6BXD

USER'S MANUAL

1. **System power on by PS/2 Mouse: If you are using ATX power supply, you are able to 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 720 mA 5V Stand-By current, 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. (The ATX power supply supports larger than 600 mA)**

5. **Support 3 steps ACPI LED selectable.**

Pentium^a II Processor MAINBOARD

REV. 1 First Edition

R-01-01-080514

The author assumes no responsibility for any errors or omissions which may appear in this document nor does it make a commitment to update the information contained herein.

MAY 14, 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 (JP10) 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

☀**JP10**   (Select the system speed between 66.6MHz and 100MHz)

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

💣**There are two ways to set system speed**
1.   **66MHz (JP10) (1-2 short) or Auto detect (2-3 short)**
2.   **100MHz (JP10) (1-2-3 open) or Auto detect (2-3 short)**

1. Pentium® II 300 / 100MHz FSB
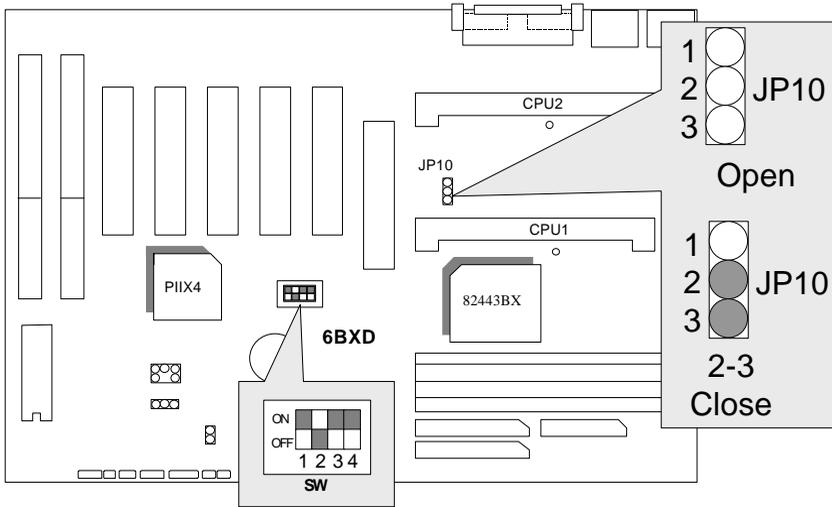
2. Pentium® II 350 / 100MHz FSB
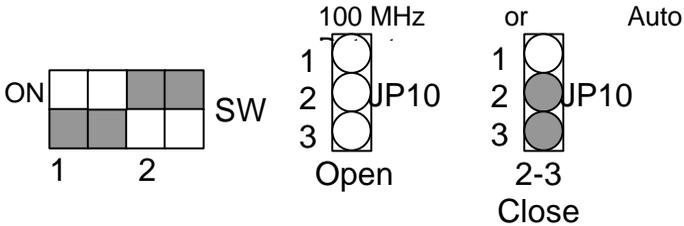
3. Pentium® II 400 / 100MHz FSB
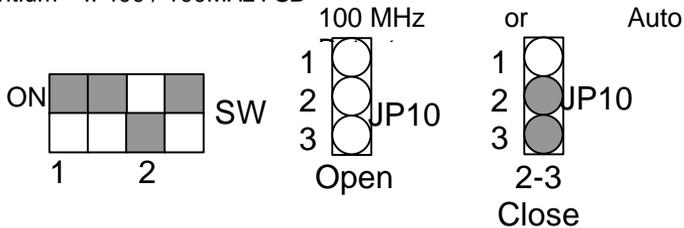
4. Pentium® II 450 / 100MHz FSB

ON | | | | SW
1   2

100 MHz
1 ○
2 ○ JP10
3 ○
Open

or

Auto
1 ○
2 ●
3 ● JP10
2-3
Close
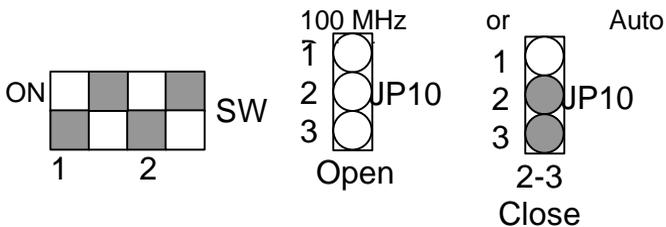
5. Pentium® II 233 MHz / 66MHz FSB

ON | | | | SW
1   2

66 MHz
1 ●
2 ● JP10
3 ○
1-2 Short

or

Auto
1 ○
2 ● JP10
3 ●
2-3
Close
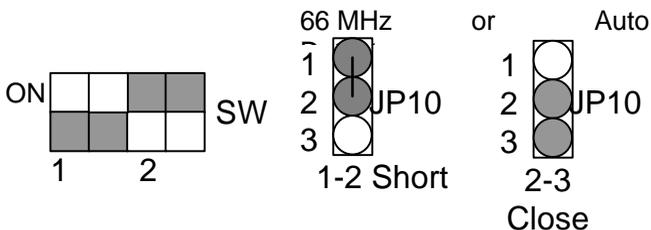
6. Pentium® II 266 / 66MHz FSB

ON | | | | SW
1   2

66 MHz
1 ●
2 ● JP10
3 ○
1-2 Short

or

Auto
1 ○
2 ● JP10
3 ●
2-3
Close
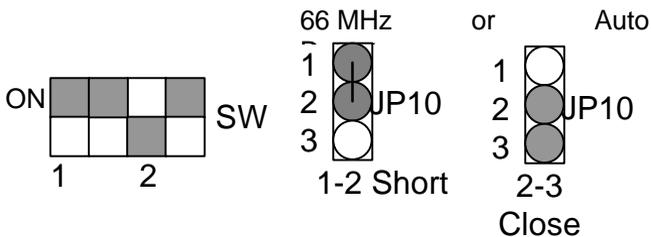
7. Pentium® II 300 MHz / 66MHz FSB

ON | | | | SW
1   2

66 MHz
1 ●
2 ● JP10
3 ○
1-2 Short

or

Auto
1 ○
2 ● JP10
3 ●
2-3
Close
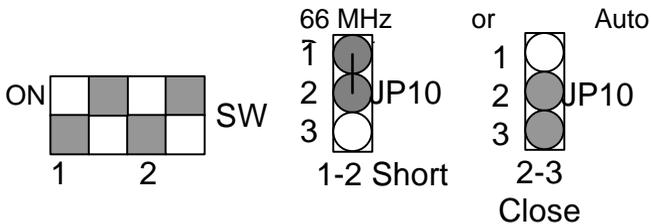
8. Pentium® II 333 / 66MHz FSB

66 MHz   or   Auto

ON

II. Jump

SW

1   2

1
2 JP10
3

1-2 Short

1
2 JP10
3

2-3
Close
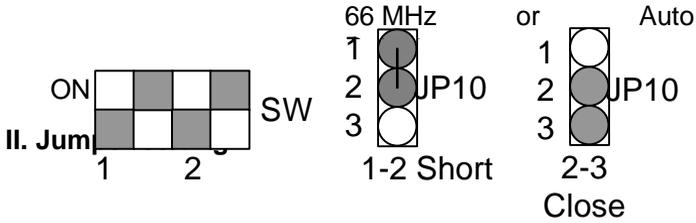
9. Pentium® II 366 / 66MHz FSB

66 MHz   or   Auto

ON

SW

1   2

1
2 JP10
3

1-2 Short

1
2 JP10
3

2-3
Close

SPK : Speaker Connector

Pin No.	Function
1	VCC
2	NC
3	NC
4	Data

CPU2

JP10

CPU1

PIIX4

82443BX

6BXD
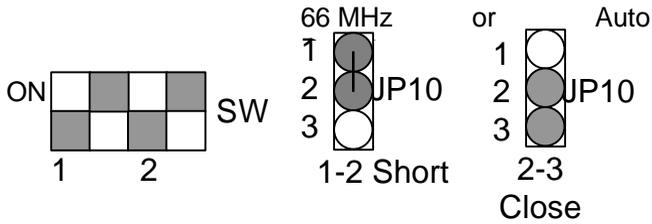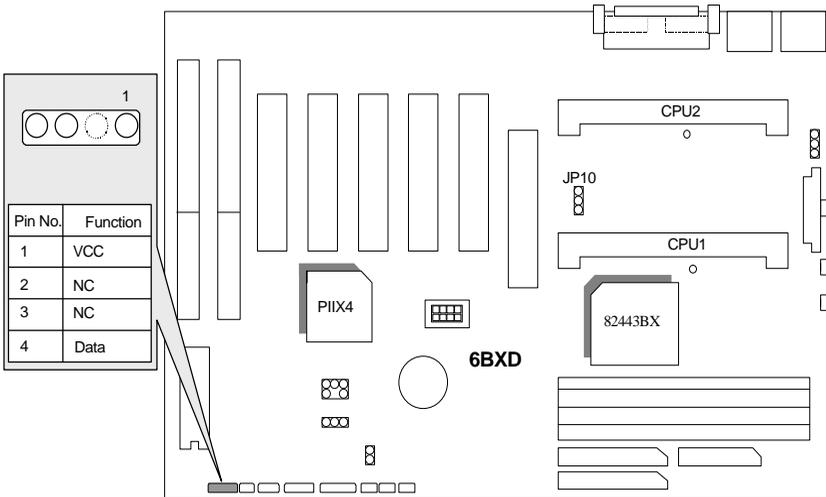
RST : Rest Switch

