Declaration of conformity

$$C \: \epsilon$$

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

declares that the product

Mainboard
Superb 1

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
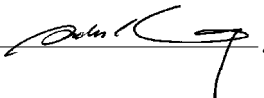
Declaration of conformity

FC

Trade Name:	QDI Computer (U. S . A.) Inc.
Model Name:	Superb 1
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:	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 Pentium®, Pentium®with MMX™, Cyrix6x86, CyrixMII™, AMDK6™ , AMDK6™-2 or AMDK6™-3 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.

> **Note: If you do not set the CPU speed, your system will run at the default setting.**

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 on 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.

Schnell-Installation durch SpeedEasy

Vorgehensweise der Installation:

1. Legen sie dieIntel Pentium®, Pentium®with MMX™, Cyrix6x86, CyrixMII™, AMDK6™, AMDK6™-2, AMDK6™-3 processor. mit Hilfe der mitgelieferten halterung.

2. Vervollständigen Sie das System mit den weiteren erforderlichen Coputerkomponenten

3. Drücken Sie die Taste < Entf > und schalten Sie das System an um das BIOS-setup zu gelangen.

4. Steigen Sie in das Menü "SpeedEasy CPU SETUP" ein, um die Geschwindigkeit einzustellen.

ACHTUNG:Falls Sie die Taktfrequenz der CPU nicht setzen, arbeitet Ihr System mit den Standardwerten für die CPU.

5. Speichern Sie die Einstellungen und verlassen Sie das BIOS, um die auvor eingestellte Taktfrequenz zu aktivieren.

SpeedEasy CPU Installationsmenü

Wählen Sie < SpeedEasy CPU SETUP> aus dem Hauptmenü und öffnen Sie das untergeordnete Menü

Abb. 1 SpeedEasy CPU Installationsmenü

Das BIOS stellt Ihnen eine Reihe von Grundeinstellungen für Ihren CPU zur Verfügung, anstelle von "jumper setting". Sie können manuell die Geschwindigkeit des CPU innerhalb des "SpeedEasy CPU SETUP" einstellen

⚠ **warnung:**

Bitte Setzen Sie die Taktfrequenz dor CPU nicht höber als die tats‰ohliche freigegebene Taktfrequenz, ansonsten Kann QDI für rechtliche Anspruche nicht herangezogen werden.

SpeedEasy Instalación rápida

Procedimiento:

1. Introduzca correctamente el Intel Pentium®, Pentium®with MMX™, Cyrix6x86, CyrixMII™ AMDK6™, AMDK6™-2, AMDK6™-3

2. Finalice el proceso de ensamblaje de su equipo.

3. Presione la tecla <Supr> y encienda el sistema, para entrar en BIOS.

4. Entre al menu "SpeedEasy CPU SETUP" para establecer la velocidad de su CPU.

Nota: Si no establece la velocidad del CPU, su sistema funcionará a la velocidad minima por defecto.

5. Salve y salga de BIOS, luego su sistema arrancará a la velocidad por Ud. seleccionada.

Menu del SpeedEasy CPU

Seleccione el item <SpeedEasy CPU SETUP> desde el menu principal, y entre en el submenu:

Figura-1 Menu del CPU SpeedEasy

BIOS le proporcionará unos valores básicos para la elección de su CPU, en vez de tener que configurar jumpers. Ud. puede seleccionar manulmente la velocidad de CPU en el menu "SpeedEasy CPU SETUP".

⚠ Aviso

> No es recommendable seleccclonar una frecuencia de trabajo super• or a la cual esta dise¤ada su CPU. De otra manera, no seremos responsables de los da¤os que esto pudiera ocasionar.

Facilité de vitesse Initialisation

Procédure:

1. Ins, rez le Intel Pentium®, Pentium®with MMX™/Cyrix6x86, CyrixMII™/ AMDK6™, AMDK6™-2, AMDK6™-3 correctement.

2. Connectez les autres configurations et restaurez le systšme.

3. Appuyez sur la touche <Del> et mettez le systšme sous tension pour entrer dans l' initialisation BIOS.

4. Entrez le menu "SpeedEasy CPU SETUP" (=initialisation de la facilit, de vitesse dans l' unit, centrale) pour d, terminer la vitesse de l' unite centrale.

Note: Si vous ne déterminez pas la vitesse de votre unité centrale, votre système fonctionnera par défaut.

5. Sauvegardez et sortez de la position BIOS. Le système pourra alors démarrer avec le succès auquel vous vous attendez.

Menu d'initialisation de "SpeedEasy" dans l'unité centrale.

Sèlectionnez la rubrique <SpeedEasy CPU SETUP> dans le menu principal et entrez le sous-menu:

Figure-1 Menu d'nitialisation de "SpeedEasy" dans l'unité centrale

BIOS fournira un jeu de valeurs de base pour votre s, lection de CPU au lieu de positions cavaliers. Vous pouvez s, lectionner manuellement la vitesse de CPU dans l'affichage du menu "SpeedEasy CPU SETUP ".

⚠ **Avertissement:**

Ne vous laissez pas aller à installer une fr, uence à l'unité centrale sup, ieure à sa fr, uence de travail. Sinon nous d, linerons toutes responsabilit, s en ce qui concerne les d, gƒs qui en r, sulteraient.

SETUP DELLA SCHEDA SPEEDEASY

Procedura di installazione:

1. Inserite il microprocessore Intel Pentium®, Pentium® with MMX™/Cyrix6x86, CyrixMII™/ AMDK6™ , AMDK6™-2, AMDK6™-3 come da istruzioni.

2. Modificate la configurazione del computer e ripristinate il sistema.

3. Premete il tasto <Del> e accendete il computer per entrare nel setup BIOS.

4. Entrate nel menu "SpeedEasy CPU* SETUP" per regolare la velocit...del microprocessore. [1]

Nota: se non regolate la velocità del microprocessore, il sistema funzionerà con le regolazioni standard.

