Notice to End Users

This User's Guide & Technical Reference is for assisting system manufacturers and end users in setting up and installing the mainboard.

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SL-67EV SERIALS

Contents

Chapter 1
Introduction

Features

CPU

1. Supports Intel Pentium II/III, and Celeron (Mendocino) CPUs using SLOT1 at 233 ~ 533 MHz PII/Celeron (Mendocino) or 800MHz PIII
2. Supports CPU voltage autodetect circuit
3. **Supports 66/100MHz Bus Clock with autodetect (BIOS provides 103/112 MHz Bus Clock without auto detect)**

Chipset

1. VIA 693 chipset
2. PCI Rev 2.1, 5V, 33MHz interface compliant
3. Supports AGP 1x/2x Mode, 3.3V AGP (Accelerated Graphics Port) slot

L2 Cache

1. PII /PIIIsupports 256K/512k write back cache with Pipelined Burst SRAMs

Main Memory

1. Memory range from 8MB (minimum) to 768MB (SDRAM) (maximum) with DRAM Table Free configurations
2. Supports SDRAM with 12/10/8ns DRAM speed
3. **Supports 3 pcs 168pin DIMM sockets (3.3V Unbuffered type)**
4. DRAM supports ECC or Parity function

BIOS

1. AWARD Plug and Play BIOS
2. Supports Advanced Power Management Function
3. Flash Memory for easy upgrade

Super I/O Function

1. Integrated USB (Universal Serial Bus) controller with two USB ports.
2. Supports 2 IDE channels with 4IDE devices (including 120MB IDE floppy)
3. Provides PCI IDE Bus Master function and supports **Ultra DMA33/66** function
4. One floppy port
5. Two high speed 16550 FIFO UART ports
6. One parallel port with EPP/ECP/SPP capabilities
7. PS/2 mouse connector
8. Built-in RTC, CMOS, keyboard controller on single I/O chip
9. Peripherals boot function (with ATX power)

Other Functions

1. ATX size 17cm x 30.5cm
2. 5 PCI Master slots, 2 ISA slots, and 1 AGP slot
3. Supports CPU temperature warning function (optional)
4. Provides DIP switch setting
5. **Supports 66/100MHz Bus Clock**
6. **Supports keyboard Power On function**
7. **Supports Wake On LAN function**
8. **BIOS supports 103/112MHz Bus clock.**

Mainboard Layout with Default Settings

The default settings of the following figure is for the Pentium II/III (Celeron (Mendocino)) 300/66MHz or PII/PIII 450/100MHz.
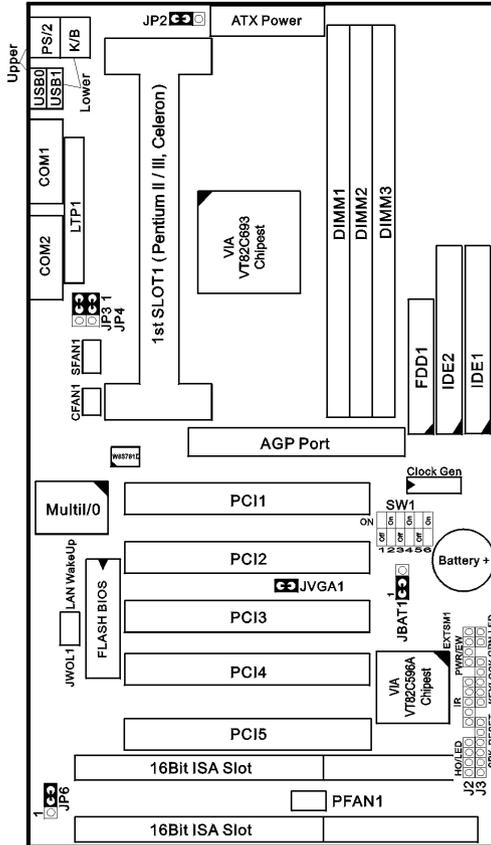
Figure 1-1. Motherboard Layout

Note: For 100MHz CPU environment the SDRAM must comply with PC-100 spec.

Chapter 2
Hardware Setup

CPU Type Configuration

CPU 3.5X Clock Setting
Pentium II/III; 350/100MHz
Pentium II/Celeron; 233/66MHz
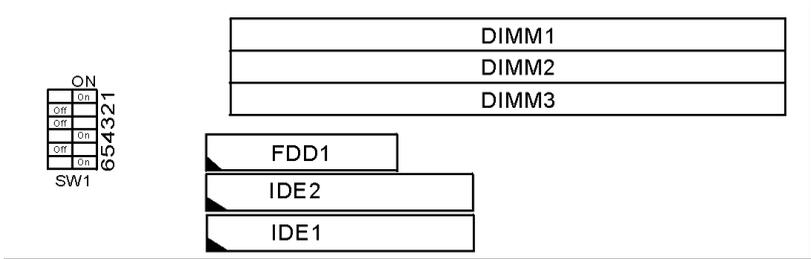
Figure 2-1 CPU Type Configuration

4

CPU 4.0X Clock Setting

Pentium II/III - 400/100MHz
Pentium II/Celeron -266/66 MHz
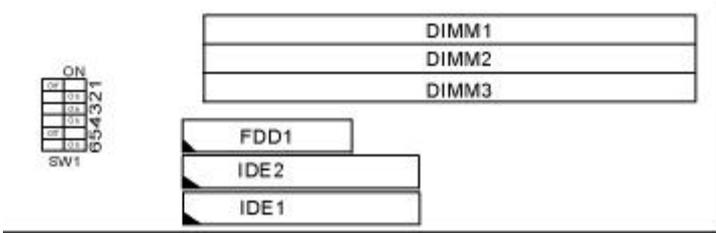
Figure 2-2 CPU Type Configuration

CPU 4.5X Clock Setting

Pentium II/III - 450/100MHz
Pentium II/Celeron -300/66 MHz
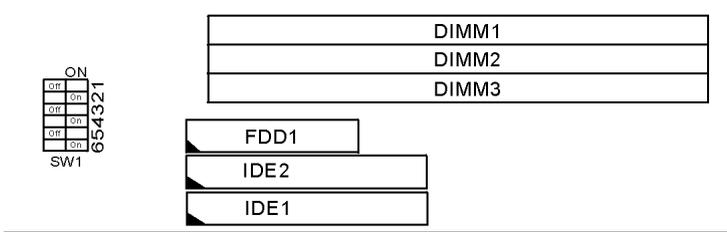
Figure 2-3 CPU Type Configuration

