

PENTIUM<sup>®</sup> II **P6I440LX**  
**/ATX**  
**Legend - I**

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# Declaration of conformity



(EC conformity marking)

**QUANTUM DESIGNS(HK) LTD.**  
**5/F Somerset House, TaiKoo Place 979 Kings Road,**  
**Quarry Bay, Hong Kong**

declare that the product

**Pentium® II Motherboard**  
**Legend -I**

is in conformity with  
(reference to the specification under which conformity is declared in accordance with  
89/336 EEC-EMC Directive)

- |                                     |            |   |
|-------------------------------------|------------|---|
| <input checked="" type="checkbox"/> | EN 55022   | Limits and methods of measurements of radio disturbance characteristics of information technology equipment |
| <input checked="" type="checkbox"/> | EN 50081-1 | Generic emission standard part 1:<br>Residual, commercial and light industry                                |
| <input checked="" type="checkbox"/> | EN 50082-1 | Genetic immunity standard Part 1:<br>Residual, commercial and light industry                                |

European Representative:

|                            |                                    |
|----------------------------|------------------------------------|
| QDI COMPUTER ( UK ) LTD    | QDI COMPUTER ( SCANDINAVIA ) A/S   |
| QDI SYSTEM HANDEL GMBH     | QDI COMPUTER ( NETHERLANDS ) B. V. |
| QDI COMPUTER (FRANCE) SARL | QDI COMPUTER HANDELS GMBH          |
| QDI COMPUTER (ESPANA) S.A. | QDI COMPUTER (SWEDEN) AB           |

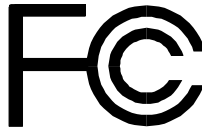
Signature :

Place / Date : HONG KONG /1997

Printed Name : Anders Cheung

Position/ Title : President

# Declaration of conformity



Trade Name: QDI Computer ( U. S . A. ) Inc.  
Model Name: P6440LX/ATX Legend -I  
Responsible Party: QDI Computer ( U. S. A.) Inc.  
Address: 41456 Christy Street  
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Equipment Classification: FCC Class B Subassembly  
Type of Product: PCI Pentium® II Motherboard  
**Manufacturer: Quantum Designs (HK) Inc.**  
Address: 5/F, Somerset House, TaiKoo Place  
979 Kings Road, Quarry Bay, HONG

KONG

Supplementary Information:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Signature :

Date : 1997

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# SpeedEasy Quick Setup

## Procedures :

1. Insert the Pentium® II correctly.
2. Plug in other configurations and restore the system.
3. Press <Del> key and switch on power to the system to enter BIOS Setup.
4. Enter “SpeedEasy CPU Setup” menu to set up CPU speed.

**Note: If you do not set CPU speed, your system will run at the default setting (233MHz for Pentium® II).**

5. Save and exit BIOS Setup, your system can now boot successfully as you expected.



## *SpeedEasy Type Introduction*

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Select <SpeedEasy CPU Setup> item from the main menu and enter the sub-menu:

| <b>ROM PCI/ISA BIOS (2A69JQ19)</b><br><b>SpeedEasy CPU SETUP</b><br><b>QDI Innovative Technology</b> |   |
|--|---|
| CPU Model :<br>Pentium(R)II<br>Speed Mode : SpeedEasy<br>CPU Speed : 233MHz                          | Warning: Be sure your selection<br>is right .CPU over speed will<br>be dangerous!     |
|  | ESC:Quit    ↑ ↓ → ←-Select Item<br>F1: Help    PU/PD/+/-: Modify<br>(Shift) F2: Color |

*Figure - 1 SpeedEasy CPU Setup Menu*

BIOS will provide you with a set of basic values for your Pentium®II selection instead of the jumper setting. You can manually select Pentium®II speed on “SpeedEasy CPU Setup” menu screen.

**Warning:**  
**Do not set CPU frequency higher than its working frequency. If you do, we will not be responsible for any damage caused.**





## Schnell-Installation durch SpeedEasy

### Vorgehensweise der Installation:

1. Legen sie die Pentium® II im Slot 1 mit Hilfe der mitgelieferten Halterung.
2. Vervollständigen Sie das System mit den weiteren erforderlichen Computerkomponenten
3. Drücken Sie die Taste < Entf > und schalten Sie das System an um das BIOS-setup zu gelangen.
4. Steigen Sie in das Menü "SpeedEasy CPU Setup" ein, um die Geschwindigkeit einzustellen.

**ACHTUNG: Falls Sie die Taktfrequenz der CPU nicht setzen, arbeitet Ihr System mit den Standardwerten für die CPU. Bei der Pentium® II sind das 233MHz).**

5. Speichern Sie die Einstellungen und verlassen Sie das BIOS, um die zuvor eingestellte Taktfrequenz zu aktivieren.



## **SpeedEasy CPU Installationsmenü**

Wählen Sie < SpeedEasy CPU Setting> aus dem Hauptmenü und öffnen Sie das untergeordnete Menü

| <b>ROM PCI/ISA BIOS (2A69JQ19)</b>                                       |  |
|--|--|
| <b>SpeedEasy CPU SETUP</b>   |  |
| <b>QDI Innovative Technology</b>   |  |
| CPU Model : Pentium(R)II<br>Speed Mode : SpeedEasy<br>CPU Speed : 233MHz | Warning: Be sure your selection is right .CPU over speed will be dangerous!          |
|  | ESC:Quit    ↑ ↓ → ←Select Item<br>F1: Help    PU/PD/+/-: Modify<br>(Shift) F2: Color |

*Abb.1 SpeedEasy CPU Installationsmenü*

Das BIOS stellt Ihnen eine Reihe von Grundeinstellungen für Ihren Pentium® II zur Verfügung, anstelle von "jumper setting". Sie können manuell die Geschwindigkeit des Pentium® II innerhalb des "SpeedEasy CPU Installationsmenüs" einstellen

### **Warnung:**

**Bitte Setzen Sie die Taktfrequenz der CPU nicht höher als die tatsächliche freigegebene Taktfrequenz, ansonsten Kann QDI für rechtliche Ansprüche nicht herangezogen werden.**

## **SpeedEasy Instalación rápida**



## Procedimiento:

1. Introduzca correctamente el Pentium®II.
2. Finalize el proceso de ensamblaje de su equipo.
3. Presione la tecla <Supr> y encienda el sistema, para entrar en BIOS.
4. Entre al menú “SpeedEasy CPU setup” para establecer la velocidad de su CPU.

Nota: Si no establece la velocidad del CPU, su sistema funcionará a la velocidad mínima por defecto (233MHz para la Pentium®II)

5. Salve y salga de BIOS, luego su sistema arrancará a la velocidad por Ud. seleccionada.



## **Menu del SpeedEasy CPU**

Seleccione el ítem <SpeedEasy CPU setup> desde el menú principal, y entre en el submenú:

| <b>ROM PCI/ISA BIOS (2A69JQ19)</b><br><b>SpeedEasy CPU SETUP</b><br><b>QDI Innovative Technology</b> |   |
|--|---|
| CPU Model :<br>Pentium(R)II<br>Speed Mode : SpeedEasy<br>CPU Speed : 233MHz                          | Warning: Be sure your selection<br>is right .CPU over speed will<br>be dangerous!     |
|  | ESC:Quit    ↑ ↓ → ←-Select Item<br>F1: Help    PU/PD/+/-: Modify<br>(Shift) F2: Color |

*Figura-1 Menu del CPU SpeedEasy*

BIOS le proporcionará unos valores básicos para la elección de su Pentium®II, en vez de tener que configurar jumpers. Ud. puede seleccionar manualmente la velocidad de Pentium®II en el menú “SpeedEasy CPU Setup”.

### **Aviso**

**NO es recomendable seleccionar una frecuencia de trabajo superior a la cual esta diseñada su CPU. De otra manera, no seremos responsables de los daños que esto pudiera ocasionar.**



# Facilité de vitesse Initialisation

## Procédure:

1. Insérez le Pentium® II correctement.
2. Connectez les autres configurations et restaurez le système.
3. Appuyez sur la touche <Del> et mettez le système sous tension pour entrer dans l'initialisation BIOS.
4. Entrez le menu "SpeedEasy CPU Setup" (=initialisation de la facilité de vitesse dans l'unité centrale) pour déterminer la vitesse de l'unité centrale.

**Note: Si vous ne déterminez pas la vitesse de votre unité centrale, votre système fonctionnera par défaut (233MHz pour Pentium ® II).**

5. Sauvegardez et sortez de la position BIOS. Le système pourra alors démarrer avec le succès auquel vous vous attendez.

Menu d'initialisation de "SpeedEasy" dans l'unité centrale.  
Sélectionnez la rubrique <SpeedEasy CPU Setup> dans le menu principal et entrez le sous-menu:

| <b>ROM PCI/ISA BIOS (2A69JQ19)</b><br><b>SpeedEasy CPU SETUP</b><br><b>QDI Innovative Technology</b> |   |
|--|---|
| CPU Model :<br>Pentium(R)II<br>Speed Mode : SpeedEasy<br>CPU Speed : 233MHz                          | Warning: Be sure your selection<br>is right .CPU over speed will<br>be dangerous!     |
|  | ESC:Quit    ↑ ↓ → ←-Select Item<br>F1: Help    PU/PD/+/-: Modify<br>(Shift) F2: Color |

*Figure-1 Menu d'initialisation de "SpeedEasy" dans l'unité centrale*

BIOS fournira un jeu de valeurs de base pour votre sélection de Pentium ©II au lieu de positions cavaliers. Vous pouvez sélectionner manuellement la vitesse de Pentium© II dans l'affichage du menu "SpeedEasy CPU Setup".