5. Salvate e uscite dal Setup BIOS, e fate ripartire il computer.

*CPU= microprocessore

Menu del Setup del Microprocessore SpeedEasy

Selezionare <SpeedEasy CPU SETUP> dal menu principale ed entrare nel seguente sottomenu:

```
              ROM PCI/ISA BIOS (2A5IMQ19)
                   SpeedEasy CPU SETUP
                   AWARD SOFTWARE, INC.

CPU Model  :  Intel Pentium
Speed Mode     :  SpeedEasy          Warning: Be sure your selection
  CPU Speed    :  166MHz                       is right, CPU over speed
                                               will be dangerous!
CPU Voltage Ctrl: AUTO
  IO Voltage   :  3.3V
  Core Voltage :  2.8V




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

Figure -1 Menu del Setup del Microprocessore SpeedEasy

I1 sistema BIOS Vi forniràuna serie di valori base per la selezione del microprocessore al posto della regolazione jumper (dell' accoppiamento). Potete selezionare manualmente la velocità del microprocessore sulla schermata "SpeedEasy CPU SETUP".

⚠ Avvertenza:

non dovete regolare la frequenza del microprocessore pi— alta di quella predisposa, altrimenti la casa produttrice non si farà carico di eventuali danni al micorprocessore.

SpeedEasy ¿ Ë Ù ⁊ Ö Ą Ï

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```
            ROM PCI/ISA BIOS (2A5IMQ19)
                 SpeedEasy CPU SETUP
               AWARD SOFTWARE, INC.

  CPU Model  : Intel Pentium
  Speed Mode : SpeedEasy         Warning: Be sure your selection
     CPU Speed : 166MHz                   is right. CPU over speed
                                          will be dangerous!
  CPU Voltage Ctrl: AUTO
     IO Voltage  : 3.3V
     Core Voltage : 2.8V




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

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Chapter 1
Introduction

Overview

The Superb 1 green mainboard utilizes the SiS530 chipset which integrates 2D/3D VGA controller, provides a highly integrated solution for fully compatible, high performance and cost-effective PC/microATX platform. It provides 66/75/83/95/100MHz system bus support for all Intel/AMD/Cyrix/IDT Pentium processors. Both 66MHz and 100MHz SDRAM 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 mainboard also offers optionally integrated Crystal CS4235 audio subsystem.

Key Features

Form factor
- MicroATX form factor of 244mm x 215mm.

Microprocessor
- Supports Intel Pentium® CPU from 133MHz to 200MHz and Pentium® with MMX™ CPU from 166MHz to 233MHz.
- Supports Cyrix 6x86™ CPU at 100MHz(120+), 133MHz(166+), 150MHz(200+) and Cyrix MII™ CPU.
- Supports AMD K6™ CPU from 166MHz to 300MHz, AMD-K6™-2 CPU from 233MHz to 500MHz and AMD-K6™-3 CPU from 300MHz to 500MHz.
- Supports IDT Winchip™ C6™ CPU at 200/225/266MHz.
- Supports 66/75/83/95/100MHz host bus speed.
- CPU core frequency = Bus speed x1.5, x2, x2.5, x3, x3.5, x4, x4.5, x5, x5.5.
- CPU core voltage adjustable from 1.3V to 3.5V through on-board switching voltage regulator with VID(Voltage ID).

Chipset
- SiS530 : Pentium Integrated 3D Graphics Chipset
- SiS5595:PCI-to-ISA Bridge

System memory

- Provides two 168 pin 3.3V unbuffered DIMM sockets.
- Supports both 66/100MHz SDRAMs.
- Minimum memory size is 8MB, maximum memory size is 1GB.
- 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 PIO Mode 4 timing.
- 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 SiS6801(or ITE 8661) 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 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 both LS-120 floppy disk drive and ZIP drive.
- All I/O ports can be enabled/disabled in the BIOS setup.

On-board AGP

- Based on the onchip AGP graphics controller, integrated 2D/3D graphics and video accelerators.
- On-board 4MB SGRAM or 8 MB shared memory of DIMM1 display memory achieves optimum 2D/3D performance.
- Supports a maximum resolution of 1600x1200 at 85Hz.
- Supports DDC1 and DCC2B specification. (manufacturing option)

On-board Audio

- Based on Crystal CS4235 audio controller.
- Compatible with Sound Blaster™, Sound Blaster Pro™ and Windows Sound System ™.
- Supports software-based Wavetable Synthesizer.
- Provides on-board Line-in Jack, Speaker-out Jack and Microphone-in Jack.

Advanced features

- Provides on-board PS/2 mouse and PS/2 keyboard ports.
- Two USB ports supported.
- Provides infrared interface.
- Supports Windows 95/98 software power-down.
- Supports wake-up on LAN and wake-up on internal/external modem.
- Provides onboard 3.3V regulator to support ATX power supply without 3.3V output.
- Supports system monitoring (integrated in SiS5595), monitors CPU temperature, voltages and fan speed.
- Supports keyboard password power-on function.
- Supports hot key (Ctrl+Alt+Backspace) power-off /suspend function. Refer to Page 41 for BIOS setting information.
- Provides management application such as ManageEasy and LDCM (LANDesk® Client Manager). (manufacturing option).
- Protects the system BIOS from being attacked by severe virus such as CIH, by enabling "Flash Write Protect" in CMOS setup.

BIOS

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

Green function

- Supports three green modes: Doze, Standby and Suspend.

Expansion slots

- 2 ISA slots and 3 PCI slots.

Introduction to New Features

BIOS Write Protection

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 open, the BIOS can not be overwritten.
2. Set the jumper (JAV) as close, 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 36 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) and Win98 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.

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
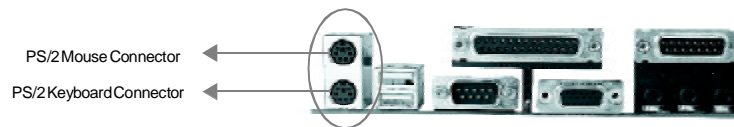
USB1, USB2

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 PERIPHER-ALS" from AWARD BIOS SETUP.

Parallel Port
UART1
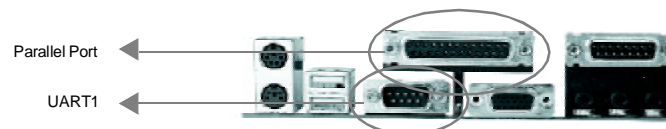
The serial port UART2 is not located on the back panel. Therefore, we provide a 9-pin ribbon cable with bracket for UART2 port. (manufacturing option)

UART2

Line-in jack, Microphone-in jack, Speaker-out jack and
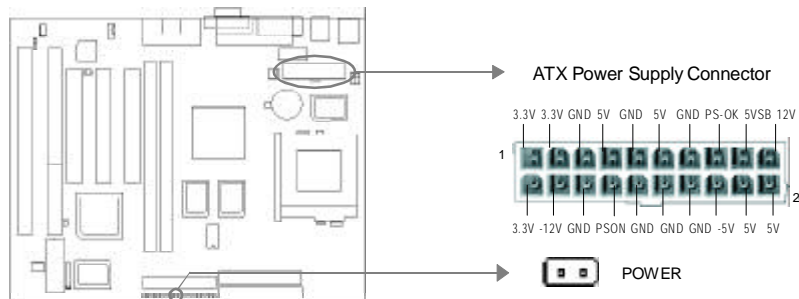## MIDI/Joystick connector

The Line-in jack can be connected to devices such as cassette or minidisc player for playback or recording. The Microphone-in jack can be connected to a microphone for voice input. The Speaker-out jack allows you to connect speakers or headphones for audio output from the internal amplifier.

The MIDI/Joystick connector allows you to connect a game joystick or a MIDI device.

MIDI/Joystick

Speaker-out

Line-in

Microphone-in
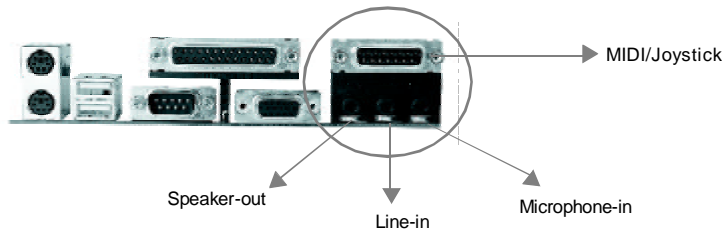
ATX Power Supply Connector & Power Switch (POWER)

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

ATX Power Supply Connector

3.3V 3.3V GND 5V GND 5V GND PS-OK 5VSB 12V

1

20

3.3V -12V GND PSON GND GND GND -5V 5V 5V

POWER

Note:

1. If you change "Power Button Over Ride" 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.

2. Push the power switch once, when AC power supply power off , within 10 seconds, the AC power supply powers on, enabling the system to be powered on.

3. If the AC power supply cuts off when the system is in power-on status, within 4 seconds the AC power supply resumes, the system will be powered on.

HardDisk 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. However, press the switch for more than 4 seconds, the system will be powered off.

Speaker Connector (SPEAKER)

The connector can be connected to the speaker on the case.
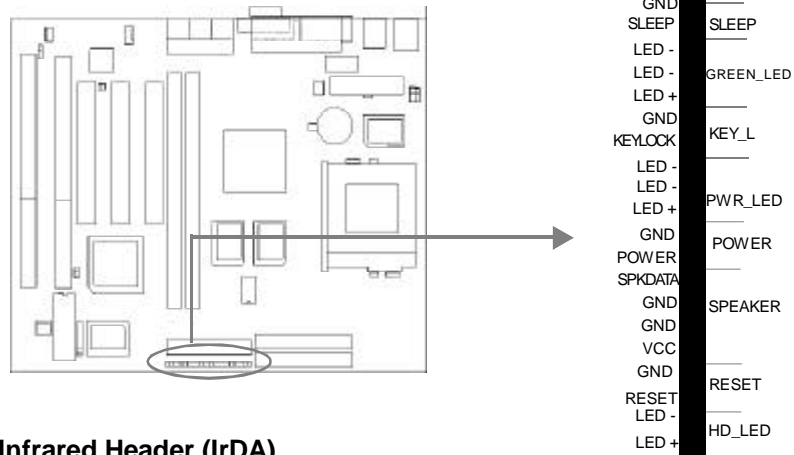
Power LED Connector (PWR_LED)

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

Green LED Connector (GREEN_LED)

The Green LED has three status. When no AC power supply is present, the LED is off. When the system is powered up, the LED is on. When the system enters suspend mode, the LED will flash. The connector has an orientation.

Hardware Green Connector (SLEEP)

Push once the switch connected to this header, the system enters suspend mode.

