose data during your work.

- **First / Second / Third Boot Device ; Boot other Device**

The original IBM PCs load the DOS operating system from drive A (floppy disk). So, IBM PC-compatible systems are designed to search for an operating system first on drive A, and then on drive C (hard disk). However, the BIOS attempts to load the operating system from the devices in the sequence selected in these fields. In addition to the traditional drives A (“Floppy”) and C (“HDD-0”), options include “HDD-1”, “HDD-2”, “HDD-3”, and “CD-ROM”; plus a “SCSI” hard drive, a “LS/ZIP” drive and a “LAN” drive. If your boot device are 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 360-KB 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 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, the following two items (Typematic Rate and Typematic Delay) are irrelevant. 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 character repeats) “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, or only when you enter “Setup”.

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

Select “OS2” only if you are running OS/2 operating system with more than 64 MB of RAM on your system.

- **Report No FDD For WIN 95**

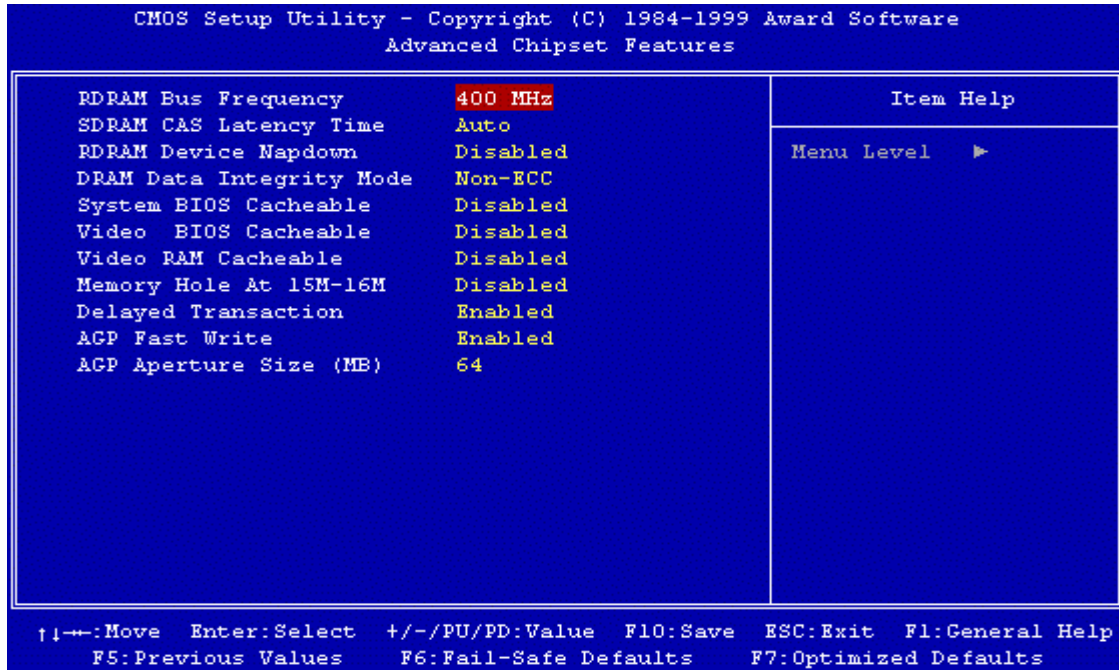
Select "Yes" to release IRQ6 when there is no floppy disk drive, for compatibility with WIN 95 logo certification.

- **Delay For HDD (Secs)**

Generally, you can set this field as "0". But for some old Hard Disk Drives, you may need to increase the delay time for BIOS to detect the right type of them.

3.5 Advanced Chipset Features

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



- **RDRAM Bus Frequency**

For different RDRAM, you can set the RDRAM bus frequency to “300 MHz”, “356 MHz” or “400 MHz”. If the JP14 is set to 100MHz (or use 100MHz FSB CPU with JP14 set to AUTO), you can select “300MHz” or “400MHz”. If JP14 is set to 133MHz (or use 133MHz FSB CPU with JP14 set to “AUTO”), you can select “356MHz” or “400MHz”.

- **SDRAM CAS Latency Time**

When you install the DIMM Riser Card which is equipped with DIMM modules, this option will appear. The option controls SDRAM performance: default is 3 clocks. If your SDRAM DIMM specification is 2 CAS latency, change “3” to “2” for better performance.

- **RDRAM Device Napdown**

While “Enabled”, the Direct RDRAM enters into Power Down state when it receives a row packet which specifies an operation with Nap. No operations except refresh is allowed during Nap state.

- **DRAM Data Integrity Mode**

You can select “ECC” (Error-Correcting Code) mode to ensure data integrity.

- **System BIOS Cacheable**

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

- **Video BIOS Cacheable**

Selecting “Enabled” allows caching of the video BIOS. This action can increase system performance.

- **Memory Hole At 15M-16M**

Enabling this feature 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”.

- **Delayed Transaction**

This option is compatible with the PCI 2.1 Specification. The chipset has embedded 32-bit posted write buffer to support delay transaction cycles.

- **AGP Fast Write**

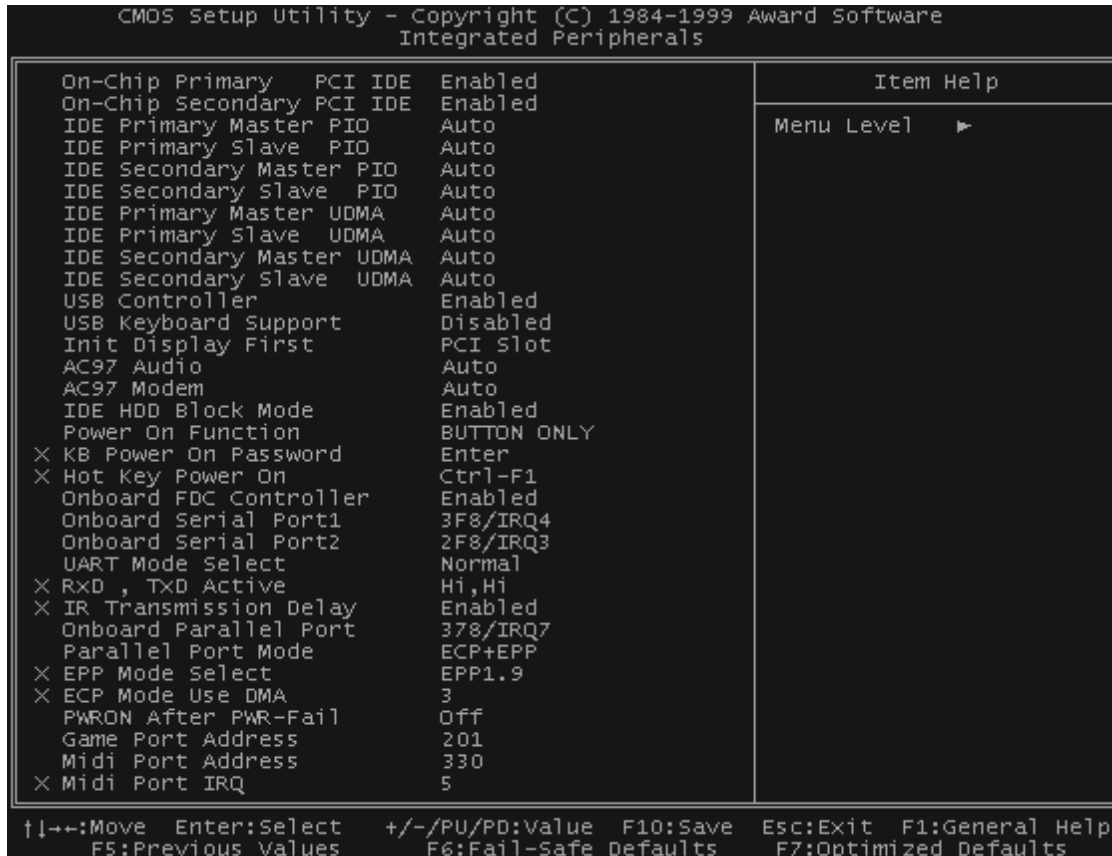
820 MCH supports 2x and 4x Fast Write from the MCH to the graphic controller on AGP. Fast Write operation is compliant with Fast Write as currently described in AGP 2.0.