PWR : Power LED

Pin No.	Function
1	LED anode (+)
2	LED athode (-)
3	LED athode (-)

HD : IDE Hard Disk Active LED

Pin No.	Function
1	LED anode (+)
2	LED cathode (-)
3	NC
4	LED anode (+)

6BXD

IR : Infrared Connector

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

6BXD
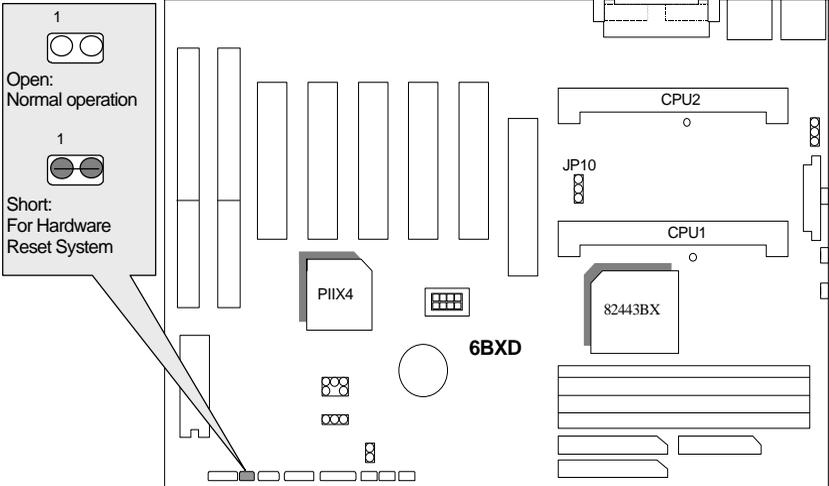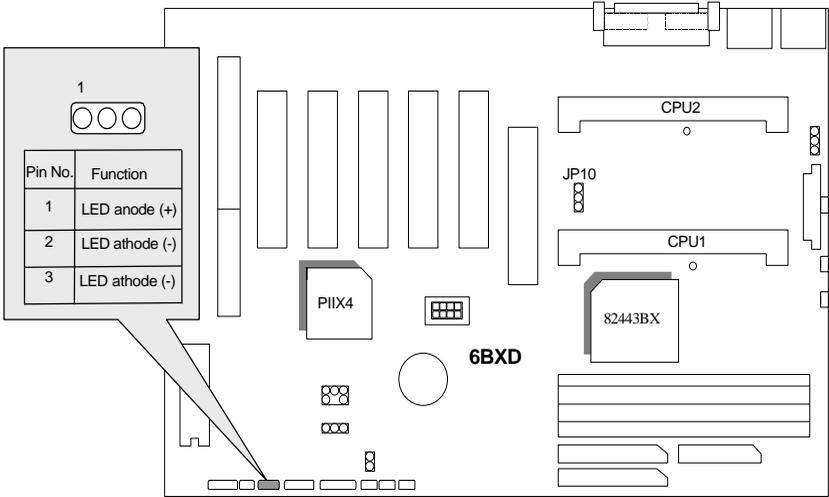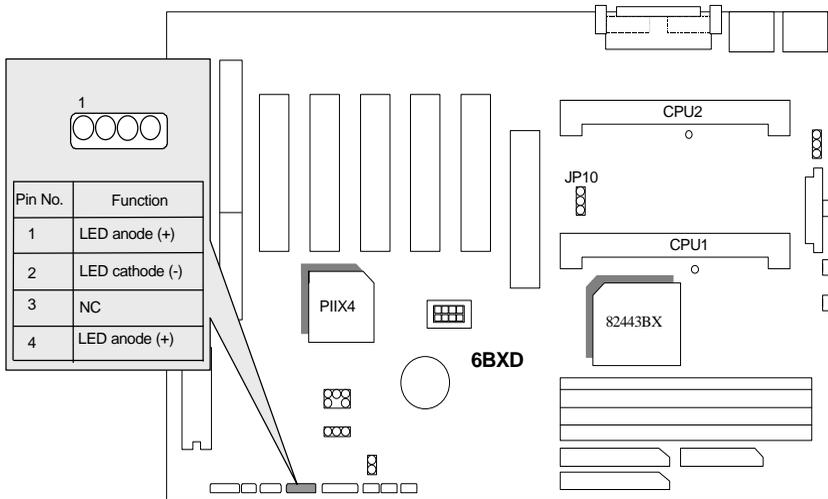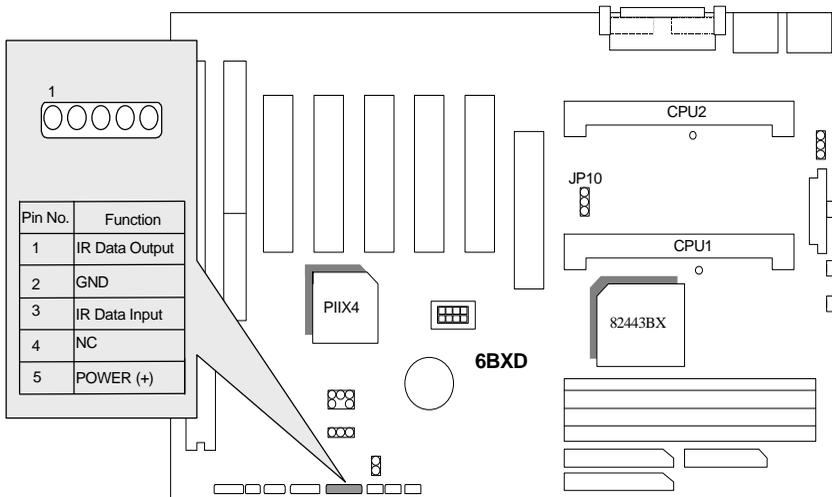
GN : Green Function Switch

1

Open:
Normal operation

1

Short:
Entering Green Mode.

CPU2

JP10

CPU1

82443BX

PIIX4

6BXD
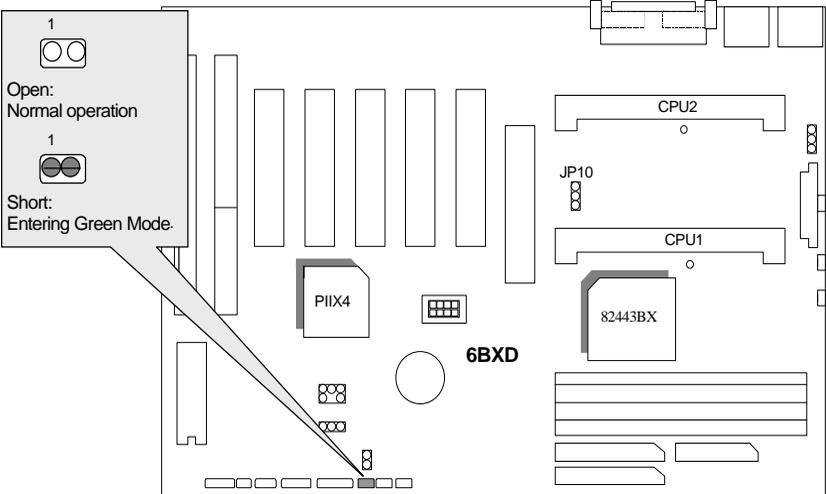
Soft PWR : Soft Power Connector

1

Open:
Normal operation

1

Short(Two Option):
1.Instant On/Off: Power
On/Off system immediately

2.Delay 4Seconds:
Power Off system Press
over 4 Secs.

