Declaration of conformity

C E

QUANTUM DESIGNS(HK) LTD.

5/F Somerset House, TaiKoo Place 979 Kings Road,
Quarry Bay, Hong Kong

declares that the product

GeniuX 1 Mainboard

is in conformity with

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

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

European Representative:

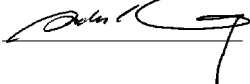|	
QDI COMPUTER (UK) LTD	QDI COMPUTER (SCANDINAVIA) A/S
QDI SYSTEM HANDEL GMBH	QDI COMPUTER (NETHERLANDS) B. V.
QDI COMPUTER (FRANCE) SARL	QDI COMPUTER HANDELS GMBH
QDI COMPUTER (ESPANA) S.A.	QDI COMPUTER (SWEDEN) AB

Signature : _____ . Place / Date : __HONG KONG/1999__

Printed Name : ___Anders Cheung___   Position/ Title : ___President___

Declaration of conformity
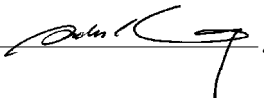
FC

Trade Name:	QDI Computer (U. S . A.) Inc.
Model Name:	GeniuX 1
Responsible Party:	QDI Computer (U. S. A.) Inc.
Address:	41456 Christy Street
	Fremont, CA 94538
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Equipment Classification:	FCC Class B Subassembly
Type of Product:	Mainboard
Manufacturer:	**Quantum Designs (HK) Inc.**
Address:	5/F, Somerset House, TaiKoo Place
	979 Kings Road, Quarry Bay, HONG
	KONG

Supplementary Information:

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

Signature : _____. Date : ____1999____

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Chapter 1
Introduction

Overview

The GeniuX 1 is a highly integrated, high performance mainboard designed for mid-range and higher-end servers and workstations. It is centered on the Intel®440GX AGPset and supports single or dual Intel Pentium®II/ Pentium®III/Celeron™ processors with 66/100MHz host bus speed. It supports up to 2GB of ECC memory. It provides advanced features such as wake -up on LAN, wake-up on internal/external modem, keyboard password power-on, ManageEasy, LDCM(option) and SecurityEasy function. Together with its onboard 10/100Mbps Ethernet LAN using Intel 82558 chip and onboard Ultra 2 and Narrow/ Wide SCSI using Adaptec AIC7890 and AIC3860 chips , you get a powerful system for critical business server applications.

Key Features

Microprocessor

- Supports single or dual Intel Pentium®II/Intel Pentium®III processors 233/266/300/ 333MHz with 66MHz host bus speed.
- Supports single or dual Intel Pentium®II/Intel Pentium®III processors 350/400/450/ 500/550/600MHz with 100MHz host bus speed.
- Supports Intel® Celeron™ Processors at 266/300/333/366/400/433/466/500MHz
- Supports 66/100MHz host bus speed.
- CPU core frequency = Bus speed x2, x2.5, x3, x3.5, x4, x4.5, x5, x5.5, x6, x6.5, x7, x7.5, x8.
- Provides onboard 1.5V and 2.5V regulator.
- The CPU core and L2 Cache voltage adjustable from 1.3V to 3.5V automatically through onboard switching voltage regulator with VID(Voltage ID).

Chipset

- Intel®440GX AGPset: 82443GX, 82371AB(PIIX4E)

System memory

- Provides four 168 pin 3.3V unbuffered DIMM sockets.
- Supports 66/100MHz SDRAM memory and registered memory.
- Supports maximun memory capacity up to 2GB.
- SDRAM 64 bit data interface with ECC support.

On-board IDE

- Supports two PCI PIO and Bus Master IDE ports.

- Two fast IDE interfaces supporting four IDE devices including IDE hard disks and CD-ROM drives.
- Supports up to PIO Mode 4 timing.
- Supports "Ultra DMA/33" Synchronous DMA mode, transferring data up to 33Mbytes/sec, compatible with Ultra DMA/66 HDD.
- Integrated 16x32bit buffer for IDE PCI Burst Transfers.

On-board I/O

- Use Winbond W83977EF super I/O chip.
- One floppy port supporting up to two 3.5" or 5.25" floppy drives with 360K/720K/1.2M/1.44M/2.88M format.
- Two high speed 16550 compatible UART (COM1/COM2/COM3/COM4 selective) with 16-byte send/receive FIFOs.
- One enabled parallel port at the I/O address 378H/278H/3BCH with additional bi-direction I/O capability and multi-mode as SPP/EPP/ECP (IEEE 1284 compliant).
- Circuit protection provided, preventing damages to the parallel port when a connected printer is powered up or operates at a higher voltage.
- Supports LS-120 floppy disk drive.
- All I/O ports can be enabled/disabled in the BIOS setup.

