

6BXDS

USER'S MANUAL

1. **System power on by PS/2 Mouse:** First, enable this function in CMOS Setup, then you can power on the system by double clicking the right or left button of your PS/2 Mouse.
2. **System power on by Keyboard:** If your ATX power supply supports larger than 100~300 mA 5V Stand-By current(rest with keyboard require), you can power on your system by entering password from the Keyboard after setting the "Keyboard power on" jumper (JP1) and password in CMOS Setup.
3. **Modem Ring-On on COM B.**
4. **Wake-up on LAN supports(on JP8):** Your ATX power supply must support larger than 720 mA 5V Stand-By current.
5. **Support 3 steps ACPI LED.**
6. **Support LDCMâ**

Pentiumâ II / Processor MAINBOARD

R-17-01-081021

REV 1.7 First Edition

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Oct 21, 1998 Taipei, Taiwan

I. Quick Installation Guide :

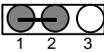
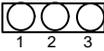
CPU SPEED SETUP

The system bus speed can be selectable between 66.6MHz and 100MHz. The user can select the system bus speed (JP6) and change the DIP SWITCH (**SW**) selection to set up the CPU speed for 200 - 633MHz processor.

⚠ **The CPU speed must match with the frequency RATIO. It will cause system hanging up if the frequency RATIO is higher than CPU's.**

| FREQ. RATIO | DIP SWITCH (SW) | | | |
|-------------|-----------------|-----|-----|----|
| | 1 | 2 | 3 | 4 |
| X 3 | ON | OFF | ON | ON |
| X 3.5 | OFF | OFF | ON | ON |
| X 4 | ON | ON | OFF | ON |
| X 4.5 | OFF | ON | OFF | ON |
| X 5 | ON | OFF | OFF | ON |
| X 5.5 | OFF | OFF | OFF | ON |

⚠ **JP6** (Select the system speed between 66.6MHz and 100MHz)

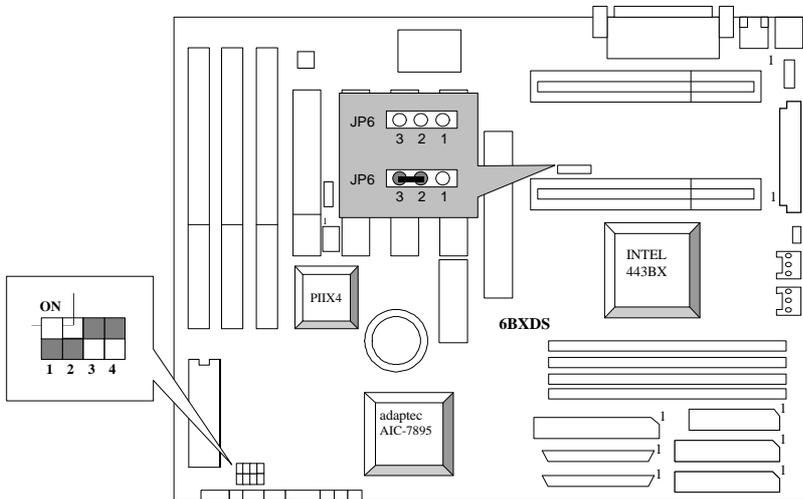
| | |
|--|---|
| 1-2 Close  | Set system speed to 66MHz - system always run at 66MHz FSB (Front Side Bus). |
| 2-3 Close  | Set system speed to Auto - system speed detect automatically (66/ 100MHz FSB). |
| 1-2-3 Open  | Set system speed to 100MHz - system always run at 100MHz FSB (Front Side Bus). |

⚠ If you use single CPU, please install to CPU2 slot.

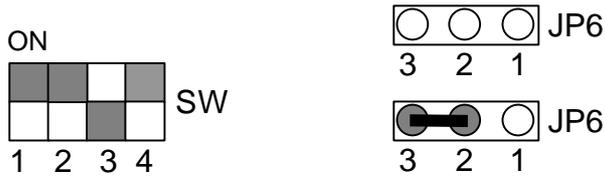
● There are two ways to set system speed

- A. 66MHz forced (JP6 1-2 short) or Auto detect (2-3 short)
- B. 100MHz forced (JP6 1-2-3 open) or Auto detect (2-3 short)

1. Pentium® II 350 / 100MHz FSB



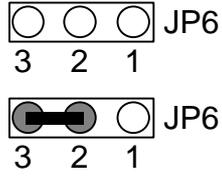
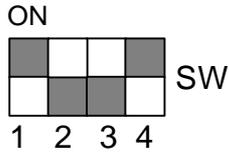
2. Pentium® II 400 / 100 MHz FSB



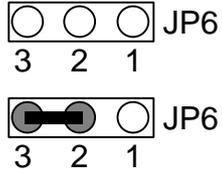
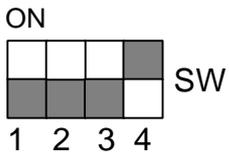
3. Pentium® II 450 / 100 MHz FSB



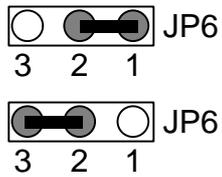
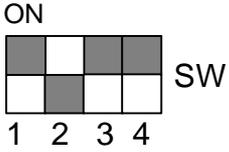
4. Pentium® II 500 / 100 MHz FSB



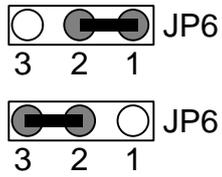
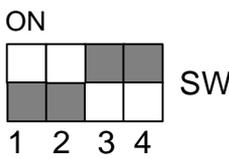
5. Pentium® II 550 / 100 MHz FSB



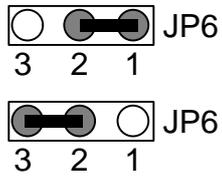
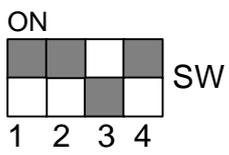
6. Pentium® II 200/ 66 MHz FSB



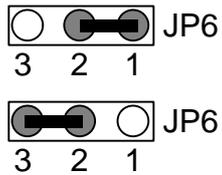
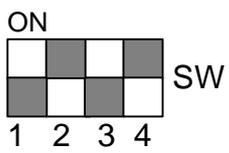
7. Pentium® II 233 / 66 MHz FSB



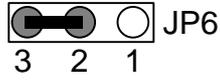
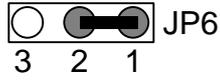
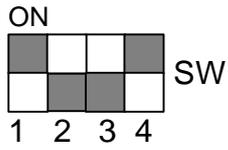
8. Pentium® II 266 / 66 MHz FSB



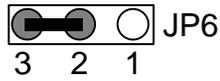
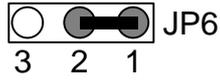
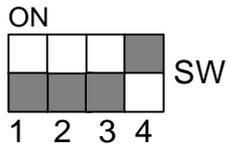
9. Pentium® II 300/ 66 MHz FSB



10. Pentium® II 333 / 66 MHz FSB

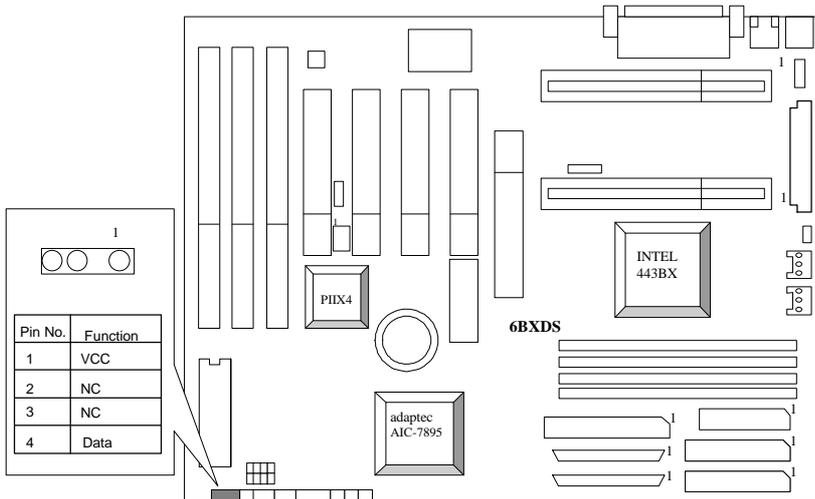


11. Pentium® II 366/ 66 MHz FSB

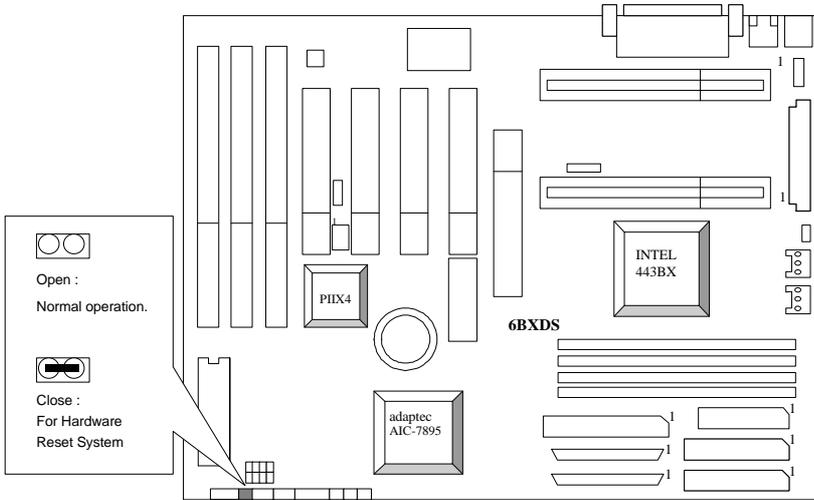


II. Jumper setting :

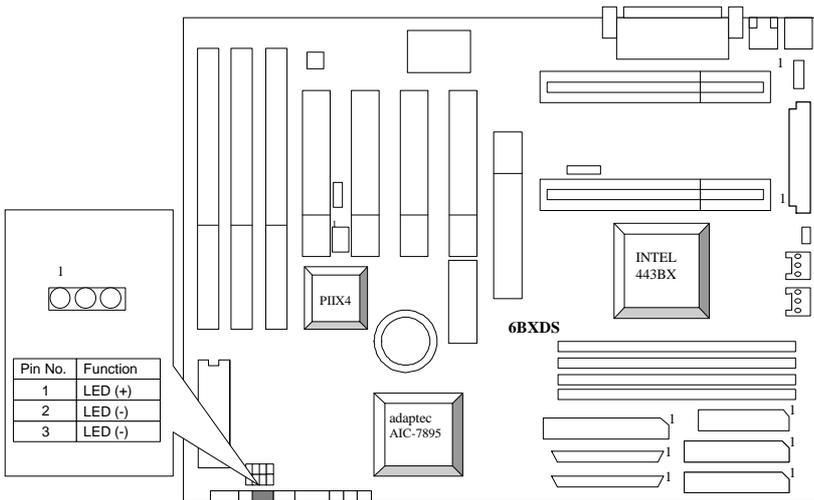
SPK : Speaker Connector



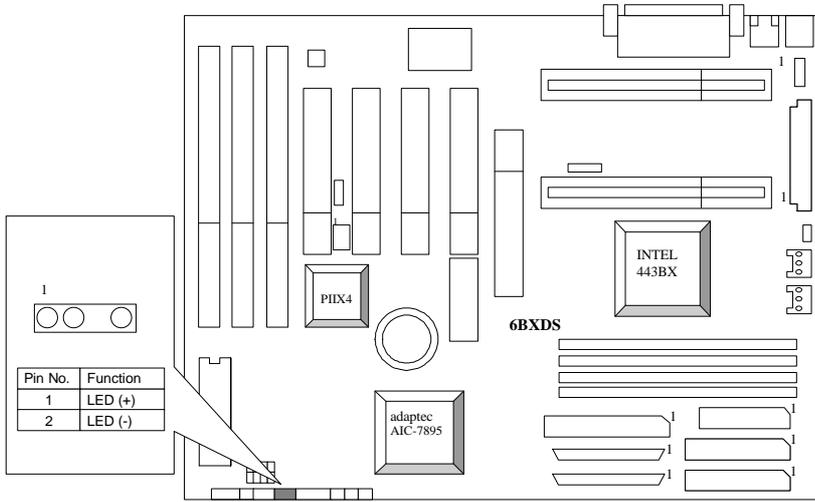
RST : Reset Switch



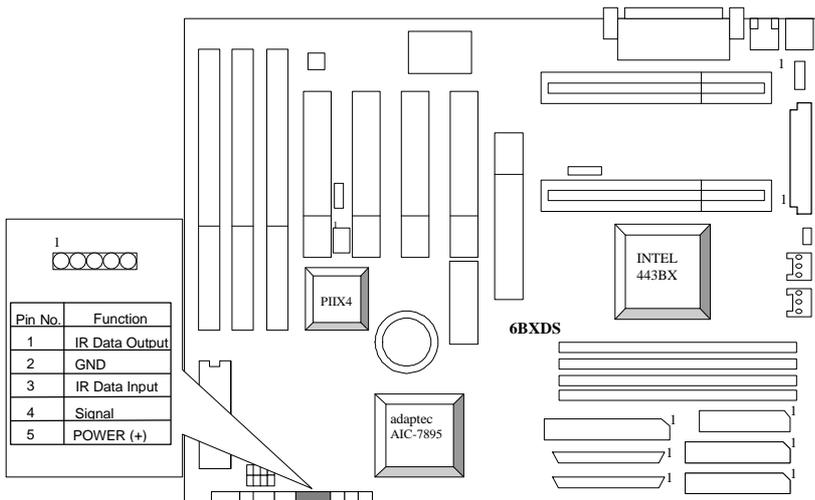
PWR : Power LED Connector



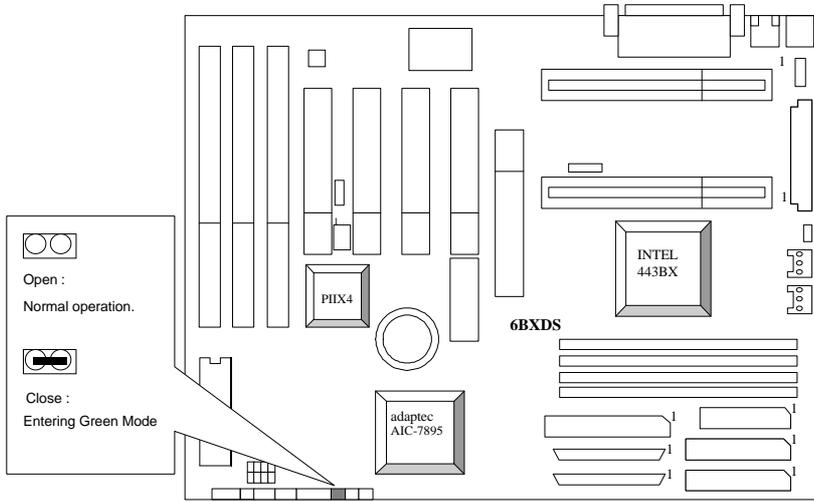
HD : IDE Hard Disk Active LED



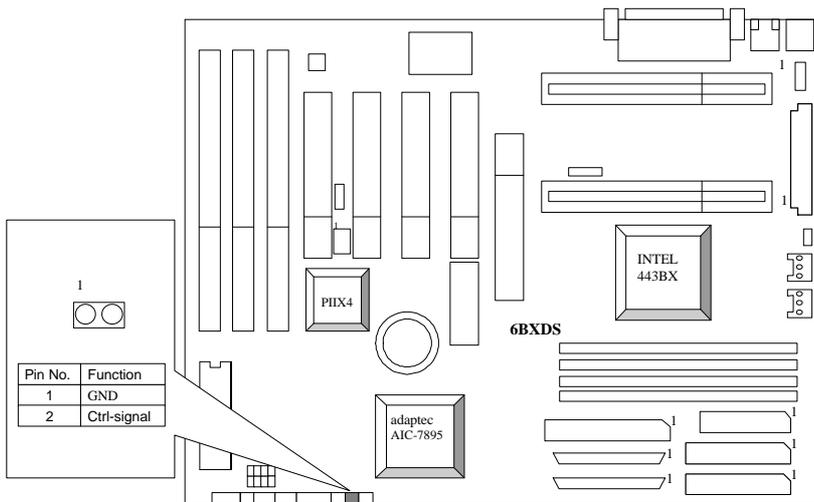
IR : Infrared Connector (Optional)