- **AGP Aperture Size (MB)**

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

3.6 Integrated Peripherals

Choose the option and the following display appears.



- **On-Chip Primary/Secondary PCI IDE**

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

• USB Controller

Select "Enabled" if your system contains USB peripheral(s).

• USB Keyboard Support

Select "Enabled" if you use a USB Keyboard.

• Init Display First

This item allows you to decide whether to activate either the "PCI Slot" or the "AGP first".

• AC97 Audio / Modem

If you select "Enabled", BIOS will detect whether you are using any audio/modem devices. When an audio/modem device is detected, the onboard audio/modem controller will be enabled. If you want to use your own audio/modem card, set these fields to "Disabled". If not, set these fields "Enabled".

• 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/Write per sector the drive can support.

• Power On Function

- Password : Power On only if you key in the correct password.
 - Hot Key : You can use the hot key to Power On the system.
 - Mouse Left : Power On with the Mouse Left Button.
 - Mouse Right : Power On with the Mouse Right Button.
-

- Any Key : Press any key to Power On the system.
- Button only : Power On only by pushing the button on the case (Default).
- Keyboard 98 : You can Power On the system by pressing the [Power-On] key of Keyboard 98.

Note: Beside “Button only”, all other options are available only when JP6 “KB-AWK” jumper is set to “Enabled”.

- **KB Power On Password**

Enter the Power On Password here. **Activated only when “Password” item is selected in the Power On Function Menu.**

- **Hot Key Power On**

Choose [CTRL] + [F1] ~ [F10] as a hot key to Power On the system. **Activated only when “Hot Key” is selected in the Power On Function Menu.**

- **Onboard FDC Controller**

You can use this function to enable or disable the onboard FDC 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”, “2F8/IRQ3”, and “Auto”. **The second serial port shares the resources (address and IRQ) with IrDA.**

- **UART Mode Select**

Choose the right type of infrared device:

- Normal : Normal operation
- IrDA : IrDA compliant serial infrared port
- ASKIR : Amplitude Shift Keyed Infrared Port

- **RxD, TxD Active**

Consult your IR peripheral documentation to select the setting for RxD and TxD.

- **IR Transmission Delay**

Consult your IR peripheral documentation to select “Enabled” or “Disabled” of the IR Transmission Delay.

- **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”.

• Parallel Port Mode

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

- SPP: 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.

• EPP Mode Select

Select EPP port type "1.7" or "1.9".

• ECP Mode Use DMA

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

• PWR-ON After PWR-Fail

Choose if you want the system to automatically Power On after the power has failed.

- Off : Disable this function
- On : Select this function will always power On the computer when AC-Power comes in.
- Former-Sts : When AC-Power coming in, this option will power on the computer cexcept that you turned off, the computer by pressing the "Soft-Off" or by Operaing System.

• Game Port Address

Set Joystick Game Port Address. The choices are : "Disabled", "201" and "209".

• Midi Port Address

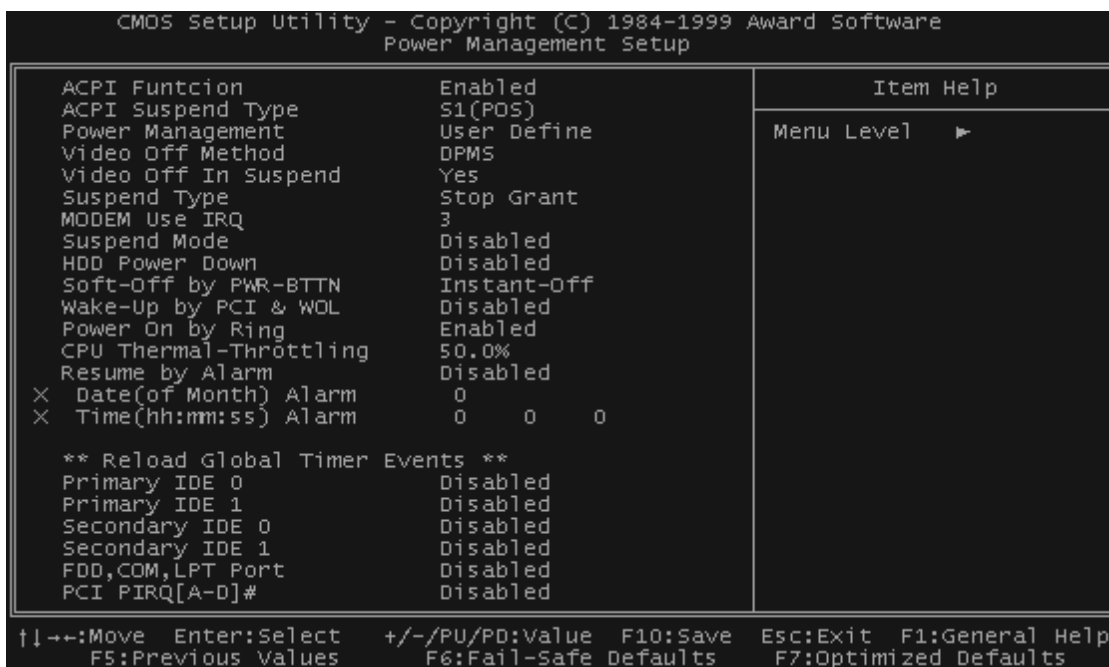
Set Midi Port Address. The choices are : "Disabled", "330" , "300" and "290".

• Midi Port IRQ

Assign IRQ "5" or "10" to the Midi device.

3.7 Power Management Setup

The 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 you to enable/disable the Advanced Configuration and Power Interface (ACPI).

- **ACPI Suspend Type**

Select the ACPI Suspend Type : “S1 (POS)” or “S3 (STR)”.

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

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

- **Power Management**

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

1. Suspend Mode
2. HDD Power Down

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 = 15 min.

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.

- **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.

- **VIDEO Off In Suspend**

This determines the manner in which the monitor is blanked. Select “Yes” to blank the monitor when the system enters suspend mode.

- **Suspend Type**

Select Suspend Type : “Stop Grant” or “PWR ON Suspend”.

- **MODEM Use IRQ**

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

- **Suspend Mode**

After the selected period of system inactivity (1 minute to 1 hour), all devices except the CPU will be shut down.

- **HDD Power Down**

After the selected period of system inactivity (1 to 15 minutes), the hard disk drive powers down while all other devices remain active. This feature doesn't effect SCSI hard drives.

- **Soft-Off by PWR-BTTN**

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.

- **Wake-Up by PCI & WOL**

Select "Enabled" if you want to Power On your system when a PCI or LAN event occurs.

- **Power On by Ring**

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

NOTE:This function requires an external modem which supports the Ring Wake-Up function.

- **CPU Thermal-Throttling**

Select the CPU Thermal-Throttling rate. If BIOS detects that the CPU temperature is too high, it will slow down the CPU's speed according to this field. The choices: "87.5%", "75.0%", "62.5%", "50.0%", "37.5%", "25.0%" and "12.5%".

