



● Password Setting	<i>System</i>	The system will not boot up and access to BIOS Setup will be denied if no valid password is entered when prompted.
	<i>Setup</i>	The system will boot up, but access to BIOS Setup will be denied if no valid password is entered when prompted.
● OS Select For DRAM>64MB	<i>Non-OS2</i>	If your operating system is not OS/2, please select this item.
	<i>OS2</i>	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	<i>Enabled</i>	Enables S.M.A.R.T hard disk support.
	<i>Disabled</i>	Invalidates this feature.
● Video BIOS Shadow	<i>Enabled</i>	Video BIOS will be shadowed to RAM. Video Shadow will increase the video speed.
	<i>Disabled</i>	Video shadow is disabled.
● C8000~CBFFF Shadow: DC000-DFFFF Shadow:	<i>Enabled</i>	Optional ROM will be shadowed to RAM by 16K bytes per unit.
	<i>Disabled</i>	The shadow function is disabled.
● Show Bootup Logo	<i>Enabled</i>	Enables the logo when system boots up
	<i>Disabled</i>	Logo will not be shown when system boots up.
● Flash Write Protect	<i>Disabled</i>	Disabling this item allows you to upgrade the BIOS.
	<i>Enabled</i>	Does not allow you to upgrade the BIOS.

Note: Enabling this item can protect the system BIOS from being attacked by severe virus such as CIH. Therefore disable this item only when wanting to flash BIOS. After completing flashing the BIOS, set it as Enabled(default).



Chipset Features Setup



Figure-4 Chipset Features Setup Menu

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

<u>Item</u>	<u>Option</u>	<u>Description</u>
• Auto Configuration	<i>Enabled</i>	Automatically configures DRAM Timing according to the value of "DRAM Speed Selection".
	<i>Disabled</i>	Manually configuring. *Note: It is recommended that the "Enabled" option be chosen by common users.
• DRAM Speed Selection	<i>50ns,</i> <i>60ns</i>	This item is of selected DRAM read/write timing. You must ensure that your DIMMs are as fast as 50ns, otherwise 60ns should be selected .
• MA Wait State	<i>slow</i> <i>fast</i>	One additional wait state is inserted before the assertion of the first MA and CAS#/RAS# during DRAM read or write leadoff cycles. This affects page hit, row miss and page miss cases. Without additional wait state.
• EDO RAS# To CAS# Delay	<i>2</i> <i>3</i>	Adds a delay time between the assertion of RASx# and CAS#. Without additional delay time.
• EDO RAS# Precharge Time	<i>3</i> <i>4</i>	DRAM RAS# Precharge time=3 x System Clocks. DRAM RAS# Precharge time=4 x System Clocks.
• EDO DRAM Read Burst	<i>x333,</i> <i>x222,</i>	The DRAM read burst timing depends on the type of DRAM on a per-row basis. Slower rates may be required to support slower DRAM.
• EDO DRAM Write Burst	<i>x222,</i> <i>x333,</i>	The DRAM write burst timing depends on the type of DRAM on a per-row basis. Slower rates may be required to support slower DRAM.



