PENTIUM® II P6I440BX/DP
Brilliant IV

Declaration of conformity

C E (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
Brilliant IV

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

☑ EN 55022   Limits and methods of measurements of radio disturbance
characteristics of information technology equipment

☑ EN 50081-1   Generic emission standard part 1:
Residential, commercial and light industry

☑ EN 50082-1   Genetic immunity standard Part 1:
Residential, 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
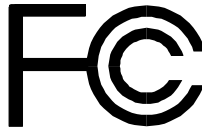QDI COMPUTER (ESPANA) S.A.   QDI COMPUTER (SWEDEN) AB

Signature   :   Place / Date :   HONG KONG /1998

Printed Name :   Anders Cheung   Position/ Title :   President

Declaration of conformity

FC

Trade Name:	QDI Computer (U. S . A.) Inc.
Model Name:	P6I440BX/DP Brilliant IV
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:	AGP 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 :   1998

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Chapter 1
Introduction

Overview

P6I440BX/DP Brilliant IV mainboard is designed for servers and workstations. It is a high-performance and powerful system for dual Pentium®II processors, which provides onboard LAN for fast Ethernet network at 10/100Mbps, onboard Ultra Wide SCSI at 40MB/sec, RAID and system health monitor support. Using the PCI/ISA architecture, the system provides a highly integrated solution for fully compatible PC/AT platform, featuring the industry standard ATX form factor. Flexible main memory size can be installed from 8MB to 512MB SDRAM DIMM and 8MB to 1GB registered SDRAM DIMM. The system offers a wide range of interfaces to support integrated onboard IDE and onboard I/O function. The current green function is compliant to ACPI specification and OS Directed Power Management.

Key Features

CPU - Pentium®II

- Supports all Intel Pentium® II processors, eg. 233/266/300/333MHz with 66MHz bus speed and 350/400/450MHz with 100MHz bus speed
- Supports 100/66MHz bus speed
- Pentium®II core frequency =Bus speed x2.5 x3, x3.5, x4, x4.5, x5, x5.5
- 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.

Chipset - Intel® 440BX

- North Bridge: 82443BX
- South Bridge: 82371EB PIIX4E

System memory
- Four 168-pin DIMM sockets
- 3.3V only DIMM DRAM configuration.
- Synchronous 100-MHz or 66-MHz SDRAM
- 4-Mbit, 16-Mbit, 64-Mbit and 128-Mbit DRAM devices.
- For up to 512MB standard SDRAM memory.
- For up to 1GB Registered SDRAM DIMM memory.
- SDRAM 64 bit data interface with ECC support.

Onboard IDE
- Supports two PCI PIO and bus Master IDE ports.
- Supports up to Mode 4 Timing
- Supports 2 Fast IDE interfaces for up to 4 IDE devices, which include 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.

Onboard I/O
- Use WINBOND W83977TF-AW I/O chip
- One floppy port supports up to two 3.5"or 5.25" floppy drives of 360K /720K/1.2M/1.44M/2.88M format.
- Supports LS-120 floppy disk drive and ZIP-100 drive.
- All I/O ports can be enabled/disabled by the BIOS setup
- Two high speed 16550 fast compatible UARTs (COM1/COM2/ COM3 /COM4 selectable) with 16-byte send/receive FIFOs and supports 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.

Onboard SCSI

- Adaptec AIC-7880 PCI to SCSI controller which is equivalent to Adaptec AHA-2940UW PCI SCSI Controller.

- Both Ultra wide, narrow SCSI interface

- Data transfer rate up to 40MB/Sec

- Driver for Netware, Windows NT, OS/2, SCO Unix, Unixware. With 1 RAID port, RAID function (RAID0, 1, 0/1 and 5) are supported

- SCSI terminator can be powered up/down by setting automatically or manually

- Provides an external wide SCSI cable (optional)

Onboard LAN

- Intel 10/100Mbps PCI to LAN controller 82558

- Auto-negotiation

- Supports Full Duplex Flow Control

- Supports Wake On LAN (WOL)

- Supports Adapter Fault Tolerance (AFT)

- Supports Adaptive Load Balancing (ALB)

- Supports Fast EtherChannel (FEC)

- Supports Hotplug

Green function

- Supports Advanced Configuration and Power Interface(ACPI) specification and OS Directed Power Management

- Supports three green modes: Doze, Standby and Suspend

- Status LED will blink at a frequency of about 0.5Hz when the system is in the green status

- Doesn't support green function on Windows NT OS

Advanced features

- On board LM80 supports system monitoring (monitor system voltages, temperature, chassis intrusion and FAN speed))
- Provides LogoEasy function
- Provides ManageEasy® function (optional)
- LM75 monitors the temperature of the CPU (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 both internal and external Modem Ring Power-On
- Supports Auto Fan off when system enters suspend mode

SecurityEasy function
- Protect the system from unauthorized entry or use
- Lock the power switch and reset buttons
- Lock the keyboard, the PS/2 mouse
- Blank the video
- See page 9 for details

BIOS
- Licensed advanced AWARD BIOS, Supports Flash ROM BIOS, Plug and play ready.
- Full support for ACPI Specification and OS Directed Power Management
- Supports IDE CD-ROM or SCSI bootup

AGP

- Complies with the A.G.P specification Rev 1.0
- Support for +3.3V A.G.P -66/133 devices
- Synchronous complying with the host bus frequency

Expansion slots
- 2 x ISA slots and 4 x PCI slots
- 1 AGP Slot
- 1 RAID Port (only supports Adaptec 1130 RAID Port card)

Board size
- 305 mm x 310mm (12" x 12.2")

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Chapter 2
Power Supply Requirements

The Brilliant IV green mainboard supports the industry standard ATX power supplies. Check the ratings of the power supply installed to ensure that they meet the following requirements.

Power

Normally the maximum rating power for the power supply installed should be at least 250W. If there are too many peripheral devices in your system, a stronger power supply is needed.

Currents

Voltages	+3.3V	+5V	+12V	-5V	-12V	5VSB
Currents	11A	24A	10A	0.25A	0.5A	0.72A

*Warning: If the current of 5VSB by power supply is less than 0.72A, the system may not work properly.
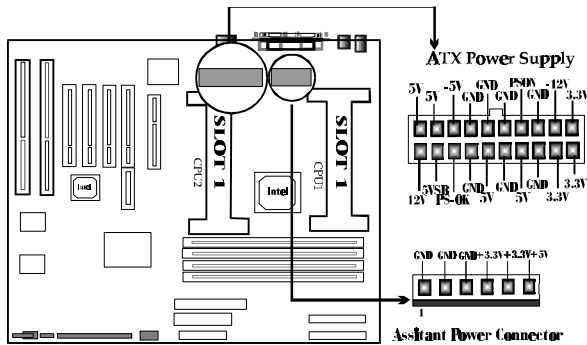
Assistant Power Connector is an optional connector. If there are too many peripheral devices in your system, a power supply with this assistant power output is recommended to be used.

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Chapter 3
SecurityEasy

There are two ways to prevent unauthorized entry or use of the system.

System Password

Set system password in CMOS setup menu "PASSWORD SETTING"
item(main menu) , and set the "password setting" item(located in "BIOS
FEATURES SETUP") as "System". Then the BIOS requires you to enter the
password before you can boot the system or enter the CMOS Setup. If the
"password setting" is set as "Setup", the BIOS only requires you to enter the
password before you can enter the CMOS setup menu.

SecurityEasy

The Brilliant IV provides additional SecurityEasy function to protect the
system from unauthorized entry or use.
If the Lock function is enabled, there are two ways to enter LOCK status.
- Push once the button connected to the two-pin header SLEEP. If the Lock
  function is disabled, this button is used as SLEEP button.
- When "Keyboard Inactive Timer" is counted to the preset value- from 1
  minute to 1hour.
In the LOCK status, the power switch and reset buttons are unresponsive,
PS/2 mouse is locked, and the Keyboard is locked except for the
Administrative Password entering. You can preset the Video as blank in the
LOCK status.
The **only** way to exit the LOCK status is to enter the Administrative
Password with the keyboard. It means if you set the Lock function as enabled,
you must also set the Administrative Password together.