CPU 5.0X Clock Setting

Pentium II/III -500/100MHz
Pentium II/Celeron -333/66 MHz
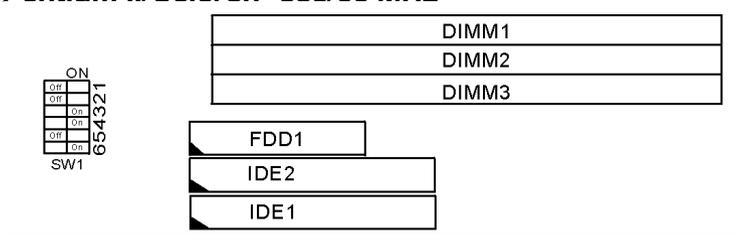
Figure 2-4 CPU Type Configuration

System Memory Configuration

This VIA 693 motherboard supports 168 pin DIMM of 16MB, 32MB, 64MB and 128MB to form a memory size between 8MB to 768MB (SDRAM). VIA 693 chipsets provide "Table-Free" function. It means that users can install DRAM with any configuration and in any bank, and that is why the DRAM table is not needed but do remember that the DRAM must be 3.3V type. **For 100MHz CPU environment, the SDRAM specification must comply with PC-100 spec.**

CPU Installation

Follow the following steps in order to install your Intel Pentium II , Celeron (Mendocino), and Deschutes properly.

Step 1:
Be sure you are in contact with heat sink vendors for attaching the heat sink on to the CPU.

CPU Side View

CPU Top View
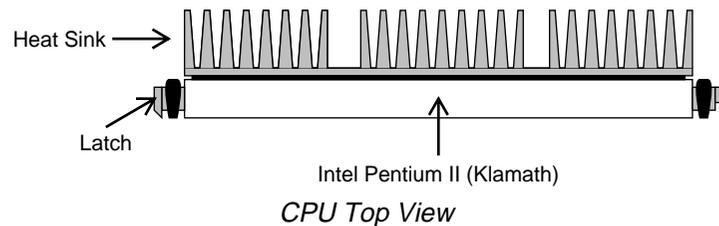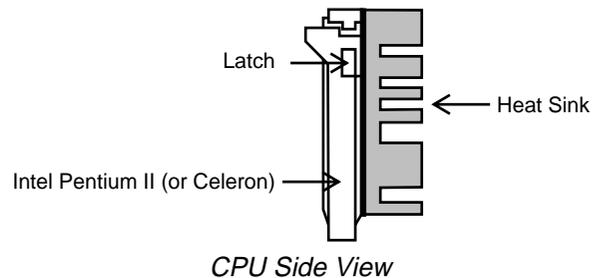
Notice that the heat sink may be different from the drawings shown here.

Step 2:
Install the 2 pairs of screws, which are shown in the
following drawing, onto the mainboard under the SLOT1
Socket.

Two of the screws are right around the SLOT1 Socket and
the other pair of screws should be inserted opposite the first
pair. The screws should be inserted from the bottom of the
motherboard upward.
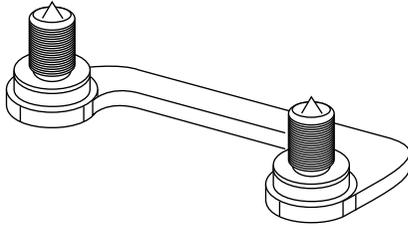
Step 3:
Retention clip is shown in the following figure:
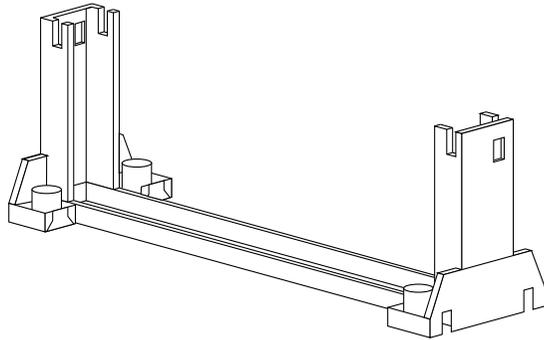
Set the board according to the following diagram before
installing the retention clip.

CPU Heatsink
should be on this side.
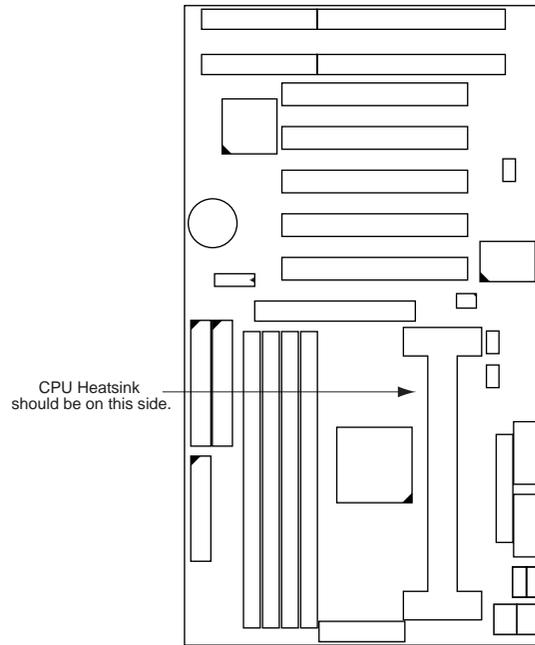
The retention clip should be inserted so that the small rectangle window is more toward to the right hand side of the board.

If installed incorrectly, you will not be able to insert the CPU into the retention clip and in this situation you might need to rotate the retention clip by 180°.

Tighten the 4 screws on the retention clip till the neck of the screws can not be seen from the bottom of the board

Step 4:
Pull the latches up on the base of the CPU supporter and insert it into the two holes directly to the left of the retention clip so that the larger hole is on the bottom.

Press the base of the CPU supporter down in to the holes and lock the latches.

