TS-AVD1
USER'S MANUAL
Intel® Pentium® II / III Series

Transcend

Your Supplier, Your Partner,
Your Friend.

TS-AVD1 Motherboard

Supporting Intel® Slot 1 Celeron™, Pentium® II, Pentium® III Series Processor
66/100/133 MHz Front Side Bus Frequency
VIA® Apollo Pro 133 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 VIA® Apollo Pro Plus Chipset. More details to 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 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, 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 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.
- DIMM memory 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-AVD1 motherboard
- 1 x CD-ROM
- 1 x FDD cable
- 1 x Ultra DMA/66 cable
- User's Manual

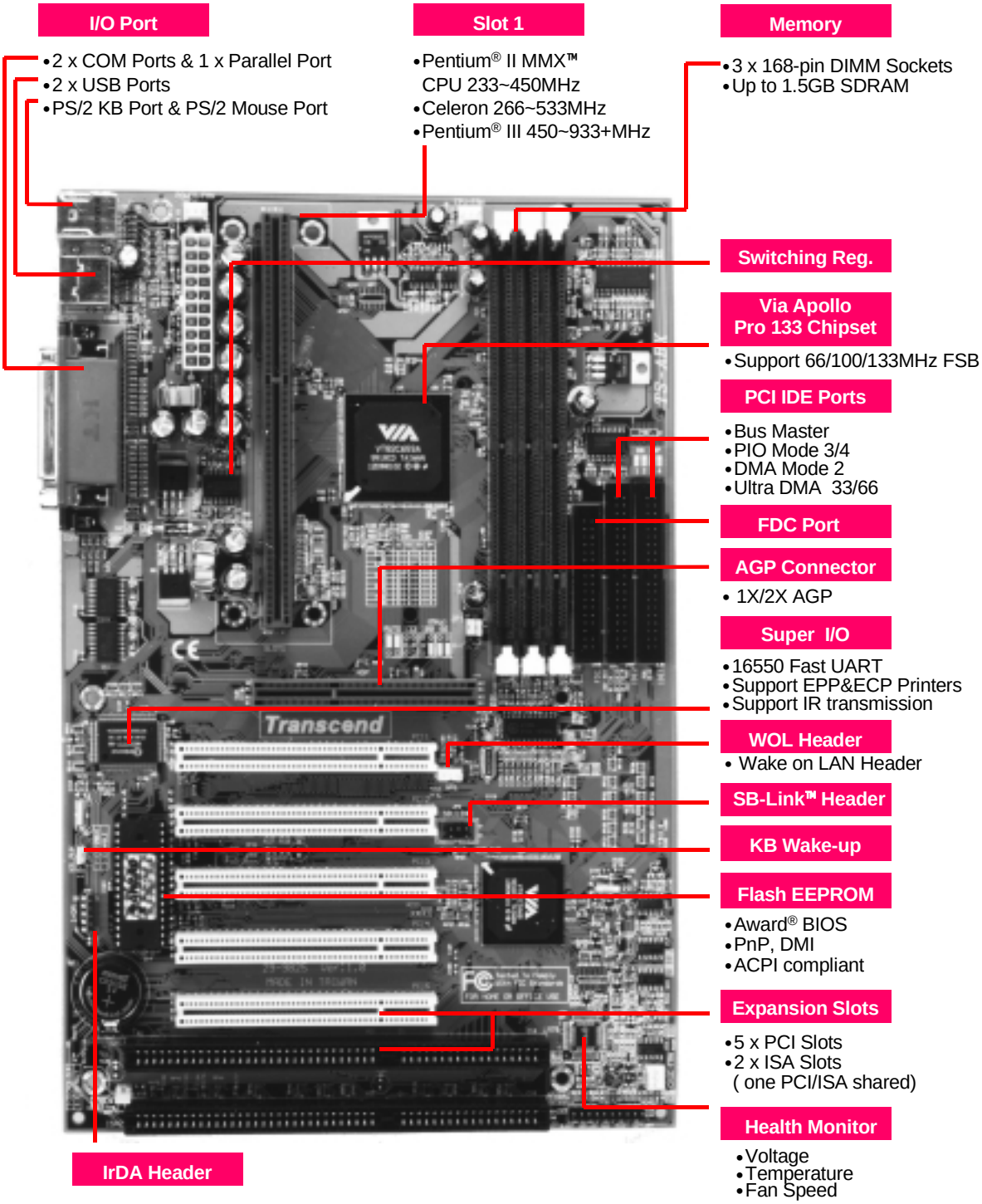
1.4 Specifications and Features

- **CPU**
  - Supports Intel Pentium II 233MHz~450MHz
  - Supports Intel Pentium III 450MHz~1.0GHz and above
  - Supports Intel Celeron 266MHz~533MHz (Using a converter card)
- **Chipset**
  - VIA 693A/596B AGPset (FSB 66/100/133MHz, Ultra DMA 33/66)
- **DRAM Memory**
  - Supports Synchronous DRAM
  - Supports Virtual Channel Memory
  - 3pcs of 168-pin DIMM module sockets on board
  - Up to 768MB memory size
  - 8/16/32/64/128/256 SDRAM DIMM
  - Supports ECC
  - 64/72 data bits structure only
  - PC100 / PC133 SDRAM compliant
- **I/O BUS Slot**
  - 1 x AGP slot
  - 5 x Master / Slave PCI slots (PCI 2.1 compliant)
  - 2 x ISA slots (one PCI/ISA shared)
- **I/O Functions**
  - 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 1.44/2.88 MB floppy drive
  - Supports PS/2 Mouse and PS/2 Keyboard
  - Supports IrDA port
  - Supports 2 Universal Serial Bus (USB) ports
  - Supports Creative® SB-Link™

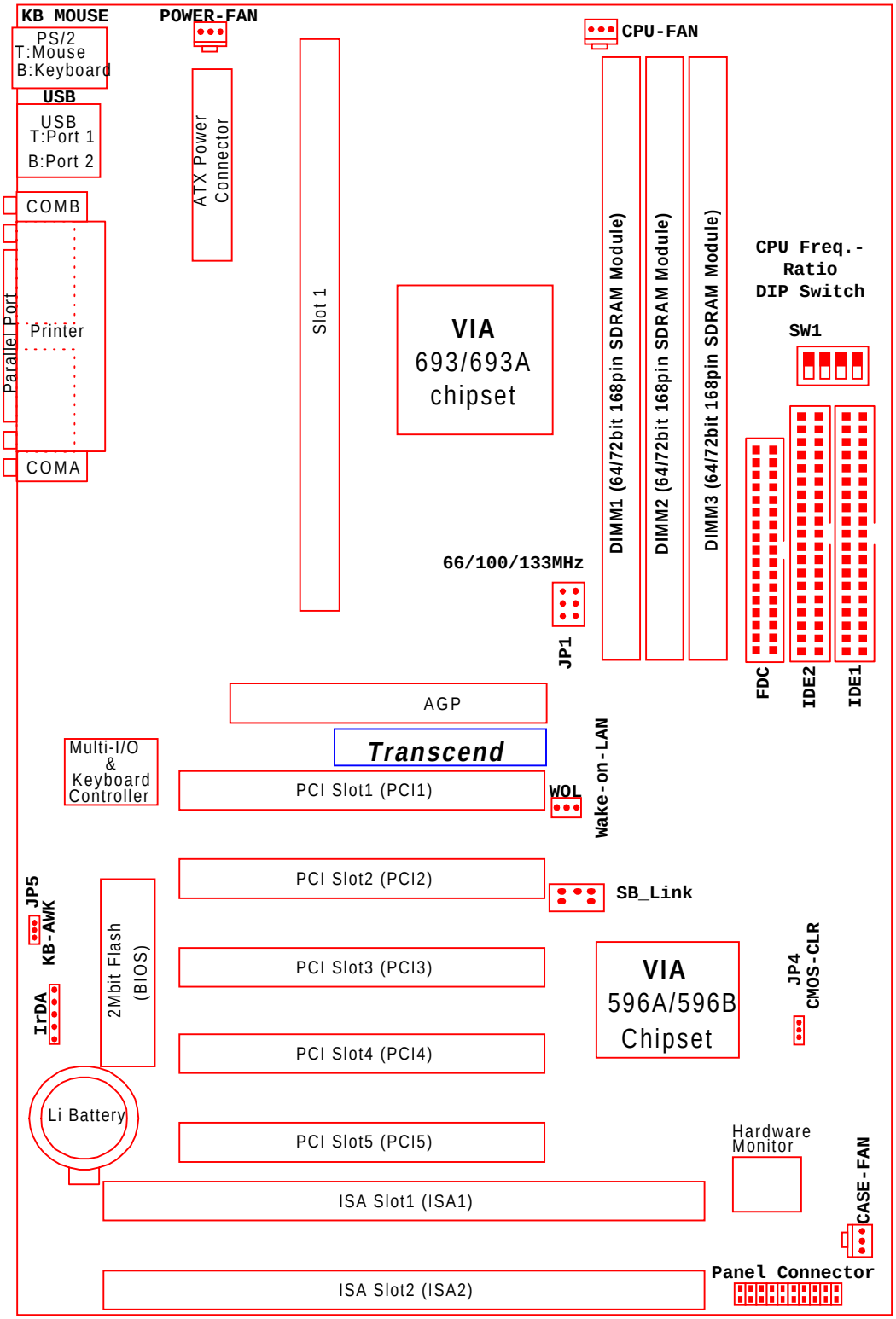
- **Award BIOS**
  - Supports Plug-and-Play, PC98
  - Supports ACPI, APM, DMI and Green Feature
  - Easy BIOS Recovery
- **Wake Up Features**
  - PS/2 Mouse and Keyboard Wake Up
  - Supports Wake-on-LAN function
  - Remote Ring Wake Up
  - Time Wake Up
- **PCB Dimensions**
  - ATX form factor, 4-layer PCB, 20.4cm x 30.5cm (8 inch x 12 inch)
- **Switching Voltage Regulator**
  - Intel VRM 8.4 compliant
- **Other Features**
  - Year 2000 compliant
  - Anti-Virus Boot up
  - System voltage monitors for CPU Vcore, VTT, +3.3V, +/-5V and +/-12V
  - CPU temperature monitor
  - FAN speed monitor

CHAPTER 2 HARDWARE INSTALLATION

2.1 Transcend's TS-AVD1 Motherboard



2.2 Layout of Transcend TS-AVD1 Motherboard



***T:Top**

****B:Bottom**

2.3 CPU(Central Processing Unit) Installation

1. The Universal Retention Module (URM) should already be attched 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.

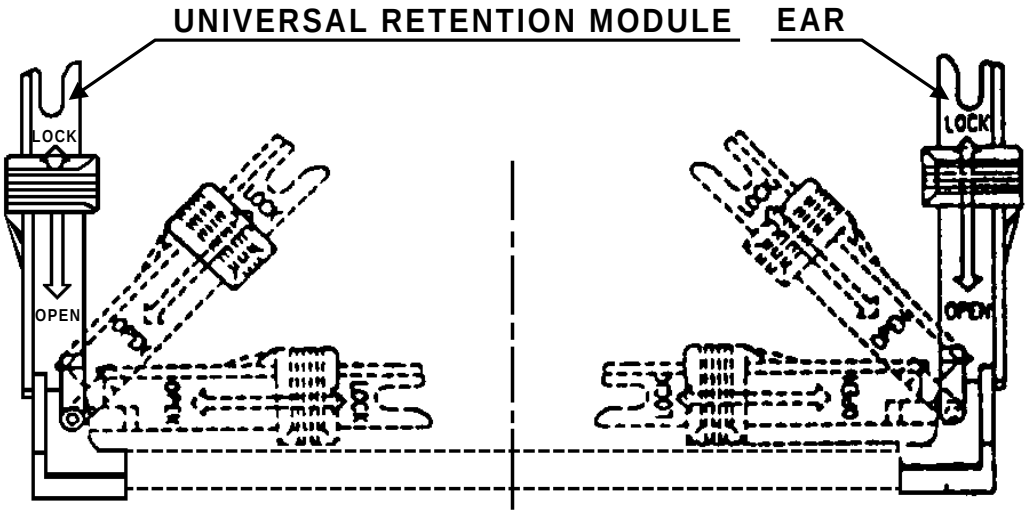


Diagram 1: Universal Retention Module (URM)

