Introduction

System Overview

The board incorporates system board, ISA I/O and PCI IDE in one board that provides all the PC solutions. The mainboard is a PentiumTM micro processor based PC/AT system, supports 256KB to 1M cache with ISA Bus and PCI Local Bus to upgrade your system performance. It is ideal for multi-tasking and fully supports MS-DOS, Windows, Windows NT, Novell, OS/2, Windows95, UNIX, SCO UNIX etc. This manual also explains how to install the mainboard for operation, and how to setup your CMOS configuration with BIOS setup program.

Features

● **Hardware**

CPU

- The PentiumTM microprocessor P54C/CT/CS/CQS, MMXTM; Cyrix6x86TM /6x86LTM/6x86MXTM microprocessor; AMD-K5TM /AMD-K6TM microprocessor; idt Win TM Chip microprocessor.
- Provides 321-pin ZIF socket (socket 7).

Green Function

- Supports power management operation via BIOS.
- Power down timer from 1 Mins to 1 Hour.
- Wakes up by any key pressed or mouse activity.
- Green mode selection via software or hardware.

Speed

- Supports CPU bus clock 55/60/66/75 MHz.
- Supports 30/33/37.5 MHz PCI Bus speed.
- Speed switching via software.
- I/O clock 8 MHz for ISA Bus.

Shadow RAM

- A memory controller that provides shadow RAM and supports 8-bit ROM BIOS.

Plat Form

- AT , ATX (optional).

DRAM Memory

- Supports 72-pin SIMM and 168-pin DIMM module sockets(optional).
- Supports DRAM memory 8MB to 256MB on board.
- Supports EDO & FP mode DRAM.
- Supports Symmetrical and Asymmetrical DRAM.

− Supports 2 banks DIMM, 3.3V Unbuffered Synchronous DRAM.

− Supports SIMM1 or SIMM2 single module (32bit) Boot.

Cache Memory

− Supports Pipelined Burst SRAM up to 512K.

BUS Slots

− Provides three 16-bit ISA Bus slots.

− Four 32-bit PCI Bus Master slots.

Flash Memory

− Supports PnP function for better system compatibility.

− For better system BIOS update.

PCI Enhanced IDE Built-in On Board

− Supports 4 IDE hard disk drives.

− Supports Ultra DMA/33, Bus Master Mode.

− Supports IDE interface with CD-ROM.

− Supports high capacity hard disk drives.

− Supports LBA mode.

− Supports PIO modes up to Mode 5 Timings, and Multiword DMA Mode 0,1,2 with Independent Timing of up to 4 Drives.

− Supports LS120/ZIP100 Boot.

ISA I/O Built-in On Board

− Supports one multi-mode Parallel Port.

  (1) Standard & Bidirection Parallel Port (SPP).

  (2) Enhanced Parallel Port (EPP).

  (3) Extended Capabilities Port (ECP).

− Supports two serial ports, 16550 UART with 16 bytes FIFO.

− Supports one Infrared transmission (IR).

− Supports PS/2 Mouse.

− Supports 360KB, 720KB, 1.2MB, 1.44MB and 2.88MB floppy disk drivers.

Universal Serial Bus

– Supports two Universal Serial Bus (U.S.B) Port (optional).
– Supports 48MHz USB.

Dimension

– 22 cm X 22.5 cm (W x L)

• Software

BIOS

– AWARD legal friendly BIOS.
– Supports PnP functions.

O.S.

– Offers the highest performance for MS-DOS, OS/2, Windows, Windows NT, Windows 95, Novell, UNIX, SCO UNIX etc.

• Attachments

– HDD Cable
– FDD Cable
– Serial Port Cable
– Printer Port Cable
– Flash Memory Writer for BIOS Update (optional)
– USB Port Cable (optional)
– PS/2 Mouse Cable (optional)
– IDE Driver

Mainboard Installation

Layout of Mainboard

Model No.M5ATA
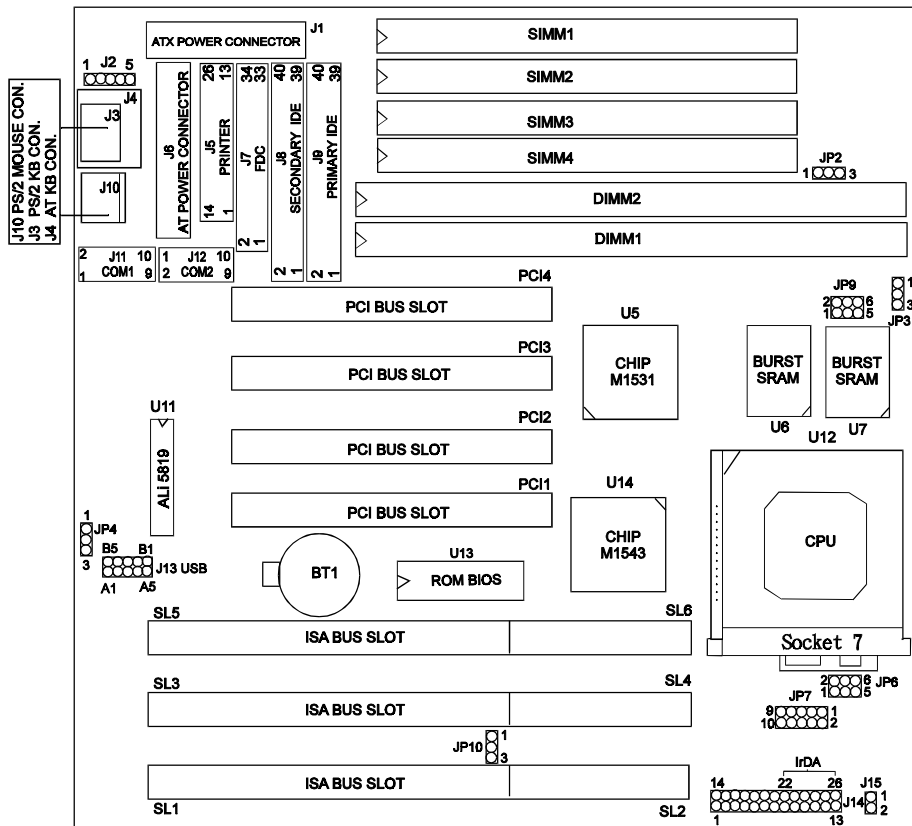
Jumpers Setting

A jumper is several pins which may or may not be covered by a plastic jumper cap. A jumper is used to select different system options.

(A)   JP4   CMOS Function Selection
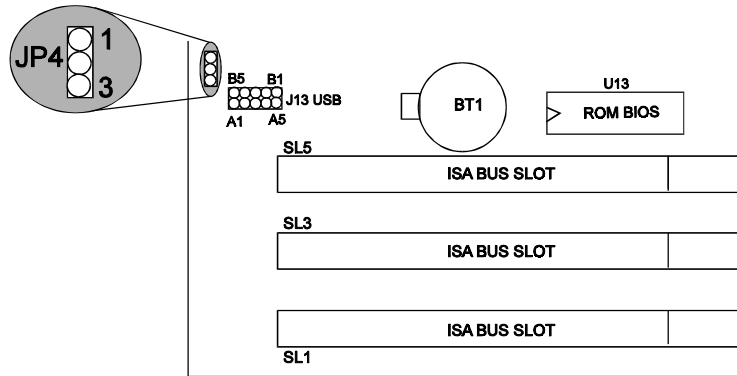
JP4	Assignment
1 ⬚ ⬚ 3 Closed	Normal Operation
1 ⬚ ⬚ 3 Closed	Clear CMOS Data
1 ⬚ ⬚ 3 Open	Onboard Battery Disabled

Note : Please follow the procedure as below to clear BIOS Password if your password is lost or forgotten.