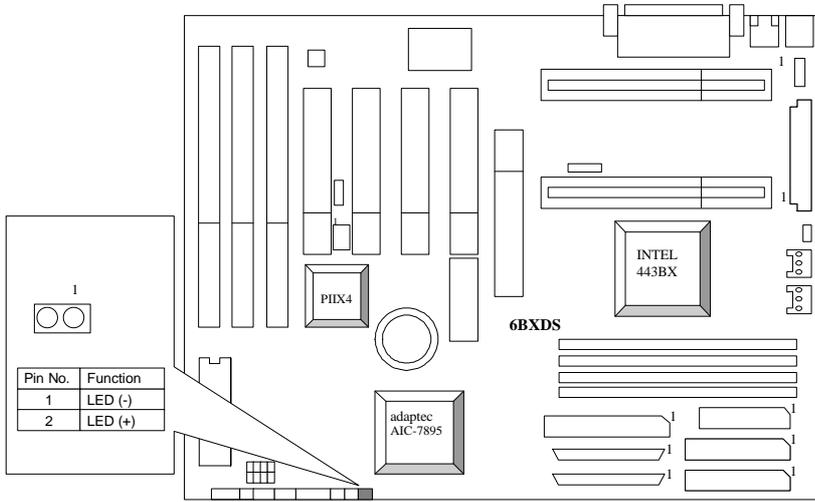
GN : Green Function Switch



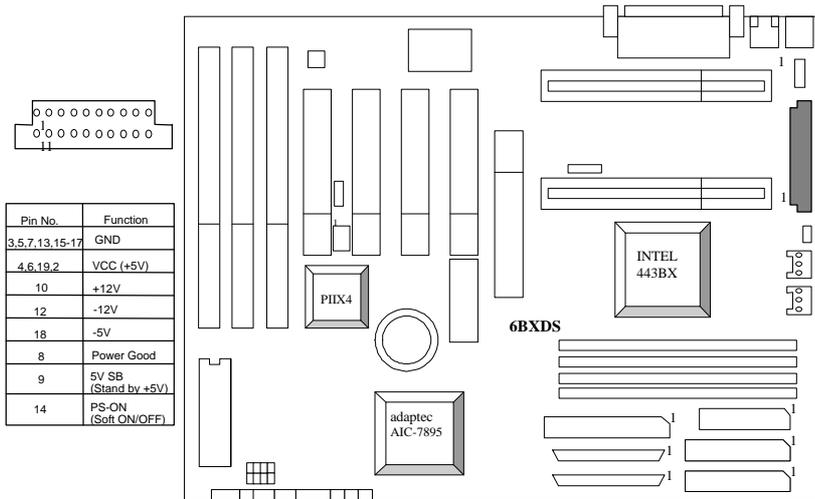
SOFT PWR : Soft Power Connector



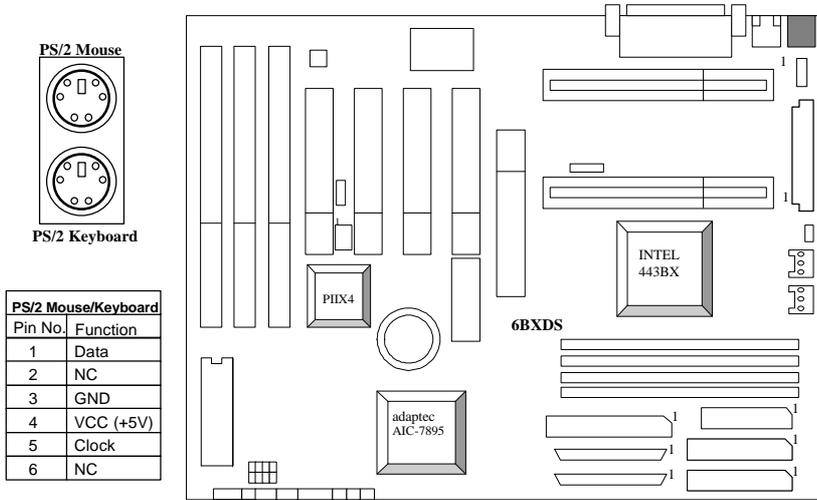
GD : Green Function LED



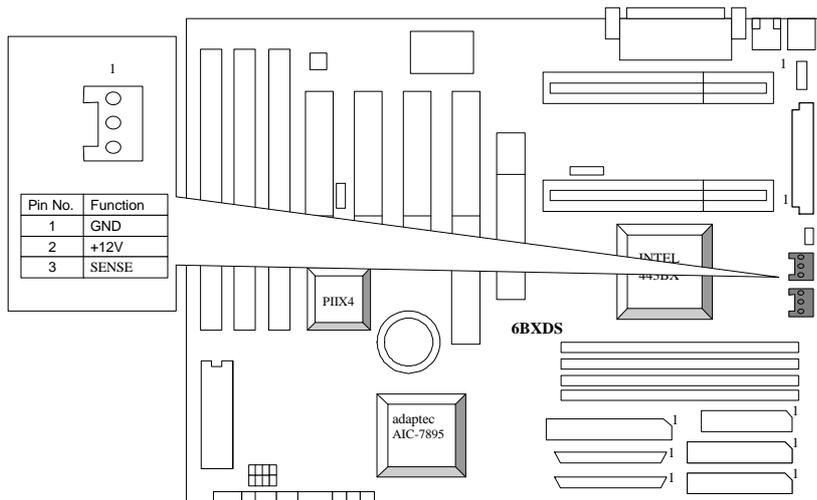
ATX POWER : ATX Power Connector



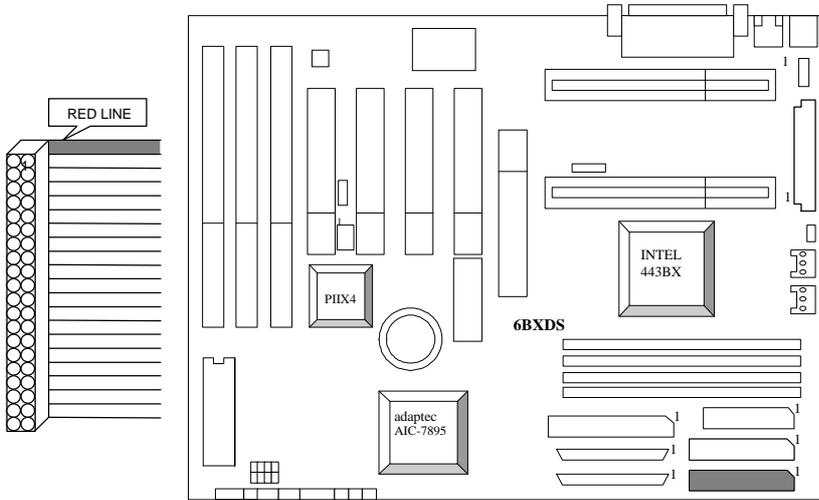
PS/2 Mouse / Keyboard Connector



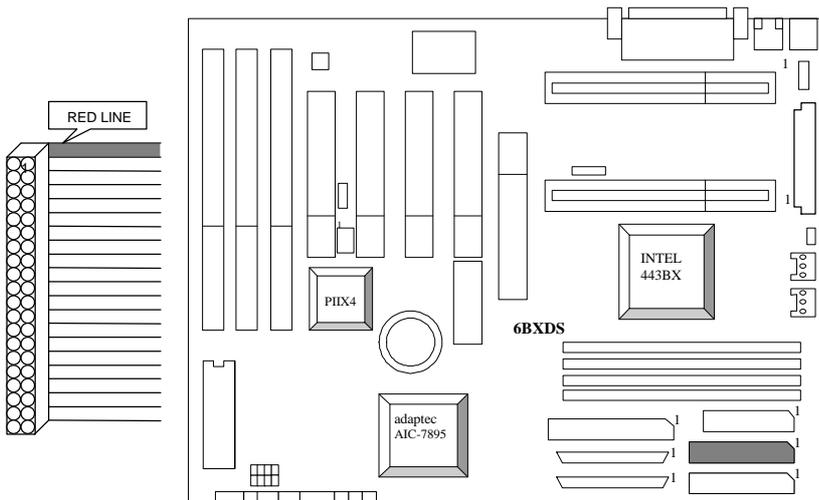
PWR FAN : CPU Cooling Fan Power Connector



