Chapter 1
Introduction

Overview

The BrillianX 8V green motherboard utilizes the VIA BX chipset and provides a highly integrated solution for fully compatible, high performance PC/ATX platform. It provides 66MHz and 100MHz system bus support for all Intel Pentium®II and Celeron™ processors. Both 66MHz/100MHz SDRAM with SPD and 66MHz EDO DIMMs are supported. It also provides advanced features such as AGP, wake-up on LAN and wake-up on internal/external modem . ManageEasy, our system management application is supplied to enable remote monitoring and configuration of the system.The green function is in compliance with the ACPI specification. With the everlasting innovations of QDI such as SpeedEasy and LogoEasy technologies, you get a powerful corporate system.

Key Features

Form factor

- ATX form factor of 305mm x 190mm.

Microprocessor

- Supports all Intel Pentium®II processors at 233/266/300/333MHz with 66MHz bus speed and 350/400/450MHz with 100MHz bus speed.
- Supports all Intel®Celeron™ processors at 266/300/333 MHz with 66MHz bus speed.
- Supports 66MHz and 100MHz hostbus speed.
- CPU core frequency = Bus speed x2.5, x3, x3.5, x4, x4.5, x5, x5.5
- CPU core supply voltage adjustable from 1.3V to 3.5V through on- board switching voltage regulator with VID(Voltage ID).

Chipset

- VIA BX chipset:　VT82C692BX AGP controller
　　　　　　　　　　VT82C596 PCI to ISA bridge.

System memory

- Provides three 168 pin 3.3V unbuffered DIMM sockets.
- Supports both 66MHz/100MHz SDRAMs with SPD and 66MHz EDO DIMMs.
- Minimum memory size is 8MB, maximum memory size is 768MB.
- SDRAM 64 bit data interface with ECC support.

On-board IDE

- Supports two PCI PIO and Bus Master IDE ports.
- Two fast IDE interfaces supporting four IDE devices including IDE hard disks and CD - ROM drives.
- Supports up to PCI mode 4 timing.
- Supports " Ultra DMA/33" Synchronous DMA mode transferring up to 33 Mbytes/sec.
- Integrated 16x32bit buffer for IDE PCI Burst Transfers.

On-board I/O

- Use Winbond W83977EF super I/O chip.
- One floppy port supporting up to two 3.5' ' or 5.25" floppy drives with 360K/720K/1.2M/1.44M/2.88M format.
- Two high speed 16550 fast compatible UARTs(COM1/COM2/COM3/COM4 selective) with 16-byte send/receive FIFOs.
- One enabled parallel port at the I/O address 378H/278H/3BCH with additional bi-direction I/O capability and multi-mode as SPP/EPP/ECP (IEEE 1284 compliant).
- Circuit protection provided, preventing damage to the parallel port when a connected printer is powered up or operates at a higher voltage.
- Supports LS-120 floppy disk drive.
- All I/O ports can be enabled/disabled in the BIOS setup.

Advanced features

- Provides Trend ChipAway Virus® On Guard.
- Provides on-board PS/2 mouse and PS/2 keyboard ports.
- Two USB ports supported.
- Provides infrared interface.
- Supports Windows 95/98 software power-down.
- Supports external modem ring power-on.
- Supports wake-up on LAN and wake-up on internal modem.
- Supports auto fan off when the system enters suspend mode.
- On-board LM80 supports system monitoring (monitors system temperature,voltages, chassis intrusion and fan speed) (manufacturing option).
- On-board MAXIM1617 monitors the CPU temperature. (manufacturing option)
- Provides management application such as ManageEasy and LDCM(LANDesk® Client Manager) (manufacturing option).

BIOS

- Licensed advanced AWARD BIOS, supports flash ROM with 2MB memory size, plug and play ready.
- Supports IDE CD-ROM or SCSI boot up.

Green function

- Supports ACPI (Advanced Configuration and Power Interface) and ODPM (OS Directed Power Management).
- Supports three green modes: Doze, Standby and Suspend.

Expansion slots

- 3 ISA slots and 4 PCI slots.
- 1 AGP Slot.

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Chapter 2

Installation Instructions

This section covers External Connectors, Jumper Settings and Memory Configuration. Refer to the motherboard layout chart for locations of all the jumpers, external connectors, slots and I/O ports. Furthermore, this section lists all necessary connector pin assignments for your reference. The particular state of the jumpers, connectors and ports are illustrated in the following figures. Before setting the jumpers or inserting these connectors, please pay attention to the directions.

Be sure to unplug the AC power supply before adding or removing expansion cards or other system peripherals, otherwise your motherboard and expansion cards might be seriously damaged.

External Connectors

PS/2 Keyboard Connector, PS/2 Mouse Connector

PS/2 keyboard connector is for the usage of PS/2 keyboard. If using a standard AT size keyboard, an adapter should be used to fit this connector. PS/2 mouse connector is for the usage of PS/2 mouse.
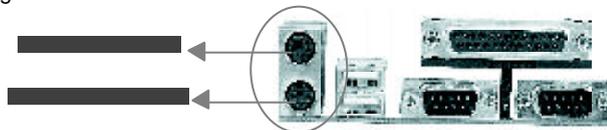
USB1, USB2

Two USB ports are available for connecting USB devices.
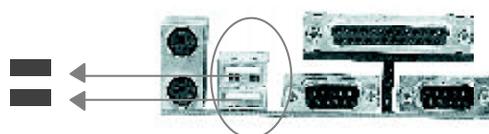
### Parallel Port Connector and Serial Port Connector (UART1, UART2)

The parallel port connector can be connected to a parallel device such as a printer, while the serial port connectors can be connected to serial port devices such as a serial port mouse. You can enable/disable them and choose the IRQ or I/O address in " Integrated Peripherals" from AWARD BIOS SETUP.
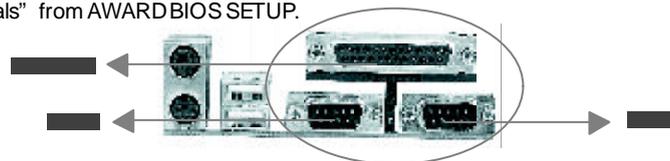
ATX Power Supply Connector & Power Switch (POWER)

Be sure to connect the power supply plug to this connector in its proper orientation. The power switch (POWER) should be connected to a momentary switch. When powering up your system, first turn on the mechanical switch of the power supply (if one is provided), then push once the power button. When powering off the system, you needn't turn off the mechanical switch, just **_Push once_**[*] the power button.