Power off → JP4(2-3) closed → JP4(1-2) closed →

→ Power on → Reset your desired password
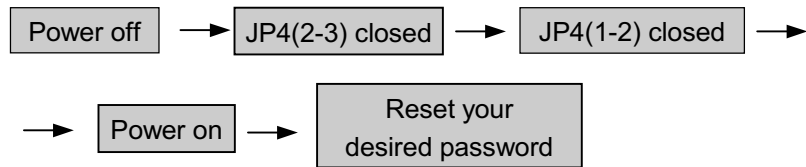
CPU Installation/Jumper Setting

CPU Installation Procedure
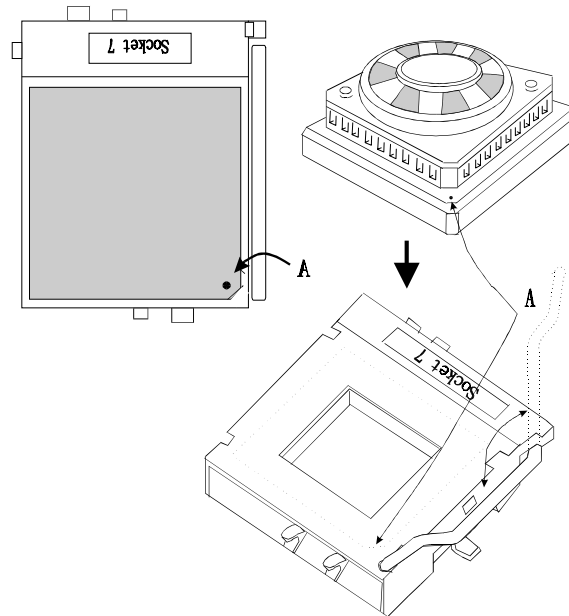
1. Pull the lever sideways away from the socket then raise the lever up to a 90-degree angle.

2. Locate Pin A in the socket and look for the white dot or cut edge in the CPU, match Pin A with the white dot/cut edge then insert the CPU.

3.Press the lever down to complete the installation.

(A)   JP7   CPU Voltage Selection
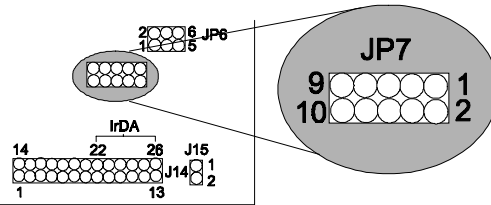
CPU TYPE	CPU Voltage		JP7
	CORE	**I / O**	
Single Voltage **INTEL** TM P54C/CQS/CT **Cyrix** TM 6x86 **AMD** TM K5 **Idt Win** TM Chip	3.5V	3.5V	1-2 closed 3-4 closed 5-6 closed 7-8 closed
Dual Voltage	2.1 V	3.45V	1-2 closed 3-4 open 5-6 open 7-8 open
INTEL TM P55C/MMX**TM** **Cyrix** TM 6x86L / 6x86MX **AMD** TM K6	2.2V	3.45V	1-2 open 3-4 closed 5-6 open 7-8 open
	2.8V	3.45V	1-2 closed 3-4 open 5-6 open 7-8 closed
	2.9V	3.45V	1-2 open 3-4 closed 5-6 open 7-8 closed
	3.1V	3.45V	1-2 open 3-4 open 5-6 closed 7-8 closed
	3.2V	3.45V	1-2 closed 3-4 open 5-6 closed 7-8 closed
	3.3V	3.45V	1-2 open 3-4 closed 5-6 closed 7-8 closed

(B)   JP9, JP6   CPU Clock Selection

(a) INTEL CPU
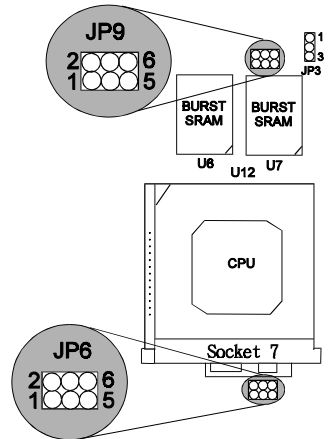
CPU Speed	Bus Clock & Multiplier	JP9 (1-2)	JP9 (3-4)	JP9 (5-6)	JP6 (1-2)	JP6 (3-4)	JP6 (5-6)
90MHz	60MHz x 1.5	open	closed	closed	open	open	open
100MHz	66MHz x 1.5	closed	open	closed	open	open	open
120MHz	60MHz x 2	open	closed	closed	closed	open	open
133MHz	66MHz x 2	closed	open	closed	closed	open	open
150MHz	60MHz x 2.5	open	closed	closed	closed	closed	open
166MHz	66MHz x 2.5	closed	open	closed	closed	closed	open
200MHz	66MHz x 3	closed	open	closed	open	closed	open
233MHz	66MHz x 3.5	closed	open	closed	open	open	open

JP9(1-2)open & JP9(3-4)closed & JP9(5-6)closed   :Bus Clock = 60MHz
JP9(1-2)closed & JP9(3-4)open & JP9(5-6closed   :Bus Clock = 66MHz
JP9(1-2)open & JP9(3-4)closed & JP9(5-6)open   :Bus Clock = 75MHz
JP6(1-2) open & JP6(3-4) open & JP6(5-6) open   : Multiplier = 1.5
JP6(1-2) closed & JP6(3-4) open & JP6(5-6) open   : Multiplier = 2
JP6(1-2) closed & JP6(3-4) closed & JP6(5-6) open   : Multiplier = 2.5
JP6(1-2) open & JP6(3-4) closed & JP6(5-6) open   : Multiplier = 3
JP6(1-2) open & JP6(3-4) open & JP6(5-6)open   : Multiplier = 3.5
JP6(1-2)closed& JP6(3-4)open & JP6(5-6)closed   :Multiplier = 4

(b) Cyrix 6x86^{TM} / 6x86L^{TM} CPU

CPU Speed	Bus Clock & Multiplier	JP9 (1-2)	JP9 (3-4)	JP9 (5-6)	JP6 (1-2)	JP6 (3-4)	JP6 (5-6)
PR-150+ 120MHz	60MHz x 2	open	closed	closed	closed	open	open
PR-166+ 133MHz	66MHz x 2	closed	open	closed	closed	open	open
PR-200+ 150MHz	75MHz x 2	open	closed	open	closed	open	open

(c) Cyrix 6x86MX^{TM} CPU

CPU Speed	Bus Clock & Multiplier	JP9 (1-2)	JP9 (3-4)	JP9 (5-6)	JP6 (1-2)	JP6 (3-4)	JP6 (5-6)
PR-150+ 120MHz	60MHz x 2	open	closed	closed	closed	open	open
PR-166+ 133MHz	66MHz x 2	closed	open	closed	closed	open	open
PR-200+ 150MHz	75MHz x 2	open	closed	open	closed	open	open
PR-166+ 150MHz	60MHz x 2.5	open	closed	closed	closed	closed	open
PR-200+ 166MHz	66MHz x 2.5	closed	open	closed	closed	closed	open
PR-200+ 180MHz	60MHz x 3	open	closed	closed	open	closed	open
PR-233+ 188MHz	75MHz x 2.5	open	closed	open	closed	closed	open
PR-233+ 200MHz	66MHz x 3	closed	open	closed	open	closed	open
PR-266+ 233MHz	66MHz x 3.5	closed	open	closed	open	open	open
PR-266+ 225MHz	75MHz x 3	open	closed	open	open	closed	open

Note : Some add on cards may not support 37.5 MHz PCI bus speed when CPU bus clock running at 75 MHz.

