Item Checklist

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

- ☑ SynactiX 1E mainboard
- ☑ QDI Driver CD 2000
- ☐ I/O shield(optional)
- ☑ 1 ATA 100/66 cable
- ☑ 1 FDD cable
- ☐ 1 COM2 cable(optional)
- ☑ QDI Serial Product R.M.A. Warranty Card
- ☑ User's manual

Notice

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

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

Declaration of conformity

$C\epsilon$

QUANTUM DESIGNS(HK) LTD.

20th Floor, Devon House, TaiKoo Place 979 King's Road,

Quarry Bay, Hong Kong

declares that the product

Mainboard

SynactiX 1E

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/2000

Printed Name :   Lv Yan   Position/ Title :   Assistant President

Declaration of conformity

FC

Trade Name:	QDI Computer (U. S . A.) Inc.
Model Name:	SynactiX 1E
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:	20th Floor, Devon House, TaiKoo Place
	979 King's 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 :   2000

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I

CONTENTS

⚠ Caution 1

> **Be sure to unplug the AC power supply before adding or removing expansion cards or other system peripherals, especially the SDRAM memory, otherwise your mainboard or the system memory might be seriously damaged.**

The power status of the system is indicated by the red LED near the battery. If the LED is on, adding or removing devices like SDRAM memory is prohibited.

⚠ Caution 2

> **Be sure to add some Silicone Grease between the PentiumIII (Coppermine) CPU and the FAN to keep them fully contact , meanwhile to meet the heat sink requirement.**

SpeedEasy Quick Setup

Procedures :

1. Correctly insert the Intel® Pentium III FC-PGA, Celeron FC-PGA and Celeron PPGA 370 processors.

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 "CPU SpeedEasy 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 (400MHz processor with 133MHz host bus speed, 300MHz for processor with 100MHz host bus speed, 200MHz for processor with 66MHz host bus speed, for bus ratio locked processor, run its real speed.**

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

CPU SpeedEasy Setup Menu

Select <CPU SpeedEasy Setup> item from the main menu and enter the sub-menu:
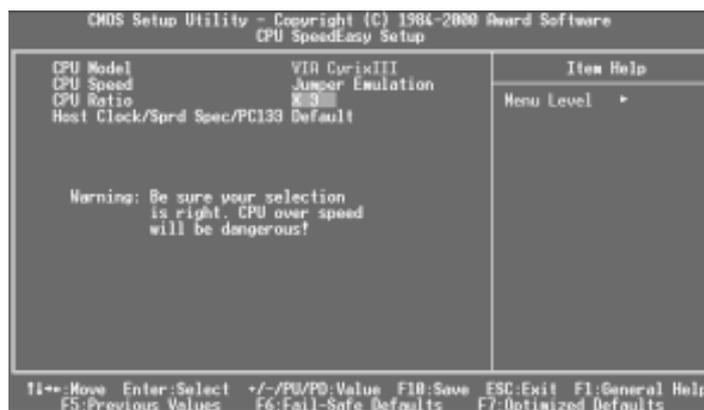
Figure - 1 CPU SpeedEasy Setup Menu

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 "CPU SpeedEasy SETUP" menu screen.

⚠ **Warning:**

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

SpeedEasy 快速安装指南

程序：

1. 正确地插入Intel® Pentium III FC-PGA, Celeron FC-PGA, Celeron PPGA 370中央处理器。

2. 插入其他配置，组装成完整的微机系统。

3. 开启系统电源，并且按住<Del>键，进入 BIOS 设置程序。

4. 进入 "CPU SpeedEasy Setup" 菜单，以调节中央处理器的速度。

注意：若不调节中央处理器的速度，系统将以预设的速度运行（133 兆赫总线的CPU 会以 400 兆赫运行，100 兆赫总线的CPU 会以 300 兆赫运行，66 兆赫总线的CPU 会以 200 兆赫运行，对于倍频数锁死的CPU，运行其实际速度）。

5. 存储设定值，退出 BIOS，系统就可以按你设定的速度运行了。

SpeedEasy 中央处理器设定菜单

从主设置菜单中选择<CPU SpeedEasy Setup>项，然後进入子菜单：
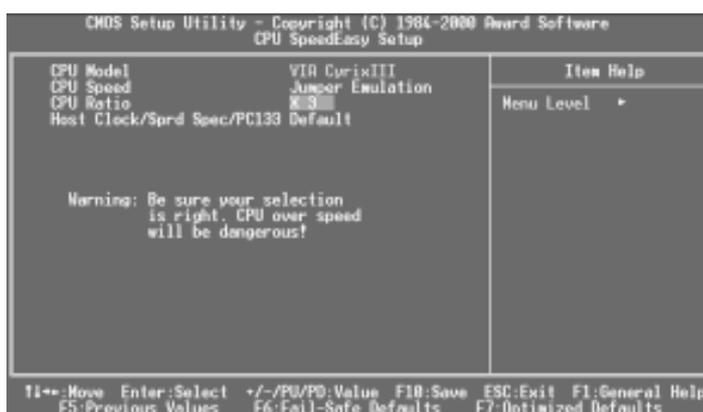
图－1　SpeedEasy 中央处理器设定项目单

BIOS为你的中央处理器提供一组基本选项，以代替传统的跳线(jumper)方式，使你可以在"CPU SpeedEasy Setup"菜单上，为中央处理器选择正确的工作频率。

⚠ 警告：

请勿将中央处理器的频率调节至高于其正常工作频率，否则本公司将不会负责由此而产生的任何损毁。

Installation de la carte mère SynactiX 1E

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 16 à 19)

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 11 à 15). 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 9-10)

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 (ATTENTION: 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:

➢ Logiciel Demo Shield
   Un logiciel qui vous apporte une nouvelle interface plus conviviale et facile à utiliser.

➢ Point-and-Click
   Placez simplement la souris sur l'option que vous désirez et cliquez , le pilote ou le logiciel dont vous avez besoin s'installe automatiquement.

➢ Intelligently Recognition
   Reconnaissance automatique du matériel et installation des pilotes nécessaires pour les composants intégrés.

Express Install

Il est recommandé d'installer les programmes avec les options les plus communes.

A. Intel INF
B. VGA driver
C. Network driver
D. DirectX
E. Audio driver

Redémarrez l'ordinateur après installation des pilotes son, le système trouvera un périphérique Son, cliquez sur « Suivant » jusqu'à « Terminer » et le périphérique son fonctionnera normalement. N'oubliez pas de redémarrer une nouvelle fois l'ordinateur !

Note : si vous cliquez sur « Annuler » au lieu de « Suivant » pendant la procédure ci-dessus, le périphérique son risque de ne pas être détecté, redémarrez alors l'ordinateur et reprenez la procédure ci-dessus.

1. Accessory
    Les logiciels contenus dans ce répertoire sont :
    A. DirectX 7.0
    B. QDI ManageEasy
    C. PC-Cillin

2. Browse CD
    Vous pouvez voir le contenu du CD-ROM
    Dans le répertoire Utility :
    A. AWDFLASH.EXE
    B. CBLOGO.EXE
    C. LF.EXE

3. Dans le répertoire Documents :
    A. Adobe Acrobat Reader V3.0 – Ar32e301.exe
    B. Manuels français des cartes mères

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	

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

SynactiX 1E green mainboard utilizes the Intel integrated graphics chipset — Intel® 815E (Intel 82815GMCH+82801ICH2)Chipset, providing a fully compatible, high performanced and cost-effective PC/Micro-ATX platform. The new integrated technologies, together with AGP 4X support, the software configurable AC'97 audio(support up to 6 channels by CNR), integrated LAN(optional), 4 USB ports, and ATA100/66/33 give customers an advanced, multimedia solution at an extremely low price. It provides 66/100/133 MHz system bus to support all Intel® Pentium III FC-PGA, Celeron FC-PGA and Celeron PPGA 370 processors. 100/133MHz SDRAMs are supported up to 512MB. It also provides advanced features such as Wake up by USB devices, Wake-on-LAN, Wake-on-Modem and Keyboard Password Power-on functions. Suspend to RAM, the optimal implementation of the Advanced Configuration and Power Interface (ACPI) specification, makes the PC's power consumption drop to the lowest possible level and enable quick wakeup. ManageEasy, our system management application is also supplied to enable remote monitoring and configuration of the system.

Intel 815E Chipset

Intel 815E can support 133MHZ FSB and PC-133. Intel's 3D with Direct AGP is easily upgraded by adding an AGP 4X card for maximum 3D graphics and video performance. The smart integration in the intel 815E chipset design is extended to feature internal LAN capability as well as four USB ports. By combining internal graphics, LAN, and support for four USB ports with the ability to take advantage of soft audio/modem technology, the intel 815E chipset delivers an ideal solution for new innovative form factors. Further flexibility can be achieved by taking advantage of the communication and Network Riser (CNR) card option, which allows for audio, modem, and/or LAN configuration on a single base board design. Intel 815E is the first Intel chipset to support PC-133 .It is highly integratedfor flexibility and cost/performance.