- **Resume by Alarm**

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. **Activated only when the "Resume by Alarm" field is enabled.**

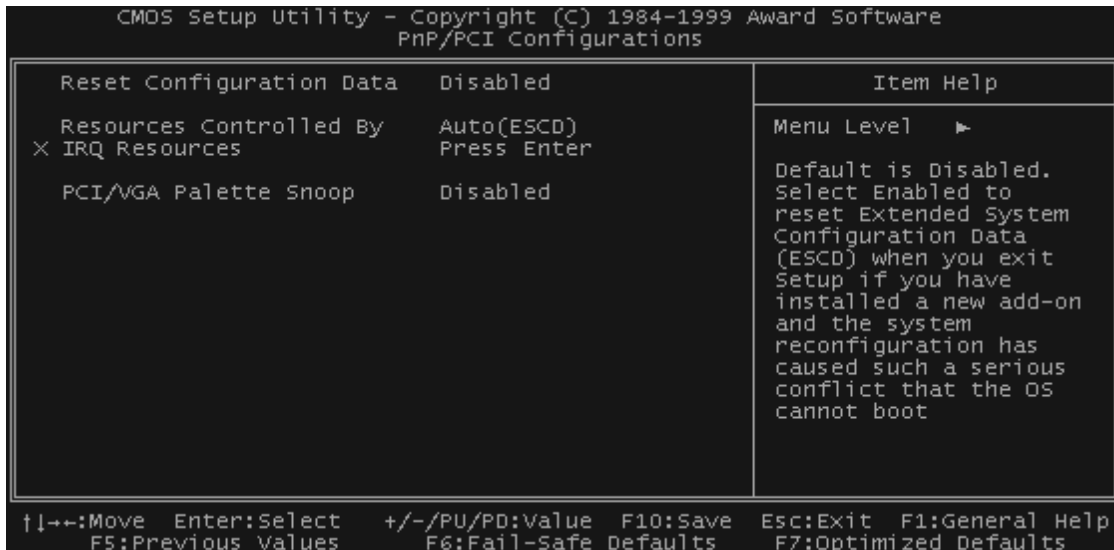
- **Reload Global Timer Events**

When "Enabled", an event occurring on any device listed below restarts the global timer from Standby Mode, and Powers On the system.

Primary IDE 0
 Primary IDE 1
 Secondary IDE 0
 Secondary IDE 1
 FDD, COM, LPT Port
 PCI PIRQ[A-D]#

The settings in these fields enable or disable the detection of IDE, floppy, serial and parallel port activities for powering down state transition. Actually it detects the read/write to/from I/O ports.

3.8 PnP/PCI Configuration Setup



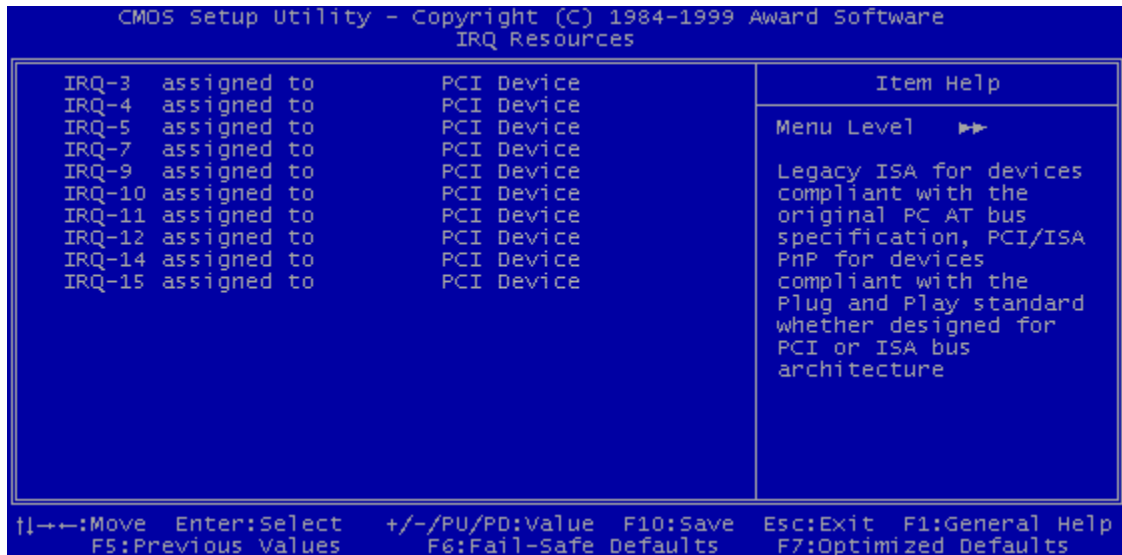
- **Reset Configuration Data**

Normally, you leave this field “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 operating system 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”, all of the Interrupt Requests (IRQs) and DMA assignment fields will be deactivated as the BIOS automatically assigns them. The choices: “Auto” and “Manual”.

- **IRQ Resources**



- **IRQ-n Assigned to**

When the resources are controlled manually, assign each system interrupt to one of the follows, depending on which type of device is using the interrupt.

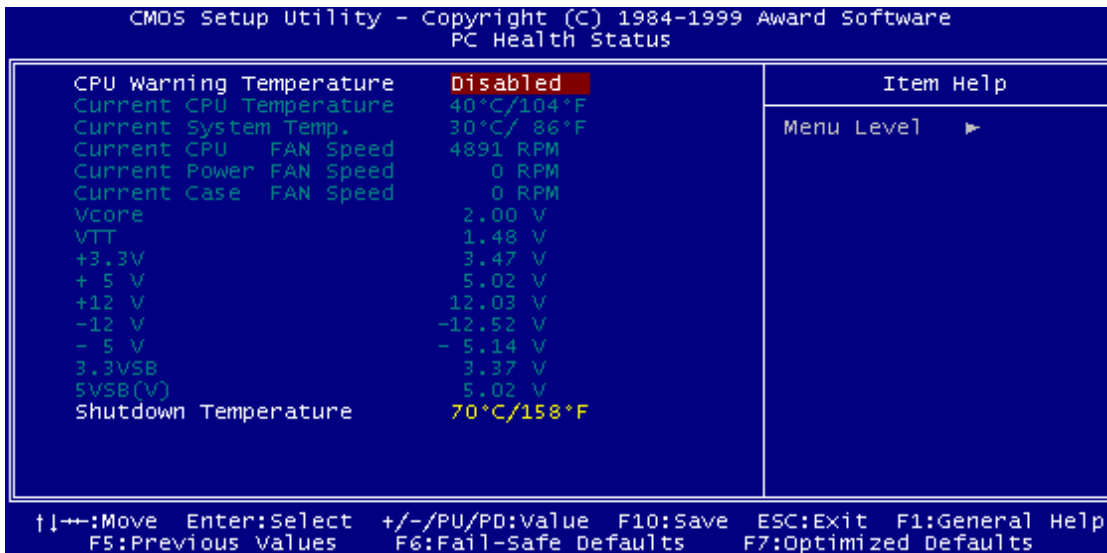
- PCI Devices: Assign the IRQ to PCI Devices.
- Reserved: Reserve this IRQ for system to use.

- **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”.

3.9 PC Health Status

This menu provides two thermo-protect functions (CPU warning temperature and shutdown temperature) and a hardware monitor center. These features let you know the health status of your PC.



- **CPU Warning Temperature**

This field allows you to set the CPU warning temperature. You can choose from “50°C /122°F” to “70°C/158°F”, or even “Disabled” if you like.

- **Current CPU Temperature**

This field displays the current CPU temperature.

- **Current System TEMP**

This field displays the current system temperature.

- **Current CPU / Power / Case Fan Speed**

These fields display the fan speeds of the CPU, Power and Case.