ATX Power Supply Connector
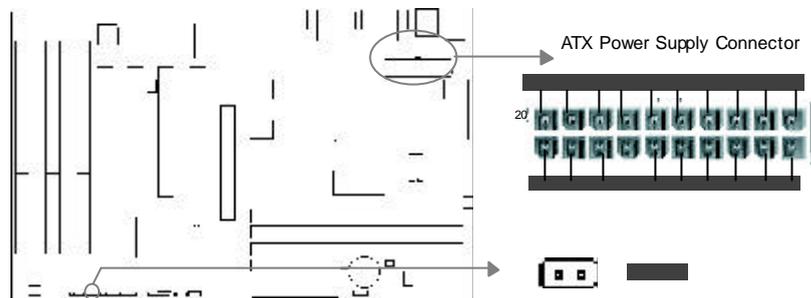
Note: * If you change "soft-off by PWR-BTTN' from default "Instant-off" to "Delay 4 Secs" in the "POWER MANAGEMENT SETUP" section of the BIOS, the power button should be pressed for more than 4 seconds before the system powers down.

Hard Disk LED Connector (HD_LED)

The connector connects to the case's IDE indicator LED indicating the activity status of IDE hard disk.

Reset Switch (RESET)

The connector connects to the case's reset switch. Press the switch once, the system resets.

Speaker Connector (SPEAKER)

The connector can be connected to the speaker on the case.

Power LED Connector (PWR_LED)

The power LED has three status. When no AC power supply is present, the LED is off. When the system is in soft power-down status, the LED glows dimly. When the system is powered up, the LED is on.

Key-Lock Connector (KEY_L)

The connector can be connected to the keyboard lock switch on the case for locking the keyboard.

Green LED Connector (GREEN_LED)

The green LED has four status. When no AC power supply is present, the LED is off. When the system is in soft power-down status, the LED glows dimly. When the system is powered up, the LED is on. When the system enters suspend mode, the LED will flash.

Hardware Green Connector (SLEEP)

Push once the switch connected to this header and the system will enter suspend mode.
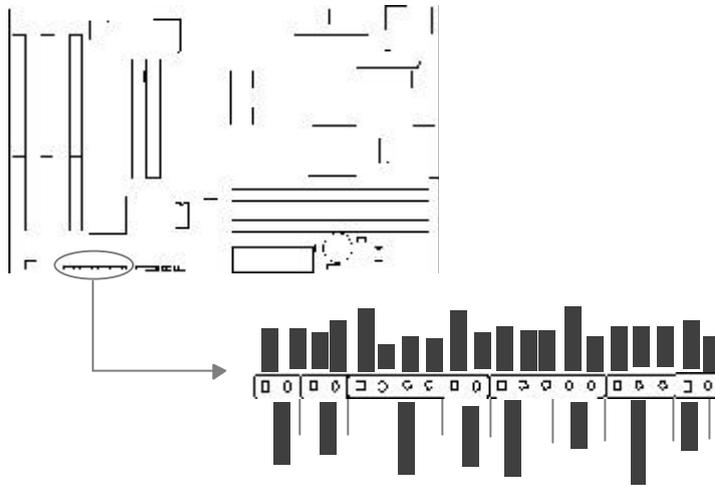
Infrared Header (IrDA)

This connector supports wireless transmitting and receiving. If using this function, configure the settings of 'Serial Port 2 Mode' from the 'INTEGRATED PERIPHERALS' section of the BIOS.
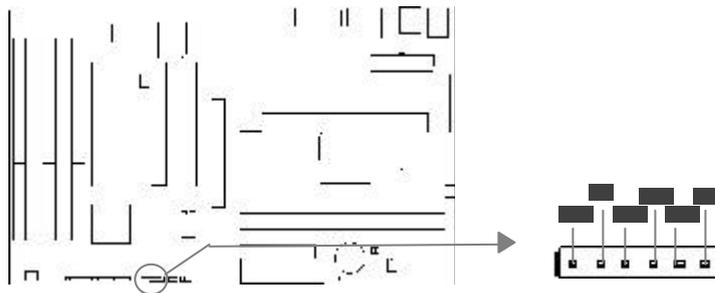
Fan Connector (CPUFAN, CHSFAN)

These two fans are controllable. They will be automatically turned off after the system enters suspend mode. You also can choose not to turn the CPUFAN off by setting "CPUFAN In Suspend" as on in the "POWER MANAGEMENT SETUP" section of the BIOS.

CPUFAN

CHSFAN
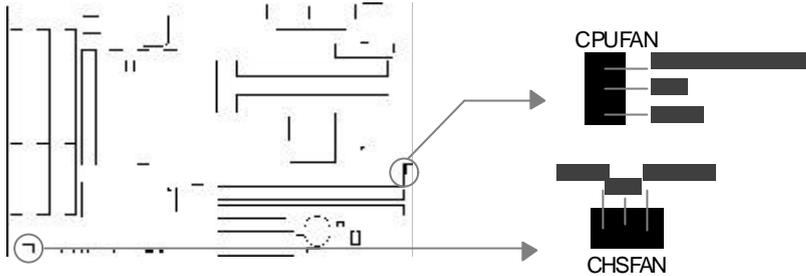
Wake-Up On LAN (WOL)