Please read the notes below thoroughly.

Note 1: The Green function and the Lock function can not be enabled at the same time.

Note 2: If no Administrative Password has been set by user, the system will never enter the LOCK status.

Note 3: When entering the Administrative password to exit the LOCK status, you must use the normal <Enter> key and not the <Enter> key of the small keypad.

Note 4: On windows NT platform, the Keyboard Inactive Timer is not an inactive timer but a timer ignoring any operating of the keyboard or the mouse.

Note 5: See also chapter 7 " AWARD BIOS Description".

Chapter 4
Quick Installation

The Brilliant IV is shipped with the following manufacture default:

- CPU frequency multiple at 3x (200/66MHz or 300/100MHz Pentium®II)
- LAN Chip(Intel 82558) Enabled
- SCSI Chip(Adaptec 7880) Enabled

Duplicate the following steps to perform a quick installation of your computer.

Step1.   *Install CPU, Heatsink and Fan*
Make sure the Clock Frequecy is set according to the specification of CPU installed. If only 1 CPU is used, the GTC(GTL Terminator Card) must be plugged into the other slot. While dual proccessors are used, they should be identical.

Step 2.   *Install the memory*
Plug at least 1 piece of 168pin DIMM SDRAM module.

Step 3.   *Install VGA/AGP card and connect I/O ports*
Keyboard, Floppy drive and Hard disk drive need to be connected. If there are any other devices, such as CD-ROM, SCSI, PS/2 Devices, Serial Devices, Parallel Devices etc., they may be also connected in this step.

Step 4.   *Connect the LEDs and Switches*
Be sure the anode / cathode of LEDs are connected properly.

Step 5.   *Connect the power supply*
Connect the ATX connector with the power supply output. Be sure the power supply installed meets

the requirements of Brillinat 4(refer to Chapter 2).

Step 6. *Power on the system*
Turn on the AC power of the power supply, then press the Power Button once to turn on the computer power. Before the button is pressed, the status LED should have flashed at a frequency of about 1.5Hz. Refer to chapter 6 for details of Status LED and Power Button.

Step 7. *Setting up the system*
Enter the " Setup Menu " screen of BIOS by pressing the Del key while powering on or reseting the system. Always " LOAD SETUP DEFAULT " at first and select others necessary that your system require. Exit the " Setup Menu " screen and save the setup data.

Step 8. *Enjoy the Brilliant IV*
The Brilliant IV is a high-performance, powerful system.

Note: Please refer to Chapter 6 for details on Hardware Installation.

Quick Jumper Setting

Jumper	Setting	Description
JP10	CLOSE (Default)	Enable Onboard LAN
(LAN-SELECT)	OPEN	Disable Onboard LAN
JP15	CLOSE(Default)	Enable Onboard SCSI
(SCSI-SELECT)	OPEN	Disable Onboard SCSI
JP17	1-2 (Default)	Auto
(SCSI-TERMINATOR)	2-3	Reserved
	OPEN	Disable
JP3	2-3 (Default)	Normal
(CLEAR-CMOS)	1-2	Close once to clear CMOS. Before doing this , you ***must turn off the AC power***

Note: Please refer to chapter 5 for details on jumper setting .

CPU Frequency multiple table

FREQ.MUT	JX1	JX2	JX3	JX4
2	CLOSE	CLOSE	CLOSE	CLOSE
2.5	OPEN	CLOSE	CLOSE	CLOSE
3 (default)	CLOSE	OPEN	CLOSE	CLOSE
3.5	OPEN	OPEN	CLOSE	CLOSE
4	CLOSE	CLOSE	OPEN	CLOSE
4.5	OPEN	CLOSE	OPEN	CLOSE
5	CLOSE	OPEN	OPEN	CLOSE
5.5	OPEN	OPEN	OPEN	CLOSE

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Chapter 5
System Setting by Jumper

The Brilliant IV offers a set of jumper settings to facilitate clock frequency adjustment and other important selections.

CPU Frequency Selection

According to CPU's specification, set the CPU clock speed carefully. If only one CPU is used, the GTC(GTL Terminator Card) must be plugged into the other slot. While dual processors are used, they should be identical. The following illustration lists the jumper settings for the Pentium®II CPUs:
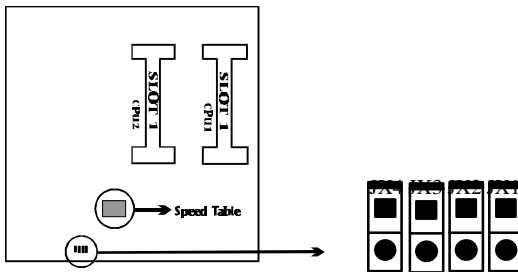
Note: Please refer to page 13 "CPU Frequency Multiple Table "

The following settings are for Pentium®II processors on 66MHz host Bus.

Pentium®II 233MHz =3.5x66MHz

Pentium®II 266MHz= 4 x66MHz
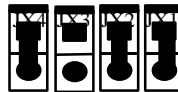
Pentium®II 300MHz =4.5x66MHz
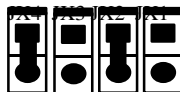
Pentium®II 333MHz= 5x66MHz

The following settings are for Pentium®II processors on 100MHz host Bus.

Pentium®II350MHz=3.5x100MH$_Z$:

JX4 JX3 JX2 JX1
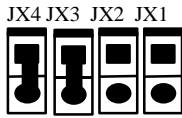
Pentium®II 400MHz= 4x100MH$_Z$

JX4 JX3 JX2 JX1
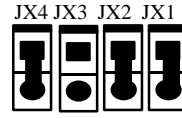
Pentium®II450MHz=4.5x100MH$_Z$:

JX4 JX3 JX2 JX1
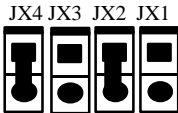
> ● **Warning:**
> **Set CPU's clock speed according to its specification.**
> **CPU over speed will be dangerous!**

Clear CMOS
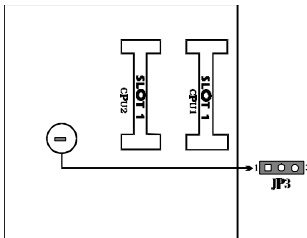
🕐   Power down the AC
supply then close once

Normal

JP3
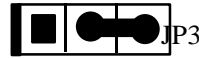
Clear CMOS   JP3

**Warning : You must shut down the
power supply first when
you want to clear the CMOS.**

Memory Configuration

The P6I440BX/DP Brilliant IV main board supports up to four 168PIN 3.3V
un-buffered 100MHz/66MHz DIMM, provides a flexible size from 8MB up to
512MB SDRAM memory or 8MB up to 1GB Registered SDRAM memory.
The following set of rules enables optimum configurations.

Rules for populating a 440BX memory array:

- DIMM sockets can be populated in any order.
- Using the serial presence detect (SPD) data structure, programmed into
an E^2PROM on the DIMM, the BIOS can determine the SDRAM'S size
and speed.
- 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.
- Pentium® II processors with 100MHz bus speed should be paired only
with 100MHz SDRAM.
- Possible SDRAM memory size is 8MB, 16MB, 32MB, 64MB, 128MB
in each DIMM socket.

Onboard SCSI Selection
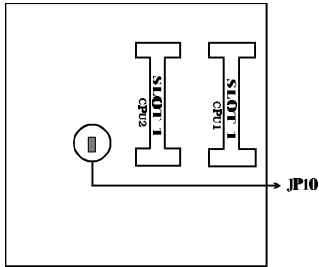
JP10 enables or disables the onboard SCSI controller. Please see the table listed below.

JP10	Comment
Close (Default)	Onboard SCSI controller is ENABLED.
Open	Onboard SCSI controller is DISABLED.

SCSI Terminator Control
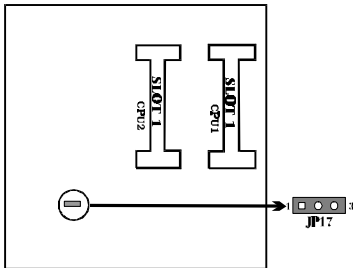
JP17 powers-down or powers-up the onboard SCSI terminators. The terminator are divided into high byte and low byte. Please see the table listed below.

