
EC Declaration of Conformity

We

Iwill Corp.

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Taiwan, R.O.C.

Declare under sole responsibility that the

PIILE motherboard

Meets the intent of Directive 89/336/ECC for Electromagnetic Compatibility. Compliance was demonstrated to the following specifications as listed in the official Journal of the European Communities:

EN 50081-1 Emissions:

EN 55022 Radiated, Class B

EN 55022 Conducted, Class B

EN 60555-2 Power Harmonics

EN 50082-1 Immunity:

IEC 801-2 Electrostatic Discharge

IEC 801-3 RF Radiate

IEC 801-4 Fast Transient

About This Manual

This manual will introduce the user how this PIILE Pentium II motherboard is consisted. All useful information will be described in later chapters. Keep this manual for your future upgrade or system re-configuration.

Chapter 0: Overview ---

The features and specifications of this motherboard are described in this chapter.

Chapter 1: Quick Installation ---

This chapter provides a quick reference for experienced users. Please follow the instructions while installing the system.

Chapter 2: The Hardware Installation ---

This chapter offers detailed information on jumper setting, connection, and installation.

Chapter 3: The ATX Form-Factor Overview ---

The ATX form-factor is introduced in this chapter in detail.

Chapter 4: The Award BIOS Setup ---

This chapter presents clear Award BIOS setup options. Usually the manufacture default s are the best choices for most users.

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Warning

Most of the features of this motherboard have passed strict verification and are subject to change at any time without notice. If any malfunction occurs due to the future technical changes made by the respective component manufacturers, Iwill assumes no responsibility or liability for it.

Version

This manual is written to match Iwill's PIILE motherboard Version.1.0.

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CHAPTER 0

Overview

Thank you for purchasing Iwill PIILE Pentium II Motherboard. This operation manual will instruct you how to configure and install properly. It contains an overview about the engineering design and features of this board. Also, this manual provides useful information for later on upgrade or configuration change. Keep this for your future need.

0.1 Features

This PIILE Pentium II Motherboard is designed to fit the new ATX form factor based computer case. It uses the Intel 82440LX core logic with BGA technology, offers powerful combination of performance, quality and innovative design to satisfy the need of heavy application widely available on today's PC market. Slot 1 CPU socket is ready to support new Pentium II processor from 233MHz, 266MHz, 300MHz up to 333MHz.

Four 168 pin DIMM memory sockets that support 3.3V, unbuffered Synchronous DRAM are available for total system memory up to 1GB when using burst EDO memory or 512Mbyte when using synchronous DRAM. This motherboard offers two of the high speed serial port, one of the ECP/EPP printer port, PS/2 mouse and keyboard are all ready in this ATX form factor with double high expandable I/O back panel. 2 USB heads are also ready to support all the new Universal Serial Bus based devices that heavily promoted by Intel to standardize all the devices up to 12Mbit/Sec. data transfer rate.

■ CPU:

Support Pentium II processor on a slot 1 socket with SECC (Single Edge Contact Cartridge) packaging. One easy jumper move to set the CPU speed from 233MHz, 266MHz, 300MHz to 333MHz.

■ CHIPSET:

Adopts the new Intel 440LX chipset, supports the latest technology such as MMX, AGP, ACPI, PCI Version 2.1 ..etc.

■ SB-LINK:

Sound Blaster was almost the standard of the ISA Bus sound cards, a lot of games were programmed for Sound Blasts specially under DOS environment. If the users are still interested in playing these game titles, they might have compatibility issue with the new up graded PCI Bus sound card. Connect the cable provided by PCI sound card with this 2x3 JP27 connector on motherboard to solve your problems of playing the game.

■ BIOS:

Award BIOS, on-screen "Plug & Play" setup for, Enhanced IDE, and Ultra Multi-IO. Using 1Mbit **Flash ROM** (This ROM provides better upgrade ability for user to update their BIOS data on the system board), users can down-load/ update newer version BIOS from Internet or diskette file without changing the components.

■ Memories:

4 X 168-pin DIMM (Dual In Line Memory Module)

Supports up to 1Gbyte (with burst EDO) or up to 512MB (with 3.3V unbuffered SDRAM).

■ Expansion slots:

2 X 16-bit ISA slots, 5 X 32-bit PCI slots .

(PCI Rev 2.1)

■ AGP (Accelerated Graphics Port) slot:

1 X 124-pin expansion slot, which is a high performance bus for graphics devices and is designed specially for 3D applications.

■ IDE interface:

- Built in dual Bus Master EIDE Channels.
- Supports ATAPI (AT Attachment Packet Interface) devices
- Supports Ultra DMA 33 compliant high speed HDD.

■ USB interface (Universal Serial Bus):

- Plug and Play devices outside the computer box
- Up to 12Mbit/sec.
- Ease of use
- Supports a Max. of 127 devices

■ In-Put power:

- Supports ATX power supply connector
- Supports the remote On/Off switch

■ Floppy Interface:

- Supports both 3 1/2" and 5 1/4" **floppy disk drives** (360K / 720K/ 1.2M / 1.44M / **2.88MB**) and **Tape Drive**
- **Enable/Disable** selectable from system BIOS
- Non-Burst Mode DMA Option, 16 Byte Data FIFO
- 3 Mode Driver (option)

■ Serial Port:

- Two high speed 16550 UART serial ports
- IRQ selectable from BIOS.
- Address changeable form system BIOS

-
- NS16C550 compatible, Programmable Baud Rate Generator

■Parallel Port:

- IRQ selectable
- **Standard mode**--Compatible with IBM PC/AT Printer port
- **EPP Mode** --Enhanced Parallel Port (EPP) compatible in compliance with IEEE 1284
- **ECP Mode** --Microsoft & Hewlett Packard Extended Capabilities Port (ECP) Compatible
- Incorporates ChiProtect Circuit for protection against damage due to printer power-on

■Form Factor:

- In compliance with ATX Version 2.01 specification.

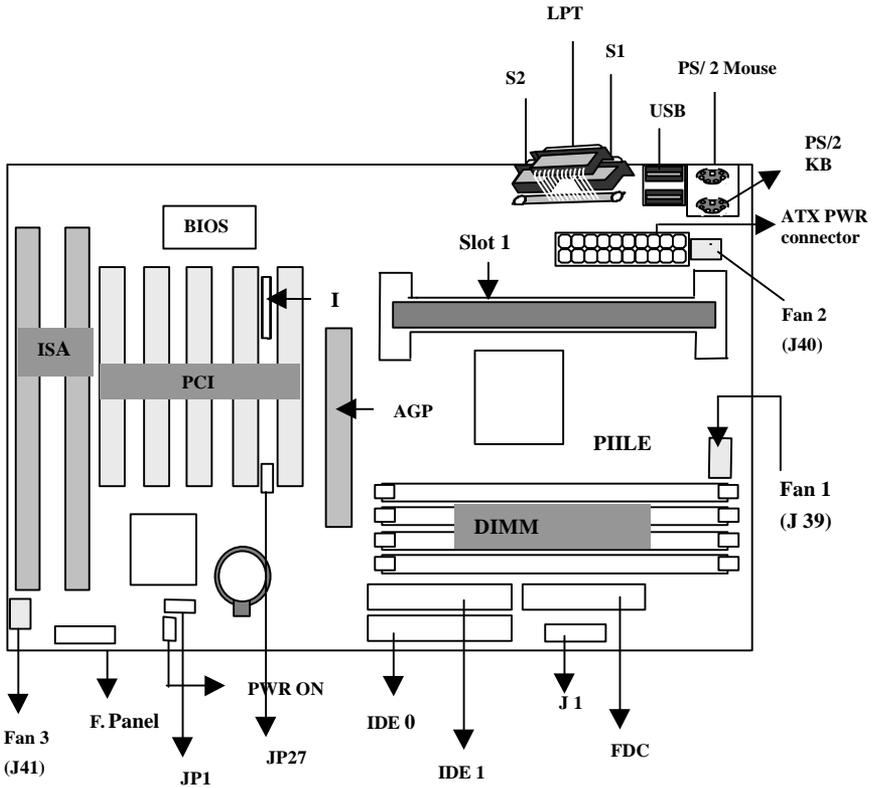
■Specifications:

- Physical Dimensions: Length: 305 mm / width: 180mm

0.2 Specifications

- **Physical Dimensions:** Length: 305mm / Width: 180mm
- **Environmental Requirements:**
Temperature 0-55 degrees C (operating or storage)
5% to 95% non-condensing relative humidity.

0.3 Placement of PIILE



0.4 Connectors and Jumpers Description:

Connectors:

AGP	Accelerated Graphics Port slot
ATX P.	20-pin Standard ATX power input connector
BIOS	BIOS (Basic Input Output System)
DIMM	168-pin DIMM Sockets (Dual In-line Memory Module)
FAN1	J39 power connector for Processor fan
FAN2	J40 power connector for system fan to release the hot air.
FAN3	J41 power connector for Front Panel to absorb the cold air.
FDC	34-pin connector with protect key for floppy disk drive controller.
F. Panel	Front panel signal control connector RST –Reset Switch IDE –IDE device detect LED Speaker –Speaker connector Keylock –Keylock switch connector
IR	7-pin IR (InfraRed) connector
ISA	2 x 98-pin expansion ISA (Industrial Standard Architecture) slots
PS/2 KB	6-pin PS/2 keyboard Mini-DIN connector
LPT	25-pin Parallel D-Sub connector
PCI	5 x 120-pin PCI (Peripheral Component Interface) expansion slots
PWR ON	Remote power on/off connector
PS/2 Mouse	6-pin PS/2 mouse Mini-DIN connector
IDE 0	40-pin Primary IDE connector with key protect
IDE 1	40-pin Secondary IDE connector with key protect
S1	9-pin Serial 1 D-Sub connector
S2	9-pin Serial 2 D-Sub connector
Slot1	Connector for Pentium II processor
USB	Two 4-pin Universal Serial Bus connector for USB A & USB B

Jumpers:

J1	Processor speed frequency select
JP1	CMOS Normal/Clear select
JP27	A 6-pin connector to support Creative new generation sound cards.

