Introduction

1

The MS-6330 Lite v3.0 mainboard is a high-performance computer mainboard based on VIA® KT133A chipset. The MS-6330 Lite v3.0 is designed for the AMD® Socket processor for inexpensive business/ personal desktop markets.

The KT133A chipset consists of the VT8363A system controller (552 pin BGA) and the VT82C686B (352 pin BGA). The system controller pro- vides superior performance between the CPU, DRAM, AGP bus, and PCI bus with pipelined burst, and concurrent operation.

The VT8363A supports six banks of DRAM's up to 1.5 GB and full AGP v2.0 capability for maximum bus utilization including 1x, 2x and 4x mode transfers, SBA (SideBand Addressing), Flush/Fence commands, and pipelined burst. The chip also supports enhanced PCI bus commands such as Memory-Read-Line, Memory-Read-Multiple and Memory-Write-Invalid commands to minimize snoop overhead.

The VT82C686B integrates all system control functions such as ACPI (Advanced Configuration and Power Interface). The ACPI provides more Energy Saving Features for the OSPM (OS Direct Power Management) function. The VT82C686B chipset also improves the IDE transfer rate by supporting Ultra DMA-33/66/100 IDE that transfers data at the rate 33/66/ 100MB/sec.

This mainboard which supports KT133A chipset coupled with VT8363A and VT82C686B is ideal for high performance, high quality, high energy efficiency and high integration desktop AGP/PCI computer systems.

Chapter 1 contains the following topics:

Mainboard Specifications

CPU
- Socket A for AMD® Duron™/Athlon processor.
- Support 600MHz up to 1.2GHz processor or above

Chipset
- VIA® KT133A chipset. (552 BGA)
  - AGP 4x and PCI Advanced high performance memory controller
  - Support PC100/133 SDRAM, & VCM technology
- VIA® 686B chipset. (352 BGA)
  - Enhanced Power Management Features
  - Integrated Super I/O (FDC, LPT, COM 1/2, and IR)
  - Dual bus Master IDE Ultra DMA33/66/100
  - Integrated Hardware Soundblaster
  - Direct Sound AC97 Audio
  - ACPI

Clock Generator
- 100MHz/133MHz clocks are supported.

Main Memory
- Support six memory banks using three 168-pin unbuffered DIMM.
- Support a maximum memory size of 1.5GB (32M x 8).
- Support 3.3v SDRAM DIMM.

Slots
- One AGP(Accelerated Graphics Port) slot.
  - AGP specification compliant
  - Support AGP 2.0 1x/2x/4x
- One CNR (Communication Network Riser) slot.
- Five 32-bit Master PCI Bus slots.
- Supports 3.3v/5v PCI bus Interface.

On-Board IDE
- An IDE controller on the VIA® 686B Chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA 33/66/100 operation modes.
- Can connect up to four IDE devices.

Audio
- Chip Integrated
  - Direct Sound AC97 Audio

On-Board Peripherals
- On-Board Peripherals include:
  - 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes.
  - 2 serial ports (COMA + COM B)
  - 1 parallel port supports SPP/EPP/ECP mode
  - 4 USB ports (2 Rear Connectors/USB Front Pin Header)
  - 1 IrDA connector for SIR/ASKIR/HPSIR.
  - 1 Audio/Game port

BIOS
- The mainboard BIOS provides "Plug & Play" BIOS which detects the peripheral devices and expansion cards of the board automatically.
- The mainboard provides a Desktop Management Interface (DMI) function which records your mainboard specifications.

Dimension
- ATX Form Factor: 30.4cm x 23cm

Mounting
- 6 mounting holes.