```
GND
SLEEP ──── SLEEP
LED -
LED - ──── GREEN_LED
LED +
GND
KEYLOCK ──── KEY_L
LED -
LED - ──── PWR_LED
LED +
GND
POWER ──── POWER
SPKDATA
GND ──── SPEAKER
GND
VCC
GND ──── RESET
RESET
LED - ──── HD_LED
LED +
```

Infrared Header (IrDA)

This connector supports wireless transmitting and receiving. When using this function, configure the settings for IR Address, IR Mode and IR IRQ from the "INTEGRATED PERIPHERALS" section of the BIOS.

```
──── VCC
──── IRTX
──── GND
──── IRRX
──── NC
1 ──── VCC
```

Fan Connector (CPUFAN, SYSFAN)

The fan speed of these two fans can be detected and viewed in "INTEGRATED PERIPHER-ALS" section of the BIOS.

CPUFAN

```
──── FAN GND(Controllable)
──── +12V
──── SENSE
```

```
SENSE      FAN GND
    +12V
```

SYSFAN
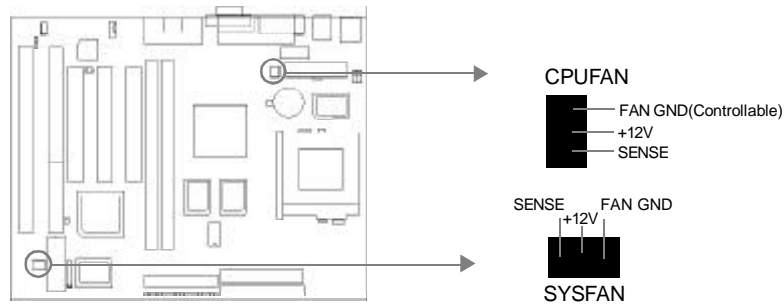
Note: If a high frequency CPU is used, we suggest a good CPU fan be used, ensuring sufficient airflow eliminating overheating.

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 "Ring Power Up Control" 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.

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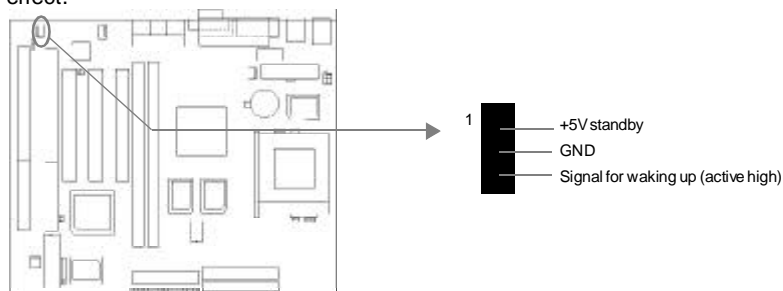
Wake-Up On Internal Modem (WOM)

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 "Ring Power Up Control" to Enabled in the "POWER MANAGEMENT SETUP" section of the BIOS. Save & exit, then boot the operating system once to make sure this function takes effect.

1 +5V standby
Signal for waking up (active low)
GND
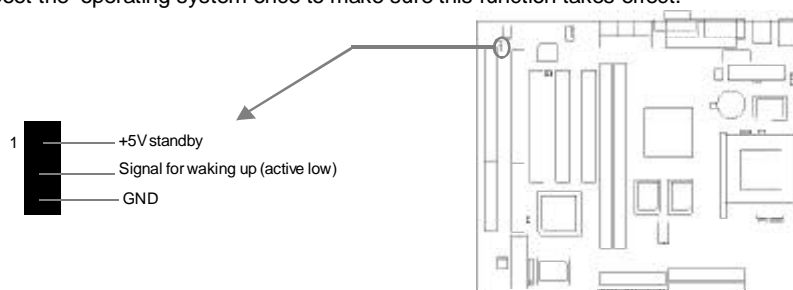
Digital Audio Connector (CDLIN1)

CDLIN1 is a Sony standard CD audio connector. It can be connected to a CD-ROM drive respectively through a CD audio cable.

CD Left channel
GND
CD Right channel

CDLIN1
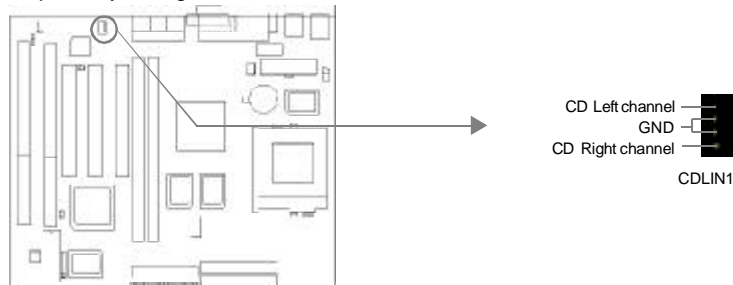
Expansion Slots & I/O Ports description

| Slot / Port	Description
ISA 1	First ISA slot.
ISA2	Second ISA slot.
PCI1	First PCI slot.
PCI2	Second PCI slot.
PCI3	Third PCI slot.
IDE1	Primary IDE port.
IDE2	Secondary IDE port.
FLOPPY	Floppy Drive Port.

Jumper Settings

Jumpers are located on the mainboard, they represent, clear CMOS jumper JCC, enable keyboard password power-on function jumper JKB, and enable/disable onboard audio jumper JP8. Pin 1 for all jumpers are located on the side with a thick white line (Pin1→

), referring 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
                   2   JCC
                   3

Clear CMOS: 1
                   2   JCC
                   3
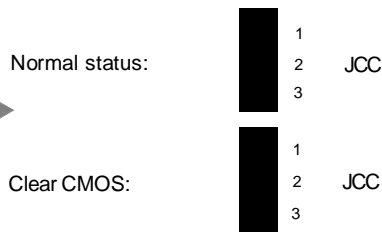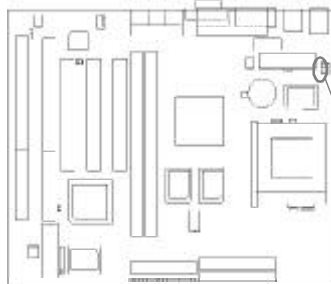
(Unplug the AC power supply)

Enable/Disable on-board audio(JP8)

If you want to use the on-board audio, close JP8(default). Otherwise, set JP8 open to disable the on-board audio.

Enable on-board audio: JP8

Disable on-board audio: JP8
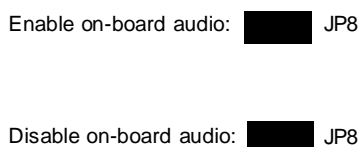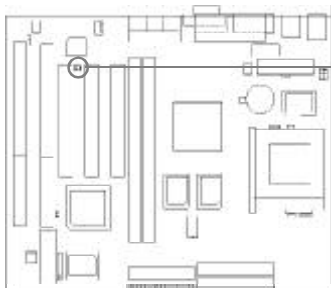
Enable keyboard password power-on function (JKB)

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.

Disable: JKB   1 2 3

Enable: JKB   1 2 3
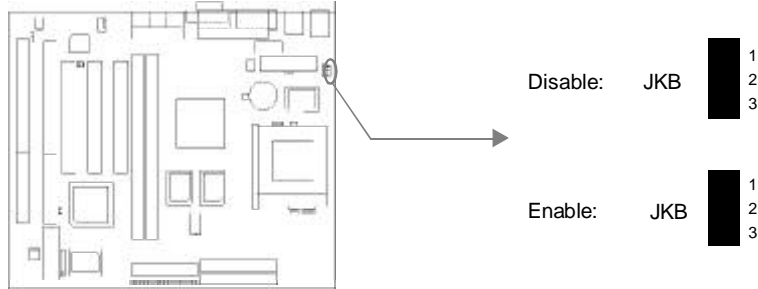
In order to implement this function, set "KB Power On Password" from the "Power Management Setup" section of the BIOS. Then you can power up the system either by using the keyboard or by the power switch.

Note: 1. If using this function, 5VSB line of the power supply should be capable of delivering enough current (eg. 200mA) for all the devices connected to the keyboard port, if not, you will be unable to power up the system using the keyboard.

2. If the AC power supply cuts off, the keyboard power on password should be set again when the AC power supply resumes, in order to implement this function.

BIOS Write Protection Jumper (JAV)

The BIOS of the mainboard is contained inside the Flash ROM. If the jumper JAV is set as open, 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 Disabled   JAV

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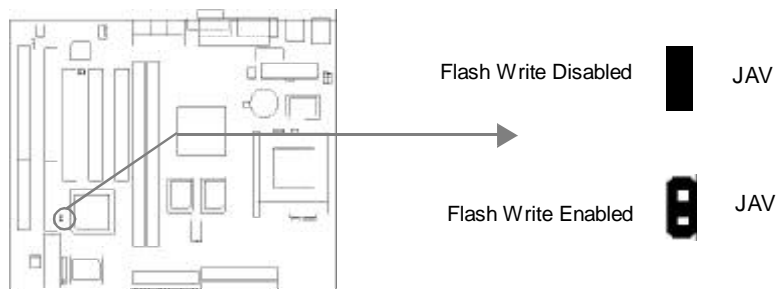
Setting the jumper JAV as closed (default), meanwhile disabling the "Flash Write Protect" item from "BIOS Features Setup" in AWARD BIOS CMOS Setup, allows you to flash the BIOS to the Flash ROM.

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 open makes flashing BIOS and updating DMI information impossible.

Refer to page 18 for the two choices to implement BIOS Write Protection.

Memory Configuration

This mainboard provides two168 pin 3.3V un-buffered DIMM sockets to support a flexible memory size ranging from 8MB to 1GB for SDRAM. The following set of rules allows optimum configurations.

- The DRAM Timing register, which provides the DRAM speed grade control for the entire memory array, must be programmed to use the timing of the slowest DRAMs installed.

- Possible SDRAM DIMM memory sizes are 8MB, 16MB, 32MB, 64MB, 128MB, 256MB, 512MB in each DIMM socket.

Chapter 3
BIOS Description

Utility Support:

FLASH.EXE

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

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

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

Follow the steps exactly for a successful upgrade.