(d) AMD-K5™ CPU

CPU Speed	JP9 (1-2)	JP9 (3-4)	JP9 (5-6)	JP6 (1-2)	JP6 (3-4)	JP6 (5-6)
PR-90	open	closed	closed	open	open	open
PR-100	closed	open	closed	open	open	open
PR-120	open	closed	closed	closed	open	open
PR-133	closed	open	closed	closed	open	open
PR-166	closed	open	closed	closed	closed	open
PR-200	closed	open	closed	open	closed	open

(e) AMD-K6™ CPU

CPU Speed	Bus Clock & Multiplier	JP9 (1-2)	JP9 (3-4)	JP9 (5-6)	JP6 (1-2)	JP6 (3-4)	JP6 (5-6)
166MHz	66MHz x 2.5	closed	open	closed	closed	closed	open
200MHz	66MHZ x 3	closed	open	closed	open	closed	open
233MHz	66MHz x 3.5	closed	open	closed	open	open	open
266MHz	66MHz x 4	closed	open	closed	closed	open	closed
300MHz	66MHz x 4.5	closed	open	closed	closed	closed	closed

(f) idt - Win™ Chip CPU

CPU Speed	Bus clock & Multiplier	JP9 (1-2)	JP9 (3-4)	JP9 (5-6)	JP6 (1-2)	JP6 (3-4)	JP6 (5-6)
180MHz	60MHz x 3	open	closed	closed	open	closed	open
200MHz	66MHz x 3	closed	open	closed	open	closed	open

Connectors

(A)   J14
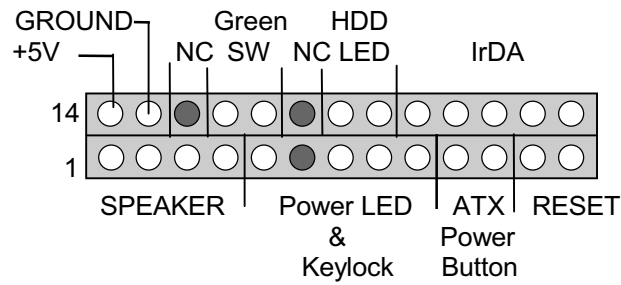
Pin No.	Assignment	Function	Pin No.	Assignment	Function
1	Speaker	Speaker Connector	14	+5V	VCC
2	NC		15	Ground	Ground
3	Ground		16	No Connection	NC
4	+5V		17	Green Control	Green Switch
5	Power LED(+)	Power LED & Keylock	18	Ground	
6	No Connection		19	No Connection	NC
7	Ground		20	HDD LED(-)	HDD LED
8	Key lock		21	HDD LED(+)	
9	Ground		22	+5V	IrDA Connector
10	Power Switch	ATX Power Button	23	No Connection	
11	Standby Voltage		24	IRRX	
12	Reset Control	Reset	25	Ground	
13	Ground		26	IRTX	

(B)   J2   PS/2 Mouse Cable Connector
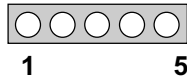
Pin No.	Assignment
1	Mouse Data
2	No Connection
3	Ground
4	+5V
5	Mouse Clock

(C)   J13   U.S.B. Connector
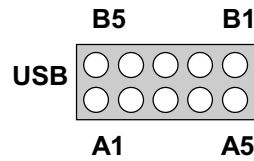
Pin No.	Assignment	Pin No.	Assignment
A1	+5V	B5	No Connection
A2	Port 1 Negative Data	B4	Ground
A3	Port 1 Positive Data	B3	Port 2 Positive Data
A4	Ground	B2	Port 2 Negative Data
A5	No Connection	B1	+5V

(D)   J15   CPU Cooling Fan Power Connector (Optional)
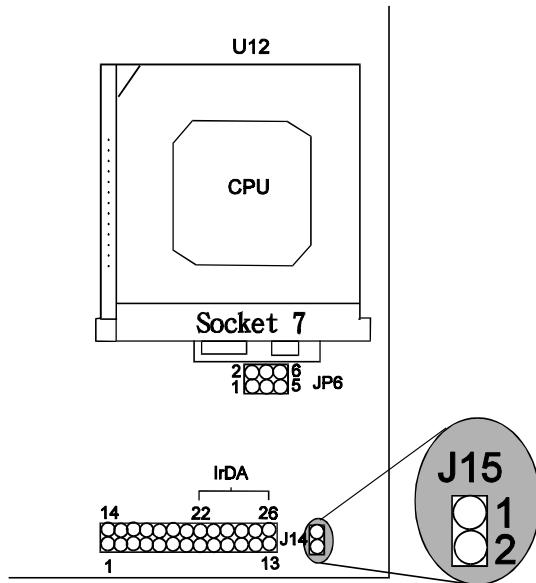
Pin No.	Assignment
1	Ground
2	+12 V

(E)   JP10   Wake-On-LAN Header
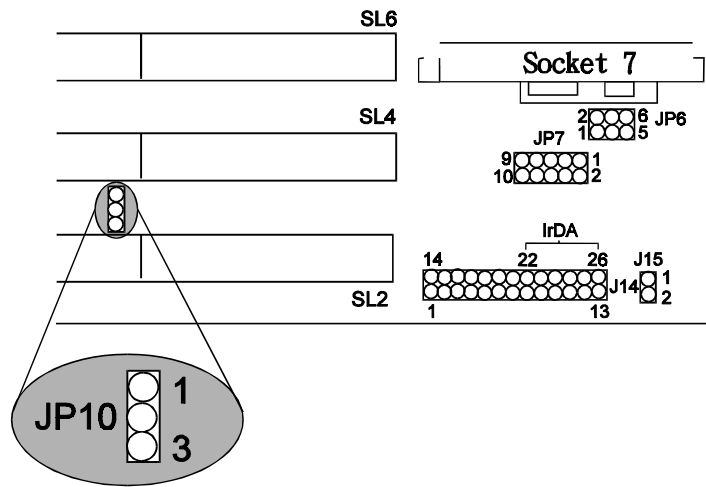
Pin No.	Assignment
1	+5 VSB
2	Ground
3	MP-Wakeup

DRAM Installation

(a) SIMM

(a-1) NORMAL BOOT

DRAM Access Time : fast page mode 70ns, EDO mode 60ns.
DRAM Type : 4MB/8MB/16MB/32MB SIMM Module (72Pin).

Total Memory Size (MB)	Bank 2 SIM1-SIM2	Bank 3 SIM3-SIM4
8M	4M x 2 pcs	----
16M	8M x 2 pcs	----
32M	16M x 2pcs	----
64M	32M x 2pcs	----
16M	4M x 2pcs	4M x 2 pcs
24M	8M x 2pcs	4M x 2 pcs
40M	16M x 2 pcs	4M x 2 pcs
72M	32M x 2 pcs	4M x 2 pcs
24M	4M x 2 pcs	8M x 2 pcs
32M	8M x 2 pcs	8M x 2 pcs
48M	16M x 2 pcs	8M x 2 pcs
80M	32M x 2 pcs	8M x 2 pcs
40M	4M x 2 pcs	16M x 2 pcs
48M	8M x 2 pcs	16M x 2 pcs
64M	16M x 2 pcs	16M x 2 pcs
96M	32M x 2 pcs	16M x 2 pcs
72M	4M x 2 pcs	32M x 2 pcs
80M	8M x 2 pcs	32M x 2 pcs
96M	16M x 2 pcs	32M x 2 pcs
128M	32M x 2 pcs	32M x 2 pcs

(a-2) SIMM1 or SIMM2 Single module (32bits) Boot.