**Avertissement:**

**Ne vous laissez pas aller à installer une fréquence à l'unité centrale supérieure à sa fréquence de travail. Sinon nous déclinons toutes responsabilités en ce qui concerne les dégâts qui en résulteraient.**



# SETUP DELLA SCHEDA SPEEDEASY

## Procedura di installazione:

1. Inserite il microprocessore Pentium®II come da istruzioni.
2. Modificate la configurazione del computer e ripristinate il sistema.
3. Premete il tasto <Del> e accendete il computer per entrare nel setup BIOS.
4. Entrate nel menu “SpeedEasy CPU\* Setup” per regolare la velocità del microprocessore. <sup>1</sup>

**Nota: se non regolate la velocità del microprocessore, il sistema funzionerà con le regolazioni standard (233MHz per il Pentium® II).**

5. Salvate e uscite dal Setup BIOS, e fate ripartire il computer.



\*CPU= microprocessore

## Menu del Setup del Microprocessore SpeedEasy

Selezionare <SpeedEasy CPU Setup> dal menu principale ed entrare nel seguente sottomenu:

| ROM PCI/ISA BIOS (2A69JQ19)<br>SpeedEasy CPU SETUP<br>QDI Innovative Technology |                |   |
|---|----------------|---|
| CPU Model   | : Pentium(R)II | Warning: Be sure your selection<br>is right .CPU over speed will<br>be dangerous! |
| Speed Mode  | : SpeedEasy    |   |
| CPU Speed   | : 233MHz       |   |
| ESC:Quit  |                | ↑ ↓ → ←Select<br>Item   |
| F1: Help  |                | PU/PD/+/-: Modify<br>(Shift) F2: Color  |

*Figure -1 Menu del Setup del Microprocessore SpeedEasy*

Il sistema BIOS Vi fornirà una serie di valori base per la selezione del microprocessore Pentium® II al posto della regolazione jumper (dell'accoppiamento). Potete selezionare manualmente la velocità del Pentium® II sulla schermata "SpeedEasy CPU Setup".

**Avvertenza:**  
**non dovete regolare la frequenza del microprocessore più alta di quella predisposta, altrimenti la casa produttrice non si farà carico di eventuali danni al micorprocessore.**





# SpeedEasy ; ìËÛ°²×°Ö, ÄÏ

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1; ¢ÖÿË·µØ²äËë Pentium® II; £

2; ¢²äËëÆäËÛÄäÖÃ£-Ë»ááÖØÐÂ»Ö, ÏµÍ³; £

3; ¢ °´×; <Del>¼ü²¢;ª¶-ÏµÍ³µçÔ´£-½øËë BIOSÉè¶; ; £

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|   |   |
|---|---|
| ROM PCI/ISA BIOS (2A69JQ19)<br>SpeedEasy CPU SETUP<br>QDI Innovative Technology         |   |
| CPU Model : Pentium(R)II<br>Speed Mode : SpeedEasy<br>CPU Speed : 233MHz                | Warning: Be sure your selection<br>is right .CPU over speed will<br>be dangerous! |
| ESC:Quit    ↑ ↓ → ←Select<br>Item<br>F1: Help    PU/PD/+/-: Modify<br>(Shift) F2: Color |   |

Í1/4£-1 SpeedEasyÖÐÑë'ÀíÆ÷Éè¶'ÏÄ¿µ¥

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# SpeedEasy ; ìËÛ°²×°Ö, ÄÏ

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|   |   |
|---|---|
| ROM PCI/ISA BIOS (2A69JQ19)<br>SpeedEasy CPU SETUP<br>QDI Innovative Technology         |   |
| CPU Model : Pentium(R)II<br>Speed Mode : SpeedEasy<br>CPU Speed : 233MHz                | Warning: Be sure your selection<br>is right .CPU over speed will<br>be dangerous! |
| ESC:Quit    ↑ ↓ → ←Select<br>Item<br>F1: Help    PU/PD/+/-: Modify<br>(Shift) F2: Color |   |

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# Chapter 1

## Introduction

### Overview

P6I440LX/ATX Legend-I green mainboard provides a highly integrated solution for fully compatible, high performance PC/ATX platforms, and supports Pentium®II processors, flexible main memory size can be installed from 8MB up to 512MB SDRAM or 8MB up to 1GB EDO DIMM, so as to give full play to the advantages of Pentium®II processors. The mainboard offers a wide range of interface to support integrated on-board IDE and on-board I/O function.

The current green function is divided into three phases: Doze, Standby and Suspend.

### Key Features

- |                      |  |
|----------------------|--|
| <b>Pentium® II</b>   | <ul style="list-style-type: none"><li>- Supports Pentium®II processors at 233/266/300/333MHz</li><li>- Supports 60/66MHz bus speed</li><li>- Pentium®II core frequency = System Clock x2,x2.5, x3, x3.5, x4, x4.5, x5, x5.5</li><li>- On board switching voltage regulator with VID(Voltage ID), and Pentium®II core supply voltage can be selected from 1.3V to 3.5V automatically.</li></ul> |
| <b>Chipset</b>       | <ul style="list-style-type: none"><li>- Intel® 440LX (82443LX, 82371AB PIIX4)</li></ul>  |
| <b>System memory</b> | <ul style="list-style-type: none"><li>- Four 168 pin DIMM sockets</li><li>- For up to 512MB SDRAM memory or up to 1GB EDO memory.</li><li>- Supports memory EC(Error checking) and ECC (Error Checking and Correction) function.</li></ul>   |
| <b>On-board IDE</b>  | <ul style="list-style-type: none"><li>- Supports two PCI PIO and bus Master IDE ports.</li><li>- supports up to Mode 4 Timing</li></ul>  |

- Supports 2 Fast IDE interfaces for up to 4 IDE devices including IDE hard disks and CD ROMs
- Supports “Ultra DMA/33” Synchronous DMA mode transfers up to 33 Mbytes/sec.
- Integrated 8x32bit buffer for IDE PCI Burst Transfers.
- Green function**
  - Supports Advanced Configuration and Power Interface (ACPI) specification and OS Directed Power Management.
  - Supports three green modes: Doze, Standby and Suspend.
  - Power LED will blink when the system is in green status.
- On-board I/O**
  - Use NS Plug & play I/O chip PCXX307
  - One floppy port supports up to two 3.5” or 5.25” floppy drives 360K/720K/1.2M/1.44M/2.88M format.
  - Supports LS-120 floppy disk drive
  - All I/O port can be enabled/disabled by BIOS setup
  - Two high speed 16550 fast compatible UARTs (COM1/COM2/COM3/COM4 selectable) with 16-byte send/receive FIFOs and support MIDI mode.
  - One enabled parallel port at I/O address 378H/278H/3BCH with additional bi-direction I/O capability and multi-mode (SPP/EPP/ECP) (IEEE1284 compliant).
  - Provides protection circuit to prevent damage to the parallel port when a connected printer is powered up or operated at a higher voltage.
- Advanced Feature**
  - On board LM78 and LM75 support system monitoring(monitor system voltages, temperature, chassis intrusion and FAN speed) (Optional)

- Supports LDCM(LanDesk Client Manager) software (Optional)
- On board PS/2 mouse and PS/2 keyboard socket
- Two USB ports
- On board switching voltage regulator with VID (support1.3V to 3.5V)
- Provides Anti-Virus function
- Provides Infrared interface
- Supports Windows 95 Software Power-Down
- Supports External Modem Ring Power-On
- Supports Auto Fan off when system entering suspend mode
- Supports External Wake up on LAN function
- BIOS** - Licensed advanced AWARD BIOS, Supports Flash ROM BIOS, Plug and play ready. Built-in NCR<sup>®</sup>53C810 BIOS
- Supports IDE CD-ROM or SCSI bootup
- Expansion slots** - 3 x ISA slots and 4 x PCI slots
- 1 AGP Slot
- Board size** - 305 mm x 244mm

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# Chapter 2

## Connector Configuration

This section lists all connector pin assignment and port description on the main-board. The situations of the connectors and ports are illustrated in the following figures. Before inserting these connectors, please pay attention to the directions.

### Power/Sleep LED Connector (PWRLED)

| PIN NUMBER | FUNCTION    |
|------------|-------------|
| 1          | LED Anode   |
| 2          | NC          |
| 3          | LED Cathode |

The LED connected to “PWRLED” will blink when system in green status.

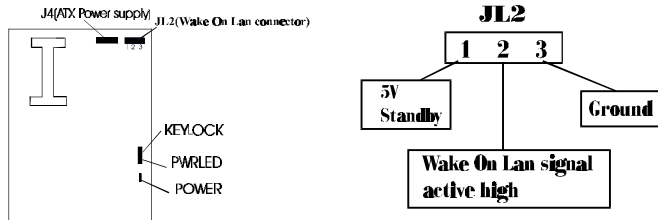
### Power Switch (POWER)

Connect ATX Power Supply connector to socket J4 first.