• DRAM ECC Select	<i>ECC</i>	Provides ECC (Error Checking and Correction) function.
	<i>Non-ECC</i>	Disables ECC function.
• CPU-To-PCI IDE Posting	<i>Enabled</i>	Enables CPU-To-PCI IDE write posting.
	<i>Disabled</i>	Disables CPU-To-PCI IDE write posting cycles.
• Video BIOS Cacheable	<i>Enabled</i>	Beside conventional memory, video BIOS area is also cacheable.
	<i>Disabled</i>	Video BIOS area is not cacheable.
• Video RAM Cacheable	<i>Enabled</i>	Besides conventional memory, video RAM area is also cacheable.
	<i>Disabled</i>	Video RAM area is not cacheable.
• 8 Bit I / O Recovery Time.	<i>1~ 8</i>	Defines the ISA Bus 8 bit I/O operating recovery time.
	<i>NA</i>	8 bit I/O recovery time does not exist.
• 16 Bit I / O Recovery Time	<i>1~ 4</i>	Defines the ISA Bus 16 bit I/O operating recovery time.
	<i>NA</i>	16 bit I/O recovery time does not exist.
• Memory hole at 15M-16M	<i>Enabled</i>	Memory hole at 15-16M is reserved for expanded ISA card
	<i>Disabled</i>	Does not set this memory hole.
• Passive Release	<i>Enabled</i>	Default setting is suggested.
	<i>Disabled</i>	
• Delayed Transaction	<i>Enabled</i>	Default setting is suggested.
	<i>Disabled</i>	
• AGP Aperture Size (MB)	<i>4~256</i>	Sets the effective size of the Graphics Aperture to be used in the particular PAC Configuration.
• SDRAM RAS-To-CAS Delay	<i>Slow</i>	RAS-To-CAS Delay Time = 3 HCLK.
	<i>Fast</i>	RAS-To-CAS Delay Time = 2 HCLK.
• SDRAM RAS Precharge Time	<i>Slow</i>	RAS Precharge Time = 3 HCLK.
	<i>Fast</i>	RAS Precharge Time = 2 HCLK.
• SDRAM CAS Latency Time	<i>2</i>	Defines the CLT timing parameter of SDRAM. Latency Time=2 x System Clocks.
	<i>3</i>	Latency Time=3 x System Clocks.
• Close Empty PCI/AGP Clock	<i>Enabled</i>	Closes empty PCI/AGP Clock to reduce EMI.
	<i>Disabled</i>	Does not close empty PCI/AGP Clock.
• Close Empty DIMM Clock	<i>Enabled</i>	Closes empty DIMM Clock to reduce EMI.
	<i>Disabled</i>	Does not close DIMM Clock.
• Spread Spectrum Modulated	<i>Enabled</i>	Enables Spread Spectrum Modulated to reduce EMI.
	<i>Disabled</i>	Disables Spread Spectrum Modulated.
• CPU Host Clock	<i>66/83</i>	The external host bus frequency of the CPU.
	<i>68/75MHz</i>	



Power Management Setup

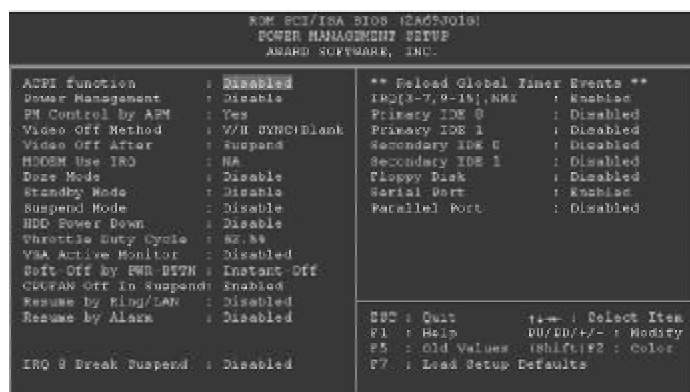


Figure-5 Power Management Setup Menu

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

Item	Option	Description
• ACPI function	<i>Disabled</i>	Invalidates ACPI function.
	<i>Enabled</i>	Validates ACPI function.
• Power Management	<i>Disabled</i>	Global Power Management (PM) will be disabled.
	<i>User Define</i>	Users can configure their own Power Management Timer.
	<i>Min Saving</i>	Pre - defined timer values are used. All timers are in their MAX values.
	<i>Max Saving</i>	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. Note: If APM is installed, and there is a task running, even when 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	<i>Blank Screen</i>	The system BIOS will only blank off the screen when disabling video.



