Declaration of conformity

CE

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

declares that the product

Pentium®III Mainboard
Advance 9

is in conformity with

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

☑ EN 55022   Limits and methods of measurements of radio disturbance
              characteristics of information technology equipment
☑ EN 50081-1   Generic emission standard Part 1:
              Residential, commercial and light industry
☑ EN 50082-1   Generic immunity standard Part 1:
              Residential, commercial and light industry

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

Signature :   . Place / Date :   HONG KONG/1999

Printed Name :   Anders Cheung   Position/ Title :   President

Declaration of conformity

FC

Trade Name:	QDI Computer (U. S . A.) Inc.
Model Name:	Advance 9
Responsible Party:	QDI Computer (U. S. A.) Inc.
Address:	41456 Christy Street
	Fremont, CA 94538
Telephone:	(510) 668-4933
Facsimile:	(510) 668-4966

Equipment Classification:	FCC Class B Subassembly
Type of Product:	AGP Pentium®III Mainboard
Manufacturer:	**Quantum Designs (HK) Inc.**
Address:	5/F, Somerset House, TaiKoo Place
	979 Kings Road, Quarry Bay, HONG
	KONG

Supplementary Information:

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

Signature : _____.   Date : _____ 1999 _____

CONTENTS

CONTENTS

SpeedEasy Quick Setup

Procedures :

1. Correctly insert the Intel® Celeron™ PPGA370 or Intel FC-PGA Pentium® III processor.

2. Plug in other configurations and restore the system.

3. Switch on power to the system and press the <Del> key to enter BIOS Setup.

4. Enter "SpeedEasy CPU SETUP" menu to set up the CPU speed.

5. Save and exit BIOS Setup, your system will now boot successfully.

SpeedEasy CPU Setup Menu

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

Figure - 1 SpeedEasy CPU Setup Menu

BIOS provides you with a set of basic values for your processor selection instead of the jumper settings. The processor speed can be manually selected from the "SpeedEasy CPU SETUP" menu screen.

⚠️ Warning:

> Dot not set CPU frequency higher than its working frequency. If you do, we will not be responsible for any damages caused. Whether or not the system can be overclocked depends on the processor's capability. We do not guarantee the overclock system to be stable.

Users are provided with CPU overclock feature through "Jumper Emulation". The host bus speed can be set as 66/78/83/100/113/133/144/155MHz. The multiplier can be chosen from 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8. However the multiplier setting will not function for bus ratio locked processor, only bus ratio unlocked processor.

SpeedEasy¿ Ë Ù ☆ Ö Ä Ï

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1. ÕŽ µ Ø È ïntel® Celeron™PPGA370 » Õ Íntel® FC-PGA Pentium®III Ö Ñ ê À ïE÷

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Í ² ŷ"Jumper Emulation", Î Ð Ç ¹ ꝋ Ã § ặ CPU³ Æµ Ä Ü 𝓁 ꭓ Ü Ɓ Ṷ È Ð Ô É Ö Ã 6 6/78/83/100/113/133/144/155MHz. ± 界 ẏ É Ö Ã 2/2. 5/3/3. 5/4/4. 5/5/ 5. 5/6/6. 5/7/7. 5/8. È ¶ 𝔰 Õ Ú 界 ꝋ ﾟ À ƟPU, ´ Ë É Ö Ã Ð § ± 界 ẏ É Ö Ã꜡ẻ Ô Î Ë ẻ À 界 µ ÄPUÓ Ð §

Installation de la carte mère Advance 9

1. Assurez-vous que votre ensemble est complet: carte mère, câbles IDE et FLOPPY, notice d'utilisation et CD-ROM d'installation.
2. Vérifiez que l'alimentation est débranchée et reliez-vous à la terre par une courroie à votre poignet. A défaut, maintenez le contact de vos deux mains avec un objet lui-même relié à la terre, ou une partie en métal de votre système.
3. Fixez la carte mère dans le boîtier grâce aux vis fournies avec celui-ci.
4. Si votre carte mère est munie de cavaliers, placez les en fonction des options que vous souhaitez utiliser: réglage de la fréquence du processeur si votre carte n'est pas SpeedEasy, fonction allumage par saisie du mot de passe. (voir le manuel, rubrique «configuration des cavaliers» pages 13 à 16)
5. Insérez le processeur dans son logement avec son ventilateur que vous brancherez au connecteur «CPUFAN».
6. Insérez la/les barrette(s) mémoire dans les slots DIMM.
7. Installez vos éventuelles cartes PCI et AMR dans les slots prévus à cet effet (voir page centrale du manuel).
8. Branchez vos périphériques IDE et FLOPPY sur les connecteurs prévus à cet effet grâce aux nappes fournies avec la carte. Vérifiez que le sens de branchement est correct (liseré rouge du câble sur la broche 1 du connecteur).
9. Reliez les câbles du boîtier aux connecteurs prévus à cet effet (Connecteur d'alimentation, LED de marche/arrêt, disque dur, haut-parleur. voir manuel pages 9 à 12). Refermez le boîtier.
10. Branchez les périphériques externes sur les sorties du fond de panier: clavier, souris PS/2, périphériques USB, moniteur, imprimante. (voir manuel pages 7-8)
11. Lorsque tous les éléments du système sont installés physiquement, rebranchez l'unité centrale.

Installation du système.

1. Démarrez votre système en pressant le bouton «POWER».
2. Pressez la touche «Suppr» pour entrer dans le setup du BIOS.
3. Dans le menu «SpeedEasy CPU Setup», réglez la vitesse de votre processeur (AT-TENTION: il est recommandé de ne pas sélectionner une fréquence supérieure à celle de votre processeur, nous déclinons toute responsabilité pour les dommages qui en résulteraient)
4. Effectuez les autres réglages du BIOS selon votre configuration (nous vous conseillons fortement de maintenir les réglages par défaut afin d'éviter toute manipulation hasardeuse pouvant résulter en un dysfonctionnement). Pour plus d'informations sur les fonctions du BIOS, vous pouvez consulter la version française du manuel sur le CD-ROM.
5. Pressez la touche F10 ou choisissez «Save and exit» pour enregistrer vos paramètres et relancer la machine.

6. Installez votre système d'exploitation
7. Après installation, assurez-vous qu'il ne subsiste aucun conflit ou périphérique inconnu dans votre système.
8. Installation des pilotes:

1. Chipset:

Les pilotes des chipsets VIA du répertoire \ChipDrv\Via\A133 peuvent être utilisés sur cette carte mère.

Lancez \ChipDrv\Via\A133\Setup.exe pour installer automatiquement les pilotes suivants :

    A. Pilote Bus Master PCI IDE
    B. IRQ Routing program
    C. Fonctions de registre du chipset VIA
    D. Pilote AGP VxD

2. Logiciel PC-cillin 98:

Pour Windows 95/98, version anglaise, dans le répertoire \Pccillin\Win9X. Lancez setup.exe pour l'installation.

Pour Windows NT version anglaise, il se trouve dans le répertoire \Pccillin\Winnt40, lancez setup.exe.

Numéro de série: PNEF-9991-6558-5857-5535.

3. QDI ManageEasy:

Lancez le setup.exe du répertoire \QME pour installer le ManageEasy. Pour des informations détaillées sur le ManageEasy, référez-vous au manuel ManageEasy du répertoire \Doc.

N'oubliez pas de redémarrer votre système pour que les changements soient pris en compte.

4. RecoveryEasy

RecoveryEasy™, la dernière innovation de QDI, permet de protéger le système des destructions en créant une «partition miroir» de la partition courante du disque dur et en sauvegardant toutes les données dans ce «miroir».