Latch   Latch
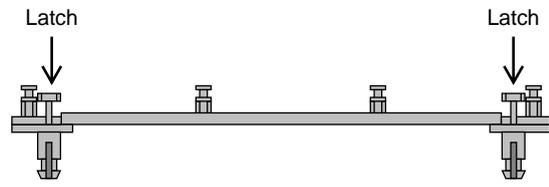
Side View of CPU Supporter Base

Step 5:
Flatten the two latches on the side of CPU. Insert the CPU
into the retention clip and notice that the heat sink is on the
right hand side of the board. Lock the two latches to secure
the CPU.
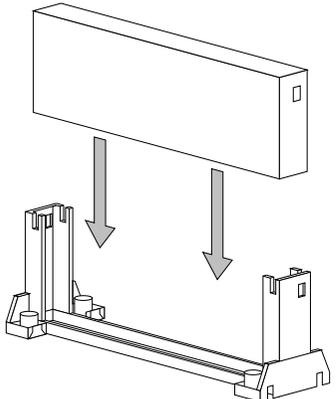
Step 6:
Insert the clip portion of the CPU supporter so that the heat sink can sit on the top of the whole CPU supporter.
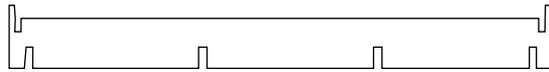
Top View of CPU Support Clip

Notice that the base and the clip of CPU Supporter may be different from the figures shown here.

Jumper Settings

JP2: Keyboard Power Selection

Keyboard Power On	JP2
Disabled (default)	1 / 3
Enabled	1 / 3

Note: 1. *If the JP2 is fixed by jumperwire then the board does not support keyboard power on function.*

2. *When the keyboard power on function shows any compatible problem, choose Disabled and report the keyboard model to the vendor/maker.*

3. *Keyboard power on function must be set from the BIOS. Refer to the "Integrated Peripherals" section in the Chapter 3.*

XFAN 1: Onboard FAN (12V) Connector

FAN#	Function
SFAN1	System FAN
CFAN1	CPU FAN
PFAN1	Chasis FAN

JBAT1: Clear CMOS Data

Clear the CMOS memory by shorting this jumper
momentarily; then remove the cap to retain new settings.

CMOS Data	JBAT1
Clear Data	1 3
Retain Data (default)	1 3

JP6: Power Lost Resume

This jumper allows you to use the switch of ATX power
supply to control on/off switch directly instead of using the
power switch on the mainboard.

Power Lost Resume	JP6
Normal	1 3
Enabled	1 3

This feature must work with BIOS. Please refer to the
"Power On After PWR-Fail" section on page 29 for
description.

JP3, JP4: USB Port Select

USB Port	JP3/JP4
Redirect all USB ports to USB connector (default)	
Redirect USB1 to AGP port	
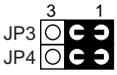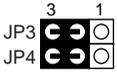
JVGA1: VGA Card

	JVGA1
For Special VGA Card*	
Normal (default)	

Note: This jumper is set for the special VGA card. Open this jumper when the systme isn't able to boot

SW1: 5–6 Bus Clock Select

Bus Clock	SW: 5~6
66MHz	
100MHz	
Auto Detect (default)	

SW1: 1–4: Bus Ratio Select

Bus Ratio	SW: 1~4	Bus Ratio	SW: 1~4	Bus Ratio	SW: 1~4
3.0x		5.0x		7.0x	
3.5x		5.5x		7.5x	
4.0x		6.0x		8.0x	
4.5x		6.5x			
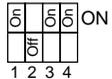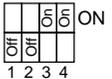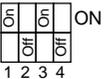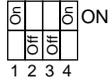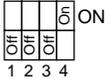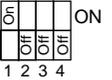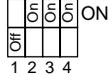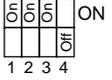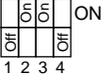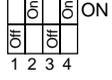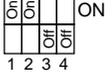
IDE LED Activity Light: (J2 pin1–4)

This connector connects to the hard disk activity indicator
light on the case.

Infrared Port Module Connector (J2 pin6–10)

The system board provides a 5-pin infrared connector—IR1 as an optional module for wireless transmitting and receiving. **Pin 6 through 10 are Transmit, GND, Receive (low speed), Receive (high speed), and Vcc, respectively.**

J2 pin12, 13: PWR Switch

Power Switch: Toggle this pin for turnning on/off of the power supply (for ATX power only).

SLEEP Switch (J2 pin14, 15)

Toggle this jumper forces the system to sleep and the system won't wake up until the hardware event is coming. (The BIOS Power Management setting muse be Enabled.)

Speaker Connector (J3 pin1–4)

The speaker connector is a 4-pin connector for connecting the system and the speaker. (See the following drawing for jumper position.)

Reset Switch (J3 pin5, 6)

The system board has a 2-pin connector for rebooting your computer without having to turn off your power switch. This prolongs the life of the system's power supply.

Power LED and Keylock Switch (J3 pin8–12)

The keylock switch is a 5-pin connector for locking the keyboard for security purposes. (See the following drawing for jumper position, and pin1~3 is connected to power LED and pin 4~5 is connected to keylock switch.)

JWOL1: Wake On Lan (WOL) Connector

This connector is designed to use Lan to bootup the system.
Connect the wake on signal from Lan card to this connector.

Green LED (J3 pin14, 15)