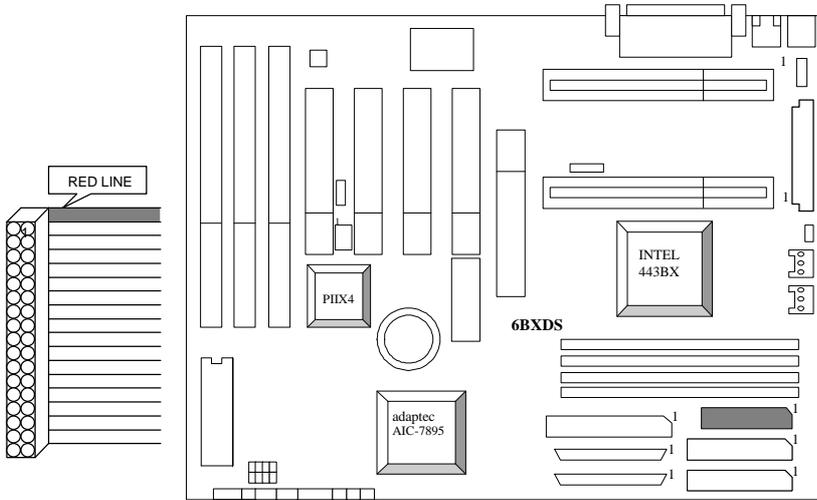
IDE1: For Primary IDE port



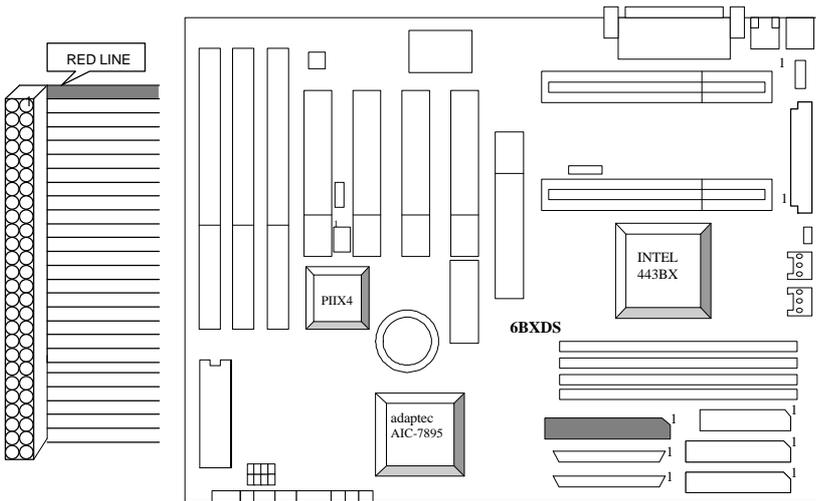
IDE2: For Secondary IDE port



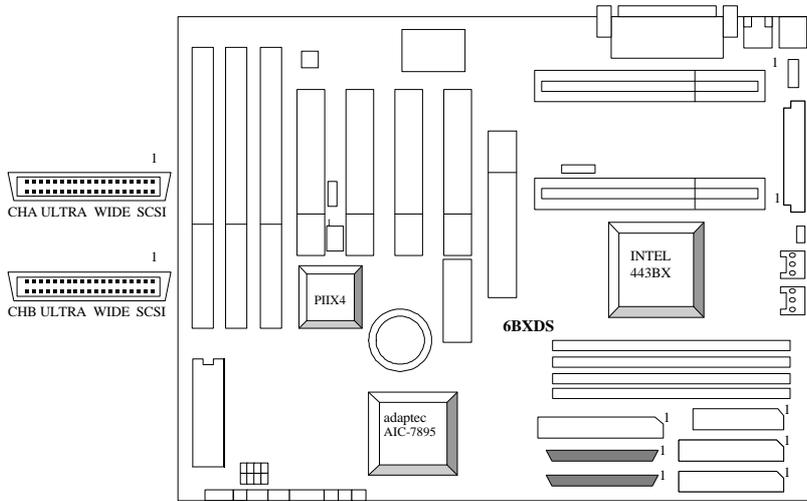
FLOPPY: For FLOPPY PORT



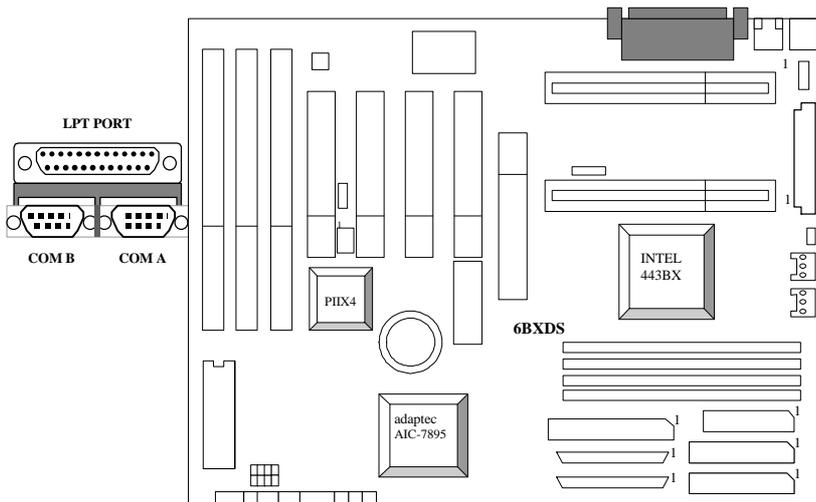
ULTRA SCSI : ON BOARD ULTRA SCSI PORT



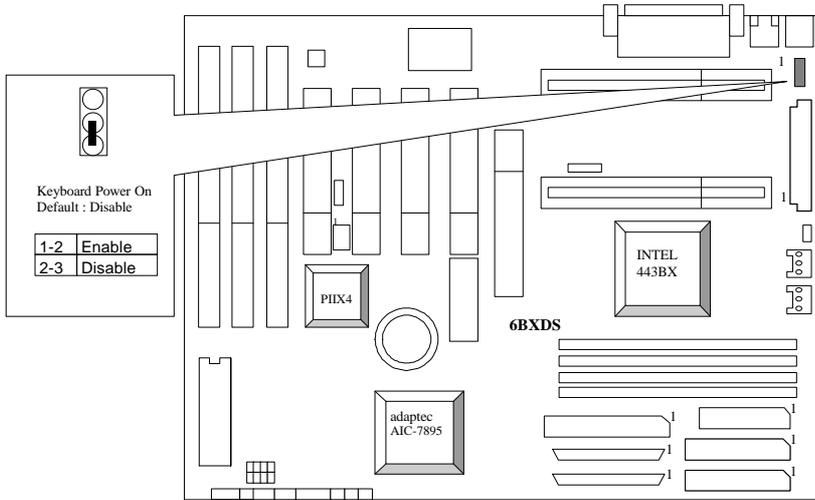
ULTRA WIDE SCSI : ON BOARD ULTRA WIDE SCSI PORT



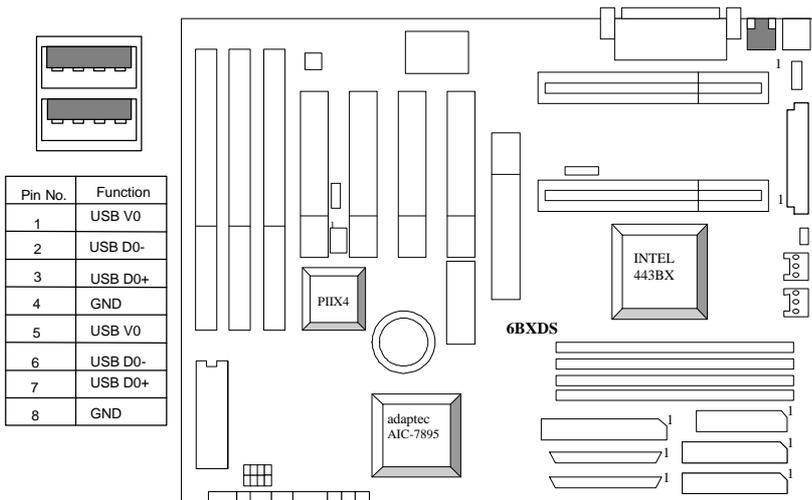
LPT PORT / COM A / COM B



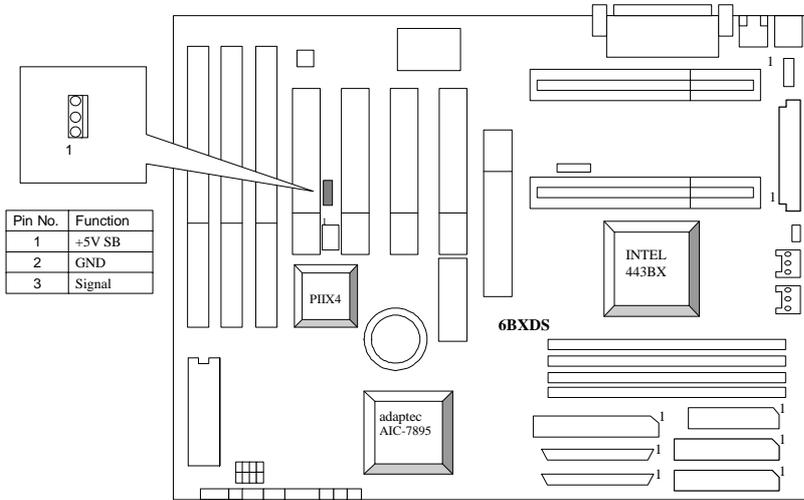
JP1 : Keyboard Power On



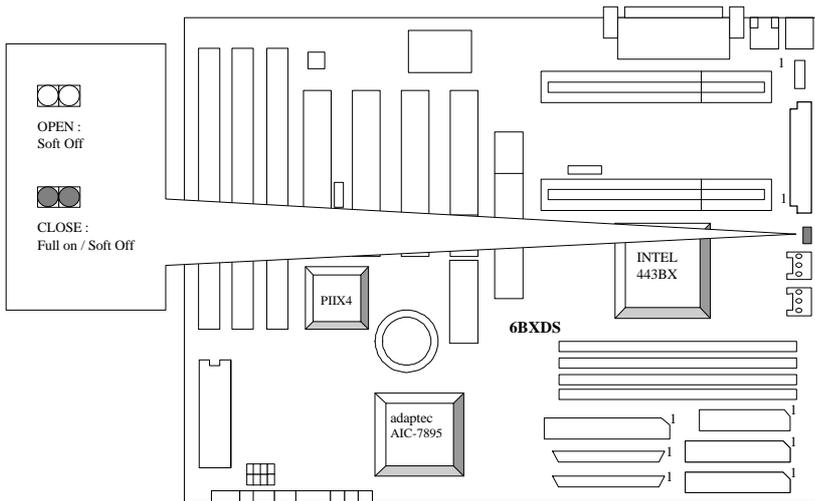
USB: USB Port



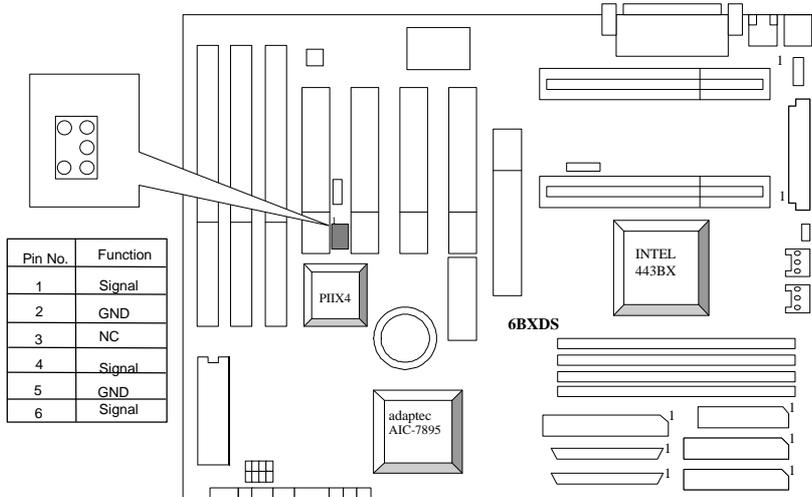
JP8: Wake on LAN



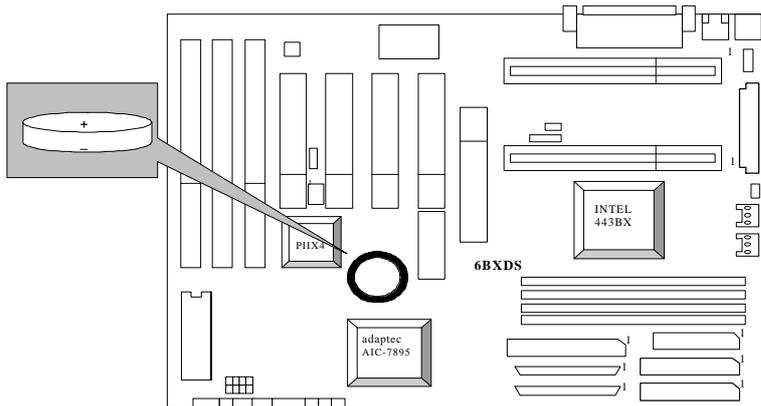
J1: ATX Power Control Selection



SB-LINK : For PCI Audio / Sound Card use only



BAT1:For Battery



- Danger of explosion if battery is incorrectly replaced.
- Replace only with the same or equivalent type recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.

III. Top Performance Test Setting:

The following performance data list is the testing results of some popular benchmark testing programs.

Users have to modify the value for each item in chipset features as follow for top performance setting.

| ROM PCI/ISA BIOS (2A69KG0C) CHIPSET FEATURES SETUP AWARD SOFTWARE, INC. | | | |
|---|--------------|--------------------------|--------------------------------|
| EDO CAS# MA Wait State | : 1 | Current CPU1 Temperature | : 40°C/104°F |
| EDO RAS# Wait State | : 1 | Current CPU2 Temperature | : 40°C/104°F |
| SDRAM CAS Latency Time | : 2 | Current CPU Fan1 Speed | : 5625 RPM |
| DRAM Data Integrity Mode | : Non-ECC | Current CPU Fan2 Speed | : 5625 RPM |
| System BIOS Cacheable | : Enabled | Current CPUVCore A | : 1.98V |
| Video BIOS Cacheable | : Enabled | Current CPUVCore B | : 1.98V |
| Video RAM Cacheable | : Disabled | Current +3.3V | : 3.45V |
| 16 Bit I/O Recovery Time | : 1 | Current +5V | : 5.02V |
| Memory Hole At 15M-16M | : Disabled | Current +12V | : 12.28V |
| Delayed Transaction | : Disabled | Current -12V | : -11.81V |
| Clock Spread Spectrum | : Disabled | Current -5V | : -5.09V |
| Slow Down CPU Duty Cycle | : Normal | Current Battery Life | : OK |
| Alarm When CPU Overheat | : Disabled | | |
| CPU1 Temperature Select | : 75°C/167°F | ESC : Quit | ↑↓←→ : Select Item |
| CPUFan1 Control | : Disabled | F1 : Help | PU/PD/+/- : Modify |
| CPU2 Temperature Select | : 75°C/167°F | F5 : Old Values (Shift) | F2 : Color |
| CPUFan2 Control | : Disabled | F6 : Load BIOS Defaults | F7 : LOAD PERFORMANCE DEFAULTS |

- ** Each value of items as above depends on your hardware configuration : CPU , SDRAM , Cards , etc.
Please modify each value of items If your system does not work properly .

These data are just referred by users, and there is no responsibility for different testing data values gotten by users. (The different Hardware & Software configuration will result in different benchmark testing results.)

- CPU Pentium® II processor
- DRAM (128x1)MB SDRAM (SEC KM48S8030BT-GH)
- CACHE SIZE 512 KB included in CPU
- DISPLAY GA-601 AGP Display Card (4MB SGRAM)
- STORAGE Onboard Ultra Wide SCSI (Seagate ST34555W)
- O.S. Windows NT™ 4.0
- DRIVER Display Driver at 1024 x 768 x 64k colors x 75Hz.
Adaptec AIC-7895P SCSI Driver

| Processor | Intel Pentium® II | |
|-------------------|-------------------|-----------------|
| | 300MHz(100x3) | 350MHz(100x3.5) |
| Winbench98 | | |
| CPU mark32 | 776 | 905 |
| FPU Winmark | 1540 | 1800 |
| Business Disk | 1830 | 1870 |
| Hi-End Disk | 4400 | 4510 |
| Business Graphics | 174 | 197 |
| Hi-End Graphics | 182 | 208 |
| Winstone98 | | |
| Business | 30.7 | 33.8 |
| Hi-End | 34.6 | 37.8 |

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1. INTRODUCTION

1.1. PREFACE

Welcome to use the **6BXDS** motherboard. It is a Pentium® II Processor based PC / AT compatible system with AGP / PCI / SCSI / ISA Bus, and has been designed to be the fastest PC / AT system. There are some new features allow you to operate the system with just the performance you want.

This manual also explains how to install the motherboard for operation, and how to set up your CMOS CONFIGURATION with BIOS SETUP program.

1.2. KEY FEATURES

- ❑ Intel Pentium® II Processor based PC / AT compatible mainboard.
- ❑ Slot 1 supports Pentium® II processor running at 200-633 MHz.
- ❑ Intel 440BX chipset, Supports AGP / SDRAM / Ultra DMA/33 IDE / Wake on LAN / Keyboard and PS/2 Mouse Power On / ACPI features.
- ❑ Supports Intel LDCM® Network Manageability.
- ❑ Supports 4xDIMMs using 3.3V SDRAM DIMM module.
- ❑ Supports 8 MB - 1 GB SDRAM memory on board.
- ❑ Supports ECC or Non-ECC type DRAM module.
- ❑ 1xAGP slot, 4xPCI Bus slots, 3xISA Bus slots.
- ❑ Supports 2 channels Ultra DMA/33 IDE ports for 4 IDE Devices.
- ❑ Supports both Ultra SCSI and Ultra Wide SCSI ports.
- ❑ Supports 2xCOM (16550), 1xLPT (EPP / ECP), 1x Floppy port.
- ❑ Supports 2xUSB ports, 1xPS/2 Mouse, 1xPS/2 Keyboard.
- ❑ Licensed AWARD BIOS, 2M bit FLASH RAM.
- ❑ 30.5 cm x 25.3 cm ATX SIZE form factor, 4 layers PCB.