Cette utilitaire fournit partition du disque, récupération/sauvegarde des données, récupération/sauvegarde des réglages du CMOS et fonctions multi-boot.

RecoveryEasy permet également la protection du système contre les divers types de virus de boot tels que CIH. Dans le cas où le système est perdu soit par erreur, soit à cause d'un virus, il peut être récupéré depuis la partition miroir. Cette innovation utilise la technologie du Bios intégré qui n'occupe ni l'espace disque, ni la mémoire du système. C'est la solution idéale pour l'utilisateur.

Il faut presser les touches Ctrl + Bksp et F12 pour entrer dans les interfaces «Recovery» et «Partition» durant le démarrage du Bios.

ATTENTION : lisez attentivement le manuel du RecoveryEasy traduit sur le CD-ROM QDI avant d'installer cette fonction.

Très important : n'oubliez pas votre mot de passe, faute de quoi vous n'auriez plus accès au RecoveryEasy, même après avoir effectué un Clear CMOS.

Le menu SpeedEasy

I.   Insérez le processeur correctement.

II.   Connectez les autres éléments du système (voir Installation).

III.   Au démarrage du système, pressez la touche <Suppr> pour entrer dans le Bios

IV.   Entrez dans le menu «CPU SpeedEasy setup»

Note: si vous ne déterminez pas la vitesse de votre unité centrale, votre système fonctionnera par défaut (200MHz pour les CPU avec une fréquence de Bus de 100MHz et 133MHz pour les CPU à 66MHz).

V.   Sauvegardez et quittez le Bios.

CMOS Setup Utility – Copyright©1984-1999 Award Software

SpeedEasy CPU Setup

CPU Model	: Intel® Celeron™	Item Help
CPU Speed	: 433 Mhz (66x6.5)	
X Multiplier	X2	Menu Level >
X Bus Clock	66MHz	
Spread Spectrum	Disabled	

Prévenir :

> Le menu SpeedEasy vous fournit un ensemble de valeurs. Vous pouvez
> sélectionner manuellement la vitesse de CPU dans ce menu soit en mode
> «SpeedEasy» soit en mode «Jumper Emulation» (voir manuel).

**ATTENTION: Ne pas sélectionner une fréquence de fonctionnement
du CPU supérieure à celle indiquée par le constructeur. Nous
déclinons toute responsabilité pour tout dégât qui en résulterait.**

Chapter 1
Introduction

Overview

The Advance 9 green mainboard utilizes the Apollo Pro 133 chipset and provides a highly integrated solution for fully compatible, high performance and cost-effective PC/ATX plat-form. It provides 66/100/133MHz system bus support for all Intel Celeron™ PPGA370 , Pentium®III FC-PGA processors. Both PC66/PC100/PC133MHz SDRAM DIMMs and 66MHz EDO DIMMs are supported. It also provides advanced features such as wake-up on LAN, wake-up on internal/external modem and keyboard password power-on function. The green function is in compliance with the ACPI specification.

Key Features

Form factor

- ATX form factor of 305mm x 193mm.

Microprocessor

- Supports all Intel Pentium®III FC-PGA processors at 500E/533EB/550E/600E/600EB/ 650/667/770/733/750MHz and future processors
- Supports all Intel®Celeron™ PPGA 370 processors at 300A/333/366/400/433/466/ 500/533MHz and future processors.
- Supports 66/100/133MHz host bus speed, can overclock to 155MHz.
- CPU core frequency = Bus speed x2, x2.5, x3, x3.5, x4, x4.5, x5, x5.5, x6, x6.5, x7, x7.5, x8.
- On-board 1.5V, 2.5V regulators

Chipset

- Apollo Pro 133 chipset: VT82C693A, VT82C596B.

System memory

- Provides three 168 pin 3.3V unbuffered 66/100/133MHz DIMM sockets.
- Supports both 66/100/133MHz 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 mode 4 timing.
- Supports "Ultra DMA/33"Synchronous DMA mode transferring up to 33 Mbytes/sec.
- Supports "Ultra DMA/66"Synchronous DMA mode transferring up to 66 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 and Zip drive.
- All I/O ports can be enabled/disabled in the BIOS setup.

AGP SLOT

- Supports an 2X AGP card.

Advanced features

- PCI 2.1 Specification compliant.
- Provides Trend ChipAwayVirus®On Guard and PC-Cillin software with killing virus function.
- Provides two USB ports, on-board PS/2 mouse and PS/2 keyboard ports.
- Provides infrared interface.
- Support PC99 color- coding connector Specification
- Supports Windows 95/98 software power-down.
- Supports wake-up on LAN and wake-up on internal/external modem.
- Supports auto fan off when the system enters suspend mode.
- Provides on-board 3.3V regulator to support ATX power supply without 3.3V output.
- On-board W83782D supports system monitoring (monitors system temperature, CPU temperature, voltages, chassis intrusion and fan speed). (manufacturing option)
- Provides management application such as ManageEasy.

- Supports keyboard password power-on function.
- Protects the system BIOS from being attacked by severe virus such as CIH, by enabling "Flash Write Protect" in CMOS setup or closing the Jumper "JAV".

BIOS

- Licensed advanced AWARD BIOS, supports flash ROM with 2M bit 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

- 2 ISA slots and 5 PCI slots.
- 1 AGP Slot.

Introduction to New Features

BIOS-ProtectEasy

The BIOS of the mainboard is contained inside the Flash ROM. Severe viruses such as CIH virus are so dangerous that it may overwrite the BIOS of the mainboard. If the BIOS has been damaged, the system will be unable to boot. We provide the following solution which protects the system BIOS from being attacked by such viruses.

There are two choices which implements this function.
1. Set the jumper (JAV) as closed, the BIOS can not be overwritten.
2. Set the jumper (JAV) as opened, meanwhile set "Flash Write Protect" as Enabled in AWARD BIOS CMOS Setup. In this way, the BIOS can not be overwritten, but the DMI information can be updated.

Refer to page 25 for detailed information on jumper setting, and page 37 for related BIOS setting.

Ultra ATA/66

According to the previous ATA/IDE hard drive data transfer protocol, the signaling way to send data was in synchronous strobe mode by using the rising edge of the strobe signal. The Ultra ATA/33 protocol doubles the burst transfer rate from 16.6MB/s to 33.3MB/s, by using both the rising and falling edges of the strobe signal, this time Ultra ATA/66 doubles the Ultra ATA burst transfer rate once again (from 33.3MB/s to 66.6MB/s) by reducing setup times and increasing the strobe rate. The faster strobe rate increases EMI, which cannot be eliminated by the standard 40-pin cable used by ATA and Ultra ATA. To eliminate this increase in EMI, a new 40-pin, 80-conductor cable is needed. This cable adds 40 additional ground lines between each of the original 40 ground and signal lines. The additional 40 lines help shield the signal from EMI, reduce crosstalk and improves signal integrity.

Ultra ATA/33 introduced CRC (Cyclical Redundancy Check), a new feature of IDE that provides data integrity and reliability. Ultra ATA/66 uses the same process. The CRC value is calculated by both the host and the hard drive. After the host-request data is sent, the host sends its CRC to the hard drive, and the hard drive compares it to its own CRC value. If the hard drive reports errors to the host, then the host retries the command containing the CRC error.

Ultra ATA/66 technology increases both performance and date integrity. However there are basically five requirements for your system to run in Ultra ATA/66 mode:

1.   The system board must have a special Ultra ATA/66 detect circuit, such as Superb 1 mainboard.
2.   The system BIOS must also support Ultra ATA/66.
3.   The operating system must be capable of DMA transfers. Win95 (OSR2) , Win98 and WindowsNT are capable.
4.   An Ultra ATA/66 capable, 40-pin, 80-conductor cable is required.
5.   Ultra ATA/66 compatible IDE device such as a hard drive or CD-ROM drive.