Intel Celeron Processor (S.E.P.P)	Intel Pentium II Processor (S.E.C.C)	Intel Pentium III Processor (S.E.C.C.2)

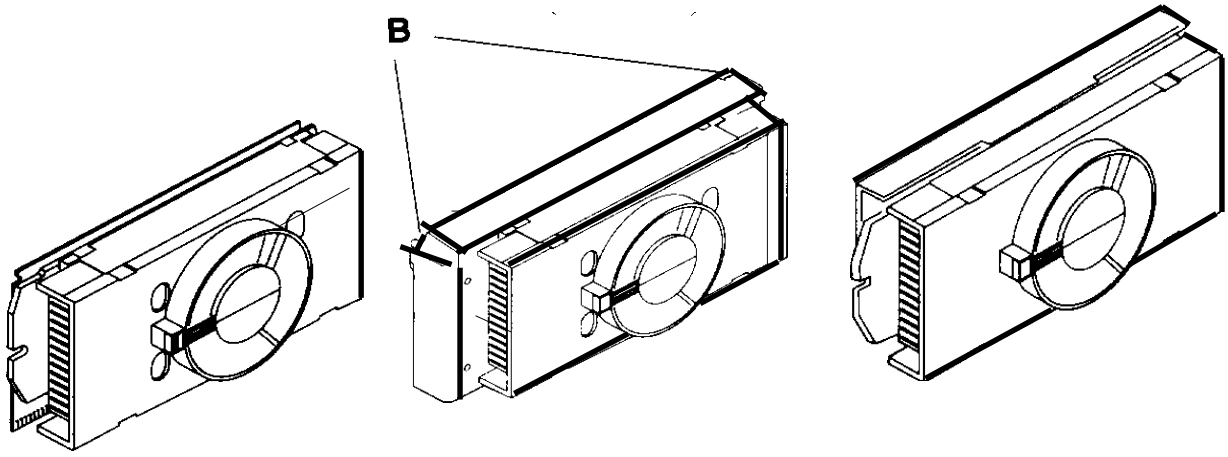
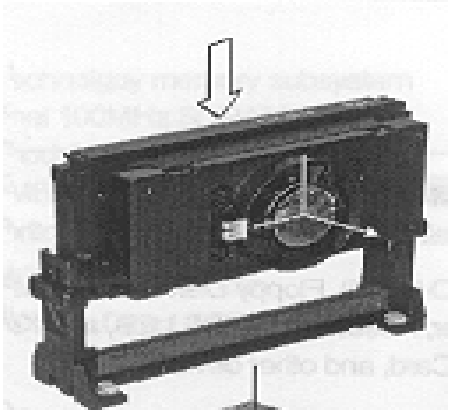


Diagram 2: The Intel Processor Type

2. There are three types of Intel Processor compatible with your motherboard's URM. The Intel Celeron™ Processor (Single Edge Processor Package or SEPP), 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. See Diagram 2
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 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.

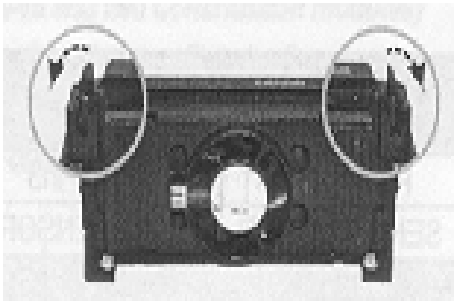
• Installing the Intel Processor



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

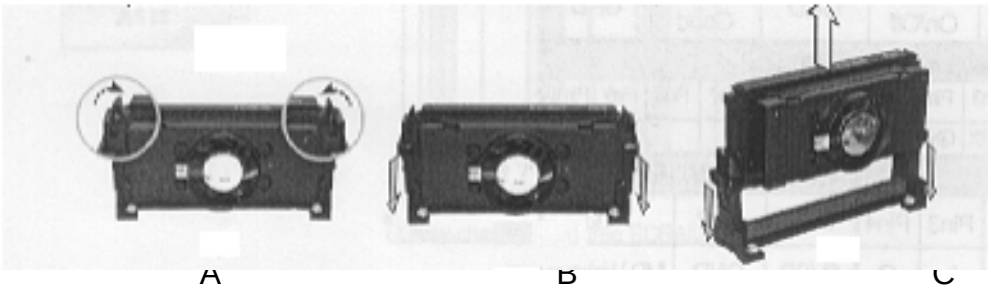
Lock the processor into the URM by pushing the top-right and top-left latches to the outward position as shown in the illustration.

• 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.



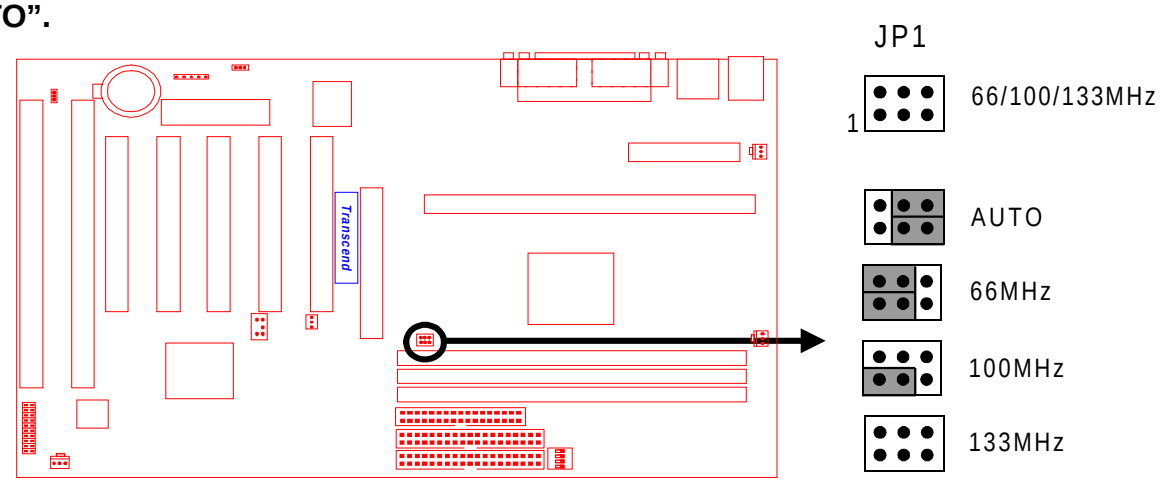
A B C

A B C

2.4 66/100/133MHz System Configuration

Jumper 1 (JP1) allows you to set the FSB (Front Side Bus) to 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 “Chipset Features Setup” (Please refer to page 31). When you set the FSB to 100MHz, you can select a system bus frequency from 100MHz to 124MHz through “CPU Host/PCI clock” in “Chipset Features Setup” (Please refer to page 31). When you set the FSB to 133MHz, you can select a system bus frequency from 124MHz to 150MHz through ”CPU Host/PCI clock” in “Chipset Features Setup” (Please refer to page 31).

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 CPU Internal Frequency Ratio Setting

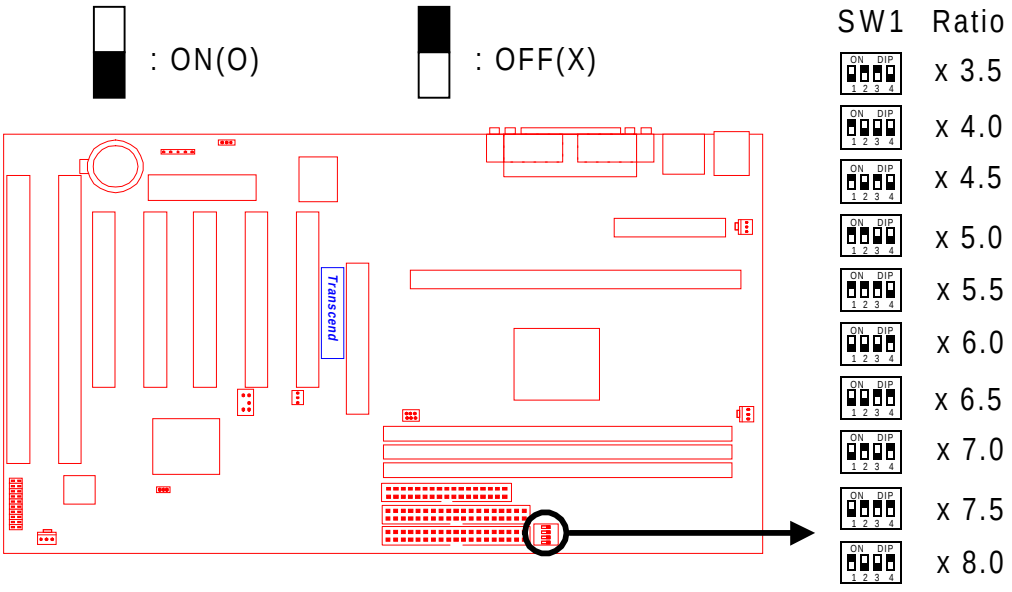
Switch 1 (SW1) is for adjusting the CPU’s internal frequency ratio. The frequency ratio settings are shown in the table shown overleaf. The internal frequency can be calculated by the following formula:

CPU internal frequency = frequency ratio x system bus frequency *

* System bus frequency is set in “CPU Host/PCI Clock” of “Chipset Features Setup” in BIOS SETUP MENU (Please refer to page 31).

NOTE: Because Intel has locked the frequency ratio for new CPUs, setting SW1 to adjust the frequency ratio is useless. However, it is effective for old version CPUs.

CPU Internal Frequency	JP1	Freq.-Ratio	SW1			
			1	2	3	4
233/350/466MHz	66/100/133MHz	x 3.5	O	X	X	O
266/400/533MHz	66/100/133MHz	x 4.0	X	O	O	O
300/450/600MHz	66/100/133MHz	x 4.5	X	O	X	O
333/500/666MHz	66/100/133MHz	x 5.0	X	X	O	O
366/550/733MHz	66/100/133MHz	x 5.5	X	X	X	O
400/600/800MHz	66/100/133MHz	x 6.0	O	O	O	X
433/650/866MHz	66/100/133MHz	x 6.5	O	O	X	X
466/700/933MHz	66/100/133MHz	x 7.0	O	X	O	X
500/750MHz	66/100MHz	x 7.5	O	X	X	X
533/800MHz	66/100MHz	x 8.0	X	O	O	X



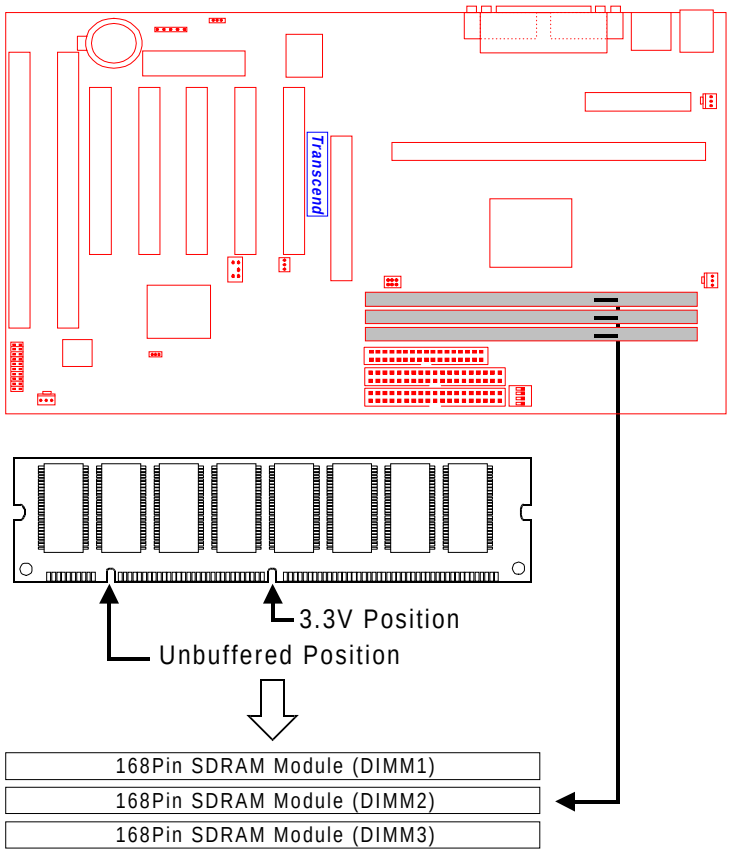
CPU Freq.-Ratio DIP Switch Setting

2.6 Memory Configuration

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

DIMM Location	168-pin DIMM
DIMM1	SDRAM 8,16, 32, 64,128, 256MB
DIMM2	SDRAM 8,16, 32, 64,128, 256MB
DIMM3	SDRAM 8,16, 32, 64,128, 256MB
Total Memory	768MB (max.)