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

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

Concerning how to run the FLASH utility, please refer to the following descriptions:

Usage: FLASH [BIOSfile] [/c[<command...>]][/n]

  FLASH [BIOSfile] [/g]

/c: Flashing memory will clear previous settings. Default allows settings to remain.

  <command> function definition:

  c: clear CMOS;

  p: clear PnP;

  d: clear DMI.

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

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

  be damaged.

/g: Retrieves BIOS file from BIOS ROM.

Examples:

  A:\FLASH.EXE BIOSfile.bin

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

  A:\FLASH.EXE BIOSfile.bin /g

Note: FLASH utility runs incorrectly at Windows DOS prompt.

AWARD BIOS Description

Entering Setup

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

Press <Del> to enter SETUP

Once you have entered, the Main Menu (Figure 1) appears on the screen. The main menu allows you to select from ten 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 chips 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 regard-
ing 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 Diskette	The system boot will not stop for a disk error; but it will stop for all other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error, but it will stop for all other errors.

Memory

This is a Display-Only Category, determined by POST (Power On Self Test) of the BIOS.

Base Memory	The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.
Extended Memory	The BIOS determines how much extended memory is presented during the POST.
Other Memory	This is the memory that can be used for different applications. Shadow RAM is most used in this area.
Total Memory	Total memory of the system equals the sum of the above memory.

SpeedEasy CPU SETUP

Figure-3   SpeedEasy CPU SETUP

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

Item	Option	Description
● CPU Model		BIOS can automatically detect the CPU model, so this item is shown only, which could be Pentium® CPU, Pentium® with MMX™ CPU, CyrixMII™, AMD K6™, AMD-K6™-2 or AMD-K6™-3, depending on the processor chosen.
● Speed Model	*SpeedEasy*	Select the CPU speed according to your CPU brand and type.
	Jumper Emulation	This item is reserved for users who understand all 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 as 66/75/83/95/100/112/124/133MHz. The multiplier can be chosen from 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6 However the multiplier setting will not function for bus radio locked processor, only bus ratio unlocked processor. **Note: Dot not set CPU frequency higher than its working frequency. If you do, we will not be responsible for any damages caused.**.

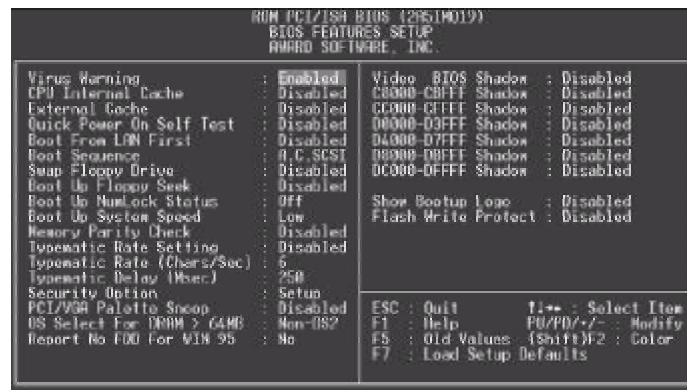| ● CPU Speed	*200MHz (66x3)*	CPU frequency should be set according to the CPU type. For processors with 66MHz host bus speed Select from 200MHz (66X3), 233MHz(66X3.5), 266MHz (66x4), 300MHz(66X4.5), 333MHz (66X5), 366MHz(66x5.5); for processors with 95MHz host bus speed, select from 333MHz(95x3.5), 380MHz (95x4), 475MHz(95x5); for processors with 100MHz host bus speed, select from 300MHz(100X3), 350MHz (100X 3.5), 400MHz(100X4), 450MHz(100X4.5), or 500MHz(100X5).
● CPU Voltage Ctrl	*Auto* *Manual*	BIOS can automatically set CPU voltage. User can set CPU voltage according to CPU brand and type.
● IO Voltage		Displays current voltage values.
● Core voltage		

BIOS Features Setup

Figure-4　BIOS Features Setup Menu

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

Item	Option	Description
● Virus Warning	Enabled	Activated automatically when the system boots, causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.
	Disabled	No warning message appears.
● CPU Internal Cache	Enabled	Enabling this option speeds up memory access.
	Disabled	However, it depends on CPU/chipset design.
● External Cache	Enabled	Enables external L2 cache. This allows better performance.
	Disabled	Disables external cache.
● 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	Enbaled	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 of these search sequence 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 Floppy Seek	Enabled	BIOS searches for floppy disk drive to determine if driver is ready for diskette read/write during booting.

	Disabled	Skips drive seeking to speed up system booting.
● Boot Up NumLock Status	*On*	Keypad is used as number keys.
	Off	Keypad is used as arrow keys.
● Boot Up system speed	*high*	Speed switching for EISA system.
	low	
● Memory Parity check	*Enabled*	Enables the Error Checking & Correction if ECC memory is used.
	Disabled	Disables the ECC function.
● Typermatic Rate Setting	*Enabled*	Enables typermatic rate and typermatic programming.
	Disabled	Disables typermatic rate and typermatic programming. The system BIOS will use the default value of these two items.
● Typermatic Rate (chars/sec)	*6-30*	Sets the speed of the typermatic rate (characters per second).
● Typermatic Delay (Msec)	*250-1000*	Sets the time of the typermatic delay.