Key Features

Form factor
- Micro-ATX form factor of 244mm x 220mm.

Microprocessor
- Supports all Intel® Pentium III(Coppermine) FC-PGA processors at 600/667/733/800/866/933MHz/1GHz and future processors with 133MHz bus speed.
- Supports all Intel® Pentium III(Coppermine) FC-PGA processors at 500/550/600/650/700/750/800/850MHz and future processors with 100MHz bus speed.

- Supports all Intel® Celeron™FC-PGA processors at 533/566/600/633/667/700/733MHz and future processors with 66MHz bus speed.
- Supports all Intel® Celeron™ PPGA processors at 300/300A/333/366/400/433/466/500/533MHz with 66MHz bus speed.
- Supports 66/100/133MHz host bus speed.
- CPU core frequency = Bus speed x3, x3.5, x4, x4.5, x5, x5.5, x6, x6.5, x7, x7.5, x8, x8.5, x9, x9.5, x10, x10.5, x11, x11.5, x12.
- The CPU core voltage adjustable from 1.3V to 2.0V automatically through onboard switching voltage regulator with VID(Voltage ID).

System memory
- Provides three 168 pin 3.3V unbuffered DIMM sockets.
- Supports 64-bit wide DIMM modules with 100/133MHz SDRAM devices.
- Supports 32MB to 256MB SDRAM using 16Mb/64Mb/128Mb technology.
- Supports 512MB SDRAM using 256Mb technology.
- Supports up to three double-sided DIMMs(6 Rows) at 100MHz system memory bus.
- Supports up to two double-sided or three single-sided DIMMs(4 Rows Max) at 133MHz system memory bus(PC-133).

Onchip AGP
- Integrated 2D/3D Graphics Controller.
- Up to 1600x1200 in 8bit color at 85MHz refresh.
- Integrated H/W Motion Compensation Engine.
- Intel D.V. M. technology.
- 4MB 32-bit 133MHz SDRAM Display Cache interface multiplexed on the AGP interface, providing flexibility by optional AIMM.

Onboard IDE
- Supports Independent timing of up to 4 drives.
- Supports Ultra ATA/100/66/33, BMIDE and PIO modes.
- Read transfers up to 100MB/s, Writes to 89MB/s.
- Seperate IDE connections for Primary and Secondary cables.
- Implements Write Ping-Pong Buffer for faster write performance.
- Two fast IDE interfaces supporting four IDE devices including IDE hard disks and CD-ROM drives.
- Integrated 16x32bit buffer for IDE PCI Burst Transfers.

Onboard LAN
- 10/100 Mbit/sec Ethernet support.
- 10/100M LAN interface built-in on-board(optional).

4 USB
- 2 UHCI Host Controllers with a total of 4 ports.
- USB 1.1 compliant.
- Supports wake-up from sleeping states S1-S3.

Onboard I/O
- Winbond W83627HF LPC 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 UART (COM1/COM2/COM3/COM4 selective) with 16-byte send/receive FIFOs.
- One joystick port.
- Infrared interface.
- All I/O ports can be enabled/disabled in the BIOS setup.

Onboard Sound
- AC'97 2.1 Specification Compliant.
- 18bit stereo codec.
- Multiple stereo input mixer.
- Mono and stereo volume control.
- Provides onboard FrontAudio socket, Line-in Jack, Microphone-in Jack, Speaker-out Jack and MIDI/Joystick Connector.

AGP Interface
- AGP Universal Connector supports AGP 2.0 including 4x AGP data transfers.

Advanced features
- PCI 2.2 Specification Compliant.
- Provides Trend ChipAwayVirus On Guard.
- Provides PC-Cillin software with killing virus function.
- Supports Windows 95/98/2000 software power-down.
- Supports Wake-on-LAN and Wake-on-Modem.
- Supports Keyboard Password Power-on function.
- Supports system monitoring(monitors CPU and system temperatures, system voltages, chassis intrusion and fan speed).
- System status resumes after AC power failure.
- Supports management applications such as QDI's ManageEasy or LDCM (LANDesk Client Manager). (optional)
- Providing QDI's innovations such as SpeedEasy, RecoveryEasy, BIOS-ProtectEasy(to protect the system BIOS from being attacked by severe virus such as CIH), LogoEasy and ManageEasy.

BIOS
- Licensed advanced AWARD BIOS, supports flash ROM with 4Mb 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 four ACPI power status: Full-on, Stop Grant, Suspend to RAM, and Soft-off.

Expansion slots
- 1 AGP slot.
- 3 PCI slots.
- 1 CNR slot.

Introduction to New Features

AGP In-Line Memory Module(AIMM)

The Intel 815E chipset GMCH multiplexes the integrated graphics' display cache interface with the AGP signal interface. As a result, for a flexible mainboard that supports both integrated graphics and add-in AGP video cards, display cache (for integrated graphics) is needed to populate on a card sharing the universal AGP slot. The card is called an AGP In-Line Memory Module(AIMM) .

When an AGP card is installed in the system, the Intel 815E GMCH internal graphics is disabled and the AGP controller will be enabled. You can choose to populate the AGP slot with AGP graphics card to utilitze the advanced features that your AGP card may provide you, or with an AIMM card to enable the highest-possible internal graphics performance, or with nothing to obtain the lowest-cost internal graphics solution.

Installation Steps:
1. Insert the AIMM card into the AGP slot. Please notice that the side of Display Cache is towards those PCI slots.
2. Install the AGP retainer(Optional) on the AGP slot to ensure its fixity.
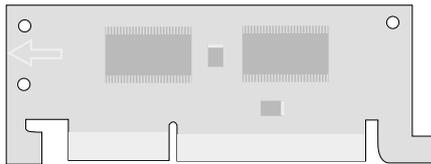
AIMM Card

ESD(Electrostatic discharge) Protection:
This mainboard provides a very high level(up to 8kv) of protection for sensitive electronic components that may be subjected to electrostatic discharge(ESD), especially for I/O ports such as printer interface,VGA connectors, PS2 connectors or USB interfaces(any components is optional). The ESD components that complies with IED61000-4-2 (level 4) and MIL STD883C-Method 3015-6 Class-3 are populated on the mainboard to prevent the system from resetting or hanging by static electricity.

BIOS-ProtectEasy

The BIOS of the mainboard is inside the FWH. Some 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.

Here are two choices to implement this function,

1. Set the jumper (JAV) as closed, the BIOS can not be overwritten and the DMI information can not be updated either.
2. Set the jumper (JAV) as open, 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 19 for detailed information on jumper setting, and page 30 for related BIOS setting.

Suspend to RAM

Suspend to RAM is a cost-effective, optimal implementation of the Advanced Configuration and Power Interface (ACPI) 1.0 specification, which makes a PC's power consumption drop to the lowest possible level and enables quick wakeup. When the system is in Suspend-to-RAM status, the system context is maintained in system memory, the system consumes only a small fraction of the power used for full operation. Instead of shutting down the system when not in use and then having to reboot later, Suspend-to-RAM solution enables the system to save power and to quickly wake up, restoring all applications and features, enabling operation in a few seconds.

To implement this function, the following requirments are essential:

1. Power supply requirements: The current of 5VSB line of the power supply should be more than 0.72A.
2. The BIOS option "ACPI function" should be enabled, and "ACPI Suspend Type" should be set as S3 in AWARD BIOS CMOS setup. Refer to page 32 for detailed information.
3. An ACPI-enabled operating system such as Windows 98 or Windows 2000 family is needed. Set the "ACPI Function" as "Enabled" in "Power Management Setup" of BIOS. Navigate to the CD-ROM drive from the MS-DOS Command Prompt and enter the following from the Win98 directory on the CD:

   D:\SETUP   /P   J

   (This manual assumes that your CD-ROM device driver letter is D:)
   Windows 98 will be installed with ACPI enabled.
   For Windows 98 SE and Windows 2000, just install them directly.
4. Three ways to enter Suspend-to-RAM status under ACPI-enabled Windows 98 or Windows 2000:
   - Click Start -> Shut down -> Standby to enable the system to enter Suspend-to-RAM status.
   - Click Start -> Setup -> Control Panel -> Power Management -> Advanced and

choose Standby item, the system will enter Suspend-to-RAM status when you press power button.

- From Power Management Properties in Control Panel, set the latency time in System Standby, the system will enter Suspend-to-RAM status when time out.

The same ways used to power up the system can be used to wake up the system from Suspend-to-RAM status. For example, pushing the power button, through the Wake-on-LAN, Wake-on-Modem function or RTC Alarm. If the keyboard password power-on function is enabled, the keyboard password should be used to wake up the system instead of pushing the power button.

Ultra ATA/100

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, and 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. In the same way, the burst transfer rate of Ultra ATA/100 is 50% higher than ATA/66(from 66.6MB/s to 100MB/s) by reducing the pulse width from 30ns to 20ns and increasing the strobe rate. When the ATA_FAST bit is set for any of the 4 IDE devices, then the timings for the transfers to and from the corresponding device run at a higher rate. The ICH2 Ultra ATA/100 logic can achieve read transfer rates up to 100MB/s, and write transfer rates up to 88.9MB/s. The cable improvements required for Ultra ATA/66 are sufficient for Ultra ATA/100, so no further cable improvements are required when implementing Ultra ATA/100. 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 improve signal integrity.