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



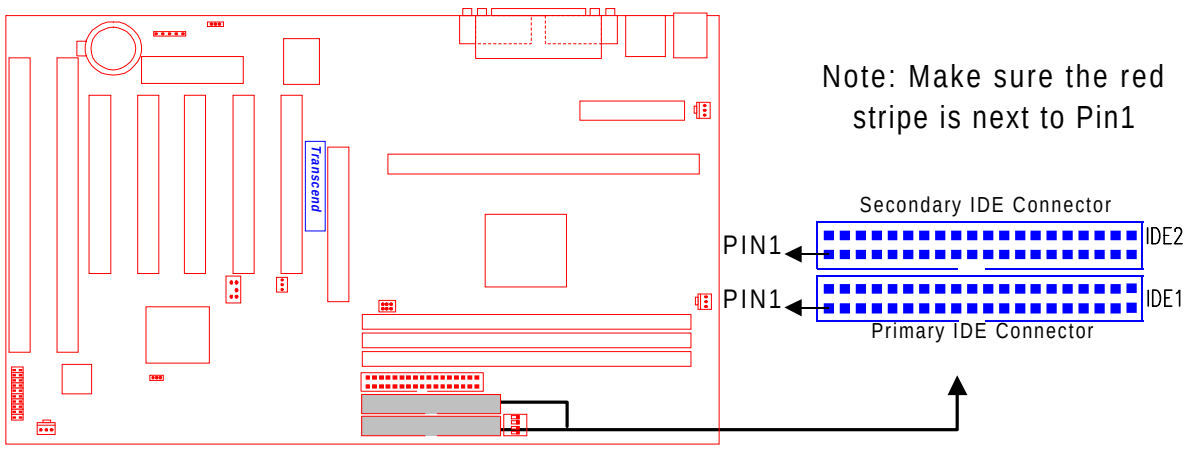
168Pin DIMM Sockets

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, 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 UltraDMA/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 device can have either setting, depending on device’s jumper. Please refer to the device’s manual for more information.

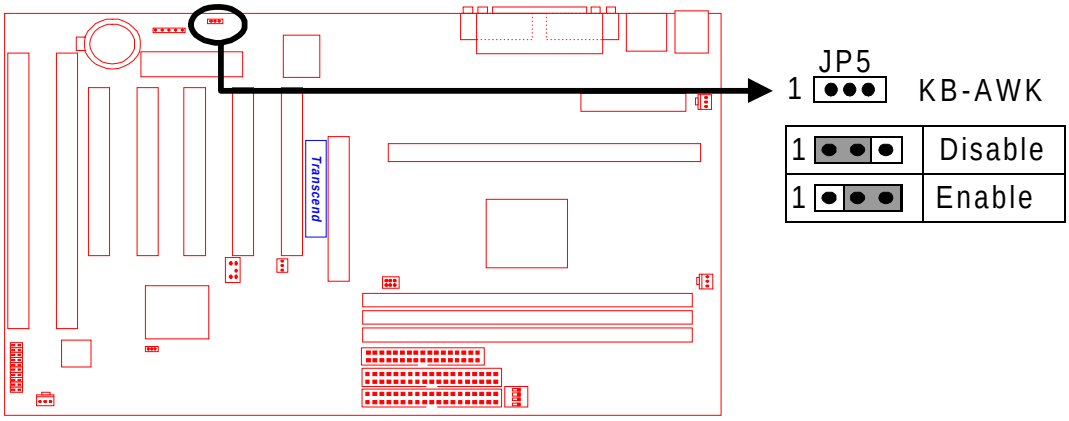
NOTE: The connectors must be attached to the IDE channels the right way round. Make sure that the red stripe on one edge of the ribbon cable (this may be faint and could also be a dotted line) is the nearest to PIN1 (on the left as the motherboard is shown in the picture below).



IDE Connectors

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

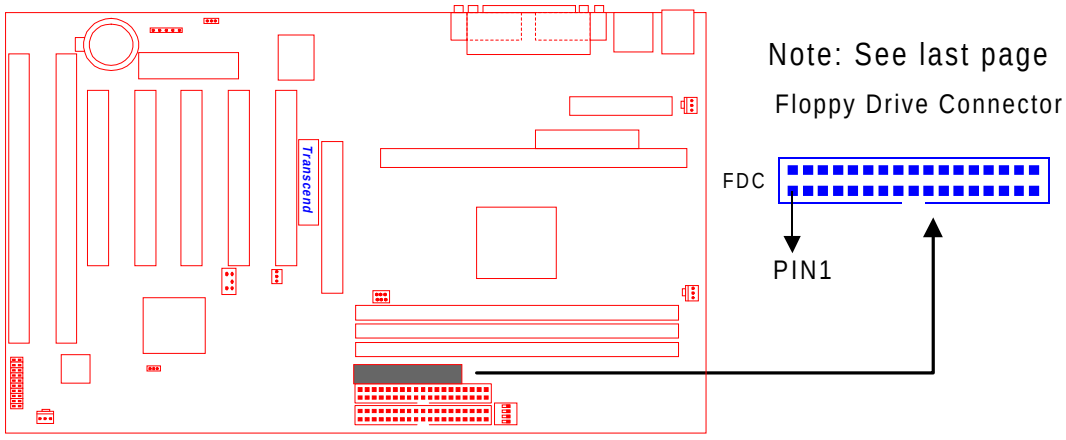
This function makes the Keyboard Power Up the system. Set this jumper to “Enable” if you would like your Keyboard to Power Up your computer. Then, go to the “Integrated Peripherals” in the BIOS SETUP MENU (please refer to page 38), and choose the setting you prefer.



Keyboard Wake Up

2.9 Floppy Disk Drive Connector (34-pin FDC)

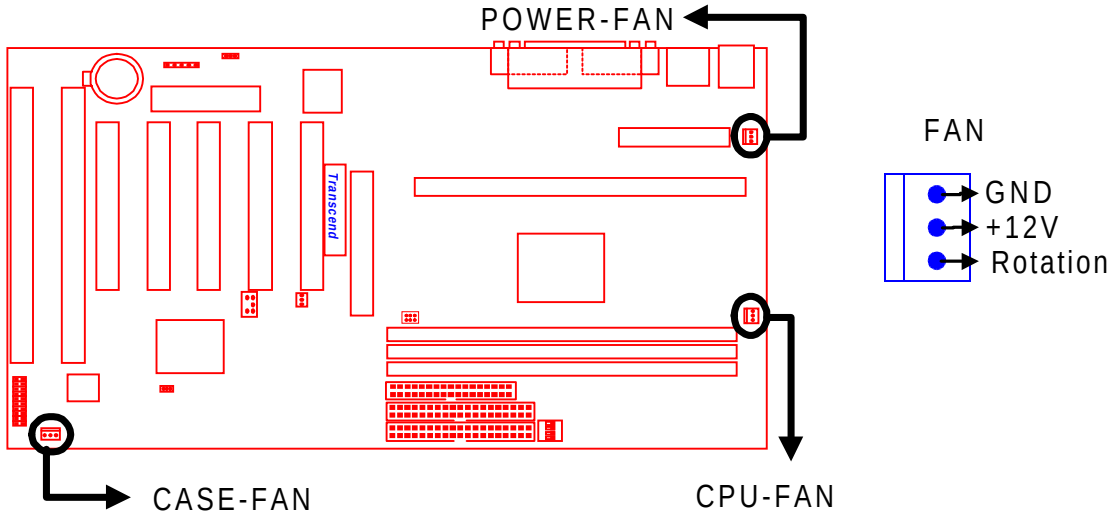
This connector supports the provided floppy disk drive ribbon cable. After connecting the single end to the board, connect the two plugs on the other end to the floppy drives.



Floppy Disk Drive Connector

2.10 Fan Power Connectors

There are three fan power connectors on the mainboard: CPU-FAN, POWER-FAN, and CASE-FAN. Each connector provides +12V power. Make sure it is in the right orientation, or it may cause damage. These connectors support cooling fans of 500 mA (6W) or less.

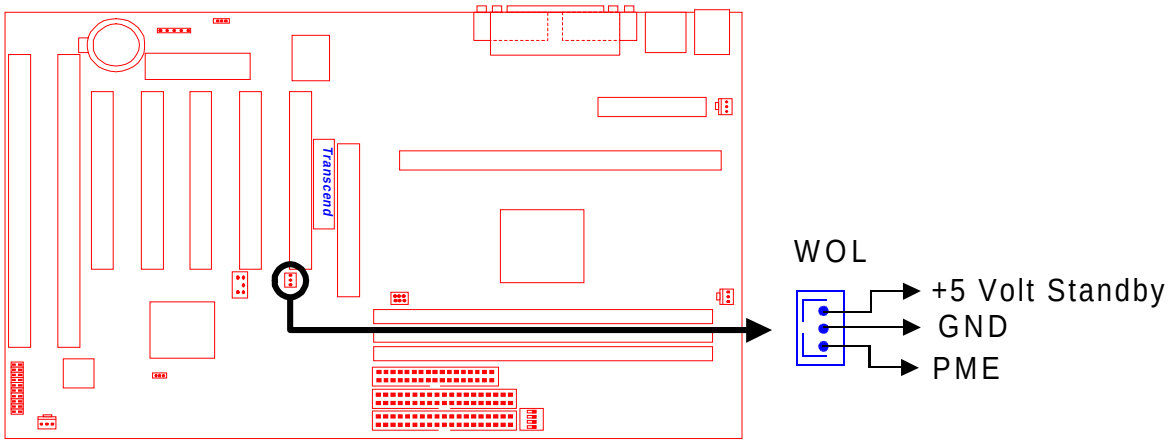


Fan Power Connectors

2.11 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 wakeup packet or signal is received from the LAN card.

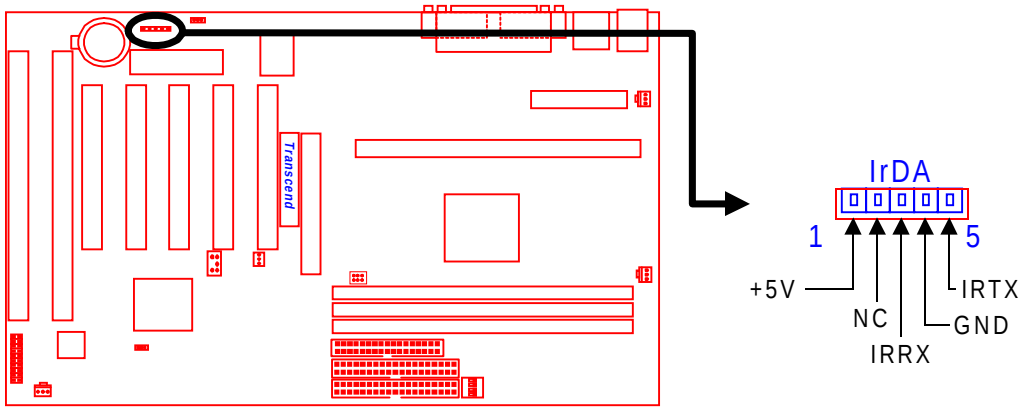
NOTE: This function requires that the "LAN Wake Up" function in the POWER MANAGEMENT SETUP is set to "Enabled" and that your system has an ATX power supply with at least 720mA +5V standby power.