PC-133 Memory

PC133 SDRAM Unbuffered DIMM defines the electrical and mechanical requirements for 168-pin, 3.3 Volt, 133MHz, 64/72-bit wide, Unbuffered Synchronous DRAM Dual In-Line Memory Modules (SDRAM DIMMs). Relatively , the peak bandwidth of PC-133 memory is the 33% higher than PC-100 memory. These latest SDRAMs are necessary to meet the enhanced 133MHz bus speed requirement.

A5/133E mainboard based on VIA Apollo Pro 133(693A) chipset which is the first chipset to adopt the PC-133 technology.

Chapter 2

Installation Instructions

This section covers External Connectors, Jumper Settings and Memory Configuration. Refer to the mainboard layout chart for locations of all 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 mainboard 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.

PS/2 Mouse Connector

PS/2 Keyboard Connector
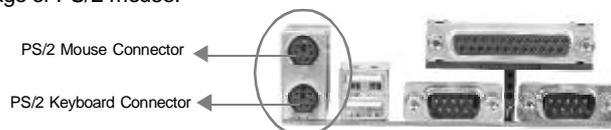
USB1, USB2

Two USB ports are available for connecting USB devices.

USB1

USB2
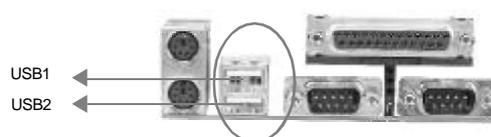
### Parallel Port Connector and Serial Port Connector (UART1, UART2)

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.

Parallel Port

UART1

UART2
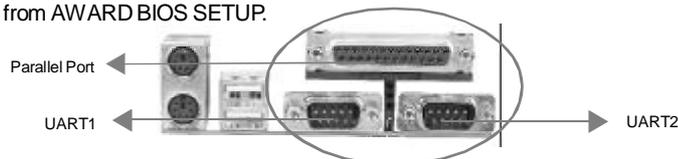
ATX Power Supply Connector & Power Switch (POWER)

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 (power button). 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
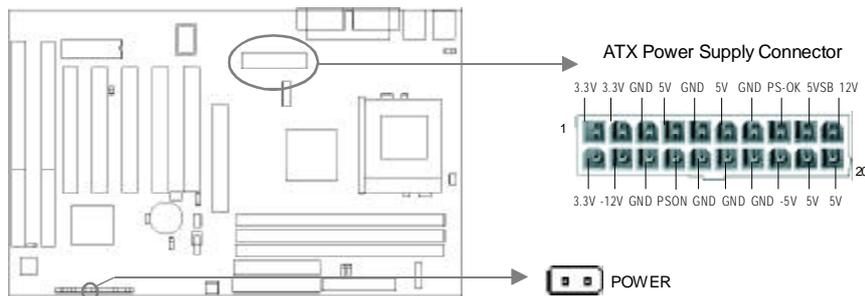
POWER

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. The connector has an orientation. If one way doesn't work, try the other way.

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 (PWRLED)

The power LED has two status. When the system is in power-off status, the LED is off. When the system is powered up, the LED is on. The connector has an orientation.

Key-Lock Connector (KEY_L)

The connector can be connected to the keyboard lock switch on the case for locking the keyboard.
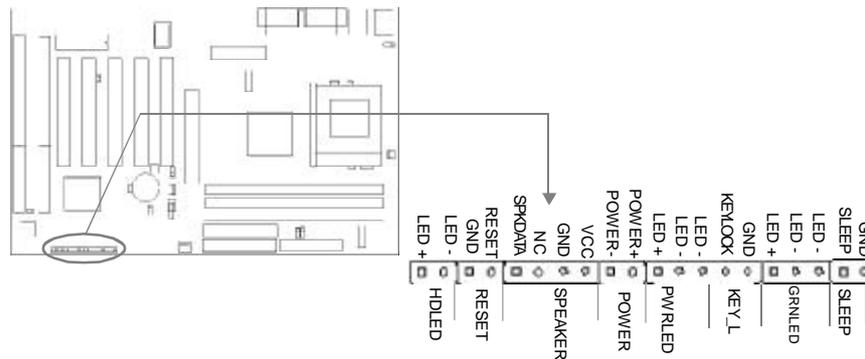
ACPI LED Connector (GRNLED)

The ACPI LED has three status. When the system is in power-off status, the LED is off. 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, the system enters suspend mode.

Infrared Header (IrDA)

This connector supports wireless transmitting and receiving. If using this function, set "Serial Port 2 Mode" to IrDA or ASKIR and configure the settings from the "INTEGRATED

PERIPHERALS" section of the BIOS.



```
VCC
IRTX
GND
IRRX
NC
VCC
```

Fan Connector (CPUFAN, CHSFAN)

The fan speed of these two fans can be detected and viewed in "System Monitor" section of the BIOS. They will be automatically turned off after the system enters suspend mode.

CPUFAN
FAN GND
+12V
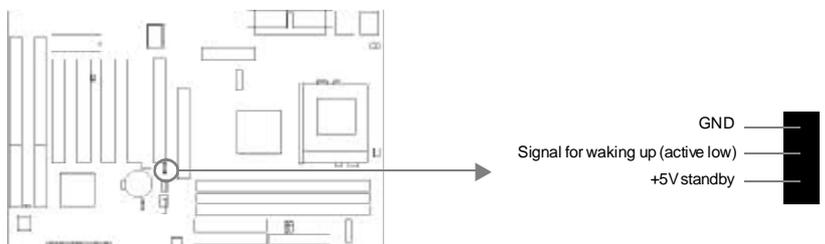SENSE

SENSE   FAN GND
+12V
CHSFAN
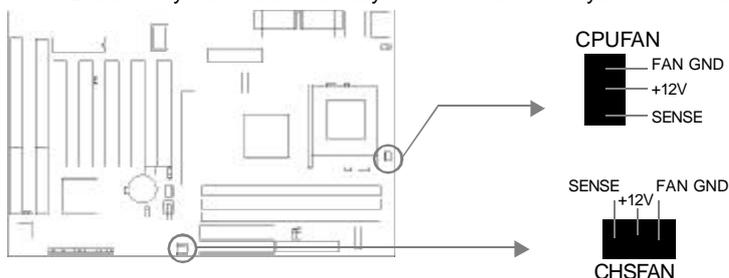
Wake-Up On LAN (WOL)

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 "PowerOn by Ring/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.

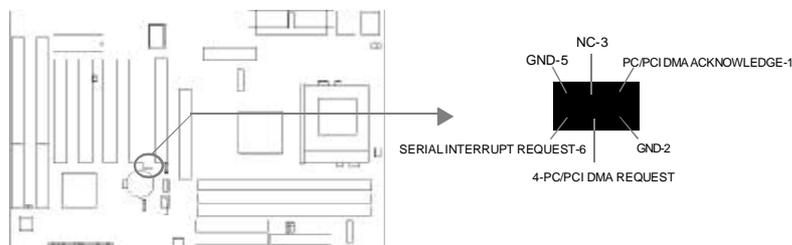Signal for waking up (active high)
GND
+5V standby
1
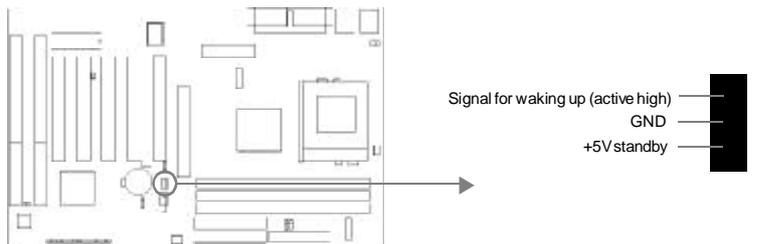
Wake-Up On Internal Modem (WOM)

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 " PowerOn by Ring/ 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.