Ultra ATA/33 introduced CRC (Cyclical Redundancy Check), a new feature of IDE that provides data integrity and reliability. Ultra ATA100/66 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 ATA100/66 technology increases both performance and date integrity. However, there are basically five requirements for your system to run in Ultra ATA100/66 mode:

1. The system board must have a special Ultra ATA100/66 detect circuit, such as SynactiX 1E mainboard.
2. The system BIOS must also support Ultra ATA100/66.
3. The operating system must be capable of DMA transfers. Win95 (OSR2) and Win98 are capable.
4. An Ultra ATA100/66 capable, 40-pin, 80-conductor cable is required.
5. Ultra ATA100 or ATA66 compatible IDE device such as a hard drive or CD-ROM drive.

Onboard LAN

The ICH2's integrated LAN Controller includes a 32-bit PCI controller that provides enhanced scatter-gather bus mastering capabilities and enables the LAN Controller to perform high speed data transfers over the PCI bus. Its bus master capabilities enable the component to process high level commands and perform multiple operations, which lowers CPU utilization by off-loading communication tasks from the CPU. Two large transmit and receive FIFOs of 3 Kbyte each help prevent data underruns and overruns while waiting for bus accesses. This enables the integrated LAN Controller to transmit data with minimum interframe spacing(IFS).

The integrated LAN Controller also includes an interface to a serial (4-pin) EEPROM. The EEPROM provides power-on initialization for hardware and software configuration parameters.

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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/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 and LAN Connector(LAN is manufacturing optional)

Two USB ports are for connecting USB devices. The RJ-45 connector is for onboard LAN.

LINK   Active

LAN
USB1
USB2
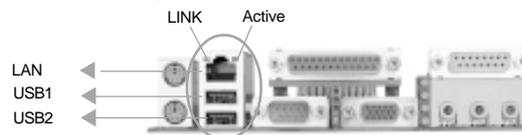
### Parallel Port, Serial Port and Monitor Output Connector

The parallel port connector can be connected to a parallel device such as a printer. The serial port UART1 connector can be connected to a serial port device 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. The monitor output connector is for output to a VGA-compatible device.

Parallel Port

UART1   VGA
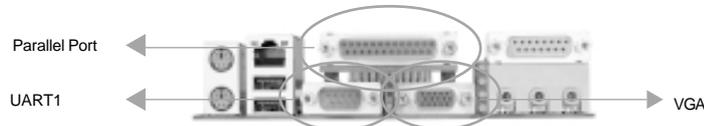
Line-in, Microphone-in, Speaker-out jack and MIDI/Joystick connector

The Line-in jack can be connected to devices such as a cassette or minidisc player for playback or recording input. 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 for entertainment.

MIDI/Joystick

Speaker out   Line in   Microphone in
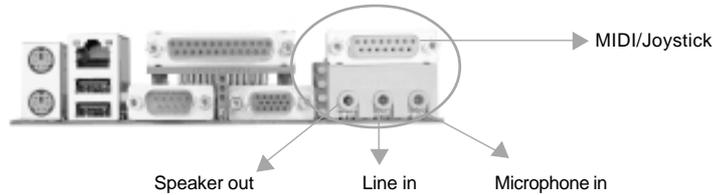
Diagnostic LED Function(Optional)

R1
R2
R3
R4

Diagnostic LED

Diagnostic LED Function				
R1	R2	R3	R4	Description
0	0	0	0	System Power ON
0	0	0	1	Early Chipset Initialization
0	0	1	0	Memory Detection Test
0	0	1	1	Decompressing BIOS image to RAM
0	1	0	0	Initializing Keyboard Controller
0	1	0	1	Testing VGA BIOS
0	1	1	0	Processor Initialization
0	1	1	1	Testing RTC(Real Time Clock)
1	0	0	0	Initializing Video Interface
1	0	0	1	BIOS Sign On
1	0	1	0	Testing Base and Extended Memory
1	0	1	1	Assign Resource to all ISA
1	1	0	0	Initializing Hard Drive Controller
1	1	0	1	Initializing Floppy Drive Controller
1	1	1	0	Boot Attempt
1	1	1	1	Operating System Booting

1=GREEN 0=RED

UART2

The serial port UART2 is not available on the back panel. Therefore, we provide a 9-pin header and a ribbon cable with bracket for UART2 port. (manufacturing option).Synactix 1E provides four USB ports,USB3,4 are provided by a 10-pin ribbon cable on board.The optional ribbon cable connects USB3,4 on the panel or the back panel.

UART2

USB3,4

GND
GND
D0+
D0-
+5V

6 7 8 9 10

1 2 3 4 5

+5V
D1-
D1+
GND
GND
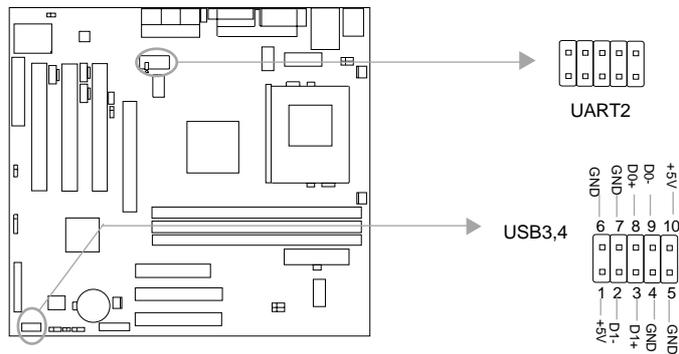
ATX Power Supply Connector & Power Switch (POWER SW)

Be sure to connect the power supply plug to this connector in its proper orientation. The power switch (POWER SW) 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 switch. When powering off the system, you needn't turn off the mechanical switch, just ***Push once**** the power switch.5VSB line of the power supply should be capable of delivering about 750mA current.

ATX Power Supply Connector
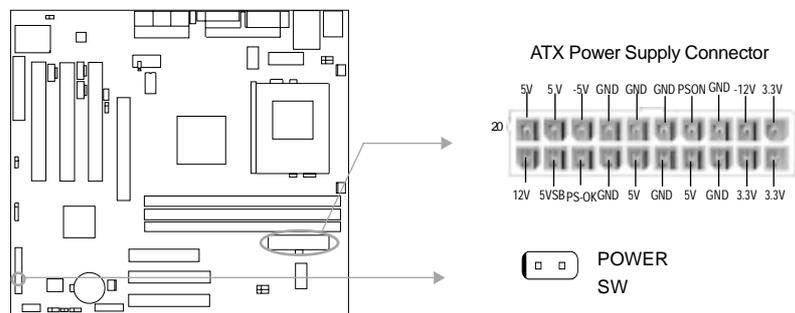
POWER
SW

Note: If you change "Soft-off by PWR-BTTN" from default "Instant-off" to "De-lay 4 Secs" in the "POWER MANAGEMENT SETUP" section of the BIOS, the power switch should be pressed for more than 4 seconds before the system pow-ers 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 (PWR LED)

The power LED has three status. When the system is in power up status, the LED is on. When the system is in suspend status, the LED is blink. When the system is in Suspend to RAM or in Soft-Off status, the LED is off.The connector has an orientation.

GREEN LED Connector (GREEN LED)

The GREEN LED has two status. When the system is in power up, suspend or soft-off status), the LED is off. When the system is in suspend to RAM status, the LED is on.

ACPI LED Connector (ACPI LED)(Reserved)

The ACPI LED is a double-color light with three pins. Pin1&Pin2 drive different color lights. If Pin1 drives the orange light , Pin2 drives the green light, the following status will come out. When the system is in power up status, the LED is green on. When the system is in suspend status, the LED is green blink. When the system is in Suspend to RAM status, the LED is orange on. When the system is in soft-off status, the LED is off.