JP17	High byte terminator	Low byte terminator
All Open	Power-down	Power-down
1-2 Close (Default)	Auto	Auto
2-3 Close	Reserved	

Onboard LAN Selection
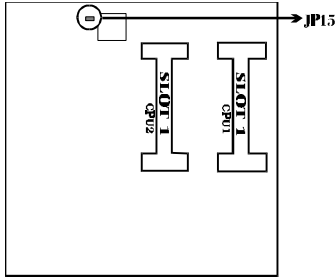
JP15 enables or disables the onboard LAN controller .

JP15	Comment
Close (Default)	Onboard LAN controller is ENABLED.
Open	Onboard LAN controller is DISABLED.

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Chapter 6
Mainboard Connectors

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

Power Switch (POWER)

PIN NUMBER	FUNCTION
1	POWER
2	3V_STB

Connect ATX Power Supply connector to socket J15 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 as shown below:

*Note: During the period of 4 seconds after power on and the period of 8 seconds after power off, the power switch is unresponsive:

.
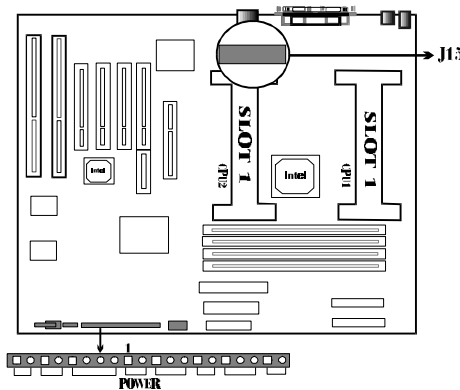
Hard Disk LED Connector(HD_LED)

PIN NUMBER	FUNCTION
1	LED Anode
2	LED Cathode
3	LED Cathode
4	LED Anode

Reset Switch (RESET)

SETTING	FUNCTION
CLOSE ONCE	RESET THE SYSTEM
OPEN	NORMAL

Speaker Connector(SPEAKER)

PIN NUMBER	FUNCTION
1	SPKDATA
2	NC
3	GND
4	VCC

Power LED Connector (PW_LED)

PIN NUMBER	FUNCTION
1	LED Anode
2	LED Cathode
3	LED Cathode

The LED connected to "PWR_LED" will light slightly when the system is in the soft Power-Down status.

Key Lock Connector (KEY_L)

SETTING	FUNCTION
CLOSE	PS/2 Mouse and Keyboard locked
OPEN	NORMAL
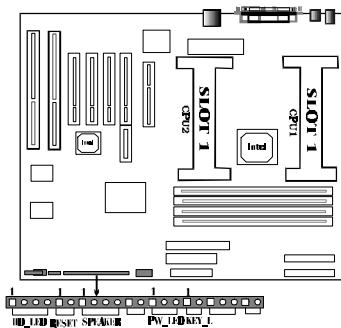
Status LED Connector(GRN_LED)

The LED connected to the "GRN_LED" shows the status of the system as the following table describes.

Status LED Indication	Meaning
Off	No power supply or the current of 5VSB is not strong enough.
On	The system is in Power-up status.
Flashing at a frequency about 1.5Hz	The system is in soft Power-down status.
Flashing at a frequency about 0.5Hz	The system is in Green status.
Flashing at a frequency about 1/6 Hz	The system is in LOCK status.

If there is only one power LED on your chassis, connecting it to this connector is recommecded.

Green/Lock Connector (SLEEP)

SETTING	FUNCTION
CLOSE ONCE	GREEN/LOCK
OPEN	NORMAL

If the item "Lock Function Select" of "SECURITY FEATURE SETUP" in CMOS setup menu is set as "Disable", this button is used as the GREEN button. If it is set as "Enable", the button is used as the LOCK button.

Infrared Header(IR1)

PIN NUMBER	FUNCTION
1	VCC
2	NC
3	IRRX
4	GND
5	IRTX
6	VCC
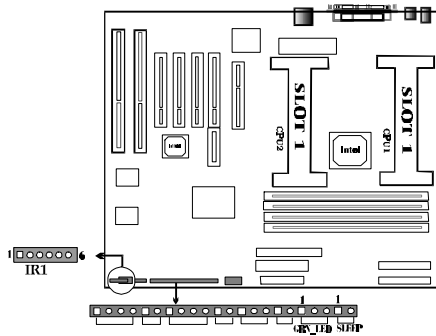
Cooling Fan Connectors(CPUFAN1,2, CHSFAN, BAKFAN)

PIN NUMBER	FUNCTION
1	FAN ground
2	FAN power
3	FAN speed sense

*Note: These four fans are set to " ON "as the default. They will be stopped automatically when the system enters the suspend mode.

Chassis Security (J18):

Leave it Open if the chassis is closed.

Close it if the chassis is opened.

Note* Please refer to QDI's ManageEasy CD-ROM for more information about "Chassis Security".

Wake On Internal Modem Connector (WOM)

PIN NUMBER	FUNCTION
1	Standby Power(+5V)
2	WOM# signal (active low)
3	GND
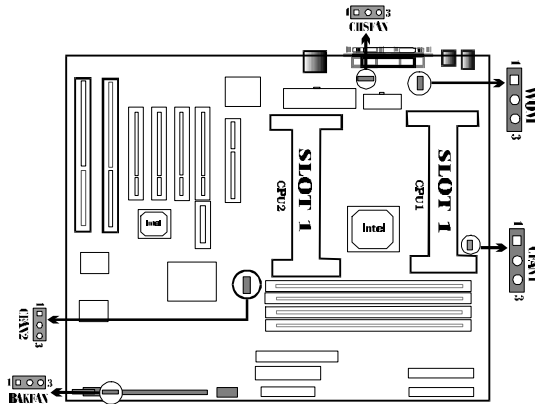
I/O Port and SLOT Description
(See Board layout)

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
Keyboard	For PS2 Keyboard
PS2 Mouse	For PS2 Mouse

CPU1, CPU2   Slots for CPU1 and CPU2. When a single CPU is needed, you can select any one of the two slots to install the CPU, while another slot is for GTC (GTL Terminator Card). It's necessary to install GTC when the single CPU mode is selected.

LAN   Onboard LAN I/O Connector. The onboard LAN adapter 82558 occupies PIRQB of the PCI interrupt.

AGP   For AGP cards. Since the onboard LAN occupies PIRQB of PCI interrupt, you must select PIRQA for AGP Card to avoid the resource's conflicting.

PCI1   It occupies PIRQB. A PCI slave device can be installed. If RAID port is not used, a LAN adapter with IRQ sharing capability (e.g. Intel® PRO/100+) can be installed (some OSes don't support multi-LAN adapters, such as Win95, OS/2 etc.)

PCI2   It occupies PIRQA. Either a PCI master device or a PCI slave device can be installed. If a master device is installed, there's no interrupt available for the AGP card.

PCI3   It occupies PIRQD. Either a PCI master device or a PCI slave device can be installed. If a master device in this slot and USB peripherals are used at the same time, conflict may occur.

PCI4   It occupies PIRQC. A PCI slave device can be installed. In most cases, PCI4 combined with the RAID port slot is

used for RAID port card.

RAID Port   The mainboard with the embedded SCSI can be turned to assist the RAID ready by adding the Adaptec ARO-1130 adapter.

This RAID port option after adding the Adaptec ARO-1130 adapter can support:

- Bus Master DMA
- Up to 133 Mbyte/Sec Burst rate
- RAID 5, 1, 0 and 0/1
- Fully Netware 3.11, 3.12, 4.x & WinNT 3.51/4.0 supported by Adaptec

ISA 1, 2   Generally used for ISA cards.

DIMM 1, 2, 3, 4   Memory for SDRAM .

Narrow SCSI   For ultra narrow SCSI peripherals. Be sure the red side of the cable is aligned with the end of the connector which is marked with "Δ ".

Wide SCSI   For ultra wide SCSI peripherals.