GND
Signal for waking up (active low)
+5V standby
1

Sound Connector (PC-PCI)

This connector is for the usage of PCI sound card.

NC-3
GND-5   PC/PCI DMA ACKNOWLEDGE-1
SERIAL INTERRUPT REQUEST-6   GND-2
4-PC/PCI DMA REQUEST

Expansion Slots & I/O Ports description

Slot / Port	Description
ISA 1	First ISA slot.
ISA 2	Second ISA slot.
PCI1	First PCI slot.
PCI2	Second PCI slot.
PCI3	Third PCI slot.
PCI4	Fourth PCI slot.
PCI5	Fifth PCI slot.
IDE1	Primary IDE port.
IDE2	Secondary IDE port.
FLOPPY	Floppy Drive Port.
AGP	Accelerated Graphics Port.

<u>Jumper Settings</u>

Jumpers are located on the mainboard, they represent, clear CMOS jumper JCC, enable keyboard password power-on function jumper JKB etc. Pin 1 for all jumpers are located on the side with a thick white line (Pin1→ ▢▢▢), refer to the mainboard' s 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.
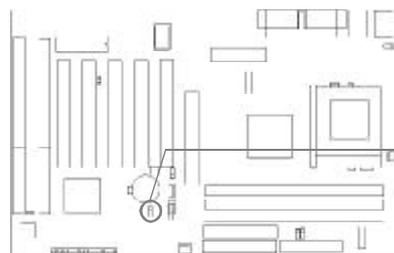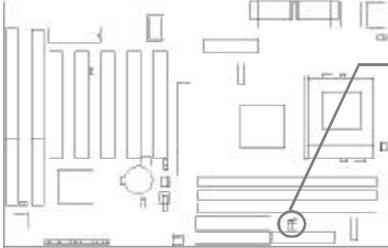
Normal status: ▮ 1   JCC

Clear CMOS: ▮ 1   JCC

(Unplug the AC power supply)

Overclocking Jumper Setting (JFSB1, JFSB2)

Jumpers labeled JFSB1, JFSB2 are located on the mainboard providing users with CPU overclocking feature. The host bus speed can be set as 66/100/133MHz. Refer to the chart below for the location of these jumpers, and the table for information on how to set them.

CPU FSB	JFSB1	JFSB2
66MHz	Pin2&Pin3 closed	Pin2&Pin3 closed
100MHz	open	Pin2&Pin3 closed
133MHz	open	open
Auto	Pin1&Pin2 closed	Pin1&Pin2 closed

If CPU FSB is set as default setting AUTO, the system detects the CPU front side bus automatically and run processor actual front side bus. If CPU FSB is set as 66MHz, the system only run at 66MHz front side bus even if a processor with 100MHz or higher. If CPU FSB is set as 100MHz, the system can run at 100MHz front side bus even if a processor with 66MHz FSB is installed. Setting up to 133MHz FSB is also supported. However, whether or not your system can be overclocked depends on your processor's capability. Whether the processor is bus ratio locked or unlocked should also be taken into account. For bus ratio unlocked processor, this overclocking feature can be implemented by setting JFSB1and JFSB2 as all opened, meanwhile respectively adjusting the bus clock higher and the bus ratio (Multiplier) lower in "SpeedEasy CPU Setup" in AWARD BIOS CMOS Setup. We do not guarantee the overclocking system to be stable.

Enable keyboard password power-on function (JKB)

The mainboard provides the advanced keyboard password power-on function. When wanting to use this function, set JKB with pin1& pin2 closed.Otherwise, set JKB with pin2 & pin3 closed for disabling this function.
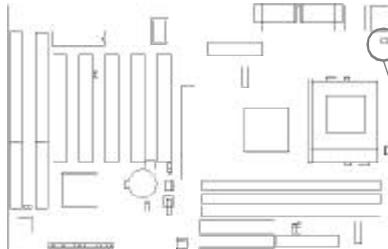
In order to implement this function, set "POWER ON Function" to **Password/Button** or **Password** and set the keyboard power-on password in the "INTEGRATED PERIPHERALS" section of the BIOS. For detailed information, see the explanations in " INTERGATED PERIPH-ERALS" section of BIOS part.

Note: 1.If wanting to use this function, 5VSB line of the power supply should be capable of delivering enough current (eg. 200mA) for all devices connected to the keyboard port, or you will be unable to power up the system using the keyboard.

2.If you set JKB with pin2 & pin3 closed, set "POWER ON Function" to Password/Button or BUTTON ONLY, don't set it to Password, or this will prevent you from powering up your system.

3. If you encounter the above problems, clear CMOS and reset the jumper and BIOS option.

BIOS-ProtectEasy Jumper (JAV)

The BIOS of the mainboard is contained inside the Flash ROM. If the jumper JAV is set as closed, you will be unable to flash the BIOS to the mainboard. However in this status, the system BIOS is protected from being attacked by serious virus such as CIH virus.
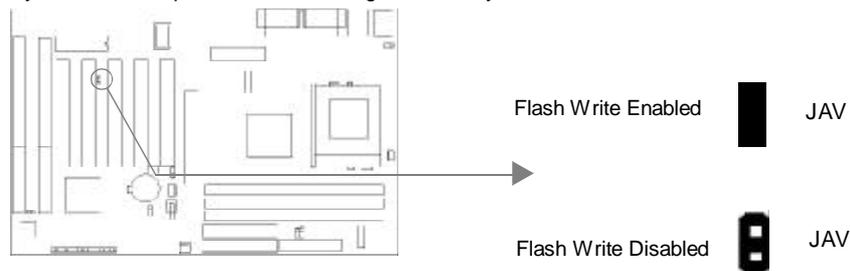
Flash Write Enabled   JAV

Flash Write Disabled   JAV

Setting the jumper JAV as opened(default), meanwhile disabling the "Flash Write Protect" item from "BIOS Features Setup" in AWARD BIOS CMOS Setup, allows you to flash the BIOS to the Flash ROM.

The DMI (Desktop Management Interface) system information such as the CPU type/speed, memory size, and expansion cards will be detected by the onboard BIOS and stored in the flash ROM. Whenever the system hardware configuration is changed, DMI information will be updated automatically. However, setting jumper JAV as closed makes flashing BIOS and updating DMI information impossible. Therefore, set JAV as opened when changing the system hardware configuration, or the error message "Unkown Flash Type" will be displayed on the screen, and DMI information update will be fail.

Setting the jumper JAV as opened(default), meanwhile disabling the "Flash Write Protect" item from "BIOS Features Setup" in AWARD BIOS CMOS Setup, allows you to flash the BIOS to the Flash ROM.

Setting the jumper JAV as closed, the Pentium®III Processor Number can be not readable whatever disabling or enabling "Processor Number Feature" item from "BIOS Features Setup" in AWARD BIOS CMOS Setup.

Memory Configuration

This mainboard provides three 168 pin 3.3V un-buffered DIMM sockets to support
a flexible memory size ranging from 8MB up to 768MB for SDRAM or from 8MB up to 768MB
for EDO memory. Both PC66/PC100/PC133MHz SDRAM with SPD and 66MHz EDO DIMMs
are supported. The following set of rules allows optimum configurations.

- 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 16MB, 32MB, 64MB, 128MB, 256MB in each
  DIMM socket.

