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.

BIOS Features Setup

Figure-4 BIOS Features Setup Menu

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

Item	Option	Description
● Virus Warning	*Enabled*	Activated 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.
● 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.
● 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 releases 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.
● Report No FDD For Win95	*Yes*	Reports no FDD for Win95.
	No	Does not report FDD for Win95.
● 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:	*Enabled*	Optional ROM will be copied to RAM by 16K bytes per unit.
DC000-DFFFF Shadow:	*Disabled*	The shadow function is disabled.

Chipset Features Setup

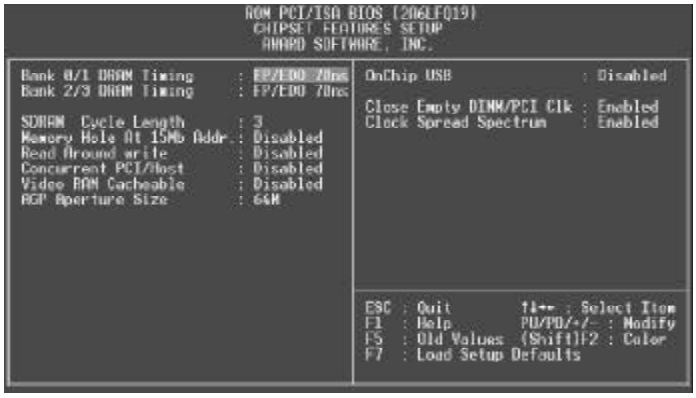

Figure-5 Chipset Features Setup Menu

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

Item	Option	Description
● Bank 0/1, 2/3, DRAM Timing	*60ns* *70ns* *Normal* *Medium* *Fast*	These items are of selected EDO DRAM read/write timing. Ensure your DIMMs are as fast as 60ns, otherwise select 70ns. The faster you choose, the higher performance you receive.
● SDRAM Cycle Length	*2/3*	Define the CLT timing parameter of SDRAM expressed in 66MHz clocks. Latency Time = 2 clocks Latency Time = 3 clocks
● Memory Hole at 15MB Addr	*Enabled*	Memory Hole at 15~16M is reserved for expanded ISA card.
	Disabled	Do not set this memory hole.
● Read Around Write	*Enabled*	Enables read around Write.
	Disabled	Disables read around write.
● Concurrent PCI/ HOST	*Enabled*	Enables concurrent PCI/Host.
	Disabled	Disables concurrent PCI/Host.
● Video RAM Cacheable	*Enabled*	Besides conventional memory, video RAM is also cacheable.
	Disabled	Video RAM area is not cacheable.
● AGP Aperture Size (MB)	*4~256*	Sets the effective size of the Graphics Aperture to be used in the particular PAC Configuration.
● Onchip USB	*Enabled*	Enables the onchip USB controller.
	Disabled	Disables the onchip USB controller.

• USB Keyboard Support	*Enabled*	USB keyboard support is enabled.
	Disabled	USB keyboard support is disabled.
• Close Empty DIMM/PCI Clk	*Enabled*	Closes empty DIMM or PCI clock to reduce EMI.
	Disabled	Does not close empty DIMM or PCI clock.
• Clock Spread Spectrum	*Enabled*	Enables Clock Spread Spectrum to reduce EMI.
	Disabled	Disables Clock Spread Spectrum.

Power Management Setup

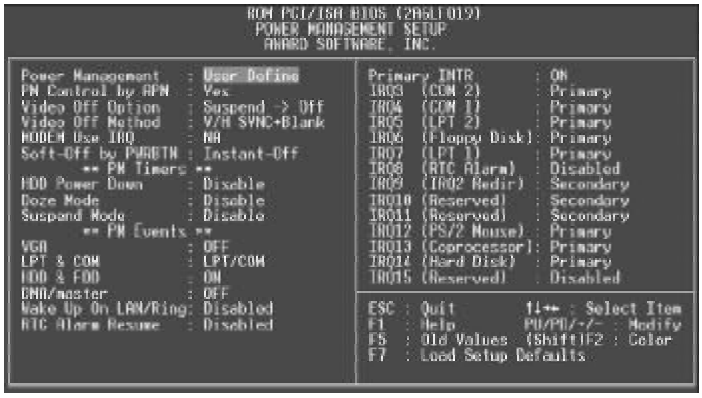

Figure-6 Power Management Setup Menu

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

Item	Option	Description
• 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 Support	This function is enabled only for the VGA card supporting DPMS.