Onboard SCSI

- Based on the Adaptec AIC-7890 PCI to SCSI controller and AIC-3860 chip.
- Supports Ultra 2(LVD, HVD, SE), Wide and Narrow SCSI interface.
- Date transfer rate up to 80MB/Sec.
- Provides drivers for Dos, Windows 95, Windows NT, Netware, OS/2. SCO Unix, Unixware.
- SCSI terminator can be enabled/disabled automatically.
- Provides an external wide SCSI cable. (manufacturing option)

Onboard LAN

- Based on the Intel 10/100Mbps PCI to LAN controller 82558.
- Supports auto-negotiation protocol.
- Supports Full Duplex Flow Control.
- Supports Wake-up On LAN (WOL).
- Supports Adapter Fault Tolerance (AFT).
- Supports Adaptive Load Balancing (ALB).
- Supports Fast Ether Channel (FEC).
- Supports Hotplug.

Advanced features

- Provides Trend ChipAwayVirus®On Guard.
- Provides on-board PS/2 mouse and PS/2 keyboard ports.
- Supports two USB ports.
- Supports both internal and external Modem Ring Power-On.

- Provides infrared interface.
- Supports Windows 95/98 software power-down.
- Supports wake-up on LAN and wake-up on internal/external modem.
- On-board LM80 supports system monitoring (monitors CPU and system temperatures, system voltages and FAN speed).
- LM75 monitors the temperature of the CPU.
- Supports keyboard password power-on function.
- Protects the system BIOS from being attacked by severe virus such as CIH, by enabling "Flash Write Protect" in CMOS setup.
- Provides management application such as ManageEasy and LDCM(LANDesk®Client Manager).
- System status resumes after AC power failure

BIOS

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

Green function

- Supports ACPI (Advanced Configuration and Power Interface) and ODPM (OS Directed Power Management).
- Supports three green modes: Doze, Standby and Suspend.

SecurityEasy function

- Provides advanced SecurityEasy function
- Three ways are provided to enter the SecurityEasy lock status: sleep button/ Keyboard Inactive Timer/ Hot key.
- Power switch, reset button, PS/2 mouse and keyboard are locked in the SecurityEasy lock status.

Expansion slots

- 4 PCI slots and 2 ISA slot.
- 1 AGP slot.

Board size

· 320mm x 311.5mm.

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Chapter 2
Installation Instructions

This section covers Jumper Settings, Processor Installation, Expansion cards, External Connectors and Memory Configuration. Refer to the mainboard layout chart for locations of all the 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 severely damaged.

Jumper Settings

Jumper settings are located on the mainboard. Pin 1 of all jumpers are located on the side with a thick white line (Pin 1 ⟶ [□ □ □]), referring to the mainboard silkscreen. Jumpers with two pins will be shown graphically as ▮▮▮ for close and ▮▮▮ for open. Jumpers with three pins will be shown as [▮▮ □] to represent pin1& pin2 connected and [□ ▮▮] to represent pin2 & pin3 connected.

Clock Multiple Selection (JX4,JX3,JX2,JX1)

These jumpers set the frequency ratio between the Internal frequency of the CPU and the external frequency (namely the Front Side Bus). The system can determine the external frequency (FSB) of the CPU automatically. The Front Side Bus multiplied by the Clock Multiple equals the CPU's frequency.

JX4 JX3 JX2 JX1
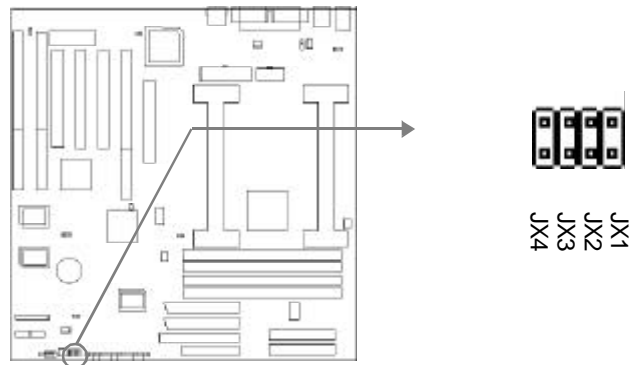
Clock Multiple Selection Table

FREQ.MUT	JX1	JX2	JX3	JX4
2	Close	Close	Close	Close
2.5	Open	Close	Close	Close
3	Close	Open	Close	Close
3.5	Open	Open	Close	Close
4	Close	Close	Open	Close
4.5	Open	Close	Open	Close
5	Close	Open	Open	Close
5.5	Open	Open	Open	Close
6	Close	Close	Close	Open
6.5	Open	Close	Close	Open
7	Close	Open	Close	Open
7.5	Open	Open	Close	Open
8	Close	Close	Open	Open

Carefully set the processor frequency by referring to the list below. The default setting is 400MHz.