● Security Option	*System*	The system will not boot and access to Setup will be denied if the correct password is not entered when prompted.
	Setup	The system will boot up, but access to Setup will be denied if the correct password is not entered when prompted.
● PCI/VGA Palette Snoop	*Enabled* *Disabled*	Non-standard VGA cards such as graphics accelerators or MPEG video cards may not display colors properly. Setting Enable can resolve this problem.
● OS Select For DRAM>64MB	*Non-OS2*	If your operating system is not OS/2, please select this item.
	OS2	If system DRAM is more than 64MB and the operating system is OS/2, please select this item.
● Report NO FDD for WIN 95	*Yes*	Reports NO Floppy Disk Drive for WIN 95 to release IRQ6.
	No	Does not report No Floppy Disk Drive for WIN 95.
● 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	*Enabled*	Optional ROM will be copied to RAM by 16K bytes per unit.
Shadow:	*Disabled*	The shadow function is disabled.
● Show Bootup Logo	*Enabled*	Enables Logo when system boots up.
	Disabled	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 only when wanting to flash BIOS, afterwards set this item as Enabled (default).

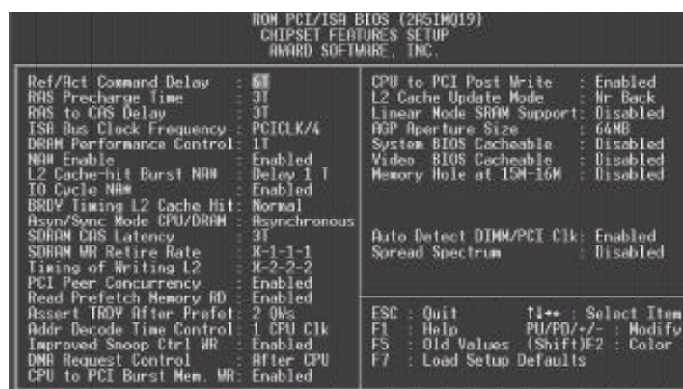*Disabled* Disabling this item allows you to upgrade the BIOS.

Chipset Features Setup

Figure-5   Chipset Features Setup Menu

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

Item	Option	Description
● Ref/Act Command Delay	*5T~8T*	Refresh Command to Refresh/Active Command Delay. This Register controls the characteristic of DRAM Refresh operation.
● RAS Precharge Time	*3*	DRAM RAS# Precharge time=3x system clocks.
	4	DRAM RAS# Precharge time=4x system clocks.
● RAS To CAS Delay	*2*	Adds a delay time between the assertion of RAS# and CAS#.
	3	Without additional delay time.
● ISA Bus Clock Frequency	*PCICLk/4*	Chooses the ISA bus clock.
● DRAM performance Control	*1T, 3T, 5T*	Default setting is suggested.
● NA# Enable	*Enabled* *Disabled*	Default setting is suggested.
● L2 Cache-hit Burst NA#	*Normal*	Default setting is suggested.
● I0 Cycle NA#	*Enabled* *Disabled*	Default setting is suggested.
● BRDY Timing L2 Cache Hit	*Normal*	Default setting is suggested.
● Asyn/Sync Mode CPU/DRAM	*Asynchronous* *Synchronous*	Default setting is suggested.

● SDRAM CAS Latency	*2*	Defines the CLT timing parameter of SDRAM. Latency Time= 2X system Clocks.
	3	Latency Time= 3X system Clocks.
● SDRAM WR Retire Rate	*x-1-1-1* *X-2-2-2*	Controls the timing in which SiS530 writes data into SDRAM during burst cycles.
● Timing of Writing L2	*X-2-2-2* *X-3-3-3*	Default setting is suggested.
● PCI Peer Concurrency	*Enabled* *Disabled*	When the setting is enabled, CPU to L2/DRAM accesses are allowed to perform concurrently with PCI-to-PCI accesses.
● Read Prefetch Memory RD	*Enabled* *Disabled*	Controls whether or not sis530 fetch data for memory read command. Please note that memory Read multiple and memory read line commands always prefetch
● Assert TRDY After Prefetch	*2 QWS* *1 QWS*	Assert TRDY# after prefetching IQ ws Assert TRDY# after prefetching IQ ws
● Addr. Decode Time Control	*1 CPU clk* *2 CPU clk*	Controls the decoding time for deciding whether the PCI transaction is assigned to the system memory or not.
● Improved Snoop Ctrl WR	*Enabled* *Disabled*	Controls whether or not the PCI target bridge does improves snoop function for write cycles.
● DMA Request Control	*After CPU* *After PCI*	Sets the effective size of Graphics Aperture to be used in the particular PAC Configuration.
● CPU to PCI Burst Mem. WR	*Enabled* *Disabled*	Controls whether or not the host bridge generates memory burst cycles.
● CPU to PCI Post Write	*Enabled* *Disabled*	When the setting is enabled, all CPU to PCI memory write cycles are posted.
● L2 Cache Update Mode	*Wr Back* *Wr Through*	Specifies the coherence policy for L2 cache and system DRAM.
● Linear Mode SRAM Support	*Enabled* *Disabled*	Specifies the addressing mode
● AGP Aperture Size	*4-256MB*	Sets the effective size of Graphics Aperture to be used in particular PAC Configuration.
● System BIOS Cacheable	*Enabled*	Beside convential memory, system BIOS area is also cacheable.
	Disabled	System BIOS area is not cacheable.
● Video BIOS Cacheable	*Enabled*	Beside conventional memory, video BIOS area is also cacheable.
	Disabled	Video BIOS area is not cacheable.
● Memory hole at 15M-16M	*Enabled*	Memory hole at 15-16M is reserved for expanded ISA card.
	Disabled	Does not set this memory hole.
● Auto Detect DIMM/PCI Clk	*Enabled* *Disabled*	Close empty DIMM/PCI clock to reduce EMI. Does no close DIMM/PCI clock.

- Spread Spectrum   *Enabled*   Enables Spread Spectrum Modulated to reduce EMI.

    Disabled   Disabled Spread Spectrum Modulated.
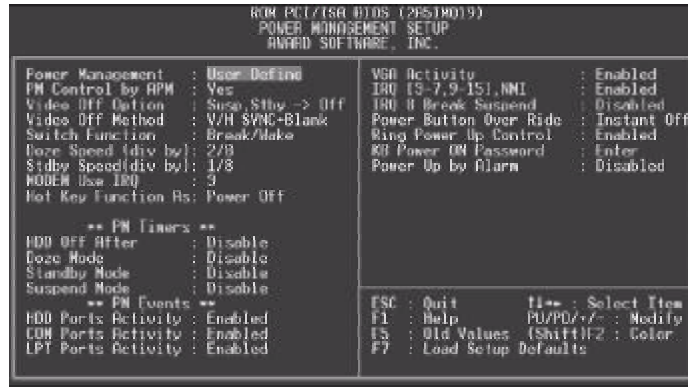
Power Management Setup

Figure-6   Power Management Setup Menu

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

Item	Option	Description
● Power Management	Disabled	Global Power Management (PM) will be disabled.
	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 it enters any PM mode e.g. Standby or suspend.