Total Memory Size (MB)	SIMM1	SIMM2
4M	4 M x 1 pcs	----------
4M	----------	4M x 1pcs
8M	8 M x 1 pcs	----------
8M	----------	8 M x 1 pcs

16M	16M x 1 pcs	----------
16M	----------	16M x 1 pcs
32M	32M x 1 pcs	----------
32M	----------	32M x 1 pcs

How to install a SIMM Module

Single Sided SIMM

Double Sided SIMM
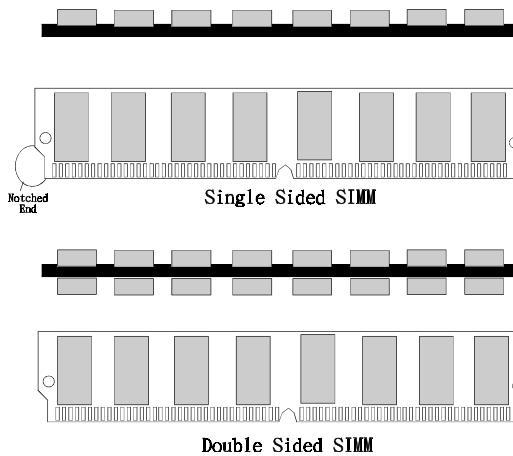
1. The SIMM slot has a " *Iron Safety Tab"* and the SIMM memory module has a "Notched End", so the SIMM memory module can only fit in one direction.

2. Insert the SIMM memory modules into the socket at 45-degree angle, then push into a vertical position so that it will snap into place.

3. The Mounting Holes and Metal Clips should fit over the edge and hold the SIMM memory modules in place.
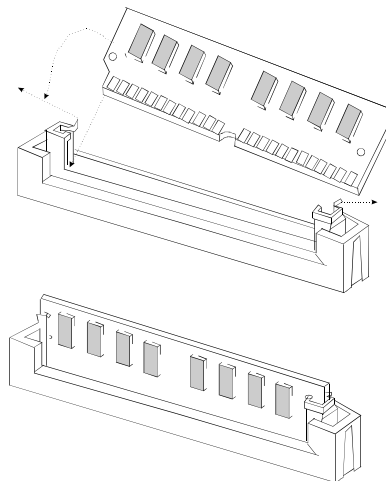
(b) DIMM (optional)

DRAM Access Time : 3.3V Unbuffered SDRAM 15ns required.
DRAM Type : 8MB/16MB/32MB/64MB DIMM Module (168pin)

Total Memory Size (MB)	Bank 0 DIMM 1	Bank 1 DIMM 2
8M	8M x 1 pc	----
16M	16M x 1 pc	----
32M	32M x 1 pc	----
64M	64M x 1 pc	----
16M	8M x 1 pc	8M x 1 pc
24M	16M x 1 pc	8M x 1 pc
40M	32M x 1 pc	8M x 1 pc
72M	64M x 1 pc	8M x 1 pc
24M	8M x 1 pc	16M x 1 pc
32M	16M x 1 pc	16M x 1 pc
48M	32M x 1 pc	16M x 1 pc
80M	64M x 1 pc	16M x 1 pc
40M	8M x 1 pc	32M x 1 pc
48M	16M x 1 pc	32M x 1 pc
64M	32M x 1 pc	32M x 1 pc
96M	64M x 1 pc	32M x 1 pc
72M	8M x 1 pc	64M x 1 pc
80M	16M x 1 pc	64M x 1 pc
96M	32M x 1 pc	64M x 1 pc
128M	64M x 1 pc	64M x 1 pc

*Each Bank can be installed and worked individually, the mainboard provides optimal performance and free choices depending on your needs.
*The list show above for DRAM configuration is just for reference.
*SDRAM mixed with FP or EDO are not recommended.

How to install a DIMM Module

Single Sided DIMM

Double Sided DIMM
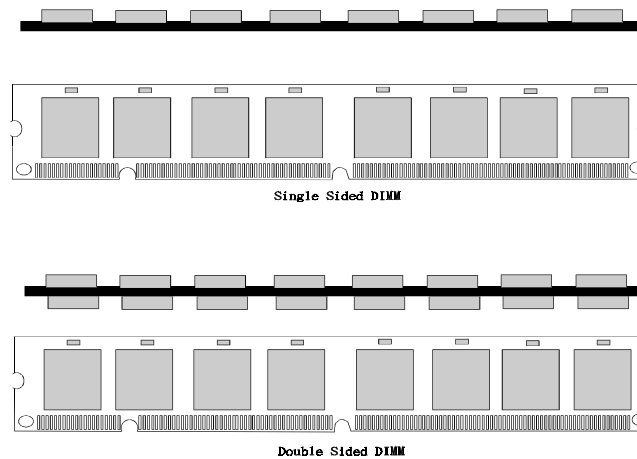
1. The DIMM slot has a " *Plastic Safety Tab"* and the DIMM memory module has a "Notched End", so the DIMM memory module can only fit in one direction.

2. Insert the DIMM memory modules into the socket at 90-degree angle, then push down a vertical position so that it will snap into place.

3. The Mounting Holes and Metal Clips should fit over the edge and hold the DIMM memory modules in place.
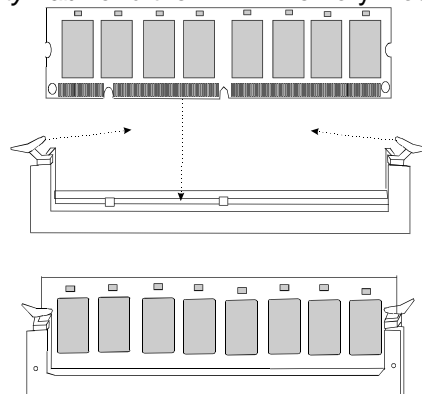
AWARD BIOS Setup

Entering Setup

Power on the computer and press <Del> immediately will 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**> key. 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

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**>.

Control Keys

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

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 among the items and press <**Enter**> to accept or enter the sub-menu.

■ **Figure 1. Main Menu**

```
                    ROM PCI/ISA BIOS (xxxxxxxx)
                       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      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...              │
└────────────────────────────────────────────────────────────────┘
```

Standard CMOS Setup

This setup page includes all the items in a standard compatible BIOS.

BIOS Features Setup

This setup page includes all the items of BIOS special enhanced features.

Chipset Features Setup

This setup page includes all the items of chipset special features.

Power Management Setup

This setup page includes all the items of power management features.

PnP / PCI Configuration

This category specifies the value (in units of PCI bus clocks) of the latency timer for this PCI bus master and the IRQ level for PCI device.

Load Setup Defaults

Chipset defaults indicates the values required by the system for the maximum performance. The OEM manufacturer may change to defaults through MODBIN before the binary image burn into the ROM.

Integrated Peripherals

This setup page includes all the items of Integrated Peripherals features.

Supervisor Password / User Password Setting

Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

IDE Hdd Auto Detection

Automatically configure hard disk parameters.

Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

Standard CMOS Setup Menu

The item in Standard CMOS Setup Menu are divided into categories. Each category includes no, one or more than one setup item. 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.