CPU Model	Freq. (MHz)	FSB (MHz)	Multiple	JX1	JX2	JX3	JX4
Pentium®II/ Pentium®III/ Celeron™	233	66	3.5	Open	Open	Close	Close
	266	66	4.0	Close	Close	Open	Close
	300	66	4.5	Open	Close	Open	Close
	333	66	5.0	Close	Open	Open	Close
	366	66	5.5	Open	Open	Open	Close
	400	66	6.5	Open	Close	Close	Open
	400	100	4.0	Close	Close	Open	Close
	350	100	3.5	Open	Open	Close	Close
	450	100	4.5	Open	Close	Open	Close
	500	100	5.0	Close	Open	Open	Close
	550	100	5.5	Open	Open	Open	Close
	600	100	6.0	Close	Close	Close	Open
	650	100	6.5	Open	Close	Close	Open
	700	100	7.0	Close	Open	Close	Open
	750	100	7.5	Open	Open	Close	Open
	800	100	8.0	Close	Close	Open	Open

Note: GeniuX 1 supports dual Celeron™ processors solution by using QDI socket 370 CPU card. (Ver 2.0)

Overclocking Jumper Setting (JP1)

Jumpers labeled JP1 are located on the mainboard providing users with CPU overclocking feature. The host bus speed can be set as 100 FSB or AUTO select. Refer to the chart below for the location of these jumpers, and the table for information on how to set them.

OPEN : 100M FSB
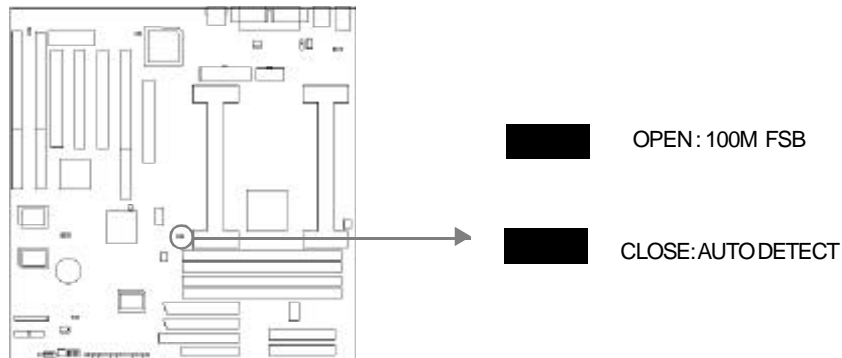
CLOSE : AUTO DETECT

if jumper JP1 is set as close (default setting AUTO DETECT), the system detects the CPU front side bus (66/100MHz) automatically. If jumper JP1 is set as open(100 FSB) , the system can run at 100MHz front side bus even if a processor with 66MHz FSB is installed. However, whether or not your system can be overclocked depends on your processor's capability. Whether the processor is bus ratio locked or unlocked should also be taken into account. For bus ratio unlocked processor, this overclocking feature can be implemented by setting CPU FSB as 100MHz, meanwhile set the bus ratio (Multiplier) lower by setting these jumpers (Jx4~Jx1) manually.

Note: We do not guarantee the overclocking system to be stable, you are suggested not to overclock your computer for security
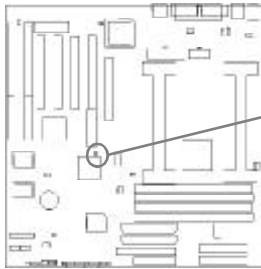
Enable/Disable onboard LAN (JP15)

If using onboard LAN, close JP15 (default). Otherwise, set JP17 open for disabling the onboard LAN.