1.3. PERFORMANCE LIST

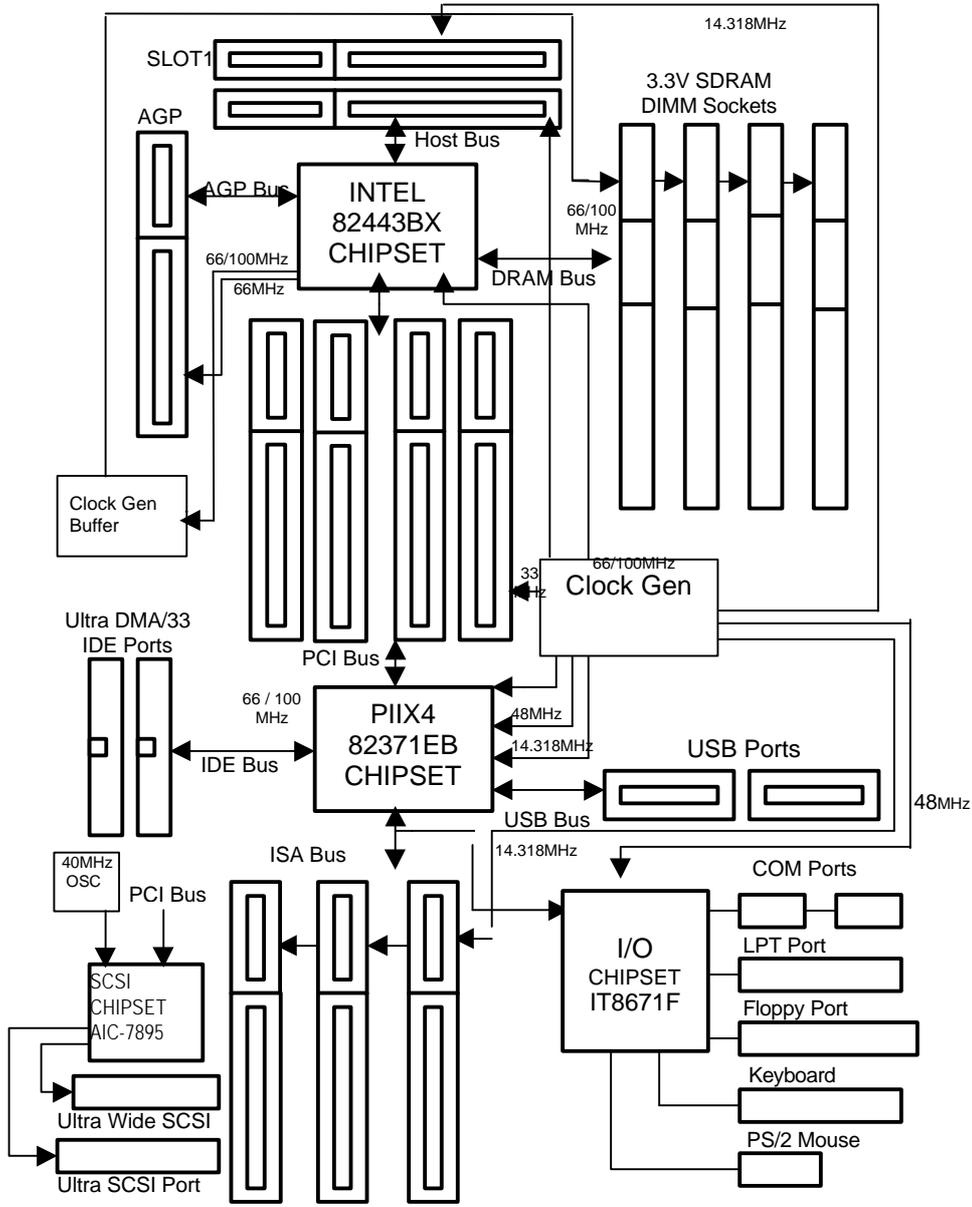
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| Winstone98 | | |
| Business | 30.7 | 33.8 |
| Hi-End | 34.6 | 37.8 |

1.4. BLOCK DIAGRAM



1.5. INTRODUCE THE Pentium® II Processor & AGP



Figure 1:Retention Mechanism & attach Mount



Figure 2:OEM Pentium® II Processor

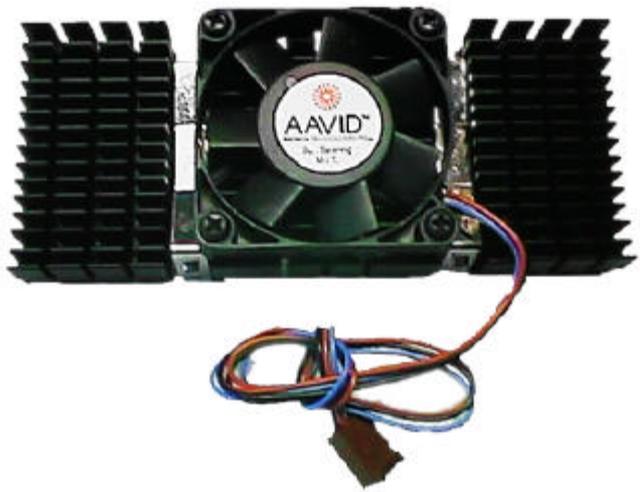


Figure 3:Heatsink / FAN & Heat sink support for OEM Pentium® II Processor

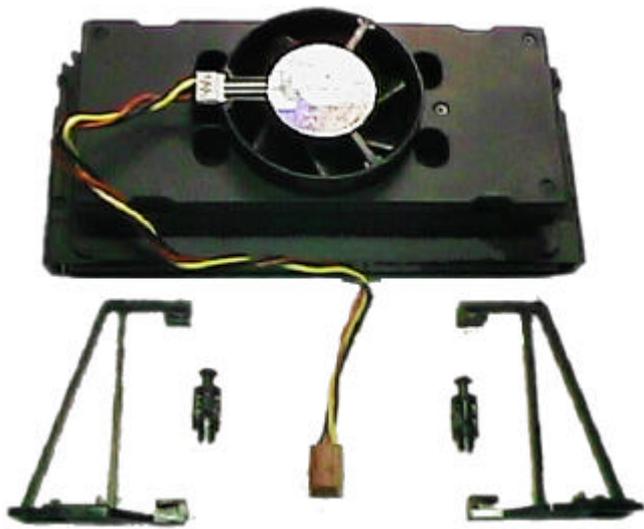


Figure 4:Boxed Pentium® II Processor & Heat sink support

1.6 What is AGP?

The Accelerated Graphics Port (AGP) is a new port on the Host-To-PCI bridge device that supports an AGP port. The main purpose of the AGP port is to provide fast access to system memory.

The AGP port can be used either as fast PCI port (32-bits at 66MHz vs. 32-bits at 33MHz) or as an AGP port which supports 2x data-rate, a read queue, and side band addressing. When the 2x-data rate is used the port can transmit data at 533MB/sec ($66.6 \times 2 \times 4$). The read-queue can be used to pipeline reads – removing the effects of the reads-latency. Side band addressing can be used to transmit the data address on a separate line in order to speed up the transaction.

2. SPECIFICATION

2.1. HARDWARE

- CPU
 - Pentium® II processor 200 – 633 MHz.
 - 242 pins 66/100MHz slot1 on board.
- PROTECTION
 - Speaker Alarm when detect "CPU FAN Failure" or "CPU Overheat".
 - Automatically slow down CPU speed when "CPU Overheat".
 - Intel LDCM® supported.
 - H/W monitor power status ($\pm 5V$, $\pm 12V$, CPU voltage & CMOS battery voltage). (Optional)
- SPEED
 - 66/100 MHz system speed.
 - 66 MHz AGP bus speed. (133MHz 2*mode)
 - 33 MHz PCI-Bus speed.
 - 8 MHz AT bus speed.
- DRAM MEMORY
 - 4 banks 168 pins DIMM module sockets on board.
 - Use 8 / 16 / 32 / 64 / 128 / 256 MB DIMM module DRAM.
 - 8 ~ 1 GB SDRAM.
 - Supports 3.3V SDRAM.
 - Supports ECC or Non-ECC type DRAM.
- CACHE MEMORY
 - 32 KB 1st cache memory included in CPU.
 - 256KB/512 KB 2nd cache in CPU.
 - Supports DIB speed mode for L2 Cache.
- I/O BUS SLOTS
 - 4 33MHz Master / Slave PCI-BUS.
 - 3 8MHz 16 bits ISA BUS.
 - 1 66MHz / 133MHz AGP bus.
- IDE PORTS
 - 2 Ultra DMA/33 Bus Master IDE channels on board.(Using IRQ14,15)
 - Support Mode 3,4 IDE & ATAPI CD – ROM.

- SCSI PORTS
 - Supports 2 Ultra Wide SCSI port.
 - Supports 1 Ultra SCSI port.
- I/O PORTS
 - Supports 2 16550 COM ports.
 - Supports 1 EPP/ECP LPT port.
 - Supports 1 Floppy port.
 - Supports 2 USB ports.
 - Supports PS/2 Mouse & Keyboard.
- GREEN FUNCTION
 - Suspend mode support.
 - Green switch & ACPI LED support.
 - IDE & Display power down support.
 - Monitor all IRQ / DMA / Display / I/O events.
- BIOS
 - 2M bits FLASH RAM.
 - Supports Plug & Play, DMI Function.
- DIMENSION
 - ATX Form Factor, 4 layers PCB.

2.2. SOFTWARE

- DRIVER
 - Intel LDCM® optional.
 - Health monitor Utility.
 - Bus Master IDE Driver.
- BIOS
 - Licensed AWARD BIOS.
 - AT CMOS Setup, BIOS / Chipset Setup, Green Setup, Hard Disk Utility included.
 - Monitor Health status.
- O.S.
 - Operation with MS-DOS®, Windows®95, WINDOWS™ NT, OS/2, NOVELL and SCO UNIX.

2.3. ENVIRONMENT

- Ambient Temp.
 - 0°C to +50°C (Operating).
- Relative Hum.
 - 0 to +85% (Operating).
- Altitude
 - 0 to 10,000 feet (Operating).
- Vibration
 - 0 to 1,000 Hz.
- Electricity
 - 4.9 V to 5.2 V. (Max. 20A current at 5V.)

3. HARDWARE INSTALLATION

3.1. UNPACKING

The mainboard package should contain the following:

- The **6BXDS** mainboard.
- The Retention Mechanism & Attach Mount
- USER'S MANUALS for mainboard & . SCSI device.
- Cable set for IDE, Floppy, SCSI & I/O devices.
- Diskettes and CD for Mainboard Utility.
- External SCSI port adapter.

The mainboard contains sensitive electric components, which can be easily damaged by static electricity, so the mainboard should be left in its original packing until it is installed.

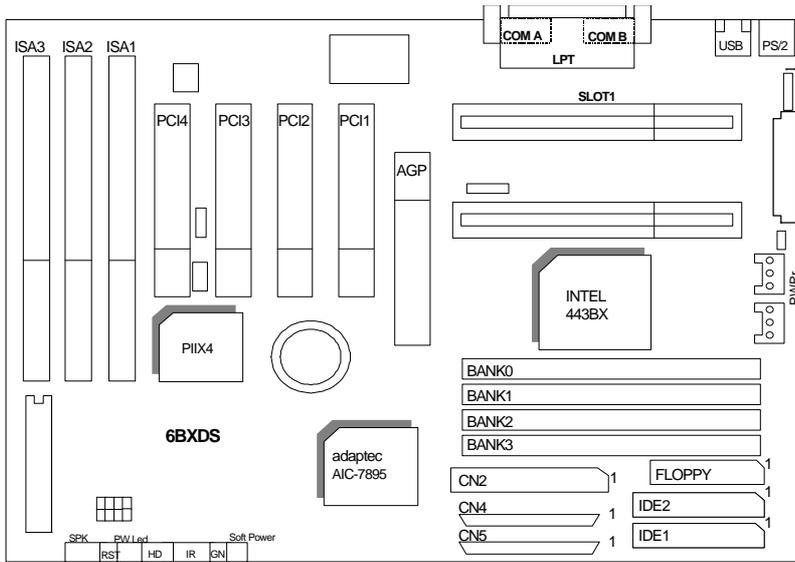
Unpacking and installation should be done on a grounded anti-static mat. The operator should be wearing an anti static wristband, grounded at the same point as the anti-static mat.

Inspect the mainboard carton for obvious damage. Shipping and handling may cause damage to your board. Be sure there are no shipping and handling damages on the board before proceeding.

After opening the mainboard carton, extract the system board and place it only on a grounded anti-static surface component side up. Again inspect the board for damage. Press down on all of the socket IC's to make sure that they are properly seated. Do this only on with the board placed on a firm flat surface.