0.5 Unpack the PIILE:

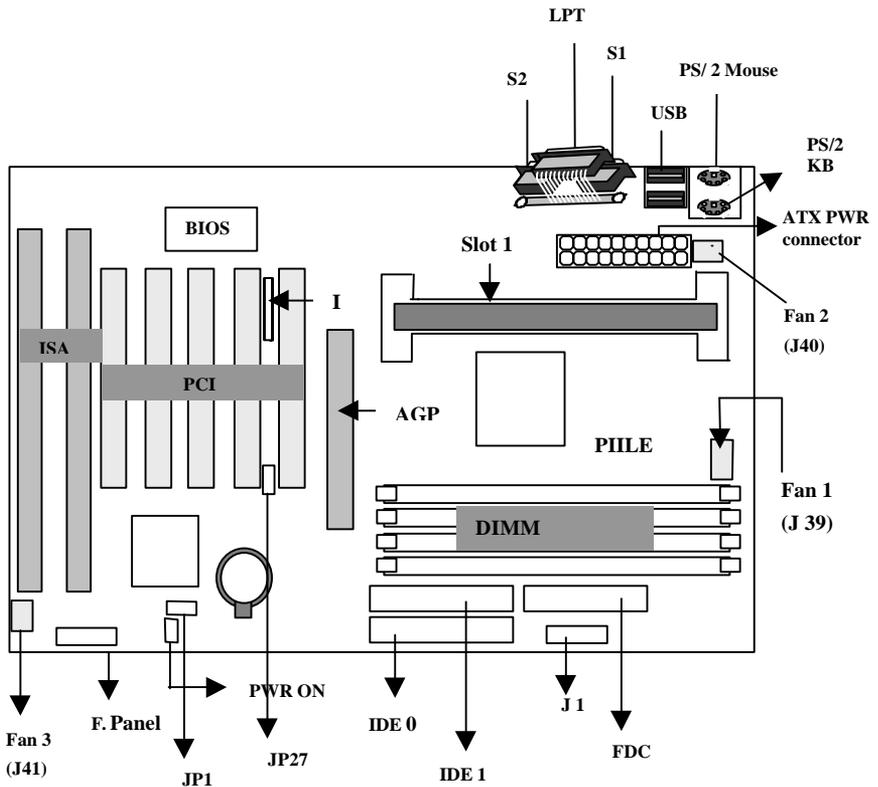
You should find the following components when open the box:

1. PIILE Motherboard.
2. This Operation Manual
3. 40-pin internal IDE signal cable.
4. 34-pins internal Floppy Disk Drive signal cable.
5. PIIX4 Bus Master Driver diskette
6. Pentium II Retention kit

CHAPTER 1

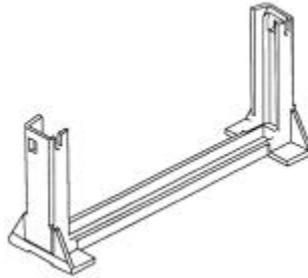
Quick Installation

Several easy installation steps will be described in this chapter to help the experienced users for quick installation. If you are a beginner and need to know more about this motherboard, please start from Chapter 2.



Quick Installation

Step 1. Install Retention Mechanism for Pentium II processor

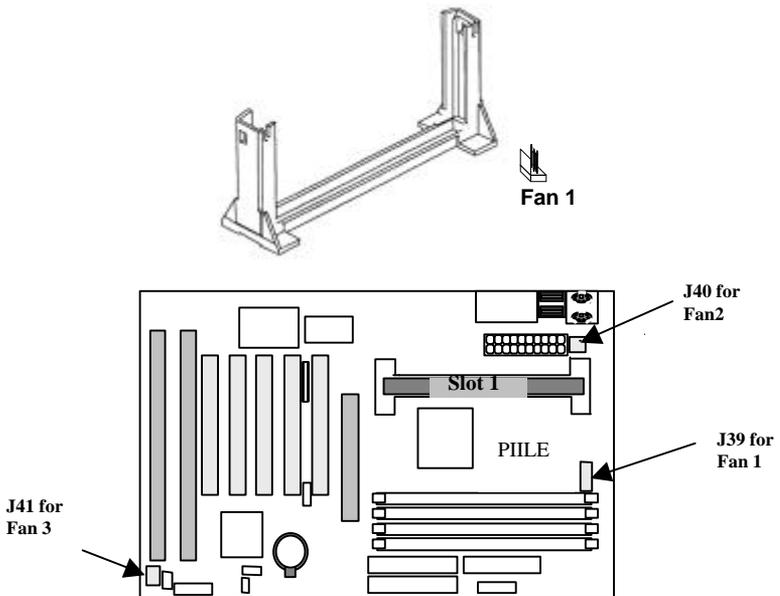


There are two sets of the Thread Studs need to screw to the Slot 1's Processor Retention Mechanism by a criss-cross screw driver.

Plug the Pentium II processor along the Retention Mechanism in vertical direction down to Slot 1 connector. Make sure that they are connected thoroughly.

Step2. Install CPU cooler

Hook the CPU Cooler's power cable to the connector marked "FAN 1".

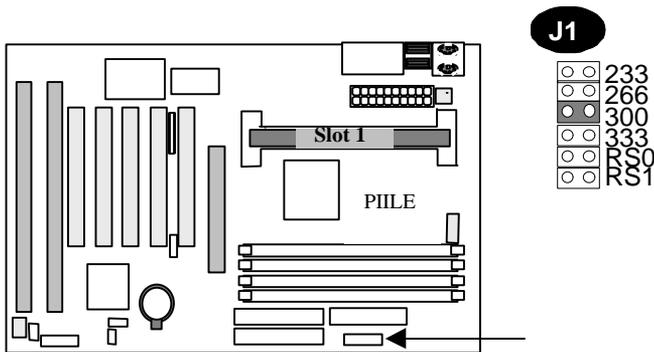


On this PIILE motherboard, there are three fan connectors:

J39 for Fan 1 is to cool down the CPU; J40 for Fan 2 and J41 for Fan 3 are to release the heat produced by power supply and other components inside the computer chassis.

Step 3. Adjust the CPU frequency

J1 is designed to set the processor frequency speed. Simply place the jumper cap onto the speed number of J1 according to the speed you see on your CPU. Once the jumper cap is inserted, it will automatically calculate the Internal/ External Clock and CLKMUL (Clock Multiplier). Just insert the jumper cap to the CPU real frequency.



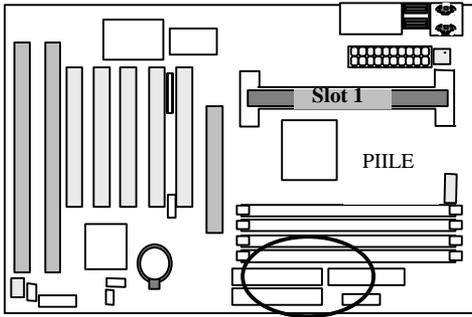
Step 4. Install the Memory Module

At least one piece of 168-pin 3.3V unbuffered SDRAM or EDO DIMM (Dual Inline Memory Module) must be located into this PIILE motherboard

Step 5. Install the Internal Peripherals

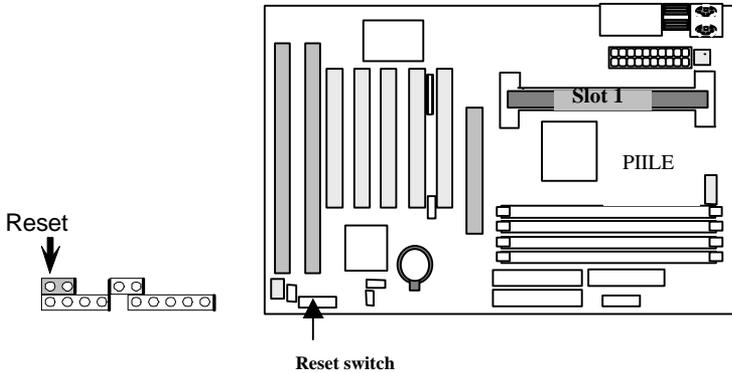
The internal peripherals means devices that are in the computer chassis like the Floppy Disk Drive, Hard Disk Drive, CD ROM Drive ..etc. There are one 34-pin flat cable for floppy disk drive and one 40-pin flat cable for IDE devices included in your retail package. Use these cables to connect the motherboard and internal devices.

The protect key on cables' connector will guide you the correct direction when you insert the cables.



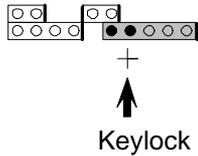
Step 6. Connect the Reset switch

Most computer chassis provides a reset button on their front panel control. Connect the button with provided 2-pin twisted wire to the header marked RST on motherboard for RESET function. When the button is on, the motherboard resets and will restart the computer.



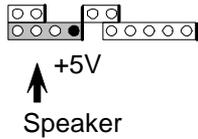
Step 7. Connect KeyLock

Once you switch the keylock to “Lock,” the computer will not accept any input from keyboard, but nowadays, most of the ATX chassis don’t support keylock switch on their front panel.



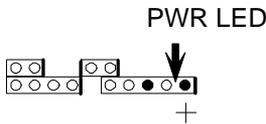
Step 8. Connect the Speaker

Connect the speaker to the motherboard's speaker connector. (normally the red cable is +5V power)



Step 9. Connect the Power LED

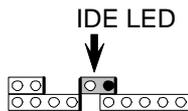
Some computer chassis provide a power LED to identify if the system is on or off. The power LED lights up when computer is powered on. Connect the power LED to the motherboard's power-LED connector. (normally the red cable is +5V power)



Step 10. Connect the LED Devices

This header can be connected to the IDE device LED on front panel.