Hardware Green Connector (SLEEP SW)

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

Key Lock Connector (KEYLK)

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

|		HDD LED(+)	HDD LED(-)	
ACPI LED POWER SW		ORANGE(-)	VCC	SPEAKER
		GREEN(-)	GND	
		LED+(VCC)	NC	
		POWER	SPKDATA	
		GND	RESET	RESET
		EMPTY	GND	
		EMPTY	EMPTY	
SLEEP PWR LED		SLEEP	LED+	GREEN LED KEYLK
		GND	LED-	
		LED+	LED-	
		LED-	GND	
		LED-	KEYLOCK	
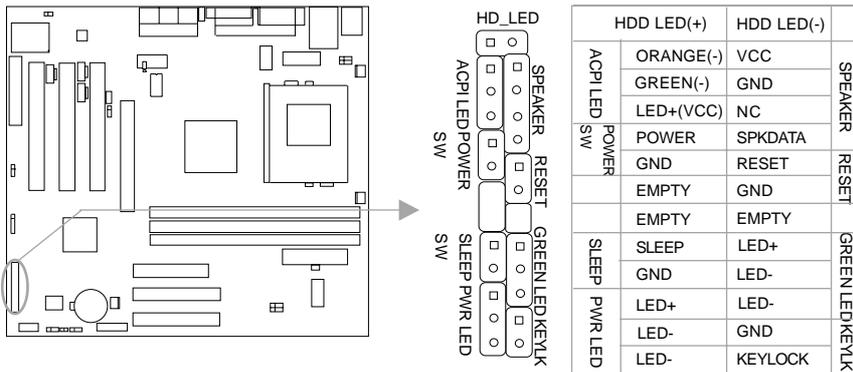
Infrared Header (IrDA)

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


VCC
NC
IRRX
GND
IRTX
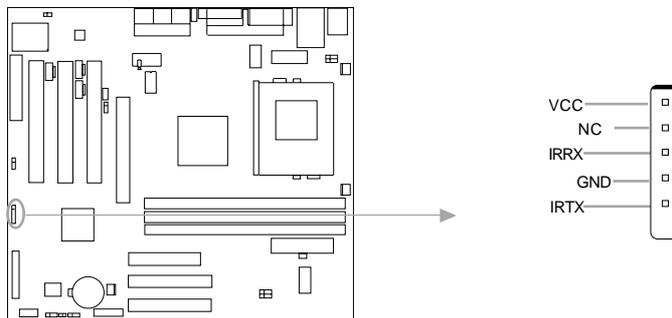
Fan Connector (PWRFAN, CPUFAN, CHSFAN)

The fan speed of these three fans can be detected and viewed in "PC Health" section of the BIOS. These three fans will be automatically turned off after the system enters suspend mode.

CPUFAN
- FAN GND
- +12V
- SENSE

PWRFAN
- FAN GND
- +12V
- SENSE

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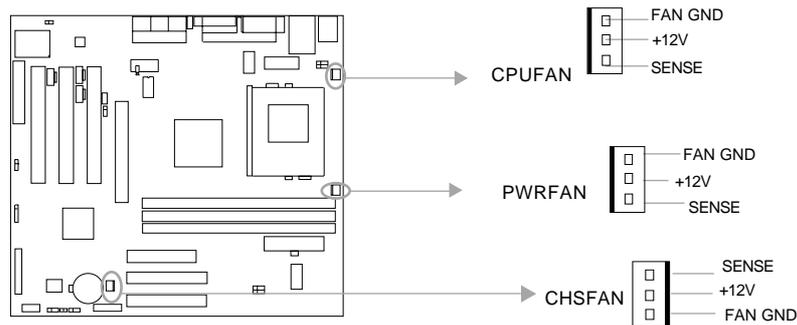
Wake-Up On LAN (WOL)

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 is used. Then connect this header to the relevant connector on the LAN adapter, set "Wake-Up by LAN/Ring" 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)
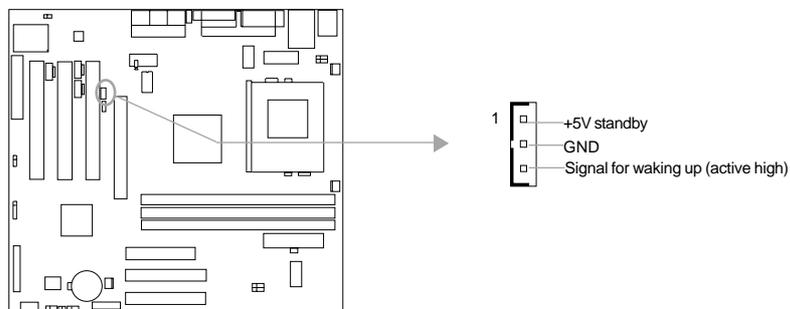
Wake-Up On Internal Modem (WOM)

Through this function, the system which is in the power-off status can be powered on by a ring signal received from the internal modem. When this function is used, be sure an internal modem card which supports this function is used. Then connect this header to the relevant connector on the modem card, set "Wake-Up by LAN/Ring" 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
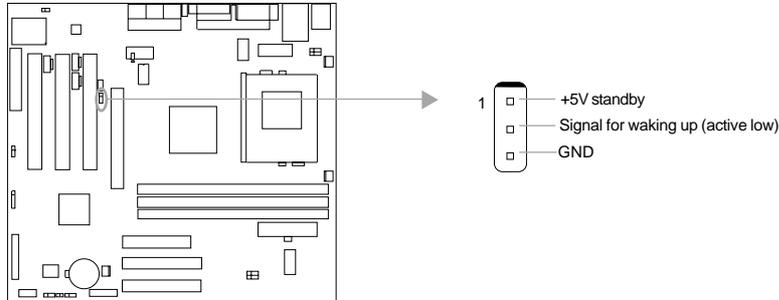
Audio Connector (CDLIN1, MODEM,AUX)

CDLIN1 is a Sony standard CD audio connector, it can be connected to a CD-ROM drive through a CD audio cable. The MODEM connector allows the onboard audio to interface with a voice modem card with a similar connector. It allows connecting the mono_in (such as a phone) or mono_out (such as a speaker) between the onboard audio and the voice modem card. AUX allow you to receive stereo audio input from such sound sources as a CD-ROM,TV tuner,or MPEG card.

CDLIN1
    CD Right Channel
    Common
    CD Left Channel

MODEM
    Mono-Out (to Modem)
    GND
    Phone-In (from Modem)

AUX
    Left Audio Channel
    GND
    Right Audi Channel
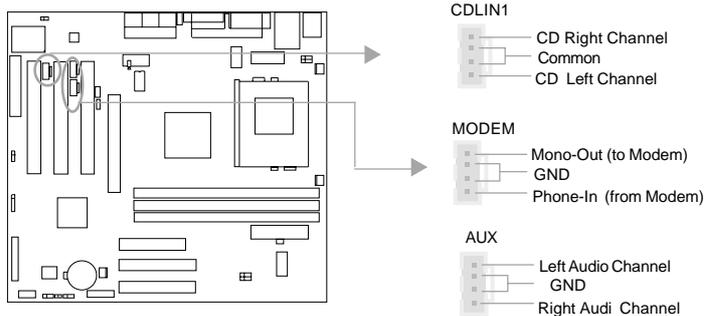
Audio Interface

The audio interface includes three parts,one is the FrontAudio(for earphone or front speaker),another is the RearAudio(for speakerout),the last is the ActiveAudio(for incase speaker).Their priority level is as sequence.when the FrontAudio is available,the RearAudio and the ActiveAudio will be cut off.When the RearAudio is available,the ActiveAudio will be cut off. An onboard amplifier is needed for the case of earphone plugged into. The ActiveAudio will be connected to incase active speaker whose power supply must be provided as +12V by motherboard. In this table, Pin1 to Pin 8 will be connected to the incase active speaker. The FrontAudio is optional, which is defined from Pin9 to Pin 16. When the FrontAudio is inexistence,Pin11 and Pin12,Pin13 and Pin14 must be short connected.

FrontLineOutR
LineNextR
LineNextL
FrontLineOutL
GND

Microphone in
Line in
Speaker Out(RearAudio)

Speaker(Active Audio)   Earphone(Front Audio)

| Pin No.	Symbol	Pin No.	Symbol
1	Active LINE Out(R)	2	Active LINE Out(L)
3	GND (ALO)	4	GND (ALO)
5	GND(+12)	6	GND(+12)
7	+12V(1A)	8	(Cut away)
9	MIC	10	GND (MIC)
11	Front LINE Out(R)	12	LINE Next(R)
13	Front LINE Out(L)	14	LINE Next(L)
15	GND (FLO)	16	(Cut away)

Audio Interface

Chassis Security Switch (CHSSEC)

The connector connects to the chassis security switch on the case. The system can detect the chassis intrusion through the status of this connector. If the connector has been closed once, the system will record the status and indicate the chassis has been opened. You can receive this information from QDI ManageEasy software.

GND

Indicate signal
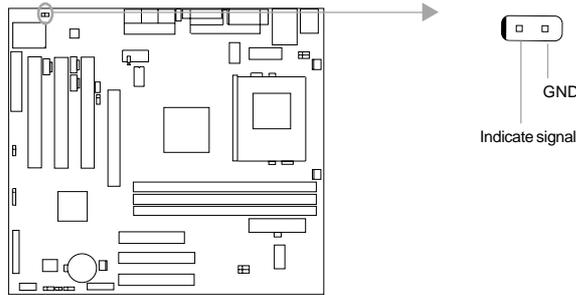
Communication and Networking Riser Interface Connector(CNR)

SynactiX 1E mainboard provides this Communication and Networking Riser(CNR) interface which can support audio and/or modem functions. Furthermore, it provides a LAN interface for networking functions. when the mainboard have LAN connectors,the CNR can't support LAN function. What its superiority compared with AMR is to be able to support plug-and-play function. Mechanically the CNR shares a PCI slot, thus when you insert the CNR card, the neighboring PCI slot cannot be used.