- **System Voltage Monitor**

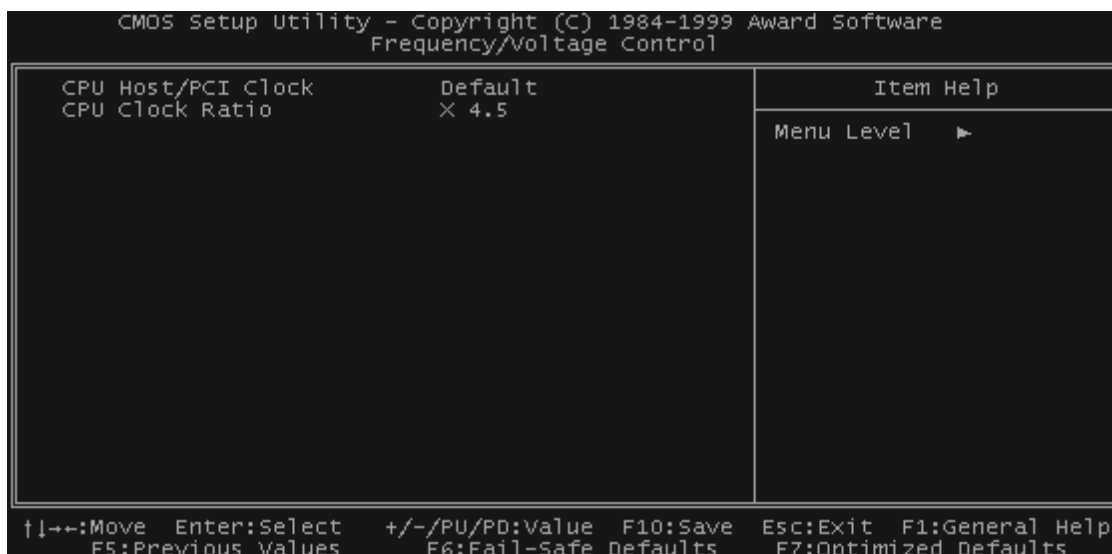
These fields display the CPU core voltage (Vcore), +3.3V,+/-5V,+/-12V and 3.3V standby voltage (3.3 VSB), 5U steadyby voltage (5VSB)

- **Shutdown Temperature**

This field allows you to set the CPU shutdown temperature.

The choices: “60°C/140°F”, “65°C/149°F”, “70°C/158°F” and “75°C/167°F”.

3.10 Frequency / Voltage Control



- **CPU Host / PCI Clock**

This function allows you to set the FSB frequency of the CPU and the speed of PCI bus. When JP14 is set to 100MHz, you can select the system bus and PCI bus frequency from 100/66MHz to 124/41 MHz. When JP14 is set to 133MHz, you can select the system bus frequency from 133/33MHz to 160/40MHz.

- **CPU Clock Ratio**

This function allows you to set the CPU internal frequency ratio. It determines the CPU internal frequency according to the following formula:

$$\text{CPU internal frequency} = \text{frequency ratio} \times \text{system bus frequency}.*$$

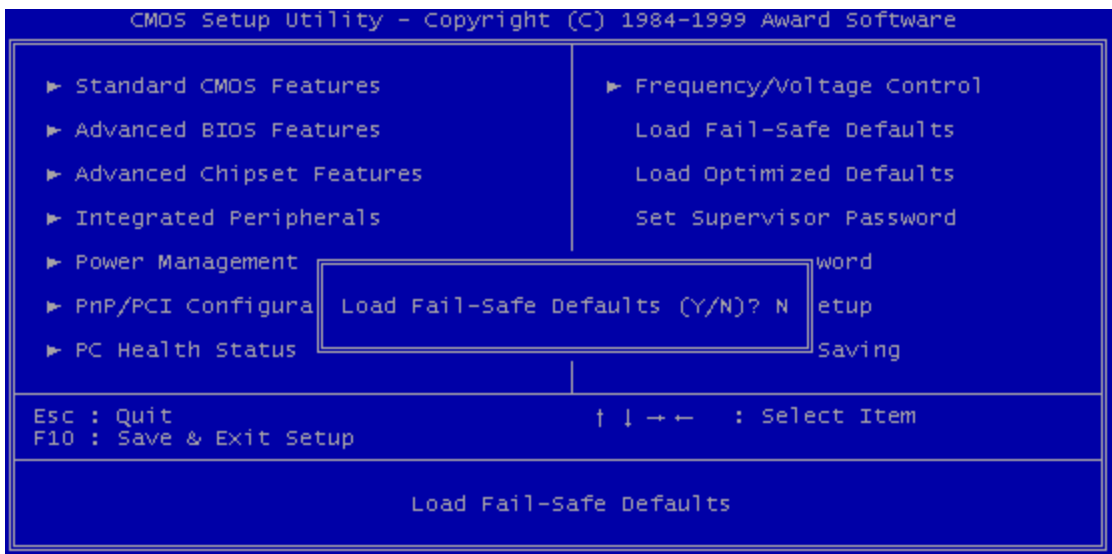
* System bus frequency is set in the previous field ("CPU Host / PCI Clock").

The choices are: "3", "3.5", "4", "4.5", "5", "5.5", "6", "6.5", "7", "7.5", and "8".

NOTE: Because Intel has locked the frequency ratio for new CPUs' setting, this field to adjust the frequency ratio is useless. However, it is effective for old version CPUs.

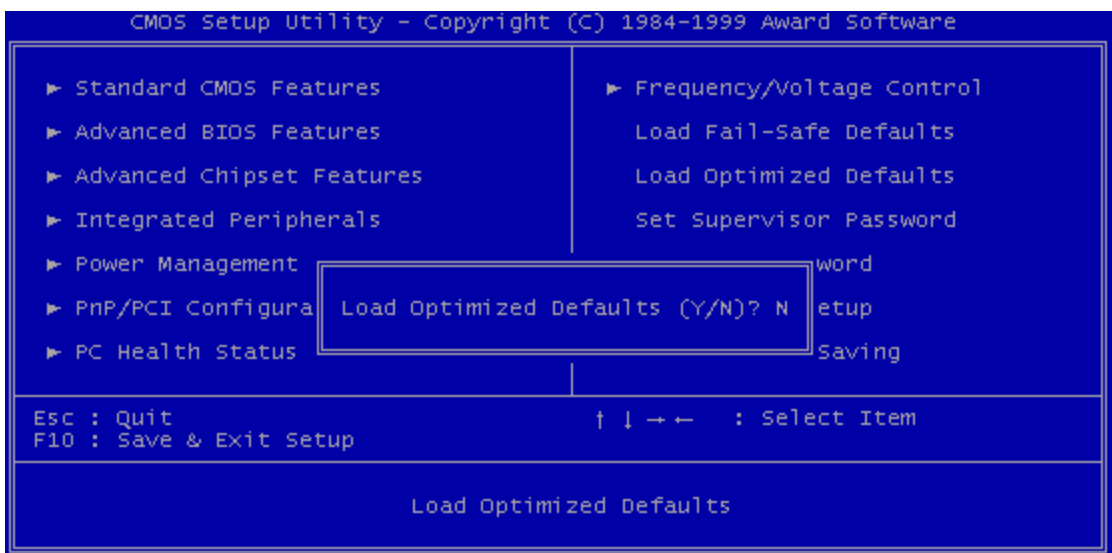
3.11 Load Fail-Safe Defaults

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.**



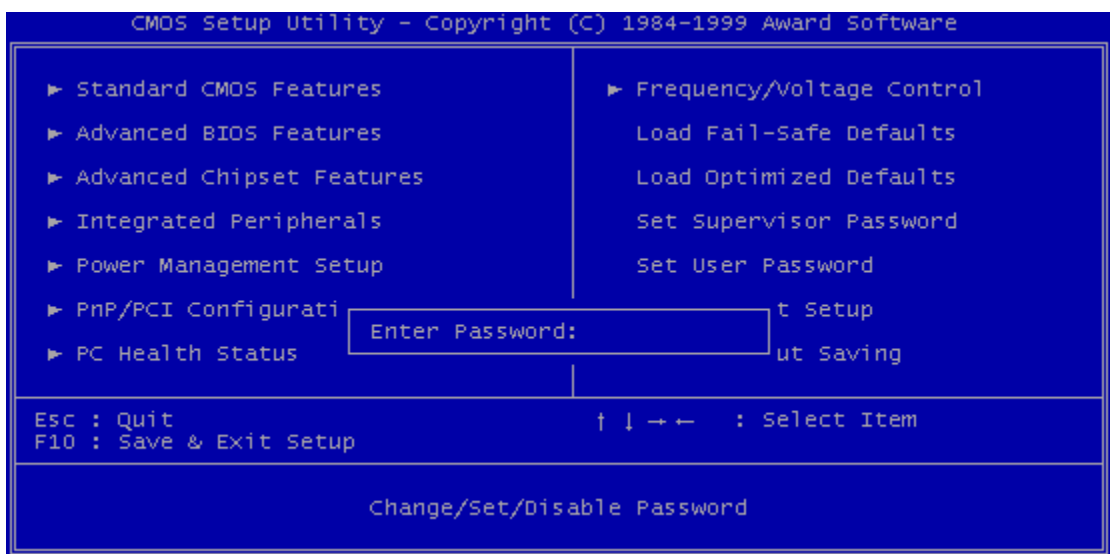
3.12 Load Optimized Defaults

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 setting 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 alpha-numeric 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 the password entry, the screen automatically reverts to the main screen.