1. If you want to power up your system, you should turn on the mechanical switch of ATX power supply first, then push once the button connected to the two pin header (POWER).

2. If you want to power off your system, you need not turn off the mechanical switch of ATX power supply , just ***push once***\* again the button connected to the two pin header(POWER). The location of connector is shown as below figure:

### Wake On Lan Header (JL2)



## ***Connector Configuration***

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\*Note: If you change “soft-off by PWR-BTTN” from default “Instant-off” to “Delay 4 Secs”, you will have to press the power button for more than 4 seconds before the system power down. For details, please refer to Page 3-12.

### ***Hard Disk LED Connector(HD.LED)***

| PIN NUMBER | FUNCTION    |
|------------|-------------|
| 1          | LED ANODE   |
| 2          | LED CATHODE |

### ***Speaker connector(SPEAKER)***

| PIN NUMBER | FUNCTION |
|------------|----------|
| 1          | SPKDATA  |
| 2          | NC       |
| 3          | GND      |
| 4          | VCC      |

### ***Turbo LED Connector (TB. LED)***

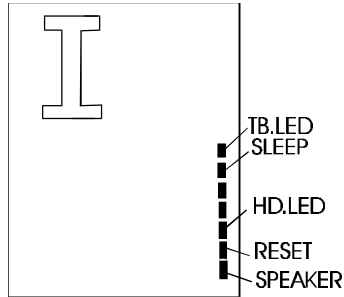
| PIN NUMBER | FUNCTION    |
|------------|-------------|
| 1          | LED ANODE   |
| 2          | LED CATHODE |

### ***Reset Switch (Reset)***

| SETTING    | FUNCTION         |
|------------|------------------|
| CLOSE ONCE | RESET THE SYSTEM |
| OPEN       | NORMAL           |

### ***Hardware Green Connector (SLEEP)***

| SETTING    | FUNCTION       |
|------------|----------------|
| CLOSE ONCE | HARDWARE GREEN |
| OPEN       | NORMAL         |



**Keylock Connector(KB-lock)**

| PIN NUMBER | FUNCTION       |
|------------|----------------|
| 1          | Controlled +5V |
| 2          | NC             |
| 3          | GND            |
| 4          | KEYLOCK        |
| 5          | GND            |

**Infrared Header(INFRARED)**

| PIN NUMBER | FUNCTION |
|------------|----------|
| 1          | VCC      |
| 2          | NC       |
| 3          | IRRX     |
| 4          | GND      |
| 5          | IRTX     |
| 6          | VCC      |

**Controlled Fan Connector(cpufan,bakfan)**

| PIN NUMBER | FUNCTION       |
|------------|----------------|
| 1          | Controlled-GND |
| 2          | +12V           |
| 3          | SENSE          |

Note: These two fans are set as “ON “ as default.

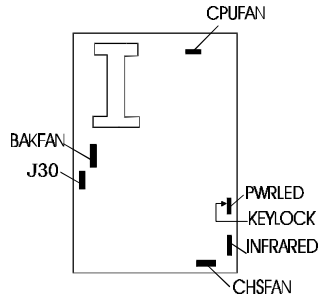
## ***Connector Configuration***

---

### ***Standard Fan Connector (CHSFAN)***

| PIN NUMBER | FUNCTION |
|------------|----------|
| 1          | GND      |
| 2          | +12V     |
| 3          | SENSE    |

***Chassis Security (J30):***  
Opened if chassis is closed.  
Closed if chassis is opened.



### ***I/O Port Description***

| CONNECTOR | FUNCTION            |
|-----------|---------------------|
| IDE1      | Primary IDE Port    |
| IDE2      | Secondary IDE Port  |
| FLOPPY    | Floppy Drive Port   |
| PRINTER   | Parallel Port       |
| UART1     | COM1/COM2/COM3/COM4 |
| UART2     | COM2/COM3/COM4/COM1 |
| USB1      | First USB Port      |
| USB2      | Second USB Port     |

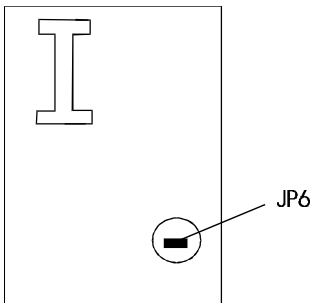
### ***Memory Configuration***

The P6I440LX/ATX Legend-I main board supports up to four 168PIN 3.3V un-buffered DIMM, provides a flexible size from 8MB up to 512MB SDRAM memory or from 8MB up to 1GB EDO memory. The following set of rules allows for optimum configurations.

Rules for populating a 440LX memory array:

- ✎ DIMM sockets can be populated in any order. However, to take advantage of potentially faster MA timing it is recommended to populate sockets in order.
- ✎ SDRAM and EDO DIMMs can be mixed within the memory array.
- ✎ The DRAM Timing register, which provides the DRAM speed grade control for the entire memory array, must be programmed to use the timings of the slowest DRAMs installed.
- ✎ Possible EDO DIMM memory size is 8MB, 16MB, 32MB, 64MB, 128MB, 256MB in each DIMM socket.
- ✎ Possible SDRAM memory size is 8MB, 16MB, 32MB, 64MB, 128MB in each DIMM socket.

### Clear CMOS



Clear CMOS :



Close Once

Normal:



**Note:** You must power down the AC supply(110/220V) when you want to clear CMOS.

# Connector Configuration

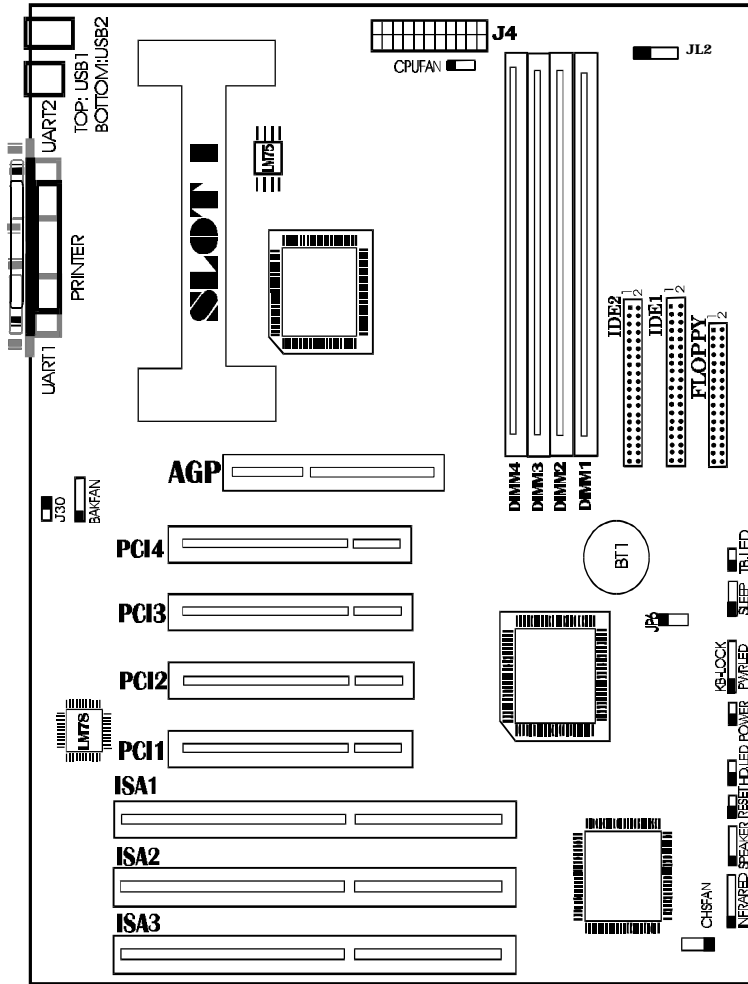


Figure 2-01 Illustration of All Connectors on Board

# Chapter 3

## AWARD BIOS Description

### Entering Setup

Power on the computer, when the following message appears briefly at the bottom of the screen during the POST (Power On Self Test), press <Del> key or simultaneously press <Ctrl> + <Alt> + <Esc> keys.

#### Press <Del> to enter SETUP

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

|   |  |
|---|--|
| ROM PCI/ISA BIOS (2A69JQ19)<br>CMOS SETUP UTILITY<br>AWARD SOFTWARE, INC.   |  |
| STANDARD CMOS SETUP<br>SpeedEasy CPU SETUP<br>BIOS FEATURES SETUP<br>CHIPSET FEATURES SETUP<br>POWER MANAGEMENT SETUP<br>PNP/PCI CONFIGURATION SETUP<br>LOAD SETUP DEFAULTS | INTEGRATED PERIPHERALS<br>System Monitor SETUP<br>SUPERVISOR PASSWORD<br>USER PASSWORD<br>IDE HDD AUTO DETECTION<br>SAVE & EXIT SETUP<br>EXIT WITHOUT SAVING |
| Esc : Quit<br>F10 : Save & Exit Setup   | ↑ ↓ → ← : Select Item<br>( Shift ) F2: Change Color  |
| Time, Date, Hard Disk Type ...  |  |

Figure-1 Main Menu

### Load Setup Defaults

## ***AWARD BIOS Description***

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The Setup Defaults is common and efficient setting.