CNR Interface Connector

CNR card with LAN   CNR card with audio   CNR card with modem
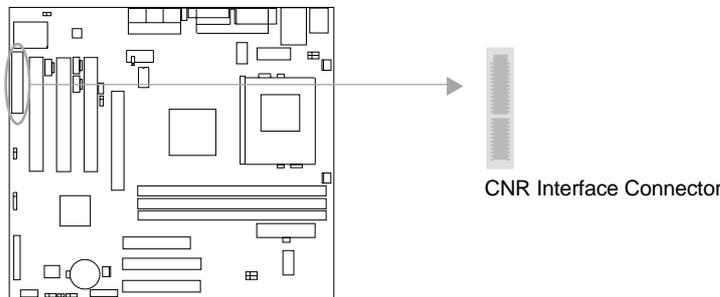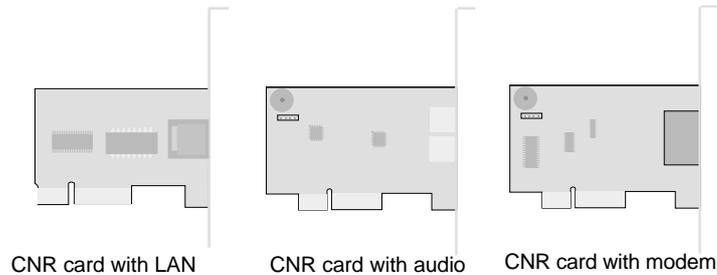
By using an audio codec, the AC'97 digital link providing by CNR allows for cost-effective, high-quality, integrated audio on the SynactiX 2E platform. In addition, an AC'97 soft modem can be implemented with the use of a modem codec. AC'97 digital link allows several external codecs to be connected to the ICH2. The digital link is expanded to support two audio codecs for up to 6 channels of PCM audio output(full AC-3 decode) or a combination of an audio and modem codec.

Expansion Slots & I/O Ports description

Slot / Port	Description
PCI1	First PCI slot.
PCI2	Second PCI slot.
PCI3	Third PCI slot.
IDE1	Primary IDE port.
IDE2	Secondary IDE port.
CNR	CNR slot.
AGP	AGP slot.
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 JSD etc. 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. For default jumper settings, please refer to the following table:

JFS0	1-2	(Auto)
JFS1	1-2	(Auto)
JCC	2-3	(Normal Status)
JSD	2-3	(Enable onboard Audio)
JKB	1-2	(Enable KB Power-on)
JAV	Open	(Enable Flash BIOS)
JFUSB/JUSB	1-2	(Enable Front/Back Panel USB Device Wake-Up Function)

Clear CMOS (JCC)

If you want to clear CMOS, unplug the AC power supply first, close JCC (pin1 & pin2) once, set JCC back to the normal status with pin2 & pin3 connected, then power on the system.
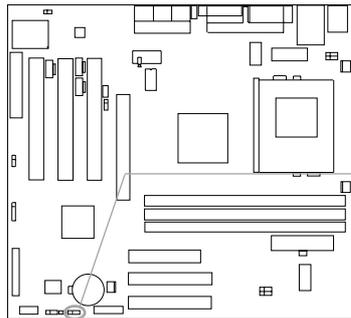
Normal status: JCC
1 2 3

Clear CMOS: JCC
1 2 3

(Unplug the AC power supply)

Enable/Disable on-board audio(JSD)

If you want to use the on-board audio, set JSD with pin2 & pin3 closed (default). Otherwise, set JSD with pin1 & pin2 closed for disabling this function.
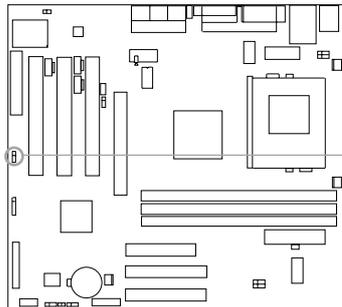
Enable on-board audio:
1
2   JSD
3

Disable on-board audio:
1
2   JSD
3

Enable keyboard password power-on function (JKB)

The mainboard provides the advanced keyboard password power-on function. Before using this function, set JKB with pin1 & pin2 closed. Otherwise, set JKB with pin2 & pin3 closed for disabling.
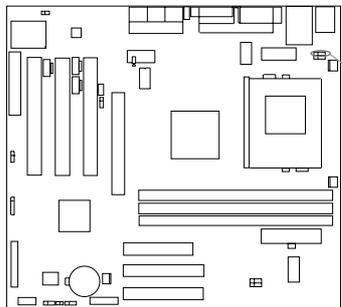
Disable: JKB
1 2 3

Enable: JKB
1 2 3

Furthermore in order to implement this function, set "POWER ON Function" to Password and enter the keyboard power-on password in the "INTEGRATED PERIPHERALS" section of the BIOS. Save and exit, then power off your system. In this case, the power button's power-on function has been disabled.

Note:

1. If you set JKB with pin2 & pin3 closed, set "POWER ON Function" to BUTTON ONLY, don't set it to Password, or you'll be unable to power up your system by the keyboard or the power button.
2. If you encounter the above problems, clear CMOS and set the jumper and BIOS option again.

Overclocking Jumper Setting (JFS0, JFS1)

Jumpers labeled JFS0 and JFS1 are located on the mainboard providing users with CPU overclocking feature. The host bus speed can be set as 66/100/133MHz or AUTO select. Refer to the chart below for the location of these jumpers, and the table for information on how to set them.
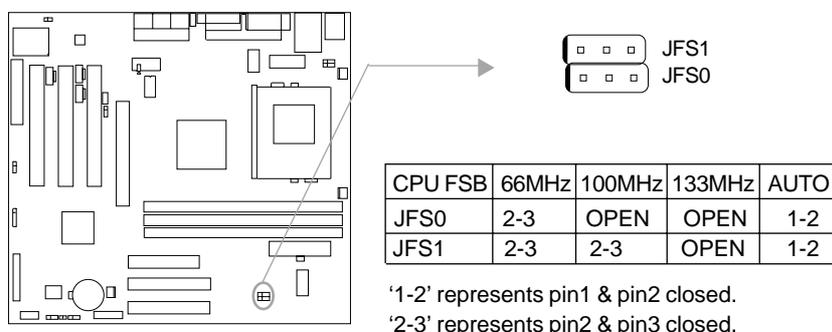
CPU FSB	66MHz	100MHz	133MHz	AUTO
JFS0	2-3	OPEN	OPEN	1-2
JFS1	2-3	2-3	OPEN	1-2

'1-2' represents pin1 & pin2 closed.
'2-3' represents pin2 & pin3 closed.

If CPU FSB is set as default setting Auto, the system detects the CPU front side bus automatically. If CPU FSB is set as 100MHz, the system will run at 100MHz even if a processor with 66MHz or 133MHz FSB is installed. Setting up to 133MHz using processors with 100MHz bus speed is also supported. However, whether or not the 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 CPU FSB as 100/133MHz, meanwhile adjusting the bus ratio(multiplier) lower in "CPU SpeedEasy Setup" in AWARD BIOS CMOS Setup. We do not guarantee the overclocking system will be stable.

BIOS Protection Jumper (JAV)

The BIOS of the mainboard is inside the FWH. 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 Disabled   JAV

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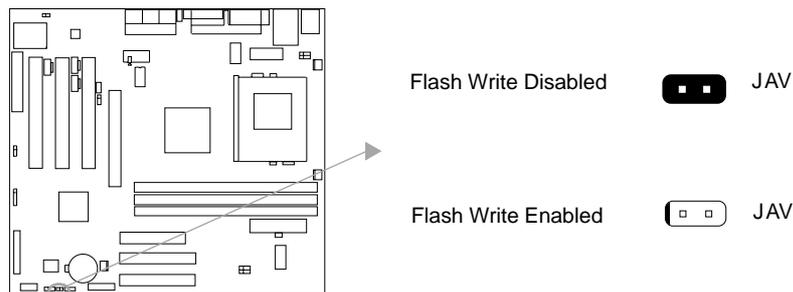
Setting the jumper JAV as open (default), meanwhile disabling the "Flash Write Protect" item in AWARD BIOS CMOS Setup, allows you to flash the BIOS to the flash ROM in FWH.

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 in FWH. 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.

Enable Front/Back Panel USB Device Wake-up Function (JFUSB/JUSB)

The mainboard provides the advanced USB device wake-up function. The system can be waken up from its power saving including ACPI S3 by activating USB device. Before using this function, set JFUSB/JUSB with pin1 & pin2 closed. Otherwise, set JFUSB/JUSB with pin2 & pin3 closed for disabling. Furthermore, the item "Wake-Up From S3 by USB"in BIOS setup should also be set corespondingly to enable or disable this function.