Reserved.
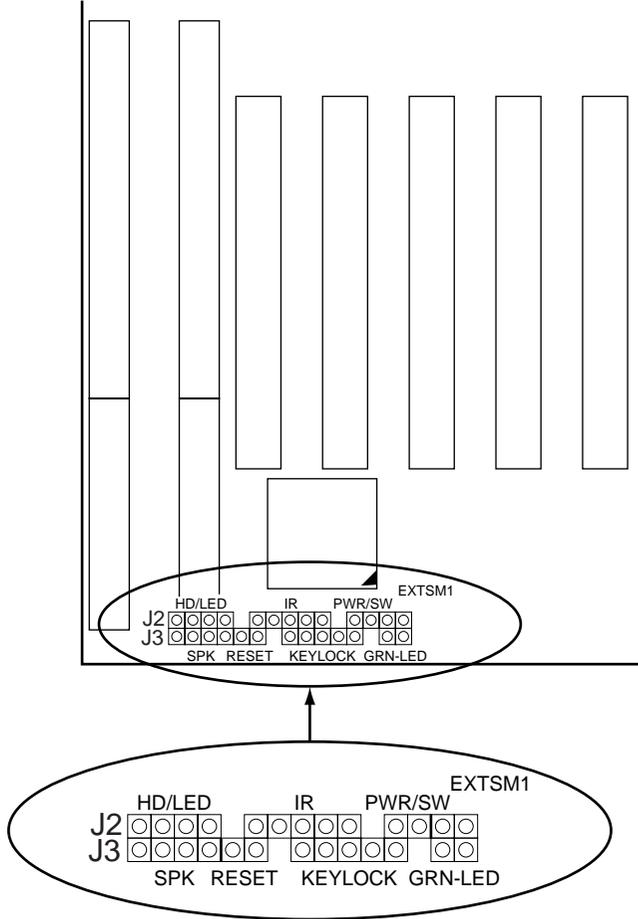
J2 Switch Signal Summary

J2	Pin	Signal Description
HDD LED Connector	1	+5V
	2	HDD LED Signal
	3	HDD LED Signal
	4	+5V
N.C.	5	No Connection
Infrared Connector	6	Infrared Transmit Signal
	7	GND
	8	Infrared Receive Signal (low speed)
	9	Infrared Receive Signal (high speed)
	10	+5V
N.C.	11	No Connection
PWR	12	5V StandBy
	13	Power Switch (for ATX Power)
SLEEP	14	SMI Signal
	15	GND

J3 Switch Signal Summary

J3	Pin	Signal Description
Speaker Connector	1	Speaker Signal
	2	No Connection
	3	Ground
	4	+5V
Reset Switch	5	Reset Signal
	6	Ground
N.C.	7	No Connection
Power LED Connector	8	+5V
	9	No Connection
	10	Ground
Keylock Connector	11	Keylock Signal
	12	GND
N.C.	13	No Connection
Power Saving Connector	14	Green LED Signal
	15	Ground

Chapter 3
Award BIOS Setup

This VIA 693 motherboard comes with the AWARD BIOS from AWARD Software Inc. Enter the Award BIOS program's Main Menu as follows:

1. Turn on or reboot the system.

   After a series of diagnostic checks, the following message will appear:

   ```
   PRESS <DEL> TO ENTER SETUP
   ```

2. Press the <DEL> key and the main program screen appears as in the following page.

```
                        ROM PCI/ISA BIOS
                       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 DETECTION        │
 │                                  │                                  │
 │   PNP/PCI CONFIGURATION          │    HDD LOW LEVEL FORMAT          │
 │                                  │                                  │
 │   LOAD SETUP DEFAULTS            │    SAVE & EXIT SETUP             │
 │                                  │                                  │
 │                                  │    EXIT WITHOUT SAVING           │
 │                                  │                                  │
 ├──────────────────────────────────┴──────────────────────────────────┤
 │ Esc : Quit                          ↑ ↓ → ←  : Select Item           │
 │ F10 : Save & Exit Setup             (Shift) F2 : Change Color        │
 ├──────────────────────────────────────────────────────────────────────┤
 │                   Time, Date, Hard Disk Type...                      │
 └──────────────────────────────────────────────────────────────────────┘
```

3. Using one of the arrows on your keyboard to select an option and press <Enter>. Modify the system parameters to reflect the options installed in the system.

4. You may return to the Main Menu anytime by press <ESC> .

5. In the Main Menu, "SAVE AND EXIT SETUP" saves your changes and reboots the system, and "EXIT WITHOUT SAVING" ignores your changes and exits the program.

Standard CMOS Setup

Standard CMOS Setup allows you to record some basic system hardware configuration and set the system clock and error handling. You only need to modify the configuration values of this option when you change your system hardware configuration or the configuration stored in the CMOS memory got lost or damaged.

Run the Standard CMOS Setup as follows:

1. Choose "STANDARD CMOS SETUP" from the Main Menu and a screen with a list of options appears.

```
                    ROM PCI/ISA BIOS
                   STANDARD CMOS SETUP
                   AWARD SOFTWARE, INC.

 Date (mm:dd:yy) : Thu, May 9 1996
 Time (hh:mm:ss) :  15 : 45 : 10

 HARD DISKS          TYPE   SIZE    CYLS HEAD   PRECOMP   LANDZ   SECTOR   MODE

 Primary Master   : Auto    0       0    0         0       0        0     Auto
 Primary Slave    : Auto    0       0    0         0       0        0     Auto
 Secondary Master : Auto    0       0    0         0       0        0     Auto
 Secondary Slave  : Auto    0       0    0         0       0        0     Auto

 Drive A : 1.44M, 3.5 in.                  Base Memory:      640K
 Drive B : None                        Extended Memory:    15360K
                                          Other Memory:      384K

 Video  : EGA/VGA
 Halt On : All Errors                     Total Memory:    16384K

 Esc : Quit             ↑ ↓ → ←    : Select Item   PU/PD/+/− : Modify
 F1 : Help              (Shift) F2 : Change Color
```

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/− keys.

A short description of screen options follows:

Date (mm:dd:yy)   Set the current date and time.
Time (hh:mm:ss)

Primary   This field records the specifications
(Secondary)   for all non-SCSI hard disk drives
Master/Slave   installed in your system. Refer to
the respective documentation on
how to install the drivers.

Drive A/B   Set this field to the types of floppy
disk drives installed in your system.
The choices are:
360KB, 5.25 in.,
1.2MB, 5.25 in.,
720KB, 3.5 in.,
1.44M, 3.5 in. (default),
2.88MB, 3.5 in., or None

Video   Set this field to the type of video
display card installed in the system.
The choices are: Monochrome;
Color 40x25; VGA/EGA (default);
or Color 80x25

Halt On   Set this filed to the type of errors
that will cause the system to halt.
The choices are: All Errors (default);
No Errors; All, But Keyboard;
All, But Diskette; or
All, But Disk/Key

3. Press <ESC> to return to the Main Menu when you finish
setting up in the "Standard CMOS Setup".

BIOS Features Setup

BIOS Features Setup allows you to improve your system performance or set up some system features according to your preference.