### **Standard CMOS Setup**

Use the arrow keys to highlight the item, then use the <PgUp> or <PgDn> keys to select the value you want in each item.

| ROM PCI/ISA BIOS(2A69JQ19)<br>STANDARD CMOS SETUP<br>AWARD SOFTWARE, INC. |             |                   |      |      |                          |                       |        |      |
|---|-------------|-------------------|------|------|--------------------------|-----------------------|--------|------|
| Date (mm: dd: yy)   | :           | Fri, Jun 20, 1997 |      |      |                          |                       |        |      |
| Time (hh: mm: ss)   | :           | 10 : 10 : 10      |      |      |                          |                       |        |      |
| HARD DISKS  | TYPE        | SIZE              | CYLS | HEAD | PRECOMP                  | LANDZ                 | SECTOR | MODE |
| Primary Master  | : Auto      | 0                 | 0    | 0    | 0                        | 0                     | 0      | Auto |
| Primary Slave   | : Auto      | 0                 | 0    | 0    | 0                        | 0                     | 0      | Auto |
| Secondary Master  | : Auto      | 0                 | 0    | 0    | 0                        | 0                     | 0      | Auto |
| Secondary Slave   | : Auto      | 0                 | 0    | 0    | 0                        | 0                     | 0      | Auto |
| Drive A   | :           | 1.44M, 3.5in      |      |      |                          |                       |        |      |
| Drive B   | :           | None              |      |      |                          |                       |        |      |
| Video   | :           | EGA/VGA           |      |      | Base Memory : 640K       |                       |        |      |
| Halt On   | :           | All Errors        |      |      | Extended Memory : 15360K |                       |        |      |
|   |             |                   |      |      |                          | Other Memory : 384K   |        |      |
|   |             |                   |      |      |                          | Total Memory : 16384K |        |      |
| ESC: QUIT   | ↑ ↓ → ← :   | Select Item       |      |      |                          | PU/PD/+/- : Modify    |        |      |
| F1 : Help   | (Shift)F2 : | Change Color      |      |      |                          |                       |        |      |

*Figure-2 Standard CMOS Setup Menu*

### **Hard Disk**

#### **Primary Master/Primary Slave/Secondary Master/Secondary Slave**

The categories identify the types of 2 IDE channels that have been installed in the computer. There are 45 predefined types and 4 user definable types are used for Enhanced IDE BIOS. Type 1 to Type 45 are predefined. Type "User" is user-definable. If your hard disk drive type is not matched with drive table or listed in it, you can use Type "User" to define your own drive type manually.



If you select Type “**Auto**”, that means the system can autodetect your hard disk when boots up. If you select Type “**User**”, related information is asked to be entered into the following items. Enter the information directly from the keyboard and press <**Enter**>:

|         |                     |       |                 |
|---------|---------------------|-------|-----------------|
| CYLS    | number of cylinders | HEAD  | number of heads |
| PRECOMP | write precom        | LANDZ | landing zone    |
| SECTOR  | number of sectors   | MODE  | HDD access mode |

### **Video**

You have two ways to boot up the system:

- I. When VGA is used as primary and monochrome is used as secondary, the selection of the video type is “**EGA/VGA**” mode.
- II. When monochrome is used as primary and VGA is used as secondary, the selection of the video type is “**Mono**” mode.

|          |   |
|----------|---|
| EGA/ VGA | Enhanced Graphics Adapter / Video Graphic Array. For EGA, VGA, SEGA, SVGA, or PGA monitor adapters. |
| CGA 40   | Color Graphic Adapter, powering up in 40 column mode.   |
| CGA 80   | Color Graphic Adapter, powering up in 80 column mode.   |
| MONO     | Monochrome adapter, including high resolution monochrome adapters.                                  |

### **Halt On**

The category determines that whether the computer will stop or not if an error is detected during powering up.

|                   |  |
|-------------------|--|
| No errors         | The system boot will not stop for any error that may be detected.                                      |
| All errors        | Whenever the BIOS detects a non-fatal error, the system will stop and you will be prompted.            |
| All, But Keyboard | The system boot will not stop for a keyboard error, but it will stop for all the other errors.         |
| All, But Diskette | The system boot will not stop for a disk error; but it will stop for all the other errors.             |
| All, But Disk/Key | The system boot will not stop for a keyboard or disk error, but it will stop for all the other errors. |

## ***AWARD BIOS Description***

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### ***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. |
| Extended Memory | The BIOS determines that how much extended memory is presented during the POST.                          |
| Other Memory    | This is the memory that can be used for different applications. Most use for this area is Shadow RAM.    |
| Total Memory    | Total memory of the system is the sum of the above memory.   |

**SpeedEasy CPU Setup**

|  |   |
|--|---|
| ROM PCI/ISA BIOS (2A69JQ19)<br>SpeedEasy CPU SETUP<br>QDI Innovative Technology  |   |
| CPU Model : Pentium ( R ) II<br>Speed Model : SpeedEasy<br>CPU Speed : 233MHz  | Warning: Be sure your selection is right. CPU over speed will be dangerous. |
| ESC : Quit                    ↑↓→←: Select Item<br>F1 : Help                      PU/PD/+/-: Modify<br>(Shift)F2 : Color |   |

Figure-3 SpeedEasy CPU Setup

The following pages tell you the options of each item and describe the meanings of each option.

| <u>Item</u>  | <u>Option</u>                        | <u>Description</u>   |
|--------------|--------------------------------------|--|
| • CPU Model  |                                      | BIOS can automatically detect CPU model, so this item is shown only.   |
| • Speed Mode | SpeedEasy<br><br>Jumper<br>Emulation | You should select CPU speed according to your CPU brand and type.<br><br>This item is only for the user who understand all the CPU parameters, i.e. System Bus frequency, "66MHz" and multiplication of Processor Core frequency to System Bus frequency "×2.5, ×3, ×3.5, ×4, ×4.5, ×5, ×5.5". |

# AWARD BIOS Description

## BIOS Features Setup

| ROM PCI/ISA BIOS (2A69JQ19)      |             |
|----------------------------------|-------------|
| BIOS FEATURES SETUP              |             |
| AWARD SOFTWARE, INC.             |             |
| Virus Warning                    | : Disabled  |
| Pentium(R)II L1 Cache            | : Enabled   |
| Pentium(R)II L2 Cache            | : Enabled   |
| Quick Power On Self Test         | : Enabled   |
| Boot Sequence                    | : A,C, SCSI |
| Swap Floppy Drive                | : Disabled  |
| Boot Up Floppy Seek              | : Disabled  |
| Boot Up Numlock Status           | : On        |
| Gate A20 Option                  | : Fast      |
| Typematic Rate Setting           | : Disabled  |
| Typematic Rate (Chars/Sec)       | : 6         |
| Typematic Delay(Msec)            | : 250       |
| Security Option                  | : Setup     |
| PCI/VGA Palette Snoop            | : Disabled  |
| OS Select For DRAM>64MB          | : Non-OS2   |
| Report No FDD For Win95          | : Yes       |
| Video BIOS Shadow                | :Enabled    |
| C8000-CBFFF Shadow               | :Disabled   |
| CC000-CFFFF Shadow               | :Disabled   |
| D0000-D3FFF Shadow               | :Disabled   |
| D4000-D7FFF Shadow               | :Disabled   |
| D8000-DBFFF Shadow               | :Disabled   |
| DC000-DFFFF Shadow               | :Disabled   |
| Delay For HDD (Secs)             | : 0(s)      |
| ESC: Quit    ↑↓→← : Select Item  |             |
| F1 : Help    PU/PD/+- : Modify   |             |
| F5 : Old Values (Shift)F2: Color |             |
| F7 : Load Setup Defaults         |             |

Figure-4 BIOS Features Setup Menu

The following pages tell you the options of each item and describe the meaning of each option.

| <u>Item</u>                | <u>Option</u>   | <u>Description</u>  |
|----------------------------|-----------------|---|
| • Virus Warning            | <i>Enabled</i>  | Activate 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.                                    |
|                            | <i>Disabled</i> | No warning message appears when anything attempts to access the boot sector or hard disk partition table.<br><b>Note:This function is available only for DOS and other OS that do not trap INT13.</b> |
| • Pentium(R)II L1/L2 Cache | <i>Enabled</i>  | Enable Pentium® II internal Level1/Level2 cache.  |
|                            | <i>Disabled</i> | Disable Pentium® II internal Level1/Level2 cache.   |
|                            | <i>Enabled</i>  | Enable quick POST. BIOS will shorten or skip some check items during POST to speed up POST after you power on the computer.   |
|                            | <i>Disabled</i> | Normal POST.  |