Wake-On-LAN Connector

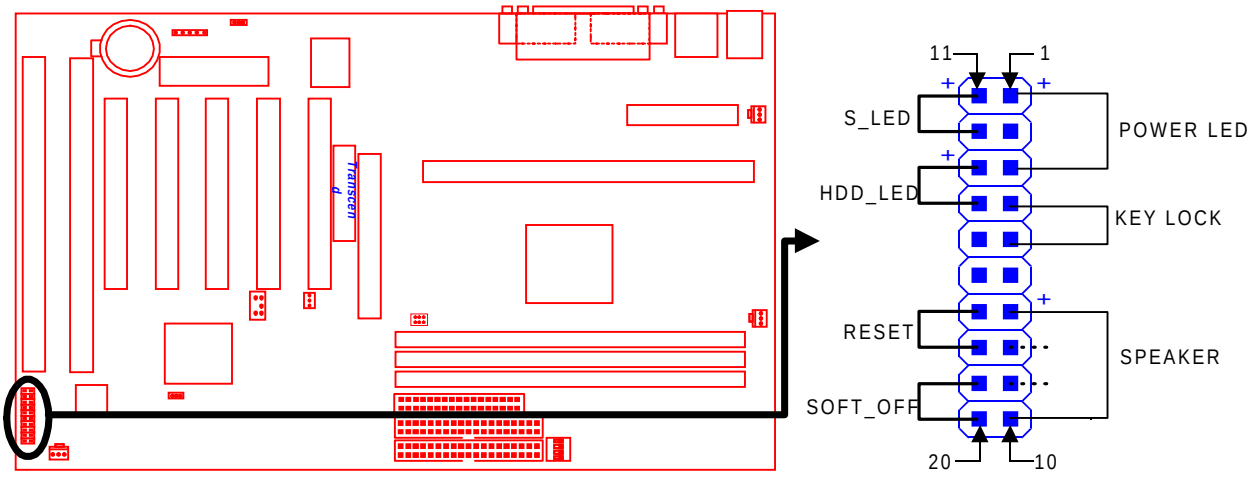
2.12 IrDA-Compliant Infrared Module Connector (5-pin IrDA)

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, the user can transfer files to or from laptops(notebooks), PDAs and printers.



IrDA Connector

2.13 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

Suspend Mode LED Lead (2-pin S_LED)

The S_LED will light when the suspend mode works.

Pin11 : +5V
Pin12 : GND

Hard disk LED Lead (2-pin HDD_LED)

This 2-pin connector connects to LED of harddisk. The LED lights 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 turning off your power switch.

Pin17 : RESET
Pin18 : GND

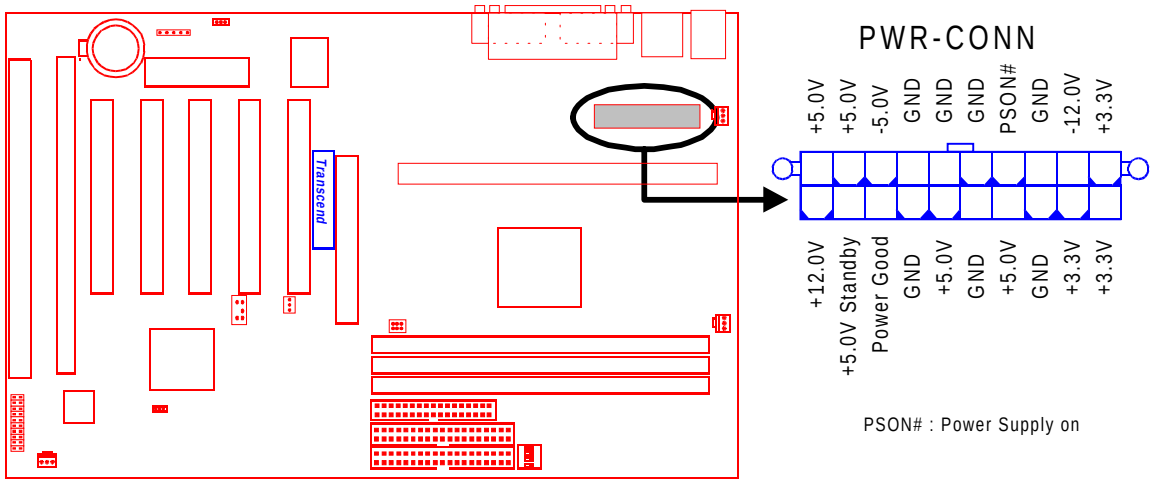
Software Power-Off Lead (2-pin SOFT_OFF)

Attach the SOFT_OFF Switch of the panel to this connector.

Pin19 : SOFT-OFF
Pin20 : GND

2.14 Power Connector (20-pin PWR-CONN)

Make sure to 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 on the standby lead.

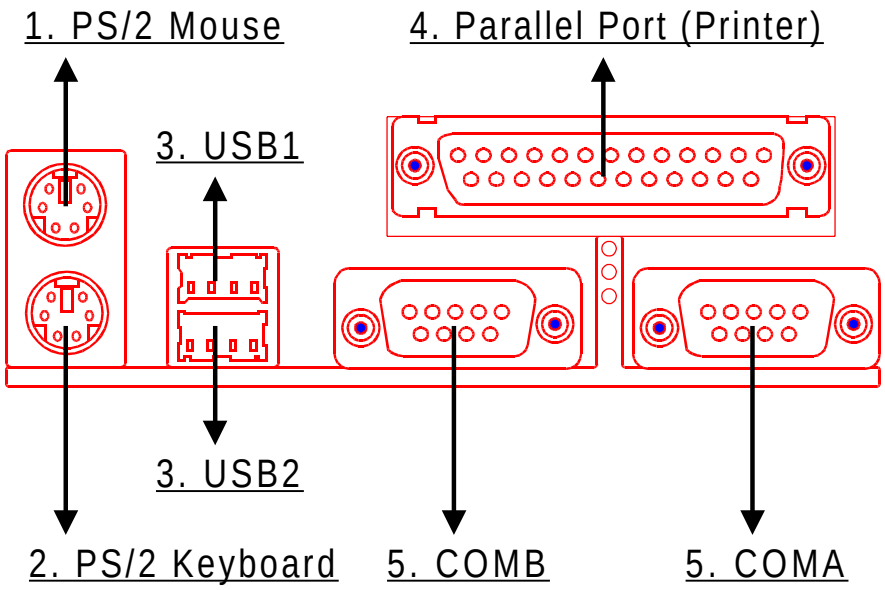


Power Connectors

2.15 Back Panel I/O Ports

There are 5 kinds of external connectors on the motherboard. **The view angle of drawing shown on the next page is from back panel of the housing.**

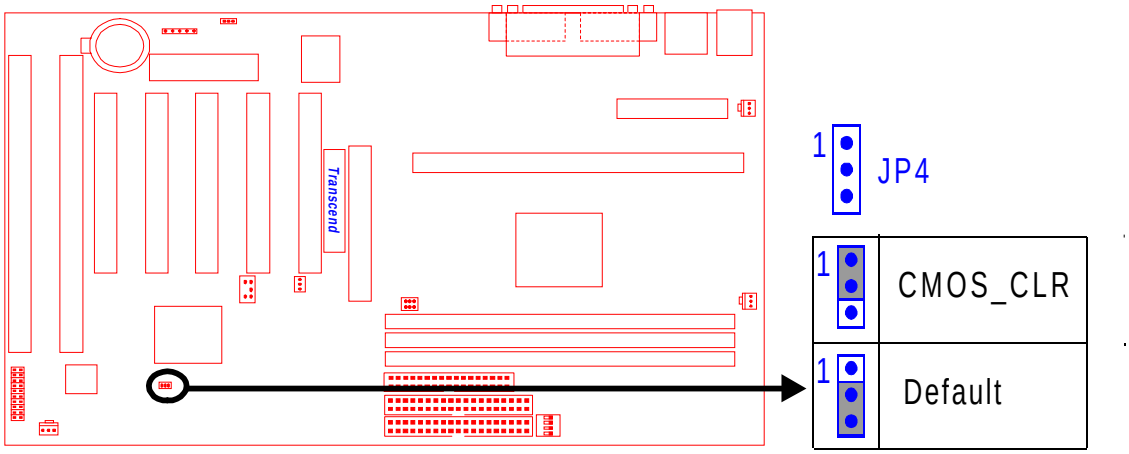
1. PS/2 Mouse Port (Green, 6-pin MOUSE)
   The onboard PS/2 Mouse port is a 6-pin Mini-Din connector marked “MOUSE”
2. PS/2 Keyboard Port (Purple, 6-pin KB)
   The onboard PS/2 Keyboard port is a 6-pin Mini-Din connector marked “KB”.
3. Universal Serial Bus (USB) Ports 1 & 2 (Black, two 4-pin USBs)
   You can attach USB devices to the USB port. The motherboard contains two USB ports, which are marked as “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 motherboard. The serial port 1 is marked as “COMA”, and the serial port 2 is marked as “COMB”.



Back Panel I/O Ports

2.16 Clear CMOS Jumper (3-pin JP4)

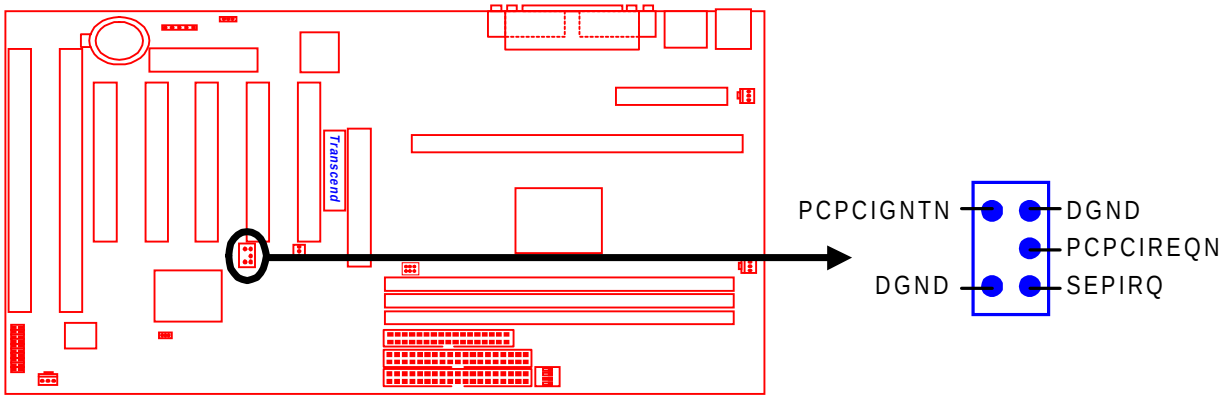
To clear the CMOS data, you should turn off your computer power and short pin1 and pin2 of JP4.



Clear CMOS Jumper

2.17 SB-Link Connector

SB-Link connector is used only for Creative® PCI sound cards. If your sound card supports this function, attach the SB-Link cable to this connector.



SB-Link Connector

Congratulations, you have now completed Hardware Setup! This means that you can move on to Chapter 3, the BIOS setup section and turn on your PC.