● Video Off Option	Suspend off	Screen blanks after the system enters suspend mode.
	Susp, Stby Off	Screen blanks after the system enters either standby mode or suspend mode.
	All mode off	Screen blanks after the system enters all mode.
	Always On	Screen is always on.
● Video Off Method	Blank Screen	The system BIOS will only blank off the screen when disabling video.
	V / H SYNC + Blank	In addition to Blank Screen, BIOS will also turn off the V-SYNC & H - SYNC signals from VGA cards to monitor.
	DPMS	This function is enabled only for VGA cards supporting DPMS.

	Note: When the green monitor does not detect the V/H-SYNC signals, the electron gun will be turned off.
● Switch Function	*Break/Wake* Sleep Button Enable. *Disabled*
● Doze Speed (div by)	*1/8 ~ 8/8* Selects the throttling duty cycle 12.5%, 25%...... 87.5%, 100% to slow down the processor speed when the system is in doze mode.
● Stdby Speed	*1/8 ~ 8/8* Selects the throttling duty cycle 12.5%, 25%..... 87.5%, 100% to slow down the processor speed when the system is in standby mode.
● MODEM Use IRQ (div by)	*3,4, 5, 7, 9, 10,* Special wake-up event for Modem. *11 NA*
● Hot Key Function As	*Disabled* Disables hot key. *Suspend* Set hot key (CTRL+ALT+Backspace) as suspend/ *Power Off* power off key.
● HDD Off After	*1 ~ 15min* Defines the continuous HDD idle time before the HDD enters the power saving mode(motor off). *Disabled* HDD' s motor will not be off.
● Doze mode	*Disabled* The system never enters Doze mode. *1Min ~ 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.
● Standby Mode	*Disabled* The system never enters Standby mode. *Min ~ 1Hr* Defines the continuous idle time before the system enters Standby 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. *Min ~ 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.
● HDD Ports Activity	*Enabled* HDD ports activity will wake up the system from Doze/Standby/Suspend mode. *Disabled* HDD ports activity will not wake up the system from Doze/Standby/Suspend mode.
● COM Ports Activity	*Enabled* COM ports activity will wake up the system from Doze/Standby/Suspend mode. *Disabled* COM ports activity will not wake up the system.

|		
● LPT Ports Activity	*Enabled*	LPT port activity will wake up the system from Doze/Standby/Suspend mode.
	Disabled	LPT port activity will not wake up the system.
● VGA Activity	*Enabled*	VGA activity reloads global timer.
	Disabled	VGA activity has no influence to global timer.
● IRQ [3-7, 9-15], NMI	*Enabled*	Enables the events which can reload global timer.
	Disabled	Does not influence the global timer.
● IRQ8 Break suspend	*Enabled*	Generates a clock event.
	Disabled	Does not generate a clock event.
● Power Button Over Ride	*Instant Off*	The system will power off immediately once the the power button is pressed.
	Delay 4 Sec	The system will not power off until the power button is pressed continuously for more than 4 seconds.
● Ring Power Up Control	*Enabled*	Allow the system to be powered on when a Ring indicator signal comes up to UART1 or UART2 from external modem (to LAN Wake-up Header from LAN adapter or to modem Ring on Header from internal modem card)
	Disabled	Does not allow Ring Power-on.
● KB Power On Password	*Enter*	Set keyboard power on password.
● Power up by Alarm	*Enabled*	RTC alarm can be used to generate a wake event to power up the system. Set any date or time to power up the system.
	Disabled	RTC has no alarm function.

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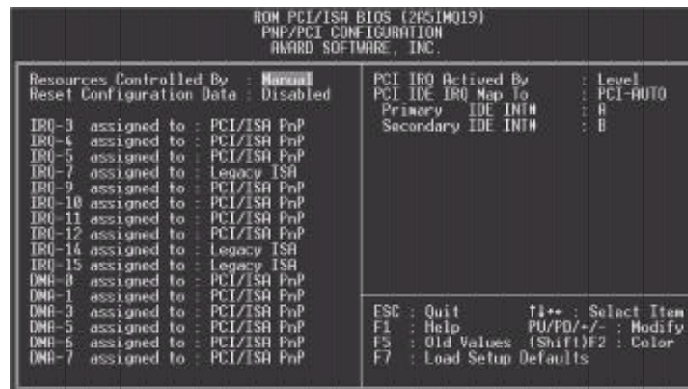
Figure-7   PNP/PCI Configuration Setup Menu

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

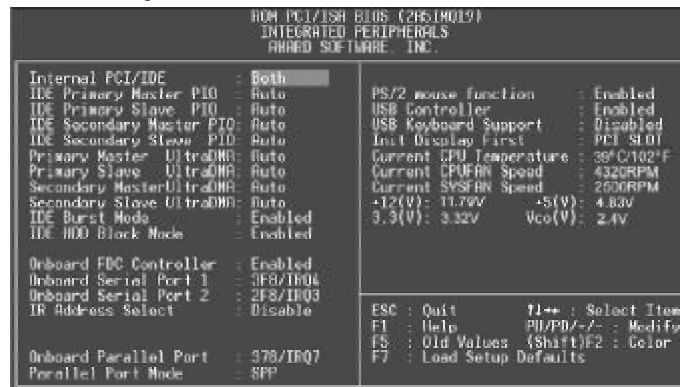| Item	Option	Description
● Resources Controlled By	*Manual*	Assigns the system resources (IRQ and DMA) manually .
	Auto	Assigns system resources (IRQ and DMA) automatically by BIOS.
● Reset Configuration Data	*Enabled*	The system BIOS will reset configuration data once, then automatically set this item as Disabled.
	Disabled	Disables the configuration data function.
● PCI IRQ Actived By	*level*	Select PCI IRQ Active mode.
	Edge	
● PCI IDE IRQ Map to	*PCI-Auto*	Automatically assign PCI IRQ INTA~D to PCI IDE.
	ISA	Specifically assign ISA IRQ to PCI IDE.
● Primary IDE INT# Secondary IDE INT#	*A~D*	Select IDE PCI IRQ.

Integrated Peripherals

Figure-8 Integrated Peripherals Menu

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

Item	Option	Description
● Internal PCI/IDE	*Both*	Enables both primary and secondary IDE ports.
	Disabled	Disables both primary and secondary IDE ports.
	Primary	Enables the primary IDE port only.
	Secondary	Enables the secondary IDE port only.
● IDE Primary/ Secondary Master/Slave PIO	*Mode 0 - 4*	Defines the IDE primary/secondary master/ slave PIO mode.
	Auto	The IDE PIO mode is defined by auto -detection.
● IDE Primary/ Secondary Master/Slave UDMA	*Auto*	Ultra DMA mode will be enabled if Ultra DMA device is detected.
	Disabled	Disables this function.
● IDE Burst Mode	*Enabled*	Default setting is suggested.
	Disabled	
● IDE HDD Block Mode	*Enabled*	Allows IDE HDD to read/write several sectors at once.