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

- Processor with 66MHz FSB should be paired with PC66, PC100, PC133 SDRAM
  processor with 100MHz FSB should be paired with either PC100 or PC133 SDRAM,
  processor with 133MHz FSB should be paired only with PC133 SDRAM.

Chapter 3
BIOS Description

Utility Support:

AWDFLASH.EXE

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

- **We strongly recommend you only upgrade BIOS when encounter problems.**

- **Before upgrading your BIOS, review the description below to avoid making mistakes, destroying the BIOS and resulting in a non-working system.**

When you encounter problems, for example, you find your system does not support the latest CPU released after our current mainboard, you may therefore upgrade the BIOS, please don't forget to set JAV as close and disable the "Flash Write Protect" item in AWARD BIOS CMOS Setup first (refer to page 26).

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 AWDFLASH.EXE (version>7.07) from the directory \Utility located on QDI Mainboard 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 mainboard.

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

5. Reboot the system from the bootable diskette created.

6. Then run the AWDFLASH utility at the **A:** prompt as shown below:

    A:\AWDFLASH xxxx.bin

    Follow the instruction through the process. Don't turn off power or reset the system until the BIOS upgrade has been completed.

If you require more detailed information concerning AWDFLASH Utility, for example, the different usage of parameters, please type A:\>AWDFLASH /?

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.

Figure-1 Main Menu

Note:The "System Monitor" item will not be displayed if there is no system monitor hardware on the mainboard.

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.
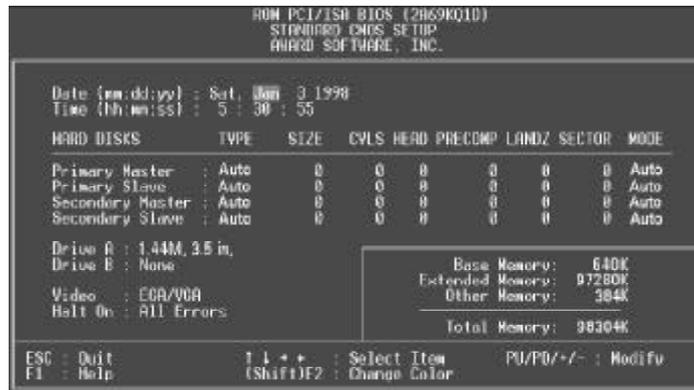
Figure-2   Standard CMOS Setup Menu

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 adapters.

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 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 of each item and describes their meanings .

Item	Option	Description
• CPU Model	*Intel(R) Celeron(TM)*	BIOS can automatically detect the CPU model, therefore this item is shown only.
• CPU Speed	*200MHz (66x3)*	CPU frequency should be set according to the CPU type. For processors with 66MHz front-side bus you can choose from 200MHz (66X3) to 533MHz (66x8). For processors with 100MHz front-side bus, you can select from 300MHz(100X3) to 800MHz(100X8) For processors with 133MHz front-side bus, you can select from 400MHz(133x3) to 1066MHz(133x8).
	Jumper Emulation	This item is only for users who understand all the CPU parameters, i.e. Bus clock and Multiplier. Users are provided with CPU overclock feature through "Jumper Emulation". The host bus speed can be set from 66MHz up to 155MHz. The multiplier can be chosen from 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8. However the multiplier setting will not function for bus radio locked processor, only bus ratio unlocked processor.
• DRAM frequency	*Bus clock*	DRAM frequency same as CPU FSB. (the default is suggested to choose)
	Bus clock+33MHz	DRAM frequency is faster than CPU FSB by 33MHz.
	Bus clock-33MHz	DRAM frequency is slower than CPU FSB by 33MHz.
• Clock Spread Spectrum	*Enabled*	Enables Clock Spread Spectrum to reduce EMI. you can choose 66/83/100/133/140/150MHz host bus speed.
	Disabled	Disables Clock Spread Specturm. you can choose 66/78/100/113/133/144/155MHz host bus speed.

Warning:
Dot 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
● ChipAway 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	*Enabled*	Enables CPU L2 Cache ECC (Error Checking and Correction) function.
ECC	*Disabled*	Disables CPU L2 Cache ECC function.
● Processor Number Feature	*Enabled*	Pentium®III Processor Number can be readable.
	Disabled	Pentium®III Processor Number can be unreadable.
● 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 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.
● 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.
● Delay For HDD 0~15 (Secs):	*0~15*	Sets the pre-delay time for hard disk to be accessed by the system.
● Show Bootup Logo	*Disabled*	Enables the logo when system boots up.
	Enabled	Logo will not be shown when system boots up.
● Flash Write Protect	*Enabled*	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 item only when wanting to flash BIOS, afterwards set this item as Enabled (default).**
	Disabled	Disabling this item allows you to upgrade the BIOS.

Chipset Features Setup
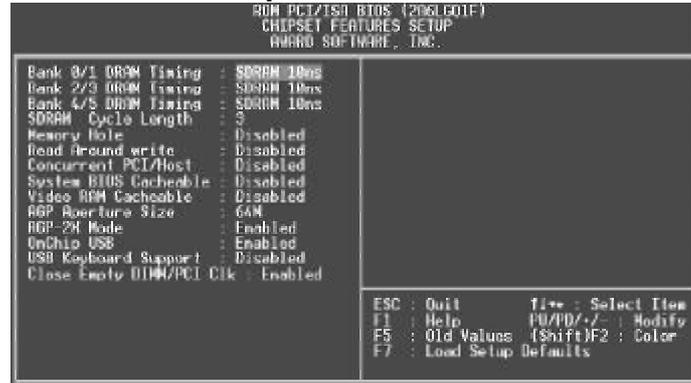
Figure-5   Chipset Features Setup Menu

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

Item	Option	Description
● Bank 0/1, 2/3, 4/5 DRAM Timing	EDO 50ns EDO 60ns Normal Medium Fast Turbo	These items are of selected EDO DRAM read/ write timing. Ensure your DIMMs are as fast as 50ns, otherwise select 60ns. 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	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.
● System BIOS Cacheable	Enabled	Beside conventioal memory, system BIOS area is also cacheable.
	Disabled	System BIOS area is not cacheable.
● 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.

| ● AGP-2X Mode	*Enabled*	Supports 133MHz 2X mode.
	Disabled	Does not support 133MHz 2X mode.
● 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.

29

Power Management Setup
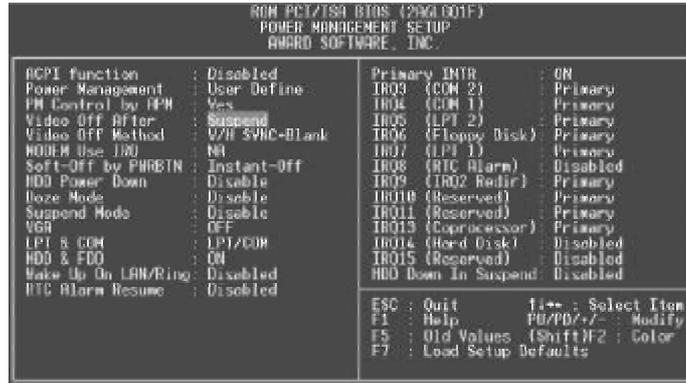
Figure-6   Power Management Setup Menu

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

Item	Option	Description
● ACPI function	*Enabled*	Validates ACPI function.
	Disabled	Invalidates 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 After	*N/A*	System BIOS will never turn off the screen.
	Suspend	Screen blanks after the system enters suspend mode.
	Standby	Screen blanks after the system enters standby mode.
	Doze	Screen blanks after the system enters Doze mode.
● 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	*3 ~11*	Special Wake- up event for the Modem.
	NA	Invalidates this feature.

|		
● 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 HDD&FDD	*LPT/COM OFF/ON*	Set the options of these items to reload global timer.
● 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.
● HDD Down In Suspend	*Enabled*	HDD's motor will be off when the system enters suspend mode.