CHAPTER 3 BIOS SETUP

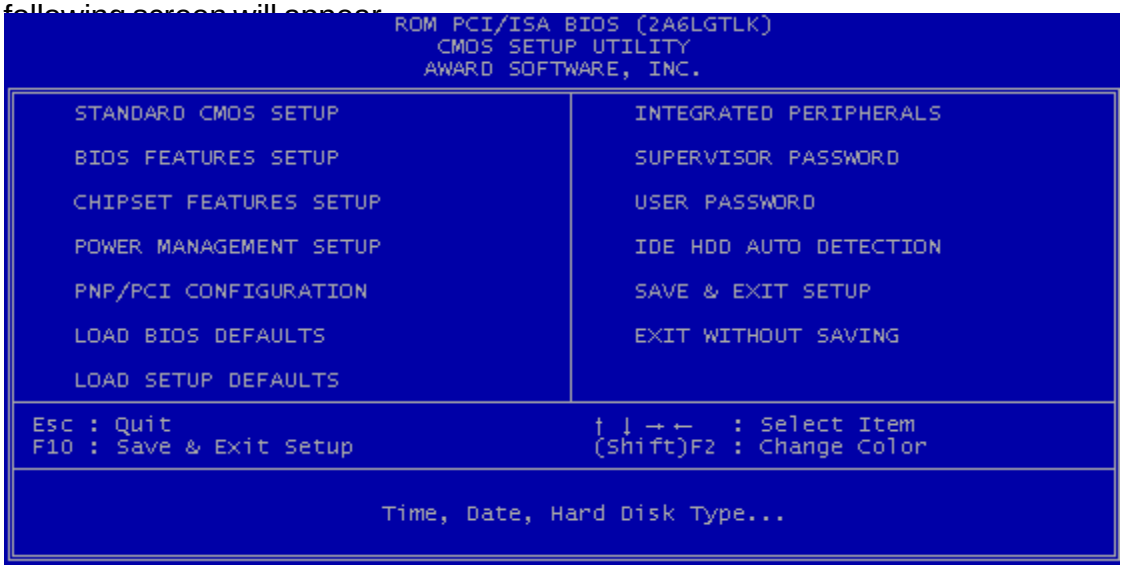
3.1 BIOS Setup

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. When the battery of CMOS fails, it will cause the data to be lost. When that happens, you should set up your configuration parameters again after replacing the battery.

Please refer to Section 1.1, Essential Handing Precautions (Page1.)

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 the 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, only for Status Page Setup Menu and Option Page Setup Menu

[F2] Change color from total 16 colors

[F2] to select color forward

[Shift + F2] to select color backward

[F3] Calendar, only for Status Page Setup Menu

[F5] Restore the previous CMOS value from CMOS, only for Option Page Setup Menu

[F6] Load the default CMOS RAM value from BIOS default table, only for Option Page Setup Menu

[F7] Load the default

[F10] Save all the CMOS changes, only for Main Menu

The Following is a brief summary of each setup category.

- **STANDARD CMOS SETUP**

  Options in the original PC AT-compatible BIOS

- **BIOS FEATURES SETUP**

  Award enhanced BIOS options

- **CHIPSET FEATURES SETUP**

  Available options specific to your system chipset

- **POWER MANAGEMENT SETUP**

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

- **PNP/PCI CONFIGURATION**

  Plug and Play standard and PCI Local Bus configuration options

- **LOAD BIOS DEFAULTS**

  BIOS defaults are factory settings for the most stable, minimal-performance system operations

- **LOAD SETUP DEFAULTS**

  Setup defaults are factory settings for optimal-performance system operations

- **INTEGRATED PERIPHERALS**

  I/O subsystems that depend on the integrated peripherals controller in your system

- **SUPERVISOR / USER PASSWORD**

  To change, set, or disable a password.

- **IDE HDD AUTO DETECTION**

  Automatically detect and configure IDE hard disk parameters.

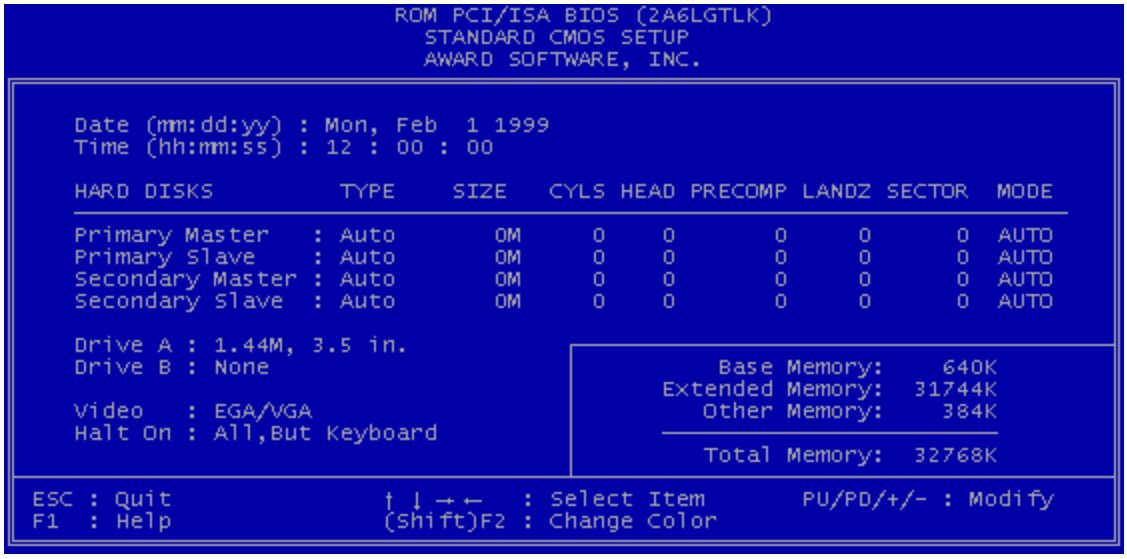
- **SAVE & EXIT SETUP**

  Save settings in nonvolatile CMOS RAM and exit Setup.

- **EXIT WITHOUT SAVING**

  Abandon all changes and exit Setup.

3.3 Standard CMOS Setup



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

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

- **Primary / Secondary Master / Slave**

  This motherboard can support four IDE devices. We recommend that you set both TYPE and MODE to “AUTO” for all drives. The BIOS can automatically detect the specifications and optimal operating mode of almost all IDE hard drives. When you select “AUTO” for a hard drive, the BIOS detects its specifications during POST while the system boots. If you want to select drive type “AUTO”, the other methods of selecting the drive type are also available.

1. Match the specifications of your installed IDE hard drive(s) with the preprogrammed values for drive type 1 through 45.
2. Select “USER” and enter values into each drive parameter field.
3. Use the “IDE HDD AUTO DETECTION” function in Main Menu.

Here are the brief explanation of drive specifications.

- TYPE : The BIOS contains a table of pre-defined drive types. Each defined drive type has a specified number of cylinders, number of heads, write precompensation factor, landing zone, and number of sectors. Drives whose specifications do not accommodate any pre-defined type are classified as type “USER”.
- SIZE : Disk drive capacity (approximately). Note that this size is usually slightly larger than the size of formatted disk given by a disk-checking program.
- CYLS : Number of cylinders
- HEAD : Number of heads
- PRECOMP : Write precompensation cylinder
- LANDZ : Landing zone
- SECTOR : Number of sectors
- MODE : AUTO, NORMAL, LARGE, or LBA
  - AUTO : The BIOS automatically determines the optimal mode.
  - NORMAL : Maximum number of cylinders, heads, and sectors supported are 1024,16, and 63 respectively.
  - LARGE : For drives that do not support LBA and have more than 1024 cylinders.
  - 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 greater than 1024 cylinders.

- **Drive A / Drive B**

  Select the correct specifications of the 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. 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, includes high resolution monochrome adapters.

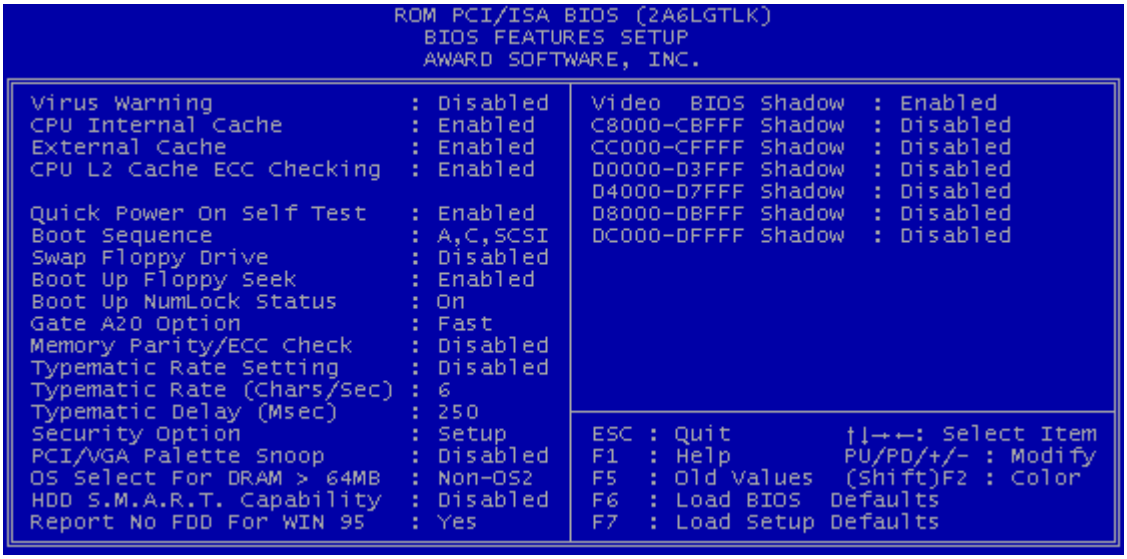
- **Halt On**

  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.

  - No Errors : POST does not stop for any error.
  - All Errors : If the BIOS detects any non-fatal error, POST stops and prompts you to take corrective action.
  - All, But Keyboard : If the BIOS detects any non-fatal error 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 BIOS Features Setup

This “BIOS Features Setup” option allows you to improve your system performance and set up system features according to your preference.



- **Virus Warning**

  When the 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 or 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.

- **CPU L2 Cache ECC Checking**

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

- **Quick Power On Self Test**

  Select “Enabled” to reduce the amount of time required to run the Power On Self Test (POST). A 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.

- **Boot Sequence**

  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 now offers 11 different boot sequence options. In addition to the traditional drives “A” and “C”, options include IDE hard drives “D”, “E”, and “F”; plus a “SCSI” hard drive, a “LS” / “ZIP” drive and a CD-ROM drive.

- **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**

  While enabled , the BIOS tests (seeks) floppy drives to determine whether they have 40 or 80 tracks. Because very few modern PCs have 40-track floppy drives (360KB), we recommand 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.

- **Memory Parity / ECC Check**

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

- **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) 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, select whether the password is required while the "system" boots, or only when you enter "Setup".

- **PCI/VGA Palette Snoop**

  Some display cards, such as graphics accelerators or MPEG vido cards, might not show color properly. Set "Enabled" to correct this problem , or leave this field with "Disabled".

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

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

- **HDD S.M.A.R.T Capability**

  S.M.A.R.T.: Self-Monitoring Analysis and Reporting. If your hard disk supports this function, select "Enabled".

- **Report No FDD For WIN95**

  Select "Yes" to report when there is no floppy disk drive under WIN95 operating system.

- **Video BIOS Shadow**

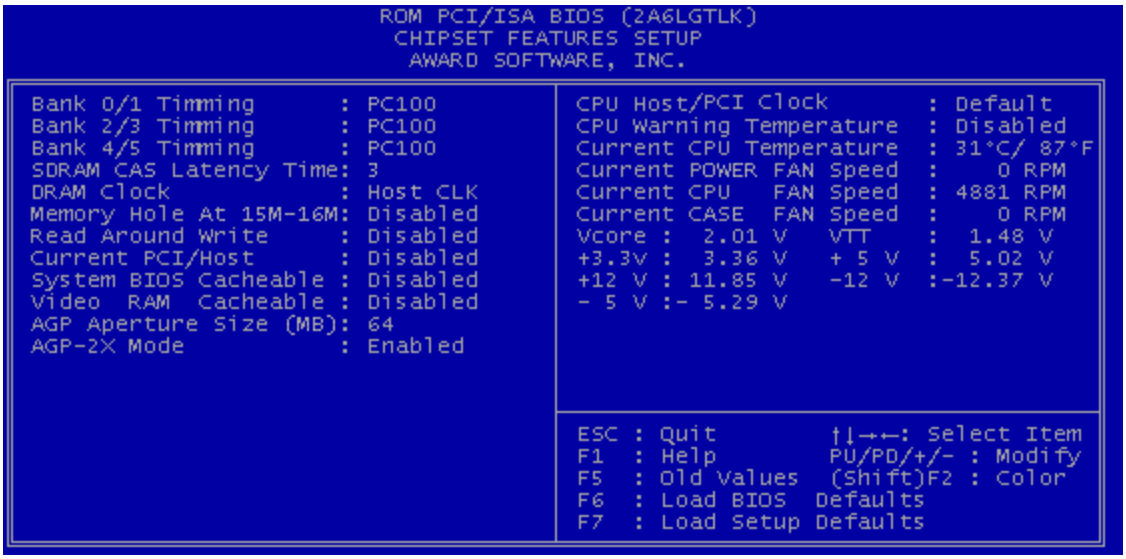
  Select "Enabled" to change the video BIOS location form ROM to RAM, where the CPU can read data through the 64-bit DRAM bus. This can enhance system performance.