Run the BIOS Features Setup as follows:

1. Choose "BIOS FEATURES SETUP" from the Main Menu and a screen with a list of options appears.

```
                    ROM PCI/ISA BIOS
                   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 : Enalbed│ D4000-D7FFF Shadow  : Disabled│
│Boot Sequence           : A,C, SCSI│ D8000-DBFFF Shadow  : Disabled│
│Swap Floppy Drive       : Disabled│ DC000-DFFFF Shadow  : Disabled│
│Boot Up Floppy Seek     : Enabled │                              │
│Boot Up NumLock Status  : On      │                              │
│Typematic Rate Setting  : Disabled│                              │
│Typematic Rate (Chars/Sec): 6     │                              │
│Typematic Delay (Msec)  : 250     │                              │
│Security Option         : Setup   │                              │
│PCI/VGA Palette Snoop   : Disabled├──────────────────────────────│
│OS Select for DRAMs>64MB  : Non-OS/2│ ESC : Quit      ↑↓→←: Select Item│
│                                 │ F1  : Help     PU/PD/+/- : Modify│
│                                 │ F5  : Old Values (Shift)F2 : Color│
│                                 │ F6  : Load BIOS Defaults      │
│                                 │ F7  : Load Setup Defaults     │
└─────────────────────────────────┴──────────────────────────────┘
```

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/− keys. An explanation of the <F> keys follows:

<F1>: "Help" gives options available for each item.

Shift <F2>: Change color.

<F5> : Get the previous values. These values are the values with which the user started the current session.

<F6>: Load all options with the BIOS default values.

<F7>: Load all options with the Setup default values.

A short description of screen options follows:

Virus Warning   Enabled: Activates automatically when the system boots up causing a warning message to appear if there is anything attempts to access the boot sector or hard disk partition table.

Disabled: No warning message will appear when there is something attempts to access the boot sector or hard disk partition table

Note: *Many diagnostic (or boot manager) programs which attempt to access the boot sector table can cause the above warning message. If you will be running such a program, we recommend that you disable the virus protection first.*

CPU Internal Cache   Choose Enabled (default) or Disabled. This option allows you to enable or disable the CPU's internal cache.

External Cache   Choose Enabled (default) or Disabled. This option allows you to enable or disable the external cache memory.

CPU L2 Cache ECC Checking   Use the default setting.

Quick Power On Self Test — Choose Enabled (default) or Disabled. This option allows you to speed up the Power On Self Test routine.

Boot Sequence — Default is "A, C, SCSI". This option determines which drive to look for first for an operating system.

Swap Floppy Drive — Choose Enabled or Disabled (default). This option swaps floppy drive assignments when it is enabled.

Boot Up Floppy Seek — Enabled (default): During POST, BIOS checks the track number of the floppy disk drive to see whether it is 40 or 80 tracks.

Disabled: During POST, BIOS will not check the track number of the floppy disk drive.

Boot Up NumLock Status — Choose On (default) or Off. This option lets user to activate the NumLock function at boot-up.

Typematic Rate Setting — Choose Enabled or Disabled (default). Enable this option to adjust the keystroke repeat rate.

Typematic Rate (Chars/Sec) — Range between 6 (default) and 30 characters per second. This option controls the speed of repeating keystrokes.

Typematic Delay (Msec) — Choose 250 (default), 500, 750, and 1000. This option sets the time interval for displaying the first and the second characters.

Security Option   Choose System or Setup (default).
                        This option is to prevent
                        unauthorized system boot-up or use
                        of BIOS Setup.

PCI/VGA palette   Choose Enabled or Disabled
Snoop   (default). It determines whether the
                        MPEG ISA cards can work with
                        PCI/VGA or not.

OS Select for   Non-OS2 (default): For Non-OS/2
DRAM > 64MB   system.
                        OS: For OS/2 system.

Video BIOS   Enabled (default): Map the VGA
Shadow   BIOS to system RAM.
                        Disabled: Don't map the VGA BIOS
                        to system RAM.

C8000-CBFFF to   These options are used to shadow
DC000-DFFF   other expansion card ROMs.
Shadow

3. Press <ESC> and follow the screen instructions to save or
   disregard your settings.

Chipset Features Setup

Chipset Features Setup changes the values of the chipset registers. These registers control the system options.

Run the Chipset Features Setup as follows:

1. Choose "CHIPSET FEATURES SETUP" from the Main Menu and a screen with a list of options appears.

```
                  ROM PCI/ISA BIOS
                CHIPSET FEATURES SETUP
                 AWARD SOFTWARE, INC.
┌─────────────────────────────────────────────────────────────────┐
│ Bank 0/1 DRAM Timing   : SDRAM 10ns │ CPU Host Clock          : Default  │
│ Bank 2/3 DRAM Timing   : SDRAM 10ns │ CPU Warning Temperature : Disabled │
│ Bank 4/5 DRAM Timing   : SDRAM 10ns │ Current System Temp.    :          │
│ Bank 6/7 DRAM Timing   : SDRAM 10ns │ Current CPU1 Temperature :         │
│ SDRAM Cycle Length     : 3          │ Current CPUFAN1 Speed   :          │
│ DRAM Clock             : Host CLK   │ Current CPUFAN2 Speed   :          │
│ Memory Hole            : Disabled   │ Current CPUFAN3 Speed   :          │
│ Read Around Write      : Disabled   │ INO (V) :       IN1 (V) :          │
│ Concurrent PCI/Host    : Disabled   │ IN2 (V) :       + 5  V  :          │
│ Video RAM Cacheable    : Disabled   │ +12  V  :       -12  V  :-         │
│ AGP Aperture Size      : 64M        │ - 5  V  :                          │
│ AGP-2X Mode            : Disabled   │                                    │
│ OnChip USB             : Disabled   │                                    │
│ USB Keyboard Support   : Disabled   │                                    │
│                                     ├────────────────────────────────────┤
│                                     │ ESC : Quit      ↑↓→←: Select Item  │
│                                     │ F1  : Help      PU/PD/+/- : Modify  │
│                                     │ F5  : Old Values (Shift)F2 : Color  │
│                                     │ F6  : Load BIOS Defaults            │
│                                     │ F7  : Load Setup Defaults           │
└─────────────────────────────────────────────────────────────────┘
```

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/– keys.

A short description of screen options follows:

Bank 0 ~ 7 DRAM Timing The DRAM timing of Bank 0/1, 2/3, 4/5, 6/7 in this field is set by the system board manufacturer, depending on whether the board has fast paged DRAMs or EDO (extended data output) DRAMs. The Choice: Normal, Medium, Fast, Turbo, FP/EDO 60ns, FP/EDO 70ns.