The LED shows activities of (read from or write to) an IDE device.



Step 11. Connect the Power ON header

All the ATX computer chassis provide a power on switch. Connect the header marked "PWR-ON" to the switch.

Step 12. Install the Power Supply

This motherboard provides the new 20 Pin ATX power connector. Once the ATX power supply is plugged into this ATX power connector then the power on connector is necessary to be connected to work as the power On/Off switch.

Step 13. Install the Keyboard

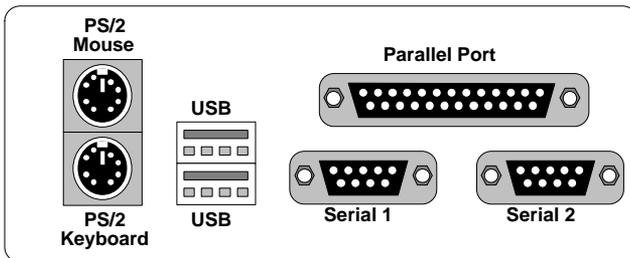
Follow the keyboard cable's key direction and connect to the PS/2 keyboard connector of this motherboard at the rear side.

Step 14. Install the Display Card (ISA / PCI / AGP)

Insert the VGA card you have in vertical direction into the traditional ISA or PCI expansion slots. Another option provided for you to get higher performance for graphic-intensive applications in the system is to insert the AGP card on the AGP (Accelerated Graphics Port) slot, which is designed intently for exclusive use for display adapter.

Step 15. Install the External Peripherals

The external device means devices outside the computer chassis like the Serial mouse, Printer, PS/2 Mouse, External modem .etc.



Step 16. Power on the system

Once the system is powered on, on the lower left corner of the screen will show "Press to enter SETUP, <ESC> to skip memory test." Then press "DEL" to enter BIOS setup for the first time power on and choose the "LOAD SETUP DEFAULTS," then BIOS will respond "Load SETUP default (Y/N)?", press "Y" and "Enter." Followed with message "SAVE to CMOS and EXIT (Y/N)?" Then press "Y" and "Enter". Your system will now re-start with default settings and we wish you to enjoy it.

CHAPTER 2

Hardware Installation

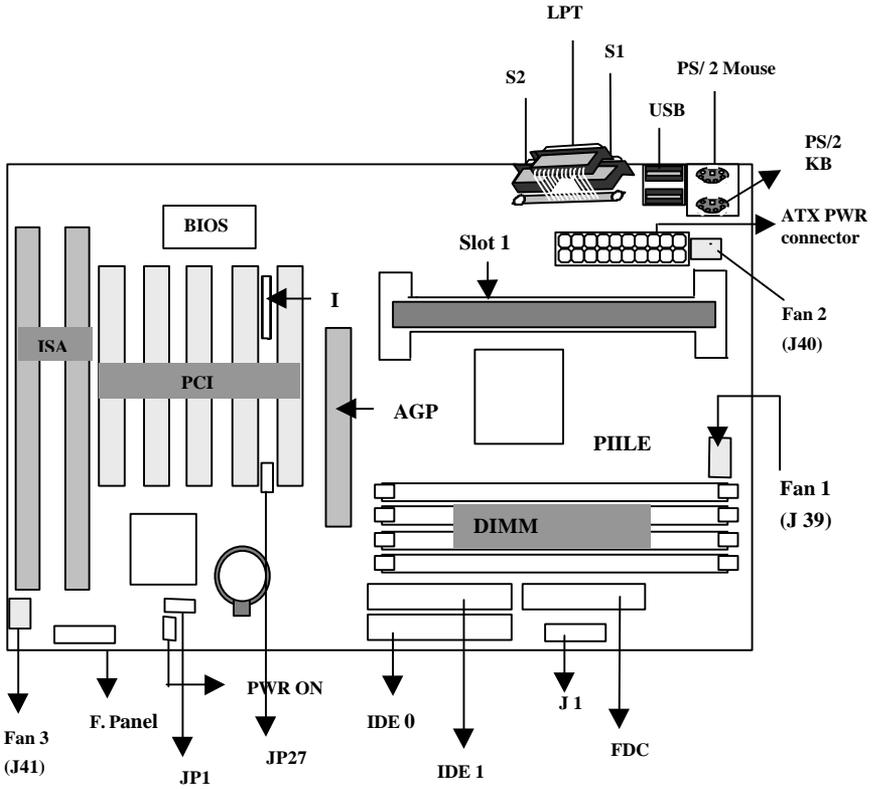
2.1 Preparation and Inspection

This **PIILE** motherboard, like all electronic equipment, is static sensitive. Please take the proper precautions when handling this board. You should avoid static up. If possible, you should ground yourself by touching a metal table or your computer frame. Keep the board in its conductive wrapping until it is configured and ready to be installed in your system.

For installation, you may need some or all of the following tools:

- Medium size flat blade screwdriver.
- Medium sized Phillips head screwdriver.
- A 3/16 inch nut driver or wrench.

2.2 Placement



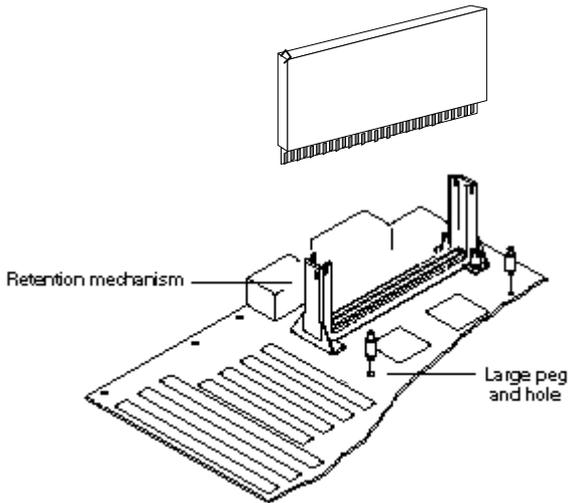
2.3 CPU group

2.3.1 CPU Connector

This new CPU connector named slot 1 is solely designed for Intel Pentium II processors family. The manufacturer will provide an extra Retention Mechanism to firmly hold the Pentium II processor

First, separate the Slot1 Retention Mechanism into three parts: the Slot1 Retention Mechanism main body and two pieces of the Retention Mechanism Attach Mount (this is to fix whole Retention Mechanism). Then carefully screw the mechanism by Slot 1 with Phillips screw driver.

Insert the Pentium II cartridge along the Retention Mechanism in vertical direction. There will be a "Click" sound after the Pentium II is located right in position.

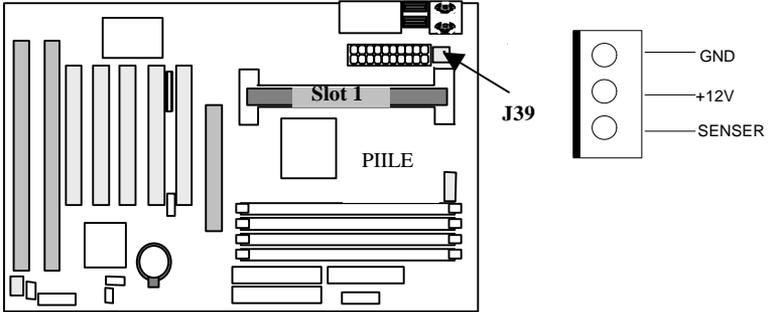


2.3.2 J39 CPU Cooler Fan Power Connector

Warning !!! Warning !!! Warning !!!

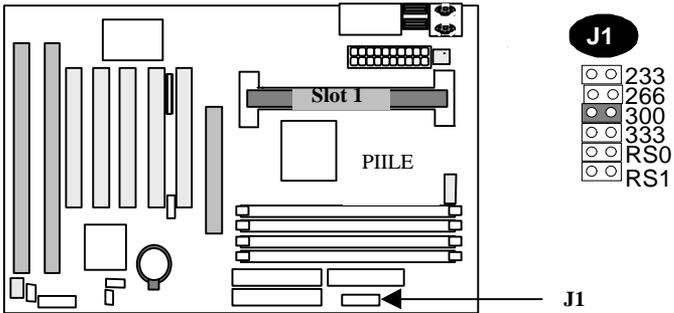
**CPU Cooler is required to be placed on top of the CPU
all the time to prevent CPU over-heat.**

The CPU fan power is a 1 x 3-pin connector. (J39)



2.3.3 CPU Clock Selection

J1 is a 2 X 10-pin jumper, with one "colored" jumper cap on it. One and only one jumper cap need to be put on this connector to select the CPU clock. Just put the yellow jumper cap to the speed your CPU really is.

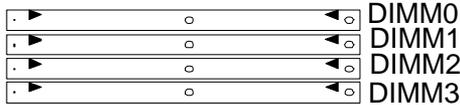


Note: RS1 is to force the CPU external frequency running 75 MHz. When RS0 and RS1 are both "closed," it forces the CPU external frequency operation at 83 MHz. The RS0 and RS1 are reserved for technicians' special testing purpose only. We strongly suggest the end users to leave these jumpers open to prevent CPU damage.

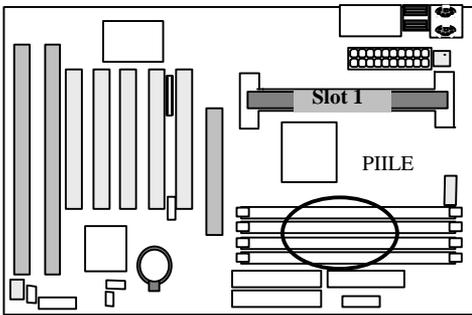
2.4 D-RAM Configuration

This motherboard's memory bank is separated into four Banks. There are DIMM0, DIMM1, DIMM2, DIMM3. The maximum system memory is up to 1 GB when using burst EDO and up to 512MB when using SDRAM.