1 2

Enable: JP15

1 2
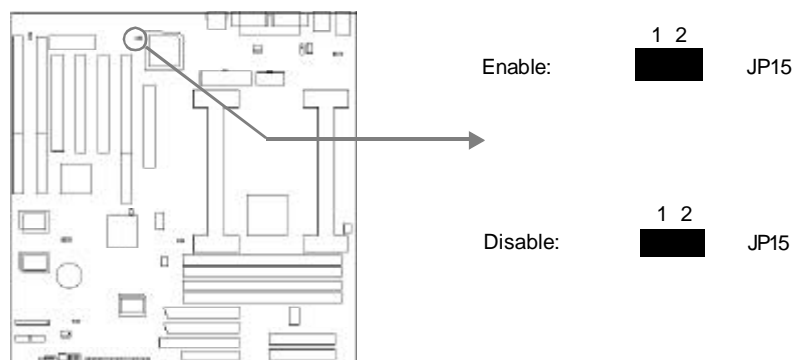
Disable: JP15

Enable/Disable onboard SCSI (JP10)

If using onboard SCSI, close JP10 (default). Otherwise, set JP10 open for disabling the onboard SCSI.

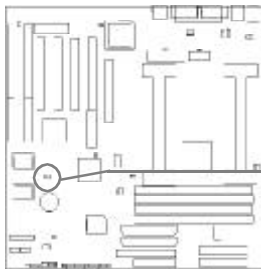Enable: 1
               2   JP10

Disable: 1
               2   JP10

Clear CMOS (JP3)

If you want to clear CMOS, unplug the AC power supply first, close JP3 (pin1& pin2) once, set JP6 back to normal status with pin2 & pin3 connected, then power on the system.

Normal status: 1 2 3   JP3

Clear CMOS: 1 2 3   JP3

BIOS Write Protection Jumper (JAV)

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

There are two choices which implements BIOS Write Protection

1. Set the jumper (JAV) as close, the BIOS can not be overwirtten.
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.

if the jumperJAV is set as close (default), meanwhile disabling the "Flash Write Protect" item from "BIOS Features Setup" in AWARD BIOS CMOS Setup, allows you to flash the BIOS to the Flash ROM; if the jumper JAV is set as open, you will be unable to flash the BIOS to the mainboard.
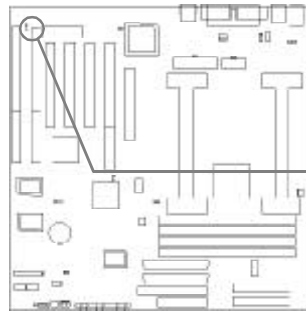
Flash Write Enabled   JAV

Flash Write Disabled   JAV

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

we recommend you set the jumper JAV as closed after the system is installed.

Enable/Disable keyboard password power-on function (JKB)

The mainboard provides the advanced keyboard password power-on function. When wanting to use this function, set JKB with pin1 & pin2 closed.Otherwise, set JKB with pin2 & pin3 closed for disabling this function.
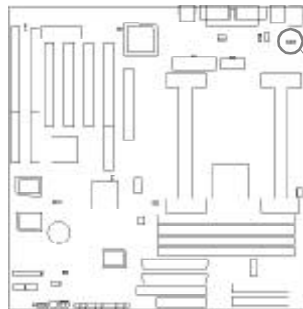
Disable: JKB

1
2
3

Enable: JKB

1
2
3

In order to implement this function, set "KB Power On Password" from the " Intergrated Peripherals " section of the BIOS. Then you can power up the system either by using the keyboard or by the power switch.

Note: If using this function, 5VSB line of the power supply should be capable of delivering enough curren for all the devices connected to the keyboard port, if not, you will be unable to power up the system using the key board.

Expansion Cards
PCI1, PCI2, PCI3, PCI4

The PCI bus uses its own internal interrupt system for dealing with requests from the cards on the bus. These interrupts are often called "PIRQ#A", "PIRQ#B", "PIRQ#C", "PIRQ#D" to avoid confusion with the normal numbered system IRQs (IRQ0~15). These interrupts, if needed by cards in the slots, are mapped to the normal system IRQs. The following table shows how the onboard devices such as onboard SCSI or LAN, and PCI slots connect these internal interrupts.

PCI Interrupt	PIRQ#A	PIRQ#B	PIRQ#C	PIRQ#D
Onboard Device	——	LAN	SCSI	——
AGP	AGP	——	——	——
USB	——	——	——	USB
PCI Slots (Refer to above chart)	PCI 2	PCI 1	PCI 4	PCI 3

According to the above table, AGP and PCI slot 2 occupy PIRQ#A of the PCI interrupt, onboard LAN and PCI slot 1 occupy PIRQ#B, onboard SCSI and PCI slot 4 occupy PIRQ#C, USB and PCI slot 3 occupy PIRQ#D. With the advent of the PCI bus and its associated PCI bus devices, shareable interrupts have become a common occurrence. However whether or not the PCI bus devices can successfully share interrupts have relationship with OS or device driver. If you encounter problems regarding PCI devices, refer to the above table in order to deal effectively with the problems created by shareable interrupts.