CPU2

JP10

CPU1

82443BX

PIIX4

6BXD
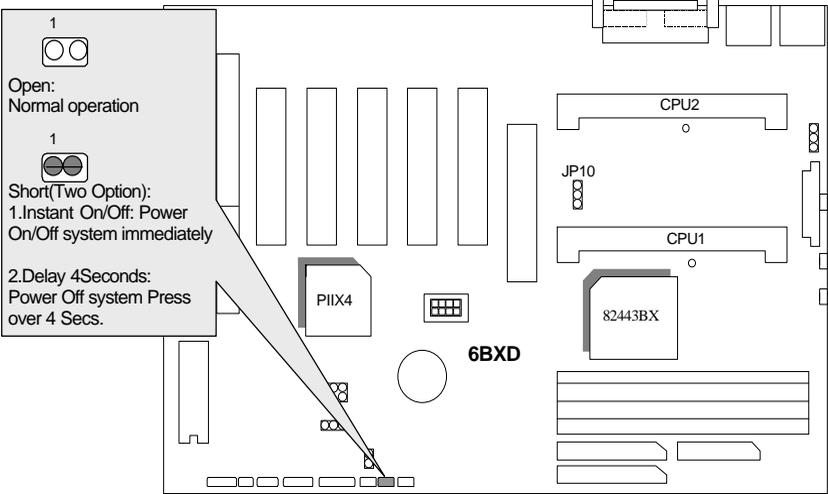
GD : Green Function Active LED Connector

Pin No.	Function
1	LED anode (+)
2	LED athode (-)

POWER : Power Connector

Pin No.	Function
3,5,7 13,15-17	GND
4,6,19,20	VCC (+5V)
10	+12V
12	-12V
18	-5V
8	Power Good
9	5V SB (Stand by +5V)
14	PS-ON (Soft ON/OFF)
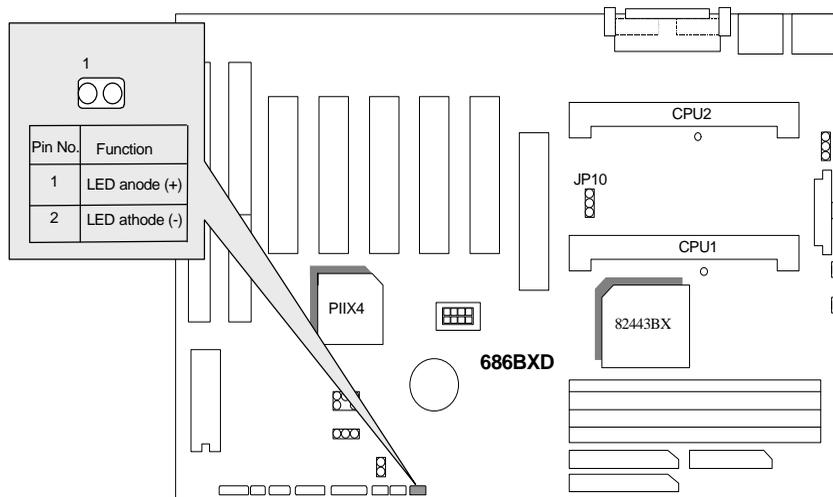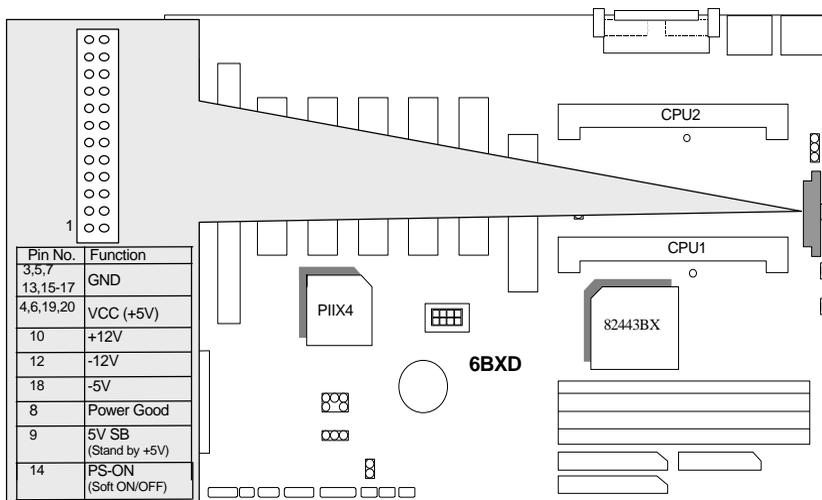
J1 & J2 : CPU Cooling Fan Power Connector

Pin No.	Function
1	GND
2	+12V
3	SENSE
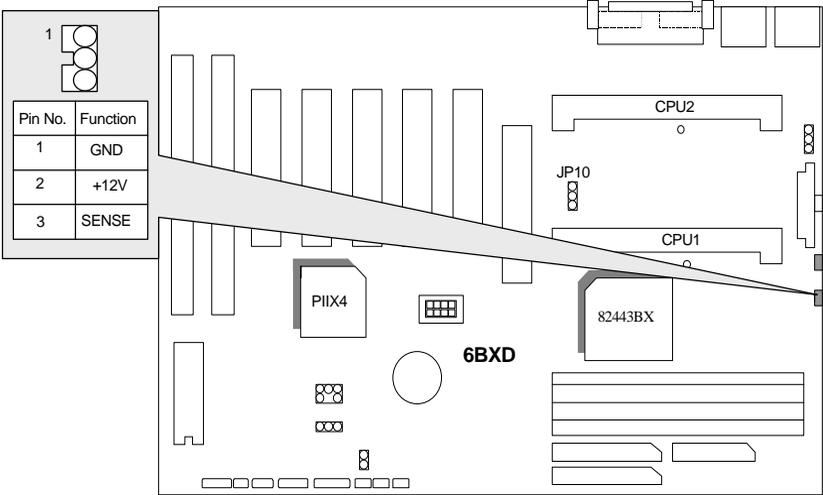
J3 : Keyboard Connector & PS/2 Mouse