At least one DIMM must be inserted into this motherboard.



Install the DIMM

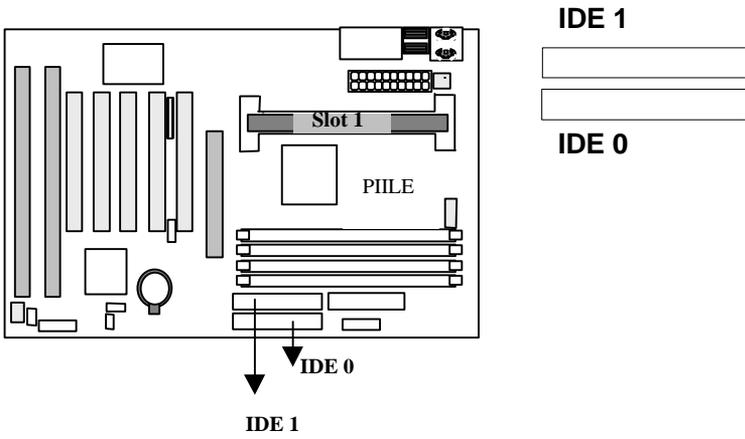


NOTE: PIILE supports both 3.3V unbuffered burst EDO and Synchronous DRAM, which are able to coexist.

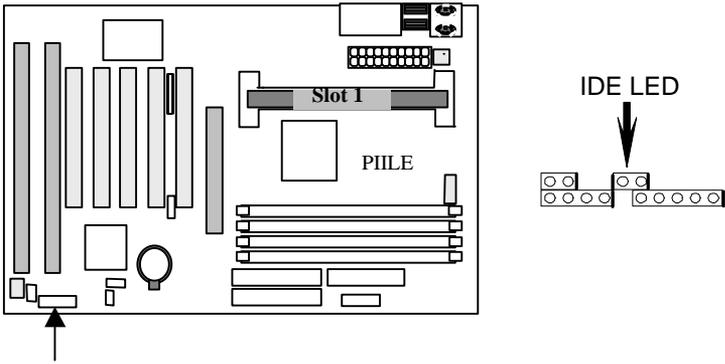
2.5 IDE device installation

2.5.1 Primary, Secondary IDE Connectors

Use the provided 40 pins flat cable to connect between this connector and the IDE devices. Normally the device is connected to the primary IDE channel and other IDE devices at the secondary IDE channel (like CD-ROM). Each IDE connector can connect with two IDE devices. For easy installation, set the first IDE device to "Master" and second IDE device to "Slave" when you connect two IDE devices in one channel. (Refer to IDE device operation Guide)



2.5.2 SET UP IDE LED



A 2-pin IDE device LED connector is to be connected to the LED on chassis, which will be lighted up as busy signal when IDE devices is detected in operation. The bolded line stands for Pin 1.

Pin	Assignment
1	LED anode (+)
2	LED cathode (-)

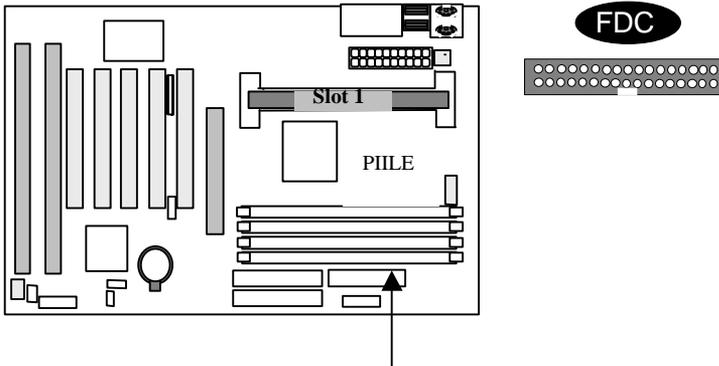
2.6 Enhanced Multi-IO CONNECTION

2.6.1 Install floppy disk drive

The IBM compatible floppy disk drives include 360KB, 720KB, 1.2MB, 1.44MB and 2.88MB. The most popular one is 1.44MB in 3.5 inch. There is another kind of 3 mode FDD used for the Japanese NEC PC98 series computer.

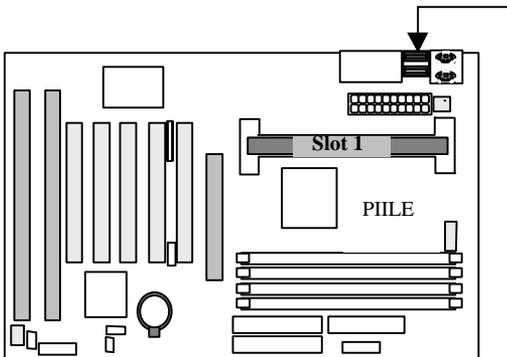
This motherboard supports two FDD in any capacity with the same connector and also supports QIC-80 Tape Driver with floppy interface.

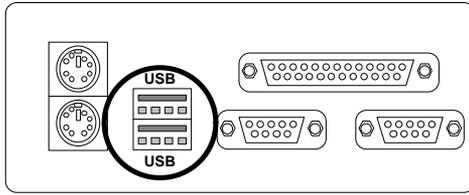
Use the provided 34-pin flat cable to connect between this connector and floppy drives.



2.6.2 USB (Universal Serial Bus) CONNECTION

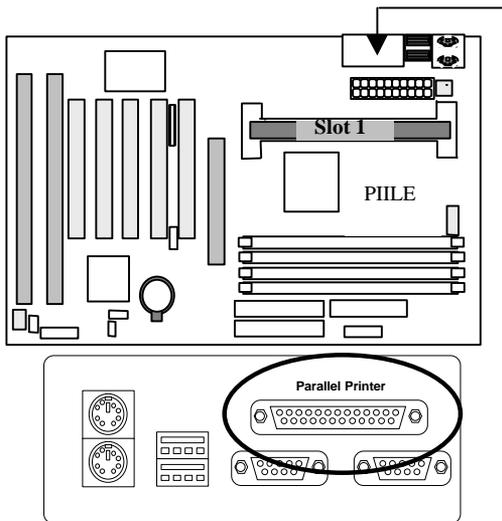
The USB is suitable for middle to low speed devices like Mouse, Keyboard, Joystick...etc. In the past, all these devices were using different connectors, and it is complicated for end users to install the system. Two of 4-pin standard USB connector are designed on this motherboard, users only need to plug all their USB peripherals on these kinds of connector in chain and ready to go.





2.6.3 Parallel Port Connector

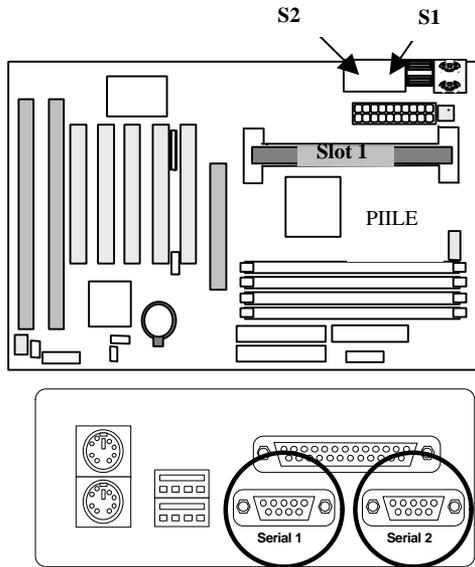
The parallel port transfers data in an 8-bit unit, thus its transfer rate is much higher than serial devices. It is used for printer or other parallel devices. Simply connect the parallel print cable with parallel peripherals between devices and the parallel port connector.



2.6.4 Serial Port

The serial port is using the serial transfer. This is often used in serial mouse, serial printer, fax modem .etc. This motherboard provides a high speed 16550 compatible serial port, which is faster in transfer speed than a traditional 16450 compatible serial port.

S 1 & S 2 are 9-pin male external DB9 port. Simply connect your serial devices to S1 or S2 if any.



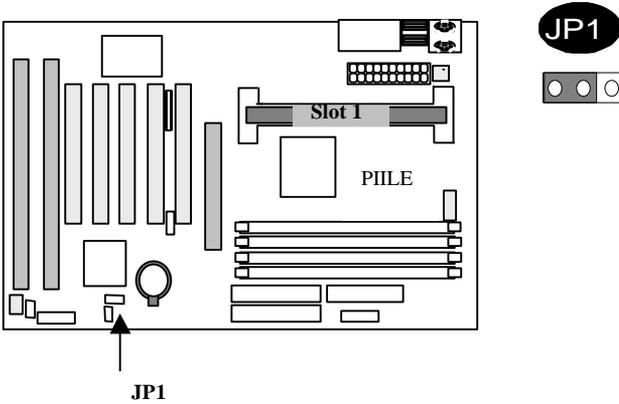
2.7 Clear CMOS setting

To reset the RTC (Real Time Clock) data, you need to change the jumper cap of JP1 from 1-2 close to 2-3 close, then set to default 1-2 close again.

This procedure will clear all the current settings.

Get into CMOS Setup of BIOS selection, choose load default, you will now get original manufacturer default setting in your CMOS.