■ **Figure 2. Standard CMOS Setup Menu**

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

Date (mm:dd:yy) : Mon Mar 3 1997
Time (hh:mm:ss) : 11 : 37 : 30

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDS	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   :1.44MB, 3.5 in.
Drive B   :None
Floppy 3 Mode Support : Disabled

Base Memory	:	0K
Extended Memory	:	0K
Other Memory	:	512K
Total Memory	:	512K

Video   :EGA/VGA
Halt On   :All, But Keyboard

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

Date

The Date format is **<day><month><date><year>**.

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

Time

The time format is **<hour><minute><second>**. The time is calculated based on the 24-hour military-time clock. For example, 2 p.m. is 14:00:00.

Hard Disks Type

The categories identify the types of hard disk that have been installed in the computer. There are 46 predefined types and a user definable type. Type 1 to Type 45 are predefined. Type User is user-definable.   Type Auto is automatic-define by BIOS.

Press **<PgUp>** or **<PgDn>** to select a numbered hard disk type or type the number and press **<Enter>**. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk drive type is not matched or listed, you can use Type User to define your own drive type manually.

If you select type User, related information is asked to be entered to the following items. Enter the information directly from the keyboard and press **<Enter>**. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

CYLN	number of cylinders
HEAD	number of heads
WPCOM	write precom
SEC	number of sectors
LBA MODE	type of LBA mode
BLK MODE	type of Block mode
PIO MODE	type of PIO
32BIT MODE	type of 32-Bit transfer mode

If a hard disk has not been installed select NOT Installed and press **<Enter>**.

Driver A Type/Drive B Type

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

None	No floppydrive installed
360K, 5 1/4	5-1/4 inch PC-type standard drive; 360 kilobyte capacity
1.2M, 5 1/4	5-1/4 inch AT-type high-density drive; 1.2 megabyte capacity
720K, 3 1/2	3-1/2 inch double-sided drive; 720 kilobyte capacity
1.44M, 3 1/2	3-1/2 inch double-sided drive; 1.44 megabyte capacity
2.88M, 3 1/2	3-1/2 inch double-sided drive; 2.88 megabyte capacity

Video

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

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

Halt On

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

No errors	Whenever the BIOS detects a non-fatal error the system will be stopped and you will be prompted.

All errors	The system boot will not be stopped for any error that may be detected.
All, But Keyboard	The system boot will not stop for a keyboard error, it will stop for all other errors.
All, But Diskette	The system boot will not stop for a disk error, it will stop for all other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error, it will stop for all other errors.

Memory

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

Base Memory

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system. The value of the base memory is typically 512K for system with 512K memory installed on the motherboard, or 640K for system with 640K or more memory installed on the motherboard.

Extended Memory

The BIOS determines how much extended memory is presented during the POST. This is the amount of memory located above 1MB in the CPU's memory address map.

Other Memory

This refers to the memory located in the 640K address space. This is the memory that can be used for different applications. DOS uses this area to load device drivers to keep as much base memory free application programs. Most use for this area is Shadow RAM.

BIOS Features Setup

> **!! WARNING !!** *The information about BIOS defaults on manual **(Figure 3.4.5.6.8)** is just for reference, please refer to the BIOS installed on board, for update information.*

■ **Figure 3. BIOS Features Setup Menu**

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

Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Intermal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
Extemal Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D0000-D3FFF Shadow	: Disabled
Boot Sequence	: A,C,SCSI	D4000-D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Enabled	DC000-DFFFF Shadow	: Disabled
Boot Up NumLock Status	: On		
Gate A20 Option	: Fast		
Memory Parity/ECC Check	: Disabled		
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	
OS Select For DRAM > 64MB	: Non-OS2	F5 : Old Values <Shift> F2 : Color	
Report No FDD For WIN 95	: No	F7 : Load Setup Defaults	

<u>Virus Warning</u>

> This category flashes on the screen.   During and after the system boots up, any attempt to write to the boot sector or partition table of the hard disk drive will halt the system and the following error message will appear, in the mean time, you can run an anti-virus program to locate the problem.
> **Disabled** (default)
> No warning message to appear when anything attempts to access the boot sector or hard disk partition table.
> **Enabled**
> Activates automatically when the system boots up causing a

warning message to appear when anything attempts to access the boot sector of hard disk partition table.

CPU Internal Cache

Enabled (default)   Enable cache
Disabled   Disable cache

Quick Power On Self Test

This option enables the level 2 cache memory.

Enabled   Enable quick POST
Disabled (default)   Normal POST

Boot Sequence

This option determines which drive the computer searches the OS for boot-up. The settings are "A, C, SCSI", "C, A, SCSI", "C, CDROM, A", "CDROM, C, A", "D, A, SCSI", "E, A, SCSI", "F, A, SCSI", "SCSI, A, C", "SCSI, C, A" or "C only",etc. **The default is "A, C, SCSI".**

Swap Floppy Drive

Switches the floppy disk drive between being designated as A and B. **Default is Disabled.**

Boot Up Floppy Seek

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

Enabled (default)   BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS cannot tell from 720K, 1.2M or 1.44M drive type as they are all 80 tracks.

Disabled   BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360K.

Boot Up NumLock Status

On (default)   Keypad is number keys.
Off   Keypad is arrow keys.

Typematic Rate Setting

This determines the typematic rate.
Enabled   Enable typematic rate and typematic delay programming.
Disabled (default)   Disable typematic rate and typematic delay programming.   The system BIOS will use default value of this 2 items and the default is controlled by keyboard.

Typematic Rate (Chars/Sec)

6   6 characters per second
8   8 characters per second
10   10 characters per second
12   12 characters per second
15   15 characters per second
20   20 characters per second
24   24 characters per second
30   30 characters per second

Typematic Delay (Msec)

Choose the length of delay from the time you press a key and the character repeating.   (units are mil-sec)

Security Option

This category allows you to limit access to the system and Setup, or just to Setup.
System   The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup (default)   The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

PCI / VGA Palette Snoop

Choose Disabled or Enabled.   Some graphic controllers which are not VGA compatible, take the output from a VGA controller and map it to their display as a way to provide the boot information and the VGA compatibility.

However, the color information coming from the VGA controller is drawn from the palette table inside the VGA controller to generate the proper colors, and the graphic controller needs to know what is in the palette of the VGA controller.   To do this, the non-VGA graphic controller watches for the Write access to the VGA palette and registers the snoop data.   In PCI based systems, where the VGA controller is on the PCI bus and a non-VGA graphic controller is on an ISA bus, the Write Access to the palette will not show up on the ISA bus if the PCI VGA controller responds to the Writes.

In this case, the PCI VGA controller should not respond to the Write, it should only snoop the data and permit the access to be forwarded to the ISA bus.   The non-VGA ISA graphic controller can then snoop the data on the ISA bus.   Unless you have the above situation, you should disable this option.

Disabled (default)   Disables the function.
Enabled   Enables the function.

OS Selection for DRAM > 64MB

Allows OS/2 to be used with > 64MB of DRAM.   Settings are Non-OS/2 (default) and OS/2.   Set to OS/2 if using more than 64MB and running OS/2.
DEFAULT is Non-OS2.

Video BIOS Shadow

Determines whether video BIOS will be copied to RAM for faster execution.

Enabled   Optional ROM is enabled.
Disabled (default)   Optional ROM is disabled.

C8000 - CFFFF Shadow / E8000 - EFFFF Shadow

Determines whether the optional ROM will be copied to RAM for faster execution.

Enabled   Optional ROM is shadowed.
Disabled (default)   Optional ROM is not shadowed.

Note : For C8000 - DFFFF option - ROM on PCI BIOS, BIOS will automatically enable the shadow RAM. User does not have to select the item.