PS/2 Mouse PS/2 Keyboard	
Pin No.	Function
1	Data
2	NC
3	GND
4	VCC(+5)
5	Clock
6	NC
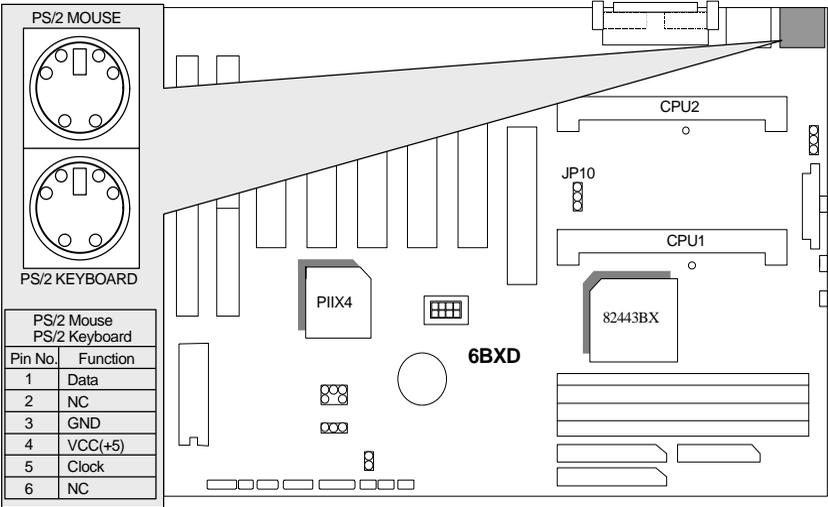
CN1 : USB Port
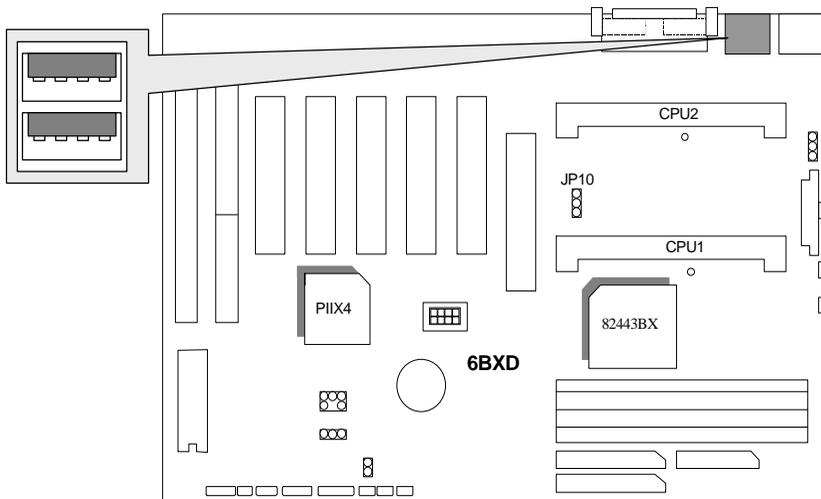
J5: LPT PORT
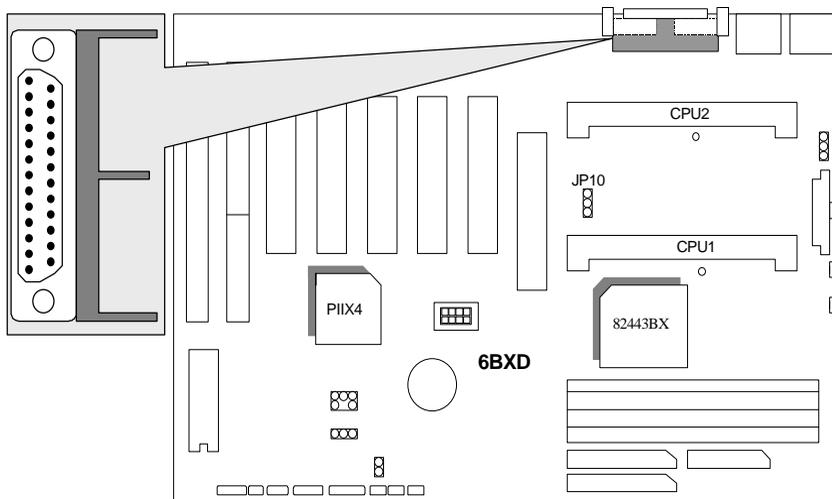
JP3: COM A
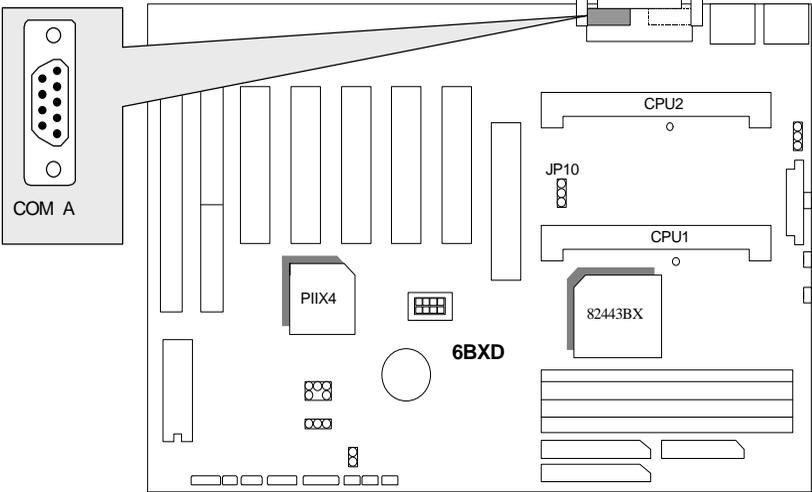
JP2: COM B
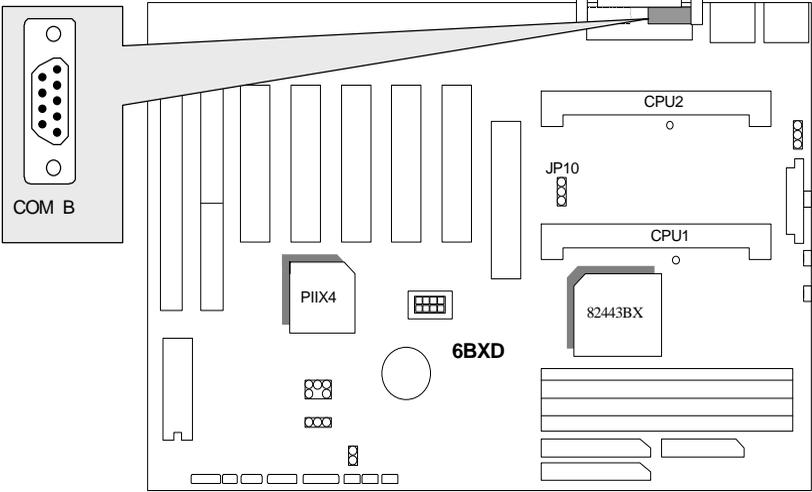
IDE1: For Primary IDE port
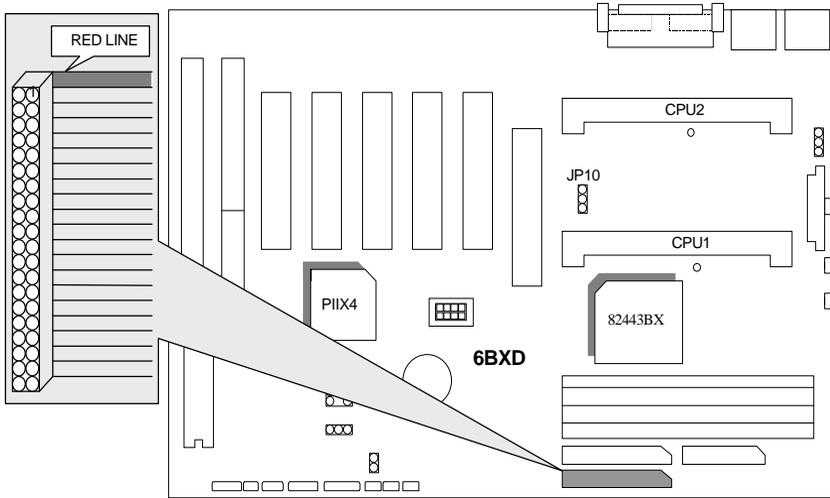
IDE2: For Secondary IDE port
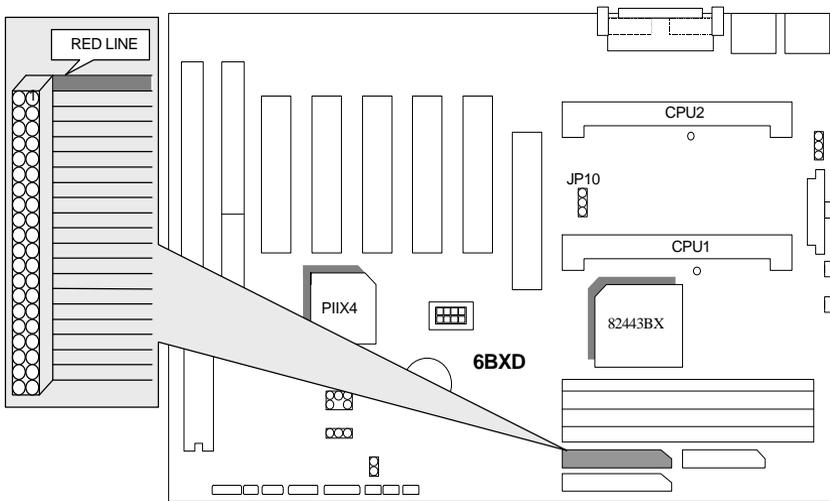
FLOPPY : FLOPPY PORT
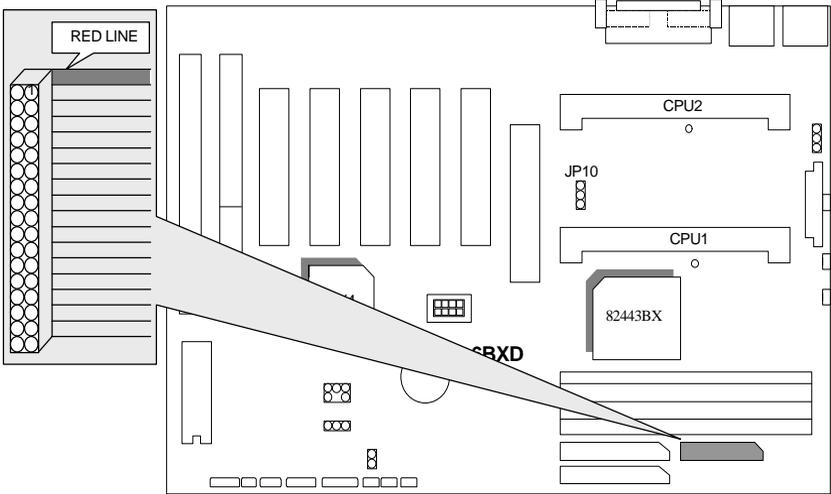
JP1 : Keyboard Power On
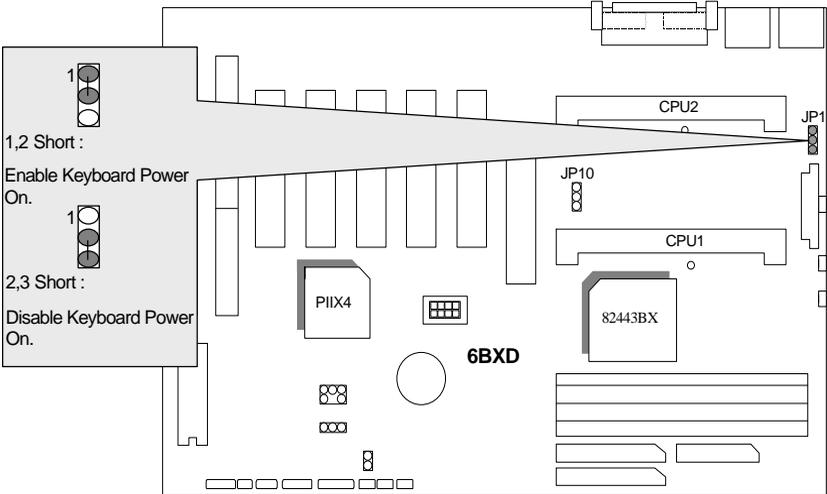
JP12: Wake on Lan