SDRAM Cycle Length This field sets the CAS latency timing.
The Choice: 2, 3.

DRAM Clock Use the default setting

Memory Hole Choose Enabled or Disabled (default). In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory's space below 16MB.

Read Around Write DRAM optimization feature: If a memory read is addressed to a location whose latest write is being held in a buffer before being written to memory, the read is satisfied through the buffer contents, and the read is not sent to the DRAM
The choice: Enabled, Disabled.

Concurrent PCI/Host When disable, CPU bus will be occupied during the entire PCI operation period.
The choice: Enabled, Disabled.

Video RAM Cacheable Choose Enabled or Disabled (default). When Enabled, the access to the VGA RAM addressed is cached.

AGP Aperture Size Choose 4 , 8, 16, 32, 64 (default), 128, or 256 MB. Memory mapped and graphics data structures can reside in a Graphics Aperture. This area is like a linear buffer. BIOS will auto report the starting address of this buffer to the O.S.

AGP-2X Mode	Choose Enabled or Disabled (default).
	Enabled: Turn on AGP 2X mode (133MHz).
	Disabled: Turn off AGP 2X mode. This function must match AGP2X function. Check AGP card's spec before turn on it.

OnChip USB	Enabled: Enable USB function and will occupy one IRQ.
	Disabled (default): Disable USB function and will not occupy IRQ. Choose Disabled when it is not connect to an USB device.

USB Keyboard Support	Choose Disabled (default) or Enabled.
	Disabled: No USB keyboard is installed.
	Enabled: USB keyboard is connected.

CPU Host Clock	Choose CPU host clock ratio from: default, 66MHz, 68MHz, 75MHz, 83MHz, 100MHz, 103MHz, 112, MHz, or 133MHz.

CPU Warning Temperature[+]	Choose Disabled (default), 50°C/122°F, 53°C/127°F, 56°C/133°F, 60°C/140°F, 63°C/145°F, 66°C/151°F, 70°C/150°F.
	When CPU temperature is over the setting value, the speaker will sound an alarm and the clock will drop until the temperature is within optimum the temperature range.

Current CPU$^+$
Temp

BIOS will displays CPU's temperature, fan speed, and voltage value.

$^+$: *These two functions are dependent on the necessary hardware installation.*

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Power Management Setup

Power Management Setup sets the system's power saving
functions.

1. Choose "POWER MANAGEMENT SETUP" from the
    Main Menu and a screen with a list of options appears.

```
                      ROM PCI/ISA BIOS
                   POWER MANAGEMENT SETUP
                   AWARD SOFTWARE, INC.
┌────────────────────────────────────┬───────────────────────────────────┐
│ ACPI Function       : Disabled      │ Primary INTR        : ON          │
│ Power Management    : User Define   │ IRQ3  (COM 2)       : Primary     │
│ PM Control by APM   : No            │ IRQ4  (COM 1)       : Primary     │
│ Video Off Option    : Suspend -> Off│ IRQ5  (LPT 2)       : Primary     │
│ Video Off Method    : V/H SYNC+Blank│ IRQ6  (Floppy Disk) : Primary     │
│ Modem Use IRQ       : 3             │ IRQ7  (LPT 1)       : Primary     │
│ Soft-Off by PWR-BTTN : Instant-Off  │ IRQ8  (RTC Alarm)   : Disabled    │
│ HDD Power Down      : Disabled      │ IRQ9  (IRQ2 Redir)  : Secondary   │
│ Doze Mode           : Disabled      │ IRQ10 (Reserved)    : Secondary   │
│ Suspend Mode        : Disabled      │ IRQ11 (Reserved)    : Secondary   │
│      ** PM Events **                │ IRQ12 (PS/2 Mouse)  : Primary     │
│ VGA                 : OFF           │ IRQ13 (Coprocessor) : Primary     │
│ LPT & COM           : LPT/COM       │ IRQ14 (Hard Disk)   : Primary     │
│ HDD & FDD           : ON            │ IRQ15 (Reserved)    : Disabled    │
│ DMA/Master          : OFF           ├───────────────────────────────────┤
│ Wake Up On LAN      : Disabled      │ ESC : Quit      ↑↓→←: Select Item  │
│ Modem Ring Resume   : Disabled      │ F1  : Help      PU/PD/+/- : Modify │
│ RTC Alarm Resume    : Disabled      │ F5  : Old Values (Shift)F2 : Color │
│                                     │ F6  : Load BIOS Defaults           │
│                                     │ F7  : Load Setup Defaults          │
└────────────────────────────────────┴───────────────────────────────────┘
```

2. Use one of the arrow keys to move between options and
    modify the selected options by using PgUp/PgDn/+/−
    keys.

A short description of screen options follows:

ACPI Function   This item allows you to
                      enable/disable the Advanced
                      Configuration and Power
                      Management (ACPI).
                      The choice: Enabled, Disabled.

**Power
Management**   Choose Max. Saving, User Define
                      (default), Disabled, or Min Saving.

PM Control by APM Choose Yes or No (default). You need to choose Yes when the operating system has the APM functions, choose No otherwise.

Video Off Option Choose NA, Suspend, Standby (default), or Doze.

Video Off Method Choose Blank , DPMS, or V/H Sync+Blank (default). You can chose either DPMS or V/H Sync+Blank when the monitor has the Green function. You need to choose Blank when the monitor has neither the Green function.

MODEM Use IRQ Assign the IRQ number to the modem which is being used so that the ring signal can wakeup the system. The default setting is 3 (COM2).

Soft-Off by PWR-BTTN Instant-off: (default) turns off the system power at once after pushing the power button.

Delay 4 Sec: turns off the system power 4 seconds after pushing the power button (to meet PC97 spec.)

HDD Power Down Time is adjustable from 1 to 15 minutes. When the set time has elapsed, the BIOS sends a command to the HDD to power down, which turns off the motor.

Doze Mode This option sets the CPU speed down to 33MHz during this mode.

Suspend Mode   These two options allow you to choose the mode for the different timers. The Standby Mode turns off the VGA monitor, and the Suspend Mode turns off the CPU and saves the energy of the system.

VGA   When Enabled, your can set the VGA awakens the system.