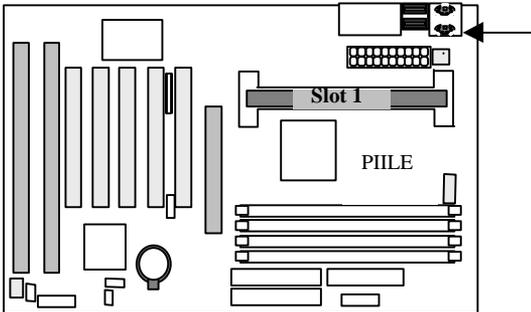
Function	JP1	NOTE
NORMAL	1-2	* DEFAULT
CLEAR CMOS	2-3	

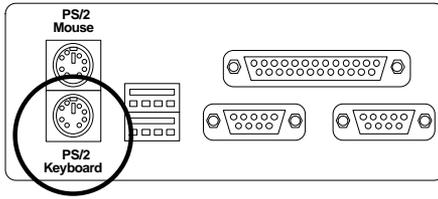


2.8 Others

2.8.1 Install Keyboard

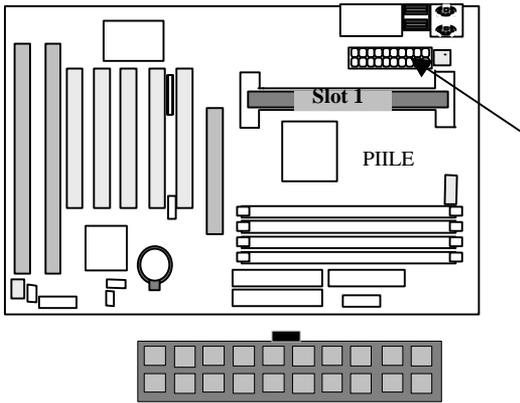
The keyboard connector is a 6-pin, circular-type Mini-DIN socket. It is used to with a standard PS/2 keyboard.



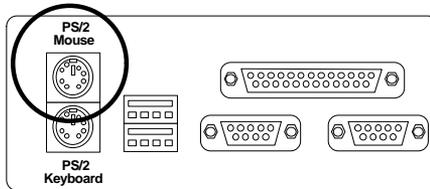


2.8.2 Install Power Supply

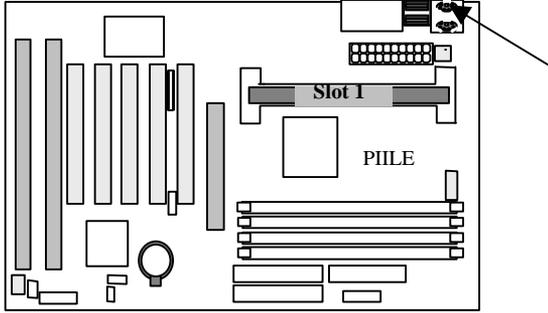
This motherboard supports an ATX power supply connector. It is a 20-pin box header, which will be described in next chapter ATX Form Factor.



2.8.3 PS/2 Mouse



PS/2 Mouse is a 6 pin Mini-DIN PS/2 mouse connector, the manufacture default is IRQ12.

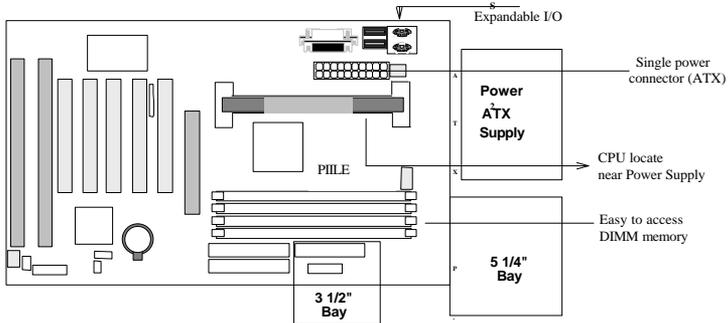


CHAPTER 3

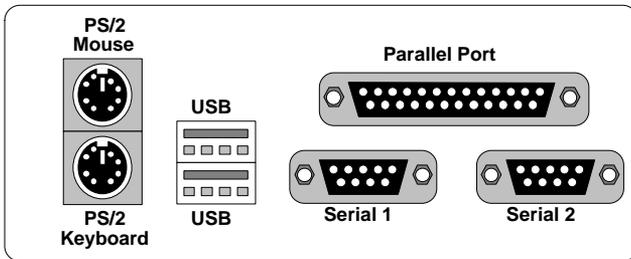
ATX Form-Factor Overview

The **PIILE** is designed to be compliance with ATX V2.01 specification. The board size is 12" x 7.08" (305mm x 180mm). The ATX form-factor improves over Baby AT and LPX in a number of ways. For example, by using the ATX chassis, the power supply is designed to be located in a better place, which won't block the space of long add-on cards. The Pentium II processor can be relocated away from the expansion slots, and the longer side of add-on card can be used to host more on board I/O. From the following ATX chassis features layout, the user can gain a great deal of improved functionality.

- Enhance the PC ease of use
- Supports full Length Slots for ISA ,PCI and AGP Card
- Easy to install the DIMM Memory.
- Supports better processor location than baby AT form factor.
- The air from the power supply can directly blow to CPU, which provides a better cooling effect.

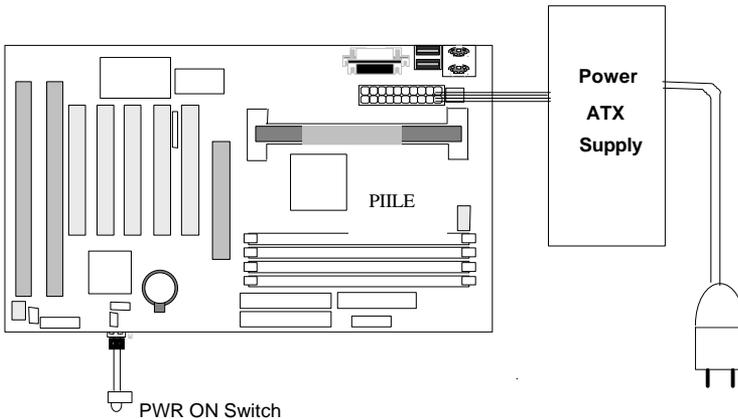


The **PIILE** is equipped with a double height expandable standard I/O back panel, featuring a PS/2 Mouse port, PS/2 Keyboard port, USB ports, Primary/Secondary port, and Parallel port.

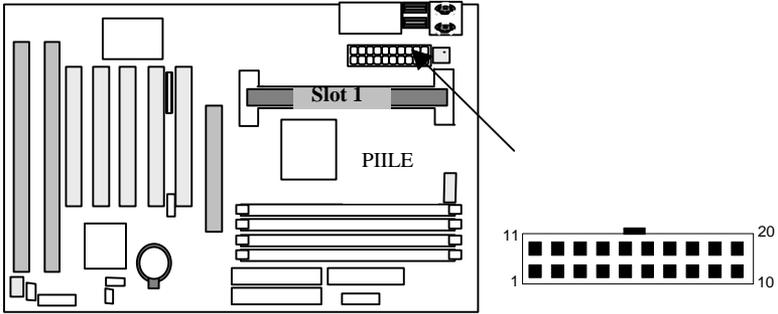


The **PIILE** supports a single 20-PIN connector (for ATX power supply). For ATX power supplies support the Remote ON/OFF feature, there is a power on switch on motherboard to be connected to the system front panel for remote power ON/OFF control. The system power ON/OFF button should be a momentary Switch.

The **PIILE** has been designed to add "soft off" function. You can turn OFF the system from either two sources: One is from the front panel power ON/OFF switch, and the other is from "Soft off" function (coming from the PIILE on-board's circuit controller) that can be controlled by operating system. Such as Windows 95: When the user clicks on the Shutdown icon, power can be turned off directly.



ATX Power Supply Connector:



Pin	Single Name	Pin	Single Name
1	3.3V	11	3.3V
2	3.3V	12	-12.0V
3	GND	13	GND
4	5.0V	14	PS-ON
5	GND	15	GND
6	5.0V	16	CND
7	GND	17	GND
8	PW-OK	18	-5.0V
9	5VSB	19	5.0V
10	12.0V	20	5.0V

CHAPTER 4

Award BIOS Setup

Introduction

This section discusses Award's Setup program built into the flash ROM BIOS. The Setup program allows users to specify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the Setup information when the power is turned off.

The Award BIOS installed in your computer system ROM (Read Only Memory) is a custom version of an industry standard BIOS. This means that it supports Intel/ Cyrix/ AMD processors in a standard IBM-AT compatible input/output system. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

The Award BIOS has been customized by adding important, but non-standard, features such as virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

The rest of this manual is intended to guide you through the process of configuring your system using Setup.

Starting Setup

The Award BIOS is immediately activated when you first power on the computer. The BIOS reads the system information contained in the CMOS and begins the process of checking out the system and configuring it. When it finished, the BIOS will seek an operating system on one of the disks and then launch and turn control over to the operating system.

While the BIOS is in control, the Setup program can be activated in one of two ways:

1. By pressing immediately after switching the system on, or
2. By pressing the key when the following message appears briefly at the bottom of the screen during the POST (Power On Self Test).

Press DEL to enter SETUP.

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" 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, to enter SETUP

Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, use the PageUp and PageDown keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program using the keyboard.

Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item in the left hand
Right arrow	Move to the item in the right hand
Esc key	Main Menu – Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu -- Exit current page and return to Main Menu
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+ 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	Calendar, only for Status Page Setup Menu
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

Getting Help

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> or the F1 key again.

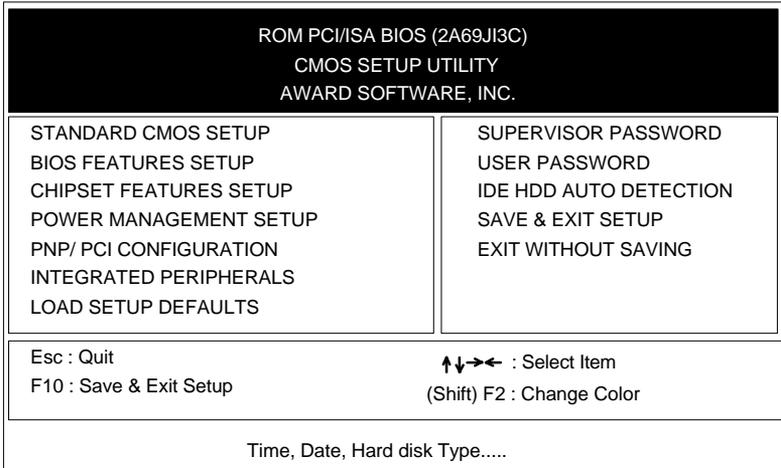
In Case of Problems

If, after making and saving system changes with Setup, you discover that your computer no longer is able to boot, the Award BIOS supports an override to the CMOS settings which resets your system to its defaults.