Chipset Features Setup

The 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.

■ **Figure 4. Chipset Feature Setup Menu**

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

```
┌──────────────────────────────────────────────────────────────────────┐
│ Auto Configuration      : Enabled │ Passive Release      : Enabled    │
│ AT Bus Clock            : CLK 2/4 │ ISA Line Buffer      : Enabled    │
│ DRAM Write WS           : X-2-2-2 │ Delay Transaction    : Disabled   │
│ Page Mode Read WS       : X-3-3-3 │                                   │
│ RAS Precharge Period    : 3T      │                                   │
│ RAS-To-CAS Delay Time   : 3T      │                                   │
│ EDO Read WS             : X-2-2-2 │                                   │
│ DRAM Speculative Read   : Disabled│                                   │
│ SDRAM CAS Latency       : 3       │                                   │
│ SDRAM Access Timing     : 3-4-7   │                                   │
│ SDRAM Speculative Read  : Enabled │                                   │
│ Pipelined Function      : Enabled │                                   │
│ DRAM Refresh Period     : 60 us   │                                   │
│ DRAM Data Integrity Mode: Parity  │                                   │
│ Memory Hole At 15M-16M  : Disabled├───────────────────────────────────│
│ Primary Frame Buffer    : 2 MB    │ ESC : Quit    ↑↓ → ←: Select Item │
│ *VGA Frame Buffer       : Enabled │ F1  : Help       PU/PD/+/- : Modify│
│ Data Merge              : Enabled │ F5  : Old Values  <Shift> F2 : Color│
│ Byte Merge              : Disabled│ F7  : Load Setup Defaults          │
│ Fast Back-to-Bcak       : Disabled│                                   │
└──────────────────────────────────────────────────────────────────────┘
```

Auto Configuration

Choosing **Enabled** (default) will automatically configure chipset features using default settings. Choose Disable to customize setup.

※ **Warning : When VGA Frame Buffer enables, it makes VGA card's per-formance better, but when you need to update your VGA BIOS from wet site, please disable VGA Frame buffer before download. After finish, you can enable it again.**

Power Management Setup

■ **Figure 5. Power Management Setup Menu**

```
                    ROM PCI/ISA BIOS (xxxxxxxx)
                    POWER MANAGEMENT SETUP
                      AWARD SOFTWARE, INC.
┌──────────────────────────────────────┬─────────────────────────────┐
│ Power Management       : Disabled     │                             │
│ PM Control by APM      : Yes          │                             │
│ MODEM Use IRQ          : 3            │                             │
│ Video Off Option       : Suspend -> Off │                           │
│ Video Off Method       : DPMS Support │                             │
│                                       │                             │
│          ** PM Monitor **             │                             │
│ HDD Power Down         : Disabled     │                             │
│ Doze Mode              : Disabled     │                             │
│ Standby Mode           : Disabled     │                             │
│ Suspend Mode           : Disabled     │                             │
│                                       │                             │
│                                       │                             │
│                                       │                             │
│       **   Standby Events   **        │                             │
│ Primary   HDD          : Disabled     ├─────────────────────────────┤
│ Floppy                 : Disabled     │ ESC : Quit      ↑↓→← Select Item │
│ Serial Ports           : Enabled      │ F1   : Help      PU/PD/+/- : Modify │
│ Keyboard               : Enabled      │ F5   : Old Values  <Shift> F2 : Color │
│ Parallel   Ports       : Disabled     │ F7   : Load Setup Defaults  │
└──────────────────────────────────────┴─────────────────────────────┘
```

Power Management

        Disable (Min. Saving) Global Power Management will be

		disabled..
User Define		Users can configure their own power
(Max. Saving)		management.
Min Saving		Pre-defined timer values are used such that all timers are in their MAX value.
Max Saving		Pre-defined timer values are used such that all timers MIN value.

PM Control by APM

No	System BIOS will ignore APM when power managing the system.
Yes	System BIOS will wait for APM's prompt before it enter any PM mode.

Video Off Method

Blank Screen	The system BIOS will only blank off the screen when disabling video.
V/H SYNC+Blank	In addition to (1), BIOS will also turn off the V-SYNC & H-SYNC signals from VGA card to monitor.
DPMS	This function is enabled only for VGA card supporting DPMS.

Doze Mode

This options allows how long the CPU is continuously idle before entering the doze mode. When the system is in Doze mode, the screen will be blank.

Suspend Mode

This options allows the user choose/ indicate how long the system will be idle before entering the suspend mode which turns off the CPU and saves the energy of the system.

PNP / PCI Configuration Setup

■ **Figure 6. PNP / PCI Configuration Setup Menu**

```
                        ROM PCI/ISA BIOS (xxxxxxxx)
                        PNP / PCI FUNCTION SETUP
                           AWARD SOFTWARE, INC.
 ┌─────────────────────────────────────┬───────────────────────────────────┐
 │ PNP OS Installed        : No         │ PCI IRQ Actived By      : Level    │
 │ Resources Controlled BY : Manual     │ PCI IDE IRQ Map To      : PCI-AUTO │
 │ Reset Configuration Data : Disabled  │   Primary IDE INT#      : A        │
 │                                      │   Secondary IDE INT#    : B        │
 │ IRQ-3    assigned to  : PCI / ISA PnP│                                    │
 │ IRQ-4    assigned to  : PCI / ISA PnP│                                    │
 │ 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│ F7   : Load Setup Defaults          │
 │ DMA-7    assigned to  : PCI / ISA PnP│                                    │
 └─────────────────────────────────────┴───────────────────────────────────┘
```

PnP OS Installed

> When set to YES, BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI).   The rest of the cards will be initialized by the PnP operating system like Windows[TM]95.   When set to NO, BIOS will initialize all the PnP cards.   So, for non-PnP operating system (DOS, Netware[TM]), this option must set to NO.

Resources Controlled By "Auto" or "Manual"

> By Choosing "Auto" the system BIOS will detect the system

resource and automatically assign the relative IRQ and DMA channel for each peripheral.

By Choosing "Manual"(default), the user will need to assign IRQ & DMA for add-on cards.   Be sure that there is no IRQ/DMA and I/O ports conflict.

Resources Configuration Data

The system BIOS supports the PnP feature so the system needs to record which resource is assigned and protect resources from conflict.   Every peripheral device has a node which is called ESCD. This node records which resources are assigned to it.   The system needs to record and update ESCD to the memory locations. These locations (4K) are reserved at the system BIOS.

If Disabled (default) is chosen the system's ESCD will update only when the new configuration varies from the last one.

If Enabled is chosen the system will be forced to update ESCDs if the system configuration has changed and then auto set this option to the "Disabled" mode.

IRQ-3	assigned to : PCI / ISA PnP
IRQ-4	assigned to : PCI / ISA PnP
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
DMA-3	assigned to : PCI / ISA PnP
DMA-5	assigned to : PCI / ISA PnP
DMA-6	assigned to : PCI / ISA PnP
DMA-7	assigned to : PCI / ISA PnP

The above settings will be shown on the screen only if "Manual" is chosen for the Resources Controlled By function.

Legacy is the term which signifies that a resource is assigned to the ISA Bus and provides for non PnP ISA add-on cards.   PCI / ISA PnP signifies that a resource is assigned to the PCI Bus or provides

for ISA PnP add-on cards and peripherals.