Through the Wake-Up On LAN function, a wake event occurring from the network can wake up the system. If this function is to be used, please be sure an ATX 2.01 power supply of which 5VSB line is capable of delivering 720mA, and a LAN adapter which supports this function are used. Then connect this header to the relevant connector on the LAN adapter, set "Wake Up On LAN" as Enabled in the "POWER MANAGEMENT SETUP" section of the BIOS. Save & exit, then boot the operating system once to make sure this function takes effect.
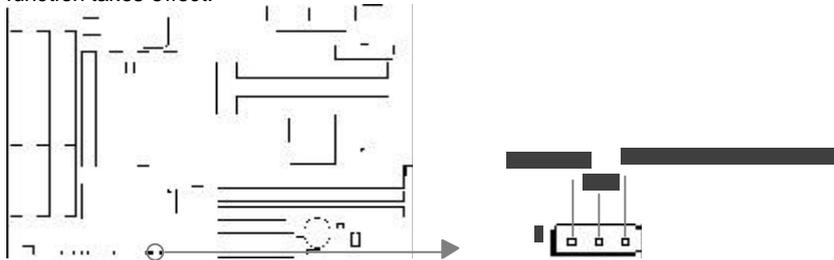
Wake-Up On Internal Modem (WOM)

Through the Wake-Up On Internal Modem function, the system which is in the power-off status can be powered on by a ring signal received from the internal modem. If this function is to be used, be sure an internal modem card which supports the function is used. Then connect this header to the relevant connector on the modem card, set "Modem Ring Resume" to Enabled in the "POWER MANAGEMENT SETUP" section of the BIOS. Save & exit, then boot the operating system once to make sure this function takes effect.
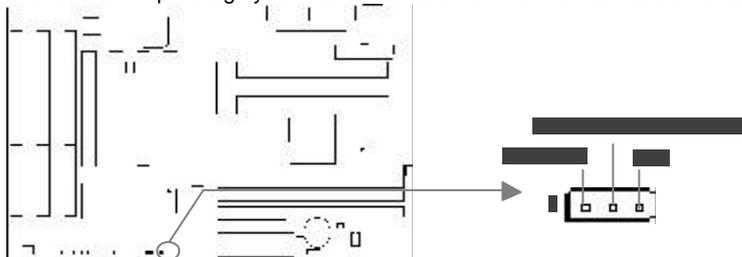
Chassis Security Switch (CHSSEC)

The connector connects to the chassis security switch on the case. The system can detect the chasis intrusion through the status of this connector. If the connector has been closed once, the system will record the status and indicate to the customer that the chassis has been opened. You can either get this information from System Monitor of

BIOS software (optional) or QDI ManageEasy software.
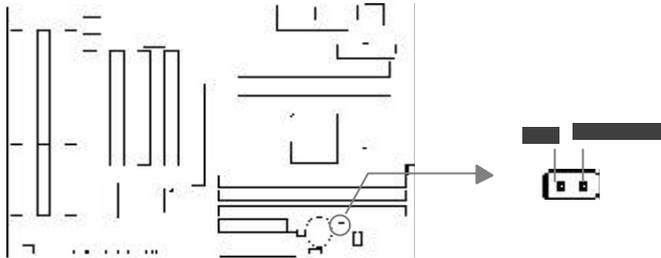
Sound Connector (SBLINK)

This connector is for the usage of PCI sound card.
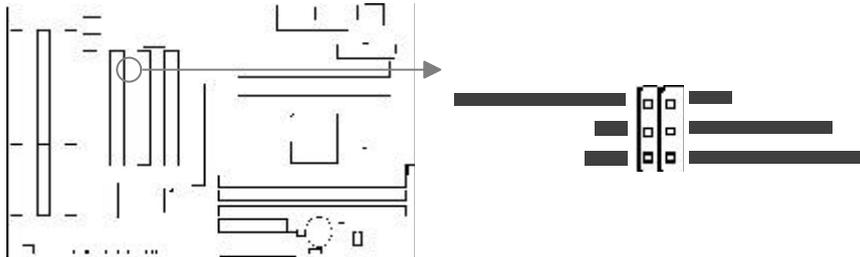
Expansion Slots & I/O Ports description

| Slot / Port	Description
ISA 1	First ISA slot.
ISA 2	Second ISA slot.
ISA 3	Third ISA slot.
PCI 1	First PCI slot.
PCI 2	Second PCI slot.
PCI 3	Third PCI slot.
PCI 4	Fourth PCI slot.
IDE 1	Primary IDE port.
IDE 2	Secondary IDE port.
FLOPPY	Floppy Drive Port.
AGP	Accelerated Graphics Port.

There is one jumper setting on the motherboard, clear CMOS jumper JCC.
Pin 1 of the jumper is located on the side with a thick white line (Pin 1 →
), referring to the motherboard silkscreen. Jumpers with three pins will
be shown as to represent pin1&pin2 connected and to
represent pin2 & pin3 connected.

Clear CMOS (JCC)

If you want to clear CMOS, unplug the AC power supply first, close JCC(pin1&pin2) once,
set JCC back to the normal status with pin2&pin3 connected, then power on the system.

Normal status:　　　　　　　　　　　JCC

Clear CMOS:　　　　　　　　　　　　JCC

(Unplug the AC power supply)
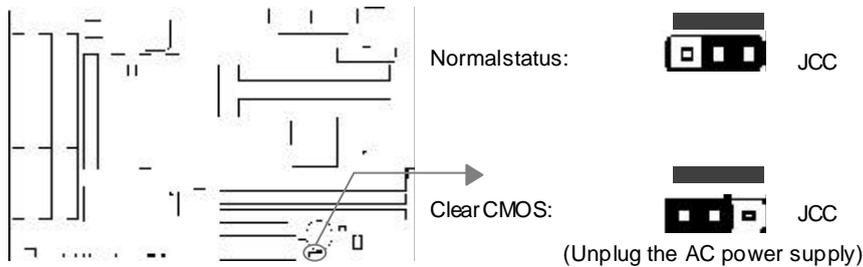
Memory Configuration

This motherboard provides three 168 pin 3.3V un-buffered DIMM sockets to support a
flexible memory size ranging from 8MB/384MB for SDRAM or from 8MB/768MB for EDO
memory. Both 66MHz/100MHz SDRAM with SPD and 66MHz EDO DIMMs are supported.
The following set of rules allows for optimum configurations.