Since PCI slot 1 and PCI slot 4 occupy the same arbitration signal lines (REQ#/GNT#), therefore PCI bus master devices can not be simultaneously installed in PCI 1 and PCI 4 slots.

Narrow SCSI
Narrow SCSI interface uses an 8-bit bus and a 50-pin connector. It supports Ultra narrow SCSI peripherals and supports data transfer rate of 20MB/S. Be sure the red side of the cable is aligned with the end of the connector which is marked with "△". We provide internal 50-pin narrow SCSI cable with 3 heades for user.

Wide SCSI
Wide SCSI interface uses a 16-bit bus and a 68-pin connector. It supports Ultra Wide SCSI peripherals and supports data transfer rate of 40MB/s. We provide external 68-pin wide SCSI cable with bracket for user.

Ultra 2 SCSI
Ultra 2 SCSI interface use a 16-bit bus and a 68-pin connector. It supports Wide Ultra2 SCSI peripherals and supports data transfer rate of 80MB/S. We provide internal 68-pin Ultra 2 SCSI cable with 5 headers for user.

Please note:

1. Ultra Wide SCSI HDDs can be connected to either Wide SCSI connector or Ultra2 SCSI connector. In both ways the data transfer rate is 40MB/S.

2. Ultra 2 SCSI HDDs can also be connected to either Ultra 2 SCSI connector or Wide SCSI connector. Supports the data transfer rate of 80MB/S only when connecting to Ultra 2 SCSI connector. If connecting to Wide SCSI connector, the data transfer rate is 40MB/S

3. If an Ultra wide SCSI HDD is connected to Ultra 2 SCSI channel, and all other HDDs connected are Ultra 2 SCSI HDDs, the data transfer rate supported will be 40MB/ S for all.

External Connectors

PS/2 Keyboard Connector, PS/2 Mouse Connector

PS/2 keyboard connector is for the usage of PS/2 keyboard. If using a standard AT size keyboard, an adapter should be used to fit this connector. PS/2 mouse connector is for the usage of PS/2 mouse.

PS/2 Mouse Connector

PS/2 Keyboard Connector
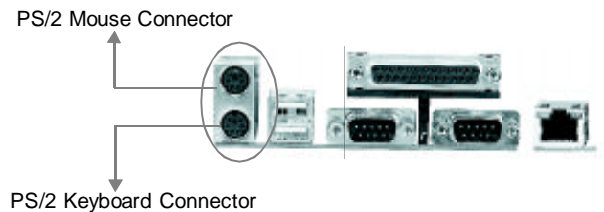
USB1, USB2

Two USB ports are available for connecting USB devices.

Top: USB1
Bottom: USB2

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

The parallel port connector can be connected to a parallel device such as a printer, while the serial port connectors can be connected to serial port devices such as a serial port mouse. You can enable/disable them and choose the IRQ or I/O address in "INTEGRATED PERIPHERALS" from AWARD BIOS SETUP.

Parallel Port

UART1   UART2
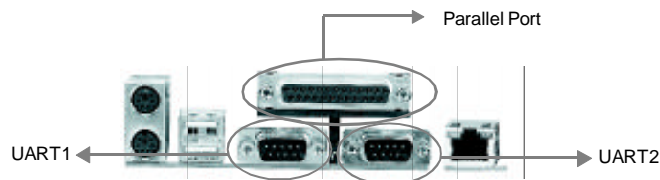
LAN Connector

The onboard LAN supports IEEE802.3 10 BASE-T and 100 BASE-TX. An RJ-45 connector is provided for twisted-pair cabling. Data transfer speed is automatically determined by the auto-negotiation protocol. Two LED indicators are provided: LINK and Active.

LINK   Active

RJ-45 connector
for 10/100 Mbps
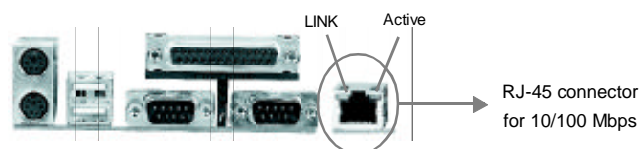
Power Supply Connector(ATX, AUX)

The GeniuX 1 green mainboard supports the standard industrial ATX power supply . Check the ratings of the power supply installed to ensure it meets the following requirements.

Power requirement

Normally the maximum rating power for the power supply installed should be at least 300W. If there are too many peripheral devices in your system, a stronger power supply is needed.