The best advice is to only alter settings which you thoroughly understand. To this end, we strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both Award and your systems manufacturer to provide the absolute maximum performance and reliability. Even a seemingly small change to the chipset setup has the potential for causing you to use the override.

4.1 Main Menu

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



Note that a brief description of each highlighted selection appears at the bottom of the screen.

Setup Items

The main menu includes the following main setup categories.

Standard CMOS Setup

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

BIOS Features Setup

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

Chipset Features Setup

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

Power Management Setup

This entry only appears if your system supports Power Management, green PC™, standards.

PNP /PCI Configuration

This entry appears if your system supports PNP / PCI.

Integrated Peripherals

This section page includes all the items of IDE hard drive and Programmed Input / Output features.

Load Setup Defaults

The chipset defaults are settings which provide for optimum system performance. While Award has designed the custom BIOS to maximize performance, the manufacturer has the right to change these defaults to meet their needs.

Supervisor / User Password Setting

Set, change, or disable password. It allows you to restrict access to the system and Setup, or just to Setup.

IDE HDD Auto Detection

Automatically detect and configure hard disk parameters. The Award BIOS includes this ability in the event you are uncertain of your 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.

4.2 Standard CMOS Setup

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes none, 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.

ROM PCI/ISA BIOS (2A69JI3C)									
STANDARD CMOS SETUP									
AWARD SOFTWARE, INC.									
Date (mm:dd:yy)		: Wed, Jan. 23 1997							
Time (hh:mm:ss)		: 0:28:19							
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.									
Drive B : None									
Floppy 3 Mode Support : Disabled		Base Memory		: 640 K					
		Extended Memory		: 31744 K					
		Other Memory		: 384 K					
Video : EGA/VGA									
Halt On : All Errors		Total Memory		: 32768 K					
Esc : Quit		↑↓←→ : Select Item			PU/PD/+/- : Modify				
F1 : Help		(Shift) F2 : Change Color							

Date

The date format is <day>, <month>, <date>, <year>. Press <F3> to show the calendar.

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 1900 through 2099

Time

The time format is <hour> <minute> <second>. The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

Primary Master/Primary Slave/Secondary Master/Secondary Slave

The categories identify the types of 2 channels that have been installed in the computer. There are 45 predefined types and 4 user definable types are for Enhanced IDE BIOS. Type 1 to Type 45 are predefined. Type user is user-definable.

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", you will need to know the information listed below. Enter the information directly from the keyboard and press <Enter>. This information should be included in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is ESDI, the selection shall be "Type 1".

If the controller of HDD interface is SCSI, the selection shall be "None".

If you select Type "Auto", BIOS will Auto-Detect the HDD & CD-ROM Drive at the POST stage and showing the IDE for HDD & CD-ROM Drive.

TYPE	drive type
CYLS.	number of cylinders
HEADS	number of heads
PRECOMP	write precom
LANDZONE	landing zone
SECTORS	number of sectors
MODE	mode type

Drive A Type / Drive B Type

If a hard disk has not been installed Select NONE and press <Enter>.

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

None	No floppy drive installed
360K, 5.25 in	5-1/4 inch PC-type standard drive; 360 kilobyte capacity
1.2M, 5.25 in	5-1/4 inch AT-type high-density drive; 1.2 megabyte capacity
720K, 3.5 in	3-1/2 inch double-sided drive; 720 kilobyte capacity
1.44M, 3.5 in	3-1/2 inch double-sided drive; 1.44 megabyte capacity
2.88M, 3.5 in	3-1/2 inch double-sided drive; 2.88 megabyte capacity

Floppy 3 Mode Supported: disabled (Recommended)

A special kind of FDD used for NEC PC 98 screen computer

Video

The category selects the type of video adapter used for the primary system 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, SVGA or PGA monitor adapters.
CGA 40	Color Graphics Adapter, power up in 40 column mode
CGA 80	Color Graphics Adapter, power up in 80 column mode
MONO	Monochrome adapter, includes high resolution monochrome adapters

Error Halt

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

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

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

Base Memory

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

Extended Memory

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

Other Memory

This refers to the memory located in the 640K to 1024K address space. This is memory that can be used for different applications. DOS uses this area to load device drivers in an effort to keep as much base memory free for application programs. The BIOS is the most frequent user of this RAM area since this is where it shadows RAM.

4.3 BIOS Features Setup

This section allows you to configure your system for basic operation. You have the opportunity to select the system default speed, boot-up sequence, keyboard operation, shadowing and security.

ROM PCI/ISA BIOS (2A69JI3C)		
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
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	
Boot Up System Speed	: High	
Gate A20 option	: Fast	
Typematic Rate Setting	: Disabled	
Typematic Rate (Chars/Sec)	: 6	
Typematic Delay (Msec)	: 250	
Security Option	: Setup	
PCI/VGA palette Snoop	: Disabled	
OS Select For DRAM > 64MB	: Non-OS2	
		Esc : Quit ↑↓→← : Select Item
		F1 : Help PU/PD/+/- : Modify
		F5 : Old Values (Shift)F2 : Change Color
		F7 : Load Setup Defaults

Virus Warning

When this item is enabled, the Award BIOS will monitor the boot sector and partition table of the hard disk drive for any attempt at modification. If an attempt is made, the BIOS will halt the system and the following error message will appear. Afterwards, if necessary, you will be able to run an anti-virus program to locate and remove the problem before any damage is done.

<p>! WARNING ! Disk boot sector is to be modified Type "Y" to accept write or "N" to abort write Award Software, Inc.</p>

Default: Disabled

Enabled	Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.
Disabled	No warning message will appear when anything attempts to access the boot sector or hard disk partition table.

NOTE: Many disk diagnostic 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 first disable Virus Protection beforehand.

CPU Internal Cache/ External Cache

These two categories speed up memory access. However, it depends on CPU/chipset design. **The default value is enable.**

Enabled	Enable cache
Disabled	Disable cache

Quick Power On Self Test

This category speeds up Power On Self Test (POST) after you power up the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

Default: Enabled

Enabled	Enable quick POST
Disabled	Normal POST

Boot Sequence

This category determines which drive to search first for the disk operating system (i.e., DOS).

Default: A, C, SCSI.

A,C,SCSI	System will first search for floppy disk drive then IDE0 master hard disk drive and then SCSI disk drive.
C,A,SCSI	System will first search for IDE0 master hard disk drive, then floppy disk drive and then SCSI disk driver.
C, CDROM, A	System will first search for IDE0 master hard disk drive, then CDROM drive, and then floppy disk drive.
CDROM, C, A	System will first search for CDROM drive, then IDE0 master hard disk drive and then floppy disk drive.
D,A,SCSI	System will first search for IDE0 slave hard disk drive, then floppy disk drive and then SCSI disk drive.
E,A,SCSI	System will first search for IDE1 master hard disk drive, then floppy disk drive and then SCSI disk drive.
F,A,SCSI	System will first search for IDE1 slave hard disk drive, then floppy disk drive and then SCSI disk drive.
SCSI,A,C	System will first search for SCSI disk drive, then floppy disk drive and then IDE0 master disk drive.
SCSI,C,A	System will first search for SCSI disk drive, then IDE0 master hard disk drive and then floppy disk drive.
C only	System will only search for IDE0 master hard disk drive.
LS/ZIP,C	System will first search for LS-120 or ZIP drive, then IDE0 master hard disk drive.

Swap Floppy Seek

This item allows you to determine whether enable the swap floppy drive or not.

The choice: Enabled/Disabled.

Default: 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.

Default: Enabled

Enabled	BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS can not 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

This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on. **Default: On**

On	Keypad is number keys
Off	Keypad is arrow keys

Boot Up System Speed

Selects the default system speed -- the normal operating speed at power up.

Default: High

High	Set the speed to high
Low	Set the speed to low

Gate A20 Option

This entry allows you to select how the gate A20 is handled. The gate A20 is a device used to address memory above 1 Mbytes. Initially, the gate A20 was handled via a pin on the keyboard. Today, while keyboards still provide this support, it is more common, and much faster, for the system chipset to provide support for gate A20.

Default: FAST

Normal	Keyboard
Fast	Chipset

Typematic Rate Setting

This determines if the typematic rate is to be used. When disabled, continually holding down a key on your keyboard will generate only one instance. In other words, the BIOS will only report that the key is down. When the typematic rate is enabled, the BIOS will report as before, but it will then wait a moment, and, if the key is still down, it will begin the report that the key has been depressed repeatedly. For example, you would use such a feature to accelerate cursor movements with the arrow keys.

Default: disabled

Enabled	Enable typematic rate
Disabled	Disable typematic rate

Typematic Rate (Chars/Sec)

When the typematic rate is enabled, this selection allows you select the rate at which the keys are accelerated. **Default: 6**

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)

When the typematic rate is enabled, this selection allows you to select the delay between when the key was first depressed and when the acceleration begins. **Default: 250**

250	250 msec
500	500 msec
750	750 msec
1000	1000 msec

Security Option

This category allows you to limit access to the system and Setup, or just to Setup.

Default: 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	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

Note: To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

PCI / VGA Palette Snoop

It determines whether the MPEG ISA/VESA VGA Cards can work with PCI/VGA or not.

Default: disabled

Enabled	When PCI/VGA working with MPEG ISA/VESA VGA Card.
Disabled	When PCI/VGA not working with MPEG ISA/VESA VGA Card.

OS Select for DRAM >64MB

This item allows you to access the memory that over 64MB in OS/2.