● **DO NOT APPLY POWER TO THE BOARD IF IT HAS BEEN DAMAGED.**

3.2. MAINBOARD LAYOUT



<Figure 3.1>

3.3. QUICK REFERENCE FOR JUMPERS & CONNECTORS

| ◆ I/O Ports Connector | |
|-----------------------|---------------------------|
| USB | USB port. |
| CN2 | Ultra SCSI port |
| CN4&5 | Ultra Wide SCSI port |
| IDE1 | For Primary IDE port. |
| IDE2 | For Secondary IDE port. |
| PS/2 | For PS/2 Keyboard port. |
| PS/2 | For PS/2 Mouse port. |
| Floppy | For Floppy port |
| COM B | For Serial port2 (COM B). |
| COM A | For Serial port1 (COM A). |
| LPT | For LPT port. |

| |
|---------------------------|
| ◆ SPK : SPEAKER Connector |
|---------------------------|

| Pin No. | Function |
|---------|----------|
| 1 | VCC |
| 2 | NC. |
| 3 | NC. |
| 4 | Output |

◆ RST : RESET Switch

| Pin No. | Function |
|---------|-------------|
| 1 | RESET Input |
| 2 | GND |

◆ PWR : POWER ON LED (PW-LED)

| Pin No. | Function |
|---------|---------------|
| 1 | LED POWER (+) |
| 2 | LED POWER (-) |
| 3 | LED POWER (-) |

◆ HD : Hard Disk active LED (HD-LED)

| Pin No. | Function |
|---------|---------------|
| 1 | LED POWER (+) |
| 2 | LED POWER (-) |

◆ IR : INFRARED Connector (IR) -- Function Option

| Pin No. | Function |
|---------|----------------|
| 1 | IR Data Output |
| 2 | GND |
| 3 | IR Data Input |
| 4 | Signal |
| 5 | POWER (+) |

◆ GN : GN-SW

| Pin No. | Function |
|---------|-------------|
| 1 | CTRL-Signal |
| 2 | GND |

| ◆ Soft PWR : Soft Power Switch | |
|--------------------------------|-------------|
| Pin No. | Function |
| 1 | CTRL-Signal |
| 2 | GND |

| ◆ GD : Green Function LED | |
|---------------------------|---------------|
| Pin No. | Function |
| 1 | LED POWER (-) |
| 2 | LED POWER (+) |

| ◆ FAN PWR: CPU cooling FAN Power Connector | |
|--|----------|
| Pin No. | Function |
| 1 | GND. |
| 2 | +12V |
| 3 | SENSE |

| ◆ J1 : System After Ac Back | |
|-----------------------------|----------|
| Pin No. | Function |
| 1 | Signal |
| 2 | GND |

| ◆ JP1 : Keyboard Power On Selection | |
|-------------------------------------|-----------------------------|
| Pin No. | Function |
| 1-2 | Enabled Keyboard power on. |
| 2-3 | Disabled Keyboard power on. |

| ◆ SB-LINK : For PCI Audio / Sound Card use only | |
|---|----------|
| Pin No. | Function |
| 1 | Signal |
| 2 | GND |
| 3 | NC |
| 4 | Signal |
| 5 | GND |
| 6 | Signal |

| ◆ JP8 : Wake on LAN | |
|---------------------|----------|
| Pin No. | Function |
| 1 | +5V SB |
| 2 | GND |
| 3 | Signal |

| |
|----------|
| ◆ Slot 1 |
|----------|

| |
|-------------------------------------|
| For Pentium® II processor installed |
|-------------------------------------|

3.4. DRAM INSTALLATION

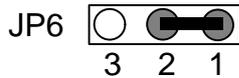
The mainboard can be installed with 8 / 16 / 32 / 64 / 128 / 256 MB 168 pins DIMM module DRAM. The DRAM memory system on mainboard consists of bank 0, 1, 2 & bank 3.

Since 168 pins DIMM module is 64 bits width, using 1 PCS which can match a 64 bits system. The total memory size is 8 MB ~ 1 GB SDRAM. The DRAM installation position refer to Figure 3.1, and notice the Pin 1 of DIMM module must match with the Pin 1 of DIMM socket. Insert the DRAM DIMM module into the DIMM socket at Vertical angle. If there is a wrong direction of Pin 1, the DRAM DIMM module couldn't be inserted into socket completely.

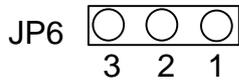
3.5. CPU SPEED SETUP

The system bus speed can be set to 66.6MHz or 100MHz form the jumper (**JP6**). The user can change the DIP SWITCH (**SW**) selection to set up the CPU speed for different processors. The CPU speed must match with the frequency RATIO and Front Side Bus (FSB) speed. It will cause system hanging up if the frequency RATIO and FSB Speed do not match with the CPU.

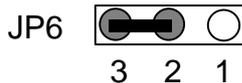
Set system speed to 66MHz: JP6 pin 1-2 short will cause system always run at 66 MHz FSB (Front Side Bus).



Set system speed to 100MHz: JP6 all pins open will cause system always run at 100MHz FSB.



Set system speed to Auto: JP6 pin 2-3 short will detect system speed 66/100MHz FSB automatically.



| DIP SWITCH (SW) | | | | FREQ. RATIO | EXT.CLK. MHz | INT.CLK. MHz | CPU Type |
|-----------------|-----|-----|----|----------------|-----------------|-----------------|---------------------|
| 1 | 2 | 3 | 4 | | | | |
| ON | OFF | ON | ON | 3 | 66 | 200 | Pentium® II 200 MHz |
| OFF | OFF | ON | ON | 3.5 | 66 | 233 | Pentium® II 233 MHz |
| ON | ON | OFF | ON | 4 | 66 | 266 | Pentium® II 266 MHz |
| OFF | ON | OFF | ON | 4.5 | 66 | 300 | Pentium® II 300 MHz |
| ON | OFF | OFF | ON | 5 | 66 | 333 | Pentium® II 333 MHz |
| OFF | OFF | OFF | ON | 5.5 | 66 | 366 | Pentium® II 366 MHz |
| OFF | OFF | ON | ON | 3.5 | 100 | 350 | Pentium® II 350 MHz |
| ON | ON | OFF | ON | 4 | 100 | 400 | Pentium® II 400 MHz |
| OFF | ON | OFF | ON | 4.5 | 100 | 450 | Pentium® II 450 MHz |
| ON | OFF | OFF | ON | 5 | 100 | 500 | Pentium® II 500 MHz |
| OFF | OFF | OFF | ON | 5.5 | 100 | 550 | Pentium® II 550 MHz |

- ⚡ The CPU is a sensitive electric component and it can be easily damaged by static electricity, so users must keep it away from metal surface when the CPU is installed onto main board.

3.6. CMOS RTC & ISA CFG CMOS SRAM

There're RTC & CMOS SRAM on board; they have a power supply from external battery to keep the DATA inviolate & effective. The RTC is a REAL-TIME CLOCK device, which provides the DATE & TIME to system. The CMOS SRAM is used for keeping the information of system configuration, so the system can automatically boot OS every time. Since the lifetime of internal battery is 5 years, the user can change a new Battery to replace old one after it cannot work.

3.7. SPEAKER CONNECTOR INSTALLATION

There is a speaker in AT system for sound purpose. The 4 - Pins connector SPK is used to connect speaker.

3.8. HARDWARE RESET SWITCH CONNECTOR INSTALLATION

The RESET switch on panel provides users with HARDWARE RESET function. The system will do a cold start after the RESET button is pressed and released by user. The RESET switch is a 2 PIN connector and should be installed to **RST** on main board.

3.9. POWER LED CONNECTOR INSTALLATION

System has power LED lamp on the panel of case. The power LED will light on/off or flash to indicate which step on the system. The connector should be connected to PWR of main board in correct direction.

3.10. IDE & ATAPI DEVICE INSTALLATION

There are two-Enhanced PCI IDE ports (**IDE1**, **IDE2**) on board, which following ATAPI standard SPEC. Any one IDE port can connected to two ATAPI devices (IDE Hard Disk, CD-ROM & Tape Driver), so total four ATAPI devices can exist in a system. The **HD** is the active LED port for ATAPI devices.

3.11. SCSI DEVICE INSTALLATION

There are two SCSI channels on board.

There are two SCSI ports on Channel A. One is 8 bits SCSI port for SCSI-2 or ULTRA SCSI device, the other is 16bit SCSI port for wide or ULTRA Wide SCSI device.

Channel B is 16 bits SCSI port for wide or ULTRA Wide SCSI device.

Total 30 SCSI devices (include 8bit SCSI devices) can exist in a system.

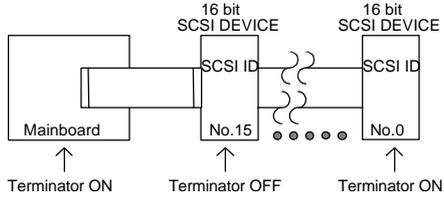
The low byte terminator (used for 8bit SCSI port) and high byte terminator (used for Wide SCSI port) turning "ON" or "OFF" are controlled by BIOS SETUP (in the **INTEGRATED PERIPHERALS SETUP PAGE**).

Terminator ON/OFF rules

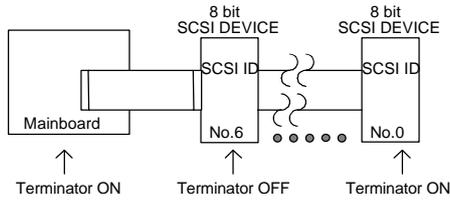
1. SCSI Devices connecting to the Channel A:

CASE 1: BIOS SETUP (Channel A Termination: Both) (Channel B Termination: Enabled)

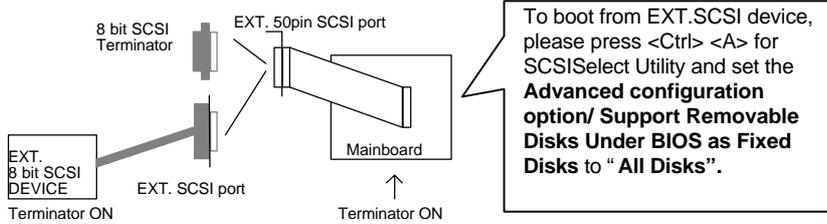
① System has 16 bit SCSI



② System has only 8 bit SCSI device

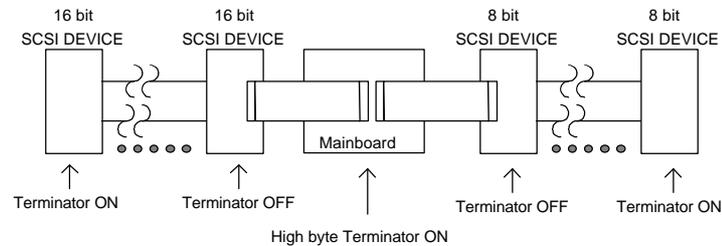


③ System has EXT. SCSI port but has not INT. SCSI device

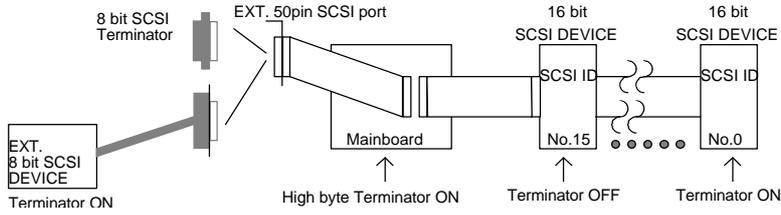


CASE 2: BIOS SETUP (Channel A Termination: High Byte) (Channel B Termination: Enabled)

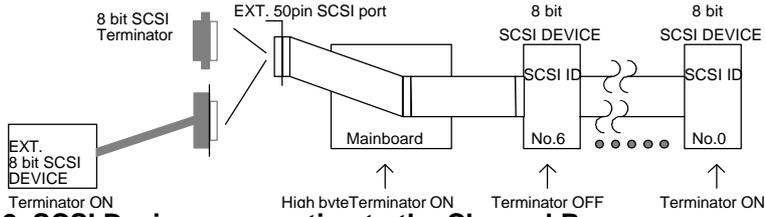
① System has 16 bit & 8 bit SCSI device



② System has 8 bit EXT. SCSI port & 16 bit INT. SCSI device



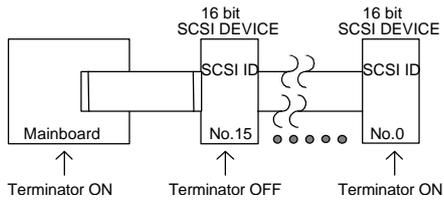
③ System has 8 bit EXT. SCSI port & 8 bit INT. SCSI device



2. SCSI Devices connecting to the Channel B:

**CASE 1: BIOS SETUP (Channel A Termination: Both)
(Channel B Termination: Enabled)**

① System has 16 bit SCSI



3.12. PERIPHERAL DEVICE INSTALLATION

After the I/O device installation and jumpers setup, the mainboard can be mounted into the case and fixed by screw. To complete the mainboard installation, the peripheral device could be installed now. The basic system needs a display interface card. If the PCI - Bus device is to be installed in the system, any one of four PCI - Bus slots can be used.

3.13. KEYBOARD & PS/2 MOUSE INSTALLATION

The main board supports PS/2 Mouse (**J1**). The BIOS will auto detect whether the PS/2 Mouse is installed or not & assign IRQ12 for PS/2 Mouse port if it is installed. After installing the peripheral device, the user should check everything again, and prepare to power-on the system.

4. BIOS CONFIGURATION

Award's BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS SRAM so that it retains the Setup information when the power is turned off.

4.1. ENTERING SETUP

Power ON the computer and press immediately will allow you to enter Setup. If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" bottom on the system case. You may also restart by simultaneously press <Ctrl>, <Alt>, and keys.

4.2. CONTROL KEYS

| | |
|-------------|---|
| Up arrow | Move to previous item |
| Down arrow | Move to next item |
| Left arrow | Move to the item in the left hand |
| Right arrow | Move to the item in the right hand |
| Esc key | Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu |
| PgUp key | Increase the numeric value or make changes |
| PgDn key | Decrease the numeric value or make changes |
| F1 key | General help, only for Status Page Setup Menu and Option Page Setup Menu |
| F2 key | Change color from total 16 colors |
| F3 key | Reserved |
| F4 key | Reserved |
| F5 key | Restore the previous CMOS value from CMOS, only for Option Page Setup Menu |
| F6 key | Load the default CMOS value from BIOS default table, only for Option Page Setup Menu |
| F7 key | Load the default |
| F8 key | Reserved |
| F9 key | Reserved |
| F10 key | Save all the CMOS changes, only for Main Menu |

4.3. GETTING HELP

4.3.1. Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

4.3.2. Status Page Setup Menu / Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

4.4. THE MAIN MENU

Once you enter Award BIOS CMOS Setup Utility, the Main Menu (Figure 4.1) will appear on the screen. The Main Menu allows you to select from nine setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

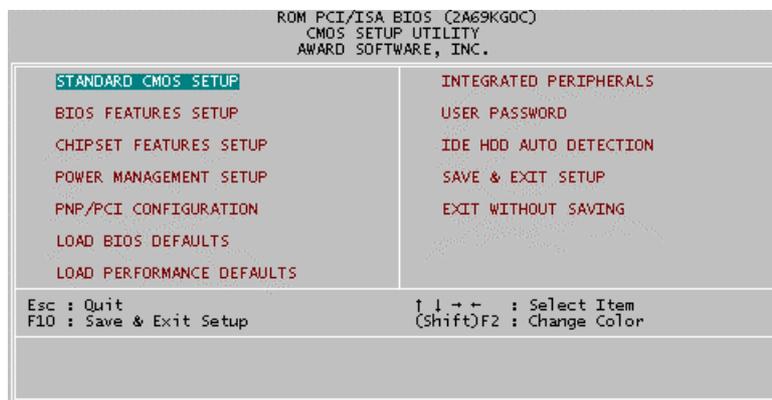


Figure 4.1: Main Menu

- Standard CMOS setup
This setup page includes all the items in standard compatible BIOS.
- BIOS features setup
This setup page includes all the items of Award special enhanced features.