	<i>V / H SYNC +</i>	In addition to Blank Screen, BIOS will also turn off the V-SYNC & H - SYNC signals from VGA cards to monitor.
	<i>DPMS</i>	This function is enabled only for the VGA card supporting DPMS. Note: When the green monitor can't detect the V/H-SYNC signals, the electron gun will be turned off.
• Video Off After	<i>N/A</i>	System BIOS never turns off the screen.
	<i>Suspend</i>	Screen blanks after the system enters Suspend mode.
	<i>Standby</i>	Screen blanks after the system enters Standby mode.
	<i>Doze</i>	Screen blanks after the system enters Doze mode.
• MODEM Use IRQ	<i>3,7,5,7,9, 10,11</i>	Special wake-up event for Modems.
	<i>NA</i>	Invalidates this feature.
• Doze mode	<i>Disabled</i>	The system never enters Doze mode.
	<i>1Min ~ 1 Hr</i>	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.
• Standby Mode	<i>Disabled</i>	The system never enters Standby mode.
	<i>1Min ~ 1Hr</i>	Defines the continuous idle time before the system enters Standby mode. If any items defined in "Reload Global Timer Events" are On and activated, the system will be woken up.
• Suspend Mode	<i>Disabled</i>	The system never enters Suspend mode.
	<i>Min ~ 1Hr</i>	Defines the continuous idle time before the system enters Suspend mode. If any items defined in "Reload Global Timer Events" are On and activated, the system will be woken up.
• HDD Power Down	<i>Disabled</i>	HDD's motor remains on.
	<i>1 ~15 Min</i>	Defines the continuous HDD idle time before the HDD enters the power saving mode (motor off).
• Throttle Duty Cycle	<i>12.5%</i>	Selects the duty cycle of the STPCLK# signal , slowing down the CPU speed when the system enters the green mode.
	<i>25%</i>	
	<i>37.5%</i>	
	<i>50 %</i>	
	<i>62.5%</i>	
	<i>75%</i>	
	<i>87.5%</i>	
• VGA Active Monitor	<i>Enabled</i>	VGA active reloads global timer.
	<i>Disabled</i>	VGA active has no influence to global timer.



• Soft-Off by PWR-BTTN	<i>Instant-Off</i>	The system will power off immediately once the Power button is pressed.
	<i>Delay 4 Secs</i>	The system will not power off until the Power button is pressed continuously for more than 4 seconds.
• CPUFAN Off In Suspend	<i>Enabled</i>	CPU fan will be automatically turned off when the system enters suspend mode.
	<i>Disabled</i>	CPU fan remains on when the system enters suspend mode.
• Resume by Ring/LAN	<i>Enabled</i>	Allows the system to be powered on when a ring indicator signal comes up to UART1 or UART2 from an external modem or comes up to WOM header from an internal modem card, or when a remote wake-up signal comes up to the WOL header from LAN adapter.
	<i>Disabled</i>	Does not allow Ring Power-On or Wake Up On LAN.
• Resume by Alarm	<i>Enabled</i>	RTC alarm can be used to generate a wake event to power up the system which is in power-off status. You can set any date, any time to power up the system.
	<i>Disabled</i>	RTC has no alarm function.
• IRQ8 Break suspend	<i>Enabled</i>	Generates a clock event.
	<i>Disabled</i>	Does not generate a clock event.
• IRQ [3-7, 9-15], NMI	<i>Enabled</i>	Enables events that can reload global timer.
	<i>Disabled</i>	Does not influence the global timer.
.....		
Parallel Port		