Rules for populating a 440BX memory array:

- Processors with 100MHz front-side bus should be paired only with 100MHz SDRAM.
  Processors with 66MHz front-side bus can be paired with either 66MHz or 100MHz
  SDRAM.

- 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 timing of the slowest DRAMs installed.

- Possible SDRAM DIMM memory sizes are 8MB, 16MB, 32MB, 64MB, 128MB in each DIMM
  socket.

- Possible EDO DIMM memory sizes are 8MB, 16MB, 32MB, 64MB, 128MB, 256MB in each
  DIMM socket.

Chapter 3
BIOS Description

Utility Support:

FLASH.EXE

This is a flash memory write/read utility used for the purpose of updating your BIOS when necessary. Before doing so, please note:

- **We strongly recommend you only upgrade BIOS when encountering problems.**
- **Before upgrading your BIOS, review the description below to avoid making mistakes, resulting in a destroyed BIOS and a non-working system.**

When you are encountering problems, for example, you find your system doesn't support the new CPU which is released after our current motherboard, you may therefore update the BIOS.

Follow the steps exactly for a successful upgrade.

1. Create a bootable system floppy diskette, by typing Format A:/s from the DOS prompt under DOS6.xx or Windows 9x environment.

2. Copy FLASH.EXE from the directory \Utility on the QDI Motherboard Utility CD onto your new bootable diskette.

3. Download the updated BIOS file from the Website (http://www.qdigrp.com). Please be sure to download the suitable BIOS file for your motherboard.

4. Uncompress the file download, copy the BIOS file (xx.bin) onto the bootable diskette, and write down the checksum of this BIOS which is included in readme file.

5. Reboot the system from the bootable diskette which you have created.

6. Then run the FLASH utility at the **A:** prompt. During the process, the system will prompt : ' Do you want to save the BIOS(Y/N)' . If you type ' Y' , the system will prompt for the BIOS name. The system will also display the checksum which should be exactly the same as the checksum you copied from the readme file. Don' t turn off power or reset the system until the BIOS upgrade has been completed.

/n: programs BIOS without prompting. If this option is chosen:

   Be sure your new BIOS is compatible with your MB. If not, the system will

   be damaged.

/g: Retrieves BIOS file from BIOS ROM.

Examples:

     A:\FLASH.EXE BIOSfile.bin

     A:\FLASH.EXE BIOSfile.bin /cdpc/n

     A:\FLASH.EXE BIOSfile.bin /g

Note: FLASH utility runs incorrectly at Windows DOS prompt.

AWARD BIOS Description

Entering Setup

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

Press <Del> to enter SETUP

Once you have entered, the Main Menu (Figure 1) appears 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 the <Enter> key to accept or enter the sub-menu. The <ESC> key can be used to exit the submenu.

Figure-1 Main Menu

Note: The 'System Monitor' item will not be displayed if there is no LDCM supporting chips on the motherboard.

Load Setup Defaults
The Setup Defaults are common and efficient. It is recommended that users load the setup defaults first, then modify the needed configuration settings.

Standard CMOS Setup
The basic CMOS settings included in 'Standard CMOS Setup' are Date, Time, Hard Disk Drive Types, Floppy Disk Drive Types, and VGA etc. Use the arrow keys to highlight the item, then use the <PgUp> or <PgDn> keys to select the value you want in each item.
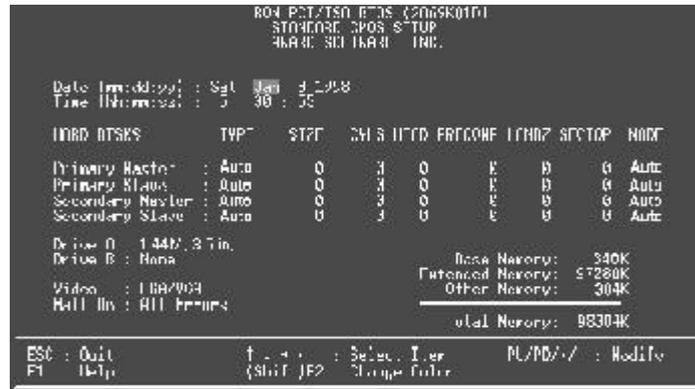
Figure-2 Standard CMOS Setup Menu

Hard Disk

Primary Master/Primary Slave/Secondary Master/Secondary Slave

These categories identify the HDD types of 2 IDE channels installed in the computer system. There are three choices provided for the Enhanced IDE BIOS: None, Auto, and User. ' None' means no HDD is installed or set; ' Auto' means the system can auto-detect the hard disk when booting up; by choosing ' user' , the related information should be entered regarding 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

Set this field to the type of video display card installed in your system.

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

Halt On

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

No errors	The system boot will not stop for any errors 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 other errors.
All, But Diskette	The system boot will not stop for a disk error; but it will stop for all other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error, but it will stop for all other errors.

Memory

This is a Display-Only Category, 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 how much extended memory is presented during the POST.
Other Memory	This is the memory that can be used for different applications. Shadow RAM is most used in this area.
Total Memory	Total memory of the system equals the sum of the above memory.

SpeedEasy CPU Setup

Figure-3 SpeedEasy CPU Setup

The following indicates the options for each item and describes their meanings .

Item	Option	Description
● CPU Model		BIOS automatically detects the CPU model, therefore this item is shown only. It could be Pentium(R)II or Intel(R) Celeron(TM), depending on the processor chosen.
● CPU Speed	*SpeedEasy*	CPU frequency should be set according to the CPU type. For Celeron™ or Pentium®II (66MHz front-side bus) processors, you can choose from 200MHz (66X3), 233MHz(66X3.5), 266MHz (66x4), 300MHz(66X4.5), or 333MHz (66X5). For Pentium®II processors with 100MHz front-side bus, you can select from 300MHz(100X3), 350MHz (100X3.5), 400MHz (100X4), 450MHz(100X4.5), or 500MHz(100X5).
	Jumper Emulation	This item is only for users who understand all the CPU parameters, i.e. System Bus Frequency ' 100MHz /66MHz' and multiplication of Processor Core Frequency to System Bus frequency " x3, x3.5, x4, x4.5, x5, x5.5" .

