P2-BX

Motherboard

User's Manual

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Chapter 1. Introduction

1.1 Product Overview

Thank you for purchasing the **P2-BX** motherboard. This motherboard utilizes **Intel**'s latest technology, namely **443BX AGPset** chipset. We have conducted a motherboard compatibility test with a variety of hardware and software, such as CPUs, memory, display card, CD ROM, Novell, MS Office....etc.

We set high standards on our quality control, with absolute confidence, we believe this product is the wisest choice.

This manual is composed of two sections. The first section explains the proper procedure to setup the **P2-BX** motherboard, and the second section provides information on how to setup the CMOS.

Features:

- Support Desktop Management Interface (DMI) through BIOS.
- Support NCR SCSI BIOS.
- Support Accelerated Graphics Port (AGP) cards for high performance.
- Modem Remote Ring On.
- Supply Wake up on LAN function.
- RTC Wake Up Alarm: Program the date/time to wake up your system.
- CPU Thermal Protection: Warning when CPU temperature is overheat.
- CPU & System Voltage Monitoring.
- CPU, Chassis & Power supply fan speed monitoring.
- Support Advanced Configuration Power Interface (ACPI).
- BIOS Green feature function, and "Plug & Play" Flash ROM.

1.2 Specification

CPU : -Supports Intel Pentium II Processors 233~500 MHz

Chipset : -Intel 443BX AGPset chipset

DIMM : -Supports 3.3V EDO or SDRAM in 3 168-pin banks, 3x168-pin 64-bit DIMM sockets using 8/16/32/64/128 /256MB memory
-Supports up to a maximum of 768 MB system memory

IDE : -Dual channel PIO and PCI Bus Master IDE ports support up to 4 EIDE devices for HDD or CD-ROM
-Supports PIO Mode 4 with data transfer rate up to 22 MB/ Sec
-Supports Ultra DMA 33 (UDMA) with data transfer rate up to 33 MB/Sec

BIOS : -Award BIOS V.4.51 with built-in Anti-Virus, DMI support, and green function (Plug-and-Play BIOS)
-Supports NCR SCSI BIOS
-Supports CD-ROM, SCSI, and LS120/ZIP boot up

I/O Devices : -One FDD control port supports two of the 5.25" or 3.5" floppy drives up to 2.88 MB.
-Two high-speed 16550 UART compatible serial ports
-One parallel ports with ECP/ EPP/SPP compatibility.
-One PS/2 mouse port

IR Port : -One HPSIR/ASKIR compatible IrDA interface port. (Cable optional)

USB Ports : -Two Universal Serial Bus (USB) ports support up to 127 peripheral devices.

LAN Port : Support one LAN port and compatible Wake up on LAN function.

Power Connector : -On-board PWM Switching Power
-Supports Modem remote Ring-On function
-Supports software power off function
-Supply ACPI & APM function
-Supports RTC Wake-Up.

Expansion Slots : -Four 32-bit PCI expansion slots
-Three 16-bit ISA expansion slots
-One 64-bit AGP expansion slot
-Supports latest PCI 2.1 standard

Operating System : -Supports Windows 95, Windows NT, MS-DOS V. 6.22, OS2, Novell, Unix, SCO UNIX.....

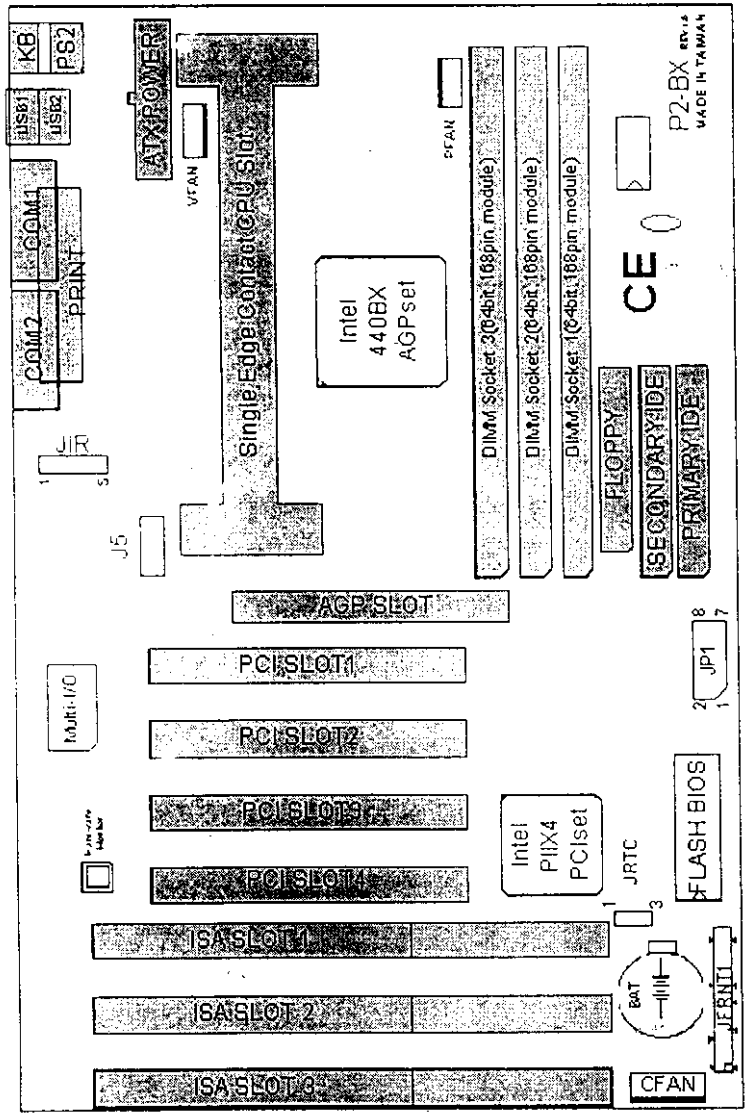
Dimension : - 305 mm x 195 mm ATX Form

1.3 Content

The **P2-BX** motherboard contains the following items:

- The P2-BX Motherboard
- A IDE Ribbon Cable
- A Floppy Ribbon Cable
- Retention mechanism
- Thermistor
- Bus Master Driver
- User's Manual & Quick Installation Chart