|   |                                    |  |
|---|------------------------------------|--|
| • Boot Sequence                                 | <i>A,C,SCSI, ...<br/>C,CDROM,A</i> | You can choose any search sequence for bootup.   |
| • Swap Floppy Drive                             | <i>Enabled<br/><br/>Disabled</i>   | It will exchange the assignment of A&B floppy drives.<br><br>The assignment of A&B floppy drives are normal.   |
| • Boot Up Floppy Seek                           | <i>Enabled<br/><br/>Disabled</i>   | BIOS searches for floppy disk drive to determine if drive is ready for diskette read/write during booting.<br><br>skip drive seeking to speed up system booting.   |
| • Boot Up Numlock Status                        | <i>On<br/>Off</i>                  | Keypad is used as number keys.<br>Keypad is used as arrow keys.  |
| • Gate A20 Option                               | <i>Normal<br/><br/>Fast</i>        | The A20 signal is controlled by keyboard controller or chipset hardware.<br><br>It is default. The A20 signal is controlled by Port 92 or chipset specific method.   |
| • Typematic Rate Setting                        | <i>Enabled<br/><br/>Disabled</i>   | Enable typematic rate and typematic delay programming.<br><br>Disable typematic rate and typematic delay programming. The system BIOS will use default value of these two items.   |
| • Typematic Rate Chars/Sec)                     | <i>6-30</i>                        | Set the speed of the typematic rate (characters per second).   |
| • Typematic Delay (Msec)                        | <i>250 ~ 1000</i>                  | Set the time of the typematic delay.   |
| • Security Option                               | <i>System<br/><br/>Setup</i>       | The system will not boot and access to Setup will be denied if the correct password is not entered when prompting.<br><br>The system will boot up, but access to Setup will be denied if the correct password is not entered when prompting. |
| • PCI/VGA Palette Snoop                         | <i>Enabled<br/>Disabled</i>        | Enable PCI/VGA palette snoop.<br>Disable PCI/VGA palette snoop.  |
| • OS Select For DRAM>64MB                       | <i>Non-OS2<br/><br/>OS2</i>        | If your operating system is not OS/2, please select this item.<br><br>If system DRAM is more than 64MB and operating system is OS/2, please select this item.  |
| • Video BIOS Shadow                             | <i>Enabled<br/><br/>Disabled</i>   | Video BIOS will be copied to RAM. Video Shadow will increase the video speed.<br><br>Video shadow is disabled.   |
| • C8000-CBFFF Shadow ...<br>DC000-DFFFF Shadow: | <i>Enabled<br/><br/>Disabled</i>   | Optional ROM will be copied to RAM by 16K bytes per unit.<br><br>The shadow function is disabled.  |
| • Delay For HDD (Secs):                         | <i>0~15</i>                        | Set the predelay time for hard disk to be ready to be accessed by the system.  |

### **Chipset Features Setup**

# AWARD BIOS Description

| ROM PCI/ISA BIOS (2A69JQI9)<br>BIOS FEATURES SETUP<br>AWARD SOFTWARE, INC. |            |                                  |
|--|------------|----------------------------------|
| Auto Configuration   | : Enabled  | AGP Aperture Size (MB) : 64      |
| DRAM Speed Selection   | : 60ns     | SDRAM RAS-To-CAS Delay : Slow    |
| MA Wait State  | : Slow     | SDRAM RAS Precharge Time : Slow  |
| EDO RAS# To CAS# Delay   | : 3        | SDRAM CAS Latency Time : 3       |
| EDO RAS# Precharge Time  | : 3        |                                  |
| EDO Dram Read Burst  | : ×333     |                                  |
| EDO Dram Write Burst   | : ×222     |                                  |
| DRAM ECC Select  | : Disabled |                                  |
| CPU-To-PCI IDE Posting   | : Enabled  |                                  |
| System BIOS Cacheable  | : Disabled |                                  |
| Video BIOS Cacheable   | : Disabled |                                  |
| Video RAM Cacheable  | : Disabled |                                  |
| 8Bit I/O Recovery Time   | : 1        | ESC: Quit    ↑↓→← : Select Item  |
| 16Bit I/O Recovery Time  | : 1        | F1 : Help    PU/PD/+/- : Modify  |
| Memory Hole At 15M-16M   | : Disabled | F5 : Old Values (Shift)F2: Color |
| Delayed Transaction  | : Disabled | F7 : Load Setup Defaults         |

Figure-5 Chipset Features Setup Menu

The following pages tell you the options of each item and describe the meaning of each option.

| <u>Item</u>              | <u>Option</u>   | <u>Description</u>  |
|--------------------------|-----------------|---|
| • Auto Configuration     | <i>Enabled</i>  | Automatically configure DRAM Timing according to the value of "DRAM Speed Selection".   |
|                          | <i>Disabled</i> | Manually configure.   |
| • DRAM Speed Selection   | <i>50ns,</i>    | This item is of selected EDO DRAM read/write timing. You must ensure that your DIMMs are as fast as 50ns, otherwise you have to select 60ns.  |
|                          | <i>60ns</i>     |   |
| • MA Wait State          | <i>Slow</i>     | One additional wait state is inserted before the assertion of the first MA and CAS#/RAS# during DRAM read or write leadoff cycles. This affects page hit, row miss and page miss cases. |
|                          | <i>Fast</i>     | Without additional wait state.  |
| • EDO RAS# To CAS# Delay | 2               | Add a delay time between the assertion of RAS# and CAS#   |
|                          | 3               | Without additional delay time.  |
| • EDO RAS#               | 3               | DRAM RAS# Precharge time=3x system  |

|                            |                           |  |
|----------------------------|---------------------------|--|
| Precharge Time             | 4                         | clocks.<br>DRAM RAS# Precharge time=4x system clocks.  |
| • EDO DRAM Read Burst      | · 3 3 3,<br>· 2 2 2,      | The DRAM read burst timing depends on the type of DRAM on a per-row basis. Slower rates may be required to support slower DRAM.  |
| • EDO DRAM Write Burst     | · 2 2 2,<br>· 3 3 3,      | The DRAM write burst timing depends on the type of DRAM on a per-row basis. Slower rates may be required to support slower DRAM. |
| • DRAM ECC/EC Select       | ECC<br><br>EC<br>Disabled | Provide ECC (Error Checking and Correction) function.<br>Provide DRAM error checking.<br>Disable ECC / EC function.              |
| • CPU-To-PCI IDE Posting   | Enabled                   | Enable CPU-To-PCI write posting.   |
| • System BIOS Cacheable    | Disabled<br>Enabled       | Disable CPU-To-PCI write cycles to IDE.<br>Beside conventional memory, the system BIOS area is also cacheable.                   |
| • Video BIOS Cacheable     | Disabled<br>Enabled       | The system BIOS area is not cacheable.<br>Beside conventional memory, video IOS area is also cacheable.                          |
| • Video RAM Cacheable      | Disabled<br>Enabled       | Video BIOS area is not cacheable.<br>Beside conventional memory, video BIOS area is also cacheable.                              |
| • 8 Bit I/O Recovery Time  | 1- 8<br><br>NA            | Define the ISA Bus 8 bit I/O operating recovery time.<br>8 bit I/O recovery time is not exist.                                   |
| • 16 Bit I/O Recovery Time | 1- 4<br><br>NA            | Define the ISA Bus 16 bit I/O operating recovery time.<br>16 bit I/O recovery time is not exist.                                 |
| • Memory Hole At 15M-16M   | Enabled<br>Disabled       | Memory Hole at 15-16M is reserved for expanded PCI card.<br>Do not set this memory hole.   |
| • Delayed Transaction      |                           |  |
| • AGP Aperture Size (MB)   | 4-256                     | Set the effective size of the Graphics Aperture to be used in the particular PAC Configuration.                                  |
| • SDRAM RAS-To-CAS Delay   | Fast<br>Slow              | RAS-To-CAS Delay time=2 HCLK<br>RAS-To-CAS Delay time=3 HCLK   |
| • SDRAM RAS Precharge Time | Fast<br>Slow              | RAS Precharge Time=2 HCLK<br>RAS Precharge Time=3 HCLK   |
| • SDRAM CAS Latency Time   | Fast                      | Define the CLT timing parameter of SDRAM expressed in 66 MHZ clocks. Latency Time=2 clocks                                       |

# ***AWARD BIOS Description***

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| *Slow* | Latency Time=3 clocks

## ***Power Management Setup***

|   |           |                                  |
|---|-----------|----------------------------------|
| <b>ROM PCI/ISA BIOS (2A69JQI9)</b><br><b>BIOS FEATURES SETUP</b><br><b>AWARD SOFTWARE, INC.</b> |           |                                  |
| Power Management  | :Disabled | ** Reload Global Timer Events ** |



|   |  |
|---|--|
| PM Control by APM :No<br>Video Off Method :VIH SYNC+Blank<br>Video Off After :Standby<br>MODEM Use IRQ : NA<br>Doze Mode :Disabled<br>Standby Mode :Disabled<br>Suspend Mode :Disabled<br>HDD Power Down :Disabled<br><br>VGA Active Monitor :Disabled<br>Soft-Off by PWR-BTTN :Instant-Off<br>Resume by LAN/Ring :Disabled<br>Resume by Alarm :Disabled<br><br>** Break Event From Suspend **<br>IRQ 8 Clock Event :Disabled | IRQ [3-7,9-15], NMI :Enabled<br>Primary IDE 0 :Disabled<br>Primary IDE 1 :Disabled<br>Secondary IDE 0 :Disabled<br>Secondary IDE 1 :Disabled<br>Floppy Disk :Disabled<br>Serial Port :Enabled<br>Parallel Port :Disabled<br><br><br>ESC: Quit    ↑↓→← : Select Item<br>F1 : Help    PU/PD/+/- : Modify<br>F5 : Old Values (Shift)F2: Color<br>F7 : Load Setup Defaults |
|---|--|