- **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 which address the ROMs use specifically. Shadowing a ROM reduces the memory available between 640K and 1024K depends on the used amount.

3.5 Chipset Features Setup

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



- **Bank 0/1, 2/3, 4/5, DRAM Timing**

  The DRAM timing of Bank 0/1, 2/3, 4/5, in this field is set by the system board manufacturer, depending on whether the board has “PC100” or “PC133” SDRAM. “PC100” is for 100MHz (10ns) memory, and “PC133” is for 133MHz (7.5ns) or faster memory. As to the VCM (Virtual Channel Memory), the setting is the same with SDRAM.

- **SDRAM CAS Latency Time**

  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.

- **DRAM Clock**

  This sets the clock frequency of the DRAMs. The default value is “Host Clock”. You can select “HCLK+33M” if your DRAM modules are faster than the CPU (Ex. 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.

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

  Enabling this feature reserves memory from 15MB to 16MB for ISA expansion cards that specifically require this setting. This makes the memory from 15MB and up unavailable to the system. Expansion cards only access memory up to 16MB. The default is “Disabled” in case the memory size may be reduced to 15MB for some Operation System.

- **Read Around Write**

  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: “Enabled” and “Disabled”.

- **Concurrent PCI/Host**

  When “Disabled”, CPU bus will be occupied during the entire PCI operation period.

- **System BIOS Cacheable**

  Select Enabled allows caching of the System BIOS, resulting in better system performance. However, if any program writes to this memory area, a system error may occurred.

- **Video RAM Cacheable**

  Select “Enabled” allows caching of the video RAM , resulting in better system performance.

- **AGP Aperture Size (MB)**

  Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Memory mapped and graphics data structures can reside in a Graphic Aperture .Host cycles that hit the aperture range are forwarded to the AGP without any translation. See http://www.agpforum.org/ for AGP information.

- **AGP-2X Mode**

  Select “Enabled” to support AGP-2X (clock=133MHz) mode.

- **CPU Host/PCI Clock**

  This function allows you to set the FSB frequency of the CPU and the speed of the PCI bus. When JP1 is set to 66MHz, the default FSB is 66MHz, and there are several options under 100MHz available. When JP1 is set to 100MHz, the default FSB is 100MHz, and there are also several options between 100MHz and 133MHz available for you to choose. When JP1 is set to 133MHz, you can select from 124MHz to 150MHz.

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

- **CPU Warning Temperature**

  This feature allows you to set the CPU warning temperature. You can choose from "50° C/ 122° F" to "70° C/158° F" or "Disabled".

- **Current CPU Temperature**

  This field shows the current CPU Temperature.

- **Current Power FAN Speed**

  This field will show the power fan speed by RPM, if a 3-wire speed controllable fan is installed.

- **Current CPU FAN Speed**

  This field will show the CPU fan speed by RPM, if a 3-wire speed controllable fan is installed.

- **Current CASE FAN Speed**

  This field will show the case fan speed by RPM, if a 3-wire speed controllable fan is installed.

- **Vcore**

  This field shows the CPU working voltage.

- **VTT**

  This field shows the GTL bus voltage.

- **+/- 12V and +/- 5V**

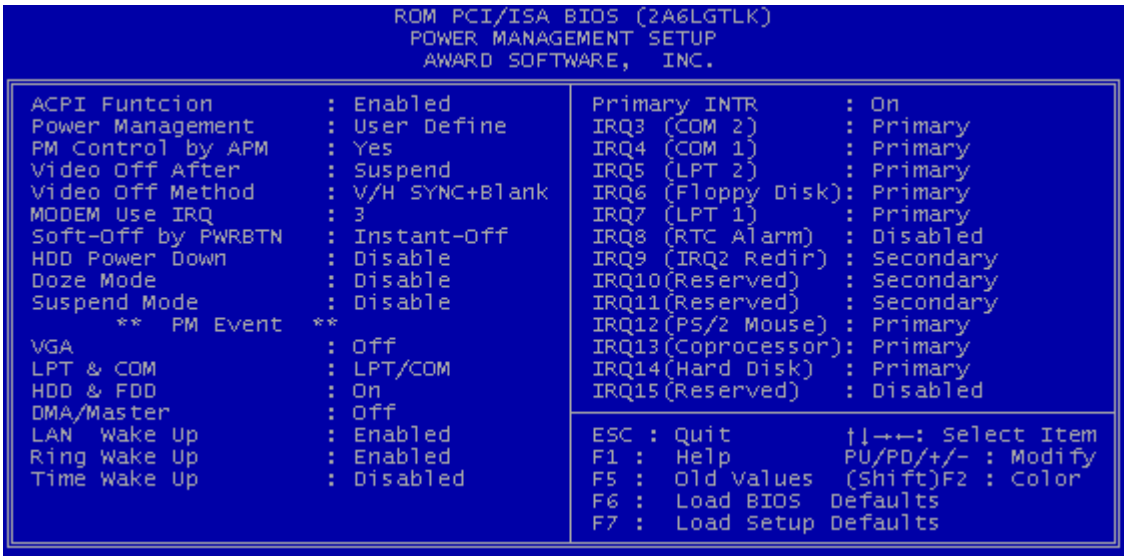
  These fields show the working voltage of +/- 12V and +/- 5V on the motherboard.

- **Shutdown Temperature**

  This feature will automatically shutdown the system when the Current CPU Temperature field arrived the setting point you set in this field.

3.6 Power Management Setup

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



- **ACPI function**

  This item allows you to enable /disable the Advanced Configuration and Power Interface (ACPI) functions.

- **Power Management**

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

  1. HDD Power Down 2. Doze Mode 3. Suspend Mode

  There are three selections for Power Management. Three of which have fixed mode settings.

  1.Min. Power Saving:

  Minimum power management mode. Inactivity period is defined below.

  HDD Power Down = 15 min. Doze Mode = 1 hr. Suspend Mode = 1 hr.

  2.Max. Power Saving:

  Maximum power management mode. Inactivity period is defined below.

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

  3.User Defined :

  Allow you to set a time-out period for each mode shown above individually.

- **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.

- **Video Off Method**

  Determines the manner in which the monitor is blanked.

  -V/H SYNC+BLANK : System turns off vertical and horizontal synchronization ports and writes blanks to the video buffer.

  -DPMS Support : The DPMS (Display Power Management System) featur allows the BIOS to control the video display card if it supports this function.

  -Blank Screen : System only writes blanks to the video buffer.

- **Video Off After**

  Select the power-saving modes during which the monitor goes blank.

  -Doze : Monitor remains "on" during Doze mode.

  -Suspend : Monitor blanked when system enters Suspend mode.

  -N/A : This is default. When the system enters power-saving mode, it does not do the video-off action.

- **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".

- **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 sec", you need to hold the ATX switch for more than 4 seconds to Power Off your system.

Following are three Green PC power saving functions. They are user-configurable only during User Defined Power Management mode.

- **HDD Power Down**

  After the selected period of driver inactivity(1 to 15 minutes), the hard disk drive will Power Down while all other devices remain active.

- **Doze Mode**

  After the selected period of system inactivity (1 minute to 1 hour), the CPU clock runs at a slower speed while all other devices still operate at full speed.

- **Suspend Mode**

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

**** PM Events ****

PM events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything which occurs to a device which is configured as “On” even when the system is in power saving mode.

- **VGA**

  When set to “On” (default), any event occurring at a VGA port will awaken a system which has been Power Down.

- **LPT & COM**

  When set to “LPT/COM” (default), any event occurring at a COM(serial)/LPT (printer) port will awaken a system which has been Power Down.

- **HDD & FDD**

  When set to “On” (default), any event occurring at a hard or floppy drive port will awaken a system which has been Power Down.

- **DMA/Master**

  When set to On (default), any event occurring at will awaken a system which has been Power Down.

- **LAN Wake Up**

  This allows you to remotely Power Up your system through your network by sending a wake up frame or signal.

  NOTE: This feature requires the network interface and an ATX power supply with at least 720mA +5V standby power.

- **Ring Wake Up**

  This allows either setting of “Enabled” or “Disabled” to Power Up the computer when the MODEM receives a call and the computer is in the soft-off mode.

- **Time Wake Up**

  This feature can Power On your computer at a time you have selected.

- **Date/Time**

  Set the date and time to Power On the system. These fields are activated only when the “Time Wake Up” function is enabled.

- **Primary INTR**

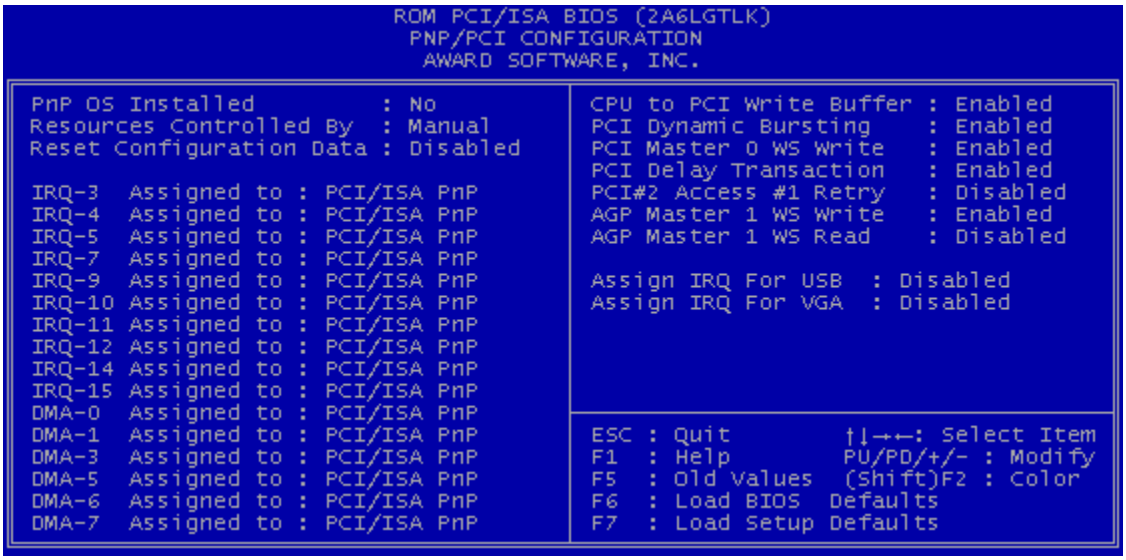
  When set to “On” (default), any primary interrupt request will awake the system which has been Powered Down.

  Following is a list of IRQs (Interrupt Requests). You can set each IRQ channel to be “Primary”, “Secondary” or “Disabled”. When set to “Secondary”, the interrupt request will neither prevent the system from going into a power management mode nor awake it.

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

3.7 PnP/PCI Configuration Setup

This section describes configuring the PCI bus system. PCI (Personal Computer Interconnect) is a system which allows I/O devices to operate at speeds nearing the speed that CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users can change the configuration.



- **PnP OS Installed**

  This field allows you to use a Plug-and-Play (PnP) operating system to configure the PCI bus slots instead of using the BIOS. Thus interrupts may be re-assigned by the OS when “Yes” is selected. When a non-PnP OS is installed to prevent re-assigning of interrupt settings, select the default setting of “No”.

- **Resource 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 the interrupt request (IRQ) and DMA assignment fields disappear, as the BIOS automatically assigns them.

- **Reset Configuration Data**

  Normally, you leave this field “Disabled”. Select “Enabled” to reset Extended System Configuration Data (ESCD) when you exit “Setup”, if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system cannot boot.