1.4 System Board Layout



Chapter 2. Hardware Setup

2.1 Installation Procedure

1. Jumper setting (BIOS and CPU)
2. Installation of CPU
3. Installation of Memory
4. I/O Connections & Panel Connections

2.1.1 Jumper Setting

In this manual, (1-2) represents the first and second pins of the jumper. (2-3) represents the second and third pins of the jumper, and so on. "ON" means put on the jumper cap and "OFF" means remove the jumper cap. On the motherboard, you will see two sets of jumpers with different color jumper caps:

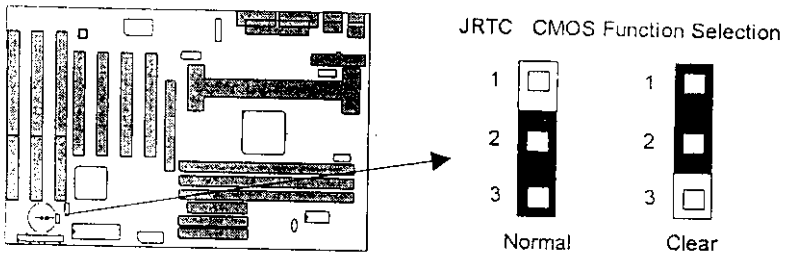
Yellow Jumper Caps : Sets the Function and Voltage of Flash CMOS
JRTC

Green Jumper Caps : Sets the type and speed of CPU
JP1

2.1.2 Clearing the CMOS (Yellow Jumper Caps)

JRTC: CMOS Function Selection

1-2 ON : Clear CMOS setting
2-3 ON : Normal Operation (Default)



How to Clear the CMOS Setting

(1) Turn off the power.
(2) Remove ATX power cable from connector J1.
(3) Remove Yellow Jumper Cap from JRTC (2-3) and put on JRTC (1-2) to remove the CMOS setting.
(4) Remove Yellow Jumper Cap from JRTC (1-2) and put on JRTC (2-3).
(5) Connect ATX power cable back to connector J1.
(6) Turn on the power.
(7) While the system reboots, press <DEL> key to set the BIOS setup.

2.1.3 CPU Voltage Setting

The motherboard supports Pentium II VID function, the CPU core voltage is automatically detected, the rang is from 1.3V to 3.5V.

2.1.4 CPU Frequency Selection

CPU Model	Bus Clock	Ratio	JP1			
			1-2	3-4	5-6	7-8
Intel Pentium II 233		3.5x	ON	OFF	OFF	ON
Intel Pentium II 266	66MHz	4.0x	OFF	ON	ON	ON
Intel Pentium II 300	Auto detect	4.5x	OFF	ON	OFF	ON
Intel Pentium II 333		5.0x	OFF	OFF	ON	ON

CPU Model	Bus Clock	Ratio	JP1			
			1-2	3-4	5-6	7-8
Intel Pentium II 350		3.5x	ON	OFF	OFF	ON
Intel Pentium II 400	100MHz	4.0x	OFF	ON	ON	ON
Intel Pentium II 450	Auto detect	4.5x	OFF	ON	OFF	ON
Intel Pentium II 500		5.0x	OFF	OFF	ON	ON

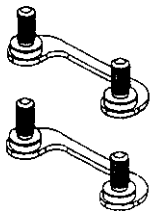
Intel Pentium II 233 is the default setting.

2.2 Installation of CPU

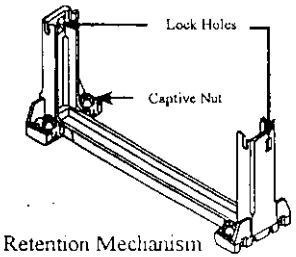
The motherboard provides a Single Edge Contact(SEC)slot for a Pentium II processor packaged in an SEC cartridge. Follow these steps to install Pentium II CPU:

1. Mount the Retention Mechanism:

Locate the SEC slot , gently put CPU Retention Mechanism onto it. Note that there is a notch at one side of the SEC slot to prevent wrong orientation. Put spacer below the motherboard (solder side). Then, screw the captive nuts in place.



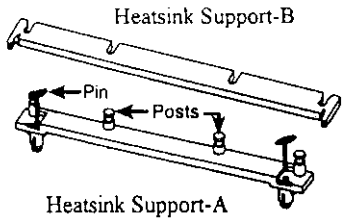
Spacer



Retention Mechanism

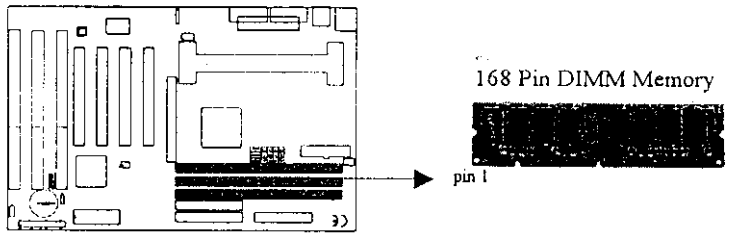
2. Insert the Pentium II CPU:

Attach the fan heatsink supports to the Pentium II CPU and slide the CPU into the Retention Mechanism. Make sure that pin 1 of the CPU aligns with pin1 of the SEC slot. The lock hole on the Retention Mechanism indicates the side of CPU fan and heatsink.Plug in the fan cable to the three pins fan connector onboard (PFAN).



2.3 Installation of Memory

P2-BX motherboard has 3x168-pin 64-bit Dual Inline Memory Module (DIMM) sockets divided into 3 banks. You can install 3.3V Extended Data Output (EDO) or Unbuffered Synchronous DRAM (SDRAM) memory. This will increase the system reliability.



2.3.1 Install 168-pin DIMM (Dual Inline Memory Module)

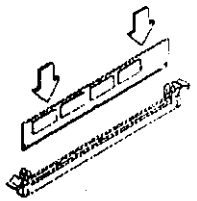
1. Before inserting the DIMM, make sure the pin1 of the DIMM matches with the pin1 on the DIMM socket.