**Figure-6 Power Management Setup Menu**

The following pages tell you the options of each item and describe the meanings of each option.

| <u>Item</u>   | <u>Option</u>       | <u>Description</u>   |
|---|---------------------|--|
| <ul style="list-style-type: none"> <li>• Power Management</li> </ul>  | <i>Disabled</i>     | Global Power Management (PM) will be disabled.   |
|   | <i>User Define</i>  | Users can configure their own Power Management Timer.  |
|   | <i>Min Saving</i>   | Pre - defined timer value are used such that all timers are in their MAX values  |
|   | <i>Max Saving</i>   | Pre - defined timer value are used such that all timers are in their MIN value   |
| <ul style="list-style-type: none"> <li>• PM Control by APM</li> </ul> | <i>No</i>           | System BIOS will ignore APM when Power Management is enabled.  |
|   | <i>Yes</i>          | System BIOS will wait for APM's prompt before it enters any PM mode e.g. Standby or Suspend.<br><b>Note: If APM is installed, and if there is a task running, even the timer is time out, the APM will not prompt the BIOS to put the system into any power saving mode. But if APM is not installed, this option has no effect.</b> |
| <ul style="list-style-type: none"> <li>• Video Off</li> </ul>         | <i>Blank Screen</i> | The system BIOS will only blank off the screen   |

## AWARD BIOS Description

---

|                        |   |   |
|------------------------|---|---|
| Method                 | <i>V / H SYNC + Blank</i><br><br><i>DPMS</i>                  | when disabling video.<br>In addition to Blank Screen, BIOS will also turn off the V-SYNC & H - SYNC signals from VGA cards to monitor.<br>This function is enabled only for the VGA card supporting DPMS.<br><b>Note: Green monitors detect the V/H-SYNC signals to turn off its electron gun .</b> |
| • Video Off After      | <i>N/A</i><br><i>Suspend</i><br><i>Standby</i><br><i>Doze</i> | System BIOS will never turn off the screen.<br>Screen off after system enters into Suspend mode.<br>Screen off after system enters into Standby mode.<br>Screen off after system enters into Doze mode.   |
| • Doze mode            | <i>Disabled</i><br><i>1Min ~ 1Hr</i>                          | The system will never enter Doze mode.<br>Define the continuous idle time before the system entering Doze mode. If any item defined in "Wake Up Events In Doze & Suspend" is On and activated, the system will be waken up.   |
| • Standby Mode         | <i>Disabled</i><br><i>1 Min ~ 1Hr</i>                         | The system will never enter Standby mode.<br>Define the continuous idle time before the system entering Standby mode. If any item defined in "Wake Up Events In Doze & Suspend" is On and activated, the system will be waken up.   |
| • Suspend Mode         | <i>Disabled</i><br><i>1 Min ~ 1Hr</i>                         | The system will never enter Suspend mode.<br>Define the continuous idle time before the system entering Suspend mode. If any item defined in "Wake Up Events In Suspend" is On and activated, the system will be waken up.  |
| • HDD Power Down       | <i>Disabled</i><br><i>1 ~15 Min</i>                           | HDD's motor will not be off.<br>Define the continuous HDD idle time before the HDD entering power saving mode (motor off).  |
| • VGA Active Monitor   | <i>Disabled</i>   |   |
| • Soft-Off by PWR-BTTN | <i>Instant-Off</i><br><br><i>Delay 4 Secs</i>                 | The system will power off immediately when you press the "Power" button.<br>The system will power off after you press the "Power" button for more than 4 seconds, otherwise the system will enter "sleeping" mode.  |
| • Resume by LAN/Ring   | <i>Enabled</i><br><br><br><br><i>Disabled</i>                 | Allow the system to be powered on when a Ring Indicator signal comes up to UART1 or UART2 from external modem, or when a remote waker-up signal comes up to LAN adapter from a server.<br>Do not allow Ring Power-On and wake-up on LAN.  |
| • Resume by Alarm      | <i>Enabled</i><br><br><br><i>Disabled</i>                     | RTC alarm can be used to generate a wake event when the system is in a sleeping.<br>RTC no alarm function.  |

|  |  |   |
|--|--|---|
| <ul style="list-style-type: none"> <li>• IRQ 8 Clock Event</li> </ul>    | <p><i>Enabled</i></p> <p><i>Disabled</i></p> | <p>Generate a clock event.<br/>Do not generate a clock event.</p> <p><b>Note: IRQ8 Clock Event must be enabled when you want to use Resume By Ring and Alarm.</b></p> |
| <ul style="list-style-type: none"> <li>• IRQ [3-7, 9-15], NMI</li> </ul> | <p><i>Enabled</i></p> <p><i>Disabled</i></p> | <p>Reload global timer.<br/>No influence to global timer.</p>   |

### **PNP/PCI Configuration Setup**

|   |            |                    |            |
|---|------------|--------------------|------------|
| ROM PCI/ISA BIOS (2A59IQ1D)<br>PNP/PCI CONFIGURATION SETUP<br>AWARD SOFTWARE, INC |            |                    |            |
| PNP OS Installed  | : No       | PCI IDE IRQ Map To | : PCI-AUTO |
| Resources Controlled By   | : Auto     | Primary IDE INT#   | : A        |
| Reset Configuration Data  | : Disabled | Secondary IDE INT# | : B        |

# AWARD BIOS Description

|                    |               |                          |                    |
|--------------------|---------------|--------------------------|--------------------|
| 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 | : Legacy ISA  |                          |                    |
| IRQ-15 assigned to | : Legacy ISA  |                          |                    |
| DMA-0 assigned to  | : PCI/ISA PnP |                          |                    |
| DMA-1 assigned to  | : PCI/ISA PnP |                          |                    |
| DMA-3 assigned to  | : PCI/ISA PnP |                          |                    |
| DMA-4 assigned to  | : PCI/ISA PnP | ESC: Quit                | ↑↓→← : Select Item |
| DMA-5 assigned to  | : PCI/ISA PnP | F1 : Help                | PU/PD/+/- : Modify |
| DMA-6 assigned to  | : PCI/ISA PnP | F5 : Old Values          | (Shift)F2: Color   |
| DMA -7 assigned to | : PCI/ISA PnP | F7 : Load Setup Defaults |                    |

Figure-7 PNP/PCI Configuration Setup Menu

The following pages will tell you the options of each item and describe the meaning of each option.

| <u>Item</u>                | <u>Option</u>                           | <u>Description</u>  |
|----------------------------|---|---|
| • PNP OS Installed         | <i>Yes</i><br><i>No</i>                 | Device resource assigned by PnP OS.<br>Device resource assigned by BIOS.  |
| • Resources Controlled By  | <i>Manual</i><br><i>Auto</i>            | Assign system resources (IRQ and DMA) manually by user.<br>Assign system resources (IRQ and DMA) automatically by BIOS.         |
| • Reset Configuration Data | <i>Enabled</i><br><i>Disabled</i>       | The system BIOS will force updating ESCD once, then automatically set this item Disable.<br>Disable force update ESCD function. |
| • IRQ-3~IRQ-15 assigned to | <i>Legacy ISA</i><br><i>PCI/ISA PnP</i> | The specified IRQ-x will be assigned to ISA only.<br>The specified IRQ-x will be assigned to ISA or PCI.                        |
| • DMA-0~DMA-7 assigned to  | <i>Legacy ISA</i><br><i>PCI/ISA PnP</i> | The specified DMA-x will be assigned to ISA only.<br>The specified DMA-x will be assigned to ISA or PCI.                        |

|   |                      |   |
|---|----------------------|---|
| <ul style="list-style-type: none"> <li>• PCI IDE IRQ Map To</li> </ul>    | <i>PCI-AUTO</i>      | The BIOS will scan for PCI IDE devices and determine the location of the PCI IDE device.  |
|   | <i>PCI - SLOTS~1</i> | The BIOS will scan IRQ14 for primary IDE INT# and IRQ15 for secondary IDE INT# at the specified slot.   |
|   | <i>ISA</i>           | The BIOS will not assign any IRQs even if PCI IDE card is found. Because some IDE cards connect the IRQ14&15 directly from ISA slot through a card. |
| <ul style="list-style-type: none"> <li>• Primary IDE INT#</li> </ul>      | <i>A ~ D</i>         | Tell which INT# the PCI IDE card uses for its interrupt of 1st IDE channel.   |
| <ul style="list-style-type: none"> <li>• Secondary IDE INT#</li> </ul>    | <i>A ~ D</i>         | Tell which INT# the PCI IDE card uses for its interrupt of 2nd IDE channel.   |
| <ul style="list-style-type: none"> <li>• Used MEM base address</li> </ul> | <i>C800/8 ~ 64K</i>  | Claim a memory space occupied by legacy ISA card.   |
|   | <i>N/A</i>           | Invalidate this feature.  |
|   | <i>PCI/ISA PnP</i>   | The specified DMA-x will be assigned to ISA or PCI.   |

### **Integrated Peripherals**

|  |               |
|--|---------------|
| ROM PCI/ISA BIOS (2A69JQ19)<br>INTEGRATED PERIPHERALS<br>AWARD SOFTWARE, INC.              |               |
| IDE HDD Block Mode :Enabled<br>IDE Primary Master PIO :Auto<br>IDE Primary Slave PIO :Auto |               |
|  | <b>3 - 15</b> |