Default: Non-OS2

Video BIOS Shadow

Determines whether video BIOS will be copied to RAM. However, it is optional depending on chipset design. Video Shadow will increase the video speed.

Default: Enabled

Enabled	Video shadow is enabled
Disabled	Video shadow is disabled

C8000-CBFFF DC000-DFFFF

These categories determine whether option ROMs will be copied to RAM. An example of such option ROM would be support of on-board SCSI.

Default: disabled

Enabled	Optional shadow is enabled
Disabled	Optional shadow is disabled

4.4 Chipset Features Setup

ROM PCI/ISA BIOS (2A69J13C) CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.		
Auto Configuration	: Enabled	SDRAM CAS latency Time: 3
DRAM Speed Selection	: 50 ns	
MA Wait State	: Slow	
EDO RAS# To CAS# Delay	: 3	
EDO RAS# Precharge Time	: 3	
EDO DRAM Read Burst	: x222	
EDO DRAM Write Burst	: x222	
DRAM Data Integrity Mode	: Non-ECC	
CPU-TO-PCI IDE Posting	: Enabled	
System BIOS Cacheable	: Enabled	
Video BIOS Cacheable	: Disabled	
Video RAM Cacheable	: Disabled	
8 bit I/O Recovery Time	: 1	
16 bit I/O Recovery Time	: 1	
Memory Hole At 15M-16M	: Disabled	
Passive Release	: Enabled	
(Delayed Transaction)	: Disabled	
AGP Aperture Size(MB)	: 64	
SDRAM (RAS-to-CAS) Delay	: Slow	
SDRAM RAS Precharge Time	: Slow	
		Esc : Quit ↑↓←→ : Select Item
		F1 : Help PU/PD/+/- : Modify
		F5 : Old Values (Shift) F2 : Change Color
		F7 : Load Setup Defaults

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.

DRAM Settings

The first chipset settings deal with CPU access to dynamic random access memory (DRAM). The default timings have been carefully chosen and should only be altered if data is being lost. Such a scenario might well occur if your system had mixed speed DRAM chips installed so that greater delays may be required to preserve the integrity of the data held in the slower memory chips.

Auto Configuration

Pre-defined values for DRAM, cache, timing according to CPU type & system clock.

The Choice: Enabled, Disabled.

Note: When this item is enabled, the pre-defined items will become SHOW- ONLY.

DRAM Speed Selection

The DRAM timing is controlled by the DRAM Timing Registers. The timings programmed into this register are dependent on the system design. Slower rates may be required in certain system designs to support loose layouts or slower memory.

50ns	DRAM Timing Type.
60ns	DRAM Timing Type.

Ma Wait State: Slow/ Fast

EDO RAS# TO CAS# DELAY:

When DRAM is refreshed, both rows and columns are addressed separately. This setup item allow

You to determine the timing of the transition from Row Address Strobe (RAS) to Column Address Strobe (CAS).

3	Three CPU clock delay.
2	Two CPU clock delay.

3 CPU clocks is the default.

EDO RAS# Precharge Time

DRAM must continually be refreshed or it will lose its data. Normally, DRAM is refreshed entirely as the result of a single request. This option allows you to determine the number of CPU clocks allocated for the **Row Address Strobe** to accumulate its charge before the DRAM is refreshed. If insufficient time is allowed, refresh may be incomplete and data lost.

3	Three clocks.
4	Four clocks.

Four clocks is the default.

EDO DRAM Read /Write BURST

This sets the timing for burst mode reads/write from EDO DRAM. Burst read and write requests are generated by the CPU in four separate parts. The first part provides the location within the DRAM where the read or write is to take place while the remaining three parts provide the actual data. The lower the timing numbers, the faster the system will address memory.

x222	Read/Write DRAM timings are 2-2-2
x333	Read/Write DRAM timings are 3-3-3

x222/x333 timings is the default.

DRAM Data Integrity Mode:

This item allows you to select between two methods of DRAM error checking, ECC or Non-ECC (default).

CPU-TO-PCI IDE Posting

This item allows you to select the cycles are treated as normal I/O write transaction (default) or not.

AGP Aperture Size (MB)

The APBASE is a standard PCI Base Address register that is used to request the size of the Graphics Aperture. The standard PCI configuration mechanism defines the base address configuration register in the way that only a fixed amount of space can be requested (dependent on which bits are hardwired to 0 or behave as hardwired to 0.) To allow for flexibility, an additional register called APSIZE is used as a “back-end” register to control which bits of the APBASE will behave as hardwired to 0.

Cache Features

System BIOS Cacheable

When enabled, accesses to the system BIOS ROM addressed at F0000H-FFFFFH are cached, provided that the cache controller is enabled.

Enabled	BIOS access cached
Disabled	BIOS access not cached

Disabled is the default.

Video BIOS Cacheable

As with caching the System BIOS above, enabling the Video BIOS cache will cause access to video BIOS addressed at C0000H to C7FFFH to be cached, if the cache controller is also enabled

Enabled	Video BIOS access cached
Disabled	Video BIOS access not cached

Disabled is the default.

Video RAM Cacheable

As with caching the Video BIOS above, enabling the Video RAM cache will cause access to video memory addressed at A0000H to BFFFFH to be cached, if the cache controller is also enabled

Enabled	Video RAM access cached
Disabled	Video RAM access not cached

PCI and IDE Configuration

8Bit I/O Recovery Time

The recovery time is the length of time, measured in CPU clocks, which the system will delay after the completion of an input/output request. This delay takes place because the CPU is operating so much faster than the input/output bus that the CPU must be delayed to allow for the completion of the I/O.

This item allows you to determine the recovery time allowed for 8 bit I/O. Choices are from NA, 1 to 8 CPU clocks.

1 clock is the default.

16Bit I/O Recovery Time

This item allows you to determine the recovery time allowed for 16 bit I/O. Choices are from NA, 1 to 4 CPU clocks.

1 clock is the default.

Memory Hole At 15M-16M

In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory space below 16 MB.

Enabled	Memory hole supported.
Disabled	Memory hole not supported.

Disabled is the default.

Passive Release

Delayed Transaction

This item allows you to determine the read cycle from PCI to DRAM is immediately retried due to any pending CPU to PCI cycle.

SDRAM RAS-to-CAS Delay : Slow/Fast

When SDRAM is refreshed, both rows and columns are addressed separately. This setup item allow you to determine the timing of the transition from Row Address Strobe (RAS) to Column Address Strobe (CAS) is Slow or Fast.

SDRAM RAS Precharge Time : Slow/Fast

SDRAM must continually be refreshed or it will lose its data. Normally, SDRAM is refreshed entirely as the result of a single request. This option allows you to determine the number of CPU clocks allocated for the Row Address Strobe to accumulate its charge before the DRAM is refreshed. If insufficient time is allowed, refresh may be incomplete and data lost.

SDRAM CAS Latency Time: 3/2

When SDRAM is refreshed, both rows and columns are addressed separately. This setup item allow

You to determine the timing of the transition from Row Address Strobe (RAS) to Column Address Strobe (CAS)

3	Three CPU clock delay.
2	Two CPU clock delay.

3 CPU clocks is the default.

4.5 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.

ROM PCI/ISA BIOS (2A69J13C)			
POWER MANAGEMENT SETUP			
AWARD SOFTWARE, INC.			
Power Management	:User Define	**Reload Global Timer Events ** IRQ [3-7,9-15], NMI : Enabled Primary IDE 0 : Disabled Primary IDE 1 : Disabled Secondary IDE 0 : Disabled Secondary IDE 1 : Disabled Floppy Disk : Disabled Serial Port : Enabled Parallel Port : Disabled	
PM Control by APM	:Yes		
Video Off Method	:V/H SYNC+Blank		
Video off After	:Standby		
MODEM Use IRQ	:3		
Doze Mode	:Disable		
Standby Mode	:Disable		
Suspend Mode	:Disable		
HDD Power Down	:Disable		
Throttle Duty Cycle	:62.5%		
VGA Active Monitor	:Enabled		
Soft-off by PWR-BTTN	:Instant-off.		
Resume by Ring	:Disabled		
IRQ 8 Break Suspend	:Disabled		
			Esc : Quit ↑↓→← : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift)F2 :Change Color F7 : Load Setup Defaults

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

1. Doze Mode
2. Standby Mode
3. Suspend Mode
4. HDD Power Down

There are four selections for Power Management, three of which have fixed mode settings.

Disable	No power management. Disables all four modes
Min. Power Saving	Minimum power management. Doze Mode = 1 hr. Standby Mode = 1 hr., Suspend Mode = 1 hr., and HDD Power Down = 15 min.
Max. Power Saving	Maximum power management -- ONLY AVAILABLE FOR SL CPU. Doze Mode = 1 min., Standby Mode = 1 min., Suspend Mode = 1 min., and HDD Power Down = 1 min.
User Defined (default)	Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

PM Control APM

When enabled, an Advanced Power Management device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock.

If the Max. Power Saving is not enabled, this will be preset to *No*.

Video off Method

This determines the manner in which the monitor is blanked.

V/H SYNC+Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
Blank Screen	This option only writes blanks to the video buffer.
DPMS	Initial display power management signaling.

Video off After

This determines the monitor is blanked after Done mode/standby mode /suspend mode /HDD power down or NA

PM Timers

The following four modes are Green PC power saving functions which are only user configurable when *User Defined* Power Management has been selected. See above for available selections.

Doze Mode

When enabled and after the set time of system inactivity, the CPU clock will run at slower speed while all other devices still operate at full speed.

Standby Mode

When enabled and after the set time of system inactivity, the fixed disk drive and the video would be shut off while all other devices still operate at full speed.

Suspend Mode

When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

HDD Power DOWN

When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

Soft-off by PWR-BTTN

Instant off	This option will cause the system instant off by pressing power bottom
Delay 4 Sec.	This option will cause the system delay 4 Sec. Power off By pressing Power bottom continuous.