2. Insert DIMM into the DIMM sockets at a 90-degree angle and press down.

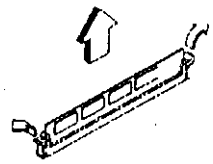
2.3.2 Remove 168-pin DIMM

1. Press the holding clips on both sides of the socket outward to release the DIMM.

2. Gently pull the DIMM out of the socket.



Install DIMM



Remove DIMM

2.3.3 Memory Configuration

There is no jumper setting required for the memory size or type. It is automatically detected by the system BIOS, and the total memory size is to add them together.

DIMM Socket	*DIMM Modules*
DIMM1	EDO/SDRAM 8, 16, 32, 64, 128,256MB
DIMM2	EDO/SDRAM 8, 16, 32, 64, 128,256MB
DIMM3	EDO/SDRAM 8, 16, 32, 64, 128,256MB

P2-BX Motherboard had tested are listed below.

Size/Type	*Vendor*	*Model*	*Side*	*Chip Count*
16MB/SDRAM	NEC	D4516821G5-A12-7JF	x2	8
16MB/SDRAM	Fujitsu	811171622A-100FN	x2	8
16MB/SDRAM	Hitachi	HM5216805TT10	x1	8
32MB/SDRAM	LGS	GM72V16821BT10K	x2	16
32MB/SDRAM	NEC	D4516821AG5-A10-7JF	x2	16
32MB/SDRAM	Toshiba	TC59S1608AFT-12A	x2	16
32MB/SDRAM	SIEMENS	HY57V168010A	x2	16
64MB/SDRAM	Mitsubishi	M5M4V64S30ATP	x1	8
128MB/SDRAM	NEC	D4564841G5-A10-9JF	x2	16
256 MB/SDRAM				

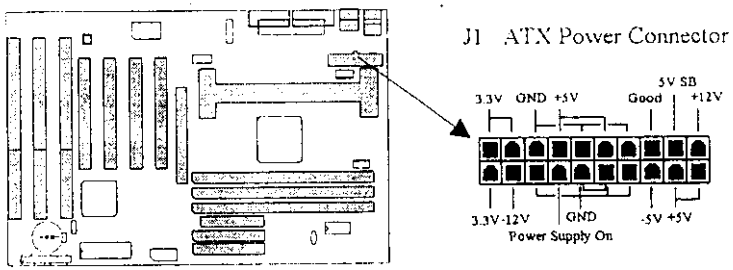
2.4 I/O Connections/Panel Connections

I/O Connections

J1	ATX Power Connector
JIR	IrDA Connector (Cable optional)
JWOL	LAN connector (Cable optional)
JFLP	Floppy Disk Drive Connector
IDE1, 2	Primary/ Secondary IDE Connectors
JMOUSE	PS/2 Mouse Port
JKB	Keyboard Connector
JCOM1,2	Serial Ports 1 & 2
JPRT	Printer Port
USB1	USB Connector

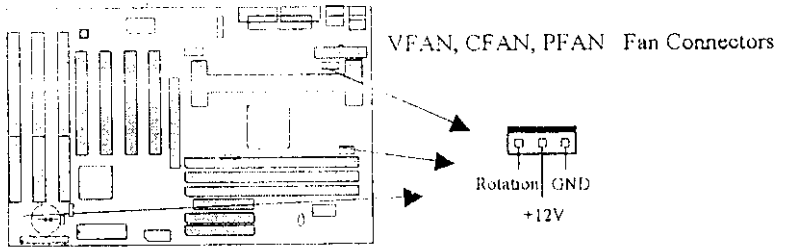
2.4.1 ATX Power Connector (20-pin J1)

Make sure that the power supply is off before connecting or disconnecting the power cable.



2.4.2 Power, Chassis & CPU Fan Connectors (3-pin FAN)

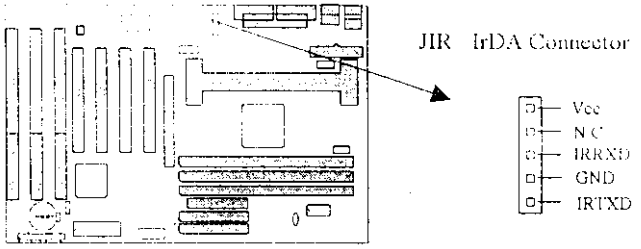
Connect the fan's plug to the board taking into consideration the polarity of the this connector.



2.4.3 IrDA Connector (5-pin JIR)

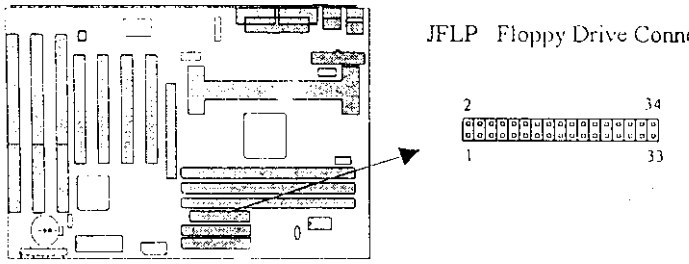
This connector supports the optional wireless transmitting and receiving infrared module, with this module and application software such as Laplink or Win95 Direct Cable Connection, user can transfer files to or from laptops, notebooks, PDA and printers. The connector supports HPSIR (115.2Kbps, 2 meters) and ASK-IR (56Kbps). Install infrared module onto IrDA connector and configure the setting through 'UART Mode Select' in **Integrated Peripherals** to select

whether UART is directed for use with COM2 or IrDA.



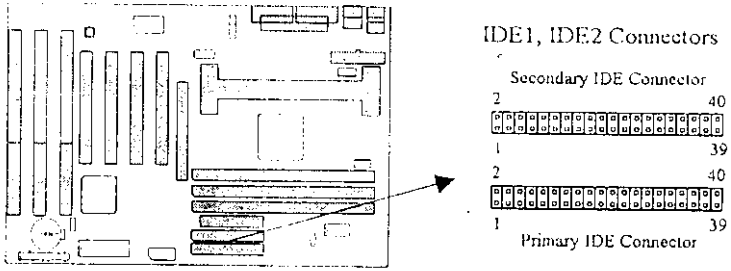
2.4.4 Floppy Disk Drive Connector (34-pin JFLP)

This connector supports the provided floppy disk drive ribbon cable. Orient the red stripe to pin 1



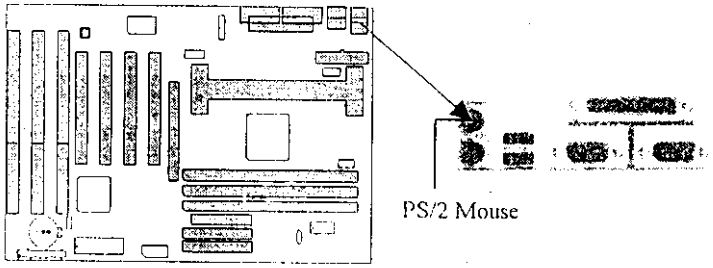
2.4.5 Primary/Secondary IDE Connector (Two 40-pin IDE)

These connectors support the provided IDE hard disk ribbon cable. Connect your first IDE hard disk to master mode of the primary channel. If you have second IDE device to install in your system, connect it as slave mode on the same channel, and the third and fourth device can be connected on secondary channel as master and slave mode respectively.