Current requirements

Voltages	+3.3V	+5V	+12V	-5V	-12V	5VSB
Currents	14A	24A	10A	0.25A	0.5A	0.72A

The 5VSB line current of the power supply should be taken into consideration. If it is less than 0.72A, the system may not work properly. If a PCI card using 5VSB line is inserted, the 5VSB line current of the power supply should be more.
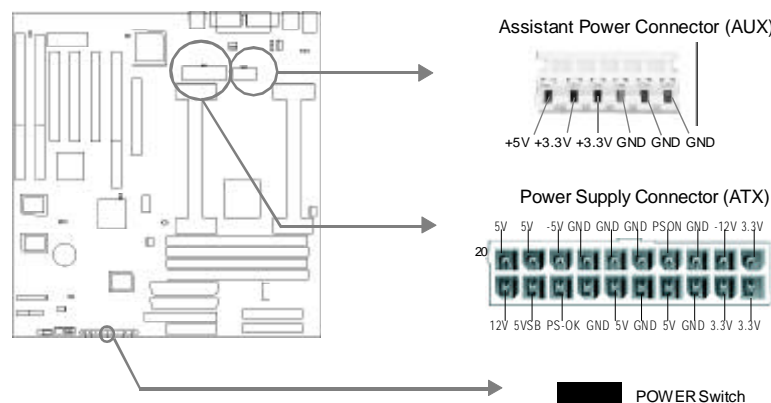
The mainboard provides two power connectors (ATX, AUX), as noted below:
Assistant Power connector(AUX) is an optional connector. If there are too many peripheral devices in your system, a power supply with this assisatnat power connector is recommended to be used.

Power Switch (POWER)

The power switch (POWER) should be connected to a momentary switch. When powering up your system, first turn on the mechanical switch of the power supply (if one is provided), then push once the button of the power switch. When powering off the system, you needn' t turn off the mechanical switch, just push once the button of the power switch.
 If you change "soft-off by PWR-BTTN" from default "Instant-off" to "Delay 4 Secs" in BIOS Setup (POWER MANAGEMENT SETUP), the power button should be pressed for more than 4 seconds before the system powers down.

Assistant Power Connector (AUX)

+5V +3.3V +3.3V GND GND GND

Power Supply Connector (ATX)

5V   5V   -5V GND GND GND PSON GND -12V 3.3V
20
                                                                    1
12V 5VSB PS-OK GND 5V GND 5V GND 3.3V 3.3V

POWER Switch

Hard Disk LED Connector (HDLED)

The connector connects to the case's HDD LED indicating the activity status of IDE hard disk/CD-ROM drive or SCSI hard disk/CD-ROM drive. The connector with 2-pin plug has an orientation. If one way doesn't work, try reversing the 2-pin plug, but not to connect the middel 2-pin; the connector with 4-pin pug has no prientation, free to connect.

Reset Switch (RESET)

The connector connects to the case's reset switch. Press the switch once, the system resets.

Speaker Connector (SPEAKER)

The connector can be connected to the speaker on the case.

Power LED Connector (PWRLED)

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

Key-Lock Connector (KEY_L)

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

ACPI LED Connector (GRN_LED)

The LED Connected to this header shows the status of the system as described below:

LED Status	System Status
Off	The system is in power-off status.
On	The system is in power-up status.
Flashing's frequency of 1 time/second	The system is in Green Mode.
Flashing's frequency of half time/second	The system is in SecurityEasy Lock status.

Hardware Green Connector (SLEEP)

Push this switch once, the system enters suspend mode. Push the switch again, the system will be woken up. If the SecurityEasy function is enabled, pushing the switch enables the system to enter SecurityEasy Lock status.
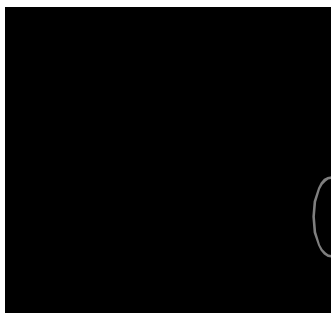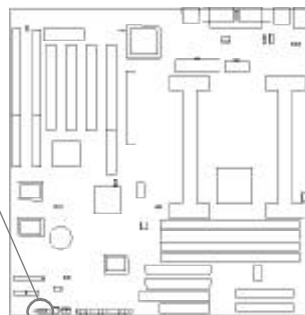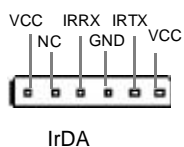
Infrared Header (IRDA)

This connector supports wireless transmitting and receiving. You must set "Serial Port 2 Mode" to **IrDA** or **ASKIR** and configure the settings in the "INTEGRATED PERIPHERALS" section of the BIOS.