# AWARD BIOS Description

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|                           |           |                          |                    |
|---------------------------|-----------|--------------------------|--------------------|
| 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 |                          |                    |
| <hr/>                     |           |                          |                    |
| Onboard FDC Controller    | :Enabled  |                          |                    |
| Onboard Serial Port 1     | :3F8/IRQ4 | ESC: Quit                | ↑↓→←:Select Item   |
| Onboard Serial Port 2     | :2F8/IRQ3 | F1 : Help                | PU/PD/+/-: Modify  |
| Serial Port 2 Mode        | :Standard | F5 : Old Values          | (Shift) F2 : Color |
| Onboard Parallel Port     | :378/IRQ7 | F7 : Load Setup Defaults |                    |
| Parallel Port Mode        | :SPP      |                          |                    |

---

*Figure-8 Integrated Peripherals Menu*

The following pages tell you the options of each item and describe the meaning of each option.

| <u>Item</u>                                     | <u>Option</u>                        | <u>Description</u>   |
|---|--------------------------------------|--|
| • IDE HDD Block Mode                            | <i>Enabled</i><br><i>Disabled</i>    | Allow IDE HDD read/write several sectors one time.<br>IDE HDD only reads/writes a sector for one time.             |
| • IDE Primary/Secondary Master/Slave PIO (UDMA) | <i>Mode 0 - 4</i><br><i>Auto</i>     | Define the IDE primary/secondary master/slave PIO mode.<br>The IDE PIO mode is defined according to auto - detect. |
| • On-chip Primary/Secondary PCI IDE             | <i>Enabled</i><br><i>Disabled</i>    | On-chip primary/secondary PCI IDE port is enabled.<br>On-chip primary/secondary PCI IDE port is disabled.          |
| • USB Keyboard Support                          | <i>Enabled</i><br><i>Disabled</i>    | USB Keyboard Support enabled.<br>USB Keyboard Support disabled.  |
| • Onboard FDC Controller                        | <i>Enabled</i><br><i>Disabled</i>    | Onboard floppy disk controller is enabled.<br>Onboard floppy disk controller is disabled.                          |
| • Onboard Serial Port 1/2                       | <i>3F8/IRQ4,</i><br><i>2F8/IRQ3,</i> | Define onboard serial port address and required interrupt number.  |

|   |   |   |
|---|---|---|
| <ul style="list-style-type: none"> <li>Serial Port 2 Mode</li> </ul>                                | <p><i>3E8/IRQ4,<br/>2E8/IRQ3,<br/>Disabled,<br/>Auto</i></p> <p><i>Standard,<br/>Sharp IR,</i></p> <p><i>IrDA SIR</i></p> | <p>Onboard serial port is disabled.<br/>Set address and interrupt number automatically.<br/>Define Serial Port 2 as standard serial port<br/>This mode provides bi-directional communication by transmitting and receiving infrared radiation. In this mode, infrared I/O circuits receive the serial UART output signal. The rate of the signal is 38.4K Baud in half-duplex, and it uses normal UART serial data formats with physical ASKIR modulation.<br/>The system function is the same as in Sharp-IR mode, but at 115.2K Baud.<br/>Define onboard parallel port address and IRQ channel.<br/>Define the parallel port mode as Standard Parallel Port (SPP), Enhanced Parallel Port (EPP), or Extended Capabilities Port (ECP).</p> |
| <ul style="list-style-type: none"> <li>Onboard Parallel Port</li> <li>Parallel Port Mode</li> </ul> | <p><i>378/IRQ7,<br/>278/IRQ5,<br/>SPP<br/>EPP1.7<br/>EPP1.9<br/>ECP,<br/>ECP+EPP</i></p>                                  |   |

## System Monitor Setup

|   |             |
|---|-------------|
| ROM PCI/ISA BIOS (2A69JQ19)<br>System Monitor SETUP<br>AWARD SOFTWARE, INC. |             |
| MB Temperature  | :31°C/87°F  |
| MB(near CPU)Temperature   | :48°C/118°F |
| Fan Speed(CPUFAN)   | :φRPM       |
| Fan Speed(CHSFAN)   | :φRPM       |
| Fan Speed(BAKFAN)   | :φRPM       |
| +3.3V Voltage   | :3.30 V     |

# ***AWARD BIOS Description***

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|                |         |          |                                   |
|----------------|---------|----------|-----------------------------------|
| VTT(+1.5V)     | Voltage | :1.50 V  |                                   |
| +5V            | Voltage | :5.00 V  |                                   |
| VCCVID(CPU)    | Voltage | :2.80 V  |                                   |
| +12V           | Voltage | :+12.00V | ESC: Quit    ↑↓→← : Select Item   |
| -12V           | Voltage | :-12.00V | F1 : Help    PU/PD/+/- : Modify   |
| -5V            | Voltage | :-5.00 V | F5 : Old Values (Shift) F2: Color |
| Chassis Status |         | : Closed | F7 : Load Setup Defaults          |

---

**Figure-9 System Monitor Setup Menu**

The following pages tell you the options of each item and describe the meaning of each option.

| <u>Item</u>  | <u>Option</u>    | <u>Description</u>  |
|--|------------------|---|
| • MB Temperature   |                  | Display the current mainboard temperature detected by "LM78" chip.  |
| • MB (near CPU) Temperature  |                  | Display the current mainboard temperature detected by "LM75" chip which is under the heatsink of Pentium® II processor& will disappear automatically for the motherboard without LM75 chip.   |
| • CPUFAN    Speed<br>BAKFAN<br>CHSFAN  |                  | RPM (Revolution Per Minute) Speed of fan which is connected to the fan header CPUFAN, BAKFAN or CHSFAN. Fan speed value is based on an assumption that tachometer signal is two pulses per revolution; In other cases, you should regard it relatively.   |
| • + 3.3V,<br>VTT (+1.5)    Voltage,<br>+ 5V,<br>VCCVID (CPU) Voltage,<br>+12 V,<br>- 12 V,<br>- 5 V. |                  | Display current Voltage value including all the most important voltages of the mainboard. +3.3V, +5V, +12V, -12V, -5V are voltages from the ATX power supply, VTT (+1.5) Voltage is GTL Termination Voltage from the on board regulator, and VCCVID (CPU) Voltage is CPU Core Voltage from the on board switching Power Supply. |
| • Chassis Status   | Closed<br>Opened | The chassis is closed currently.<br>The chassis is opened currently.  |

## **Supervisor/User 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 being disabled. 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 “CMOS Setup”.

If you select “**Setup**” at “Security Option” of “BIOS Features Setup” Menu, you will be prompted for the password only when you try to enter “CMOS Setup”.

*Supervisor Password* has higher priority than *User Password*. You can use *Supervisor Password* when booting system or entering “CMOS Setup” to modify all settings. Also you can use *User Password* when booting system or entering “CMOS Setup” but can not modify any setting if *Supervisor Password* is enabled.

**IDE HDD Auto Detection**

The Enhanced IDE features was included in all Award BIOS. Below is a brief description of this features.

| ROM/PCI/ISA BIOS (2A69HQ1C)<br>IDE HDD AUTO DETECTION<br>AWARD SOFTWARE, INC. |      |      |      |      |         |       |             |
|---|------|------|------|------|---------|-------|-------------|
| HARD DISKS  | TYPE | SIZE | CYLS | HEAD | PRECOMP | LANDZ | SECTOR MODE |
| Primary Master:   |      |      |      |      |         |       |             |
|   |      |      |      |      |         |       | 3 - 19      |

# AWARD BIOS Description

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Select Primary Master Option (N=Skip): N

| Option | Size | Cyls | Heads | Precomp | Landzone | Sectors | Mode   |
|--------|------|------|-------|---------|----------|---------|--------|
| 2(Y)   | 541  | 525  | 32    | 0       | 1049     | 67      | LBA    |
| 1      | 541  | 1050 | 16    | 65535   | 1049     | 63      | NORMAL |
| 3      | 541  | 525  | 32    | 65535   | 1049     | 63      | LARGE  |

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

---

Figure-10 IDE HDD Auto Detection Menu

## 1. Setup Changes

### With auto-detection

- BIOS setup will display all possible modes that is supported by the HDD including NORMAL, LBA and LARGE.
- If HDD does not support LBA modes, no "LBA" option will be shown.
- If number of physical cylinders is less than or equal to 1024, "LARGE" option may not be shown.
- Users can select a mode which is appropriate for them.

### With Standard CMOS Setup

|                      | CYLS | HEADS | PRECOMP | LAND ZONE | SECTOR | MODE   |
|----------------------|------|-------|---------|-----------|--------|--------|
| Drive C: User(516MB) | 1120 | 16    | 65535   | 1119      | 59     | Normal |
| Drive D: None(203MB) | 684  | 16    | 65535   | 685       | 38     | -----  |

When HDD type is in "user" type, the "MODE" option will be opened for user to select their own HDD mode.

## 2. HDD Modes

The Award BIOS supports 3 HDD modes: NORMAL, LBA and LARGE, and Auto detect.

### NORMAL

Generic access mode in which neither the BIOS nor the IDE controller will make any transformation during accessing. The maximum number of cylinders, heads and sectors for NORMAL mode are 1024,16 and 63.