JUSB

JFUSB

JFUSB/JUSB

Disable:
1 2 3

Enable:
1 2 3
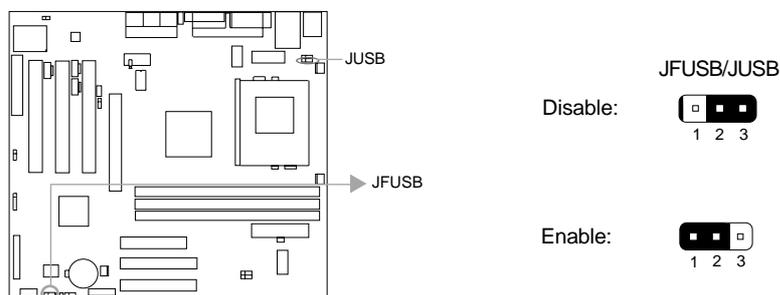
Memory Configuration

This mainboard provides three168 pin 3.3V PC133 un-buffered DIMM sockets to support a flexible memory size ranging from 32MB up to 512MB for SDRAM. PC100/PC133MHz SDRAM with SPD are supported, the following set of rules allows optimum configurations.

- Possible SDRAM DIMM memory sizes are 32MB, 64MB, 128MB, 256MB, 512MB in each DIMM socket, but the total memory size cannot exceed 512MB.

- Processor with 66MHz FSB should be paired with PC100, PC133 SDRAM processor with 100MHz FSB should be paired with either PC100 or PC133 SDRAM, processor with 133MHz FSB should be paired with PC133 SDRAM.
- Supports Suspend to RAM.
- Supports up to two double-sided or three single-sided DIMMs(4 Rows Max) at 133MHz system memory bus(PC-133).

Installation of All Drivers (EASY!)

A QDI Driver CD 2000 is supplied with this mainboard, all drivers can be installed from this CD-ROM. Before installing the drivers, check the system requirements such as the enough system memory (at least 32MB for Windows 95/98 system or 64MB for Windows 2000 system) and enough disk space. Windows 95 or Windows 98 must be fully installed and running on the system. All running applications should be closed before installing these drivers.

Features of this CD-ROM:

- DemoShield Software
Utilizing DemoShield software to develop it, providing you a very new, easier-to-use and more intuitive user interface.

- Point-and-Click
when using this CD-ROM, just point to the option you required and click it, then the driver or the software that you need will be automatically installed.

- Intelligently Recognition
Automatically recognizing the hardware, then installing the necessary drivers for your onboard components to work properly.

Please refer to page 41 to get more detailed information of the contents contained in this CD-ROM.

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.

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 of 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, like a bridge between the complex hardware and OS, used to access hardware status and to execute some 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 your computer and monitor some key reference data about 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.

<u>Additional Information</u>

When you change a new CPU, whose bus ratio has not been locked, and is lower than that of the previous one, be sure to clear CMOS once before boot up, otherwise the previous CPU's higher bus ratio saved in CMOS will still take effect, and the new CPU may not work at that high speed.

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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 on our current mainboard, you may therefore upgrade the BIOS, please don't forget to set JAV as open and disable the "Flash Write Protect" item in AWARD BIOS CMOS Setup first (refer to page 19 and page 30).

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>7.71) 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. Decompress the file downloaded, 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 /?

Note: AWDFLASH.EXE (version>7.71) utility must be used to upgrade the SynactiX 1E mainboard BIOS instead of QDI flash utility.

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 eleven 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.
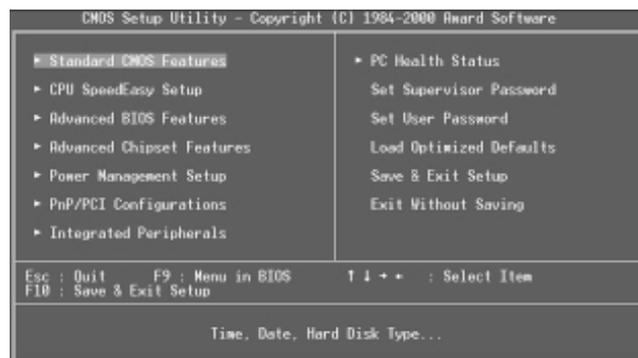
Figure-1 Main Menu

Load Optimized Defaults

The Optimized Defaults are common and efficient. It is recommended users load the optimized defaults first, then modify the needed configuration settings.

Standard CMOS Features Setup

The basic CMOS settings included in "Standard CMOS Features" 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 desired in each item.
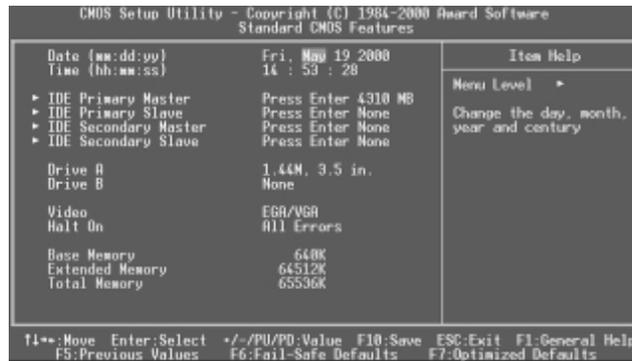
Figure-2   Standard CMOS Setup Menu

For the items marked, press enter, a window will pop up as shown below. You can view detailed information or make modifications.
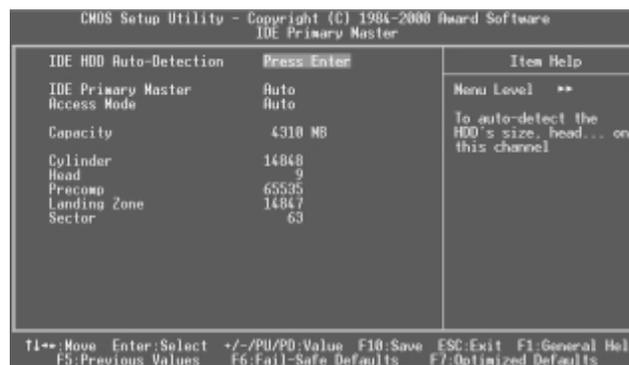
Figure-2-1   IDE Primary Master Setup Menu

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

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.

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 divising 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.

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.

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.
Total Memory	Total memory of the system equals the sum of the above memory.

CPU SpeedEasy Setup
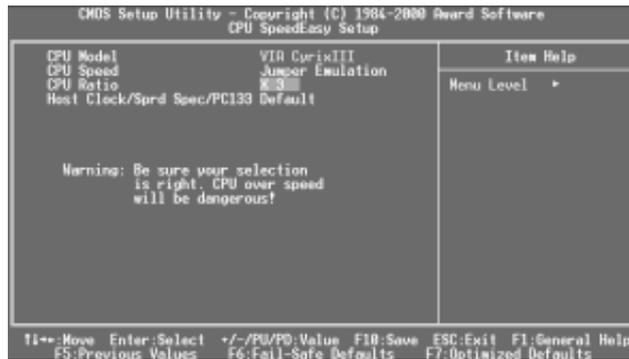
Figure-3   CPU SpeedEasy Setup Menu

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

Item	Option	Description
● CPU Ratio	x3, x3.5, . . . x8	Selects the multiplication of processor core frequency. If a Ratio locked processor installed, this item will be hidden. This item is only for users who understand all the CPU parameters, i.e. system bus frequency, "66MHz" and multiplication of processor core frequency for system bus frequency "x3, x3.5, x4, x4.5, x5, x5.5, x6, x6.5, x7, x7.5, x8". Selects the CPU speed according to your CPU brand and type.
● Host Clock /Sprd Spec /PC133	Default 66Mhz/0.60%/No 68Mhz/Off/No . . 100Mhz/0.60%/No . . 166Mhz/Off/No	Sets the bus frequency/Spread Spectrum/PC133 support.

Warning: Be sure your selection is right. CPU over speed will be dangerous!

Advanced BIOS Features Setup
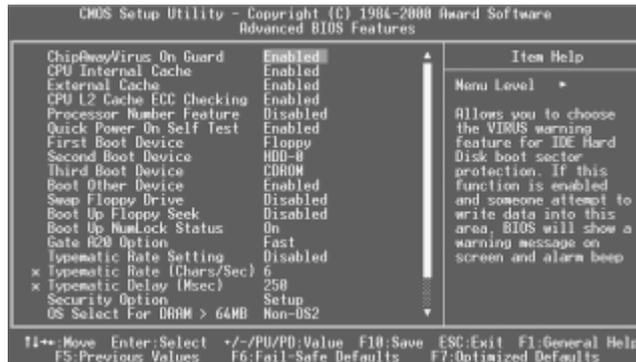
Figure-4   Advanced BIOS Features Menu

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

Item	Option	Description
● ChipAwayVirus 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	Disables this function.
● 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 p erformance.
	Disabled	Disables external cache.
● CPU L2 Cache ECC Checking	*Enabled*	Enables CPU L2 Cache ECC (Error Checking and Correction) function.
	Disabled	Disables CPU L2 Cache ECC function.
● Processor Number Feature	*Enabled*	When Pentium III CPU is installed, the serial number is readable.
	Disabled	The serial number is unreadable.
● Quick Power On Self Test	*Enabled*	Allows the system to skip certain tests while booting. This will decrease the time needed to boot the system.
	Disabled	Normal POST.
● First (Second, Third) Boot Device Boot Other Device	*Disabled* *Floppy*	Select Your Boot Device Priority. It could be Disabled, Floppy, LS/ZIP, HDD-0, HDD-1, HDD-2, HDD-3, SCSI, CDROM, LAN.