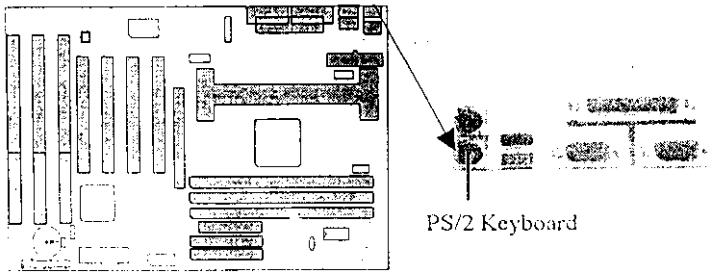
2.4.6 PS/2 Mouse Port (6-pin Mini-Din JMOUSE)

The system will direct IRQ12 to the PS/2 mouse.

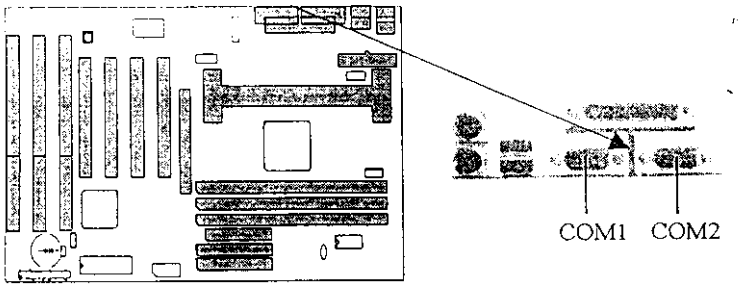


2.4.7 Keyboard Connector (6-pin Mini-Din JKB)

This connection is for a standard keyboard using an PS/2 plug. you may use a Din to Mini-Din adapter on standard AT keyboards.

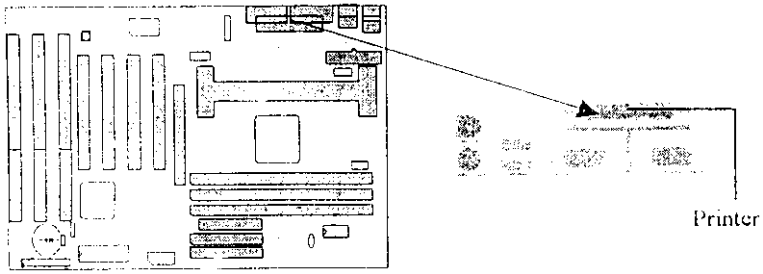


2.4.8 Serial Port (Two 9-pin D-type JCOM)



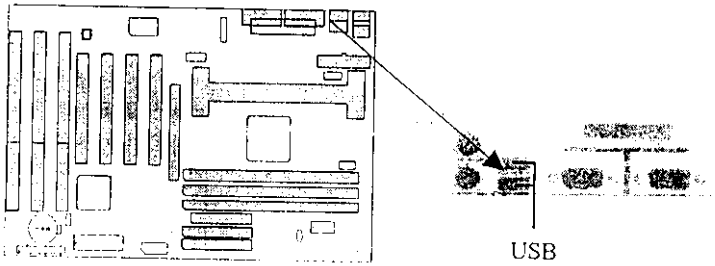
2.4.9 Printer Port (25-pin D-type JPRT)

You can enable the parallel port and choose the IRQ through "Onboard Parallel Port" in Integrated Peripherals of the COMS SETUP UTILITY.



2.4.10 USB Connectors (Two 4-pin USB)

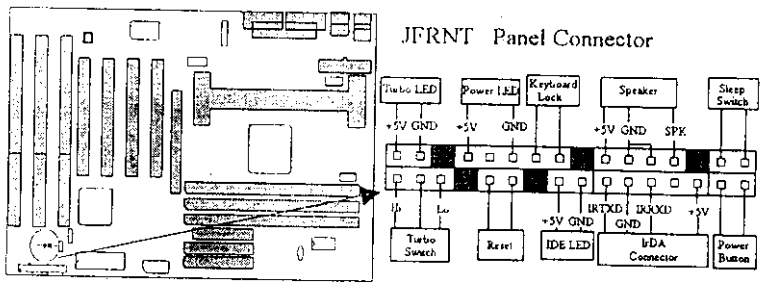
You can attach USB devices to the USB connector.



2.4.11 Panel Connection (32-pin JFRNT)

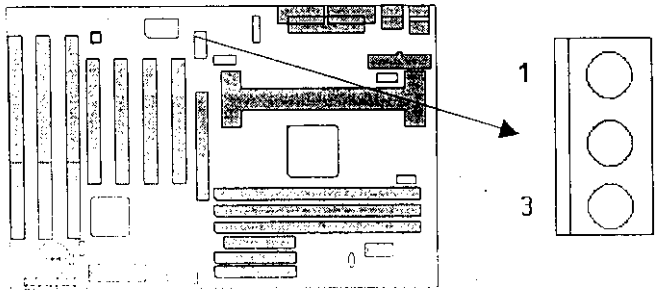
JFRNT Connector	Function
TBLED	Turbo LED
KEYLOCK	Power LED and Keylock Switch
SPK	Speaker
SMI	Sleep Switch
TBSW	Turbo Switch
RST	Reset Switch
IDE	HDD LED
IR	IrDA Connector
PB	ATX Power Switch Connector

WARNING: To avoid the system from failing, turn off the power before connecting



2.4.12 LAN Connector (3-pin JWOL)

You can use this connector to wake up your system



Chapter 3. BIOS Setup

3.1 CMOS Setup Utility

To activate CMOS Setup, press <DEL> key immediately after you turn on the system. The following message "Press DEL to enter SETUP" should appear in the lower left hand corner of your screen.