Note 1: The Narrow (50 pin) SCSI is an 8 bit SCSI bus, the wide (68 pin) SCSI is a 16 bit SCSI bus which has a pin-to-pin connected to the 50 pins SCSI connector.

Note 2: The SCSI devices are cabled together in a single, connected series. This SCSI cable must run sequentially from one device to the next, with no branches.

Internal SCSI Connection
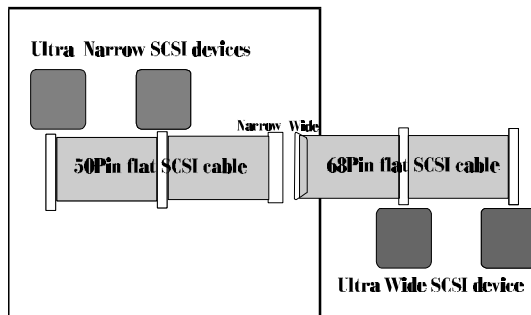
Note 3: Internal narrow SCSI peripherals and internal wide SCSI peripherals can be used at the same time. There is one exception here. When both internal SCSI peripherals and external SCSI peripherals are used (connected by the **optional** external wide SCSI cable with bracket) at the same time, only four kinds of configuration are executable. Please see the table below. The figure below shows one kind of configuration.

Internal SCSI	External SCSI	Onboard Terminators[1]
Wide	Wide	Power-down
Wide	Narrow[2]	Auto
Narrow	Wide	Auto
Narrow	Narrow[2]	Power-down

1. Setting JP17 for control of onboard terminators, see page 18. Besides, the terminators on the SCSI peripherals on the both sides should be enabled (refer to the figure below).
2. To use external narrow SCSI peripherals, you need an extra 50pin-68pin transferrer.

Internal-external SCSI Connection
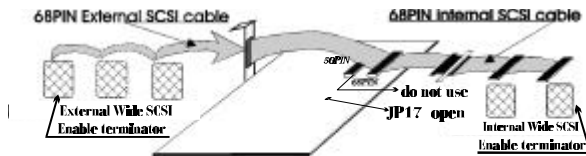
Note 4: You must assign a different SCSI ID to each device on the SCSI bus connected to the system board. See your SCSI device documentation for directions on how to determine the ID and change it.

Ultra Wide SCSI devices connected to this mainboard's SCSI connector can be assigned ID from 0 to 15 (for 68 pin Wide SCSI connection). Normally, ID7 will be used by the on-board host.

The SCSI ID0 is best used for the SCSI hard disk as your computer's boot device; ID1 is best reserved for a secondary SCSI hard disk. (Only when you use the SCSI hard disks and devices.)

Chapter 7
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.

<div align="center">Press <Del> to enter SETUP</div>

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

```
           ROM PCI/ISA BIOS (2A69KQ19)
              CMOS SETUP UTILITY
             AWARD SOFTWARE, INC.

 STANDARD CMOS SETUP          INTEGRATED PERIPHERALS
 BIOS FEATURES SETUP          SYSTEM MONITOR SETUP
 CHIPSET  FEATURES  SETUP     SecurityEasy  SETUP
 POWER  MANAGEMENT  SETUP     PASSWORD SETTING
 PNP/PCI  CONFIGURATION       IDE HDD AUTO DETECTION
 LOAD BIOS DEFAULTS           SAVE & EXIT SETUP
 LOAD SETUP DEFAULTS          EXIT WITHOUT SAVING

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

<div align="center">***Figure-1 Main Menu***</div>

Load Setup Defaults

The Setup Default settings are common and efficient.

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(2A69KQ19)
              STANDARD CMOS SETUP
               AWARD SOFTWARE, INC
 Date (mm:dd:yy)      : Thu,  Mar,  3, 1998
 Time (hh:mm:ss)      : 17:27:52

 HARD DISKS     TYPE  SIZE CYLS  HEAD    PRECOMP LANDZ SECTOR  MODE
 Primary Master    :Auto  0    0      0        0        0       0      Auto
 Primary Slave     :Auto  0    0      0        0        0       0      Auto
 Secondary Master  :Auto  0    0      0        0        0       0      Auto
 Secondary Slave   :Auto  0    0      0        0        0       0      Auto

 Drive A         : 1.44M, 3.5 in.            Base Memory :    640K
 Drive B         : None              Extended Memory : 97280K
                                        Other Memory :    384K
 Video           : EGA/VGA             Total Memory : 98304K
 Halt On         : All Errors
 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 which are used for Enhanced IDE BIOS. Type 1 to Type 45 are predefined. Type "User" is user-definable. If your hard disk drive type does not matched with the drive table or listed in it, you can use Type "User" to define your own drive type manually.

If you have selected Type "Auto", that means the system can autodetect your hard disk when it boots up. If you have selected 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 pre-compensation	LANDZ	landing zone
SECTOR	number of sectors	MODE	HDD access mode

Video

There are 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 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.

Memory

The category which is determined by POST (Power On Self Test) of the BIOS, is non-modifiable.

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 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.

BIOS Features Setup

```
ROM PCI/ISA BIOS (2A69KQI9)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Virus Warning                : Disabled    Video BIOS Shadow      :Enabled
Pentium(R)II L1 Cache        : Enabled     C8000-CBFFF Shadow     :Disabled
Pentium(R)II L2 Cache        : Enabled     CC000-CFFFF Shadow     :Disabled
Pentium(R)II L2 Cache ECC    : Enabled     D0000-D3FFF Shadow     :Disabled
Quick Power On Self Test     : Disabled    D4000-D7FFF Shadow     :Disabled
Boot Sequence                : A,C, SCSI   D8000-DBFFF Shadow     :Disabled
Swap Floppy Drive            : Disabled    DC000-DFFFF Shadow     :Disabled
Boot Up Floppy Seek          : Enabled     Show Bootup Logo       : Enabled
IDE Hard Disk Write Protect  : Disabled    Delay For HDD (Secs)   : 0
Drive A Boot Permit          : Enabled     HDDS.M.A.R.T. capability:Disabled
Boot Up NumLock Status       : On
Gate A20 Option              : Fast
Typematic Rate Setting       : Disabled
Typematic Rate (Chars/Sec)   : 6
Typematic Delay (Msec)       : 250
Password Setting             : Setup       ESC: Quit      ↑↓→← : Select Item
PCI/VGA Palette Snoop        : Disabled    F1  : Help      PU/PD/+/- : Modify
Report  No FDD For Win95     : Yes         F5  : Old Values  (Shift)F2: Color
MPS Version Control For OS    : 1.4         F6  : Load BIOS Defaults
OS Select For DRAM>64MB      : Non-OS2     F7  : Load Setup Defaults
```

Figure-3   BIOS Features Setup Menu

The following indicates the options of each item and describes the meaning of each option.

Item	Option	Description
• Virus Warning	*Enabled*	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.
	Disabled	No warning message appears when anything attempts to access the boot sector or hard disk partition table.

		Note:This function is available only for DOS and other OS that does not trap INT13.
• Pentium(R)II L1/L2 Cache	*Enabled*	Enables Pentium® II internal Level1/Level2 cache.
	Disabled	Disables Pentium® II internal Level1/Level2 cache.
• Pentium(R)II L2 Cache ECC	*Enabled*	Enables Pentium® II L2 cache ECC(Error Checking and Correction) function.
	Disabled	Disables Pentium® II L2 cache ECC function.
• Quick Power On Self Test	*Enabled*	Enables quick POST. BIOS will shorten or skip some check items during POST to speed up POST after you power on the computer.
	Disabled	Normal POST.
• Boot Sequence	*C,A,SCSI, ... C,CDROM,A LS/ZIP, C*	Any search sequence can be chosen for bootup.
• Swap Floppy Drive	*Enabled*	It will exchange the assignment of A&B floppy drives.
	Disabled	The assignment of A&B floppy drives are normal.
• Boot Up Floppy Seek	*Enabled*	BIOS searches for floppy disk drive to determine if drive is ready for diskette read/write during booting.
	Disabled	Skips drive seeking to speed up system booting.
• IDE Hard Disk Write Protect	*Enabled*	Does not allow IDE hard disk to write any data.
	Disabled	Allows IDE hard disk to write any data.
• Driver A Boot Permit	*Enabled*	Boot from driver A function is enabled.
	Disabled	Boot from driver A function is disabled.
• Boot Up Numlock Status	*On*	Keypad is used as number keys.
	Off	Keypad is used as arrow keys.
• Gate A20 Option	*Normal*	The A20 signal is controlled by keyboard controller or chipset hardware.
	Fast	It is default. The A20 signal is controlled by Port 92 or chipset specific method.
• Typematic Rate Setting	*Enabled*	Enables typematic rate and typematic delay programming.
	Disabled	Disables typematic rate and typematic delay programming. The system BIOS will use the default value of these two items.
• Typematic Rate	*6~30*	Sets the speed of the typematic rate(characters per

(Chars/Sec)		second).
• Typematic Delay (Msec)	*250~1000*	Sets the time of the typematic delay.
• Password Setting	*System*	The system will not boot and access to Setup will be denied if the correct password was not entered when prompted.
	Setup	The system will boot up, but access to Setup will be denied if the correct password was not entered when prompted.
• PCI/VGA Palette Snoop	*Enabled*	Enables PCI/VGA palette snoop.
	Disabled	Disables PCI/VGA palette snoop.
• Report No FDD For Win95	*Yes*	Reports No Floppy Disk Drive for Win95 to release IRQ6.
	No	Doesn't report No Floppy Disk Drive for Win95.
• MPS Version Control For OS	*1.1*	MPS Version is 1.1(usually for Unix).
	1.4	MPS Version is 1.4(usually for Windows NT).
• OS Select For DRAM>64MB	*Non-OS2*	If your operating system is not OS/2, please select this item.
	OS2	If system DRAM is more than 64MB and the operating system is OS/2, please select this item.
• Video BIOS Shadow	*Enabled*	Video BIOS will be copied to RAM. Video Shadow will increase the video speed.
	Disabled	Video shadow is disabled.
• C8000-CBFFF Shadow ... DC000-DFFFF Shadow:	*Enabled*	Optional ROM will be copied to RAM by 16K bytes per unit.
	Disabled	The shadow function is disabled.
• Show Bootup Logo	*Enabled*	Shows Bootup Logo.
	Disabled	Does not show Bootup Logo.
• Delay For HDD (Secs):	*0~15*	Sets the predelay time for hard disk to be ready when accessed by the system.
• HDD S.M.A.R.T. capability	*Enabled*	Enables the S.M.A.R.T. capability of Hard Disk.
	Disabled	Disables the S.M.A.R.T. capability of Hard Disk.

Chipset Features Setup