|		
● Swap Floppy Drive	*Enabled* *Disabled*	If the system has two floppy drives, choose enable to assign physical drive B to logical drive A and vice-versa.
● Boot Up Floppy Seek	*Enabled* *Disabled*	Tests floppy drives to determine whether they have 40 or 80 tracks.
● Boot Up NumLock Status	*On* *Off*	Selects power on state for NumLock.
● Gate A20 Option	*Normal* *Fast*	Lets chipset control GateA20 and Normal - a pin in the keyboard controller controls GateA20. Default is Fast.
● Typermatic Rate Setting	*Enabled* *Disabled*	Keystrokes repeat at a rate determined by the keyboard controller - when enabled, the typematic rate and typematic delay can be selected.
● Typermatic Rate (chars/sec)	*6-30*	The rate at which character repeats when you hold down a key.
● Typermatic Delay (Msec)	*250-1000*	The delay before keystrokes begin to repeat.
● Security Option	*Setup* *System*	Selects whether the password is required every time the system boots or only when you enter setup.
● OS Select For DRAM>64MB	*Non-OS2* *OS2*	Selects OS2 only if you are running OS/2 operating system with more than 64MB of RAM.
● HDD S.M.A.R.T. Capability	*Disabled* *Enabled*	Disables hard disk S.M.A.R.T. support. Enables hard disk S.M.A.R.T. support.
● Report NO FDD for WIN 95	*Yes* *No*	Reports NO Floppy Disk Drive for WIN 95 to release IRQ6. Does not report No Floppy Disk Drive for WIN 95.
● Flash Write Protect	*Enabled* *Disabled*	This option is for protecting the system BIOS, when enabled, writing to BIOS area is to be discarded.
● Show Bootup Logo	*Enabled* *Disabled*	The logo will be shown automatically when system boots up, otherwise, no logo appears on the screen.

Advanced Chipset Features Setup
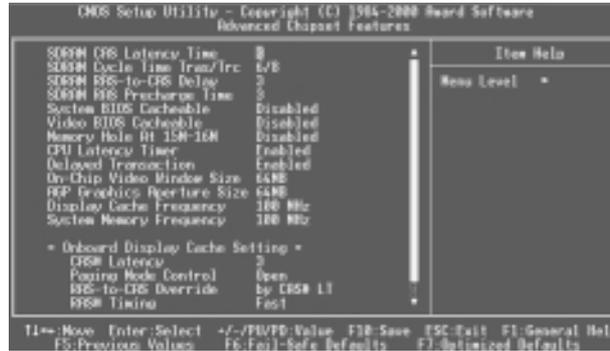
Figure-5   Advanced Chipset Features Menu

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

Item	Option	Description
● SDRAM CAS Latency Time	3 2	Contains the information for SDRAM initialization procedure.
● SDRAM Cycle Time Tras/Trc	5/7 6/8	
● SDRAM RAS-to-CAS Delay	2 3	Adds a delay time between the assertion of RAS and CAS. Without additional delay time.
● SDRAM RAS Precharge Time	2 3	Default setting is recommended.
● System BIOS Cacheable	Enabled Disabled	Besides conventional memory, the system BIOS area is also cacheable.
● Video BIOS Cacheable	Enabled Disabled	Besides conventional memory, video RAM area is also cacheable. Video RAM area is not cacheable.
● Memory hole at 15M-16M	Enabled Disabled	Memory hole at 15-16M is reserved for expanded ISA card. Does not set this memory hole.
● CPU Latency Timer	Enabled Disabled	Defines the CPU Latency Timer
● Delayed Transaction	Enabled Disabled	Default setting is recommended.
● Display Cache Frequency	100 MHz 133 MHz	Selects the Display Cache Frequency as 100MHz or 133MHz.
● System Memory	100 MHz 133 MHz Auto	Selects the System Memory Frequency 100MHz or 133MHz, 133MHz can be set only if CPU frequency is over 133MHz.
● Close Empty DIMM/PCI Clk	Enabled Disabled	Closes empty DIMM or PCI clock to reduce EMI. Does not close empty DIMM or PCI clock.

Power Management Setup

Figure-6   Power Management Setup Menu

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

Item	Option	Description
● ACPI function	*Disabled*	Invalidates ACPI function.
	Enabled	Validates ACPI function.
● ACPI Suspend Type	*S1*	Selects the ACPI suspend type.
	S3	
● 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.
● Video Off Method	*Blank Screen*	The system BIOS will only blank off the screen when disabling video.
	V / H SYNC +	In addition to Blank Screen, BIOS will also turn off the V-SYNC & H - SYNC signals from VGA card 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.**
● Video Off In Suspend	*Yes*	The system will disable video when entering suspend mode.
	No	Does not turn off video when entering suspend mode.

● Suspend Type	*Stop Grant PwrOn Suspend*	Selects the Suspend type.
● MODEM Use IRQ	*3, 5, 7, 9, 10, 11 NA*	Special wake-up event for Modem.
● Suspend Mode	*Disabled*	The system never enters Suspend mode by timer.
	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 Power Down	*Disabled*	HDD's motor will not be off by timer.
	1 - 15 Min	Defines the continuous HDD idle time before the HDD enters power saving mode (motor off).
● Soft-Off by PWR-BTTN	*Instant-Off*	The system will immediately power off once the power button is pressed.
	Delay 4 secs	The system will power off when power button is pressed for 4 seconds.
● Wake-Up by PCI card	*Enabled*	Allows the system to be waken up by PCI card. Does not allow the system to be powered on by PCI card.
● Wake-Up by Ring/LAN	*Enabled*	Allows 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/LAN wake up.
● Wake-Up From S3 by USB	*Enabled*	The system could be waken up by USB Device from the Suspend to RAM status.
	Disabled	The system cannot be waken up by USB Device from the Suspend To RAM status.
● CPU Thermal-Throttling	*12.5%, 25%, 50%, 37.5%, 62.5%, 75%, 87.5%*	Selects the duty cycle of the STPCLK# signal, slowing down the CPU speed when the system enters green mode.
● Resume by Alarm	*Enabled*	RTC alarm can be used to generate a wake-up event to power up the system.
	Disabled	RTC has no alarm function.
● Primary IDE 0/1, Secondary IDE 0/1	*Enabled*	Reloads global timer, when there's an IDE event.
	Disabled	Does not reload global timer.
● FDD/COM/LPT Port	*Enabled*	Reloads global timer, when there's a FDD/COM/LPT event.
	Disabled	Does not reload global timer.
● PCI IRQ [A - D] #	*Enabled*	Reloads global timer, when there's a PCI event.
	Disabled	Does not reload global timer.

PNP/PCI Configuration Setup

Figure-7   PNP/PCI Configuration Setup Menu

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

| Item	Option	Description
● Reset Configuration Data	*Enabled*	Default setting is Disabled. Select Enabled to reset Extended System Configuration Data ESCD when you exit Setup, if you have installed a new add-on and the system reconfiguration has caused serious conflicts preventing the OS from booting.
	Disabled	Disables the configuration data function.
● Resources Controlled By	*Auto(ESCD)* *Manual*	BIOS can automatically configure all boot and Plug and Play compatible devices. If you choose Auto, you cannot select IRQ DMA and memory base address fields, because BIOS automatically assigns them.
● PCI/VGA Palette Snoop	*Disabled* *Enabled*	Default setting. Non-standard VGA cards such as graphics accelerators or MPEG video cars may not show colors properly. Enabling this item can solve this problem.

Integrated Peripherals
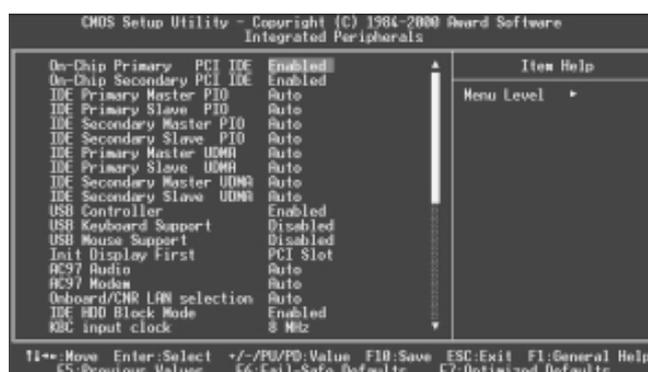
Figure-8 Integrated Peripherals Menu