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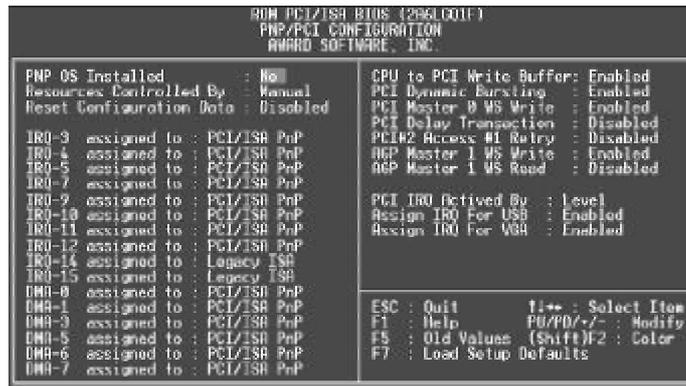
Figure-7   PNP/PCI Configuration Setup Menu

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) auto- matically by BIOS.
• Reset Configuration Data	Enabled	The system BIOS will reset configuration data once then automatically set this item as disabled.
	Disabled	Disables the configuration data 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 Transaction	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
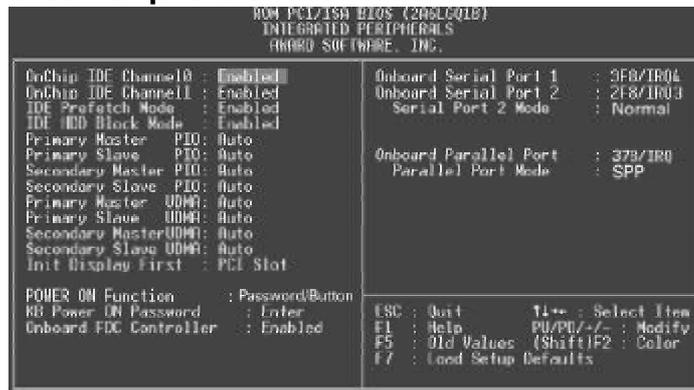
Figure-8 Integrated Peripherals Menu

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.
● POWER ON FUNCTION	*Password /Button*	Either the power button or the keyboard password can be used to power up the system. Other than choosing this option, the password should be set to implement the keyboard pass-word power-on function.
	Button Only	Disables the keyboard password power-on function. The system can be powered on only by the power switch.

	Password	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: 1. If the option(Password) is chosen, the jumper JKB must be set as pin1&pin2 closed, or you will be unable to power up the system.** **2. The keyboard password must be set no more than 5 characters and can only use the numbers and alphabetic letters. The password will always remain unless you clear CMOS or reset it.**
● Onboard FDC Controller	*Enabled* *Disabled*	Onboard floppy disk controller is enabled. 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 Mode	*Standard* *Sharp IR*	Defines Serial Port 2 as standard serial port. 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,* *278/IRQ5,* *3BC/IRQ7*	Defines onboard parallel port address and IRQ channel.
	Disabled	Onboard parallel port is disabled.
● Parallel Port Mode	*SPP* *EPP* *ECP,* *ECP+EPP*	Defines the parallel port mode as Standard Parallel Port (SPP), Enhanced Parallel Port (EPP), or Extended Capabilities Port (ECP).

System Monitor

Figure-9 System Monitor Menu

The following describes the meaning of each item.

Item	Current Data Shown	Description
● Current System Temp.	$30^0C/86^0F$	Temperature inside the chassis.
● Current CPU Temp	$39^0C/102^0C$	Temperature of the CPU core.
Current CPUFAN Speed	3999RPM	RPM(Revolution Per Minute) speed of fan
Current CHSFAN Speed	3998RPM	connected to the fan header CPUFAN/
		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.
● VCCVID(CPU) Voltage	1.98V	Displays current Voltage values including all
VTT(+1.5V) Voltage	1.37V	significant voltages of the mainboard. +3.3V,
+ 3.3V Voltage	3.32V	+5V, +12V, -12V and 5VSB are voltages
+5V Voltage	4.83V	from the ATX power supply, VTT (+1.5)
+12V Voltage	11.79V	Voltage is GTL Termination Voltage from
-12V Voltage	-12.50V	the on-board regulator, and VCCVID (CPU)
VBAT Voltage	3.00V	Voltage is the CPU core voltage from the on
5VSB Voltage	4.95V	board switching power supply. VBAT is the
		voltage of the onboard battery.

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 "Security Option" 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 "Security Option" 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.

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.

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.

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Appendix A
QDI Mainboard Utility CD-ROM

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

1. Chipset Dispatches:
   Via Chipset Drivers included in the directory \ChipDrv\Via \A133 .
   Run \ChipDrv\Via\A133\Setup.exe to install the following drivers automatically.
   A. Bus Master PCI IDE Driver
   B. IRQ Routing Program
   C. Via Chipset Function's Registry
   D. AGP VxD Driver

2. PC-cillin 98
   New viruses are appearing frequently; the chance of your PC being infected increases; antivirus softwares are becoming a must. PC-cillin 98 offers you full-time active virus protection as well as manual scans, plus virus clean capability. Keeping up to date on the latest threats and updating significant files are crucial in keeping antivirus software effective. PC-cillin 98 provides Free Virus Pattern File Updates from the Trend Micro Website:
   http://www.trend.com/download/pattern.htm or
   http://www.antivirus.com/download/pattern.htm.

   Installation of PC-cillin 98
   For Windows 95/98 English version, run Setup.exe for installation from the utility CD directory \Pccillin\Win9x.
   For Windows 95/98 Chinese version, run Setup.exe for installation from the utility CD directory \Pccillin\PWin9x.
   For Windows NT 4.0, run Setup.exe for installation from the utility CD directory \Pccillin\WinNT4.0.
   S/N is PN EF-9991-6558-5857-5535.

3. QDI ManageEasy V2.0
   It is well known that guaranteeing the computer's security and reliability is essential. Especially today, effectively managing and monitoring the computer's hardware is even more important; because processing and exchanging critical data through computer and network are happening everyday.

Moving with the computer's development, the system of the computer will become more and more complex; at the same time, the control computer's hardware will be strengthened. Today, it is possible to monitor and manage your complex hardware from Windows 9X and Windows NT. QDI ManageEasy is a system tool, a bridge between the complex hardware and OS, used to access hardware status and to execute control functions. It supports stronger functions for Windows 9X and Windows NT. These functions enables you to view more than one hundred of the basic information about the system and monitor some key reference data concerning computer health in real time. QDI ManageEasy also helps you to use remote access and control computers in
your local area network. With QDI ManageEasy, you can improve your management level.

Installation of QDI ManageEasy V2.0

Run Setup.exe from the utility CD directory \QME2 to install the QDI ManageEasy V2.0. The QDI ManageEasy Setup Wizard will guide you through the installation process.

For detailed information on how to use QDI ManageEasy V2.0, please refer to the QDI ManageEasy V2.0 online help.

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

5. Documents for QDI Mainboard:
   The files included in the directory \Doc are:
   Adobe Acrobat Reader V3.0 —ar32e301.exe
   French manuals for QDI late mainboard — W1 FR.doc, WX2 E FR.doc, etc.

Appendix B.
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 Mainboard 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.