When you enter the CMOS Setup Utility, the Main Menu will be displayed (**Figure 3-1**). You can use arrow keys to select your function, press <Enter> key to accept and enter the sub-menu.

Figure 3-1. CMOS Setup Utility Main Screen

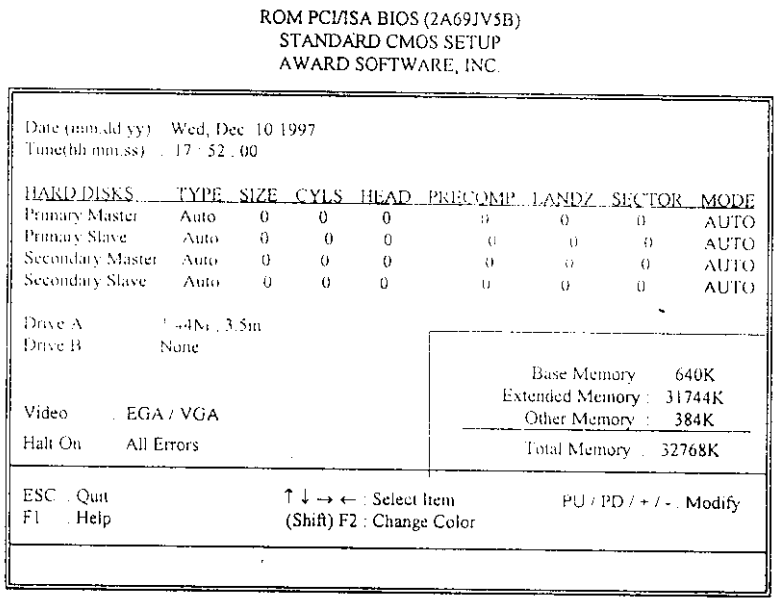
ROM PCI/ISA BIOS (2A69KV59)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO ETECTION
PNP / PCI CONFIGURATION	HDD LOW LEVEL FORMAT
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
Esc : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard Disk Type...	

3.2 Standard CMOS Setup

With the sub-menu (**Figure 3-2**) , you can setup system date, system time, hard and floppy drive type, and display adapter type. Please refer to your equipment specification when changing the setup. Use arrow keys to highlight items, and use <PageUp>, <PageDown>, <+>, or <-> keys to select available options.

Figure 3-2. Standard CMOS Setup Screen



3.2.1 Date

To assign the system date, the format is "mm.dd.yy". The input range for the Month is 1-12. Range for Date is 1-31. Range for Year is 1994-2079. System BIOS will calculate the day of the week automatically.

3.2.2 Time

To assign the system time, the format is "hh:mm:ss". The setting is in military time. When entering 2:34pm enter "14:34:00".

3.2.3 Hard Disks Setting (Auto)

The BIOS supports Dual-Channel PIO and PCI Bus Master IDE ports. Each port supports one master and one slave hard drive. You can use < PageUp> or <PageDown> key to change hard drive type. Incorrect setting may result in boot up error or system hang.

If your hard disk drive is not listed, you can select Type "USER" to define your own drive manually. We recommend that you select Type "AUTO" for all drives. The BIOS will auto-detect the hard disk drive and CD-ROM drive at the POST stage.

If your hard disk drive is a SCSI device, please select "None" for your hard drive setting.

3.2.4 Drive A&B Setting

Select your floppy disk drive type. Options are 360KB (5.25") , 720KB (3.5") , 1.2MB (5.25") , 1.44MB (3.5") , 2.88MB (3.5") .

3.2.5 Video Display Adapter Setting (EGA/VGA)

Select the display adapter type for your system. Options are EGA/VGA, MONO, CGA40 and CGA80.

3.2.6 Halt On (All Errors)

This function allows the system to halt when an error is detected during Power-On Self-Test.

3.3 BIOS Features Setup

The sub-menu (**Figure 3.3**) includes all AWARD enhances functions. Correct setting can enhance boot up efficiency. You can assign system speed, setup sequence, typematic and system password setting. You can enter < F1 > key for help on highlighted topics. If you want to restore values before the changes you just made, press < F5 > key. If you want to restore default value, press < F6 > or < F7 > key.

Figure 3-3. BIOS FEATURES SETUP SCREEN

ROM PCI / ISA BIOS (2A69KV59)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
CPU L2 Cache ECC checking	: Enabled	D0000-D3FFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D4000-D7FFF Shadow	: Disabled
Boot Sequence	: C,A, SCSI	D8000-DBFFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	DC000-DFFFF Shadow	: Disabled
Boot Up Floppy Seek	: Disabled		
Boot Up Numlock Status	: On		
Gate A20 Option	: Fast		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec	: 6		
Typematic Delay (Msec)	: 250		
Security Option	: Setup		
PS/2 Mouse Function Control	: Enabled	ESC : Quit	↑ ↓ → ← : Select Item
PCI/VGA Palette Snoop	: Disabled	F1 : Help	PU/PD/+/- : Modify
Assign IRQ For VGA	: Enabled	F5 : Old Values (Shift) F2	: Color
OS Select For DRAM>64MB	: Non-OS2	F6 : Load BIOS Defaults	
Report NO FDD For WIN95	: NO	F7 : Load Setup Defaults	

3.3.1 Virus Warning (Disabled)

When enabled, the BIOS will monitor the boot sector and the partition table on the hard drive for any attempt to modify. If an attempt is detected, the BIOS will halt the system and prompt the warning message. Select "Disabled" if you are installing a new operating system.

3.3.2 CPU Internal/External Cache (Enabled)

These options are to enable or disable CPU Internal (L1) Cache, or External (L2) Cache.

3.3.3 CPU L2 Cache ECC Checking(Enabled)

Select "Enabled" to auto detect CPU L2 cache to existence

3.3.4 Quick Power On Self Test (Enabled)

Select "Enabled" to speed up time required to complete Power-On Self-Test.