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

BIOS Features Setup

Figure-4 BIOS Features Setup Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
● Chip Away Virus On Guard	*Enabled*	Guards against boot virus threats early in the boot cycle, before they have a chance to load into your system, ensuring your computer boots to a clean operating system.
	Disabled	Invalidates this function.
● CPU L1/L2 Cache	*Enabled*	Enables CPU internal Level1/Level2 cache.
	Disabled	Disables CPU internal Level1/Level2 cache.
● CPU L2 Cache ECC	*Enabled*	Enables CPU L2 Cache ECC (Error Checking and Correction) function.
	Disabled	Disables CPU 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 From LAN First	*Enabled*	Boot from LAN is ahead of any boot sequence selection (LAN Adapter must support this function).
	Disabled	Does not boot from LAN first.
● Boot Sequence	C,A,SCSI,... C,CDROM,A LS/ZIP, C	Any search sequency can be chosen for booting.

● Swap Floppy Drive	*Enabled*	Exchanges the assignment of A&B floppy drives.
	Disabled	The assignment of A&B floppy drives are normal.
● 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 the keyboard controller or chipset hardware.
	Fast	Default setting. The A20 signal is controlled by Port 92 or the chipset specific method.
● Memory Parity /ECC check	*Enabled*	Enables the Error Checking & Correction if ECC memory is used.
	Disabled	Disables the ECC function.
● Password Setting	*System*	The system will not boot and access to BIOS Setup will be denied if the correct password is not entered when prompted.
	Setup	The system will boot up, but access to BIOS Setup will be denied if the correct password is not entered when prompted.
● IDE second channel control	Enabled	Enables the second IDE channel.
	Disabled	Disables the second IDE channel and release the IRQ.
● 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.
● HDD S.M.A.R.T Capability	Enabled	Enables S.M.A.R.T hard disk support.
	Disabled	Invalidates this feature.
● 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*	Enables the logo when system boots up.
	Disabled	Logo will not be shown when system boots up.

Chipset Features Setup

Figure-5   Chipset Features Setup Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
● Bank 0/1, 2/3, 4/5 DRAM Timing	60ns 70ns	These items are of selected EDO DRAM read/write timing. You must ensure that your DIMMs are as fast as 60ns, otherwise you have to select 70ns.
● SDRAM Cycle Length	3	Define the CLT timing parameter of SDRAM expressed in 66MHz clocks, Latency Time = 2 clocks Latency Time = 3 clocks
● DRAM Read Pipeline	Enabled Disabled	Enables DRAM Read Pipeline. Disables DRAM Read Pipeline.
● Cache Rd+CPU wt pipeline	Enabled Disabled	Enables Read Around Write. Disables Read Around Write.
● Cache Timing	Fast Fastest	This item is used to select Cache Read/Write speed, "Fast" is the optimize selection.
● Video BIOS Cacheable	Enabled	Besides conventional memory, video BIOS area is also cacheable.
	Disabled	Video BIOS area is not cacheable.
● System BIOS Cacheable	Enabled	Besides conventional memory, the system BIOS area is also cacheable.
	Disabled	The system BIOS area is not cacheable.
● Memory Hole At 15Mb Addr	Enabled	Memory Hole at 15-16M is reserved for expanded PCI card.
	Disabled	Do not set this memory hole.

- AGP Aperture Size (4-256) — *64M* — Sets the effective size of the Graphics Aperture to be used in the particular PAC Configuration.

- Onchip USB — *Enabled* / *Disabled* — This item is used to enable or disable onchip USB Controller.

- Close Empty DIMM/PCI Clk — *Enabled* — Closes empty DIMM clock or PCI clock to reduce EMI.

  Disabled — Does not close empty DIMM or PCI clock.

- Clock Spread Spectrum — *0.75%, 0.50% 0.25%* — Enables Clock Spread Spectrum to reduce EMI.

  Disabled — Disables Clock Spread Spectrum.

Power Management Setup

Figure-6 Power Management Setup Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
● ACPI function	*Disabled*	Invalidates ACPI function.
	Enabled	Validates ACPI function.
● Power Management	*User Define*	Users can configure their own Power Management Timer.
	Min Saving	Pre - defined timer values are used. All timers are in their MAX values.
	Max Saving	Pre - defined timer values are used. All timers are in their MIN values.
● 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 entering any PM mode e.g. Standby or Suspend.
● Video Off Option	*Suspend→off*	The system BIOS will disable the video when entering suspend mode.
	All modes→Off	The system BIOS will disable the video when entering all power-saving mode.
	Always On	The video remains on.
● 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 the VGA card supporting DPMS.

● MODEM Use IRQ	*N/A* *IRQ " X"*	Select IRQ " X" used by modems.
● Soft-Off by PWRBTN	*Instant-off*	The system will power off immediately once the power button is pressed.
	Delay 4 secs	The system will not power off until the power button has been pressed continuously for more than 4 seconds.
● CPU Fan In Suspend	Off	CPU fan will be automatically turned off when the system enters suspend mode.
	On	CPU fan remains on when the system enters suspend mode.
● HDD Power Down	*Disabled*	Disables HDD Power Down Timer.
	1 ~15 Min	Defines the continuous HDD idle time before the HDD enters the power saving mode (motor off).
● Doze mode	*Disabled*	The system never enters Doze mode.
	10Sec ~ 1 Hr	Defines the continuous idle time before the system enters Doze mode. If any items defined in " Reload Global Timer Events" are On and activated, the system will be woken up.
● Suspend Mode	*Disabled*	The system will never enter Suspend mode.
	10Sec~ 1Hr	Defines the continuous idle time before the system enters the Suspend mode. If any items defined in " Reload Global Timer Events " are On and activated, the system will be woken up.
● VGA	*On*	VGA active reloads global timer.
	Off	VGA active has no influence to global timer.
● LPT&COM HDD&FDD	*LPT/COM*	Any operation of the items reload global timer.
	OFF/ON	The operation of the items have no influence to global timer.
● Modem Ring Resume	*Enabled*	Allows the system to be powered on when a Ring indicator signal comes up to UART1 or UART2 from external modem or to modem Ring on Header from internal modem card.
	Disabled	Does not allow Ring Power-on.
● RTC Alarm Resume	*Enabled*	RTC alarm can be used to generate a wake event to power up the system which is in soft power-down status. You can set any date, any time to power up the system.
	Disabled	RTC has no alarm function.
● Wake Up On LAN	*Enabled*	Allows the system to be powered on when a remote wake up signal comes up to the WOL header from LAN adapter.
	Disabled	Does not allow wake up on LAN.

| ● IRQ (3-15) | *Primary* | Reload global timer. |
	Secondary	No influence to global timer, only finish an operation that IRQ " X" requests.
	Disabled	No influence to global timer.
● HDD Down In Suspend	*Enabled*	HDD' s motor will be turned off when the system enters suspend mode.
	Disabled	HDD' s motor remains on.