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RecoveryEasy

Introduction:

RecoveryEasy™, the latest QDI innovation, is able to protect the system from being destroyed, by creating a so-called "mirror partition" for a current hard disk partition and backuping all the data to the mirror area. This ideal utility provides disk partition, disk data backup/recovery, CMOS settings backup/recovery and multi-boot functions. RecoveryEasy is also able to prevent the system from being attacked by different kinds of boot virus or other severe virus such as CIH. In case the system is ruined either by mistake or virus, the system can be recovered from the mirror partition. It applies the build-in BIOS technology that does not occupy either the hard disk space or the system memory. It's the best choice for both corporations and PC users.

Operation Process:

There are two hotkeys – Ctrl+Bksp and F12 for RecoveryEasy to enter "Partition" and "Recovery" user interfaces accordingly during BIOS booting up. If two or more hard disks are installed, use F5 key to choose the hard disk.

1. Partition Interface (see figure-1)

Users can create and delete partitions/mirror partitions, activate partitions, and uninstall RecoveryEasy in Partition User Interface.
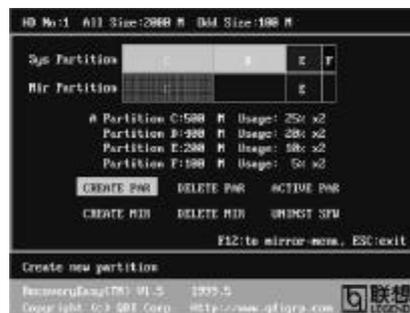

figure-1 Partition Interface

1.0 Install RecoveryEasy for the first time

a. The utility checks the previous disk partition at first, and displays the status of the first four partitions. If there are more than four disk partitions, users will be asked to delete the redundant disk partitions, since only four partitions that can be activated are allowed to exist. However, if there're only four or fewer partitions, users can follow the system prompt and choose to install RecoveryEasy based on the previous disk partitions. In this way, the original extension partitions will be changed to normal ones, and probably the sequence of the partitions will be changed also, but the contents contained in each partition will remain the same.

b. If choosing to install RecoveryEasy on an absolutely clear disk, the utility will delete all the previous partitions.

c. The password is set as default setting "qdiqdi" after installing RecoveryEasy.

1.1 CREATE PAR

Function : Creates a new partition.

Limitation: When no disk space remains or 4 partitions already exist, this button is disabled.

Steps : After pressing the "CREATE PAR" button.

a. The system will prompt whether users want to create a mirror partition for it or not.

b. If answering "Y", input the new partition size in Megabyte. Notice that the maximum partition size that can be assigned is half of the left disk space, which is also displayed in the status line. Another half is for the mirror partition. If answering "N", the whole disk space left can be assigned. See figure-2.
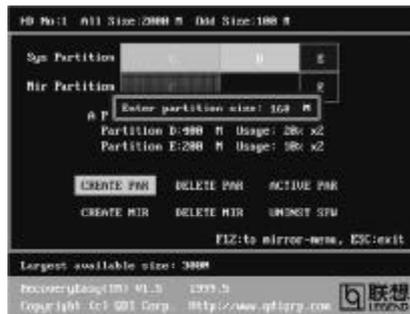

figure-2 Create Partition

Note:

a. The system will prompt "Insert system floppy, then reset" when the first partition on the first hard disk is created.

b. After using DOS6.xx boot disk to format C partition, the system should be reset in order to access the partition.

c. In Windows system 1,048,576 bytes equal 1 Megabyte, while in RecoveryEasy 1,000,000 bytes equal 1 Megabyte, therefore a smaller size will be displayed in Windows system compared with the size displayed in RecoveryEasy.

1.2 DELETE PAR

Function : Deletes the last partition and its mirror partition.

Limitation: When no partition exists, this button is disabled.

Steps : After choosing this function, only the final partition can be deleted in order to keep the continuous disk space. If the warning message is confirmed, the partition will be deleted. By pressing "N" or "ESC" key, the system quits.

1.3　ACTIVE PAR

Function　: Implements multi-boot function by activating one of the partitions.

Limitation: When no partition exists, this button is disabled.

Steps　　: If there're two or more partitions, choose one of them by pressing F5 key.

Note　　: After setting active partition, a letter "A" will be shown in front of this partition.

1.4　CREATE MIR

Function　: Adds mirror partition for the disk partition that has no mirror.

Limitation: This function should be performed by order, for example, from partition 1 to 4. If no disk space remains or the last partition has its mirror partition already, this button is disabled.

Steps　　: After pressing the "CREATE MIR" button, use F5 key to choose the partition to create mirror. The partition of which the size is bigger than the left disk space will be ignored.

1.5　DELETE MIR

Function　: Deletes the mirror partition.

Limitation: If there is no mirror partition, this button is disabled. This function should be performed in reverse order, for example, from partition 4 to 1.

Steps　　: After pressing the "DELETE MIR" button, only the final mirror partition can be deleted in order to keep the continuous disk space. If the warning message is confirmed, the mirror partition will be deleted. By pressing "N" or "ESC" key, the system quits.

1.6　UNINST SFW

Function　: Uninstall RecoveryEasy.

Limitation: None.

Steps　　: After pressing the "UNINST SFW" button and the warning message is confirmed, RecoveryEasy will be uninstalled. By answering "N", the system quits.

Note　　: After RecoveryEasy is uninstalled, all the mirror areas have been disconnected with the relate partitions. If no partition is deleted or changed in size, or no other partition is created, users have chance to "Recover existing RecoveryEasy settings" when next time entering RecoveryEasy partition interface, meanwhile the password will be set as default setting "qdiqdi".

1.7　OTHERS

F12 : Switches to Recovery User Interface.

ESC : Exits from the Partition User Interface. If users made some mistakes, for example, wrongly delete a partition, do not press the "ESC" key, press the reset button on your system at once, in this way users can save their system.

F5:

a. When two or more than two hard disks are installed on the system, use F5
key to choose the hard disk. Every time users use F5 key to switch the hard disk, the
operation result for the previous hard disk is saved. When processing a certain hard
disk, F5 key can be used to choose the partition.

b. In addition, when two or more than two hard disks are installed, the sign of
partitions will be changed from C, D, E, F to 1, 2, 3, 4 accordingly.

2. Recovery Interface (see figure-3)

Users can backup the partition to its mirror area, and recover the partition from its mirror
area from Recovery User Interface. This interface also provides users with CMOS
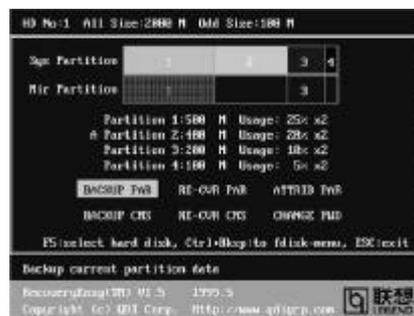settings backup or recovery, and changing password functions.

figure-3 Recovery User Interface

2.1 BACKUP PAR

Function : Backups the content of the partition to its mirror area.

Limitation: If no mirror partition exists, this button is disabled.

Steps:

a. Use F5 key to choose the partition with mirror area existed.

b. If the partition chosen has been backuped before, a warning message will be shown,
and the time when last backup was done will be displayed in the status line. After
confirming the warning message, the system performs the backup. By pressing "N" or
"ESC" key, the system quits.

2.2 RE-CVR PAR

Function : Recovers the content from the mirror area to the relate partition.

Limitation: If users didn't backup any partitions before, this button is disabled.

Steps:

a. Use F5 key to choose the backuped partition.

b. The time when the latest backup was done will be displayed in the status line. After
confirming the warning message, the system performs the content recovery. By
pressing "N" or "ESC" key, the system quits.