- Chipset features setup
This setup page includes all the items of chipset special features.
- Power management setup
This setup page includes all the items of Green function features.
- PNP/PCI configuration
This setup page includes all the configurations of PCI & PnP ISA resources.
- Load bios defaults
Bios Defaults indicates the value of the system parameters which the system would be in safe configuration.
- Load performance defaults
Performance Defaults indicates the value of the system parameters which the system would be in best performance configuration.
- Integrated peripherals
This setup page includes all onboard peripherals.
- User password
Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.
- IDE HDD auto detection
Automatically configure hard disk parameters.
- Save & exit setup
Save CMOS value settings to CMOS and exit setup.
- Exit without saving
Abandon all CMOS value changes and exit setup.

4.5. STANDARD CMOS SETUP MENU

The items in Standard CMOS Setup Menu (Figure 4.2) are divided into 9 categories. Each category includes no, one or more than one setup items. Use the arrows to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

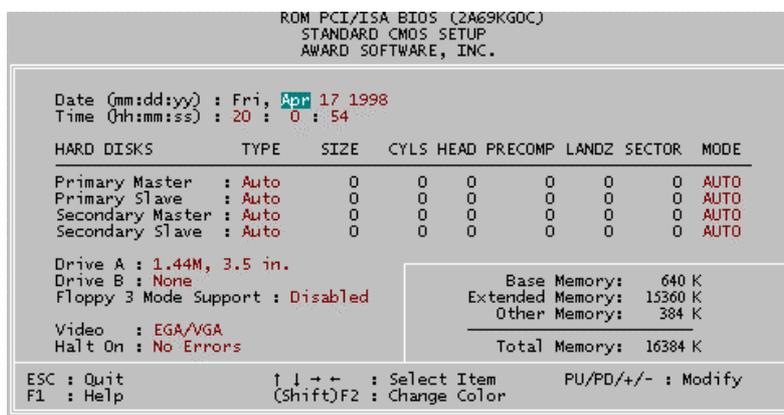


Figure 4.2: Standard CMOS Setup Menu

- Date

The date format is <day>, <month> <date> <year>.

| | |
|-------|--|
| day | The day, from Sun to Sat, determined by the BIOS and is display-only |
| month | The month, Jan. Through Dec. |
| date | The date, from 1 to 31 (or the maximum allowed in the month) |
| year | The year, from 1994 through 2079 |

- Time

The times format in <hour> <minute> <second>. The time is calculated base on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

- Primary HDDs / Secondary HDDs

The category identifies the types of hard disk from drive C to F that has been installed in the computer. There are two types: auto type, and user definable type. User type is user-definable; Auto type which will automatically detect HDD type.

Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

If you select User Type, related information will be asked to enter to the following items. Enter the information directly from the keyboard and press <Enter>. Such information should be provided in the documentation form your hard disk vendor or the system manufacturer.

| | |
|----------|---------------------|
| CYLS. | Number of cylinders |
| HEADS | number of heads |
| PRECOMP | write precomp |
| LANDZONE | Landing zone |
| SECTORS | number of sectors |

If a hard disk has not been installed select NONE and press <Enter>.

- Drive A type / Drive B type

The category identifies the types of floppy disk drive A or drive B that has been installed in the computer.

| | |
|----------------|---|
| None | No floppy drive installed |
| 360K, 5.25 in. | 5.25 inch PC-type standard drive; 360K byte capacity. |
| 1.2M, 5.25 in. | 5.25 inch AT-type high-density drive; 1.2M byte capacity (3.5 inch when 3 Mode is Enabled). |
| 720K, 3.5 in. | 3.5 inch double-sided drive; 720K byte capacity |
| 1.44M, 3.5 in. | 3.5 inch double-sided drive; 1.44M byte capacity. |
| 2.88M, 3.5 in. | 3.5 inch double-sided drive; 2.88M byte capacity. |

- Floppy 3 Mode Support (for Japan Area)

| | |
|----------|---------------------------------------|
| Disabled | Normal Floppy Drive. |
| Drive A | Drive A is 3 mode Floppy Drive. |
| Drive B | Drive B is 3 mode Floppy Drive. |
| Both | Drive A & B are 3 mode Floppy Drives. |

- Video

The category detects the type of adapter used for the primary system monitor that must match your video display card and monitor. Although secondary monitors are supported, you do not have to select the type in setup.

| | |
|---------|---|
| EGA/VGA | Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SVGA, or VGA monitor adapters |
| CGA 40 | Color Graphics Adapter, power up in 40 column mode |
| CGA 80 | Color Graphics Adapter, power up in 80 column mode |
| MONO | Monochrome adapter, includes high resolution monochrome adapters |

- Halt on

The category determines whether the computer will stop if an error is detected during power up.

| | |
|-------------------|---|
| NO Errors | The system boot will not stop for any error that may be detected |
| All Errors | Whenever the BIOS detects a non-fatal error the system will be stopped and you will be prompted |
| All, But Keyboard | The system boot will not stop for a keyboard error; it will stop for all other errors |
| All, But Diskette | The system boot will not stop for a disk error; it will stop for all other errors |

| | |
|-------------------|---|
| All, But Disk/Key | The system boot will not stop for a keyboard or disk error; it will stop for all other errors |
|-------------------|---|

- Memory

The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

Base Memory

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.

The value of the base memory is typically 512 K for systems with 512 K memory installed on the motherboard, or 640 K for systems with 640 K or more memory installed on the motherboard.

Extended Memory

The BIOS determines how much extended memory is present during the POST.

This is the amount of memory located above 1 MB in the CPU's memory address map.

Expanded Memory

Expanded Memory in memory defined by the Lotus / Intel / Microsoft (LIM) standard as EMS.

Many standard DOS applications can not utilize memory above 640 K; the Expanded Memory Specification (EMS) swaps memory, which not utilized by DOS with a section, or frame, so these applications, can access all of the system memory.

Memory can be swapped by EMS is usually 64 K within 1 MB or memory above 1 MB, depends on the chipset design.

Expanded memory device driver is required to use memory as Expanded Memory.

Other Memory

This refers to the memory located in the 640 K to 1024 K address space. This is memory that can be used for different applications.

DOS uses this area to load device drivers to keep as much base memory free for application programs. Most use for this area is Shadow RAM.

4.6. BIOS FEATURES SETUP

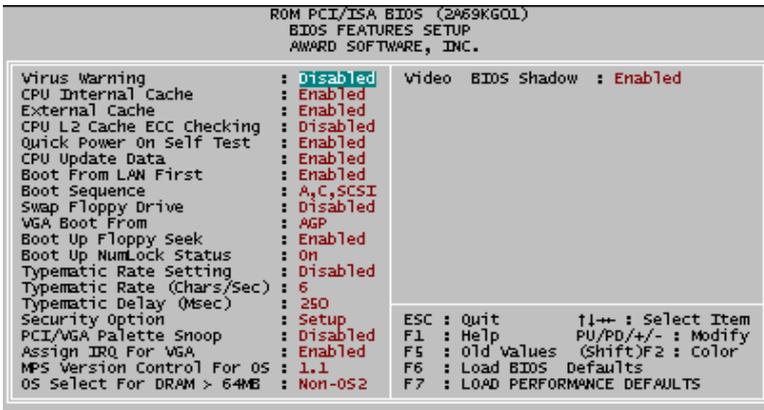


Figure 4.3: BIOS Features Setup

- Virus Warning

If it is set to enable, the category will flash on the screen when there is any attempt to write to the boot sector or partition table of the hard disk drive. The system will halt and the following error message will appear in the mean time. You can run anti-virus program to locate the problem.

Default value is Disabled.

| | |
|----------|---|
| Enabled | Activate automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table |
| Disabled | No warning message to appear when anything attempts to access the boot sector or hard disk partition table |

- CPU Internal Cache / External Cache

These two categories speed up memory access. However, it depends on CPU / chipset design. The default value is Enabled.

| | |
|----------|---------------|
| Enabled | Enable cache |
| Disabled | Disable cache |

- CPU L2 Cache ECC Checking

The default value is Disabled.

| | |
|----------|-----------------------------------|
| Enabled | Enable CPU L2 Cache ECC Checking |
| Disabled | Disable CPU L2 Cache ECC Checking |

- Quick Power On Self Test

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

The default value is Enabled.

| | |
|----------|-------------------|
| Enabled | Enable quick POST |
| Disabled | Normal POST |

- CPU Update Data

The default value is Enabled.

| | |
|----------|------------------------|
| Enabled | Enable CPU Update Data |
| Disabled | Normal CPU Update Data |

- Boot From LAN First

The default value is Enabled.

| | |
|----------|--------------------------------------|
| Enabled | Enable Boot From LAN First Function |
| Disabled | Disable Boot From LAN First Function |

- Boot Sequence

This category determines which drive computer searches first for the disk operating system (i.e., DOS). Default value is A, C, SCSI.

| | |
|------------|---|
| X1, X2, X3 | System will first search for X1 disk drive then X2 disk drive and then X3 disk drive. |
|------------|---|

- Swap Floppy Drive

The default value is Disabled.

| | |
|----------|--|
| Enabled | Floppy A & B will be swapped under DOS |
| Disabled | Floppy A & B will be normal definition |

- VGA Boot From

The default value is AGP

| | |
|-----|--|
| AGP | System will boot from AGP Display Card |
| PCI | System will boot from PCI VGA Card |

- Boot Up Floppy Seek

During POST, BIOS will determine the floppy disk drive installed is 40 or 80 tracks. 360 K type is 40 tracks 720 K, 1.2 M and 1.44 M are all 80 tracks. The default value is Enabled.

| | |
|----------|--|
| Enabled | BIOS searches for floppy disk drive to determine it is 40 or 80 tracks. Note that BIOS can not tell from 720 K, 1.2 M or 1.44 M drive type as they are all 80 tracks |
| Disabled | BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360 K |

- Boot Up NumLock Status

The default value is On.

| | |
|-----|-----------------------|
| On | Keypad is number keys |
| Off | Keypad is arrow keys |

- Typematic Rate Setting

The default value is Disabled.

| | |
|----------|--|
| Enabled | Enable Keyboard Typematic rate setting. |
| Disabled | Disable Keyboard Typematic rate setting. |

- Typematic Rate (Chars / Sec.)

The default value is 6.

| | |
|------|---|
| 6-30 | Set the maximum Typematic rate from 6 chars. Per second to 30 characters. Per second. |
|------|---|

- Typematic Delay (Msec.)

The default value is 250.

| | |
|----------|--|
| 250-1000 | Set the time delay from first key to repeat the same key in to computer. |
|----------|--|

- Security Option

This category allows you to limit access to the system and Setup, or just to Setup. The default value is Setup.

| | |
|--------|--|
| System | The system can not boot and can not access to Setup page will be denied if the correct password is not entered at the prompt |
| Setup | The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt |

- **To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup page freely.**

- PCI/VGA Palette Snoop

The default value is Disabled.

| | |
|----------|---|
| Enabled | For having Video Card on ISA Bus and VGA Card on PCI Bus. |
| Disabled | For VGA Card only. |

- Assign IRQ For VGA

The default value is Enabled.

| | |
|----------|-------------------------------|
| Enabled | Assign a specific IRQ for VGA |
| Disabled | No IRQ is assigned for VGA |

- MPS Version Control For OS

The default value is 1.1.

| | |
|-----|----------------------------------|
| 1.1 | MPS Version Control For OS : 1.1 |
| 1.4 | MPS Version Control For OS : 1.4 |

- OS Select For DRAM>64MB

The default value is Non-OS2.

| | |
|---------|---|
| Non-OS2 | Using non-OS2 operating system. |
| OS2 | Using OS2 operating system and DRAM>64MB. |

- Video BIOS Shadow

It determines whether video BIOS is able to copy to RAM, however, it is optional from chipset design. Video Shadow will increase the video speed. The default value is Enabled.

| | |
|----------|--------------------------|
| Enabled | Video shadow is enabled |
| Disabled | Video shadow is disabled |

4.7. CHIPSET FEATURES SETUP

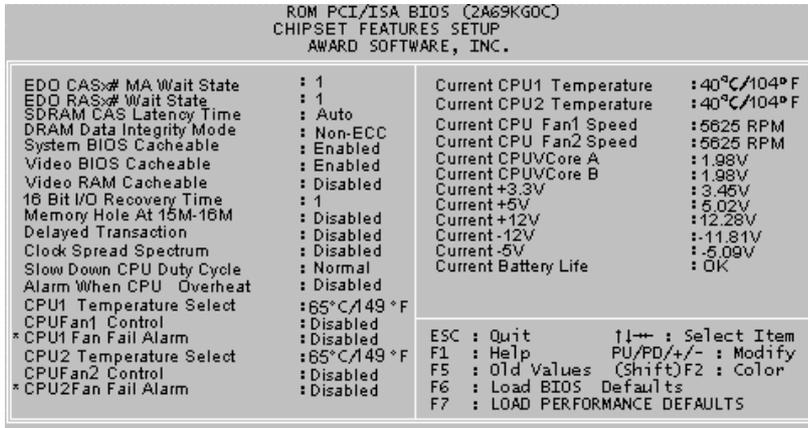


Figure 4.4: Chipset Features Setup

* This item will show up when CPUFan Control set to Enabled.