PNP/PCI Configuration Setup
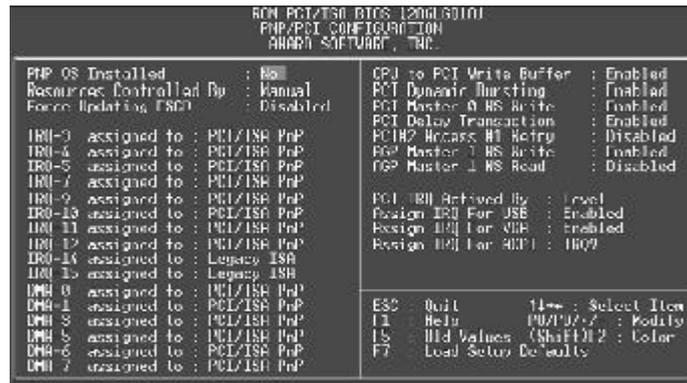
Figure-7 PNP/PCI Configuration Setup Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
● PNPOS Installed	Yes	Device resources assigned by PnP OS.
	No	Device resources assigned by BIOS.
● Resources Controlled By	Manual	Assigns the system resources (IRQ and DMA) manually .
	Auto	Assigns system resources (IRQ and DMA) automatically by BIOS.
● Force Updating ESCD	Enabled	The system BIOS will force updating ESCD once, then automatically set this item as Disabled.
	Disabled	Disables the forced update ESCD function.
● 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.
● CPU to PCI Write Buffer	Enabled	Enables CPU to PCI Write Buffer.
	Disabled	Disables CPU to PCI Write Buffer.
● PCI Dynamic Bursting	Enabled	Enables PCI Dynamic Bursting.
	Disabled	Disables PCI Dynamic Bursting.
● PCI Master 0 ws Write	Enabled	Enables PCI Master ws Write.
	Disabled	Disables PCI Master ws Write.

● PCI Delay Transacition	*Enabled*	Enables PCI Delay Transaction.
	Disabled	Disables PCI Delay Transaction.
● PCI #2 Access #1 Retry	*Enabled*	Enables PCI #2 Access #1 Retry.
	Disabled	Disables PCI #2 Access #1 Retry.
● AGP Master 1 ws Write	*Enabled*	Enables AGP Master 1 ws Write.
	Disabled	Disables AGP Master 1 ws Write.
● AGP Master 1 ws Read	*Enabled*	Enables AGP Master 1 ws Read.
	Disabled	Disables AGP Master 1 ws Read.
● PCI IRQ Actived By	*Level*	Select PCI IRQ Active mode.
	Edge	
● Assign IRQ for USB	*Enabled*	Assigns an IRQ for USB. If an USB device is used, enable this item.
	Disabled	Does not assign an IRQ for USB. If no USB device is used, disabling this item can release the IRQ.
● Assign IRQ for VGA	*Enabled*	Assigns the needed IRQ for the VGA Card.
	Disabled	Does not assign an IRQ for the VGA card, in order to release the IRQ.

Integrated Peripherals
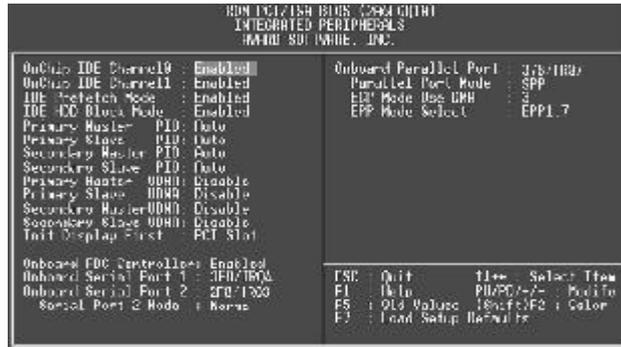
Figure-8 Integrated Peripherals Menu

The following indicates the options for each item and describes their meaning.

Item	Option	Description
● OnChip IDE channel 0/1	Enabled	Enables on chip IDE First/Second Channel.
	Disabled	Disables on chip IDE First/Second Channel.
● IDE Prefetch/Mode	Enabled	Enables IDE Prefetch Model.
	Disabled	Disables IDE Prefetch Model.
● IDE HDD Block Mode	Enabled	Allows IDE HDD to read/write several sectors at once.
	Disabled	IDE HDD only reads/writes a sector once.
● 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 by auto-detection.
● IDE Primary/Secondary Master/Slave UDMA	Auto	Ultra DMA mode will be enabled if ultra DMA device is detected.
	Disabled	Disables this function.
● Init Display First	PCI SLOT	Initializes the PCI VGA first. If a PCI VGA card and an AGP card are installed together in the system, the one initialized first functions.
	AGP	Initializes the AGP first.
● 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 interrupt number.
	Auto	Onboard serial port address and IRQ are

		automatically assigned.
	Disabled	Onboard serial port is disabled.
● Serial Port 2	*Normal*	Defines Serial Port 2 as standard serial port.
Mode	*ASKIR*	Supports SHARP ASK-IR protocol with maximum baud rate up to 57600bps.
	IrDA	Supports IrDA version1.0 SIR protocol with maxiumum baud rate up to 115.2Kbps.
● Onboard Parallel	*378/IRQ7,*	Defines onboard parallel port address and IRQ channel.
Port 1/2	*278/IRQ5,*	
	3BC/IRQ7	
	Disabled	Onboard parallel port is disabled.
● Parallel Port Mode	*SPP*	Defines the parallel port mode as
	EPP	Standard Parallel Port (SPP), Enhanced
	ECP,	Parallel Port (EPP), or Extended
	ECP+EPP	Capabilities Port (ECP).