Pin No.	Function
1	+5V
2	GND
3	Signal

J12: System After Ac Back

Open: Soft Off
Short: Full on/Soft Off

Pin No.	Function
1	Signal
2	GND

JP11: For PCI Audio / Sound Card use only

Pin No.	Function
1	Signal
2	GND
3	NC
4	Signal
5	GND
6	Signal
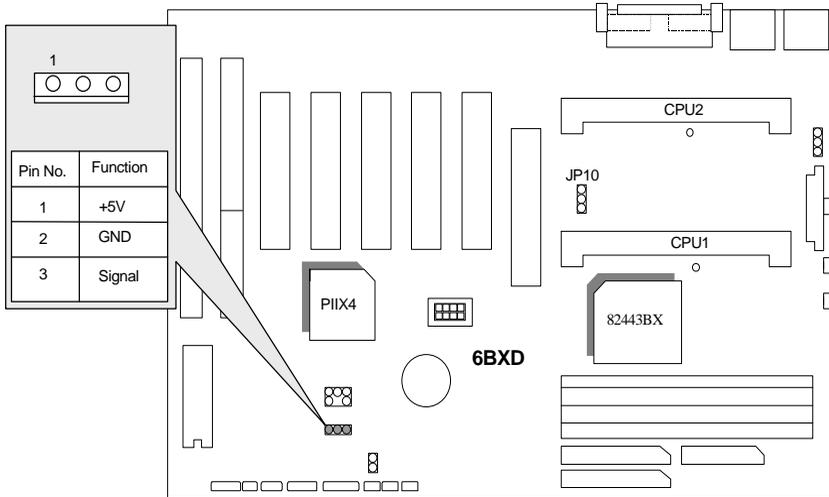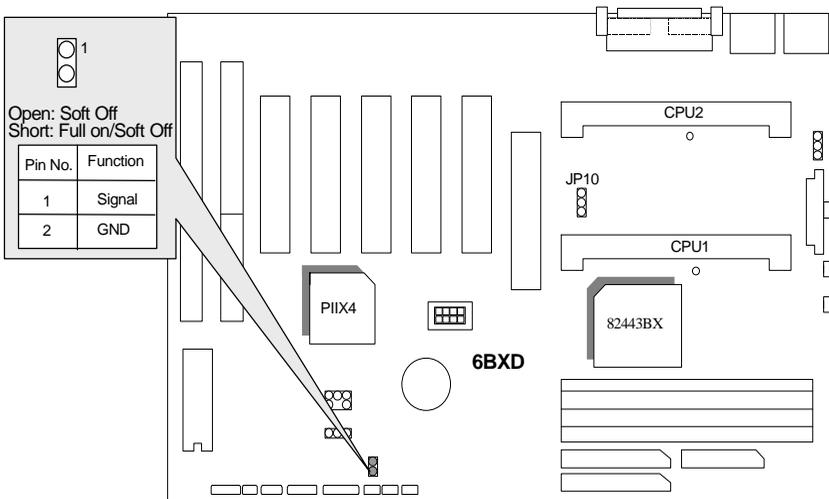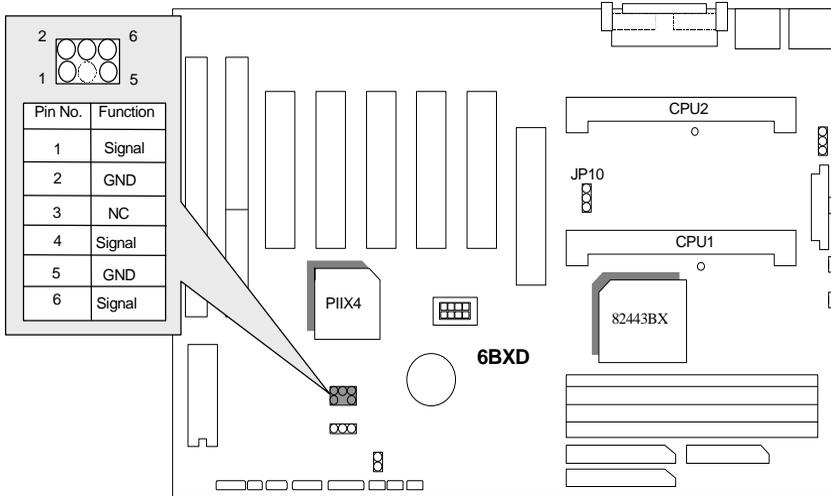
III.   Top Performance Test Setting:

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


```
                    ROM PCI/ISA BIOS (2A69KG00)
                      CHIPSET FEATURES SETUP
                      AWARD SOFTWARE, INC.

 EDO CASx# MA Wait State  : 1      Current CPU1 Temperature : 40°C/104°F
 EDO RASx# Wait State     : 1      Current CPU2 Temperature : 40°C/104°F
 SDRAM CAS latency Time    : 2      Current CPU Fan1 Speed   : 5611RPM
 DRAM Data Integrity Mode : Non-ECC Current CPU Fan2 Speed   : 5611RPM
 System BIOS Cacheable    : Enabled  Current CPUVCore A       :  1.99 V
 Video  BIOS Cacheable    : Enabled  Current CPUVCore B       :  1.51 V
 Video RAM Cacheable      : Disabled Current +3.3V            :  3.34 V
 16 Bit I/O Recovery Time : 1        Current +5 V             :  5.02 V
 Memory Hole At 15M-16M   : Disabled Current +12 V            : 12.19 V
 Delayed Transaction      : Disabled Current -12 V            :-11.88 V
 Clock Spread Spectrum    : Disabled Current -5 V             :- 5.01 V
 Slow Down CPU Duty Cycle : Disabled Current Battery Life     :  OK

 Alarm When CPU Overheat  : Disabled
 CPU1 Temperature Select  : 75°C/167°F
 CPUFan1 Control          : Disabled  ESC : Quit          ↑↓←→ : Select Item
*CPUFan1 Fail Alarm       : Disabled  F1  : Help      PU/PD/+/- : Modify
 CPU2 Temperature Select  : 75°C/167°F F5  : Old Values  (Shift)F2 : Color
 CPUFan2 Contrl           : Disabled  F6  : Load BIOS  Defaults
*CPUFan2 Fail Alarm       : Disabled  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 .

TABLE OF CONTENTS

1. INTRODUCTION

1.1. PREFACE

Welcome to use the **6BXD** motherboard. The motherboard is a Dual Pentium® II Processor based PC / AT compatible system with AGP / PCI / 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 Dual Pentium® II Processor based PC / AT compatible mainboard.

❑ Dual Slot 1 on board supports dual Pentium® II processor running at 200-633MHz.

❑ Intel 440BX chipset, Support AGP / SDRAM / Ultra DMA/33 IDE / ACPI features.

❑ Support CPU FAN Failure / Overheat Alarm & auto slow down CPU speed.

❑ Support PS/2 mouse & Keyboard Wake Up function.

❑ Support Intel LDCM® Network Manageability.

❑ Support PCI Audio & Wake on Lan function.

❑ Supports 4xDIMMs using 3.3V EDO or SDRAM DIMM module.

❑ Supports 8 MB - 1 GB EDO / 1GB SDRAM memory on board.

❑ Supports ECC or Non-ECC type DRAM module.

❑ 1xAGP slot, 5xPCI Bus slots, 2xISA Bus slots.

❑ Supports 2 channels Ultra DMA/33 IDE ports for 4 IDE Devices.

❑ Supports 2xCOM (16550), 1xLPT (EPP / ECP), 1x1.44MB Floppy port.

❑ Supports 2xUSB ports, 1xPS/2 Mouse & 1xPS/2 Keyboard ports.

❑ Licensed AWARD BIOS, 2M bits FLASH RAM.

❑ ATX form factor, Double stack I/O connector, 4 layers PCB.

1.3. PERFORMANCE LIST

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

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   128 MB SDRAM (NEC D4564841G5-A10-9JF)
- CACHE SIZE   512 KB included in CPU
- DISPLAY   GA-601 4MB AGP VGA
- STORAGE   Onboard IDE port (IBM DHEA 38451)
- O.S.   Windows NT™ 4.0
- DRIVER   Display Driver at 1024 x 768 x 256 colors x 75Hz

                Triones Bus Master IDE Driver 3.60K

Processor	Intel Pentium® II	
	333MHz (66×5)	350MHz (100×3.5)
Winbench98		
CPU mark32	862	944
FPU Winmark	1720	1800
Business Disk	1900	1940
Hi-End Disk	4570	4690
Business Graphics	185	206
Hi-End Graphics	206	230
Winstone98		
Business	33	35.1
Hi-End	38.6	39.3

1.4. BLOCK DIAGRAM

14.318MHz

SLOT 1 (CPU 1)   SLOT 1 (CPU 2)

Host Bus

3.3VEDO/SDRAM
DIMM Sockets

AGP
SLOT

AGP Bus

PAC
82443BX
CHIPSET

DRAM

66/100MHz

33MHz

PCI Bus

66/100MHz

66/100MHz

CLOCK
GE
N
9179BF-01

66MHz

CLO
CK
G
EN
9148BF-10

33MHz

14.318MHz

33MHz

48MHz

PCI Bus

PIIX4
CHIPSET

I/O
APIC

USB Bus   USB #1   USB #2

COM Ports

LPT Port

I/
O
83977TF

Floppy Port

IDE Bus

PS/2 Keyboard

8MHz

ISA Bus

PS/2 Mouse

14.318MHz

48MHz

14.318MHz

32.768KHz

1.5. INTRODUCE THE Pentium**â** II Processor

Figure 1:Retention Mechanism & attach Mount

Figure 2:OEM Pentium® II Processor
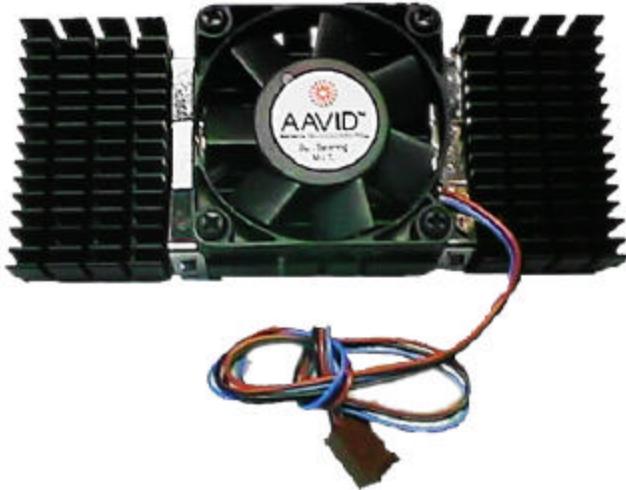
Figure 3:Heatsink / FAN & Heat sink support for OEM Pentium® II Processor
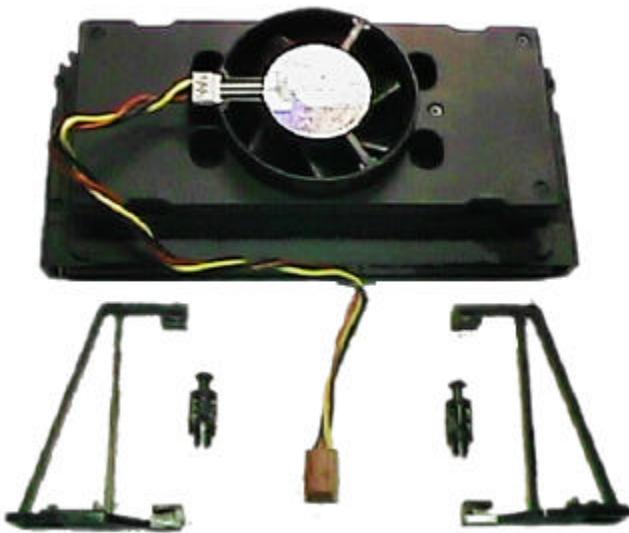
Figure 4:Boxed Pentium® II Processor & Heat sink support

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*2*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 further speed the transaction.

2. SPECIFICATION

2.1. HARDWARE

- CPU
  - − Dual Pentium® II processor 200 – 633 MHz.
  - − Dual 242 pins 66/100MHz   slot1 on board.

- PROTECTION
  - − PC Speaker Alarm when detect "CPU FAN Failure" or "CPU Overheat".
  - − Automatically slow down CPU speed when "CPU FAN Failure" or "CPU Overheat".
  - − Intel LDCM® support.
  - − H/W monitor power status (±5V, ±12V, CPU voltage & CMOS battery voltage).

- SPEED
  - − 66 / 100MHz 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 50~60 ns DIMM module DRAM.
  - − 8 M ~ 1 GB DRAM size.
  - − Support 3.3V SDRAM / EDO type DRAM.
  - − Support ECC or Non-ECC type DRAM.

- CACHE MEMORY
  - − 32 KB 1st cache memory included in CPU.
  - − 256KB/512 KB 2nd cache in CPU.
  - − Support DIB speed mode for L2 Cache.

- I/O BUS SLOTS
  - − 1 66 / 133MHz AGP BUS.
  - − 5 33MHz Master / Slave PCI-BUS.
  - − 2 8MHz 16 bits ISA BUS.

- IDE PORTS
  - − 2 Ultra DMA/33 Bus Master IDE channels on board.(Using   IRQ14,15)
  - − Backward Support Mode 3,4 IDE & ATAPI CD -

ROM.

- I/O PORTS
  - − Supports 2 16550 COM ports. (Using IRQ4, 3)
  - − Supports 1 EPP/ECP LPT port. (Using IRQ7 or 5 and DMA3)
  - − Supports 1 1.44/2.88 MB Floppy port. (Using DMA2 & IRQ6)
  - − Supports 2 USB ports.
  - − Supports PS/2 Mouse. (Using IRQ12)
  - − Supports PS/2 Keyboard. (Using IRQ1)
- GREEN FUNCTION
  - − Suspend mode support.
  - − Green switch, Green LED & ACPI LED support.
  - − IDE & Display power down support.
  - − Monitor all IRQ / DMA / Display / I/O events.
- BIOS
  - − 2M Bits FLASH EEPROM.
  - − Supports Plug & Play, DMI, ACPI Function.
- DIMENSION
  - − ATX Form Factor, 4 layers PCB.

2.2. SOFTWARE

- DRIVER
  - − Intel LDCM® Optional.
  - − Health monitor Utility.
  - − Bus Master IDE Driver.
  - − Suspend to HD utility.
- 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 **6BXD** mainboard.

- The Retention Mechanism & Attach Mount

- USER'S MANUAL for mainboard.

- Cable set for IDE¡Bloppy device.

- Diskette or CD for Mainboard Utility Controller.

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.**

You are now ready to install your mainboard. The mounting hole pattern on the mainboard matches the ATX system board. It is assumed that the chassis is designed for a standard ATX mainboard mounting.

Place the chassis on the anti-static mat and remove the cover. Take the clips, stand-off and screws for mounting the system board, and keep them

separate.

3.2. MAINBOARD LAYOUT

◄Figure 3.1►
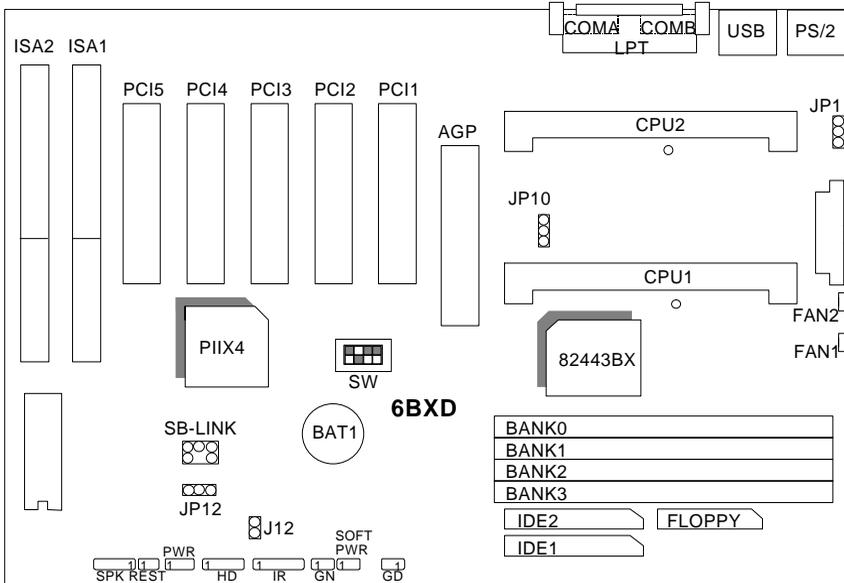
3.3. QUICK REFERENCE FOR JUMPERS & CONNECTORS

♦ I/O Ports Connector	
USB	USB port.
IDE1	For Primary IDE port.
IDE2	For Secondary IDE port.
PS/2	For PS/2 Keyboard / Mouse port.
Floppy	For Floppy port.
COM A	For Serial port1 (COM A).
COM B	For Serial port2 (COM B).
LPT	For LPT port.

♦ CPU1/CPU2: slot1
For Pentium® II processor installed.

♦ FAN1: CPU1 cooling FAN Power Connector	
Pin No.	Function
1	GND.
2	+12V
3	SENSE

♦ FAN2: CPU2 cooling FAN Power Connector	
Pin No.	Function
1	GND.
2	+12V
3	SENSE

♦ 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	GND
3	GND

♦ 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	
On – Off	For POWER ON or Suspend IN / OUT.
On 4 sec.	For POWER OFF before VGA Enable or CMOS setup select "delay 4sec." For POWER OFF mode.

♦ GD : GREEN Function active LED (HD-LED)	
Pin No.	Function
1	LED POWER (+)
2	LED POWER (-)

♦ J12 : 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.

♦ JP12 : Wake on LAN	
Pin No.	Function
1	+5V SB
2	GND

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

♦ POWER: ATX POWER connector	
Pin No.	Function
3,5,7,13,15-17	GND
4,6,19,20	VCC (+5V)
10	+12V
12	-12V
18	-5V
8	Power Good
9	5V SB (Stand by +5V)
14	PS-ON (Soft ON/OFF)

3.4. DRAM INSTALLATION

The mainboard can be installed with 8 / 16 / 32 / 64 / 128 / 256 MB 168 pins DIMM module DRAM, and the DRAM speed must be 50 or 60 ns for EDO & 67~100 MHz for SDRAM. The DRAM memory system on mainboard consists of bank 0, 1, 2 & bank 3.

Because the 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 EDO or 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's speed is fixed to 66.6MHz. The user can 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.

DIP SWITCH (SW)				FREQ. RATIO	JP10	EXT.CLK. MHz	INT.CLK. MHz	CPU Type
1	2	3	4					
OFF	OFF	ON	ON	3.5	CLOSE	66	233	**Pentiumâ II 233 MHz**
ON	ON	OFF	ON	4	CLOSE	66	266	**Pentiumâ II 266 MHz**
OFF	ON	OFF	ON	4.5	CLOSE	66	300	**Pentiumâ II 300 MHz**
ON	OFF	OFF	ON	5	CLOSE	66	333	**Pentiumâ II 333 MHz**
OFF	OFF	OFF	ON	5.5	CLOSE	66	366	**Pentiumâ II 366 MHz**
ON	OFF	ON	ON	3	OPEN	100	300	**Pentiumâ II 300 MHz**
OFF	OFF	ON	ON	3.5	OPEN	100	350	**Pentiumâ II 350 MHz**
ON	ON	OFF	ON	4	OPEN	100	400	**Pentiumâ II 400 MHz**
OFF	ON	OFF	ON	4.5	OPEN	100	450	**Pentiumâ II 450 MHz**
OFF	OFF	OFF	ON	5.5	OPEN	100	550	**Pentiumâ II 550 MHz**

●※**JP10**　　(Select the system speed between 66.6MHz and 100MHz)

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

●※ **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 mainboard.**

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. Due to the life-time of Battery internal battery is 5 years, the user can change a new Battery to replace old one after it can not work.

☙ 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.

3.7. SPEAKER CONNECTOR INSTALLATION

There is always a speaker in AT system for sound purpose. The 4 - Pins connector **J11** is used to connect speaker.

The speaker can work well in both direction of connector when it is installed to the connector **J11** on mainboard.

3.8. HARDWARE RESET SWITCH CONNECTOR INSTALLATION

The RESET switch on panel provides users with HARDWARE RESET function, which is almost the same as power-on/off.

The system will do a cold start after the RESET switch is pushed and released by user. The RESET switch is a 2 PIN connector and should be installed to **J10** on mainboard.

3.9. POWER LED CONNECTOR INSTALLATION

There are system power LED lamps on the panel of case. The power LED will light on when system is powered-on, which is connected to a 3 PIN connector.

The connector should be connected to **JP7** of mainboard in correct direction.

3.10. IDE & ATAPI DEVICE INSTALLATION

There are two Enhance PCI IDE ports 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 **J7** is the active LED port for ATAPI device.

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 five PCI - Bus slots can be used.

3.13. KEYBOARD & PS/2 MOUSE INSTALLATION

The main board supports PS/2 connector type keyboard & Mouse **(J3)**.

The BIOS will auto detect whether the PS/2 Mouse is installed or nor & assign IRQ12 for Mouse port if which was installed.

After installing the peripheral device, the user should check everything again, and prepare to power-on the system.

3.14. KEYBOARD SETTING FUNCTION

After booting the O.S., there are some special functions used by keyboard as follows:

"CTRL_ALT_DEL"	− Pressing these keys simultaneously will cause system to Warm Start (Software Reset).

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 <Del> 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 <Del> 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.