- EDO CASx# MA Wait State

The default value is 1

| | |
|---|-----------------------------------|
| 1 | Set EDO CASx# MA Wait State to 1. |
| 2 | Set EDO CASx# MA Wait State to 2. |

- EDO RASx# Wait State

The default value is 1

| | |
|---|--------------------------------|
| 1 | Set EDO RASx# Wait State to 1. |
| 2 | Set EDO RASx# Wait State to 2. |

- SDRAM CAS latency Time

The default value is Auto

| | |
|------|---|
| 3 | For 67 / 83 MHz SDRAM DIMM module. |
| 2 | For 100 MHz SDRAM DIMM module. |
| Auto | CAS latency time will be set automatically if you have SPD on SDRAM |

- DRAM Data Integrity Mode

The default value is Non-ECC.

| | |
|---------|--------------------------------------|
| Non-ECC | For 64bit standard type DIMM module. |
| ECC | For 72bit ECC type DIMM module. |

- System BIOS Cacheable

The default value is Enabled.

| | |
|----------|--------------------------------|
| Enabled | Enable System BIOS Cacheable. |
| Disabled | Disable System BIOS Cacheable. |

- Video BIOS Cacheable

The default value is Enabled.

| | |
|----------|-------------------------------|
| Enabled | Enable video BIOS Cacheable. |
| Disabled | Disable video BIOS Cacheable. |

- Video RAM Cacheable

The default value is Disabled.

| | |
|----------|---|
| Disabled | Disable this function. |
| Enabled | Enable this function to get better VGA performance; while some brands of VGA must be disabled this function (e.g.ET4000W32P). |

- 16 Bit I/O Recovery Time

The default value is 1.

| | |
|-----|---|
| 1-4 | Set 16 Bit I/O recovery time from 1 to 4. |
| NA | None. |

- Memory Hole At 15M-16M

The default value is Disabled.

| | |
|----------|---------------------------------------|
| Disabled | Normal Setting. |
| Enabled | Set Address=15~16MB remap to ISA BUS. |

- Delayed Transaction

The default value is Disabled.

| | |
|----------|--------------------------------------|
| Disabled | Normal operation. |
| Enabled | For slow speed ISA device in system. |

- Clock Spread Spectrum

The default value is Disabled.

| | |
|----------|-------------------------------|
| Disabled | Disabled this function |
| Enabled | Enabled Clock Spread Spectrum |

- Slow Down CPU Duty Cycle (Optional)

The default value is Normal.

| | |
|--------|--|
| Normal | Disable Slow Down CPU Duty Cycle. |
| 12.5% | Set Slow Down CPU Duty Cycle to 12.5%. |
| 25.0% | Set Slow Down CPU Duty Cycle to 25.5%. |
| 37.5% | Set Slow Down CPU Duty Cycle to 37.5%. |
| 50.0% | Set Slow Down CPU Duty Cycle to 50.0%. |
| 62.5% | Set Slow Down CPU Duty Cycle to 62.5%. |
| 75.0% | Set Slow Down CPU Duty Cycle to 75.0%. |

- Alarm When CPU Overheat (Optional)

The default value is Disabled.

| | |
|----------|--|
| Disabled | Disable this function. |
| Enabled | Alarm When the temperature of CPU exceeds the limit. |

- CPU Temperature Select (Optional)

The default value is 75°C / 167°F. (Selectable from 65°C/ 158°F to 95°C / 203°F)

| | |
|--------------|--|
| 75°C / 167°F | Monitor CPU Temp. at 75°C / 167°F, if Temp. > 75°C / 167°F will cause system alarming & slow down CPU speed. |
|--------------|--|

- CPUFan1&2 Control (Optional)

The default value is Disabled.

| | |
|----------|--------------------------------------|
| Disabled | Disable this function. |
| Enabled | System will check the CPUFAN status. |

- CPUFan1&2 Fail Alarm (Optional)

The default value is Disabled.

| | |
|----------|---------------------------|
| Disabled | Disable this function. |
| Enabled | Alarm When CPUFAN Failed. |

- Current CPU1&2 Temperature (Optional)

Detect CPU Temperature automatically.

- Current CPUFAN1&2 Speed (Optional)

Detect CPU Fan speed status automatically.

- Current CPU Vcore A / B ,+3.3V , ±12V , ±5V (Optional)

Detect system's voltage status automatically.

- Current Battery Life (Optional)

The default value depends on system monitoring Battery status.

| | |
|------|--|
| Fail | The Battery (3V) voltage is out of SPEC. |
| OK | The Battery (3V) voltage is in SPEC. |

4.8. POWER MANAGEMENT SETUP



Figure 4.5: Power Management Setup

* These two items will show up when Resume by Alarm is enabled.

- Power Management

The default value is Enabled.

| | |
|----------|-------------------------|
| Enabled | Enable Green function. |
| Disabled | Disable Green function. |

- PM Control by APM

The default value is Yes.

| | |
|-----|--------------------------------|
| Yes | Enable software APM function. |
| No | Disable software APM function. |

- Video off Method

The default value is DPMS Supported.

| | |
|----------------|--|
| V/H SYNC+Blank | BIOS will turn off V/H-SYNC when gets into Green mode for Green monitor power saving. |
| Blank Screen | BIOS will only black monitor when gets into Green mode. |
| DPMS Supported | BIOS will use DPMS Standard to control VGA card. (The Green type VGA card will turn off V/H-SYNC automatically.) |

- Suspend Mode

The default value is Disable.

| | |
|----------------|--|
| Disabled | Disable Suspend Mode. |
| 1 min - 1 Hour | Setup the timer to enter Suspend Mode. |

- HDD Power Down

The default value is Disable.

| | |
|------------|--|
| Disable | Disable HDD Power Down mode function. |
| 1-15 mins. | Enable HDD Power Down mode between 1 to 15 mins. |

- VGA Active Monitor

The default value is Disabled.

| | |
|----------|-------------------------------|
| Disabled | Disable monitor VGA activity. |
| Enabled | Enable monitor VGA activity. |

- Soft-off by PWR-BTTN

The default value is Instant-Off.

| | |
|--------------|-------------------------------------|
| Instant-off | Soft switch ON/OFF for POWER ON/OFF |
| Delay 4 Sec. | Soft switch ON 4sec. for POWER OFF. |

- CPUFAN Off In Suspend

The default value is Enabled.

| | |
|----------|--|
| Disabled | Disable this function. |
| Enabled | Stop CPU FAN when entering Suspend mode. |

- Resume by Alarm

The default value is Disabled.

| | |
|----------|---|
| Disabled | Disable this function. |
| Enabled | Enable alarm function to POWER ON system. |

If the default value is Enabled.

| | |
|----------------------------|--------------------------|
| Date (of Month) Alarm : | 0~31 |
| Time (hh: mm: ss) Alarm : | (0~23) : (0~59) : (0~59) |

- IRQ [3-7,9-15], NMI

The default value is Enabled.

| | |
|----------|--|
| Disabled | Disable this function. |
| Enabled | Enable monitor IRQ [3-7,9-15] for Green event. |

- Primary IDE 0 / 1

The default value is Disabled.

| | |
|----------|---|
| Disabled | Disable this function. |
| Enabled | Enable monitor Primary IDE 0 / 1 for Green event. |

- Secondary IDE 0 / 1

The default value is Disabled.

| | |
|----------|---|
| Disabled | Disable this function. |
| Enabled | Enable monitor Secondary IDE 0 / 1 for Green event. |

- Floppy Disk

The default value is Enabled.

| | |
|----------|---|
| Disabled | Disable this function. |
| Enabled | Enable monitor Floppy Disk for Green event. |

- Serial Port

The default value is Enabled.

| | |
|----------|---|
| Disabled | Disable this function. |
| Enabled | Enable monitor Serial Port for Green event. |

- Parallel Port

The default value is Disabled.

| | |
|----------|---|
| Disabled | Disable this function. |
| Enabled | Enable monitor Parallel Port for Green event. |

4.9. PNP/PCI CONFIGURATION

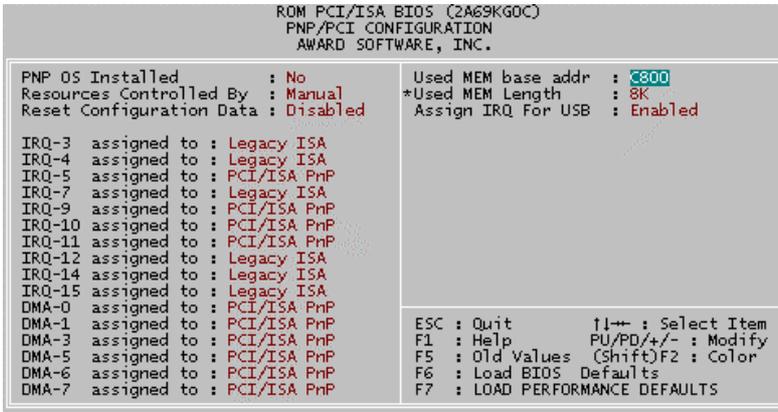


Figure 4.6: PCI Slot Configuration

* This item will show up when Used MEM base addr has been set.

- PNP OS Installed

The default value is No.

| | |
|-----|------------------------------------|
| Yes | Enable PNP OS Installed function. |
| No | Disable PNP OS Installed function. |

- Resources Controlled by

The default value is Manual.

| | |
|--------|--|
| Manual | User can set the PnP resource (I/O Address, IRQ & DMA channels) used by legacy ISA DEVICE. |
| Auto | BIOS automatically use these PnP rescuers. |

- Reset Configuration Data

The default value is Disabled.

| | |
|----------|---------------------------------------|
| Disabled | Disable this function. |
| Enabled | Enable clear PnP information in ESCD. |

- IRQ (3,4,5,7,9,10,11,12,14,15), DMA(0,1,3,5,6,7) assigned to

The default value is "Legacy ISA" or "PCI/ISA PnP".

| | |
|-------------|--|
| Legacy ISA | The resource is used by Legacy ISA device. |
| PCI/ISA PnP | The resource is used by PCI/ISA PnP device (PCI or ISA). |

- Used MEM base addr

The default value is N/A.

| | |
|-------------|---|
| N/A | Disable the MEM. block using. |
| C800 ~ DC00 | Select the MEM. block starting address. |

- Used MEM Length

The default value is 8K.

| | |
|----------|-----------------------------|
| 8K ~ 64K | Select the MEM. block size. |
|----------|-----------------------------|

- Assign IRQ For USB

The default value is Enabled.

| | |
|----------|-------------------------------|
| Enabled | Assign a specific IRQ for USB |
| Disabled | No IRQ is assigned for USB |

4.10. LOAD BIOS DEFAULTS

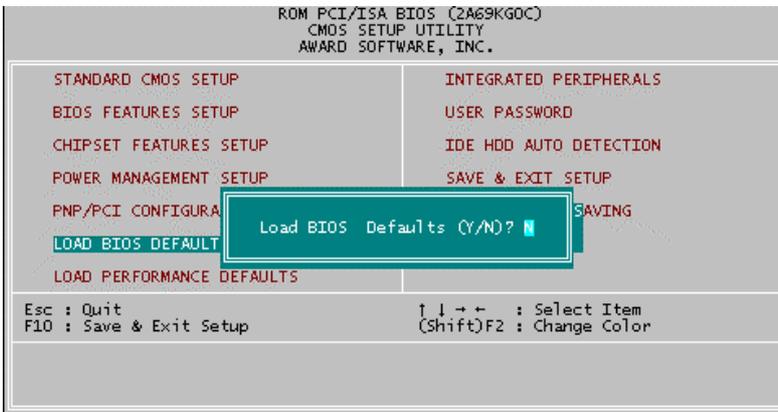


Figure 4.7: Load Bios Defaults

- Load BIOS Defaults
To load BIOS defaults value to CMOS SRAM, enter "Y". If not, enter "N".

4.11. LOAD PERFORMANCE DEFAULTS

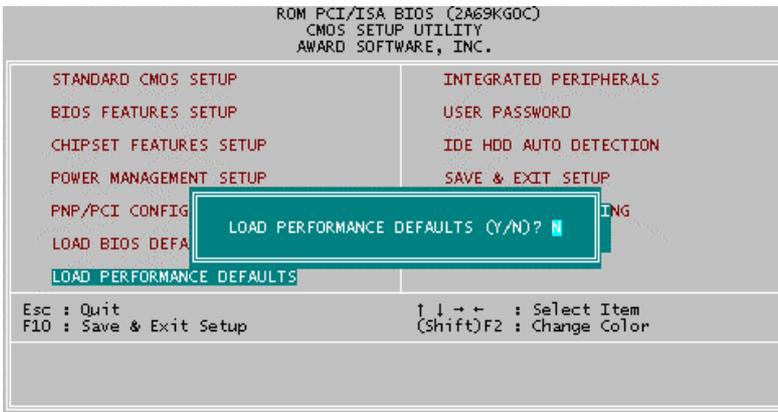


Figure 4.8: Load Performance Defaults

- Load PERFORMANCE Defaults
To load SETUP defaults value to CMOS SRAM, enter "Y". If not, enter "N".

4.12. INTEGRATED PERIPHERALS

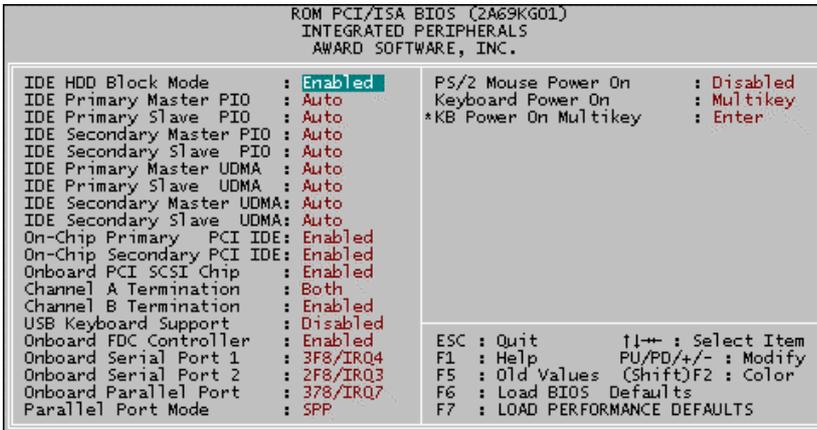


Figure 4.9: Integrated Peripherals

* This item will show up when “Keyboard Power On : Multikey” is selected.

- IDE HDD Block Mode
The default value is Enabled.

| | |
|----------|----------------------------|
| Enabled | Enable IDE HDD Block Mode |
| Disabled | Disable IDE HDD Block Mode |

- IDE Primary Master PIO (for onboard IDE 1st channel).

The default value is Auto.

| | |
|---------|--|
| Auto | BIOS will automatically detect the IDE HDD Accessing mode. |
| Mode0~4 | Manually set the IDE Accessing mode. |

- IDE Primary Slave PIO (for onboard IDE 1st channel).

The default value is Auto.

| | |
|---------|--|
| Auto | BIOS will automatically detect the IDE HDD Accessing mode. |
| Mode0~4 | Manually set the IDE Accessing mode. |

- IDE Secondary Master PIO (for onboard IDE 2nd channel).