	Disabled	IDE HDD only reads/writes a sector once.
● Onboard FDC Controller	*Enabled*	Onboard floppy disk controller is enabled.
	Disabled	Onboard floppy disk controller is disabled.
● Onboard Serial Port 1/2	*3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3,*	Defines the onboard serial port address and required interrupt number.
	Auto	Onboard serial port address and IRQ are automatically assigned.
	Disabled	Onboard serial port is disabled.

● IR Address Select	*Disabled* *2 E8H - 3E8F* *2F8H - 3F8H*	Defines the IrDA addresses, IRQ and IR mode.
● 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).
● PS/2 mouse Function	*Enabled*	Enables PS/2 mouse function when using PS/2 mouse.
	Disabled	If PS/2 mouse is not used, disabling this option can release the resource.
● USB Controller	*Enabled*	Enables onchip USB controller.
	Disabled	Disables onchip USB controller.
● USB Keyboard Support	*Enabled*	USB keyboard support is enabled.
	Disabled	USB keyboard support is disabled.
● Init Display First	*PCI SLOT*	Initializes the PCI VGA first.
	On chip	Initializes the AGP first. For PCI VGA or AGP, the one initialized first functions.
● Current CPU Temperature	*39ºC/102ºF*	The temperature near the CPU.
● Current CPUFAN Speed ● Current SYSFAN Speed		RPM(Revolution Per Minute) speed of fan 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.
● +12(V) 3.3(V) +5 (V) VOC (V)		Displays current voltage values including the significant voltages of the mainboard. +12V, +5V is the voltage from the ATX power supply. +3.3V from onboard regulator. Voc(V) is the CPU core voltage from the onboard switching power supply.

Password Setting

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.

ENTER PASSWORD

Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter BIOS Setup freely.

PASSWORD DISABLED

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

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

Supervisor Password has higher priority than User Password. You can use Supervisor Password when booting the system or entering BIOS Setup to modify all settings. Also you can use User Password when booting the system or entering BIOS 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 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 devising the number of cylinders are 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.

Chapter 4
Crystal Audio Description

On-board audio system is based on the Crystal CS4235 single chip multimedia audio system controller that integrates 3D sound technology. It provides CrystalClear™ 3D audio solution for multimedia applications, entertainment, educational sound and business audio. It incorporates the best features of Sound Blaster™, Sound Blaster Pro™, Microsoft Windows Sound System™, AdLib, MPU401 and more.

Features

3D Sound	➭ Integrated CrystalClear™ 3D stereo Enhancement.
Software Wavetable	➭ Supports Wave Stream General MIDI compatible music synthesizer (Software music synthesizer) in Windows 95 environment.
Wave Audio	➭ Maximum recording and playback sampling rate of up to 48KHz stereo, 16-bit digital-to-analog and analog-to-digital converter, 16-bit and 8-bit digitizing in stereo and mono mode.
20-voice FM Music Synthesizer	➭ plays up to 20 instruments simultaneously delivering a high quality of rich and crisp music.
Digital / Analog Mixer	➭ Stereo analog mixing from CD Audio, Line-in, FM Music & Digital voice, Stereo Digital Mixing from Microphone, Line-in, CD-Audio and Master Volume control.
Microsoft Plug & Play and Direct Sound standard	➭ Supports Microsoft plug & play and directsound in Windows95.
Full Duplex	➭ For concurrent recording and playback such as Internet phone.
MIDI Interface/Joystick Port	➭ Built-in integrated MIDI UART interface with MPU 401, joystick / gameport.

Setting the Hardware System

Refer to chapter 2 for Installation information on how to connect various devices such as speaker, microphone and joystick to the audio system on page 8, also disabling/enabling the on-board audio is found on page 6.

Software Drivers Installation

I. Installation of Windows 95 driver

- Under Windows95, insert the QDI Mainboard Utility CD into the CD-ROM drive.
- Direct the path to D:\Dev Drv \Sound\Cry4235 \ Driver\ Win95\English and run setup.exe.
- The ' Crystal Install/uninstall' menu will pop-up as shown below, choose ' Install Driver' , then choose ' restart' when the system prompts you.

- During Windows95 start-up, the **Update Device Driver Wizard** will guide you through the installation of the crystal audio devices. When the following window appears, click **Other Locations** to locate the driver place as D:\DevDrv \ sound\ Cry4235\ Driver\Win95\English, then click **Finish**.

- When the system prompts for the driver 'Crystal Driver Disk', direct the path to D:\DevDrv \ sound\ Cry4235\Driver\Win95\English, click several OK buttons, then the Finish button. If Windows 95 CD-ROM is requested, insert the CD-ROM and direct the path to D:\ win95.