```
                    ROM PCI/ISA BIOS (2A69KG00)
                         CMOS SETUP UTILITY
                        AWARD SOFTWARE, INC.

     STANDARD CMOS SETUP              INTEGRATED PERIPHERALS

     BIOS FEATURES SETUP             USER PASSWORD

     CHIPSET FEATURES SETUP          IDE HDD AUTO DETECTION

     POWER MANAGEMENT SETUP          SAVE & EXIT SETUP

     PNP/PCI CONFIGURATION           EXIT WITHOUT SAVING

     LOAD BIOS DEFAULTS

     LOAD PERFORMANCE DEFAULTS

     Esc : Quit                      ↑ ↓ → ←  : Select Item
     F10 : Save & Exit Setup         (Shift)F2 : Change Color
```

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 most appropriate value of the system parameters that the system would be in safe configuration.

- **Load Performance defaults**

  Performance Defaults indicates the value of the system parameters that the system would be in the 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.
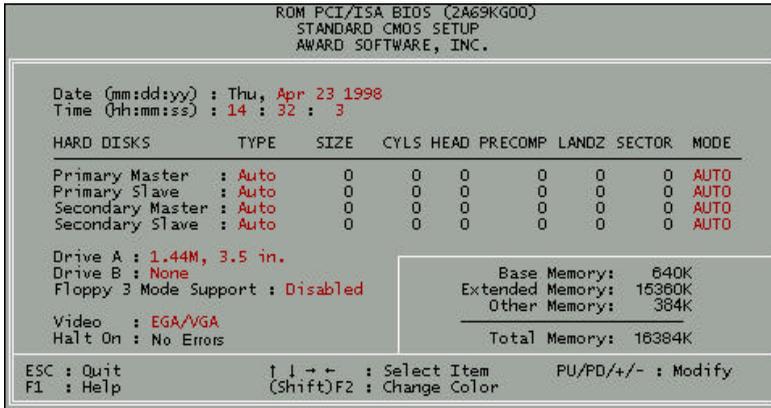
Figure 4.2: Standard CMOS Setup Menu

● 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 PGA 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 warning 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	VGA Boot From AGP
PCI	VGA Boot From PCI

- 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 chars. 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.

1.4	Enable MP spec. Ver.1.4.
1.1	Enable MP spec. Ver.1.1.¡ ¡for some OS., ie SCO UNIX¡ ^

- 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
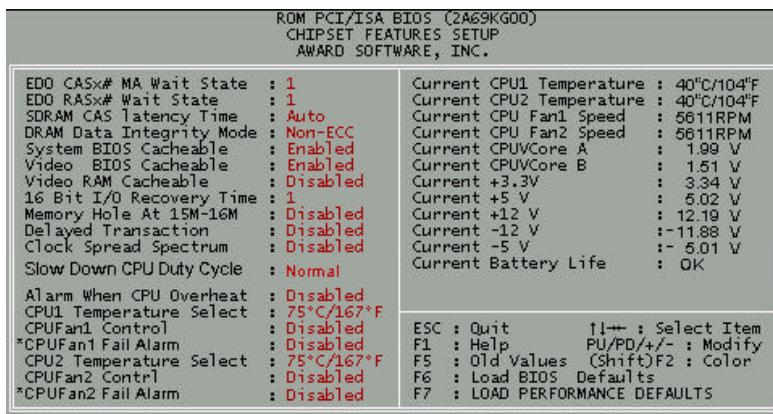
Figure 4.4: Chipset Features Setup

* This item will be unavailable when "CPUFan1/Fan2 Control" is set to Disabled.

- 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.

- CPU1 Temperature Select (Optional)

  The default value is 75°C / 167°F.

65°C / 149°F	Monitor CPU Temp. at 65°C / 149°F, if Temp. > 65°C / 149°F will cause system alarming & slow down CPU speed.
70°C / 158°F	Monitor CPU Temp. at 70°C / 158°F, if Temp. > 70°C / 158°F will cause system alarming & slow down CPU speed.
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.
80°C / 176°F	Monitor CPU Temp. at 80°C / 176°F, if Temp. > 80°C / 176°F will cause system alarming & slow down CPU speed.
85°C / 185°F	Monitor CPU Temp. at 85°C / 185°F, if Temp. > 85°C / 185°F will cause system alarming & slow down CPU speed.
90°C / 194°F	Monitor CPU Temp. at 90°C / 194°F, if Temp. > 90°C / 194°F will cause system alarming & slow down CPU speed.
95°C / 203°F	Monitor CPU Temp. at 95°C / 203°F, if Temp. > 95°C / 203°F will cause system alarming & slow down CPU speed.

- CPUFan1 Control (Optional)

  The default value is Disabled.

Disabled	Disable this function.
Enabled	System will check the CPUAN1 status.

- CPUFan1 Fail Alarm (Optional)

  The default value is Disabled.

Disabled	Disable this function.
Enabled	Alarm When CPUFAN Failed.

- CPU2 Temperature Select (Optional)

  The default value is 75°C / 167°F.

65°C / 149°F	Monitor CPU Temp. at 65°C / 149°F, if Temp. > 65°C / 149°F will cause system alarming & slow down CPU speed.
70°C / 158°F	Monitor CPU Temp. at 70°C / 158°F, if Temp. > 70°C / 158°F will cause system alarming & slow down CPU speed.
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.
80°C / 176°F	Monitor CPU Temp. at 80°C / 176°F, if Temp. > 80°C / 176°F will cause system alarming & slow down CPU speed.
85°C / 185°F	Monitor CPU Temp. at 85°C / 185°F, if Temp. > 85°C / 185°F will cause system alarming & slow down CPU speed.
90°C / 194°F	Monitor CPU Temp. at 90°C / 194°F, if Temp. > 90°C / 194°F will cause system alarming & slow down CPU speed.
95°C / 203°F	Monitor CPU Temp. at 95°C / 203°F, if Temp. > 95°C / 203°F will cause system alarming & slow down CPU speed.

- CPUFan2 Control (Optional)

  The default value is Disabled.

Disabled	Disable this function.
Enabled	System will check the CPUAN2 status.

- CPUFan2 Fail Alarm (Optional)

  The default value is Disabled.

Disabled	Disable this function.
Enabled	Alarm When CPUFAN2 Failed.

- Current CPU1 Temperature (Optional)

  Detect CPU1 Temperature automatically.

- Current CPU2 Temperature (Optional)

  Detect CPU2 Temperature automatically.

- Current CPU FAN1 Speed (Optional)

  Detect CPU Fan1 speed status automatically.

- Current CPU FAN2 Speed (Optional)

  Detect CPU Fan2 speed status automatically.

- Current CPU Vcore A / B ,+3.3V , $\pm$12V , $\pm$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.

- Suspend Mode

  The default value is Disable.

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

Hour	

- 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.

- Suspend Mode Option (Optional)

  The default value is PowerOn Suspend.

PowerOn Suspend	Set the system to PowerOn Suspend mode
Suspend to Disk	Set the system to Suspend to Disk mode

- 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 "Resume by Alarm" 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