The default value is Auto.

| | |
|---------|--|
| Auto | BIOS will automatically detect the IDE HDD Accessing mode. |
| Mode0~4 | Manually set the IDE Accessing mode. |

- IDE Secondary Slave PIO (for onboard IDE 2nd channel).

The default value is Auto.

| | |
|---------|--|
| Auto | BIOS will automatically detect the IDE HDD Accessing mode. |
| Mode0~4 | Manually set the IDE Accessing mode. |

- IDE Primary Master UDMA.

The default value is Auto.

| | |
|----------|--|
| Auto | BIOS will automatically detect the IDE HDD Accessing mode. |
| Disabled | Disable UDMA function. |

- IDE Primary Slave UDMA.

The default value is Auto.

| | |
|----------|--|
| Auto | BIOS will automatically detect the IDE HDD Accessing mode. |
| Disabled | Disable UDMA function. |

- IDE Secondary Master UDMA.

The default value is Auto.

| | |
|----------|--|
| Auto | BIOS will automatically detect the IDE HDD Accessing mode. |
| Disabled | Disable UDMA function. |

- IDE Secondary Slave UDMA.

The default value is Auto.

| | |
|----------|--|
| Auto | BIOS will automatically detect the IDE HDD Accessing mode. |
| Disabled | Disable UDMA function. |

- On-Chip Primary PCI IDE

The default value is Enabled.

| | |
|----------|---------------------------------------|
| Enabled | Enable onboard 1st channel IDE port. |
| Disabled | Disable onboard 1st channel IDE port. |

- On-Chip Secondary PCI IDE

The default value is Enabled.

| | |
|----------|---------------------------------------|
| Enabled | Enable onboard 2nd channel IDE port. |
| Disabled | Disable onboard 2nd channel IDE port. |

- Onboard PCI SCSI chip

The default value is Enabled.

| | |
|----------|--------------------------------|
| Enabled | Enable onboard PCI SCSI chip. |
| Disabled | Disable onboard PCI SCSI chip. |

- Channel A Termination

The default value is Both.

| | |
|-----------|------------------------------|
| Both | Support All SCSI Device. |
| None | Disable SCSI Device Support. |
| Low Byte | Low Byte-ON. |
| High Byte | High Byte-ON. |

- Channel B Termination

The default value is Enabled.

| | |
|----------|-------------------------------|
| Enabled | Enable Channel B Termination |
| Disabled | Disable Channel B Termination |

● If you don't have SCSI devices connecting to the mainboard, please set up the functions below :

1. Onboard PCI SCSI chip: Enabled
2. Channel A Termination: None
3. Channel B Termination: Disabled

Otherwise, the HD LED of the mainboard will always light on.

- USB Keyboard Support

The default value is Disabled.

| | |
|----------|-------------------------------|
| Enabled | Enable USB Keyboard Support. |
| Disabled | Disable USB Keyboard Support. |

- Onboard FDC Controller

The default value is Enabled.

| | |
|----------|---------------------------|
| Enabled | Enable onboard FDD port. |
| Disabled | Disable onboard FDD port. |

- Onboard Serial Port 1

The default value is 3F8/IRQ4.

| | |
|----------|---|
| Auto | BIOS will automatically setup the port 1 address. |
| 3F8/IRQ4 | Enable onboard Serial port 1 and address is 3F8. |
| 2F8/IRQ3 | Enable onboard Serial port 1 and address is 2F8. |
| 3E8/IRQ4 | Enable onboard Serial port 1 and address is 3E8. |
| 2E8/IRQ3 | Enable onboard Serial port 1 and address is 2E8. |
| Disabled | Disable onboard Serial port 1. |

- Onboard Serial Port 2

The default value is 2F8/IRQ3.

| | |
|----------|---|
| Auto | BIOS will automatically setup the port 2 address. |
| 3F8/IRQ4 | Enable onboard Serial port 2 and address is 3F8. |
| 2F8/IRQ3 | Enable onboard Serial port 2 and address is 2F8. |
| 3E8/IRQ4 | Enable onboard Serial port 2 and address is 3E8. |
| 2E8/IRQ3 | Enable onboard Serial port 2 and address is 2E8. |
| Disabled | Disable onboard Serial port 2. |

- Onboard Parallel port

The default value is 378/IRQ7.

| | |
|----------|--|
| 378/IRQ7 | Enable onboard LPT port and address is 378/IRQ7. |
| 278/IRQ5 | Enable onboard LPT port and address is 278/IRQ5. |
| Disabled | Disable onboard LPT port. |
| 3BC/IRQ7 | Enable onboard LPT port and address is 3BC/IRQ7. |

- Parallel Port Mode

The default value is SPP.

| | |
|---------|--|
| SPP | Using Parallel port as Standard Printer Port. |
| EPP | Using Parallel port as Enhanced Parallel Port. |
| ECP | Using Parallel port as Extended Capabilities Port. |
| ECP+EPP | Using Parallel port as ECP & EPP mode. |

- PS/2 Mouse Power on

The default value is Disabled.

| | |
|----------|--|
| Disabled | Disable PS/2 Mouse Power on . |
| DbiClick | Click twice on PS/2 mouse any button to Power on system. |

- Keyboard Power on

The default value is Disabled.

| | |
|----------|--|
| Disabled | Disable Keyboard Power on . |
| Multikey | Enter multikey combination to Power on system. |

- KB Power ON Multikey

| | |
|-------|---|
| Enter | Enter from 1 to 5 characters to set the Keyboard Power On Password. |
|-------|---|

-  **you can choose to power on your system by entering password and then pressing the ENTER key from your keyboard.**

4.13. USER PASSWORD

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

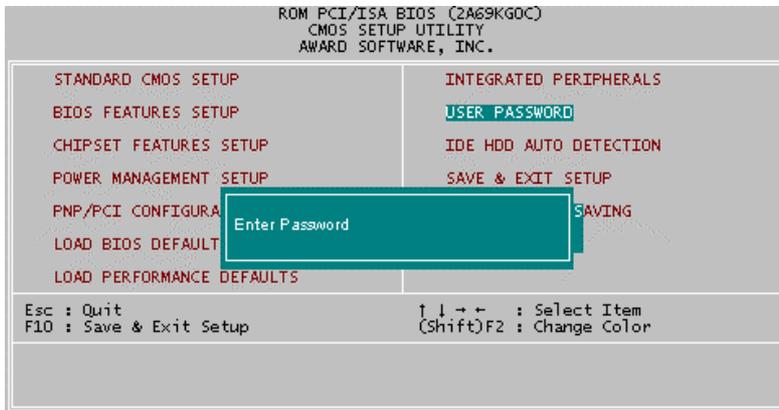


Figure 4.10: Password Setting

Type the password, up to eight characters, and press <Enter>. The password typed now will clear the previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable password, just press <Enter> when you are prompted to enter password. A message "PASSWORD DISABLED" will appear to confirm the password being disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

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

4.14. IDE HDD AUTO DETECTION

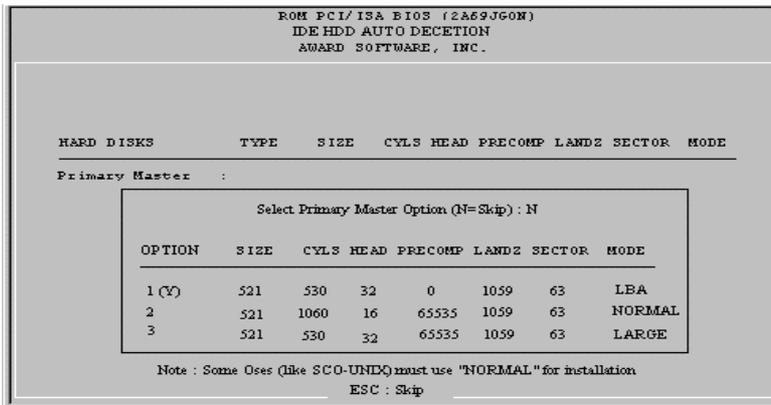


Figure 4.11: IDE HDD Auto Detection

Type "Y" will accept the H.D.D. parameter reported by BIOS.

Type "N" will keep the old H.D.D. parameter setup. If the hard disk cylinder number is over 1024, then the user can select LBA mode or LARGER mode for DOS partition larger than 528 MB.

4.15. SAVE & EXIT SETUP

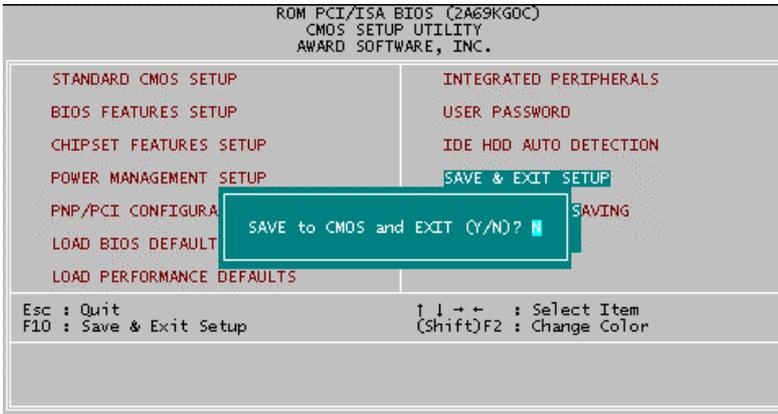


Figure 4.12: Save & Exit Setup

Type "Y" will quit the Setup Utility and save the user setup value to RTC CMOS SRAM.

Type "N" will return to Setup Utility.

4.16. EXIT WITHOUT SAVING

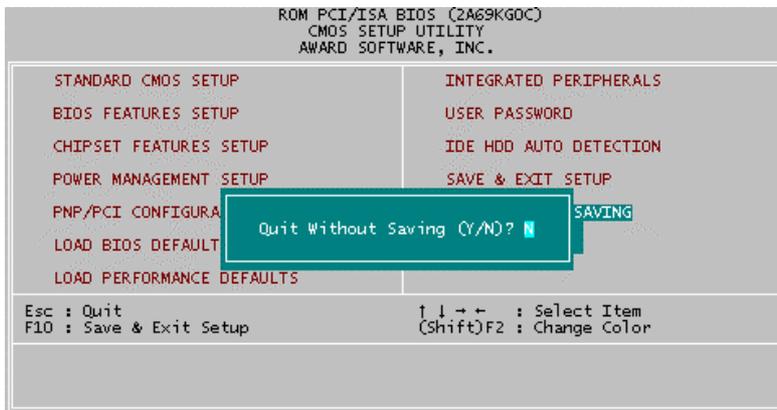


Figure 4.13: Exit Without Saving

Type "Y" will quit the Setup Utility without saving to RTC CMOS SRAM.

Type "N" will return to Setup Utility.

| |
|---|
| <p align="center">DECLARATION OF CONFORMITY Per FCC Part 2 Section 2.1077(a)</p> <p align="center">FC</p> <p>Responsible Party Name: G.B.T. INC. Address: 18365 Valley Blvd., Suite#A LA Puente, CA 91744 Phone/Fax No: (818) 854-9338 / (818) 854-9339</p> <p>hereby declares that the product Product Name: Mother Board Model Number: GA-6BXDS</p> <p>Conforms to the following specifications: FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109(a), Class B Digital Device</p> <p>Supplementary Information: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.</p> <p>Representative Person's Name: <u>ERIC LIU</u> Signature: <u>Eric Liu</u> Date: <u>May 13, 1998</u></p> |
|---|

FCC Compliance Statement:

This equipment has been tested and found to comply with limits for a Class B digital device , pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or

television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Move the equipment away from the receiver
- Plug the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/television technician for additional suggestions

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void Your authority to operate such equipment.

This device complies with Part 15 of the FCC Rules. Operation is subjected to the following two conditions 1) this device may not cause harmful interference and 2) this device must accept any interference received, including interference that may cause undesired operation.

Declaration of Conformity

We, Manufacturer/Importer
(full address)

G.B.T. Technology Trading GmbH
Ausschlagler Weg 41, 1F, 20537 Hamburg, Germany

declare that the product
(description of the apparatus, system, installation to which it refers)

Mother Board
GA-6BXDS

is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 89/336 EEC-EMC Directive

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> EN 55011 | Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) high frequency equipment | <input type="checkbox"/> EN 61000-3-2* <input checked="" type="checkbox"/> EN60555-2 | Disturbances in supply systems caused by household appliances and similar electrical equipment "Harmonics" |
| <input type="checkbox"/> EN55013 | Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment | <input type="checkbox"/> EN61000-3-3* <input checked="" type="checkbox"/> EN60555-3 | Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations" |
| <input type="checkbox"/> EN 55014 | Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus | <input checked="" type="checkbox"/> EN 50081-1 <input checked="" type="checkbox"/> EN 50082-1 | Generic emission standard Part 1: Residual, commercial and light industry Generic immunity standard Part 1: Residual, commercial and light industry |
| <input type="checkbox"/> EN 55015 | Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries | <input type="checkbox"/> EN 55081-2 | Generic emission standard Part 2: Industrial environment |
| <input type="checkbox"/> EN 55020 | Immunity from radio interference of broadcast receivers and associated equipment | <input type="checkbox"/> EN 55082-2 | Generic immunity standard Part 2: Industrial environment |
| <input checked="" type="checkbox"/> EN 55022 | Limits and methods of measurement of radio disturbance characteristics of information technology equipment | <input type="checkbox"/> ENV 55104 | Immunity requirements for household appliances tools and similar apparatus |
| <input type="checkbox"/> DIN VDE 0855 <input type="checkbox"/> part 10 <input type="checkbox"/> part 12 | Cabled distribution systems; Equipment for receiving and/or distribution from sound and television signals | <input type="checkbox"/> EN 50091- 2 | EMC requirements for uninterruptible power systems (UPS) |

CE marking



(EC conformity marking)

The manufacturer also declares the conformity of above mentioned product with the actual required safety standards in accordance with LVD 73/23 EEC

- | | | | |
|-----------------------------------|---|-------------------------------------|---|
| <input type="checkbox"/> EN 60065 | Safety requirements for mains operated electronic and related apparatus for household and similar general use | <input type="checkbox"/> EN 60950 | Safety for information technology equipment including electrical business equipment |
| <input type="checkbox"/> EN 60335 | Safety of household and similar electrical appliances | <input type="checkbox"/> EN 50091-1 | General and Safety requirements for uninterruptible power systems (UPS) |

Manufacturer/Importer

Signature : Rex Lin

(Stamp)

Date : May. 13, 1998

Name : Rex Lin