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.

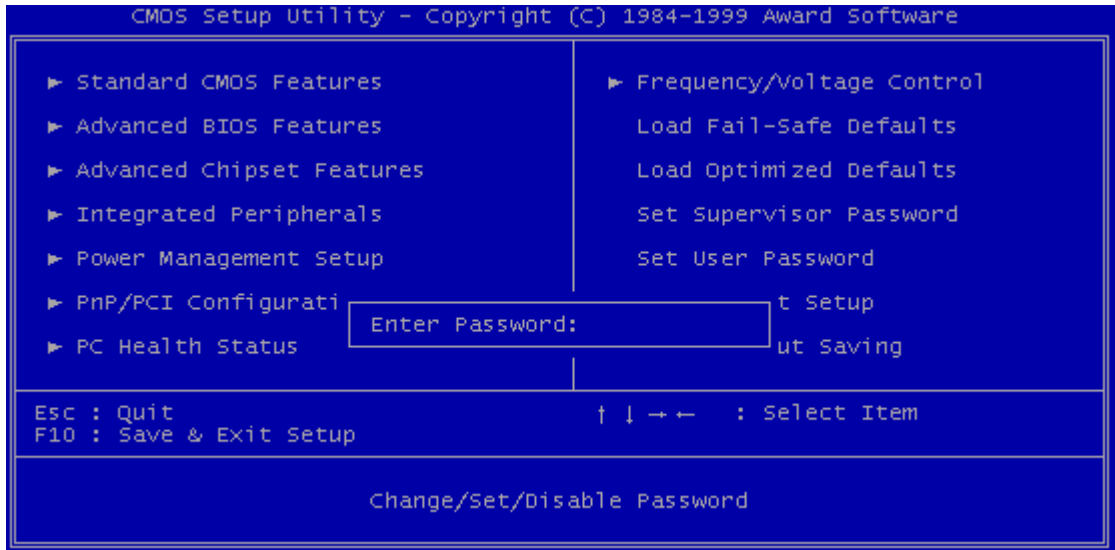
Forget the password?

If you forget the password, you can clear it by erasing the CMOS Real Time Clock (RTC) RAM with the jumper 5 (JP5: CMOS_CLR. Please refer to page 22). To erase the RTC RAM:

1. Unplug your computer.
2. Short the JP5.
3. Turn on your computer.
4. Hold down [Delete] key during the POST process and enter BIOS setup to re-config BIOS.

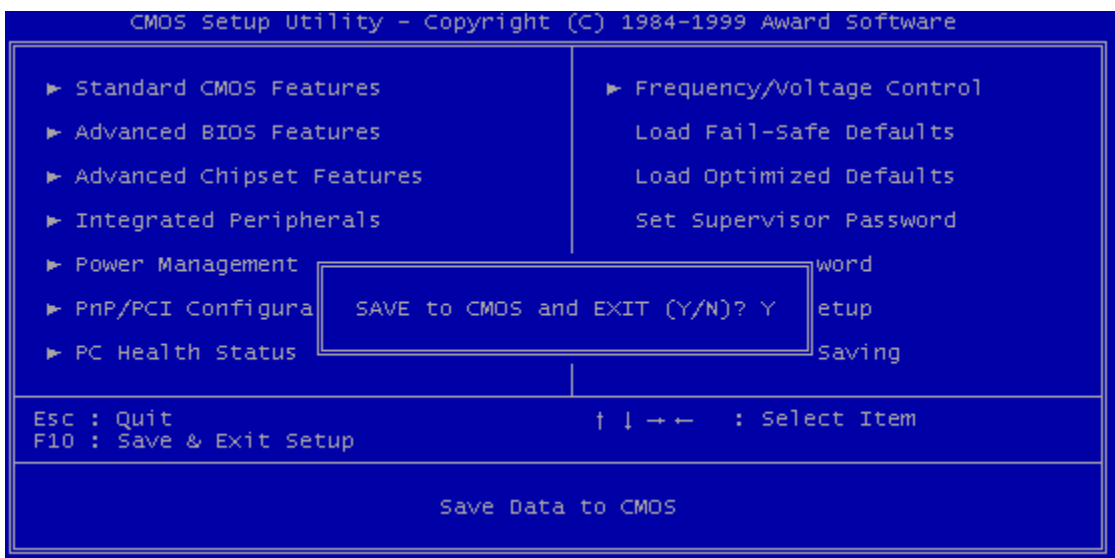
3.14 User Password

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



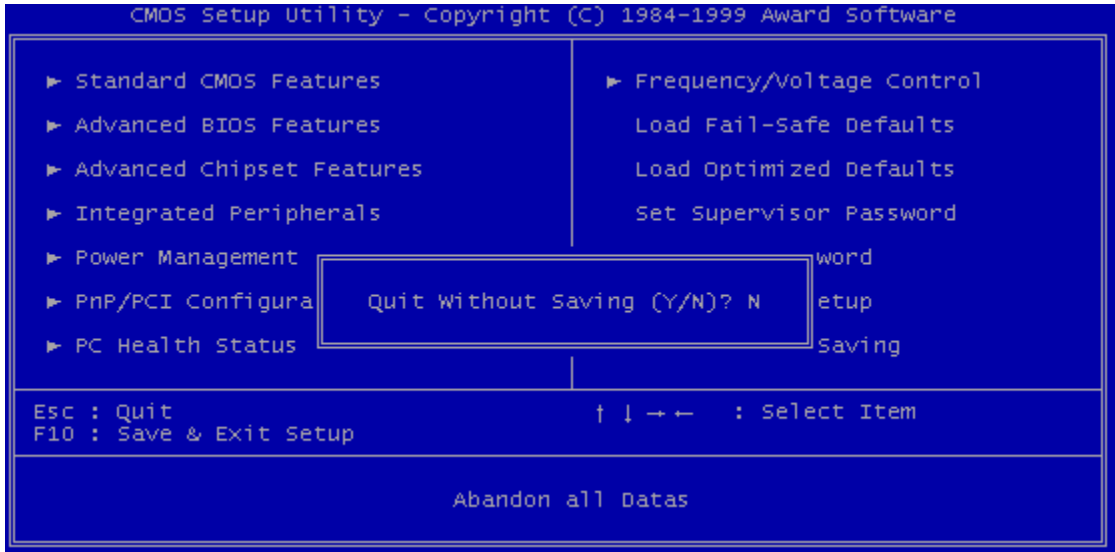
3.15 Save & Exit Setup

Save the setting and exit the BIOS utility.



3.16 Exit Without Saving

Abort the current change and exit the BIOS utility.