<u>PCI IDE IRQ Map To</u>

PCI-Auto :	This setting is for off-board PCI IDE card and is fully compatible with PCI specifications.
PCI-Slot 1-4 :	This setting is used if off-board PCI IDE card is not fully compatible with PCI specification. You must specify which PCI IDE Card is installed in.
ISA :	This setting is used if the off-board PCI IDE card uses an edge trigger and IRQ routes directly to the ISA Bus.

Load Setup Defaults

Chipset defaults indicates the values required by the system for maximum performance.

■ **Figure 7. Load Setup Defaults Screen**

ROM PCI/ISA BIOS (xxxxxxxx)
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
PCI & PCI CONFIGU	**Load SETUP Defaults (Y/N) ? N**	ETUP
LOAD SETUP DEFA	AVING

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

Load SETUP Defaults except Standard CMOS SETUP

If you wish to load the SETUP Defaults, change the prompt to <**Y**> and press <**ENTER**>.

Integrated Peripherals Setup

■ **Figure 8. Integrated Peripherals Setup Menu**

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

On-Chip IDE Controller	: Enabled	Onboard FDC Controller	: Enabled
On-Chip Secondary PCI IDE	: Enabled	Onboard Serial Port 1	: 3F8/IRQ4
IDE Primary Master PIO	: Auto	UR1 Mode	: Normal
IDE Primary Slave PIO	: Auto		
IDE Secondary Master PIO	: Auto		
IDE Secondary Slave PIO	: Auto	Onboard Serial Port 2	: 2F8/IRQ3
IDE Primary Master UDMA	: Auto	UR2 Mode	: Normal
IDE Primary Slave UDMA	: Auto		
IDE Secondary Master UDMA	: Auto		
IDE Secondary Slave UDAM	: Auto	Onboard Parallel Port	: 378/IRQ7
IDE HDD Block Mode	: Enabled	Parallel Port Mode	: SPP
On-Chip USB Controller	: Enabled		
USB Keyboard Support	: Disabled		

ESC : Quit ↑↓ → ←: Select Item
F1 : Help   PU/PD/+/- : Modify
F5 : Old Values   <Shift> F2 : Color
F7 : Load Setup Defaults

IDE Primary Master PIO

Auto / Mode0 / Mode1-4

IDE Primary Slave PIO

Auto / Mode0 / Mode1-4

IDE Secondary Master PIO

Auto / Mode0 / Mode1-4

<u>IDE Secondary Slave PIO</u>

Auto / Mode0 / Mode1-4

For these 4 IDE option choose "Auto" to have the system BIOS auto detect the IDE HDD operation mode for PIO access.

Choosing Mode 1-4 will have the system ignore the HDD's reported operation mode and use the selected mode instead.

<u>Onboard FDC Controller</u>

Enabled / Disabled The system has an on-board Super I/O chip with a FDD controller that supports 2 FDDs for 360K / 720K / 1.2M / 1.44M / 2.8M. Choose "Enabled" to use the on-board FDD controller for accessing the FDD. Otherwise choose "Disabled" to use the off-board FDD controller.

<u>Onboard Serial Port 1</u>

Disabled / (3F8 / IRQ4) / (2F8 / IRQ3) / (3E8 / IRQ4) / (2E8 / IRQ3)

<u>Onboard Serial Port 2</u>

Disabled / (3F8 / IRQ4) / (2F8 / IRQ3) / (3E8 / IRQ4) / (2E8 / IRQ3)

The system has an On-board Super I/O chipset with 2 serial ports. The On-board serial ports can be selected as:

Disabled	
3F8 / IRQ4	COM1 uses IRQ4
2F8 / IRQ3	COM2 uses IRQ3
3F8 / IRQ4	COM3 uses IRQ4
2F8 / IRQ3	COM4 uses IRQ3

<u>Onboard Parallel Port</u>

Disabled/	There is a built-in parallel port on the
(3BC/IRQ7)/	on-board Super I/O chipset that provides
(278 /IRQ5)/	standard, ECP, and EPP features. It has

(378 /IRQ7)   the following options:

Disable
(3BC/IRQ7)Line Printer port 0
(278 / IRQ5)Line Printer port 2
(378 / IRQ7)Line Printer port 1

Onboard Parallel Mode

SPP : Standard Parallel Port
EPP : Enhanced Parallel Port
ECP : Extended Capability Port

To operate the onboard parallel port as Standard Parallel Port only choose "SPP."   To operate the onboard parallel port in the ECP and SPP modes simultaneously choose "ECP/SPP." By choosing "ECP" the onboard parallel port will operate in ECP mode only. Choosing "ECP/EPP" will allow the onboard parallel port to support both the ECP and EPP modes simultaneously.   The ECP mode has to use the DMA channel so choose the onboard parallel port with the ECP feature.   After selecting it the following message will appear: "ECP Mode Use DMA"   At this time the user can choose between DMA channels 3 or 1.   The onboard parallel port is EPP Spec. compliant so after the user chooses the onboard parallel port with the EPP function and the following message will be displayed on the screen: "Parallel port EPP Type." At this time either EPP 1.7 spec. or EPP 1.9 spec. can
be chosen.

Supervisor / User Password Setting

■ **Figure 9. Supervisor Password Setting**

```
                    ROM PCI/ISA BIOS (xxxxxxxx)
                      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          SAVE   &   EXIT   SETUP          │
│                                                                   │
│  LOAD SETUP DEFA   Enter Password :              AVING            │
│                                                                   │
│                                                                   │
├─────────────────────────────────────────────────────────────────┤
│  Esc : Quit                    ↑ ↓ → ←  : Select Item             │
│  F10 : Save & Exit Setup       (Shift) F2   : Change Color        │
├─────────────────────────────────────────────────────────────────┤
│                 Change / SCT / Disable Password                   │
└─────────────────────────────────────────────────────────────────┘
```

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

PASSWORD DISABLED

If you select System at Security Option of BIOS Features Setup

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

IDE HDD Auto Detection

Automatically configure hard disk parameters. The parameters on this figure are just for reference.

■ **Figure 10. Auto Configuration with Optimal Settings Screen**

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

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LAND	SECTOR	MODE
Primary Master	:User	343	665	16	65535	664	63	NORMAL

```
              Select Primary Slave Option (N=Skip)    N
```

OPTIONS	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
1(Y)	0	0	0	0	0	0	NORMAL

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

ESC : Skip

When you enter this utility, the screen asks you to select a specific hard disk for Primary Master.   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 CMOS value changes to CMOS and exit setup.