```
ROM PCI/ISA BIOS (2A69KQI9)
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.
```

Auto Configuration	: Enabled	Auto Detect DIMM/PCI Clk : Enabled
EDO DRAM Speed Selection	: 60ns	
EDO CASx# MA Wait State	: 1	
EDO RASx# Wait State	: 1	
SDRAM CAS Latency Time	: 3	
DRAM Data Integrity Mode	: Non-ECC	
System BIOS Cacheable	: Disabled	
Video RAM Cacheable	: Disabled	
8 Bit I/O Recovery Time	: 1	
16 Bit I/O Recovery Time	: 1	
AGP Aperture Size (MB)	: 64	

ESC: Quit   ↑↓→← : Select Item
F1 : Help   PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Setup Defaults

Figure-4   Chipset Features Setup Menu

The following indicates the options of each item and describes the meaning of each option.

Item	Option	Description
• Auto Configuration	*Enabled*	Automatically configures DRAM Timing according to the value of "DRAM Speed Selection".
	Disabled	Manually configures.
• EDO DRAM Speed Selection	*50ns,* *60ns*	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.
• EDO CASx# MA Wait State	*2*	One additional wait state is inserted before the assertion of the first CASx# for page hit cycles. This allows one additional clock of MA setup time to the CASx# for the leadoff page hit cycle. Page miss and row miss timing are

		not affected by this bit.
	1	Without additional wait state.
• EDO RASx# Wait State	*2*	One additional wait state is inserted before RASx# is asserted for row misses. This provides one clock of additional MAX[13:0] setup time to RASx# assertion. This bit does not affect page misses since the MAX[13:0] lines are setup several clocks in advance of RASx# assertion for page misses.
	1	Without additional wait state.
• SDRAM CAS Latency Time	*2*	Defines the CLT timing parameter of SDRAM expressed in the bus speed (eg. 100 MHz clocks). Latency Time=2 clocks
	3	Latency Time=3 clocks
• DRAM Data Integrity Mode	*ECC*	Provides ECC (Error Checking and Correction) function.
	Non-ECC	Disables ECC function.
• System BIOS Cacheable	*Enabled*	Beside conventional memory, the system BIOS area is also cacheable.
	Disabled	The system BIOS area is not cacheable.
• Video RAM Cacheable	*Enabled*	Beside conventional memory, video BIOS area is also cacheable.
	Disabled	Video BIOS area is not cacheable.
• 8 Bit I/ O Recovery Time	*1 ~ 8*	Defines the ISA Bus 8 bit I/O operating recovery time.
	NA	8 bit I/O recovery time does not exist.
• 16 Bit I / O Recovery Time	*1 ~ 4*	Defines the ISA Bus 16 bit I/O operating recovery time.
	NA	16 bit I/O recovery time does not exist.
• AGP Aperture Size (MB)	*4~256*	Sets the effective size of the Graphics Aperture to be used in the particular PAC Configuration.
• Auto Detect DIMM/PCI Clk	*Enabled*	Enables Auto Detect DIMM/PCI Clk, it is helpful in reducing EMI.
	Disabled	Disables this function.

Power Management Setup

```
ROM PCI/ISA BIOS (2A69KQI9)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.
```

ACPI function	:Disabled	** Reload Global Timer Events **	
Power Management	:User Define	IRQ [3-7,9-15], NMI	:Enabled
PM Control by APM	:Yes	Primary IDE 0	:Disabled
Video Off Method	:V/H SYNC+Blank	Primary IDE 1	:Disabled
Video Off After	:Standby	Secondary IDE 0	:Disabled
MODEM Use IRQ	: NA	Secondary IDE 1	:Disabled
		Floppy Disk	:Disabled
Doze Mode	:Disabled	Serial Port	:Enabled
Standby Mode	:Disabled	Parallel Port	:Disabled
Suspend Mode	:Disabled		
HDD Power Down	:Disabled		
Throttle Duty Cycle	:50%		
CPUFAN Off In Suspend	:Enabled		
Resume by Ring or LAN	:Disabled	ESC: Quit ↑↓→← : Select Item	
Resume by Alarm	:Disabled	F1 : Help PU/PD/+/- : Modify	
		F5 : Old Values (Shift)F2: Color	
IRQ 8 Break Suspend	:Disabled	F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

Figure-5 Power Management Setup Menu

The following indicates the options of each item and describes the meaning of each option.

Item	**Option**	**Description**
• ACPI function	*Disabled*	Invalidates ACPI function.
	Enabled	Validates ACPI function.
• Power Management	*Disabled*	Global Power Management (PM) will be disabled. Users can configure their own Power Management
	User Define	Timer.
	Min Saving	Pre - defined timer value are used so that all timers

		are in their MAX values
	Max Saving	Pre - defined timer values are used so that all timers are in their MIN value
• PM Control by APM	*No*	System BIOS will ignore APM when Power Management is enabled.
	Yes	System BIOS will wait for APM's prompt before it enters any PM mode e.g. Standby or Suspend. **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.**
• Video Off Method	*Blank Screen*	The system BIOS will only blank off the screen when disabling video.
	V / H SYNC + Blank	In addition to Blank Screen, BIOS will also turn off the V-SYNC & H - SYNC signals from VGA cards to monitor.
	DPMS	This function is enabled only for VGA cards supporting DPMS. **Note: Green monitors detect the V/H-SYNC signals to turn off its electron gun .**
• Video Off After	*N/A*	System BIOS will never turn off the screen.
	Suspend	Screen off after system enters into Suspend mode.
	Standby	Screen off after system enters into Standby mode.
	Doze	Screen off after system enters into Doze mode.
• MODEM Use IRQ	*3,4,5,7,9, 10,11*	Special wake-up event for the Modem.
	NA	Invalidates this feature.
• Doze mode	*Disabled*	The system will never enter Doze mode.
	1Min ~ 1 Hr	Defines 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	*Disabled*	The system will never enter Standby mode.
	1 Min ~ 1Hr	Defines the continuous idle time before the system entering Standby mode. If any item defined in "Wak Up Events In Doze & Suspend" is On and activated, the system will be waken up.

• Suspend Mode	*Disabled*	The system will never enter Suspend mode.
	1 Min ~ 1Hr	Defines 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	*Disabled*	HDD's motor will not be off.
	1 ~15 Min	Defines the continuous HDD idle time before the HDD entering power saving mode (motor off).
• Throttle Duty	*12.5%*	Selects the duty cycle of the STPCLK# signal when the system is in the system throttling mode.
	25%	
	37.5%	
	50 %	
	62.5%	
	75%	
• Resume by Ring or LAN	*Enabled*	Allows the system to be powered on when a Ring Indicator signal comes up to UART1 or UART2 from external modem or comes up to WOM# from internal modem card. Also allow the system to be powered on when a remote waker-up signal comes up from Onboard LAN controller.
	Disabled	Does not allow Ring Power-On or Wake On LAN.
• Resume by Alarm	*Enabled*	RTC alarm can be used to generate a wake event when the system is in a sleeping or in power off.
	Disabled	No RTC alarm function.
• IRQ 8 Break Suspend	*Enabled*	Generates a clock event.
	Disabled	Does not generate a clock event.
		Note: IRQ8 Clock Event must be enabled when you want to use Resume By Ring, Resume by LAN and Alarm.
• IRQ [3-7, 9-15], NMI … Parallel Port	*Enabled*	Reloads global timer.
	Disabled	No influence to global timer.

PNP/PCI Configuration