Mainboard Layout

Top: mouse
Bottom: keyboard

USB
Top: Port 1
Bottom: Port 2

Top:LPT

Bottom: COMA\ COMB

Top: Midi/ GamePort
Bottom: Line-Out Line-In Mic

Socket 462

ATX Power Supply

DIMM 1
DIMM 2
DIMM 3

FDD 1

VIA 8363A

C_FAN1

JCD1 JAUX1 JPHONE

AGP Slot

IDE 1
IDE 2

PCI SLOT 1

J17

BATT +

PCI SLOT 2

JBAT1

PCI SLOT 3

S_FAN1

PCI SLOT 4

VT82C686B

PCI SLOT 5

BIOS JGS1

JGL2

JMDM1

JWOL1

USB2

J2

JFP1

CNR
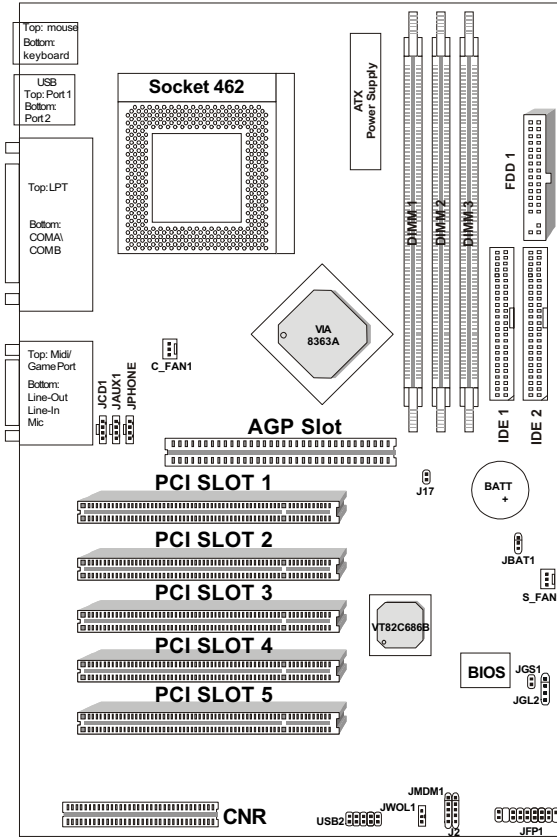
MS-6330 Lite v3.0 Mainboard

Jumpers & Connectors
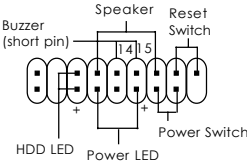
J17   This is used to set the CPU Front Side Bus frequency.

For CPU FSB 100MHz   For CPU FSB 133MHz
(DDR 200MHz)   (DDR 266MHz)
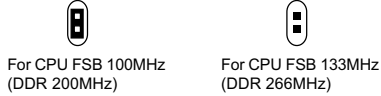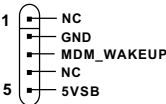
JBAT1   1 2 3   A battery must be used to retain the mainboard configuration in CMOS RAM. Short 1-2 pins of JBAT1 to store the CMOS data.

Keep Data   Clear Data
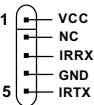
JGS1   Attach a power saving switch to **JGS1**. When the switch is pressed the system immediately goes into suspend mode.

JFP1

Buzzer (short pin)   Speaker   Reset Switch

14 15

HDD LED   Power LED   Power Switch

The Power Switch, Reset Switch, Power LED, Speaker, and HDD LED are all connected to the JFP1 connector block.
Short pin 14-15: Onboard Buzzer Enabled
Open pin 14-15: Onboard Buzzer Disabled

JWOL1   5VSB 1 / GND / MP_WAKEUP 3   The JWOL1 connector is used for LAN add-on card that supports Wake Up on LAN function.

JMDM1   1 / NC / GND / MDM_WAKEUP / NC / 5 5VSB   The JMDM1 connector is for use with Modem add-on card that supports the Modem Wake Up function.

J2   1 / VCC / NC / IRRX / GND / 5 IRTX   This connector is for optional wireless transmitting and receiving infrared module.

JGL2   1 / + / - / - / + / 4   This connector is used to connect to the HDD LED for IDE3/IDE4.

Back Panel

1 Mouse Connector

Pin6
NC

Pin5
Mouse Clock

Pin4
VCC

Pin3
GND

Pin2
NC

Pin1
Mouse DATA
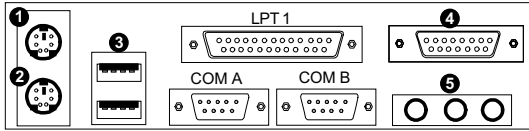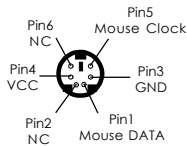
4 Joystick/MIDI

2 Keyboard Connector

Pin6
NC

Pin5
KBD Clock

Pin4
VCC

Pin3
GND

Pin2
NC

Pin1
KBD DATA

5 Audio Ports

Line
Out

Line
In

MIC

3 USB Ports

USB Port 1

1 2 3 4
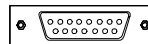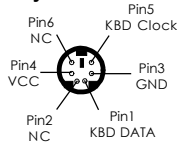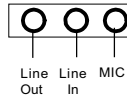
USB Port 2
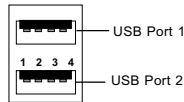
PIN	SIGNAL
1	VCC
2	-Data
3	+Data
4	GND

AWARD® BIOS Setup   *2*

Award® 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 RAM (CMOS RAM), so that it retains the Setup information when the power is turned off.