If user sets his HDD to NORMAL mode,the maximum accessible HDD size will be 528 megabytes even though its physical size may be greater than that.

---

### **LBA (Logical Block Addressing) mode**

A new HDD accessing method to overcome the 528 Megabyte bottleneck. The number of cylinders, heads and sectors shown in setup may not be the number physically contained in the HDD.

During HDD accessing, the IDE controller will transform the logical address described by sector, head and cylinder number into its own physical address inside the HDD. The maximum HDD size supported by LBA mode is 8.4 Gigabytes.

### **LARGE mode**

Some IDE HDDs contain more than 1024 cylinder without LBA support (in some cases, user do not want LBA). The Award BIOS provides another alternative to support these kinds of HDD.

BIOS tricks DOS (or other OS) that the number of cylinders is less than 1024 by dividing it by 2. At the same time, the number of heads is multiplied by 2. A reverse transformation process will be made inside INT13h in order to access the right HDD address.

### **Auto detect**

If using Auto detect, the BIOS will automatically detect IDE hard disk mode and set it to one kind of HDD modes.

### **3. Remark**

To support LBA or LARGE mode of HDDs, there must be some software involved which are located in Award HDD Service Routine(INT13h).It maybe fail to access a HDD with LBA (LARGE) mode selected if you are running under an Operating System which replaces the whole INT 13h.

## **Power - On Boot**

If you have made all the changes to CMOS values and the system can not boot with the CMOS values selected in Setup, restart the system by turning it OFF then ON or press the "RESET" button on the system case. You may also restart the system by simultaneously pressing < Ctrl >, < Alt > and < Del > keys.



# Appendix A. Utility Diskette

You may use this diskette to update your BIOS when necessary.

For the most update and additional information about BIOS upgrade, please refer to “README” in the “Utility Diskette”.

## **Warning:**

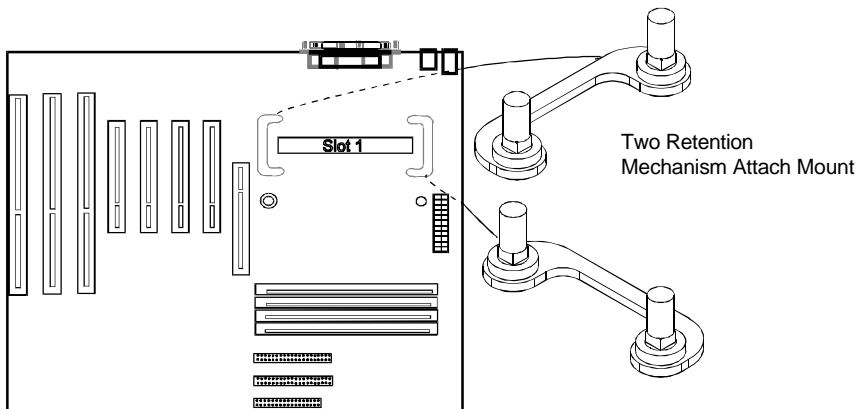
1. **We strongly recommend that you only upgrade BIOS when in trouble.**
2. **Before you update your BIOS, you should look over the “README” file to avoid making mistake.**

# Appendix B.

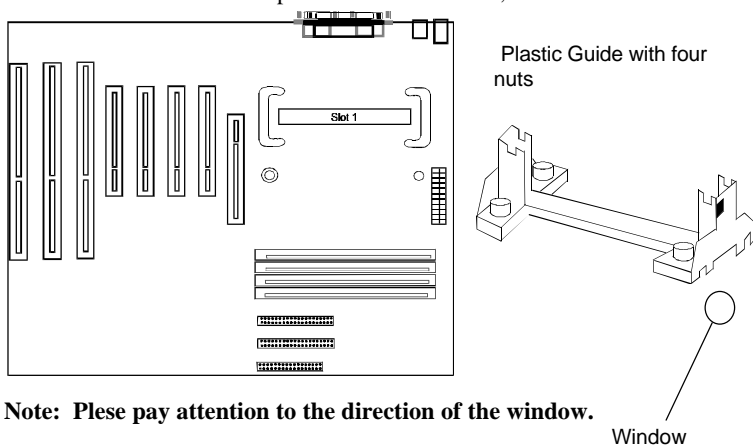
---

## Retention Mechanism & Pentium® II Processor Installation Procedures

1. Insert the two Retention Mechanism Attach Mount up through the bottom of the mainboard.

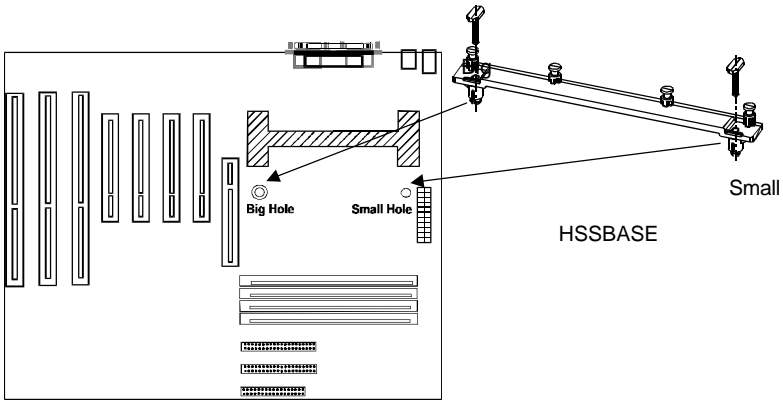


2. Place Plastic Guide with captive nuts on mainboard, then fasten all the four nuts.

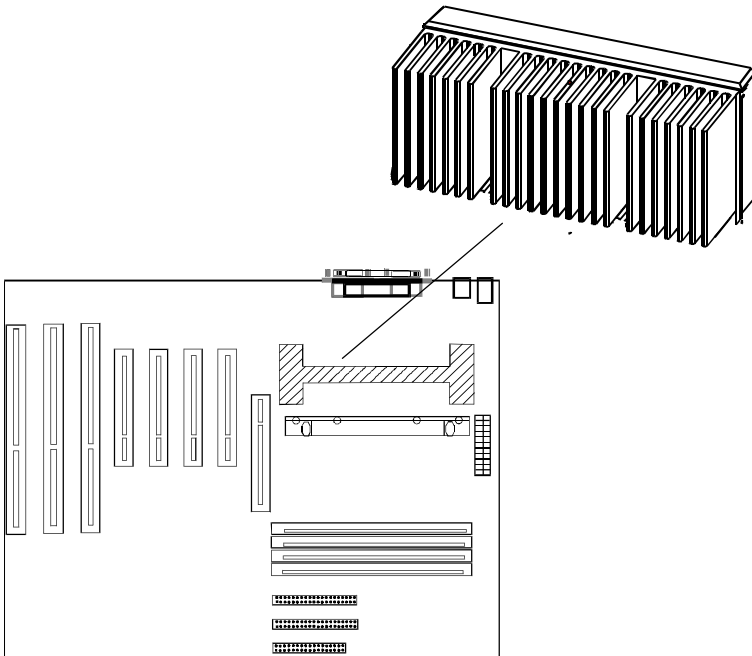


**Note:** Please pay attention to the direction of the window.

3. Install HSSBASE (Heatsink Support Base) on mainboard, then insert the two plastic pins through the HSSBASE to secure it to the mainboard.



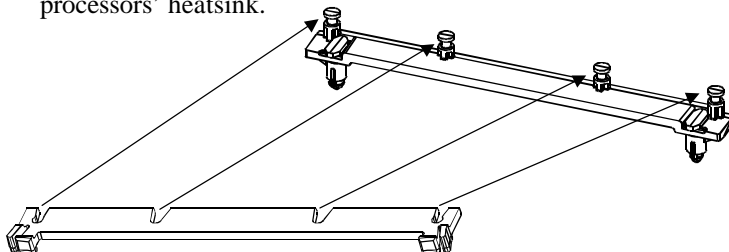
4. Insert Pentium® II Processor in Slot1.



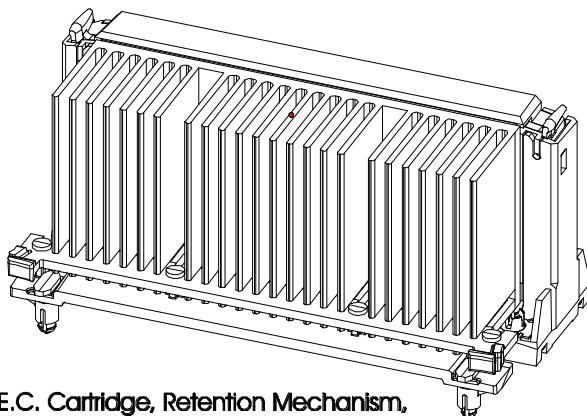
## Appendix

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5. Clip Plastic Bar onto the HSSBASE through the fins on the processors' heatsink.



6. The Retention Mechanism installation procedure is finished as below shown.



**S.E.C. Cartridge, Retention Mechanism,  
Heatsink Support, And ATX Form Factor Heatsink  
Isometric View  
Not To Scale**

### ***Remark:***

***Please skip step3 and step5 for Boxed Pentium® II Processor and refer to relevant details of this kind of processor for you installation.***



**P/N:430-01011-911**  
**Manual P6I440LX/ATX Legend - I Ver 1.1**