● Soft-off by PWRBTN	*Instant-off*	The system will power off immediately once the power button is pressed.
	Delay 4 Sec	The system will not power off until the power button has been pressed continuously for more than 4 seconds.
● HDD Power Down	*Disabled*	Disables HDD Power Down Timer.
	1 ~15 Min	Defines the continuous HDD idle time before the HDD enters 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 "PM Events" are on and activated, the system will be woken up.
● Suspend Mode	*Disabled*	The system never enters Suspend mode.
	10Sec~ 1Hr	Defines the continuous idle time before the system enters Suspend mode. If any items defined in "PM 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	*LPT/COM*	Set the options of these items to reload global timer.
HDD&FDD	*OFF/ON*	
DMA/master	*ON/OFF*	
● Wake Up On LAN/ Ring	*Enabled*	Allows the system to be powered on when a remote wake up signal comes up to the WOL header from LAN adapter, or when a ring indicator signal comes up to UART1/UART2 from an external modem or comes up to WOM header from an internal modem card.
	Disabled	Does not allow wake up on LAN.
● 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 or any time to power up the system.
	Disabled	RTC has no alarm function.
● Primary INTR IRQ (3-15)	*Primary*	Reload global timer.
	Secondary	No influence to global timer, except finishing an operation that IRQ "X" requests.
	Disabled	No influence to global timer.

PNP/PCI Configuration Setup

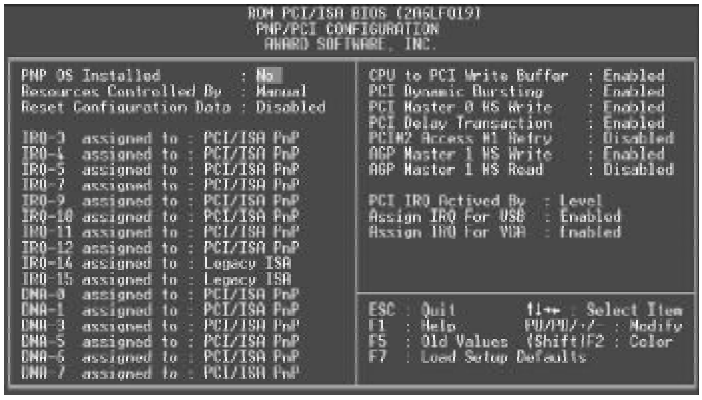

Figure-7 PNP/PCI Configuration Setup Menu

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

Item	Option	Description
• PNP OS 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.
• Reset Configuration Data	*Disabled*	The Configuration data will not be reset.
	Enabled	The configuration data will be reset to the default setting.
• 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, enables 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 OnChip IDE First/Second Channel.
	Disabled	Disables OnChip IDE First/Second Channel.
● IDE Prefetch/Mode	*Enabled*	Enables IDE Prefetch Mode.
	Disabled	Disables IDE Prefetch Mode.
● IDE HDD Block Mode	*Enabled*	Allows IDE HDD to read/write several sectors at once.
	Disabled	IDE HDD only read/write 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 an 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,*	Defines the onboard serial port address and required interrupt number.
	2F8/IRQ3,	
	3E8/IRQ4,	
	2E8/IRQ3,	
	Auto	Onboard serial port address and IRQ are automatically assigned
	Disabled	Onboard serial port is disabled.
● Serial Port 2 Mode	*Standard*	Defines Serial Port 2 as standard serial port.
	Sharp IR	Supports SHARP ASK-IR protocol with maximum baud rate up to 57600bps.
	IrDA SIR	Supports IrDA version1.0 SIR protocol with maxiumum baud rate up to 115.2Kbps.
● Onboard Parallel Port	*378/IRQ7,*	Defines onboard parallel port address and IRQ channel.
	278/IRQ5,	
	3BC/IRQ7	
	Disabled	Onboard parallel port is disabled.
● Parallel Port Mode	*SPP*	Defines the parallel port mode as Standard Parallel Port (SPP), Enhanced Parallel Port (EPP), or Extended Capabilities Port (ECP).
	EPP	
	ECP,	
	ECP+EPP	

System Monitor

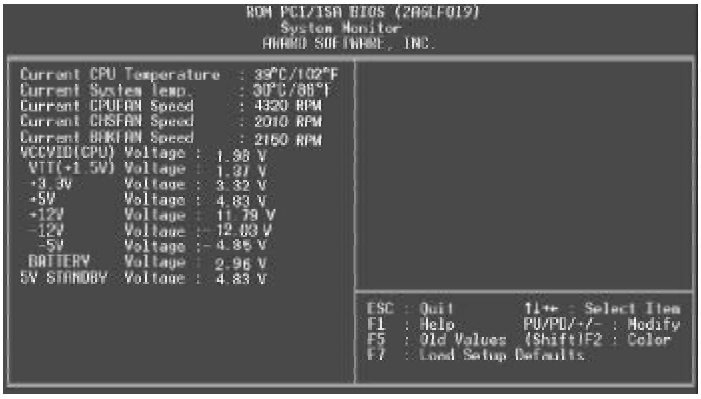

Figure-9 System Monitor Menu

The following describes the meaning of each item.