CHAPTER 4 SOFTWARE SETUP

4.1 INF Update for 820 Chipset

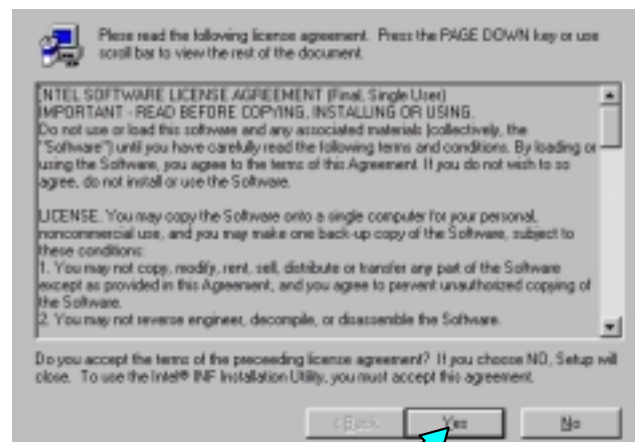
This section introduces INF files in Windows 95/98 for the following items: System and Graphics, LPS Interface, SM Bus, PCI Bridge, Bus master IDE, USB Host, Controllers.

Insert the support CD enclosed with your motherboard into your CD-ROM drive and double-click the CD drive icon in **My Computer**. In order to run the Setup, first follow the four steps below:

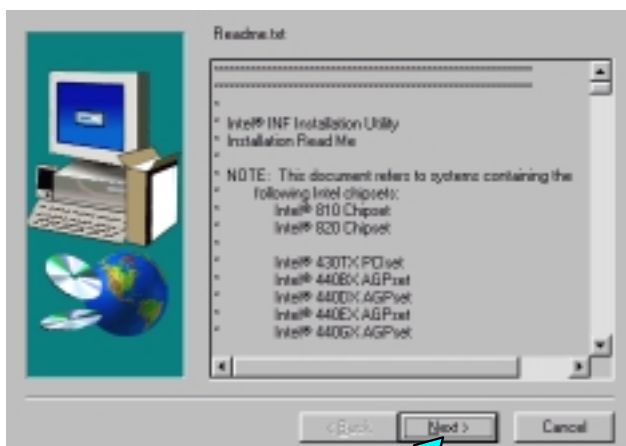
- (1) Double-Click **ACA1** (Please follow your motherboard's part number)
- (2) Double-Click **Drive**
- (3) Double-Click **INF-9X**
- (4) Double-Click **Setup.exe**, and then follow the instructions in the figures below to finish installing:



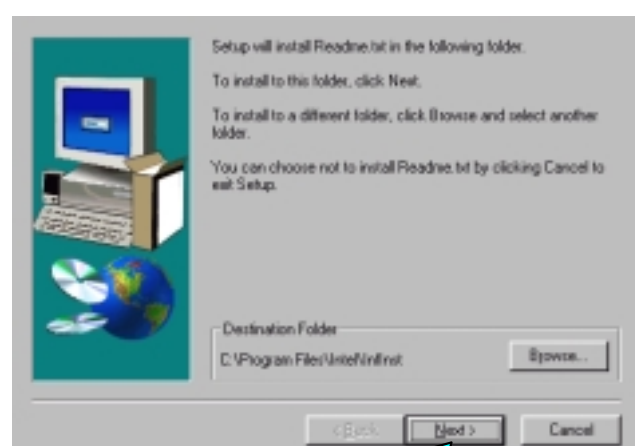
1 Click here



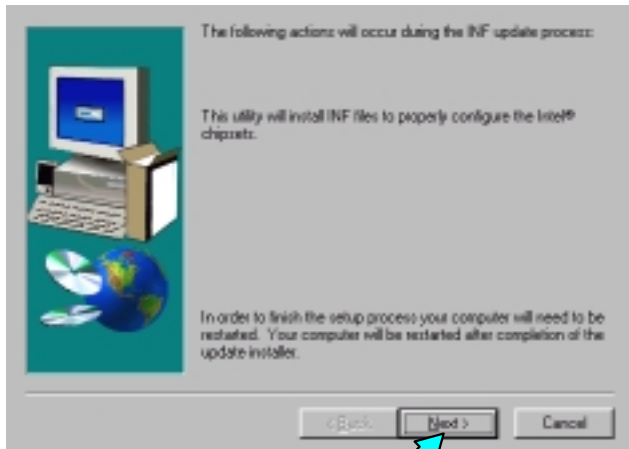
2 Click here



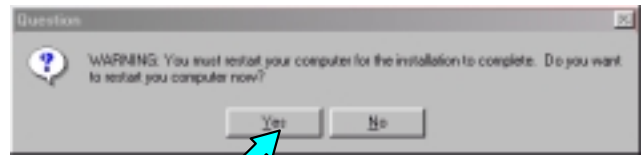
3 Click here



4 Click here



5 Click here



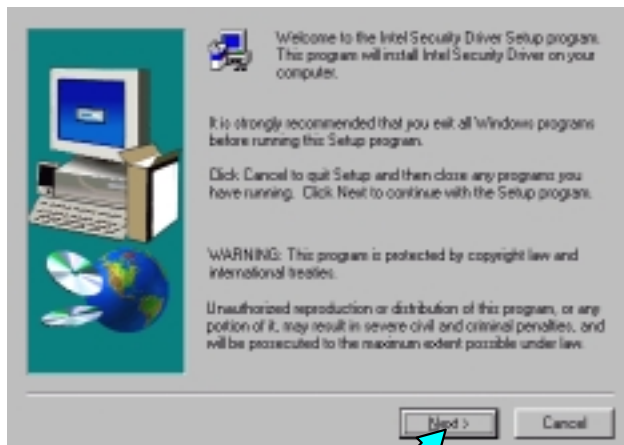
6 Click here

4.2 Intel Security Controller Driver

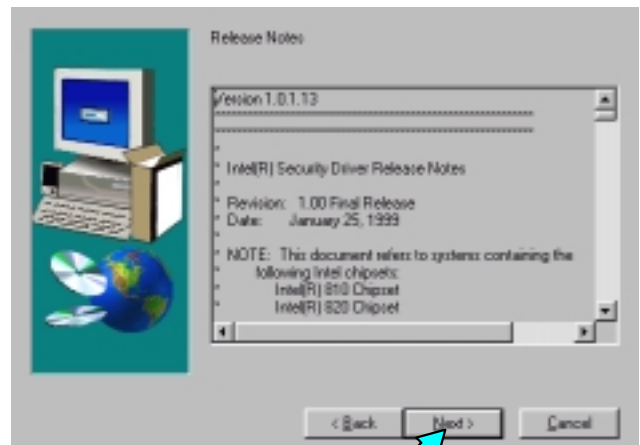
This section helps you to install a security controller for Windows 95/98/NT.

Insert the support CD enclosed with your motherboard into your CD-ROM drive and double-click the CD drive icon in **My Computer**. In order to run the Setup, first follow the five steps below:

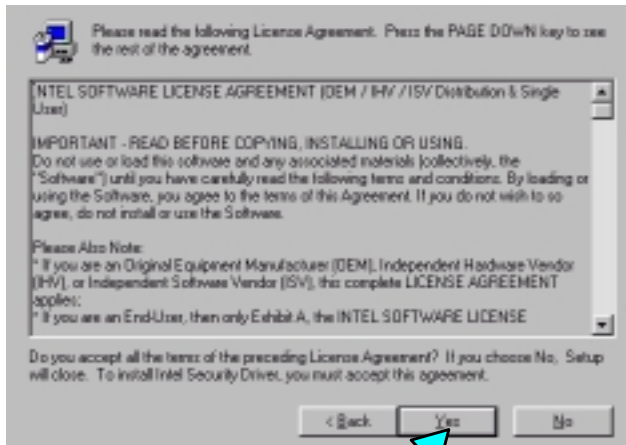
- (1) Double-Click **ACA1** (Please follow your motherboard's part number)
- (2) Double-Click **Drive**
- (3) Double-Click **Security**
- (4) Double-Click **Eng**
- (5) Double-Click **Setup.exe**, and then follow the instructions in the figures below to finish installing:



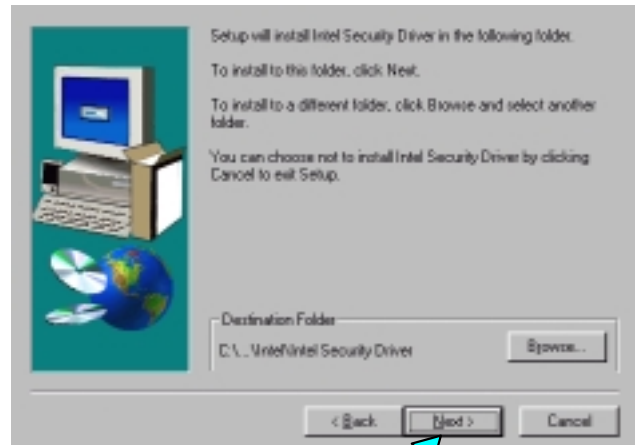
1 Click here



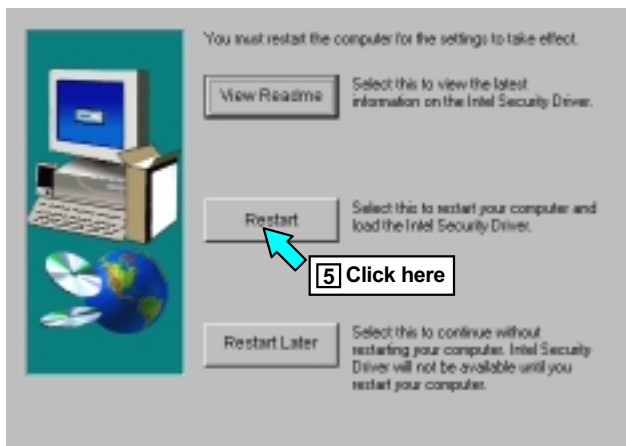
2 Click here



3 Click here



4 Click here



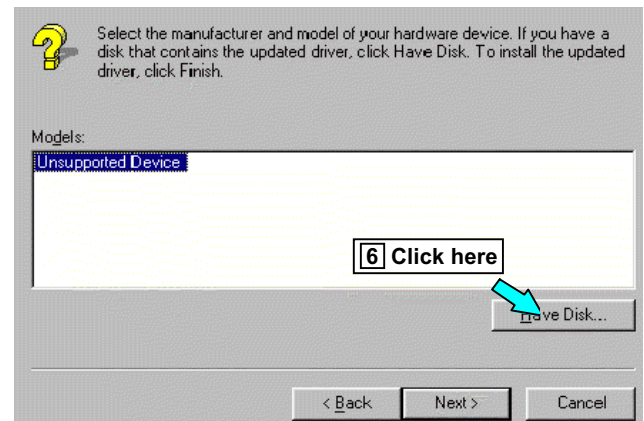
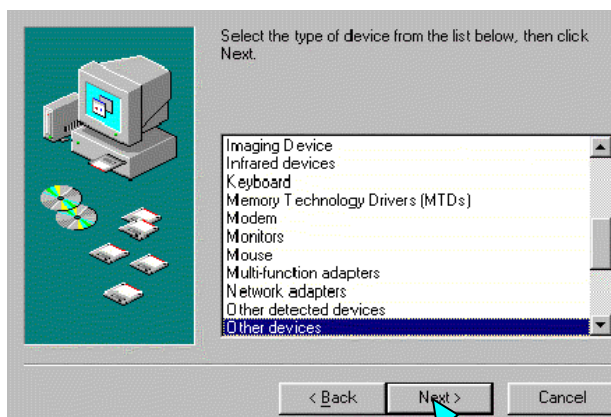
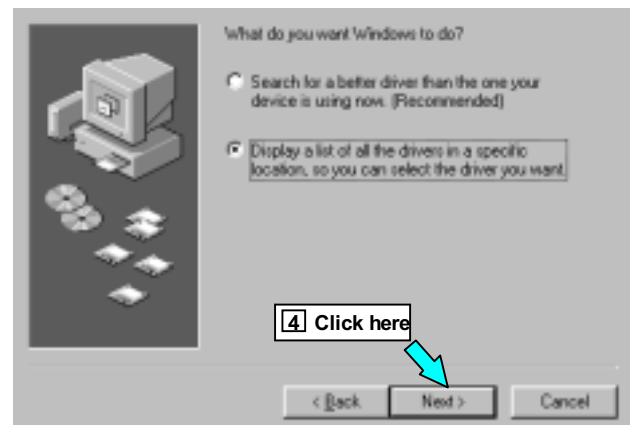
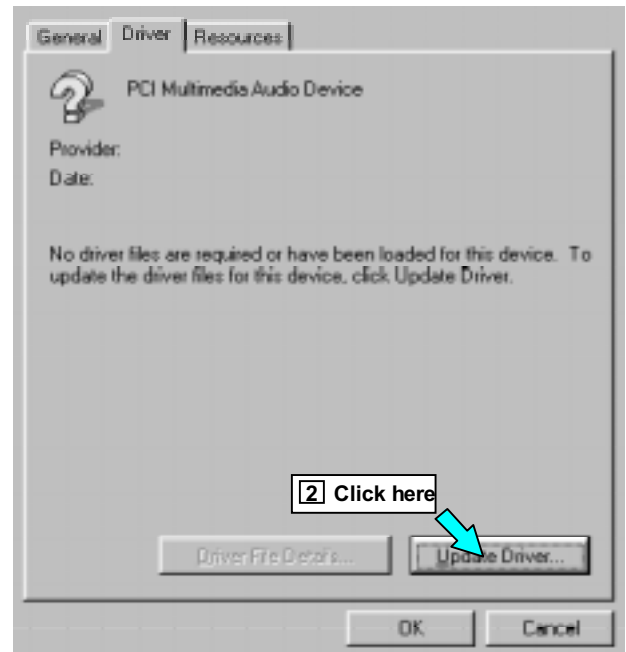
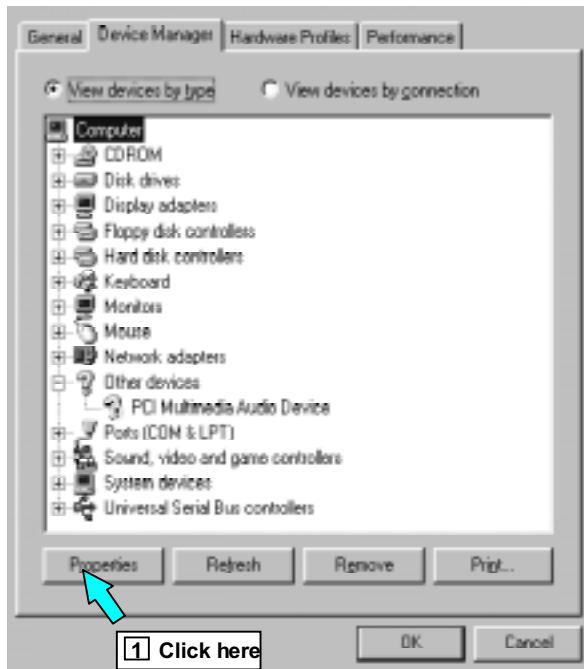
5 Click here

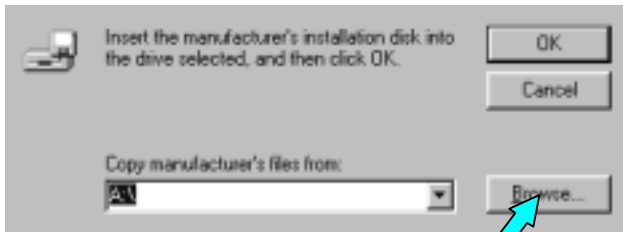
4.3 Audio Driver Setup

This section helps you to setup the onboard audio device. Click **Audio Driver Setup**, and choose the operation system you use.

A. Audio Driver for Windows 95/98/2000

The figures follow are captured from Windows 98SE, and you can setup the Audio Codec in almost the same way in Windows 95 and Windows 2000.