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

IrDA

Fan Connector (CPU1~2FAN, CHSFAN, BFAN)

The fan speed of these four fans can be detected and viewed in "System Monitor" section of the BIOS.

CHSFAN

CPU1FAN

CPU2FAN

BFAN

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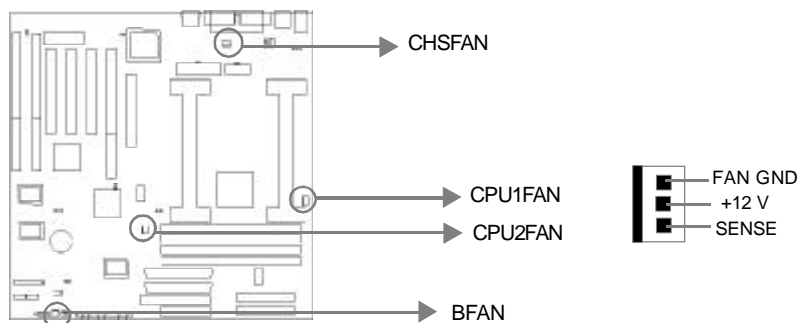
Wake-Up On LAN (WOL)

This connector is reserved for the usage of the customer's own LAN card. Through Wake-up On LAN function, a wake event occuring from network can wake up the system. If this function is to be used, please be sure an ATX 2.01 power supply of which 5VSB line is capable of delivering 720mA, and a LAN adapter which supports this function are used. Then connect this header to the relevant connector on the LAN adapter, set "Resume by Ring or LAN" as Enabled from the "POWER MANAGEMENT SETUP" section of the BIOS. Save & exit, then boot the operating system once to make sure this function takes effect.

WOL

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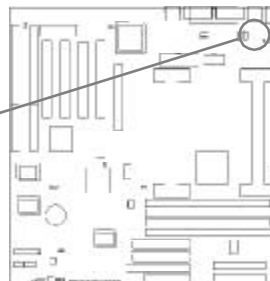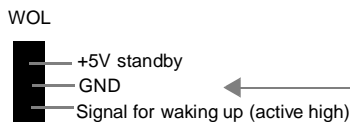
Wake-Up On Internal Modem (WOM)

Through the Wake-Up On Internal Modem function, the system which is in power-off status can be powered up by a ring signal received from the internal modem. If this function is to be used, please 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 "Resume by Ring or LAN" to Enabled from the "POWER MANAGEMENT SETUP" section of the BIOS. Save & exit, then boot the operating system once to make sure this function takes effect.

WOM

+5V standby
Signal for waking up (active low)
GND
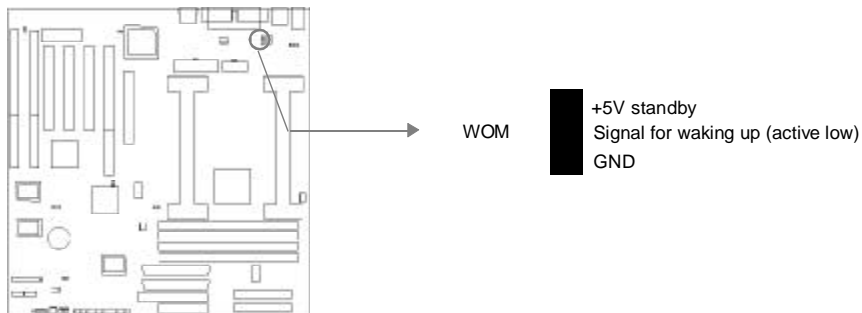
I²C Bus Connector (J23, J25)

The I²C-bus connectors are provided to connect the system devices by using I²C bus.

GND 3VSB SDA
NC   5VSB

SCL 5V 3V NC GND

J23, J25
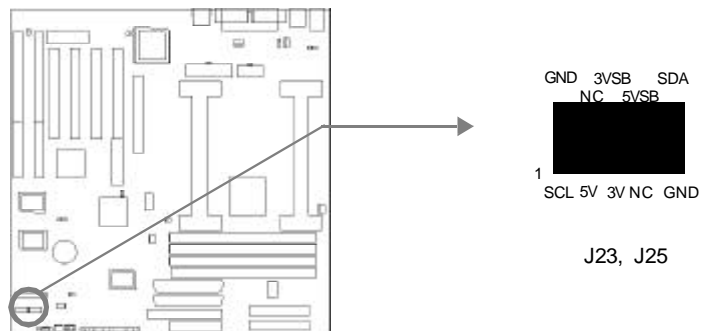
Memory Configuration

This mainboard provides four 168 pin 3.3V un-buffered DIMM sockets to support a flexible memory size ranging from 8MB to 2GB. Both 100MHz SDRAM and registered DIMMs are supported. The following set of rules allow optimum configurations.