3.3.5 Boot Sequence (C,A,SCSI)

This option allows user to assign boot sequence of the system. Available options are A, C, D, E, F, CD-ROM, SCSI and LS120/ZIP.

3.3.6 Swap Floppy Drive (Disabled)

When enabled, physical drive A will be assigned to logical drive B, and physical drive B will be assigned to logical drive A.

3.3.7 Boot Up Floppy Seek (Disabled)

The system will detect and verify operation of the floppy drive type .

3.3.8 Boot Up Numlock Status (On)

The option allows the < NumLock > key to be activated after system boot up.

3.3.9 Typematic Rate Setting (Disabled)

Select "Enabled" to configure "Typematic Rate" and "Typematic Delay" functions.

3.3.10 Typematic Rate (6)

Use this option to set the rate at which a character keeps repeating while you hold down a key.

3.3.11 Typematic Delay (250)

Select "Enabled" to set the length of delay before key strokes to repeat. Available options are "250", "500", "750", and "1000".

3.3.12 Security Option (Setup)

You can select whether the password is required every time the system boots or only when you enter the Setup. You can assign "Supervisor Password" and "User Password" in the main CMOS Setup Utility Screen.

3.3.13 PS/2 Mouse Function Control (Enabled)

Enable this option to auto detect the PS/2 Mouse is to existence or not

3.3.14 PCI/VGA Palette Snoop (Disabled)

Enable this option to correct screen color shifts, when there is a combination of VGA cards, accelerator cards, or MPEG cards present.

3.3.15 Assign IRQ For VGA(Enable)

Enable this option ,it will assign an IRQ for VGA.

3.3.16 OS Select for DRAM > 64MB (Disabled)

If you are using OS/2 operating system and installed memory is larger than 64MB. You need to have the setting in the enable mode.

3.3.17 Report NO FDD For WIN95(NO)

This option will report Windows95 auto detect FDD control is enable or disable.

3.3.18 Video BIOS Shadow (Disabled)

Video shadow copies BIOS code from slower ROM to faster RAM. BIOS can then execute from RAM.

3.3.19 C8000-CBFFF /DC000-DFFFF Shadow (Disabled)

Optional firmware will be copied from ROM to RAM. When this option is enabled.

3.4 Chipset Features Setup

These setting are intended for the Chipset function on the motherboard. Fine tuning the options, enhances the performance of the system.

Figure 3.4 CHIPSET FEATURES SETUP SCREEN

ROM PCI / ISA BIOS (2A69KV59)
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.

Auto Configuration	: Enabled	CPU Warning Temperature	: Disabled
EDO DRAM Speed Selection	: 60ns		
EDO CAS# To CAS# Delay	: 3	Current Power Temp	: 0℃/32°F
EDO RAS# Precharge Time	: 3	Current CPU Temperature	: 0℃/32°F
SDRAM RAS-to-CAS Delay	: 3	Current System Temp.	: 27℃/80°F
SDRAM RAS Precharge Time	: 3		
SDRAM CAS latency Time	: 3	Current PowerFAN Speed	: 0 RPM
DRAM Data Integrity Mode	: Non-ECC	Current ChassisFAN Speed	: 0 RPM
System BIOS Cacheable	: Enabled	Current CPUFAN Speed	: 4017 RPM
Video BIOS Cacheable	: Enabled	Vcore(V): 2.72V	Vtt (V): 1.50V
Video RAM Cacheable	: Enabled		
8 Bit I/O Recovery Time	: 1	3.3 V : 3.32V	+ 5V : 4.91V
16 Bit I/O Recovery Time	: 1	+12V : 12.09V	-12V : 12.26V
Memory Hole At 15M-16M	: Disabled	- 5V : 5.09V	
Passive Release	: Enabled	ESC : Quit	↑↓→←: Select Item
Delayed Transaction	: Disabled	F1 : Help	PU/PD/+/- : Modify
AGP Aperture Size (MB)	: 64	F5 : Old Values	(Shift) F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

3.4.1 Auto Configuration (Enabled)

The optimum value for the chipset and CPU will be automatically loaded when enabled.

3.4.2 EDO DRAM Speed Selection (60ns)

This option must match the memory speed. If the installed memory is 60ns type, you should set it to "60".

3.4.3 DRAM Data Integrity Mode (Non-ECC)

The ECC algorithm has the ability to detect double bit error and automatically correct single bit error.

3.4.4 SDRAM RAS-to-CAS Delay (Slow)

These are timing of SDRA CAS Latency and RAS to CAS Delay, calculated by clocks. They are important parameters affects SDRA performance.

3.4.5 SDRAM RAS Precharge Time (Slow)

The RAS Precharge means the timing to inactive RAS and the timing for DRAM to do percharge before next RAS can be issued.

3.4.6 Current System & CPU Temperature (xx° C/xx° F)

The onboard hardware monitor is able to detect the temperatures of motherboard and CPU. These values refresh upon any key entry. Set to Ignore only if necessary.

3.4.7 CPU-To-PCI IDE Posting (Enabled)

To enable or disable CPU to PCI IDE post write cycle.Disable it, if you find any IDE compatibility problem.

3.4.8 System BIOS Cacheable (Enabled)

Allows the system BIOS to be cached to allow faster system performance.

3.4.9 Video BIOS Cacheable (Enabled)

Allows the video BIOS to be cached to allow faster video performance.

3.4.10 Video RAM Cacheable (Enabled)

This item lets you cache Video RAM A000 and B000.

3.4.11 8 Bit I/O Recovery Time (1)

This option specifies the length of a delay inserted between consecutive 8-bit I/O operations.

3.4.12 16 Bit I/O Recovery Time (1)

This option specifies the length of a delay inserted between consecutive 16-bit I/O operations.

3.4.13 Memory Hole At 15M-16M (Disabled)

Enabling this feature reserves 15MB to 16MB memory address space to ISA expansion cards that specifically require this setting. This makes the memory from 15MB and up unavailable to the system. Expansion cards can only access memory up to 16MB.

3.4.14 Passive Release (Enabled)

This function is used to meet latency of ISA bus master. Try to enable or disable it, if you have ISA card compatibility problem.

3.4.15 Delayed Transaction (Disabled)

This function is used to meet latency of PCI cycles to from ISA bus. Try to enable or disable it, if you have ISA card compatibility problem.