- **IRQ-n Assigned to**

  When resources are controlled manually, assign each system interrupt as one of the following types, depending on the type of device using the interrupt.

  - Legacy ISA Devices, requiring a specific interrupt (such as IRQ4 for serial port1), compliant with the original PC AT bus specification.

- PCI/ISA PnP devices, whether designed for PCI or ISA bus architecture, compliant with the Plug and Play standard.

- **DMA-n Assigned to**

  When resources are controlled manually, assign each system DMA channel as one of the following types, depending on the type of device using the DMA.

  - Legacy ISA Devices, requiring a specific DMA channel, compliant with the original PCAT bus specification.
  - PCI/ISA PnP devices, whether designed for PCI or ISA bus architecture, compliant with the Plug and Play standard.

- **CPU to PCI Write Buffer**

  When “Enabled”, up to four Dword of data can be written to the PCI bus without waiting for the PCI bus finish. When “Disabled”, a write buffer is not used and the CPU must wait after each write cycle until the PCI bus signals that it is ready to receive more data.

- **PCI Dynamic Bursting**

  When “Enabled”, every write transaction goes to the write buffer. Burstable transactions then burst on the PCI bus and nonburstable transactions will write to 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 #2 Access #1 Retry**

  Select “Enabled” to support PCI #2 (AGP bus) access to PCI #1 (PCI bus) retry function when a error occurred. The default value is “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.

- **Assign IRQ For USB**

  When “Enabled”, BIOS will assign an IRQ channel for USB controller.

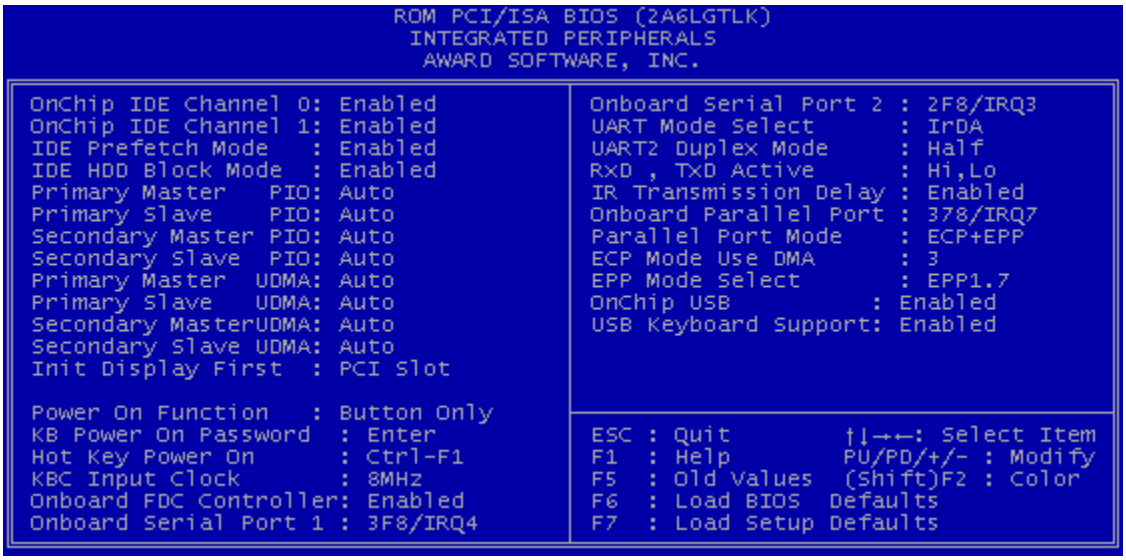
- **Assign IRQ For VGA**

  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.

3.8 Integrated Peripherals

The Integrated Peripherals changes the value of I/O chipset registers. These registers control the system options in the computer.



- **OnChip IDE Channel 0/1**

  Select “Enabled” to activate the first and/or second onboard IDE interface. Select “Disabled” to deactivate an onboard interface, if you install a primary and/or secondary add-on IDE interface.

- **IDE Prefetch Mode**

  The onboard IDE drive interfaces supports IDE prefetching, for faster drive accesses. If you install a primary and/or secondary add-in IDE interface, set this field to “Disabled” if the interface does not support prefetching.

- **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.

- **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.

- **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 your hard disk drive and your system software can both support Ultra DMA/33/66, select “Auto” to enable BIOS support.

- **Init Display First**

  This item allows you to decide whether to activate “PCI Slot” display card or “AGP” display card first.

- **Power On Function**

  - Button only : Power On only by pushing button on the case (Default).
  - Keyboard 98 : You can Power On system by pushing Power-On key of keyboard 98.
  - Password : Power On only if you key in correct password.
  - Hot Key : You can choose a hot key to Power On the system.
  - Mouse [Left] : Power On system by double clicking the Mouse left button.
  - Mouse [Right] : Power On system by double clicking the Mouse right button.

- **KB Power On Password**

  Enter the Power On password here.

- **Hot Key Power On**

  Choose a hot key from [Ctrl]+[F1] to [Ctrl]+[F12].

- **KBC Input Clock**

  Select the following frequency for the keyboard controller input clock:

  • 6MHz • 8MHz • 12MHz (Default) • 16MHz

- **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 choice: “3F8/IRQ4”, “2F8/IRQ3”, “3E8/IRQ4”, “2F8/IRQ3”, “Disabled” and “Auto”.

  The second serial port shares resources (address and IRQ) with IrDA.

- **UART Mode Select**

  Choose the right type for your infrared device:

  - Normal : Normal operation
  - IrDA : IrDA compliant serial infrared port
  - ASKIR : Amplitude shift keyed infrared port

- **UART2 Duplex Mode**

  Consult your IR peripheral documentation to set this field.

- **RxDx , TxD Active**

  Consult your IR peripheral documentation to set this field.

- **IR Transmission Delay**

  Consult your IR peripheral documentation to set this field.

- **Onboard Parallel Port**

  Select a logical LPT port name and matching address for the physical parallel (printer) port. The choice: “378H/IRQ7”, “278H/IRQ5”, “3BCH/IRQ7” or “Disabled”.

- **Parallel Port Mode**

  This field allows you to set the operation mode of the parallel port. The setting “SPP”, allows normal-speed operation but in one direction only; “EPP” allows bi-directional parallel port operation at maximum speed; “ECP” allows the parallel port to operate in bi-directional mode and at a speed faster than the maximum data transfer rate; “ECP+EPP” allows normal speed operation in a two-way mode.

- **ECP Mode Use DMA**

  This selection is available only if you select “ECP” or “ECP+EPP” in the Parallel Port Mode. Select either DMA Channel “1” or “3”.

- **EPP Mode Select**

  There are two versions of 1.7 and 1.9 available for EPP Mode. While setting the version, check if the device connected to the parallel port needs the specified version or not. If not, it's recommended to select version 1.9.

- **OnChip USB**

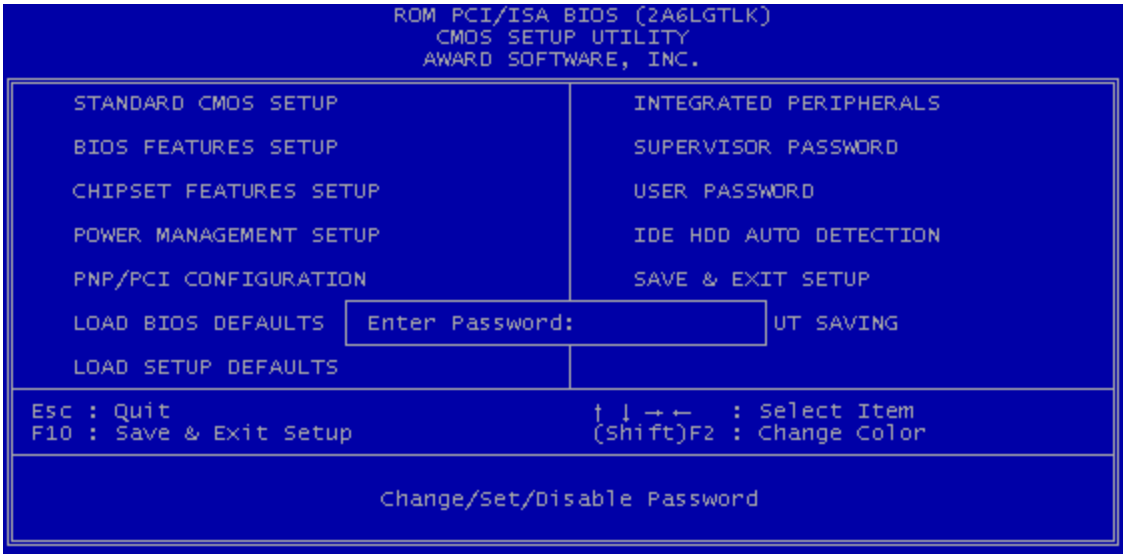
  Select "Enabled" if you have a USB Keyboard or any device.

- **USB Keyboard Support**

  Select "Enabled" if you went to use the USB Keyboard.

3.9 Supervisor Password

A password prevents the 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:

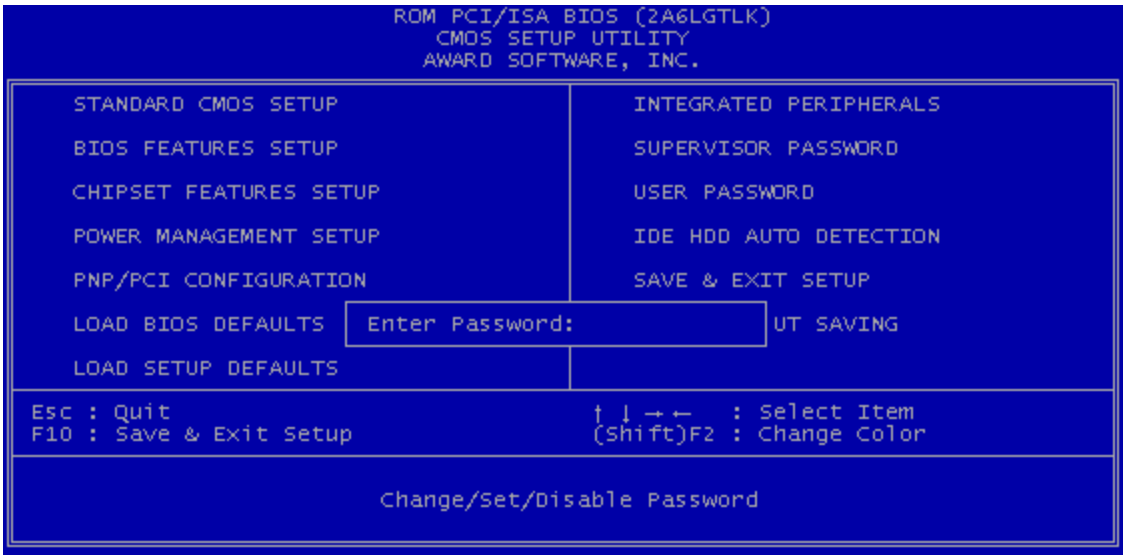
1. At the prompt, type your password. Your password can be up to 8 alphanumeric characters. When you type the characters, they appear as asterisks (*) on the password screen box.
2. After typing the password, press [Enter] key.
3. At the next prompt, re-type your password and press [Enter] key again to confirm the new password. After the password entry, the screen automatically reverts to the main screen.

To disable the password:

Press [Enter] key when prompted to enter the password. The screen displays a message confirming that the password has been disabled.