For detailed settings, refer to **K7T Turbo** manual in the supplied CD.

Chapter 2 contains the following topics:

Entering Setup

Power on the computer and press <Del> immediately to allow you to enter Setup. The other way to enter Setup is to power on the computer. When the below message appears briefly at the bottom of the screen during the POST (Power On Self Test), press <Del> key or simultaneously press <Ctrl>, <Alt>, and <Esc> keys.

TO ENTER SETUP BEFORE BOOT, PRESS <CTRL-ALT-ESC> OR <DEL> KEY

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" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to,

PRESS <F1> TO CONTINUE, <CTRL-ALT-ESC> OR <DEL> TO ENTER SETUP

Getting Help

Main Menu

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

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>.

The Main Menu

Once you enter Award® BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. The Main Menu allows you to select from twelve setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

CMOS Setup Utility - Copyright(C) 1984-2000

```
┌─────────────────────────────┬───────────────────────────────┐
│ Standard CMOS Features      │ Frequency/Voltage Control     │
│                             │                               │
│ Advanced BIOS Features      │ Load Fail-Safe Defaults       │
│                             │                               │
│ Advanced Chipset Features   │ Load Optimized Defaults       │
│                             │                               │
│ Integrated Peripherals      │ Set Supervisor Password       │
│                             │                               │
│ Power Management Setup      │ Set User Password             │
│                             │                               │
│ PnP/PCI Configurations      │ Save & Exit Setup             │
│                             │                               │
│ PC Health Status            │ Exit Without Saving           │
├─────────────────────────────┴───────────────────────────────┤
│  Esc : Quit                 ↑↓→←   : Select Item             │
│  F10 : Save & Exit Setup                                     │
├──────────────────────────────────────────────────────────────┤
│          Time, Date, Hard Disk Type...                       │
└──────────────────────────────────────────────────────────────┘
```

Standard CMOS Setup

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

```
              CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
                             Standard CMOS Setup
 ┌────────────────────────────────────────────┬──────────────────────────┐
 │ Date(mm:dd:yy):         Fri,May 5,2000       │                          │
 │ Time(hh:mm:ss):         00:00:00             │       Item Help          │
 │                                              │                          │
 │                                              │                          │
 │ IDE Primary Master      Press Enter27326MB   │                          │
 │ IDE Primary Slave       Press Enter None     │  Menu Level   >          │
 │ IDE Secondary Master    Press Enter None     │                          │
 │ IDE Secondary Slave     Press Enter None     │                          │
 │                                              │                          │
 │                                              │                          │
 │ Drive A                 1.44M, 3.5in.        │                          │
 │ Drive B                 None                 │                          │
 │                                              │                          │
 │                                              │                          │
 │ Video                   EGA/VGA              │                          │
 │ Halt On                 All, But Keyboard    │                          │
 │                                              │                          │
 │                                              │                          │
 │ Based Memory              640K               │                          │
 │ Extended Memory         64512K               │                          │
 │ Total Memory             1024K               │                          │
 │                                              │                          │
 ├──────────────────────────────────────────────────────────────────────┤
 │ ↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help │
 │    F5:Previous Values F6:Fail-safe Defaults F7:Optimized Defaults       │
 └──────────────────────────────────────────────────────────────────────┘
```

Advanced BIOS Features

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Advanced BIOS Features

```
┌─────────────────────────────────────────────┬──────────────────────┐
│ Anti-Virus Protection        Disabled        │                      │
│ CPU Internal Cache           Enabled          │      Item Help       │
│ External Cache               Enabled          │                      │
│ CPU L2 Cache ECC Checking    Enabled          │                      │
│ Quick Power On Self Test     Enabled          │ Menu Level  >        │
│ First Boot device            Floppy           │                      │
│ Second Boot device           HDD-0            │                      │
│ Third Boot device            LS/ZIP           │                      │
│ Boot other device            Enabled          │                      │
│ Swap Floppy Drive            Disabled         │                      │
│ Boot Up Floppy Seek          Disabled         │                      │
│ Boot Up Numlock Status       On               │                      │
│ Gate A20 Option              Normal           │                      │
│ Typematic Rate Setting       Disabled         │                      │
│ Typematic Rate (Chars/Sec)   6                │                      │
│ Typematic Delay (Msec)       250              │                      │
│ Security Option              Setup            │                      │
│ OS Select for DRAM > 64MB    Non-OS2          │                      │
│ Video BIOS Shadow            Enabled          │                      │
│ C8000-CBFF Shadow            Disabled         │                      │
│ CC000-CFFF Shadow            Disabled         │                      │
│ D0000-D3FF Shadow            Disabled         │                      │
│ D4000-D7FF Shadow            Disabled         │                      │
│ D8000-DBFF Shadow            Disabled         │                      │
│ DC000-DFFF Shadow            Disabled         │                      │
├─────────────────────────────────────────────┴──────────────────────┤
│↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help│
│    F5:Previous Values F6:Fail-safe D0efaults F7:Optimized Defaults   │
└─────────────────────────────────────────────────────────────────────┘
```

Advanced Chipset Features

The Advanced Chipset Features Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.