```
                  ROM PCI/ISA BIOS (2A69KG0O)
                      PNP/PCI CONFIGURATION
                       AWARD SOFTWARE, INC.

PNP OS Installed        : No       Used MEM base addr : N/A
Resources Controlled By : Manual   *Used MEM Length    : 8K
Reset Configuration Data : Disabled  Assign IRQ For USB : Enabled

IRQ-3  assigned to : Legacy ISA
IRQ-4  assigned to : Legacy ISA
IRQ-5  assigned to : PCI/ISA PnP
IRQ-7  assigned to : Legacy ISA
IRQ-9  assigned to : PCI/ISA PnP
IRQ-10 assigned to : PCI/ISA PnP
IRQ-11 assigned to : PCI/ISA PnP
IRQ-12 assigned to : Legacy ISA
IRQ-14 assigned to : Legacy ISA
IRQ-15 assigned to : Legacy ISA
DMA-0  assigned to : PCI/ISA PnP
DMA-1  assigned to : PCI/ISA PnP   ESC : Quit        ↑↓←→ : Select Item
DMA-3  assigned to : PCI/ISA PnP   F1  : Help        PU/PD/+/- : Modify
DMA-5  assigned to : PCI/ISA PnP   F5  : Old Values  (Shift)F2 : Color
DMA-6  assigned to : PCI/ISA PnP   F6  : Load BIOS  Defaults
DMA-7  assigned to : PCI/ISA PnP   F7  : LOAD PERFORMANCE DEFAULTS
```

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 resources.

- 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

```
                    ROM PCI/ISA BIOS (2A69KG00)
                         CMOS SETUP UTILITY
                       AWARD SOFTWARE, INC.

   STANDARD CMOS SETUP              INTEGRATED PERIPHERALS

   BIOS FEATURES SETUP             USER PASSWORD

   CHIPSET FEATURES SETUP          IDE HDD AUTO DETECTION

   POWER MANAGEMENT SETUP          SAVE & EXIT SETUP

   PNP/PCI CONFIG                              ING
                   LOAD PERFORMANCE DEFAULTS (Y/N)? y
   LOAD BIOS DEFA

   LOAD PERFORMANCE DEFAULTS

   Esc : Quit                      ↑ ↓ → ←  : Select Item
   F10 : Save & Exit Setup         (Shift)F2 : Change Color
```

Figure 4.8: Load PERFORMANCE Defaults

• Load PERFORMANCE Defaults

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

💣 **If there is any problem occurred, loading BIOS DEFAULTS step is recommended.**

4.12. INTEGRATED PERIPHERALS
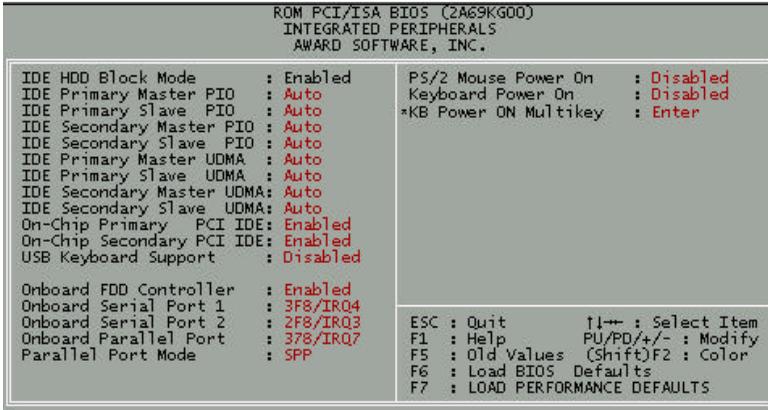
Figure 4.7: Integrated Peripherals

* 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.

- USB Keyboard Support

  The default value is Disabled.

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

- Onboard FDD 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/IRQ4.
2F8/IRQ3	Enable onboard Serial port 1 and address is 2F8/IRQ3.
3E8/IRQ4	Enable onboard Serial port 1 and address is 3E8/IRQ4.
2E8/IRQ3	Enable onboard Serial port 1 and address is

	2E8/IRQ3.
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/IRQ4.
2F8/IRQ3	Enable onboard Serial port 2 and address is 2F8/IRQ3.
3E8/IRQ4	Enable onboard Serial port 2 and address is 3E8/IRQ4.
2E8/IRQ3	Enable onboard Serial port 2 and address is 2E8/IRQ3.
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 .
Left Double	Click twice on PS/2 mouse left button to Power on system.

Right Double	Click twice on PS/2 mouse right 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 8 characters to set the Keyboard Power On Password.

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 4.8: 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>.

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


```
                    ROM PCI/ISA BIOS (2A69JG0N)
                       IDE HDD AUTO DECETION
                       AWARD SOFTWARE, INC.



HARD DISKS          TYPE    SIZE    CYLS HEAD PRECOMP LAND2 SECTOR  MODE

Primary Master   :

          Select Primary Master Option (N=Skip) : N

     OPTION     SIZE    CYLS HEAD PRECOMP LAND2 SECTOR  MODE

     1 (Y)      521     530   32     0     1059    63    LBA
     2          521    1060   16   65535   1059    63   NORMAL
     3          521     530   32   65535   1059    63   LARGE

     Note : Some Oses (like SCO-UNIX) must use "NORMAL" for installation
                        ESC : Skip
```

Figure 4.9: 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 4.10: 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
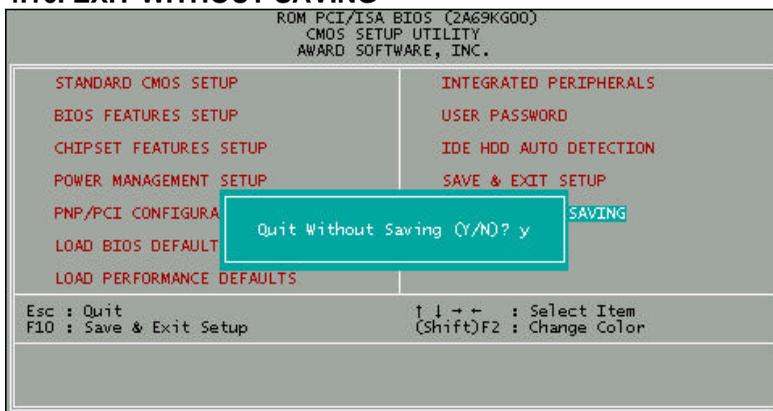
Figure 4.11: Exit Without Saving

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

Type "N" will return to Setup Utility.

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 Träding GMbH
Ausschlager Weg 41, 1F, 20537 Hamburg, Germany

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

Mother Board
GA - 6BXD

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

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

with the actual required safety standards in accordance with LVD 73/23 EEC

☐ **EN 60065**	household and simi	☐ **EN 60950**	Safety for information technology equipment including electrical business equipment
☐ **EN 60335**	Safety of household and similar electrical appliances	☐	General and Safety requirements for

Manufacturer/Importer

Signature : Rex Lin

(Stamp)   Name

Lin