```
┌─────────────────────────────────────────────────────────────────────┐
│                 ROM PCI/ISA BIOS (2A69KQ19)                          │
│                   PNP/PCI  CONFIGURATION                             │
│                     AWARD SOFTWARE, INC                             │
├──────────────────────────────────┬──────────────────────────────────┤
│ PNP OS Installed      : No        │ PCI Slot 1 Use  IRQ  No.   : Auto │
│ Resources Controlled By  : Manual │ PCI Slot 2 Use  IRQ  No.   : Auto │
│ Reset Configuration Data : Disabled│ PCI Slot 3 Use  IRQ  No.   : Auto │
│                                   │ PCI Slot 4 Use  IRQ  No.   : Auto │
│ IRQ-3 assigned to   : PCI/ISA PnP  │                                   │
│ IRQ-4 assigned to   : PCI/ISA PnP  │ Used MEM base addr      : N/A     │
│ IRQ-5 assigned to   : PCI/ISA PnP  │                                   │
│ IRQ-7 assigned to   : PCI/ISA PnP  │ Assign IRQ For USB      : Disabled│
│ IRQ-9 assigned to   : PCI/ISA PnP  │ Assign IRQ For VGA      : Disabled│
│ 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  │ 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  │ F6  : Load BIOS Defaults           │
│                                   │ F7  : Load Setup Defaults           │
└──────────────────────────────────┴──────────────────────────────────┘
```

Figure-6   PNP/PCI Configuration Menu

The following indicates the options of each item and describes the meaning of each option.

Item	**Option**	**Description**
• PNP OS Installed	*Yes*	Device resource assigned by PnP OS.
	No	Device resource assigned by BIOS.
• Resources Controlled By	*Manual*	Assigns system resources (IRQ and DMA) manually by user.
	Auto	Assigns system resources (IRQ and DMA) automatically by BIOS.
• Reset Configuration Data	*Enabled*	The system BIOS will force updating ESCD once, then automatically set

41

		this item as Disabled.
	Disabled	Does not force updating ESCD.
• IRQ-3~IRQ-15 assigned to	*Legacy ISA*	The specified IRQ-x will be assigned to ISA only.
	PCI/ISA PnP	The specified IRQ-x will be assigned to ISA or PCI.
• DMA-0~DMA-7 assigned to	*Legacy ISA*	The specified DMA-x will be assigned to ISA only.
	PCI/ISA PnP	The specified DMA-x will be assigned to ISA or PCI.
• PCI Slot 1/2/3/4 Use IRQ No.	*Auto,3,4,5,7,9 10,11,12,14,15*	Assigns an IRQ for PCI slot1/2/3/4 manually or automatically.
• Used MEM base address	*C800/8 ~ 64K*	Claims a memory space occupied by legacy ISA card.
	N/A	Invalidates this feature.
• Assign an IRQ for USB	*Enabled*	Assigns an IRQ for USB when used
	Disabled	This function is disabled (USB can't be used in this moment).
• Assign an IRQ for VGA	*Enabled*	Assigns an IRQ for the VGA Card which needs it.
	Disabled	Does not assign an IRQ for VGA card.

Integrated Peripherals

```
              ROM PCI/ISA BIOS (2A69KQ19)
                INTEGRATED PERIPHERALS
                 AWARD SOFTWARE, INC.

IDE HDD Block Mod          : Enabled    Onboard Parallel Port    : 378/IRQ7
IDE Primary Master PIO     : Auto       Parallel Port Mode       : SPP
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
Onboard PCI SCSI Chip      : Enabled
USB Keyboard Support       : Disabled
                                        ESC: Quit      ↑↓→← : Select Ite
Onboard FDC Controller     : Enabled    F1  : Help   PU/PD/+/-: Modify
Onboard  Serial  Port  1   :3F8/IRQ4    F5  : Old Value (Shift) F2 : Color
Onboard  Serial  Port  2   :2F8/IRQ3    F6  : Load BIOS Defaults
UART Mode  Select          : Normal     F7  : Load Setup Default
```

Figure-7 Integrated Peripherals Menu

The following indicates the options of each item and describes the meaning of each option.

Item	Option	Description
• IDE HDD Block Mode	*Enabled*	Allows IDE HDD to read/write several sectors one time.
	Disabled	IDE HDD only reads/writes a sector for one time.
• IDE Primary/ Secondary Master/Slave PIO	*Mode 0 - 4*	Defines the IDE primary/secondary master/ slave PIO mode.
	Auto	The IDE PIO mode is defined according to auto - detect.

• IDE Primary/ Secondary Master/Slave UDMA	*Auto*	Ultra DMA mode will be enabled if ultra DMA device is detected.
	Disabled	Disables this function.
• On-chip Primary/Secondary PCI IDE	*Enabled*	On-chip primary/secondary PCI IDE port is enabled.
	Disabled	On-chip primary/secondary PCI IDE port is disabled.
• Onboard PCI SCSI Chip	*Enabled*	Onboard PCI SCSI Chip is enabled.
	Disabled	Onboard PCI SCSI Chip is disabled.
• USB Keyboard Support	*Enabled*	USB Keyboard Support is enabled.
	Disabled	USB Keyboard Support is disabled.
• Onboard FDC Controller	*Enabled*	Onboard floppy disk controller is enabled.
	Disabled	Onboard floppy disk controller is disabled.
• Onboard Serial Port 1/2	*3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3,*	Defines the onboard serial port address and required IRQ.
	Auto	System automatically defines the onboard serial port address and required IRQ.
	Disabled,	Onboard serial port is disabled.
• UART2 Mode Select	*Normal*	Defines UART2 as the standard serial port.
	ASKIR	Supports SHARP ASK-IR protocol with maximum baud rate up to 57600bps.
	IrDA	Supports IrDA version 1.0 SIR protocol with maxiumum baud rate up to 115.2Kbps.
• Onboard Parallel Port	*378/IRQ7, 278/IRQ5, 3BC/IRQ7*	Defines the onboard parallel port address and IRQ channel.
	Disabled	Disables the onboard parallel port.
• Parallel Port Mode	*SPP EPP ECP, ECP+EPP*	Defines the parallel port mode as Standard Parallel Port (SPP), Enhanced Parallel Port (EPP), or Extended Capabilities Port (ECP).

System Monitor Setup

```
              ROM  PCI/ISA BIOS (2A69KQ19)
                 SYSTEM MONITOR SETUP
                 AWARD SOFTWARE , INC.