LPT & COM   When On of LPT & COM, any activity from one of the listed system peripheral devices or IRQs wakes up the system.

HDD & FDD   When On of HDD & FDD, any activity from one of the listed system peripheral devices wakes up the system.

Wake On LAN   Enabled: Wake up the system from LAN card (LAN card must support Wake Up On LAN function and the power supply must provide at least 5V/750mA standby current.

Disabled: (default) Disabled Wake On LAN function.

Modem Ring Resume   An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.

RTC Alarm Resume	Enabled:	Wake up the system at assigned time, and also, the user needs to set both "Date Alarm" and "Time Alarm" 2 options.
	Disabled:	(default) Disable this feature.

Primary INTR When set to On, any event occurring at will awaken a system which has been powered down.

IRQ [3, 15] When this function is set to "ON", activities will neither prevent the system from going into a power management mode nor awaken it.

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

PnP/PCI Configuration Setup

PnP/PCI Configuration Setup configures the PCI bus slots.

Run the Chipset Features Setup as follows:

1. Choose "PnP/PCI CONFIGURATION SETUP" from the Main Menu and a screen with a list of options appears.

```
                    ROM PCI/ISA BIOS
                  PNP/PCI CONFIGURATION
                   AWARD SOFTWARE, INC.

PNP OS Installed      : No      CPU to PCI Write Buffer  : Enabled
Resources Controlled By  : Auto    PCI Dynamic Bursting    : Enabled
Reset Configuration Data : Disabled  PCI Master 0 WS Write    : Enabled
                                  PCI Delay Transaction    : Enabled
                                  PCI#2 Access #1 Retry    : Disabled
IRQ-3  assigned to : PCI/ISA PnP    AGP Master 1 WS Write    : Enabled
IRQ-4  assigned to : PCI/ISA PnP    AGP Master 1 WS Read     : Disabled
IRQ-5  assigned to : PCI/ISA PnP
IRQ-7  assigned to : PCI/ISA PnP    PCI IRQ Actived By     : Level
IRQ-9  assigned to : PCI/ISA PnP    Assign IRQ for USB     : Enabled
IRQ-10 assigned to : PCI/ISA PnP    Assign IRQ for VGA     : Enabled
IRQ-11 assigned to : PCI/ISA PnP    Assign IRQ for ACPI    : IRQ10
IRQ-12 assigned to : PCI/ISA PnP    Report No FDD For WIN 95 : No
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
```

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/− keys.

A short description of screen options follows:

PNP OS Installed   Yes: OS supports Plug and Play
function.

No (default): OS doesn't support
Plug and Play
function.

*Note: BIOS will automaticaly
disable all PnP resources
except the boot device card
when select Yes on Non-PnP
OS.*

Resources   Choose Manual or Auto (default).
Controlled By   The BIOS checks the IRQ/DMA
channel number on the ISA and PCI
card manually if chose Manual and
the IRQ/DMA channel number will
be checked automatically if choose
Auto.

Reset   Choose Enabled or Disabled
Configuration Data (default). Disabled means to retain
PnP configuration data in BIOS and
Enabled means to reset PnP
configuration data in BIOS.

IRQ-x assigned to Legacy ISA: Manually assigns
DMA-x assigned to IRQ/DMA to device.

PCI/ISA PnP: BIOS assigns
IRQ/DMA to device automatically.

CPU to PCI Write Buffer

When this field is Enabled, writes from the CPU to the PCI bus are buffered, to compensate for the speed differences between the CPU and the PCI bus. When Disabled, the writes are not buffered and the CPU must wait until the write is complete before starting another write cycle.
The choice: Enabled, Disabled.

PCI Dynamic Bursting

When Enabled, every write transaction goes to the write buffer. Burstable transactions then burst on the PCI bus and nonburstable transactions donit.
The choice: Enabled, Disabled

PCI Master 0 WS Write

When Enabled, writes to the PCI bus are executed with zero wait states.
The choice: E nabled, Disabled

PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.
The choice: Enabled, Disabled

PCI #2 Access #1 Retry

When PCI#2 (AGP bus) access to PCI#1 (PCI bus) has a error occurred.
The choice: Enabled, Disabled

AGP Master 1 WS Write

When Enabled, writes to the AGP(Accelerated Graphics Port) are executed with one wait states.
The choice: Enabled, Disabled

AGP Master 1 WS Read   When Enabled, read to the AGP (Accelerated Graphics Port) are executed with one wait states. The choice: Enabled, Disabled

PCI IRQ Actived By   Choose Level or Edge. Use the default setting.

Assign IRQ for USB   Choose Enabled (default) or Disabled.
Enabled: Add one IRQ to USB controller.
Deisabled: Remove IRQ from USB controller. The system will have extra IRQ for other devices but the USB controller will still not disabled (only IRQ was removed.)

Assign IRQ for VGA   Choose Enabled (default) or Disabled.
Enabled: Add one IRQ to VGA controller.
Deisabled: Remove IRQ from VGA controller. The system will have extra IRQ for other devices but the VGA controller will still not disabled (only IRQ was removed.)

Assign IRQ for ACPI   Choose IRQ9, 10 (default), 11. This option is valid only when "ACPI Function" is set to "Enabled". Refer to Power Management Setup section.

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Load Setup Defaults

Load Setup Defaults option loads the default system values to the system configuration fields. If the CMOS is corrupted the defaults are loaded automatically. Choose this option and the following message appears:

```
"Load Setup Defaults (Y/N)? N"
```

To use the Setup defaults, change the prompt to "Y" and press <Enter>.

Integrated Peripherals

Integrated Peripherals option changes the values of the chipset registers. These registers control system options in the computer.