■ **Figure 11. Save & Exit Setup Screen**

```
ROM PCI/ISA BIOS (xxxxxxxx)
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 CONFIGU	**SAVE to CMOS and Exit (Y/N)?N** TUP
LOAD SETUP DEFA	AVING

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

Save Data to CMOS & Exit SETUP
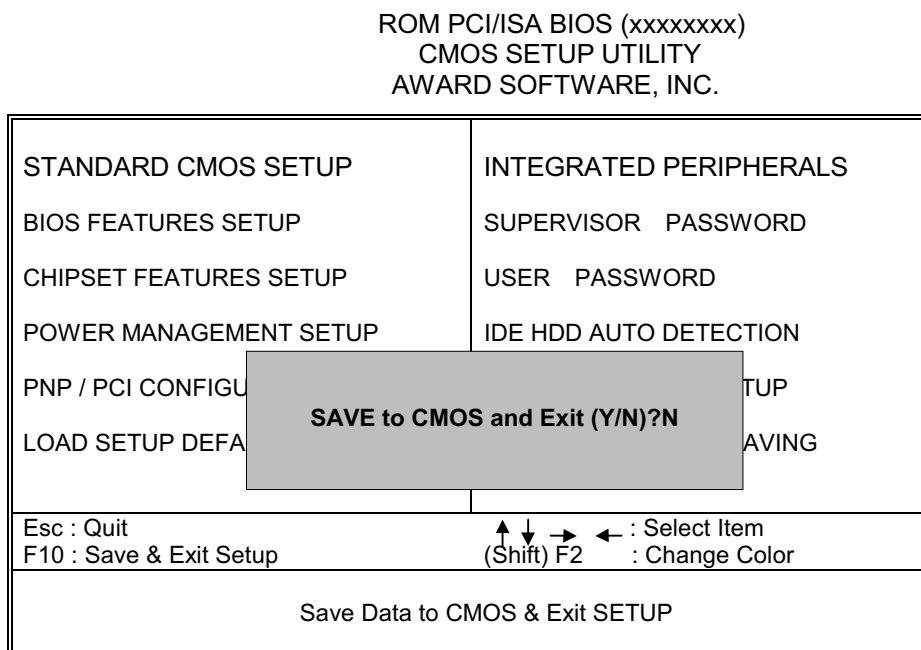
Pressing **<N>** and **<ENTER>** will return you to the Main Menu.

Pressing **<Y>** and **<ENTER>** will save the system parameters and continue with the booting process.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

■ **Figure 12. Save Settings and Exit Screen**

ROM PCI/ISA BIOS (xxxxxxxx)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

```
┌──────────────────────────────────────────────────────────────────┐
│                                                                    │
│  STANDARD COMS SETUP              INTEGRATED PERIPHERALS           │
│                                                                    │
│  BIOS FEATURES SETUP              SUPERVISOR   PASSWORD            │
│                                                                    │
│  CHIPSET FEATURES SETUP           USER   PASSWORD                  │
│                                                                    │
│  POWER MANAGEMENT SETUP           IDE HDD AUTO DETECTION           │
│                                                                    │
│  PNP / PCI CONFIGU   ┌──────────────────────────┐   UP            │
│                      │  Quit Without Saving (Y/N)?N │               │
│  LOAD SETUP DEFA     └──────────────────────────┘   VING          │
│                                                                    │
├──────────────────────────────────────────────────────────────────┤
│  Esc : Quit                      ↑ ↓ → ←  : Select Item           │
│  F10 : Save & Exit Setup         (Shift) F2    : Change Color     │
├──────────────────────────────────────────────────────────────────┤
│                   Abandon all Datas & Exit SETUP                   │
└──────────────────────────────────────────────────────────────────┘
```
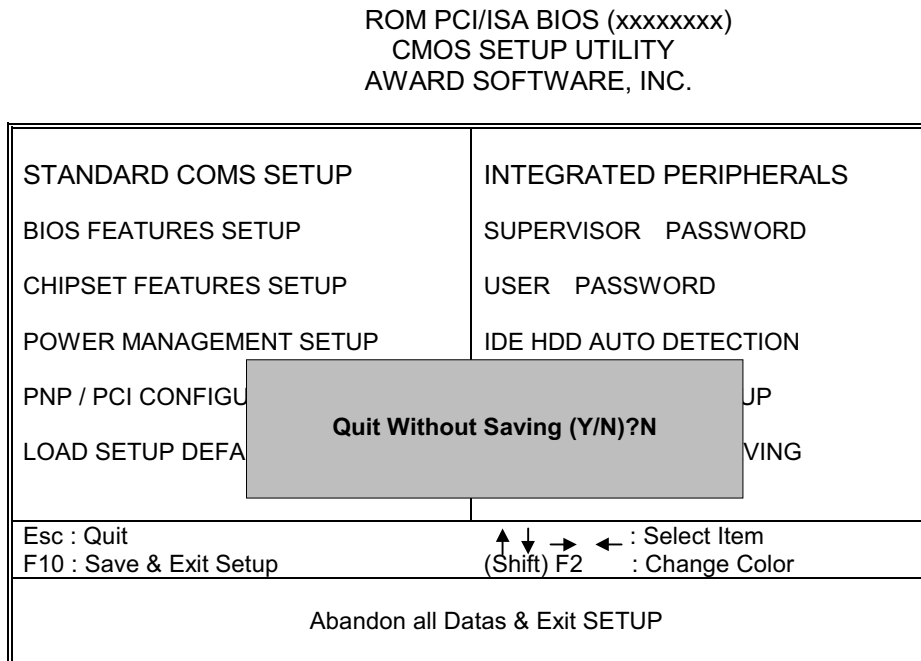
Pressing **<N>** and **<ENTER>** will return you to the Main Menu.

Pressing **<Y>** and **<ENTER>** will continue with booting process without saving any system parameters.

Application Software

－ Please use the "BIOS Utility" diskette to setup Flash Memory.
－ The diskette contains the intelligent installation utility **AWDFLASH.EXE**, showing as follow.

■ **Figure 13. Flash Memory Writer**

```
┌─────────────────────────────────────────────────────────┐
│                FLASH MEMORY WRITER Vxx                    │
│      Copyright    (C) 1992-1994 Award Software, Inc.,     │
├─────────────────────────────────────────────────────────┤
│   For xx-xxxxxxxxxxxxxxxxxx            DATE: xx/xx/xxxx    │
│   Flash   Type -                                          │
│                                                           │
│ File Name to Program:    [                    ]           │
│                                                           │
│                                                           │
│                                                           │
│                                                           │
│                                                           │
├─────────────────────────────────────────────────────────┤
│ Error Message :              Do You Want To Save Bios (Y/N)? │
└─────────────────────────────────────────────────────────┘
```

IDE Driver Setup

How to install drivers ?

```
            One of the two methods listed below can be used to
            install driver:
```

I. Use **INSTALL.BAT** under Windows 95 environment.

   OR

II. Use the following sequence step by step:

   .Popup '**Control Panel**' and open '**Add New Hardware**'.

   .Select '**Next**'.

   .Switch to '**No**' - don't let Windows to search for your new hardware, and click
     '**Next**'.

   .Select '**Hard disk controller**' and click '**Next**'.

   .Click the button '**Have Disk**' (or press **Alt+H**).

   .Make sure the install disk is in drive A(or drive B), and then click '**OK**'.

   .A '**Select Device**' dialog box will be popup.

   .Select the device that you wish to install and click '**Next**'.

   .After this install procedure is complete, you may need to restart the computer.

How to uninstall drivers ?

Use **UNINSTAL.BAT** under Windows 95 environment.

Attention :

1. When the Win95 install the software for primary and secondary channel for IDE driver, please **DO NOT RESTART COMPUTER after Win95 just finish primary channel**. Let Win95 continue to install software for secondary channel. After secondary channel is finished, the **RESTART COMPUTER** to let new installed IDE driver to take effect.

2. If you have any DOS Real-mode driver on your system. It will be conflict between ALi Bus Master IDE Driver and a Real-mode ATAPI CD-ROM or IDE device driver. ALL REFERENCES TO REAL-MODE DRIVERS (IDE or ATAPI) IN THE AUTOEXEC.BAT AND CONFIG.SYS SHOULD BE REMOVED.

3. Sometimes, the ALi IDE controller has already been installed with the standard driver provided by Microsoft. In order to use ALi IDE controller with the driver we provided, it is necessary to remove the standard driver from "**Control Panel / System/ Device Manager**".

4. This version support Ultra-33 feature.

5. If you found the CD-ROM cannot be recognized by Windows 95 after you installed Ali bus master driver, please run
   "X:\WIN95\PATCH\W95PATCH.EXE"
        (X : is the floppy drive where this disk located).