System Monitor
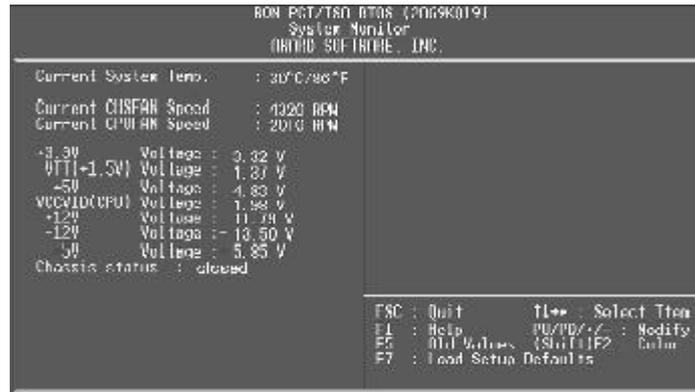
Figure-9 System Monitor Menu

The following describes the meaning of each item.

Item	**Current Data Shown**	**Description**
● Current System Temp.	30°C/86°C	The temperature inside the chassis.
● Current CHSFAN Speed	2010RPM	RPM(Revolution Per Minute) speed of fan
Current CPUFAN Speed	4320RPM	connected to the fan header CPUFAN 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 Voltage	3.32V	Displays current Voltage values including all
VTT (+1.5) Voltage,	1.37V	the most important voltages of the motherboard.
+ 5V	4.83V	+3.3V, +5V, +12V, -12V, -5V are voltages
VCCVID(CPU) Voltage	1.98V	from the ATX power supply, VTT (+1.5)
+12V	11.79V	Voltage is GTL Termination Voltage from
-12V	-12.50V	the on-board regulator, and VCCVID (CPU)
- 5V	-5.25V	Voltage is CPU Core Voltage from the on
		board switching Power Supply.
● Chassis Status:	Closed	Indicates status of chassis is closed.
	Opened	Indicates status of chassis is opend.

Supervisor/ User Password

When this function is selected, the following message appears 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.

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 CMOS Setup freely.

PASSWORD DISABLED

If you have selected ' **System** ' in ' Password Setting' of ' BIOS Features Setup' menu, you will be prompted for the password every time the system reboots or any time you try to enter CMOS Setup.

If you have selected ' **Setup** ' at ' Password Setting' from ' BIOS Features Setup' menu, you will be prompted for the password only when you enter CMOS Setup.