PNP/PCI Configuration Setup

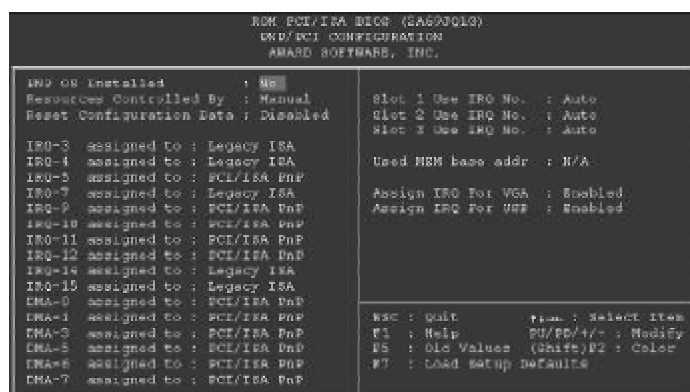


Figure-6 PNP/PCI Configuration Setup Menu

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

Item	Option	Description
• PNP OS Installed	Yes No	Device resources assigned by PnP OS. Device resources assigned by BIOS.
• Resources Controlled By	Manual Auto	Assigns the system resources (IRQ and DMA channels) manually. Assigns system resources (IRQ and DMA channels) automatically by BIOS.
• Reset Configuration Data	Enabled Disabled	The system BIOS will reset configuration data once, then automatically set this item as disabled. Disables the configuration data function.
• IRQ-3~IRQ-15 assigned to	Legacy ISA PCI/ISA PnP	The specified IRQ-x will be assigned to ISA only. The specified IRQ-x will be assigned to PnP ISA or PCI.
• DMA-0~DMA-7 assigned to	Legacy ISA PCI/ISA PnP	The specified DMA-x will be assigned to ISA only. The specified DMA-x will be assigned to PnP ISA or PCI.
• PCI Slot 1/2/3 use IRQ No.	Auto,3,4,5,7,9 10,11,12,14,15	Assigns an IRQ for PCI slot1/2/3 manually or automatically.
• Used MEM base addr	C800/8 ~ 64K N/A	Claims a memory space to be occupied by legacy ISA card. The memory address and the memory size (8/16/32/64K) can be chosen from the options. Invalidates this feature.



- | • Assign IRQ for VGA | <i>Enabled</i> | Assigns the needed IRQ for the VGA Card. |
|----------------------|-----------------|---|
| | <i>Disabled</i> | Does not assign an IRQ for the VGA card, in order to release the IRQ. |
| • Assign IRQ for USB | <i>Enabled</i> | Assigns an IRQ for USB. If an USB device is used, enable this item. |
| | <i>Disabled</i> | Does not assign an IRQ for USB. If no USB device used, disabling this item can release the IRQ. |



Integrated Peripherals



Figure-7 Integrated Peripherals Menu

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

Item	Option	Description
• IDE HDD Block Mode	<i>Enabled</i>	Allows IDE HDD to read/write several sectors at once.
	<i>Disabled</i>	IDE HDD only reads/writes a sector once.
• IDE Primary/ Secondary Master/Slave PIO	<i>Mode 0 - 4</i>	Defines the IDE primary/secondary master/ slave PIO mode.
	<i>Auto</i>	The IDE PIO mode is defined by auto -detection.
• IDE Primary/ Secondary Master/Slave UDMA	<i>Auto</i>	Ultra DMA mode will be enabled if ultra DMA device is detected.
	<i>Disabled</i>	Disables this function.
• On-chip Primary/Secondary PCI IDE	<i>Enabled</i>	On-chip primary/secondary PCI IDE port is enabled.
	<i>Disabled</i>	On-chip primary/secondary PCI IDE port is disabled.
• USB Keyboard Support	<i>Enabled</i>	USB Keyboard Support is enabled.
	<i>Disabled</i>	USB Keyboard Support is disabled.
• Init Display First	<i>PCI SLOT</i>	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.
	<i>AGP</i>	Initializes the AGP first.
• POWER ON Function	<i>BUTTON ONLY</i>	Use the power button to power up the system.
	<i>Password</i>	Enables the Keyboard Password Power-on function and disables the power button's power-



		on function. Other than choosing this option, the password should be set to implement this function. Note: If this option(Password) is chosen, the jumperJKB must be set as PIN1 & PIN 2 closed, or this will prevent you from powering up your system.
• Onboard FDC Controller	<i>Enabled</i> <i>Disabled</i>	Onboard floppy disk controller is enabled. Onboard floppy disk controller is disabled.
• Onboard Serial Port 1/2	<i>3F8/IRQ4,</i> <i>2F8/IRQ3,</i> <i>3E8/IRQ4,</i> <i>2E8/IRQ3,</i> <i>Auto</i>	Defines the onboard serial port address and required interrupt number. Onboard serial port address and IRQ are automatically assigned.
• Serial Port 2 Mode	<i>Disabled</i> <i>Normal</i> <i>ASKIR</i> <i>IrDA</i>	Onboard serial port is disabled. Defines Serial Port 2 as standard serial port. Supports SHARP ASK-IR protocol with maximum baud rate up to 57600bps. Supports IrDA version1.0 SIR protocol with maximum baud rate up to 115.2Kbps.
• Onboard Parallel Port	<i>378/IRQ7,</i> <i>278/IRQ5,</i> <i>3BC/IRQ7</i> <i>Disabled</i>	Defines onboard parallel port address and IRQ channel. Onboard parallel port is disabled.
• Parallel Port Mode	<i>SPP</i> <i>EPP</i> <i>ECP,</i> <i>ECP+EPP</i>	Defines the parallel port mode as Standard Parallel Port (SPP), Enhanced Parallel Port (EPP), or Extended Capabilities Port (ECP).
• Power After PWR-Fail	<i>Off</i> <i>On</i> <i>Former-Sts</i>	The system remains OFF when the AC power supply resumes. The system will be powered up when the AC power supply resumes. Whatever the system status is, before the AC power supply cuts off, the system resumes in the previous status(ON/OFF) when the AC power supply resumes.