3.4.16 AGP Aperture Size (MB) (64)

Choose 4, 8, 16, 32, 64, 128, 256MB. Memory-mapped, graphics data structures can reside in the Graphics Aperture.

3.4.17 Current System & CPU Temperature (xx° C/xx° F)

The onboard hardware monitor is able to detect the temperatures of motherboard and CPU. These values refresh upon any key entry. Set to Ignore only if necessary.

3.4.18 Current Power, Chassis & CPU FAN Speed (xxxxRPM)

The onboard hardware monitor is able to detect the power supply fan speed, chassis fan speed, CPU fan speed in Rotations Per Minute (RPM). These values refresh upon any key entry in the BIOS setup screen. Set to Ignore if one of these options are not used and no error message will be given.

3.4.19 Vcore, Vtt, 3.3V, +5V, +12V, -12V & -5V (xx.xxV)

The onboard hardware monitor is able to detect the voltage which is put out by the voltage regulators. These values refresh upon any key entry. Set to Ignore only if necessary.

3.5 Power Management Setup

Power management decreases power usage under the pre-defined standby time range.

Figure 3-5. POWER MANAGEMENT SETUP SCREEN

ROM PCI / ISA BIOS (2A69KV59)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

Power Management	: Disabled	** Reload Global Timer Events **	
PM Control by APM	: Yes	IRQ[3-7, 9-15], NMI	: Enabled
Video Off Method	: V/H SYNC+Blank	Primary IDE 0	: Disabled
Video Off After	: Standby	Primary IDE 1	: Disabled
MODEM Use IRQ	: 3	Secondary IDE 0	: Disabled
Doze Mode	: Disabled	Secondary IDE 1	: Disabled
Standby Mode	: Disabled	Floppy Disk	: Disabled
Suspend Mode	: Disabled	Serial Port	: Enabled
HDD Power Down	: Disabled	Parallel Port	: Disabled
Throttle Duty Cycle	: 62.5%		
ZZ Active in Suspend	: Disabled		
VGA Active Monitor	: Enabled		
Soft-off by PWR-BTTN	: Instant-off		
CPUFAN off In Suspend	: Enabled		
Resume by Ring	: Disabled	ESC : Quit	↑↓→←: Select Item
Resume by Alarm	: Disabled	F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift) F2 : Color
Wake Up On LAN	: Enable	F6 : Load BIOS Defaults	
IRQ 8 Break Suspend	: Disabled	F7 : Load Setup Defaults	

3.5.1 Power Management (Disabled)

Disable	Disable Power Management.
Mini Saving	System starts power saving function when the inactivity period exceeds 1 hour.
Max Saving	System starts power saving function when the inactivity period exceeds 1 min.
User Defined	Allows user to define the inactivity period before power saving function activates,

3.5.2 PM Control by APM (Yes)

Select "Yes" if your system has Advanced Power Management （APM）.

3.5.3 Video Off Method (V/H SYNC+Blank)

This field defines the video off features. The following options are available: DPMS OFF, DPMS Reduce ON, Blank Screen, V/H SYNC+Blank, DPMS Standby, and DPMS Suspend. The DPMS (Display Power Management System) features allow the BIOS to control the video display card if it supports the DPMS feature.

3.5.4 Video Off After (Standby)

This option allows your monitor to blank after your system went into Doze, Standby or Suspend mode. You can elect to not blank screen by select "N/A". Default value is "Standby".

3.5.5 Doze Mode (Disabled)

When system is inactive after the predefined time limit, system performance will drop down. This is the first level of Power Management.

3.5.6 Standby Mode (Disabled)

System turns off the video signal and the fixed drives. This is the second level of Power Management.

3.5.7 Suspend Mode (Disabled)

System further shuts down all devices except for CPU itself. This is the third level of Power Management.

3.5.8 HDD Power Down (Disabled)

This instructs hard drives to be shut off while in the Power Management modes.

3.5.9 VGA Active Monitor (Enabled)

To enable or disable the detection og VGA activity for power down state transition.

3.5.10 Soft-off by PWR-BTTN (Instant-off)

When set to "Delay 4 Sec.", the ATX switch can be used as a normal system power-off button when pressed for less than 4 seconds. "Instant" disables the ATX switch function when the button is pressed under 4 seconds.

3.5.11 Resume by Ring (Disabled)

This option lets you specify enable or disable Modem Wake Up function.

3.5.12 Resume by Alarm (Disabled)

Set this option to enable or disable the RTC Alarm to Wake Up the system which is soft Off.

3.5.13 Date (of Month) Alarm, Time (hh:mm:ss) Alarm

Set these options to specify the RTC Alarm time on Date / Hour / Minute / Second.

3.5.14 Wake Up On LAN(Enable)

Set this option to enable to open boot up from LAN sign this function.

3.5.15 IRQ 8 Break Suspend (Disabled)

To enable or disable the detection of IRQ 8 (RTC) event for power down state transition.

3.5.16 IRQ[3-7, 9-15], NMI (Enabled)

To enable or disable the detection of IRQ 3-7, IRQ 9-15 or NMI interrupt events for power down state transition.

3.5.17 Primary/Secondary IDE 0/1, Floppy Disk, Serial & Parallel Port

These items enable or disable the detection of IDE, floppy, serial and parallel port activities for power down state transition. Actually it detects the read/write to/from I/O port.

3.6 PNP/PCI Configuration Setup

Figure 3.6 PNP/PCI CONFIGURATION SETUP

ROM PCI / ISA BIOS (2A69KV59)
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.

PNP OS Installed	: No	Used MEM base addr	: N/A
Resources Controlled By	: Auto		
Reset Configuration Date	: Disabled		
IRQ-3 assigned to	: Legacy ISA		
IRQ-4 assigned to	: Legacy ISA		
IRQ-5 assigned to	: PCI/ISA PnP		
IRQ-7 assigned to	: PCI/ISA PnP		
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	: PCI/ISA PnP		
IRQ-14 assigned to	: PCI/ISA PnP		
IRQ-15 assigned to	: PCI/ISA PnP		
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 Setup Defaults	

3.6.1 PNP OS Installed (No)

This fiels allows you to use a Plug-and-Play (PnP) operating system to configure the PCI bus slots instead of using the BIOS.