 Shutdown Temperature     : Disabled
 Current CPU1 Temperature : 0°C/32°F
 Current CPU2 Temperature : 0°C/32°F
 Current System Temp.     : 32°C/89°F
 Current CPUFAN1 Speed    : 4821RPM
 Current CPUFAN2 Speed    : 0 RPM
 Current Chassis Fan Speed : 0 RPM
 Current Backup Fan Speed : 0 RPM
 +3.3V                    : 3.32V
 VTT (+1.5V)              : 1.53V`
 +5V                      : 5.02V
 VID1(CPU1)               : 2.02V
 +12V                     : 11.96V
 -12V                     : -12.03V
 VID2(CPU2)               : 2.03V      ESC: QUIT      ↑↓→← : Select Item
                                       F1 : Help       PU/PD/+/- : Modify
                                       F5 : Old Values  (Shift)F2: Color
                                       F6 : Load BIOS Defaults
                                       F7 : Load Setup Defaults
```

Figure-8 System Monitor Setup Menu

The following indicates the meaning of each item.

Item	Current data shown	Description
• Shutdown Temperature	*Disabled* *80°C/176°F* *85°C/185°F* *90°C/194°F*	CPU will always work despite the temperature. When the temperature 80°C/176°F, 85°C/185°F or 90°C/194°F is reached, CPU will shutdown.
• Current CPU1 Temperature		Displays the current CPU1 temperature detected by "LM75" chip.
• Current CPU2 Temperature		Displays the current CPU2 temperature detected by "LM75" chip.
• Current System Temp.		Displays the current mainboard temperature detected by "LM80" chip.

45

- Current CPUFAN1
  Speed
Current CPUFAN2
Speed
Current Chassis FAN
Speed
Current Backup FAN
  Speed

RPM (Revolution Per Minute) Speed of fan which is connected to the fan header CPUFAN1, CPUFAN2, CHSFAN or BAKFAN. 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,
  VTT (+1.5)
  + 5V,
  VID1 (CPU1),
  VID2 (CPU2)
  +12 V,
  - 12 V

Displays current Voltage value including all the most important voltages of the mainboard. +3.3V, +5V, +12V, -12V are voltages from the ATX power supply, VTT (+1.5) Voltage is GTL Termination Voltage from the on board regulator, and VID1, VID2 are CPU1, CPU2 Core Voltages from the on board switching Power Supply.
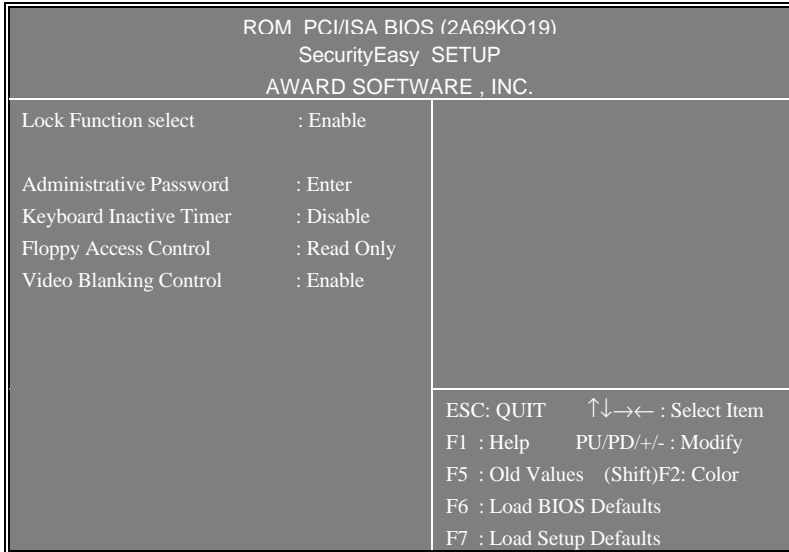
SecurityEasy Setup

```
┌─────────────────────────────────────────────────────────────┐
│              ROM  PCI/ISA BIOS (2A69KQ19)                    │
│                  SecurityEasy  SETUP                         │
│                 AWARD SOFTWARE , INC.                        │
├─────────────────────────────────────┬───────────────────────┤
│  Lock Function select    : Enable    │                       │
│                                      │                       │
│  Administrative Password : Enter     │                       │
│  Keyboard Inactive Timer : Disable   │                       │
│  Floppy Access Control   : Read Only │                       │
│  Video Blanking Control  : Enable    │                       │
│                                      │                       │
│                                      ├───────────────────────┤
│                                      │ ESC: QUIT   ↑↓→← : Select Item │
│                                      │ F1 : Help      PU/PD/+/- : Modify │
│                                      │ F5 : Old Values  (Shift)F2: Color │
│                                      │ F6 : Load BIOS Defaults │
│                                      │ F7 : Load Setup Defaults │
└─────────────────────────────────────┴───────────────────────┘
```

Figure-9 SecurityEasy Setup Menu

The following indicates the meaning of each item.

Item	**Current data shown**	**Description**
• Lock Function Select	*Enable*	Enables the LOCK function.
	Disable	The system will never enter the LOCK mode.
• Administrative Password	*Enter*	To type in the Administrative password is the only way to exit the LOCK mode. When you select this function, the following message "ENTER PASSWORD" will appear at the center of the screen to assist you in creating a password. Type the Administrative password, up to six 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>.

• Keyboard Inactive Timer	*Disable*	The system will not enter the LOCK mode due to the Keyboard Inactive Timer.
	1Min~	Set the continuous idle time of keyboard before
	1Hour	the system entering the LOCK mode.
• Floppy Access Control	*R/W*	The Floppy is Read/Writable.
	Read Only	The Floppy is Read Only.
• Video Blanking Control	*Enable*	Video is blank in the LOCK mode.
	Disable	Video is normal in the LOCK mode.

Note: See also Chapter 3.

Password Setting

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 "Password Setting" 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 "Password Setting" of "BIOS Features Setup" Menu, you will be prompted for the password only when you try to enter "CMOS Setup".

IDE HDD Auto Detection

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