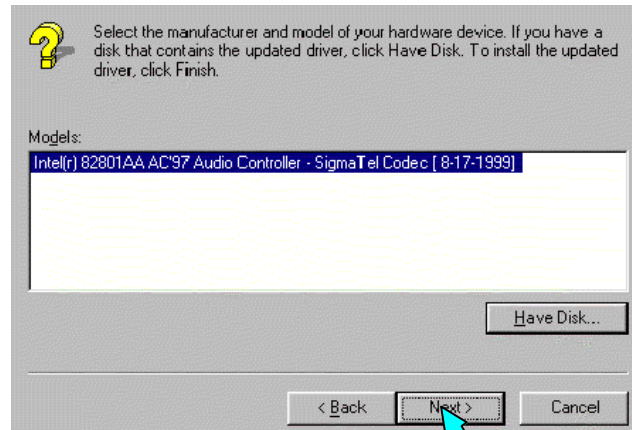
7 Click here



8 Click here



9 Click here



10 Click here

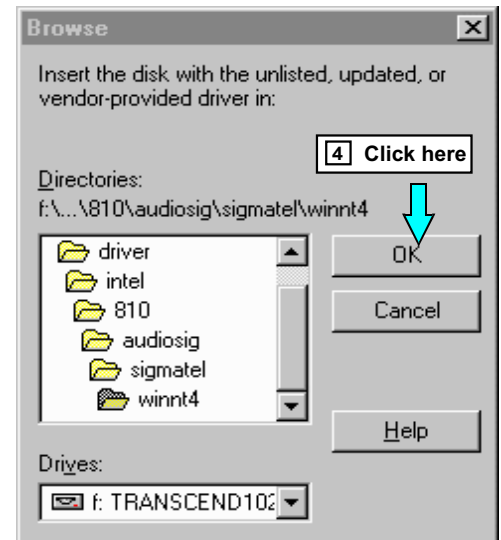
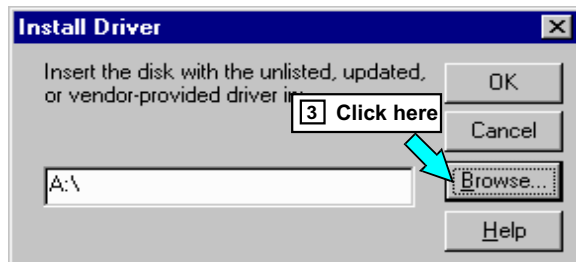
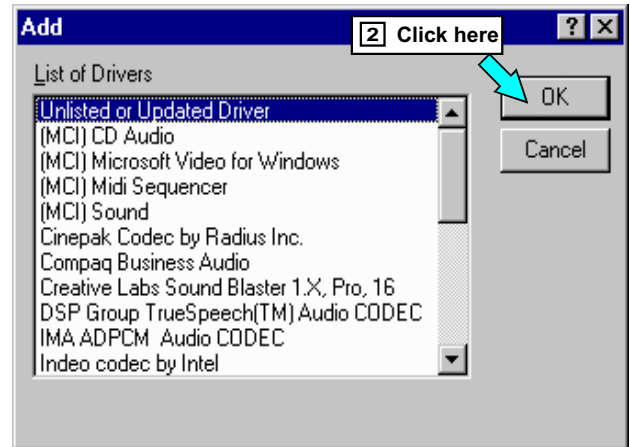
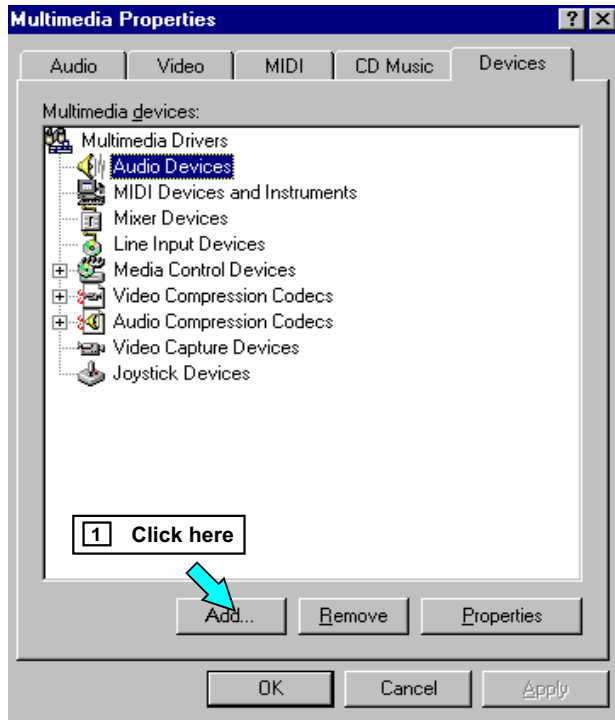


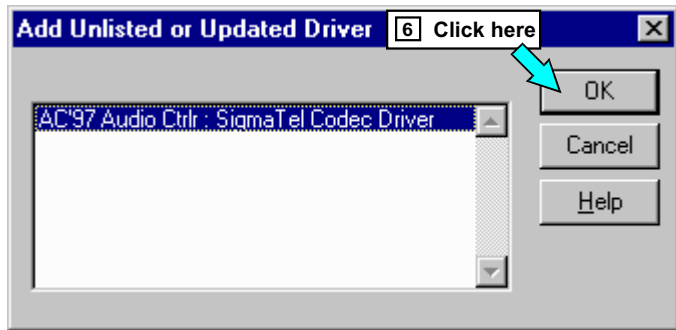
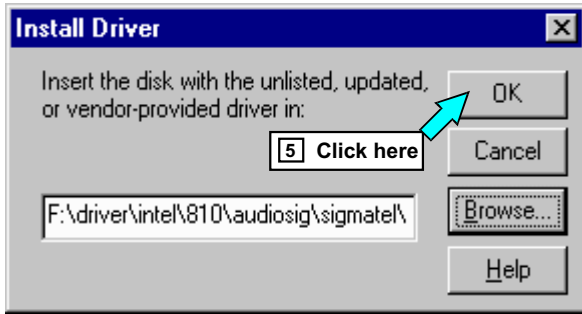
11 Click here



12 Click here

B. Audio Driver for WindowsNT





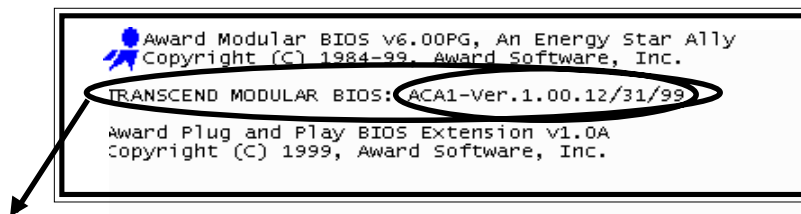
CHAPTER 5 BIOS UPGRADE

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 on your motherboard. Otherwise, you might cause some serious system malfunctions.

5.1 How to Check Your BIOS File Name and Version

Please turn on the PC first. The screen will display as follows :



TRANSCEND MODULAR BIOS : ACA1-Ver.1.00

You can see the BIOS description on the third line.

ACA1 - Ver.1.00.MM/DD/YY

- BIOS Version 1.00 (Ver1.10 for Version 1.1)
(You can upgrade to answer version if your BIOS version is older than this version.)
- BIOS File Name
(Make sure the first 5 characters are exactly the same as your own version, otherwise you shouldn't try to upgrade your BIOS.)

5.2 How to Download the Correct BIOS File from the Web

Please enter the Transcend website on: <http://www.transcendusa.com>.

On the front page, click on the "Motherboard" icon, which is the second one down: on the Motherboard page, click on the "BIOS" icon near the top. The BIOS page contains important information: please take time to read it carefully. Then go to the bottom of the BIOS page, click on "Slot 1" and choose your motherboard model.

Your BIOS file name must absolutely match the one shown on our web site. Then download the suitable version to your disk.

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

5.3 How to Upgrade Your Motherboard BIOS

Please follow these 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 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.

(Ref 4.1 and 4.2)

Step 4: Execute the download file to decompress it.

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

Then you can finish the BIOS upgrade.