Choose the "ADVANCED CHIPSET FEATURES" from the Main Menu and the following screen will appear.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Advanced Chipset Features

```
DRAM Timing by SPD          No
SDRAM Cycle Length          3                        Item Help
DRAM Clock                  100MHz
Memory Hole                 Disabled
P2C/C2P Concurrency         Enabled
Fast R-W Turn Around        Disabled      Menu Level   >
System BIOS Cacheable       Disabled
Video RAM Cacheable         Disabled
AGP Aperture Size           64M
AGP 4X Mode                 Enabled
AGP Driving Control         Auto
AGP Driving Value           DA
OnChip USB                  Enabled
USB Keyboard Support        Enabled
USB Mouse Support           Enabled
OnChip Sound                Auto
OnChip Modem                Auto
CPU to PCI Write Buffer     Enabled
PCI Dynamic Bursting        Enabled
PCI Master 0 WS Write       Enabled
PCI Delay Transaction       Enabled
PCI#2 Access #1 Retry       Disabled
AGP Master 1 WS Write       Enabled
AGP Master 1 WS Read        Enabled
Memory Parity/ECC Check     Disabled
```
↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
    F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults

Note: Change these settings only if you are familiar with the chipset.

Integrated Peripherals

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Integrated Peripherals

```
 Onchip IDE Channel0        Enabled
 Onchip IDE Channel1        Enabled              Item Help
 IDE Prefetch Mode          Enabled
 Primary Master PIO         Auto
 Primary Slave PIO          Auto          Menu Level   >
 Secondary Master PIO       Auto
 Secondary Slave PIO        Auto
 Primary Master UDMA        Auto
 Primary Slave UDMA         Auto
 Secondary Master UDMA      Auto
 Secondary Slave UDMA       Auto
 Init Display First         PCI Slot
 IDE HDD Block Mode         Enabled
 Onboard FDD Controller     Enabled
 Onboard Serial Port 1      Auto
 Onboard Serial Port 2      Auto
 UART 2 Mode                Standard
X IR Function Duplex        Half
X TX,RX inverting enable    No, Yes
 Onboard Parallel Port      378/IRQ7
 Onboard Parallel Mode      Normal
 ECP Mode Use DMA           3
 Parallel Port EEP Type     EEP 1.9
 Onboard Legacy Audio       Enabled
 Sound Blaster              Disabled
 SB I/O Base Address        220H
 SB IRQ Select              IRQ 5
 SB DMA Select              DMA1
 MPU-401                    Disabled
 MPU-4-1 I/O Address        330-333H
 Game Port (200-207H)       Enabled
```

↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
   F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults

Power Management Setup

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

```
        CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
                       Power Management Setup
 ┌─────────────────────────────────────────────┬──────────────────────┐
 │ IPCA Function           Enabled              │                      │
 │ Power Management        Press Enter          │      Item Help       │
 │ ACPI Suspend Type       S1(POS)              │                      │
 │ PM Control by APM       Yes                  ├──────────────────────┤
 │ Video Off Option        Suspend->Off         │                      │
 │ Video Off Method        V/H SYNC+Blank       │ Menu Level   >       │
 │ MODEM Use IRQ           3                    │                      │
 │ Soft-Off by PWRBTN      Instant-Off          │                      │
 │ State After Power Failure Auto               │                      │
 │ LED In Suspend          Blink                │                      │
 │ Wake Up Events          Press Enter          │                      │
 │                                              │                      │
 │                                              │                      │
 │                                              │                      │
 │                                              │                      │
 │                                              │                      │
 │                                              │                      │
 │                                              │                      │
 │                                              │                      │
 │                                              │                      │
 ├──────────────────────────────────────────────────────────────────┤
 │↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help│
 │   F5:Previous Values F6:Fail-safe Defaults F7:Optimized Defaults     │
 └─────────────────────────────────────────────────────────────────────┘
```