1. Choose "INTEGRATED PERIPHERALS" from the Main Menu and a screen with a list of options appears.

```
                        ROM PCI/ISA BIOS
                      INTEGRATED PERIPHERALS
                       AWARD SOFTWARE, INC.

OnChip IDE Channel0     : Enabled     Onboard Parallel Port   : 378/IRQ7
OnChip IDE Channel1     : Enabled     Parallel port Mode      : Normal
IDE Prefetch Mode       : Enabled     ECP Mode Use DMA        : 3
Primary Master PIO      : Auto        EPP Mode Select         : EPP1.7
Primary Slave PIO       : Auto        POWER ON Function       : BUTTON ONLY
Secondary Master PIO    : Auto        KB Power On Password    : Enter
Secondary Slave PIO     : Auto        Hot Key Power On        : Ctrl-F1
Primary Master UDMA     : Auto
Primary Slave UDMA      : Auto
Secondary Master UDMA   : Auto
Secondary Slave UDMA    : Auto
Init Display First      : PCI Slot
KBC Input Clock         : 8 MHz
Onboard FDD Controller  : Enabled
Onboard Serial Port 1   : 3F8/IRQ4
Onboard Serial Port 2   : 2F8/IRQ3
UART Mode Select        : IrQA        ESC : Quit          ↑ ↓ → ←: Select Item
RxD, TxD Active         : Lo, Lo      F1  : Help      PU/PD/+/- : Modify
IR Transmition Delay    : Enabled     F5  : Old Values (Shift)F2 : Color
                                      F7  : Load Setup Defaults
```

2. Use one of the arrow keys to move between options and modify the selected options by using PgUp/PgDn/+/– keys.

A short description of screen options follows:

OnChip IDE Channel 0/1	The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the first and/or second IDE interface. Select Disabled to deactivate an interface, if you install a primary and/or secondary add-in IDE interface. The choice: Enabled, Disabled.
IDE Prefetch Mode	Use the default setting.
Primary Master/Slave PIO Secondary Master/Slave PIO	Choose Auto (default) or Mode 0~4. The BIOS will detect the HDD Mode type automatically when you choose Auto. You need to set to a lower mode than Auto when your hard disk becomes unstable.
IDE Primary Master/Slave UDMA IDE Secondary Master/Slave UDMA	Choose Disabled or Auto (default). Auto: Automatically detects the HDD Ultra DMA function. Disabled: Disabled the HDD Ultra DMA function.
Init Display First	This item allows you to decide to active PCI Slot or AGP first The choice: PCI Slot, AGP.
KBC Input Clock	Choose 6MHz, 8MHz (default), 12MHz, or 16MHz. There might be a compatible problem when is above 8MHz.

Onboard FDC Controller	Choose Enabled (default) or Disabled. Choose Disabled when you use an ISA card with FDD function, or , choose Enabled to use the onboard FDD connector.
Onboard Serial Port 1	Choose Auto (default), 3F8/IRQ4 , 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, or Disabled. Do no set port 1 & 2 to the same value except for Disabled.
Onboard Serial Port 2	Choose Auto (default), 3F8/IRQ4 , 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, or Disabled.
UART Mode select	Choose Normal (default), IrDA, or ASKIR.
RxD, TxD Active	Choose Hi/Hi, Hi/Lo, Lo/Hi, or Lo/Lo (default). •: *The above 2 options will not work unless UART2 Mode HPSIR/ASKIR is selected.*
IR Transmition Delay	Enabled: Enabled delay when transfers data. Disabled (default) Disabled delay when transfers data.
Onboard Parallel Port	Choose the printer I/O address: 378H/IRQ7 (default), 3BCH/IRQ7, 278H/IRQ5
Parallel Port Mode	Choose SPP (default), ECP + EPP EPP, or ECP mode. The mode depends on your external device that connects to this port.

ECP Mode Use DMA	Choose DMA3 (default) or DMA1. Most sound cards use DMA1. Check with your sound card configuration to make sure that there is no conflict with this function. *: *This option will not be displayed unless the EPP/ECP function is selected..*
EPP Mode Select	Choose EPP1.7 (default) or EPP1.9. EPP1.9 supports hardware handshake. This setting is dependent on your EPP device. *Note: The above 2 options will not be displayed unless the EPP/ECP function is selected.*
Power On Function; KB Power On Password; Hot Key Power On	Choose BUTTON ONLY (default), Password, Mouse Left, or Mouse Right. Mouse Left: Use the PS/2 Mouse Left to boot the system. Mouse Right: Use the PS/2 Mouse Right to boot the system. Password: Choose a special password which is defined by the user or use one of the HOT keys (from CTRL-F1 to CTRL-F12) to boot the system.

3. Press <ESC> and follow the screen instructions to save or disregard your settings.

Supervisor/User Password

These two options allows you to set your system passwords.
Normally, supervisor has a higher right to change the CMOS
setup option than the user. The way to set up the passwords
for both Supervisor and User are as follow:

1. Choose "Change Password" in the Main Menu and press
   <Enter>. The following message appears:

   `"Enter Password:"`

2. The first time you run this option, enter your password
   up to only 8 characters and press <Enter>. The screen
   does not display the entered characters.

3. After you enter the password, the following message
   appears prompting you to confirm the password:

   `"Confirm Password:"`

4. Enter exact the same password you just typed again to
   confirm the password and press <Enter>.

5. Move the cursor to Save & Exit Setup to save the
   password.

6. If you need to delete the password you entered before,
   choose the Supervisor Password and press <Enter>. It
   will delete the password that you had before.

7. Move the cursor to Save & Exit Setup to save the option
   you did, otherwise the old password will still be there
   when you turn on your machine next time.

8. Press <ESC> to exit to the Main Menu.

Note: *If you forget or lose the password, the only way to
access the system is to clear the CMOS RAM by
setting JBAT1. All setup information will be lost and
you need to run the BIOS setup program again.*

IDE HDD Auto Detection

IDE HDD Auto Detection detects the parameters of an IDE hard disk drive and automatically enters them to the Standard CMOS Setup screen.

The screen will ask you to select a specific hard disk for Primary Master after you select this option. If you accept a hard disk detected by the BIOS, you can enter "Y" to confirm and then press <Enter> to check next hard disk. This function allows you to check four hard disks and you may press the <ESC> after the <Enter> to skip this function and go back to the Main Menu.

Save & Exit Setup

Save & Exit Setup allows you to save all modifications you have specified into the CMOS memory. Highlight this option on the Main Menu and the following message appears:

```
SAVE to CMOS and EXIT (Y/N)? Y
```

Press <Enter> key to save the configuration changes.

Exit Without Saving

Exit Without Saving allows you to exit the Setup utility without saving the modifications that you have specified. Highlight this option on the Main Menu and the following message appears:

```
Quit Without Saving (Y/N)? N
```

You may change the prompt to "Y" and press <Enter> key to leave this option.