```
                ROM  PCI/ISA BIOS (2A69KQ19)
                     CMOS SETUP UTILITY
                   AWARD SOFTWARE, INC.
```

HARD DISKS TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR MODE

Primary Master:

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

ESC: Skip

Figure-10 IDE HDD Auto Detection Menu

1. Setup Changes

With auto-detection

- BIOS setup will display all possible modes supported by the HDD including NORMAL, LBA and LARGE.
- If HDD does not support the 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 their appropriate mode.

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, also 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 the 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 the 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, users 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 may 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 the < Ctrl >, < Alt > and < Del > keys.

Appendix A.
Utility Diskette

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

For the most updated 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 it is really necessary.**

2. **Before you update your BIOS, you should look over the "README " file to avoid making mistake.**
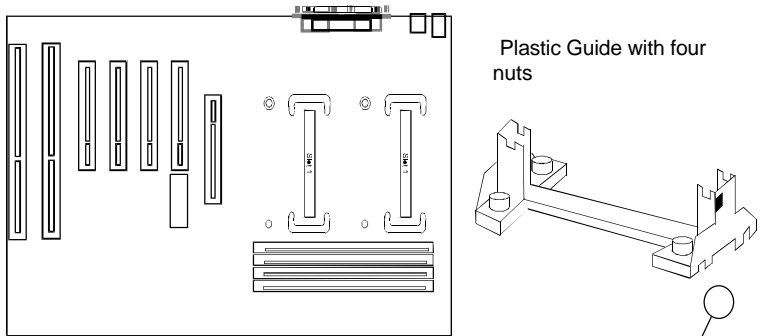
Appendix B.

Retention Mechanism & Pentium® II Processor Installation Procedures (Single CPU shown)

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

Two Retention Mechanism Attach Mount
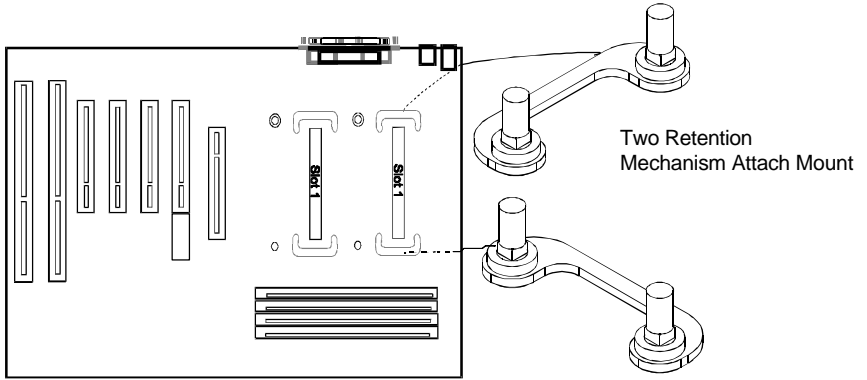
2. Place Plastic Guide with captive nuts on mainboard, then fasten all the four nuts.
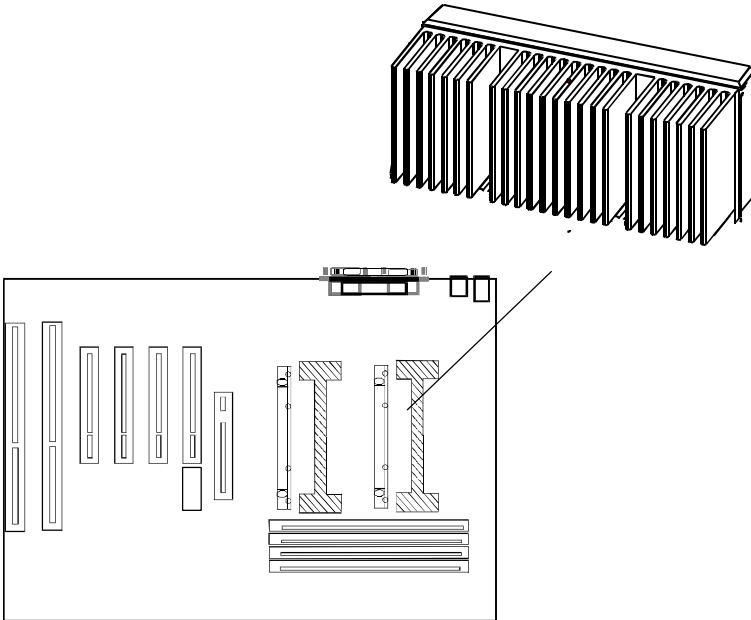
Plastic Guide with four nuts
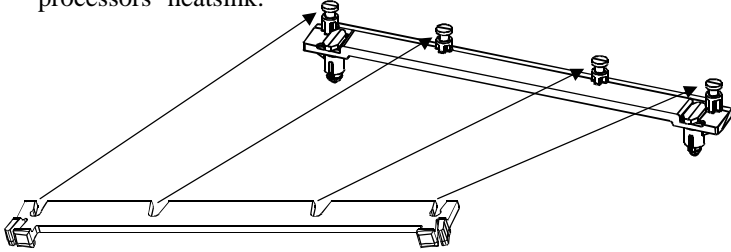
Note: Please pay attention to the direction of the window.

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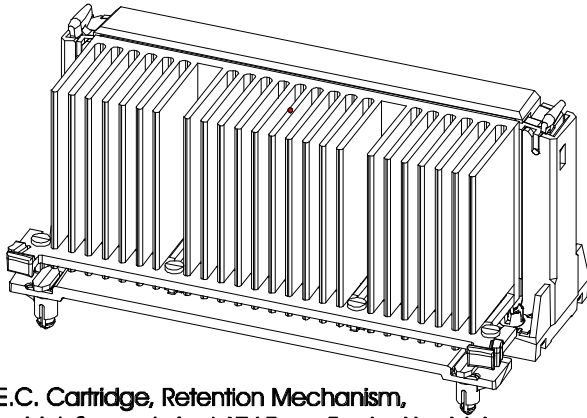
Window

Small

Big
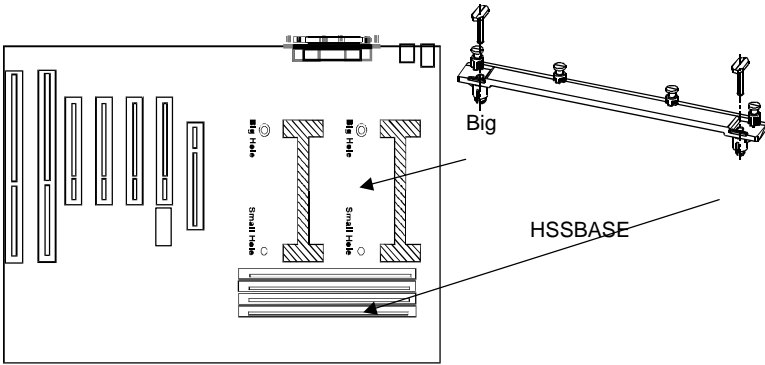
HSSBASE

4. Insert Pentium® II Processor in Slot1.

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

6. The Retention Mechnism installation procedure is completed as shown

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

below.

Remark:

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

Appendix C.
LogoEasy

When you power on or reset your system, the picture listed below will be shown on the screen.

If you press <**Esc**>, the system will switch to the booting message screen. Otherwise, it enters operating system directly. You can use "**cblogo.exe**" (See Utility Diskette) to replace the picture by any other logo which is preferred. Regarding the method of using **cblogo.exe** utility, please refer to its online help. If you prefer not to show any logo on the screen while booting up, set "Disabled" to the "Show Bootup Logo" option. Please refer to page 35.

*   **We reserve the right of modifying the default full-logo of QDI without further notification.**

Appendix D
ManageEasy

It is well known that guaranteeing the computer's security and reliability is essential. Especially today, effectively managing and monitoring the computer's hardware is even more important; because processing and exchanging critical data through computers and networks are occurring everyday.

Moving with the computer's development, the system of the computer will become more and more complex; at the same time, the control of the computer's hardware will be strengthened. Today , it is possible to monitor and manage some control functions. It supports stronger functions for Windows 95 and Windows NT. These functions enable users to view more than one hundred of the basic information about their computer and monitor some key reference data remote access and control computers in your local area network. With the installed QDI ManageEasy (QME), you can improve your managing level.

There are three components packed into QME V1.0

(1)   Administrator Management Applicant (AMA)
       AMA provides the management tools for the administrator. Through AMA, the administrator can do remote monitoring and managing. Using AMA, you can detect or view system information and PC health status for any computer that has installed QDI ManageEasy system. If you have the privilege, special operations can be done on the remote computer, such as watching screen, sending message, shutdown or restart etc.

(2)   Local Management Application (QDM)
       QDI ManageEasy for local computer can help you view important information about local system, monitor PC health, configure what and how to monitor and set privileges of AMA.

(3) DMI BIOS Viewer
       This is a local application too. It supports the latest DMI version- DMI V2.1 and is compatible with the popular version DMI V2.0

English
- For more information, please visit our web-site:
  " ***http://www.qdigrp.com*** "

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Deutsch
- Weitere Informationen sind abrufbar unter der QDI Worldwide-Webseite: " ***http://www.qdigrp.com*** "

Francãis
- Plus amples renseignements peuvent être obtenus en s' adressant au site mondial de QDI désigné par " ***http://www.qdigrp.com*** "

Italiano
- Per ottenere ulteriori informazioni, consultate il sito Internet all'indirizzo " ***http://www.qdigrp.com*** "

Españõl
- Hay información adicional disponible en la web site mundial en " ***http://www.qdigrp.com*** "

Portuguese
- Para mais informações, por favor visitar a nossa website : " ***http://www.qdigrp.com*** "

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