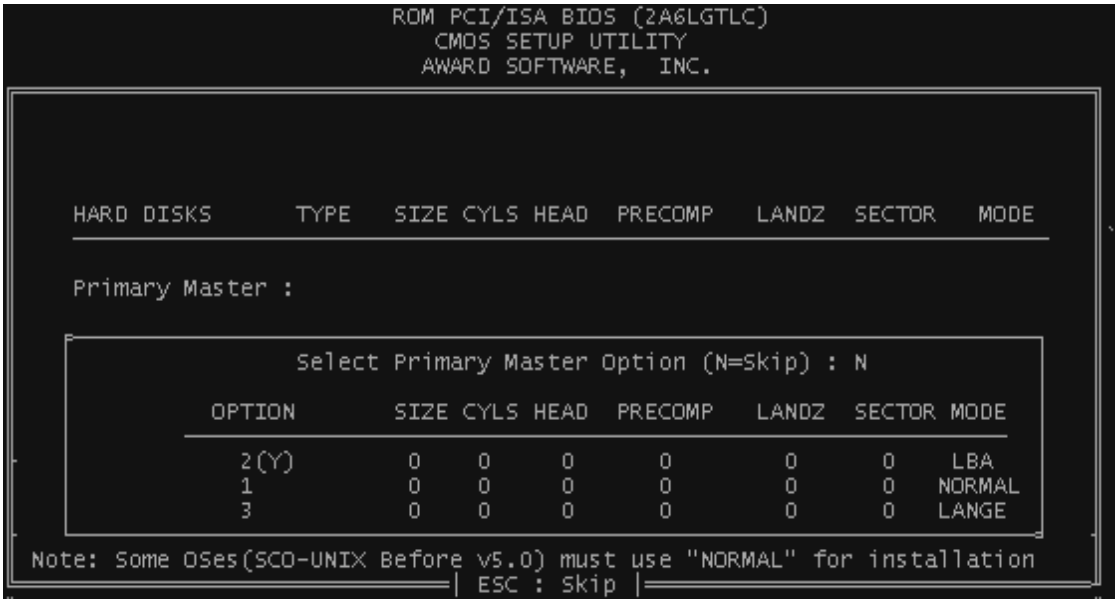
3.10 User Password

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



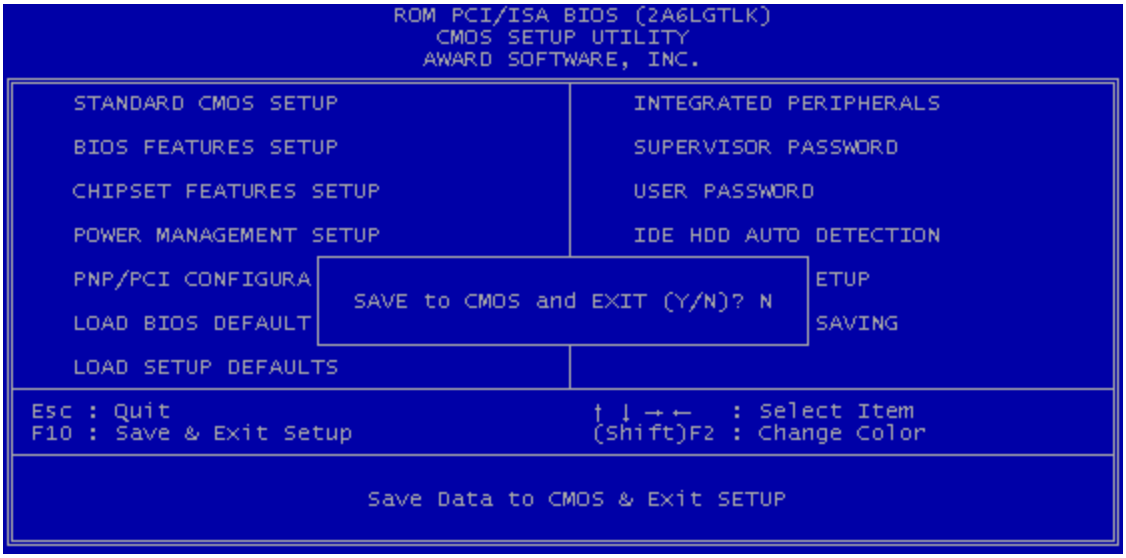
3.11 IDE HDD Auto Detection

Use the BIOS utility to detect the HDD type automatically. Press “Y” to accept, “N” to reject, and “ESC” to the next detection.



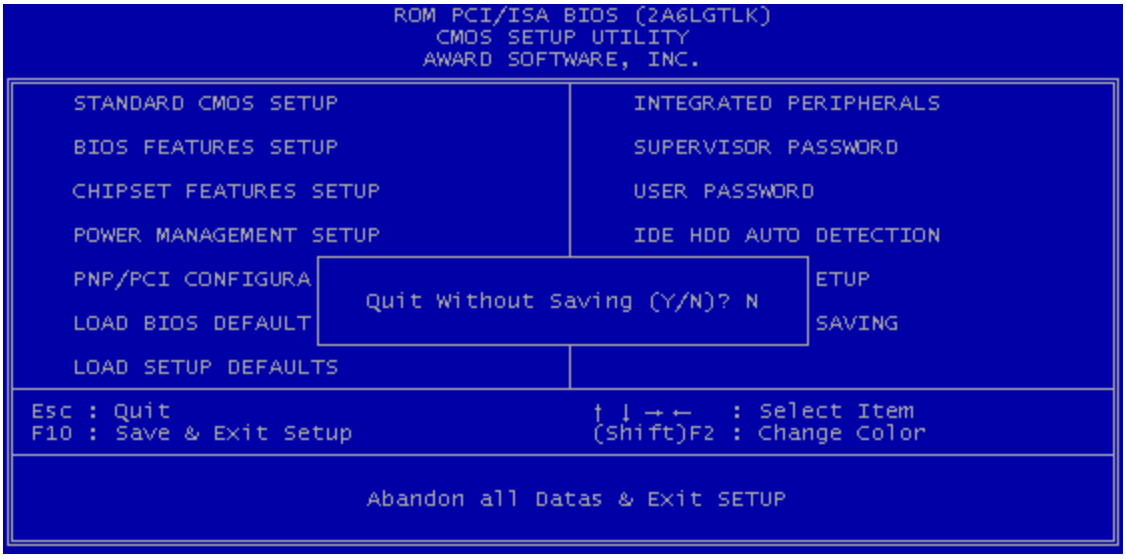
3.12 Save & Exit Setup

Save the setting and exit the BIOS utility.



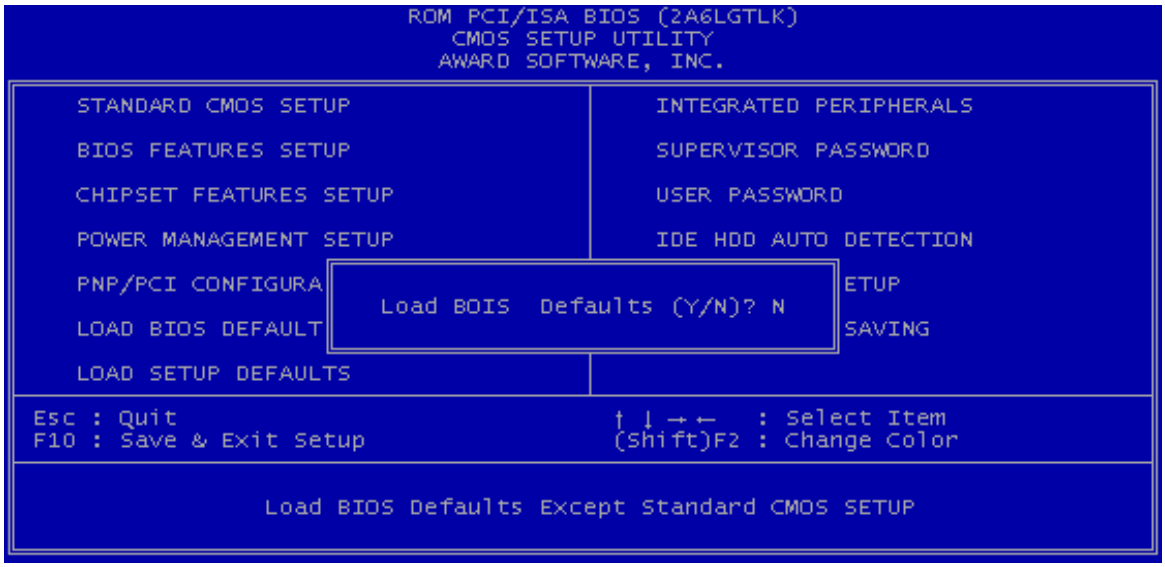
3.13 Exit Without Saving

Abort the current change and exit the BIOS utility.



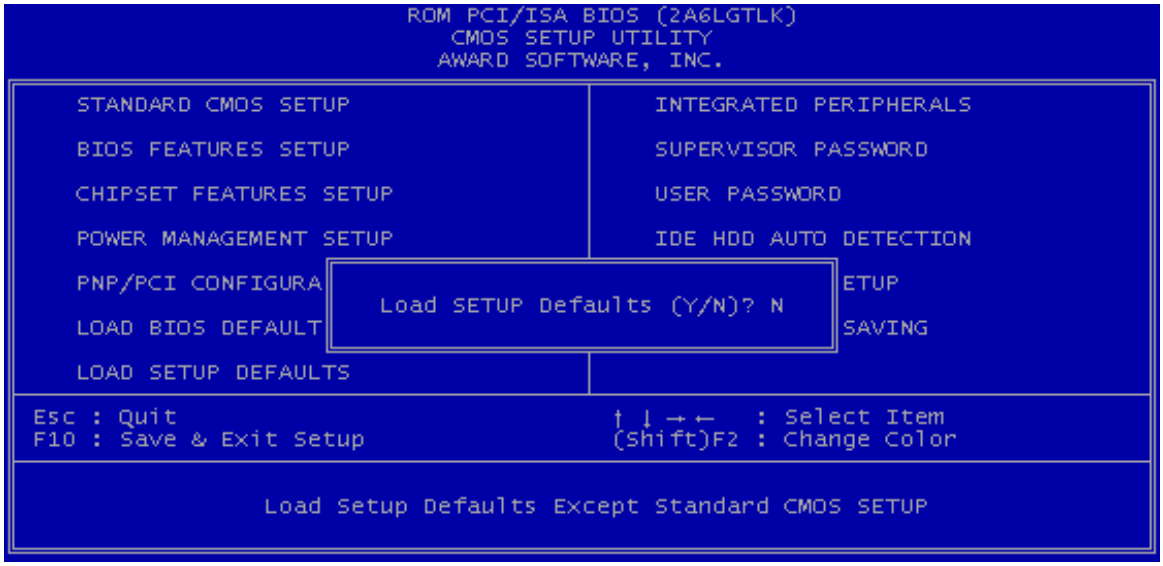
3.14 Load BIOS Defaults

NOTE: This option allows you to load the troubleshooting default values permanently stored in the BIOS ROM. These default settings are non-optimal and disable all high performance features.



3.15 Load Setup Defaults

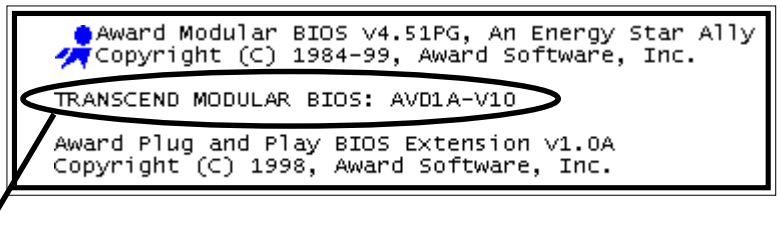
This option allows you to load the default values to the system configuration fields. These default values are the optimized configuration settings for the system.



CHAPTER 4 BIOS UPGRADE

4.1 How to Check Your BIOS File Name and Version

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



TRANSCEND MODULAR BIOS : **AVD1A-V10**

You can see a description shown on the third line.

AVD1A - V10

BIOS Version 1.0 (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 the first 5 charactors are the same as your own version if you want to upgrade your BIOS.)

4.2 Download Correct BIOS File from Web

Please enter Transcend's website : **http://www.transcendusa.com/**

Choose BIOS upgrade environment.

The BIOS file name consists of 5 characters. Check the exact BIOS to download. Your BIOS file name must completely match the one shown on our website. Then download the suitable version to your disk.

Warning: Your system could be damaged, if a wrong BIOS version is accidently used. If you are not sure which version you should choose, please contact us at techsupport@transcend.com.tw

4.3 How to Upgrade Your Motherboard BIOS

Please follow these 5 steps listed below to updata 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 icon [My Computer]

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 update.