Item	Current Data Shown	Description
● Current CPU Temperature	*39°C/ 102°F*	The temperature of CPU core.
● Current System Temp.	*30°C/ 86°F*	The temperature inside the chassis.
● Current CPUFAN Speed	*4320RPM*	RPM(Revolution Per Minute) speed of fan
Current CHSFAN Speed	*2010RPM*	connected to the fan header CPUFAN/ CHSFAN/BAKFAN.
Current BAKFAN Speed	*2150RPM*	Fan speed value is based on an assumption that tachometer signal is two pulses per revolution; In other cases, you should regard it relatively.
● VCCVID(CPU) Voltage	*1.98V*	Displays current Voltage values including all
VTT(+1.5V) Voltage,	*1.37V*	significant voltages of the motherboard.
+3.3V Voltage	*3.32V*	+3.3V, +5V, +12V, -12V, -5V are voltages
+ 5V	*4.84V*	from the ATX power supply, VTT (+1.5)
+12V	*11.79V*	Voltage is GTL Termination Voltage from
-12V	*-12.03V*	the on-board regulator, and VCCVID (CPU)
- 5V	*-4.85V*	Voltage is CPU Core Voltage from the on board switching Power Supply.
● BATTERY Voltage	*2.96V*	The voltage of the Lithium battery.
● 5V STANDBY Voltage	*4.83V*	The voltage of 5V standby from the power supply.

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 set as 'user' , 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.

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 BIOS 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 BIOS 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 BIOS 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 can not modify any setting if Supervisor Password is enabled.

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Appendix A

QDI Motherboard Utility CD-ROM

A QDI Motherboard Utility CD-ROM is supplied with each motherboard. The contents used for this motherboard are:

1. Chipset Dispatches:
Via Chipset Drivers included in the directory \ChipDrv\Via\ApolloPro&VIABX can be used for this mainboard. 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 95/98 English version, it is located in the directory \Pccillin\Win9x. 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, hardware is a manufacturing option.

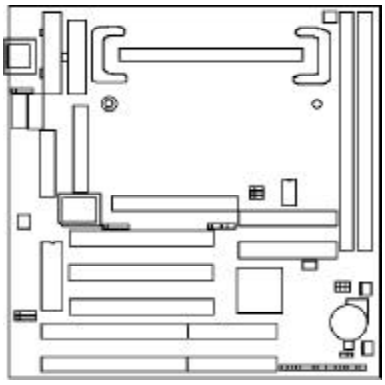
4. QDI Motherboard Utility:
The utilities located in the directory \Utility are:
FLASH.EXE
CBLOGO.EXE
LF.EXE
Refer to the online help for information on how to use these utilities.

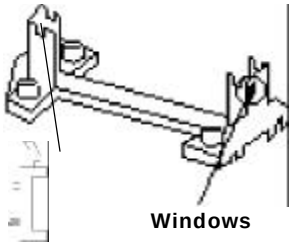
5. Documents for QDI Motherboard:
The files included in the directory \Doc are:
Adobe Acrobat Reader V3.0 —ar32e301.exe
ManageEasy Manuals —QMEV12.PDF.

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.



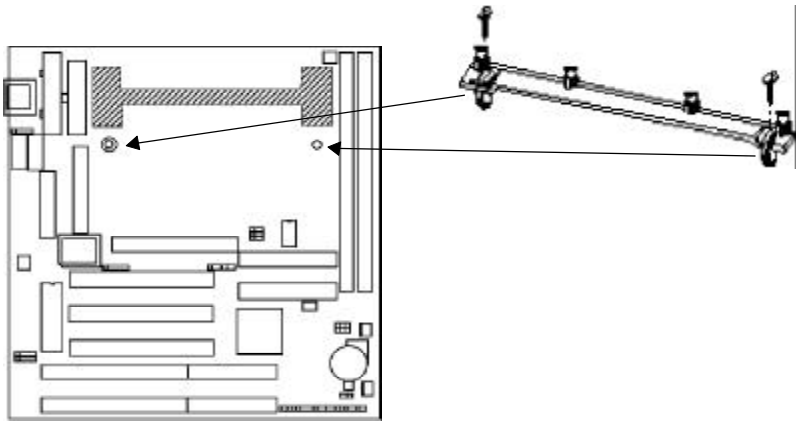


Note: 1. Please choose four caps which match the motherboard.