3.6.2 Resources Controlled By (Auto)

Default setting is "Auto". This setting allows BIOS to self detect setting and Plug-and-Play devices during start up. User can select and configure IRQs under "Manual" mode.

3.6.3 Reset Configuration Date (Disabled)

In case conflice occurs after you assign the IRQs or after you configure your system, you can enable this function, allow your system to automatically reset your configuration and reassign the IRQs, DMAs, and I/O address.

3.6.4 IRQ-xx assigned to

If your ISA card is not PnP compatible and requires a special IRQ to support its function, set the selected IRQ to "Legacy ISA". This setting informs the PnP BIOS to reserve the selected IRQ for the installed legacy ISA card.

3.6.5 DMA-x assigned to

If your ISA card is not PnP compatible and requires a special DMA channel to support its function, set the selected DMA channel to "Legacy ISA". This setting informs the PnP BIOS to reserve the selected DMA channel for the installed legacy ISA card.

3.6.6 PCI IDE IRQ Map To (PCI-AUTO)

Some old PCI IDE add-on cards are not fully PnP compatible. These cards require you to specify the slot in use to enable BIOS to properly configure the PnP resources.

3.6.7 Used MEM base addr (N/A)

This item, in conjunction with the "Used MEM Length", lets you set a memory space for non-PnP compatible ISA card.

3.7 Integrated Peripherals

You can control Input and Output functions from this manual.

Figure 3-7 Integrated Peripherals

ROM PCI / ISA BIOS (2A69KV59)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

IDE HDD Block Mode	: Enabled	Onboard Serial Port 2	: 2F8/IRQ3
IDE Primary Master PIO	: Auto	UART Mode Select	: Normal
IDE Primary Slave PIO	: Auto	Onboard Parallel Port	: 378/IRQ7
IDE Secondary Master PIO	: Auto	Parallel Port Mode	: SPP
IDE Secondary Slave PIO	: Auto		
IDE Primary Master UDMA	: Auto		
IDE Primary Slave UDMA	: Auto		
IDE Secondary Master UDMA	: Auto		
IDE Secondary Slave UDMA	: Auto		
On-Chip Primary PCI IDE	: Enabled		
On-Chip Secondary PCI IDE	: Enabled		
USB Keyboard Support	: Disabled	ESC : Quit	↑↓→←: Select Item
Init Display First	: PCI Slot	F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift) F2 : Color
		F6 : Load BIOS Defaults	
Onboard FDC Control	: Enable	F7 : Load Setup Defaults	
Onboard Serial Port 1	: 3F8/IRQ4		

3.7.1 IDE HDD Block Mode (Enabled)

This feature enhances disk performance by allowing multisector data transfers and eliminates the interrupt handling time for each scetor.

3.7.2 IDE Primary & Secondary Master/Slave PIO (Auto)

These four PIO fields let you set a PIO mode (0-4) for each of four IDE devices. When under "Auto" mode, the system automatically set the best mode for each device

3.7.3 IDE Primary & Secondary Master/Slave UDMA (Auto)

When set to "Auto" mode, the system will detect if the hard drive supports Ultra DMA mode.

3.7.4 On-Chip primary/Secondary PCI IDE (Enabled)

Select "Enabled" to activate each on-board IDE channel separately, Select "Disabled", if you install an add-on IDE Control card

3.7.5 USB Keyboard Support (Disabled)

This item lets you enable or disable the USB keyboard driver within the onboard BIOS.

3.7.6 Onboard FDC Controller (Enabled)

Select "Enabled" to activate the on-board FDC
Select "Disabled" to activate an add-on FDC

3.7.7 Onboard Serial Port 1 & 2

Select an address and corresponding interrupt for the first/second serial port. The default value for the first serial port is "3F8/IRQ4" and the second serial port is "2F8/IRQ3".

3.7.8 UART Mode Select (Normal)

Select to activate the Infrared transfer function.

3.7.9 Onboard Parallel Port (378/IRQ7)

Select address and interrupt for the Parallel port.

3.7.10 Parallel Port Mode (SPP)

Select an operating mode for the parallel port. Mode options are SPP, EPP, ECP and ECP+EPP.

3.7.11 ECP Mode Use DMA (3)

Select a DMA channel if parallel port is set as "ECP" or "ECP+EPP".

3.8 Load BIOS Defaults

This loads the standard BIOS default value. To select, highlight it and press <Enter> key. Then press the <Y> and <Enter> keys to confirm. Otherwise, press <N> key to cancel.

3.9 Load Setup Defaults

This feature loads the setup default value from BIOS default table. To select, highlight it and press <Enter> key. Then press the <Y> and <Enter> keys to confirm. Otherwise, press <N> key to cancel.

3.10 Supervisor/User Password

Supervisor and/or user password are assigned under this function. The differences of the two follows:

Supervisor Password :	Only when enter CMOS setup.
User Password :	Whenever the system boots up.

You can assign, modify, or cancel password settings. To modify, highlight "Supervisor Password" or "User Password" and press <Enter> key. The screen prompts ("Enter Password : "). Enter your password. Maximum size of the password is 8 characters. System will prompt you to reenter the password to verify.

If you want to cancel password, either delete passwords or press <Enter> when prompting for new password.

If you want to be requested for password upon initial system startup and upon entering CMOS Setup Utility, you need to change selection of the (Security Option) under (BIOS FEATURES SETUP) to "System".

If the setting is "Setup", system will only requests for password you activate CMOS Setup Utility.

3.11 IDE HDD Auto Detection

If your system has an IDE hard drive, you can use this function to detect its parameters and enter them into the "Standard CMOS Setup" automatically. This routine only detects one set of parameters. If your hard disk is formatted using different parameters than those detected, you have to enter the parameters manually. If the parameters listed do not match the ones used to format the disk, the information on that disk will not be accessible. If the auto-detected parameters displayed do not match those that used for your drive, ignore them. Type N to reject the values and enter the correct ones manually from the Standard CMOS Setup screen.

3.12 Exit CMOS Setup Utility

Press <F10> key to save the setup and exit. Press <ESC> key to exit without saving. Either saving or not saving modifications, screen will prompt user to confirm, and system will reboot on exit.