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

IDE HDD Auto Detection

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

```
ROM  PCI/ISA BIOS (2A69KQ10)
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	HEAD	PRECOMP	LANDZ	SECTOR	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	LARG

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

ESC: Skip

Figure-11 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 LBA modes, no ' LBA' option will be shown.
- If number of physical cylinder 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 available for users 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 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) into recognizing 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 the IDE hard disk mode and set it as one of the three modes.

3. Remark

To support LBA or LARGE mode of HDDs, there must be some softwares 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.

Boot with BIOS defaults

If you have made all the changes to CMOS values and the system can not boot with the CMOS values selected in setup, clear CMOS after power-down, then power on again. System will boot with BIOS default settings.

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Appendix A
QDI Motherboard Utility CD-ROM

for this motherboard are:

1. Chipset Dispatches:
Via Chipset Drivers included in the directory \ChipDrv\Via\ApolloPro&VIABX can be used for this motherboard. Run \ChipDrv\Via\ApolloPro&VIABX\Autorun.exe, installing the drivers below one by one.
  (1) IDE Driver
      This is Via Bus Master PCI IDE Driver which can be installed on either Windows 95 or Windows NT system, for supporting Ultra DMA/33MB. It also can remove the yellow question mark in the Device Manager of Windows 95 after installation.
  (2) IRQ Routing Program
      Installed on Windows 95 or Windows 98.
  (3) VxD Driver
      Installed on Windows 95/98 for supporting AGP. For all AGP feature benefits, you need to upgrade your Windows 95 OSR2.0 to OSR2.1 by installing USB supplement provided by Microsoft, also DirectX 5.0 from Microsoft.
  (4) ACPI Patch Program
      Installed on Windows 95 or Windows 98.

2. PC-cillin Anti-Virus software:
For Windows 95 English version, it is located in the directory \Pccillin\Win95. Run Setup.exe for installation.
For Windows NT English version, it is located in the directory \Pccillin\WinNT4.0. Run Setup.exe for installation. S/N is PNEF-9991-6558-5857-5535.

3. QDI ManageEasy:
Run Setup.exe from the directory \QME to install the ManageEasy. For detailed information about QDI ManageEasy, refer to the ManageEasy Manual included in the directory \Doc. Please note, the hardware is manufacturing option.

4. QDI Motherboard Utility:
   The utilities located in the directory \Utility are:
   FLASH.EXE
   CBLOGO.EXE
   LF.EXE
   Refer to the online help for information on how to use these utilities.

5. Documents for QDI Motherboard:
   The files included in the directory \Doc are:
   Adobe Acrobat Reader V3.0 —ar32e301.exe
   ManageEasy Manuals —QMEV12.PDF.

Appendix B.

Retention Mechanism & Pentium® II/ Celeron™ Processor Installation Procedures

1. Place Plastic Guide with plastic caps on the motherboard, and secure all four caps.

Plastic Guide with four nuts

Windows
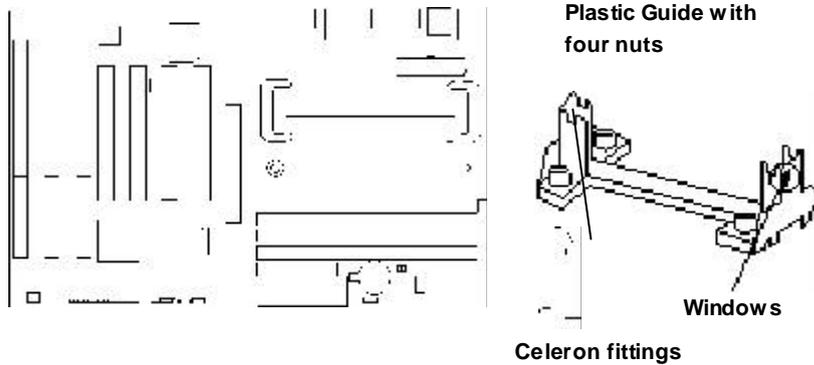
Celeron fittings

Note: 1. Please choose four caps which match the motherboard.

2. If choosing to use Celeron™ Processor, snap-on Celeron fittings onto the Plastic Guide.

3. Please note the Plastic Guide has one orientation. If one way doesn't fit, change the direction to the other way. Do not forcefully press the Plastic Guide onto the motherboard.

2. Install HSSBASE (Heatsink Support Base) on motherboard, then insert the two plastic pins through the HSSBASE securing it to the motherboard.
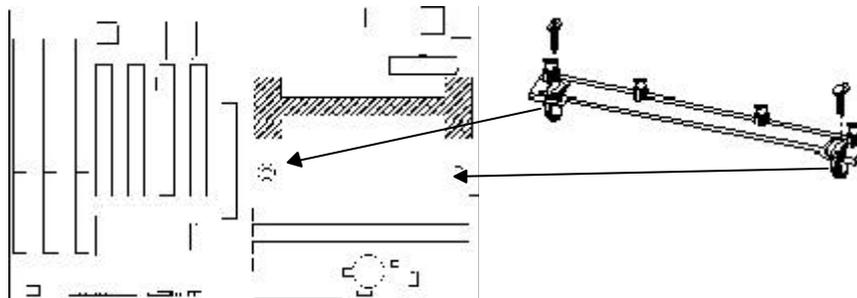
3. Insert Pentium® II or Celeron™ Processor in Slot1.
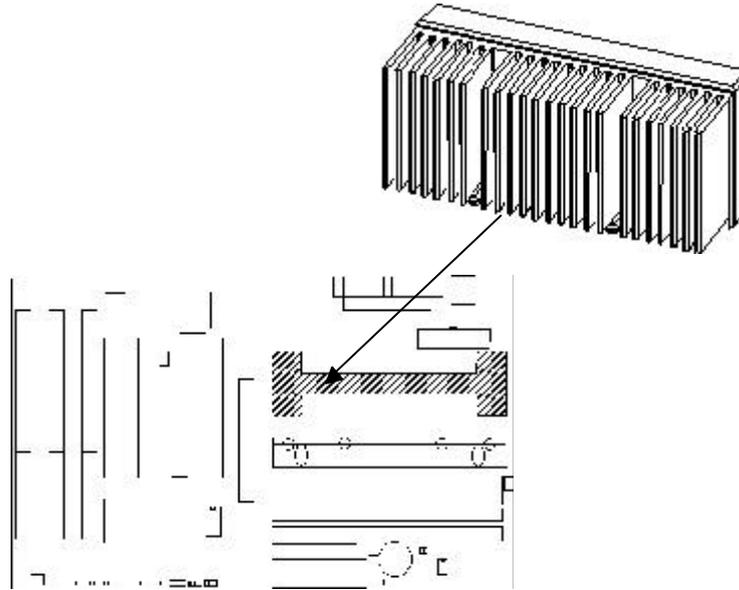
4. Clip Plastic Bar onto the HSSBASE through the fins on the processors' heatsink.
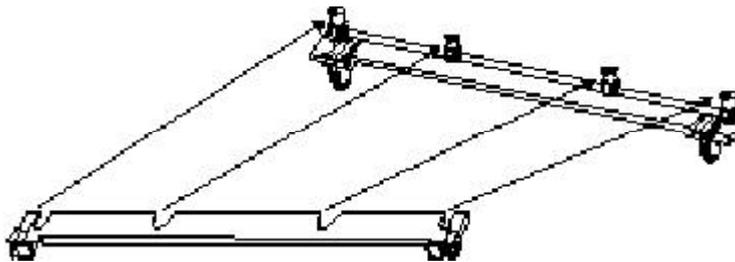
5. The Retention Mechanism installation procedure is completed as shown below.
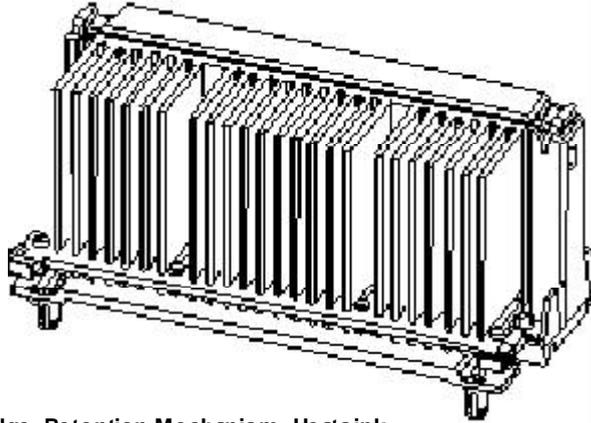
**S.E.C Cartridge, Retention Mechanism, Heatsink
support, and ATX Form Factor Headsink Isometric View
Not To Scale**

Remark:
Please skip step2 and step4 for Boxed Pentium® II Processor and refer to relevant details of this kind of processor for your installation.

Appendix C.
Boot Logo

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

If you press <**Esc**>, it switches to the booting message screen. Otherwise, it enters operating system directly. You can use '**cblogo.exe**' (included on the QDI Motherboard Utility CD) to replace it by any other logo which you prefer. Regarding the method of using **cblogo.exe** utility, please refer to it's online help. If you don't prefer the logo displayed on the screen during boot up, set the 'Show Bootup Logo' option as Disabled in the 'BIOS FEATURES SETUP' section of the BIOS

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