- After completing the installation, the sound, video and game controllers should be listed in the Device Manager of system properties, as shown below. If a yellow marking appears before them, please remove the driver, retry the steps above and install the Crystal Audio Driver again.

*Note:
Windows95 OSR2.1 or later version should be installed for all on-board AGP feature benefits, therefore the installation process in this manual is based on Windows 95 OSR2.1.

II. Installation of Windows NT 4.0 driver

- Turn the PC on and start up Windows NT4.0.
- Insert the QDI Mainboard Utility CD into the CD-ROM drive.
- Double click the Multimedia icon in the control panel and click on the Devices tab.
- Press the ADD button. Select 'Unlisted or Updated Drivers' and press <OK>.
- A dialog box appears requesting the path of the location for the driver files.
  Search this path D:\DevDrv\ Sound\Cry4235\Driver\WINNT\NT 4.0\English by clicking the BROWSE button.
- Another dialog box appears with the CrystalWare Audio Driver list. Press <OK> to continue with the installation.
- Press <Enter> twice during installation.
- Windows NT may ask you to restart your system. Even though it is not necessary to do so, we recommend you click on the Restart Now button.
  For more information (such as un-installing.), please refer to README. File in directory D:\DevDrv\ Sound\Cry4235\ Driver\WINNT\ NT40\English.

III. Taking effect of 3D sound

In Windows 95 or Windows NT 4.0, click ⧉ icon on the task bar to gain access to the 3D audio control. The 3D audio accessory provides one slider which is labeled space, for controlling the sound effect of your 3D audio. Moving the slider toward the plus sign increases the effect.

IV. Software Wavetable Synthesis

✍ Function

Wavetable Synthesizer uses digital samples of actual musical instruments to create the waveforms produced by those instruments. Software wavetable synthesis uses the power of the CPU to fetch and manipulate this data. While this does require the use of some processing power, it means that no additional hardware is required to obtain higher-quality sound other than what would normally be expected from a PC.

� Installation Instructions (in Windows 95)

- Start the 'Add New Hardware' application in Start → Setting → Control Panel menu or My Computer window.
- Click <Next>.
- Select "No" when asked 'Do you want Windows to search for new hardware?'
- Click <Next>.

- Highlight 'Sound, Video and game controllers' from the 'Hardware types' list . Click <Next>.
- Click <Have Disk> and enter or browse the directory
  D: \DevDrv\Sound\Cry4235\Wavesynt.
- Click several <OK>s.
- Click <Finish>.

� Selecting the crystal software synthesizer as your default MIDI device

- Start the 'Multimedia' application located in Start → Setting → Control Panel menu.
- Select the MIDI tab.
- In the single instrument window, highlight 'Crystal Software Synthesizer' in the list of devices.

- Click either <Apply> or <OK>.

Please read the readme file included in the directory

D:\DevDrv\Sound\Cry4235\ Wavesynt for details.

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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. SiS530 Chipset Drivers:
   A. IDE Driver
   SiS530 Chipset Driver included in the directory \ChipDrv\SiS\IDE is used for this mainboard. First copy the file Uide100.exe to a user directory on the hard disk and extract it. Then install the SiS530 IDE driver accordingly.

   - For Windows 95, run...\Win9X\setup.exe for installation.
   - For Windows 98 & Windows 95 OSR2 , Please follow the steps contained in the readme file .(we suggest the user use Windows 98 & Windows 95 OSR2 default PIO/DMA driver)

   B. Onchip VGA Driver
   The VGA drivers included in the directory \chipDrv\SiS\SiS530\vga are for the SiS530 onchip VGA.
   For Windows 9X, Run\chipDrv\SiS\SiS530\vga setup.exe for installation.
   For Window NT driver, when the system prompts for the driver, direct the path to \chipDrv\sis\sis530\winnt40.

2. Onboard Audio Drivers
   The audio drivers included in the directory\DevDrv\Sound\CS4235\Driver are for the onboard Crystal CS4235 PCI audio.
   Run \DevDrv\Sound\CS4235\Driver\Real Dos\Install.exe to install Dos/Windows 3.1x driver.
   Run \DevDrv\Sound\CS4235\Driver\Inst 95&98\Setup.exe to install Windows95 & 98 driver.
   Run \DevDrv\Sound\CS4235\Driver\InstNT\Setup.exe to install Windows NT 4.0 driverr.

3. 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.

4. QDI ManageEasy

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

6. QDI Mainboard Utility:

The utilities located in the directory \Utility are:

FLASH.EXE

CBLOGO.EXE

LF.EXE

Refer to the online help for information on how to use these utilities.

Appendix B.
Boot Logo

When you power on or reset your system, the picture shown 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 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.

P/N : 430- 01016- 701-00
Manual Superb 1 Ver 1.0

The patent for SpeedEasy

Item Checklist

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

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

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

Board Layout of
Superb 1 V1.0