PnP/PCI Configuration Setup

       This section describes configuring the PCI bus system. PCI, or **P**ersonal **C**omputer **I**nterconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
PnP/PCI Configuration Setup

```
┌─────────────────────────────────────────────────────┬──────────────────────┐
│ PnP OS Installed             No                      │                      │
│ Reset Configuration Data     Disabled                │      Item Help       │
│                                                      │                      │
│ Resources Controlled By      Auto (ESCD)             │                      │
│ IRQ Resources                Press Enter             ├──────────────────────┤
│ DMA Resources                Press Enter             │ Menu Level  >        │
│                                                      │                      │
│ PCI/VGA Palette Snoop        Disabled                │                      │
│ Assign IRQ for VGA           Enabled                 │                      │
│ Assign IRQ for USB           Enabled                 │                      │
│ INT Pin 1 Assignment         Auto                    │                      │
│ INT Pin 2 Assignment         Auto                    │                      │
│ INT Pin 3 Assignment         Auto                    │                      │
│ INT Pin 4 Assignment         Auto                    │                      │
│                                                      │                      │
│                                                      │                      │
│                                                      │                      │
│                                                      │                      │
│                                                      │                      │
│                                                      │                      │
├──────────────────────────────────────────────────────────────────────────────┤
│ ↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help        │
│    F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults              │
└────────────────────────────────────────────────────────────────────────────────┘
```

PC Health Status (Optional)

This section helps you to get more information about your system including CPU temperature, FAN speed and voltages. It is recommended that you contact with your motherboard supplier to get proper value about your setting of the CPU temperature.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
PC Health Status

```
Current CPU Temp.          33°C/91°F
Current System Temp.       23°C/73°F              Item Help
Current CPUFan Speed       6124Rpm
Current SYSFan Speed       0Rpm
Vcore                      1.70V
 3.3V                      3.30V          Menu Level   >
  5V                       4.92V
 12V                       11.40V




↑↓→←Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
   F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults
```

Frequency/Voltage Control

This section is for setting CPU Frequency/Voltage Control.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software
Frequency/Voltage Control

```
┌─────────────────────────────────────────────┬──────────────────────────┐
│ Auto Detect DIMM/PCI Clk      Enabled         │                          │
│ Spread Spectrum Modulated     Enabled         │        Item Help         │
│                                               │                          │
│                                               ├──────────────────────────┤
│                                               │                          │
│                                               │  Menu Level   >          │
│                                               │                          │
│                                               │                          │
│                                               │                          │
│                                               │                          │
│                                               │                          │
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│                                               │                          │
├───────────────────────────────────────────────┴──────────────────────────┤
│ ↑↓→← Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help   │
│    F5:Previous Values F6:Fail-safe defaults F7:Optimized Defaults          │
└────────────────────────────────────────────────────────────────────────────┘
```

Load Fail-Safe/Optimized Defaults

CMOS Setup Utility - Copyright(C) 1984-2000

```
Standard CMOS Features      Frequency/Voltage Control

Advanced BIOS Features      Load Fail-Safe Defaults

Advanced Chipset Features   Load Optimized Defaults

Integrated Peripherals      Set Supervisor Password

Power Manag Load Fail-Safe Defaults (Y/N)? N

PnP/PCI Configurations      Save & Exit Setup

PC Health Status            Exit Without Saving
```
```
  Esc : Quit              ↑↓→←   : Select Item
  F10 : Save & Exit Setup
```
```
          Time, Date, Hard Disk Type...
```

Load Fail-Safe Defaults
Pressing 'Y' loads the BIOS default values for the most stable,
minimal-performance system operations.

Load Optimized Defaults
Pressing 'Y' loads the default values that are factory settings for
optimal performance system operations.

Set Supervisor/User Password

CMOS Setup Utility - Copyright(C) 1984-2000

```
Standard CMOS Features    Frequency/Voltage Control

Advanced BIOS Features    Load Fail-Safe Defaults

Advanced Chipset Features Load Optimized Defaults

Integrated Peripherals    Set Supervisor Password

Power Manag
            Enter Password:
PnP/PCI Con

PC Health Status          Exit Without Saving

 Esc : Quit               ↑↓→←   : Select Item
 F10 : Save & Exit Setup

         Time, Date, Hard Disk Type...
```

You can set either supervisor or user password, or both of them. The differences are:

Supervisor password: Can enter and change the options of the setup menus.

User password: Can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

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

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

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to "System", the password will be required both at boot and at entry to Setup. If set to "Setup", prompting only occurs when trying to enter Setup.