Note:

a. During the process of partition backup or recovery, a guage will be shown as below, the backup or recovery speed is about 4-5Mbyte/s. See figure-4.

figure-4 Backup Partition

b. If a disk I/O error occurs during the process of partition backup or recovery, this means there's physical damage on the hard disk, however users can ignore it and continue the process.

2.3 ATTRIB PAR

Function : Allows users to modify the properties of the partition (eg. FAT16 -> FAT32) after entering OS.

Limitation : None.

Steps   : After pressing this button, turn on/off the switch.

Note:

a. The switch resets to the default setting "disable" every time the system reboots.

b. In order to implement this function, users need to enable the switch when installing the OS or modifying the partition properties. Please note: Do not create or delete partitions or change the partition size when modifying the partition properties.

2.4 BACKUP CMS

Function : Backups all CMOS settings.

Limitation : None.

Steps   : After choosing this function, the current CMOS settings will be saved.

2.5 RE-CVR CMS

Function : Recovers all CMOS settings.

Limitation : None.

Steps   : After choosing this function, the latest backup of the CMOS settings will be recovered. The system needs reboot in order to validate the new CMOS settings.

Note   : If users have never backuped the CMOS settings, a wrong message will be shown after choosing this function.

2.6   CHANGE PWD

Function   : Changes the password to enter RecoveryEasy Partition or Recovery User
Interface.

Limitation : None.

Steps   : Follow the system prompt, input the password no more than 6 characters
twice. To delete the password, follow the system prompt and press the
"Enter" key twice.

Note:

a. The password should be no more than 6 characters, only digital and alphabetic letters
are valid.

b. Once the password is enabled, users will be asked to input the password every time
they try to enter the RecoveryEasy user interfaces, and up to 3 times try is permitted.

2.7   Others

Ctrl+Bksp : Switches to Partition User Interface.

ESC   : Exits from the Partition User Interface.

F5   : When two or more than two hard disks are installed on the system, use F5
key to choose the hard disk. When processing a certain hard disk, F5 key
can be used to choose the partition.

FAQ:

1.   What does RecoveryEasy do?

RecoveryEasy creates a so-called "mirror partition" with same size for the hard disk
partition on the same hard disk, and then completely backups all the data sector by
sector to the mirror area. This mirror partition is reserved to OS. When the OS ruins
either by mistakes or virus, users can recover the partition from its mirror.

2.   Does RecoveryEasy occupy the system resources?

Although some hard disk data protection applications can automatically protect the
disk data in runtime, it lowers the system performance. Unlike these applications,
RecoveryEasy need users to backup or restore datamanually when needed, but it
DOES NOT lower the system performance when the system is running. It does not
occupy either hard disk space or system memory, additional floppy disk or ISA/PCI
cards are unnecessary.

3.   RecoveryEasy utilizes Build-in BIOS skill, what is build-in BIOS?

RecoveryEasy build-in BIOS means all functions of RecoveryEasy including creating
partition, backuping and restoring partition are built in BIOS. Users just need to down
load the latest BIOS from our Website (http://www.qdigrp.com) when wanting to
upgrade (It's free!).

4. Are there any hard disk limitations of RecoveryEasy?

RecoveryEasy supports all kinds of current IDE hard disks and has no limitation on the hard disk capacity. RecoveryEasy can not provide its function for some special hard disk types such as SCSI, but it will not affect their usage.

5. Are there any OS limitations of RecoveryEasy?

RecoveryEasy supports current operating systems such as DOS, Windows 95/98. However in Windows NT, Windows 2000, Unix and OS2 systems, users should notice that the disk tools bundled in the OS could change the mirror partition. On the other hand, since users can create partition with RecoveryEasy, it is unnecessary to use other disk tools.

6. Why does the system halt when HDD access mode is changed (eg. LBA->LARGE)?

This is a way to protect the system from the errors of data accessing caused by changing HDD access mode. When RecoveryEasy detects such things, the system will be locked, users could reboot the system and set the HDD access mode as the original one in BIOS SETUP.

7. Why does the remainder size plus partitions size not match the total size shown in RecoveryEasy sometimes?

When the location of partitions is not continuous, the above problem exists.

8. Are there any other disk partition tools that can modify the partition table made by RecoveryEasy?

RecoveryEasy provides a write-protect function, so the disk tools such as Fdisk, Partition Magic, BootMenu, SmartDisk and BootStar can not modify the partition table created by RecoveryEasy. Some of the applications even terminate during operation. However the disk tools bundled in the OS such as Windows NT, Windows 2000, Unix and OS2 could change the mirror partition.

9. Why does it happen that a prompt *"installation can not continue"* pops up when installing Windows98 or a yellow exclamation mark shown beside IDE device in system properties?

During Windows 98 installation, the installation program will write to MBR (Master Boot Record) which is protected by RecoveryEasy, therefore the installation will be terminated. To avoid this problem, a "ATTRIB PAR" button is provided in Recovery User Interface. Enable this switch before installing Windows 98, then the installation will be successfully completed. In order to remove the yellow question mark before IDE devices in Device Manager, enable this switch once more after system reboot.

10. Why does the converting of FAT16->FAT32 in PQ Magic go wrong?

MBR will be accessed when converting FAT16 to FAT32 with PQ Magic, which is protected by RecoveryEasy, therefore the conversion will be invalidate. Enabling the " ATTRIB PAR" switch from Recovery User Interface

before converting can avoid this problem. It's the same situation as "FAT32 Converter" provided in Windows98.

11. What if partitions be wrongly deleted in RecoveryEasy?

If users delete a partition in RecoveryEasy by mistake, they can save it by pressing the Reset button on their system at once. Do not press the "ESC" key to quit RecoveryEasy, this will save the change. Do not try to create the partition again, since creating partition will clear all the content of the partition.

12. What is multi-boot?

RecoveryEasy can implement the multi-boot function by activating different partition. For example on the hard disk, partition C contains DOS, partition D contains Windows 95 version, partition E contains Windows 98 version, when activating partition C in RecoveryEasy, the system enters DOS, when activating partition E, the system enters Windows 98 version. At the same time, the sequence of the partitions is adjusted accordingly, partition E becomes C:, partition C becomes D: and partition D becomes E:. This function is the same as that of fdisk.exe, but the system needs reboot in order to make the change validate for fdisk.exe.

13. What if computer accidentally power off when backuping (recovering)?

The partition should be completely backuped or recovered. If the computer accidentally powers off, the partition should be backuped or recovered once again.

14. What if users lose the password?

To make sure the security, the password is saved in the hard disk. **It's very important for users to remember the password.** If forgetting the password, contact us, clearing CMOS is useless.

15. Does RecoveryEasy protect hard disk against CIH?

RecoveryEasy can strongly protect the hard disk from boot-virus, as well as the attack of CIH. If the system is attacked by CIH, RecoveryEasy will automatically recover the MBR and each partition boot record before system boots up, and try to recover the FAT. In this way the system can basically boot up, then users can use some anti-virus application to kill the virus. However this depends on how CIH virus affects the system. CIH normally outbreaks on 26th every month, if the system cannot boot up that day, power off the computer instantly, and use the second safe way to recover the system, that is, recover the partition from its mirror area from Recovery User Interface. Remember to create a mirror partition and backup before virus attacks the system.

Item Checklist

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

- ☑ Advance 9 mainboard
- ☑ QDI Mainboard Utility CD-ROM
- ☑ I/O shield
- ☑ 1 IDE ribbon cable
- ☑ 1 floppy ribbon cable
- ☑ User's manual

Notice

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Board Layout of

Advance 9 V1.0