Reload B\Global Timer Events

IRQ [3-7,9-15],NMI

Primary IDE0

Primary IDE1

Secondary IDE0

Secondary IDE1

Floppy Disk

Serial Port

Parallel Port

Those option determine the Timer which the power manage use the it to counting the Time to start power saving function

4.6 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.

ROM PCI/ISA BIOS (2A69J13C)			
PNP/PCI CONFIGURATION			
AWARD SOFTWARE, INC.			
PNP OS Installed	:No	PCI IDE IRQ Map To	:PCI-AUTO
Resources Controlled by	:Manual	Primary IDE Int#	:A
Reset Configuration Data	:Disabled	Secondary IDE Int#	:B
IRQ-3 Assigned to	: Legacy ISA	Used MEM base addr	:N/A
IRQ-4 Assigned to	: Legacy ISA		
IRQ-5 Assigned to	: PCI/ISA PnP		
IRQ-7 Assigned to	: PCI/ISA PnP		
IRQ-9 Assigned to	: PCI/ISA PnP		
IRQ-10 Assigned to	: PCI/ISA PnP		
IRQ-11 Assigned to	: PCI/ISA PnP		
IRQ-12 Assigned to	: PCI/ISA PnP		
IRQ-14 Assigned to	: PCI/ISA PnP		
IRQ-15 Assigned to	: PCI/ISA PnP		
DMA-0 Assigned to	: PCI/ISA PnP		
DMA-1 Assigned to	: PCI/ISA PnP		
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		
		Esc : Quit	↑↓→← : Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values (Shift)F2	:Change Color
		F7 : Load Setup Defaults	

Resource Controlled by

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows® 95.

Choices are *Auto* and **Manual (default)**.

Reset Configuration Data

This item allows you to determine reset the configuration data or not.

Choices are *Enabled* and **Disabled (default)**.

IRQ3/4/5/7/9/10/11/12/14/15, DMA0/1/3/5/6/7 assigned to

This item allows you to determine the IRQ / DMA assigned to the ISA bus and is not available to any PCI slot.

Choices are *Legacy ISA* and **PCI/ISA PnP**.

PCI IRQ Actived by

This sets the method by which the PCI bus recognizes that an IRQ service is being requested by a device. Under all circumstances, you should retain the default configuration unless advised otherwise by your system manufacturer.

Choices are **Level (default)** and *Edge*.

PCI IDE IRQ Map to

This allows you to configure your system to the type of IDE disk controller in use. By default, Setup assumes that your controller is an ISA (Industry Standard Architecture) device rather than a PCI controller. The more apparent difference is the type of slot being used.

If you have equipped your system with a PCI controller, changing this allows you to specify which slot has the controller and which PCI interrupt (A, B,C or D) is associated with the connected hard drives.

Remember that this setting refers to the hard disk drive itself, rather than individual partitions. Since each IDE controller supports two separate hard drives, you can select the INT# for each. Again, you will note that the primary has a lower interrupt than the secondary as described in *lot x Using INT#* above.

Selecting "*PCI Auto*" allows the system to automatically determine how your IDE disk system is configured.

Award's ROM BIOS provides a built-in Setup program which allows user modify the system configuration and hardware parameters. The modified data will be stored in a battery-backed CMOS RAM, so data will be retained even the system power is off. In general, you are not required to change any data. Unless there is a conflict or you re-configuring system, this will need to enter new setup information. Following section describes how to use this program and propriate entries.

The "LOAD SETUP DEFAULT" is recommended in your first time setup this system or you change the system's configuration. You will need "LOAD SETUP DEFAULT" first and re-configure your system. This will be described in later chapter.

And, it is possible that battery failed which might cause data lose in CMOS RAM, then you need to re-enter the system's CMOS RAM and re-configure to get the suitable parameters.

4.7 Integrated Peripherals

ROM PCI/ISA BIOS (2A69J13C)	
INTEGRATED PERIPHERALS	
AWARD SOFTWARE, INC.	
IDE HDD Block Mode	: Enabled
IDE Primary Master PIO	: Auto
IDE Primary Slave PIO	: Auto
IDE Secondary Master PIO	: Auto
IDE Secondary Slave PIO	: Auto
IDE Primary Master UDMA	: Auto
IDE Primary Slave UDMA	: Auto
IDE Secondary Master UDMA	: Auto
IDE Secondary Slave UDMA	: Auto
On-Chip Primary PCI IDE	: Enabled
On-Chip Secondary PCI IDE	: Enabled
USB Keyboard support	: Disabled
Onboard FDC Controller	: Enabled
Onboard Serial Port 1	: 3F8/IRQ4
Onboard Serial Port 2	: 2F8/IRQ3
Onboard Parallel Port	: 378/IRQ7
Parallel Port Mode	: ECP/EPP1,9
ECP Mode Use DMA	: 3
Esc : Quit ↑↓→← : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift)F2 : Change Color F7 : Load Setup Defaults	

IDE HDD Block Mode

This allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive (HDD).

Enabled	IDE controller uses block mode.
Disabled	IDE controller uses standard mode.

Enabled is the default.

IDE PIO

IDE hard drive controllers can support up to two separate hard drives. These drives have a master/slave relationship which are determined by the cabling configuration used to attach them to the controller. Your system supports two IDE controllers--a primary and a secondary--so you have to ability to install up to four separate hard disks.

PIO means Programmed Input/ Output. Rather than have the BIOS issue a series of commands to effect a transfer to or from the disk drive, PIO allows the BIOS to tell the controller what it wants and then let the controller and the CPU perform the complete task by themselves. This simpler and more efficient (and faster).

Your system supports five modes, numbered from 0 (default) to 4, which primarily differ in timing. When *Auto* is selected, the BIOS will select the best available mode. This is true for the next four setup items:

-
1. IDE Primary Master PIO: Auto
 2. IDE Primary Slave PIO: Auto
 3. IDE Secondary Master PIO: Auto
 4. IDE Secondary Slave PIO: Auto
 5. IDE Primary Master Ultra DMA: Auto
 6. IDE Primary Slave Ultra DMA: Auto
 7. IDE Secondary Master Ultra DMA: Auto
 8. IDE Secondary Slave Ultra DMA: Auto

On-Chip Primary PCI IDE

As stated above, your system includes two built-in IDE controllers, both of which operate on the PCI bus. This setup item allows you either to enable or disable the primary controller. You might choose to disable the controller if you were to add a higher performance or specialized controller.

Enabled	Primary HDD controller used -- Default
Disabled	Primary HDD controller not used.

On-Chip Secondary PCI IDE

As above for the Primary controller, this setup item you either to enable or disable the secondary controller. You might choose to disable the controller if you were to add a higher performance or specialized controller.

Enabled	Primary HDD controller used
Disabled	Primary HDD controller not used.

Enabled is the default.

USB Keyboard support

Enabled	USB Keyboard used
Disabled	USB Keyboard not used.

Onboard FDC Controller

Enabled	Onboard FDC controller used
Disabled	Onboard FDC controller not used.

Onboard Serial Port 1/2

3F8/IRQ4	Onboard Serial Port use address 3F8 and IRQ4
2F8/IRQ3	Onboard Serial Port use address 2F8 and IRQ3
3E8/IRQ4	Onboard Serial Port use address 3E8 and IRQ4
2E8/IRQ3	Onboard Serial Port use address 2E8 and IRQ3
AUTO	Onboard Serial Port address and IRQ determine by BIOS
Disable	Onboard Serial Port not used.

Onboard Parallel Port

378/IRQ7	Onboard Parallel Port use address 378 and IRQ7
278/IRQ5	Onboard Parallel Port use address 278 and IRQ5
3BC/IRQ7	Onboard Parallel Port use address 3BC and IRQ7
Disable	Onboard Parallel Port not use

Parallel Port Mode

SPP	Standard Parallel Port
PS/2	PS/2 Mode
EPP1.7	EPP1.7 Mode
EPP1.9	EPP1.9 Mode
ECP	ECP Mode use DMA 1 or 3
ECPEPP1.7	ECP & EPP 1.7 Mode use DMA 1 or 3
ECPEPP1.9	ECP & EPP 1.9 Mode use DMA 1 or 3

4.8 LOAD SETUP DEFAULTS

The chipset defaults are settings which provide for maximum system performance. While Award has designed the custom BIOS to maximize performance, the manufacturer has the right to change these defaults to meet their needs.

ROM PCI/ISA BIOS (2A69J13C) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP	SUPERVISOR PASSWORD
BIOS FEATURES SETUP	USER PASSWORD
CHIPSET FEATURES SETUP	IDE HDD AUTO DETECTION
POWER MANAGEMENT SETUP	SAVING
PNP/PCI CONFIGURATION	Enter Password :
INTEGRATED PERIPHERALS	
LOAD SETUP DEFAULTS	
Esc : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard disk Type.....	

4.9 Supervisor/User Password Setting

ROM PCI/ISA BIOS (2A69JI39) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP	SUPERVISOR PASSWORD
BIOS FEATURES SETUP	USER PASSWORD
CHIPSET FEATURES SETUP	IDE HDD AUTO DETECTION
POWER MANAGEMENT SETUP	LOAD SETUP DEFAULTS
PNP/PCI CONFIGURATION	Enter Password :
INTEGRATED PERIPHERALS	SAVING
Esc : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Time, Date, Hard disk Type.....	

You can set either supervisor or user password, or both of them. The differences between are:
supervisor password : can enter and change the options of the setup menus.

user password : just can 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.

4.10 IDE HDD AUTO DETECTION

Automatically detect and configure hard disk parameters. The Award BIOS includes this ability in the event you are uncertain of your hard disk parameters.

4.11 SAVE & EXIT SETUP

Save CMOS value changes to CMOS and exit setup.

4.12 EXIT WITHOUT SAVING

Abandon all CMOS value changes and exit setup.