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

Item	Option	Description
● On-Chip Primary/ Secondary PCI IDE	*Enabled*	On-Chip Primary/Secondary PCI IDE is enabled.
	Disabled	On-Chip Primary/Secondary PCI IDE is disabled.
● 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.
● USB Controller	*Enabled*	Enables onchip USB controller.
	Disabled	Disables onchip USB controller.
● USB Keyboard Support	*Enabled*	Supports USB Keyboard under legacy OS.
	Disabled	Does not support USB Keyboard under legacy OS.
● USB Mouse Support	*Enabled*	Supports USB Mouse under legacy OS.
	Disabled	Does not support USB Mouse under legacy OS.
● Init Display First	*PCI Slot*	Initializes the PCI VGA first.
	Onboard/AGP	Initializes the onboard VGA or AGP first.
● AC97 Audio	*Enabled*	Enables the AC97 Audio onboard.
	Disabled	Disables the AC97 Audio onboard.
● AC97 Modem	*Enabled*	Enables the AC97 Modem onboard.
	Disabled	Disables the AC97 Modem onboard.
● Onboard/CNR LAN Selection	*Auto*	If a CNR Interface is enabled, the onboard LAN will be automatically disabled. Otherwise, the onboard LAN is enabled.
	Onboard	The onboard LAN is enabled.
	Disabled	Onboard LAN Interface is 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.
● KBC input clock	*6 MHz* *8 MHz* *12 MHz* *16 MHz*	Sets the PS/2 Keyboard input clock as 6/8/12 /16MHz.
● Power On Function	*BUTTON ONLY*	Uses the power button to power up the system.
	Password	Enables the Keyboard Password Power-On.
● KB Power ON Password	*Enter*	Uses the keyboard password to power up the system.
● 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.
● UART Mode Select	*Normal*	This option is used to configure UART Mode.
● RxD, TxD Active	*Hi, Lo* *Lo, Hi* *Lo, Lo* *Hi, Hi*	The default setting is recommended.
● IR Transmission Delay	*Enabled* *Disabled*	The default setting is recommended.
● UR2 Duplex Mode	*Half* *Full*	The default setting is recommended.
● Use IR Pins	*IR-Rx2Tx2* *RxD2, TxD2*	
● 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).
● EPP Mode Select	*EPP1.7* *EPP1.9*	The default setting is recommended.
● ECP Mode Use DMA	*3* *1*	The default setting is recommended.

● PWRON After PWR-Fail	*OFF*	The system remains OFF when the AC power supply resumes.
	ON	The system will be powered up when the AC power supply resumes.
	Former-Sts	Whatever the system status is before the AC power supply cuts off, the system resumes in the previous status (ON/OFF) when the AC power supply resumes.
● Game Port Address	*Disabled* *201* *209*	This option is used to configure Game Port Address.
● Midi Port Address	*Disabled* *300* *330*	This option is used to configure Midi Port Address.
● Midi Port IRQ	*5* *7*	This option is used to configure Midi Port IRQ.

PC Health Status
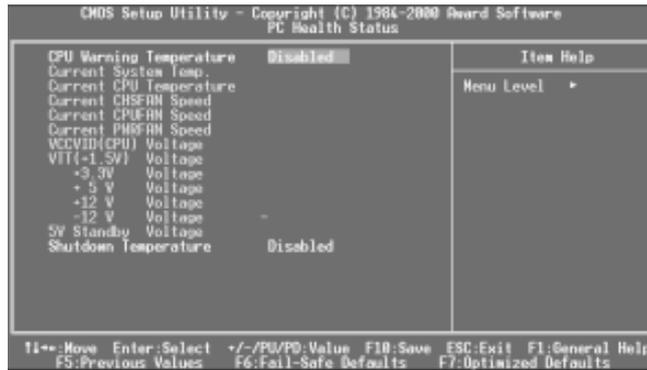
Figure-9 PC Health Status Menu

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

Item	Option	Description
● CPU Warning Temperature	$50^0C/122^0F$ $53^0C/127^0F$ $56^0C/133^0F$ $60^0C/140^0F$ $63^0C/145^0F$ $66^0C/151^0F$ $70^0C/158^0F$ $75^0C/167^0F$ $80^0C/176^0F$ $85^0C/185^0F$ $90^0C/194^0F$ $95^0C/205^0F$	An alarm will beep when the CPU temperature reaches the previous setting, $50^0C/122^0F$, $53^0C/127^0F$, $56^0C/133^0F$, $60^0C/140^0F$, $63^0C/145^0F$, $66^0C/151^0F$, $70^0C/158^0F$. $75^0C/167^0F$, $80^0C/176^0F$, $85^0C/185^0F$, $90^0C/194^0F$, $95^0C/205^0F$.
	Disabled	No alarm beep.
● Current System Temp.		The temperature inside the chassis.
● Current CPU Temperature		The temperature near CPU.
● Current CHSFAN Speed Current CPUFAN Speed Current PWRFAN Speed		RPM (Revolution Per Minute) Speed of fan which is connected to the fan header, CHSFAN, CPUFAN or PWRFAN. 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, VTT(+1.5V) Voltage, +3.3V, +5 V, +12 V, -12 V, 5V Standby Voltage		Displays current voltage value including all significant voltages of the mainboard. +3.3V, +5V, +12V, -12V are voltages from the ATX power supply, VTT(+1.5) Voltage is GTL Termination voltage from the on board regulator and VCCVID (CPU) Voltage is the CPU core voltage from the on board switching Power Supply.
● Shutdown Temperature	$60^{0}C/140^{0}F$ $65^{0}C/149^{0}F$ $70^{0}C/158^{0}F$ $75^{0}C/167^{0}F$ $80^{0}C/176^{0}F$ $85^{0}C/185^{0}F$ $90^{0}C/194^{0}F$ $95^{0}C/205^{0}F$	Under ACPI OS,the system will shut down automatically when the CPU temperature reaches the previous setting, $60^{0}C/140^{0}F$, $65^{0}C/149^{0}F$, $70^{0}C/158^{0}F$, $75^{0}C/167^{0}F$, $80^{0}C/176^{0}F$, $85^{0}C/185^{0}F$, $90^{0}C/194^{0}F$,$95^{0}C/205^{0}F$
	$Disabled$	The system remains on regardless of how much the CPU temperature is.

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 "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 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.

Boot with BIOS defaults

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

Appendix A
QDI Driver CD 2000

A QDI Driver CD 2000 is supplied with this mainboard, the contents contained in it are showed as below:

1. Express Install

Using this choice, you can install all the drivers for your mainboard easily. You should install the drivers in order, and you need to restart your computer until all the drivers are installed.

A.	IntelINF	B.	VGA Driver
C.	Network Driver	D.	Direct X
E.	Audio Driver		

2. Accessory

Using this choice, you can install some common software. It includes game interface software DirectX, system management software(RM) and anti-virus software PC-cillin.

A.	DirectX	B.	QDIManageEasy
C.	PC-Cillin		

3. Browse CD

You could read all the contents contained in this CD, including Utility and Documents.

The files included in **Utility** are:

A.	Awdflash.exe	B.	Cblogo
C.	Lf.exe		

The files included in **Documents** are:

BX1S-2000 FR, BX9 FR, CX1 FR, CX2 FR, handbuch-winnex , RecoveryEasy_FR, WX1 FR, WX1E FR, WX2 FR, WX2E FR, WX3 FR, WX3E FR, SX1 FR, SX1E FR.

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.

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.
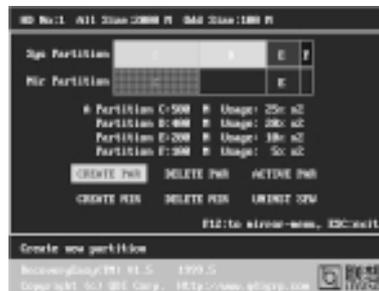

figure-1 Partition Interface

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.
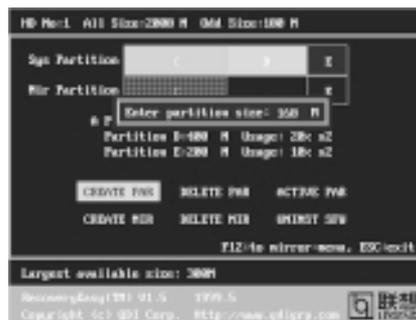

figure-2 Create Partition

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.
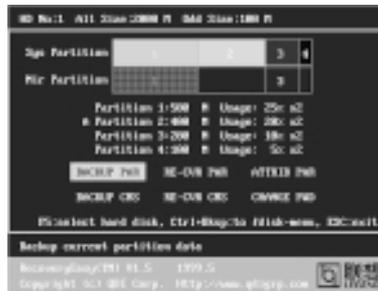
figure-3 Recovery User Interface

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 press-
   ing "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.
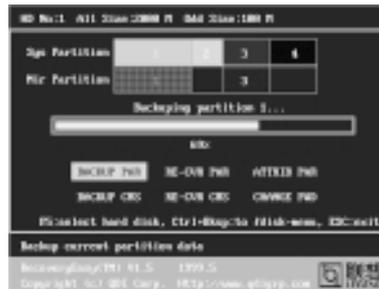

figure-4 Backup Partition

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 data
     manually 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 limita-
tion 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 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.

7. **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.

8. **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.

9. **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 invali-
date. 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.

10. **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.

11.   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.

12.   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.

13.   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.

14.   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.

Board Layout of
SynactiX 1E V1.0

P/N: 430-01022-001-00
Manual SynactiX 1E Ver 1.0