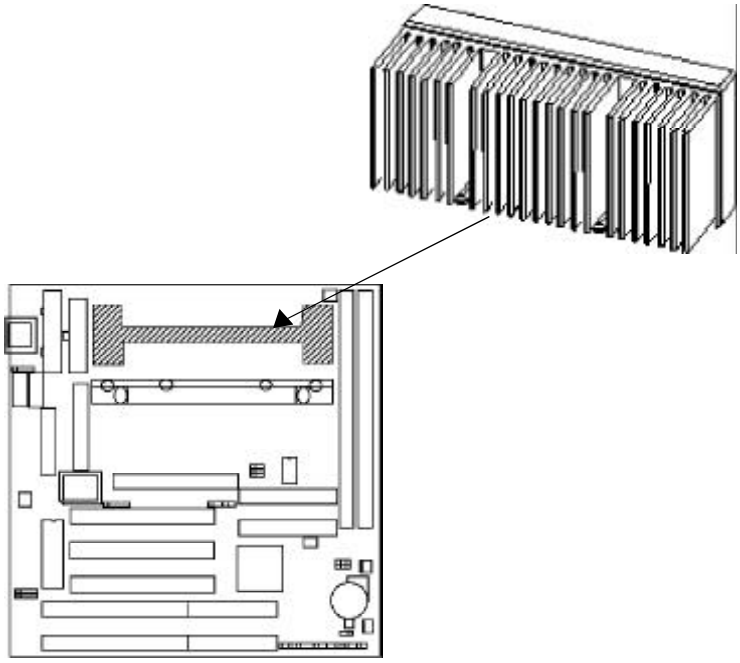
2. If choosing to use Celeron™ Processor, snap-on Celeron fittings onto the Plastic Guide.

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.

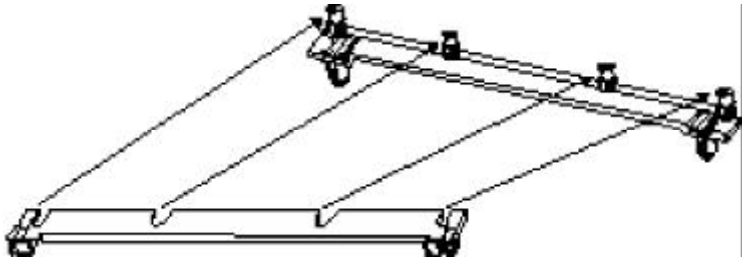
2. Install HSSBASE (Heatsink Support Base) on motherboard then insert the two plastic pins through the HSSBASE securing it to the motherboard.



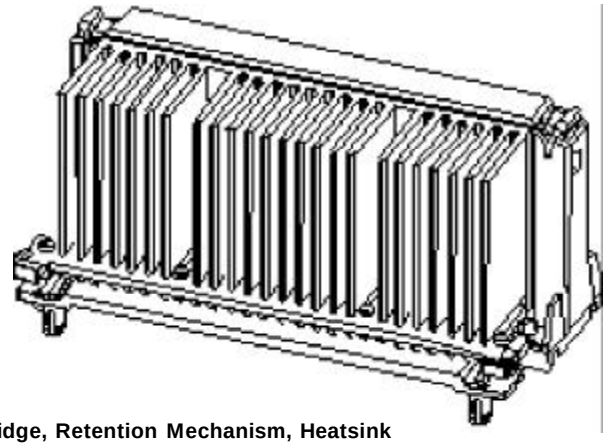
3. Insert Pentium® II or Celeron™ Processor in Slot1.



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 concerning this type of processor for your installation.

P/N : 430-01015-301-00
Manual P6VPRO/A4 Ver 1.0

Item Checklist

Completely check your package. If you discover damaged or missing items, contact your retailer.

- ☑ P6VPRO/A4 motherboard
- ☑ Motherboard Utility CD-ROM
- ☑ Retention Module
- ☑ 1 IDE ribbon cable
- ☑ 1 floppy ribbon cable
- ☑ 1 parallel ribbon cable and 1 UART ribbon cable (9-pin) with mounting bracket.
- ☑ 1 UART ribbon cable (25-pin connector) and PS/2 adapter with mounting bracket.
- ☑ User's manual

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Board Layout of
Advance 4 V1.0