System Monitor

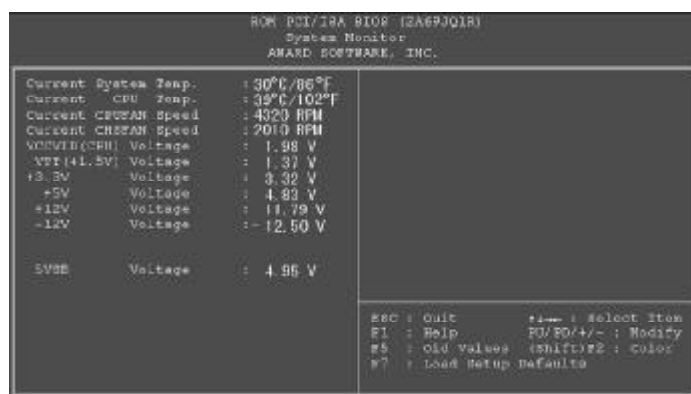


Figure-8 System Monitor Menu

The following describes the meaning of each item.

<u>Item</u>	<u>Current Data Shown</u>	<u>Description</u>
• Current System Temp.	30°C/ 86°C	The temperature inside the chassis.
Current CPU Temp.	39°C/ 102°F	The temperature of the CPU core.
• Current CPUFAN Speed	4320RPM	RPM(Revolution Per Minute) speed of fan 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.
Current CHSFAN Speed	2010RPM	
• VCCVID(CPU) Voltage	1.98V	Displays current Voltage values including all the significant voltages of the motherboard.
VTT (+1.5) Voltage	1.37V	
+3.3V Voltage	4.83V	+3.3V, +5V, +12V, -12V, and 5VSB are voltages from an ATX power supply, VTT (+1.5) Voltage is GTL Termination Voltage from the on-board regulator.
+5V Voltage		
+12V Voltage	11.79V	
-12V Voltage	-12.50V	
5VSB Voltage		



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 boots or any time you 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 system or entering "CMOS Setup" to modify all settings. Also you can use *User Password* when booting system or entering "CMOS Setup" but can not modify any setting if *Supervisor Password* is enabled.



IDE HDD Auto Detection

The Enhanced IDE features 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-9 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	SECTOR	MODE
				ZONE		
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.

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.

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.



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:
Intel Chipset Drivers included in the directory \ChipDrv\Intel can be used for this motherboard.
 - a. Intel PIIX4 Driver, included in directory \ChipDrv\Intel\PIIX4
This driver is for Windows 95/OSR2 which supports the latest Intel PCI devices such as the PCI IDE hard disk controller, PCI USB device etc. It can also remove the yellow question mark in the Device Manager of Windows 95 after installation.
Run \ChipDrv\Intel\PIIX4\Setup.exe for installation.
 - b. Intel Bus Master Driver, included in directory \ChipDrv\Intel\BMIDE
It's Intel Bus Master Driver for Windows 95, which can enhance the capability of IDE data transaction up to Ultra DMA/33MB supported by 440LX chipset or other ultimate chipset.
Run \ChipDrv\Intel\BMIDE\Setup.exe for installation.
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:
Utilities located in the directory \Utility are:
FLASH.EXE
CBLOGO.EXE
LFEXE
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. Boot Logo

When you power on or reset your system, the picture displayed below will appear 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.**

Item Checklist

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

- ☒ LegenX 7 motherboard
- ☒ QDI Motherboard Utility CD-ROM or LDCM CD-ROM
- ☒ 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 mouse adapter with mounting bracket.
- ☒ User' s manual

Notice

The information in this document is subject to change in order to improve reliability, design, or function without prior notice and does not represent a commitment on the part of this company. In no event will we be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or the possibility of such damages.

All trademarks are the property of their respective owners.

If you need any further information, please visit our web-site: "www.qdigrp.com".

Board Layout of LegenX 7 V1.0