Rules for populating a 440GX memory array:

- SDRAM and registered DIMMs can not be used on the same system, it is advised you use only one kind of DIMM.
- Possible SDRAM DIMM memory sizes are 8MB, 16MB, 32MB, 64MB, 128MB or 256MB in each DIMM socket.

Chapter 3
SecurityEasy

There are two ways to prevent unauthorized entry or use of the system:
System Password and SecurityEasy.

System Password
Set system password in the PASSWORD SETTING section of the BIOS, and set the " Password Setting" to **System** in the "BIOS FEATURES SETUP" section. You will be prompted for the password every time the system boots or any time you try to enter BIOS Setup. If the "Password Setting" is set as **Setup**, you will be prompted for the password only when entering BIOS Setup.

SecurityEasy
The GeniuX 1 mainboard provides additional SecurityEasy function to protect the system from unauthorized entry or use. There are three ways to enter the SecurityEasy lock status.

- Push once the button connected to the two-pin header SLEEP after enabling the SecurityEasy Lock function in BIOS Setup. (If the lock function is disabled, this button is used as SLEEP button.)
- "Keyboard inactive Timer" is counted to the preset value-from 4 minute to 1 hour set in the BIOS Setup.
- Push once the hot key (Ctrl + F12) after enabling the Hotkey function in BIOS setup.

In SecurityEasy lock status, the power switch and reset buttons are unresponsive, PS/2 mouse is locked and the keyboard is locked except for the SecurityEasy password entering. The video won't be blank in the lock status. The only way to exit the lock status is to enter SecurityEasy password using the keyboard. This means if you set the lock function as enabled, you must also set the SecurityEasy password.

Please read the notes below thoroughly.

Note 1: The green function(Doze/Standby/Suspend mode) and SecurityEasy lock function can not be enabled at the same time.
Note 2: If lock function is enabled, the SecurityEasy password should be set, no more than six characters.
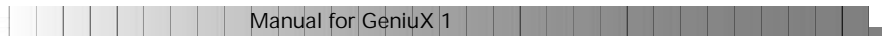Note 3: When setting the SecurityEasy password or entering the password to exit the lock status, use the character keys and the <Enter> key located on the alphabetic pad.
Note 4: The serial mouse and the USB keyboard/mouse can't be locked in SecurityEasy lock mode.
Note 5: See also chapter 4 BIOS Description for detailed BIOS information.

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Chapter 4
BIOS Description

Utility Support:

FLASH.EXE

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

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

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

Follow the steps exactly for a successful upgrade.

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

2. Copy FLASH.EXE from the directory \Utility located on the QDI Mainboard Utility CD onto your new bootable diskette.

3. Download the updated BIOS file from the Website (http://www.qdigrp.com). Please be sure to download the suitable BIOS file for your mainboard.

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

5. Reboot the system from the bootable diskette created.

6. Then run the FLASH utility at the **A:** prompt. During the process, the system will prompt : "Do you want to save the BIOS(Y/N)" . If you type "Y", the system will prompt for the BIOS name. The system will also display the checksum which should be exactly the same as the checksum viewed in the readme file. Don't turn off power or reset the system until the BIOS upgrade has been completed.

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

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

           FLASH [BIOSfile] [/g]

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

  <command> function definition:

  c: clear CMOS;

  p: clear PnP;

  d: clear DMI.

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

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

  be damaged.

/g: Retrieves BIOS file from BIOS ROM.

Examples:

  A:\FLASH.EXE BIOSfile.bin

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

  A:\FLASH.EXE BIOSfile.bin /g

Note: FLASH utility runs incorrectly at Windows DOS prompt.

AWARD BIOS Description

Entering Setup

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

Press <Del> to enter SETUP

Once you have entered, the main menu (Figure 1) appears on the screen. The main menu allows you to select from 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

Note:The "System Monitor" item will not be displayed if there is no LM80, LM75 system monitor supporting chip on the mainboard.

Load Setup Defaults

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

Standard CMOS Setup

The basic CMOS settings included in "Standard CMOS Setup" are Date, Time, Hard Disk Drive Types, Floppy Disk Drive Types, and VGA etc. Use the arrow keys to highlight the item, then use the <PgUp> or <PgDn> keys to select the value you want in each item.
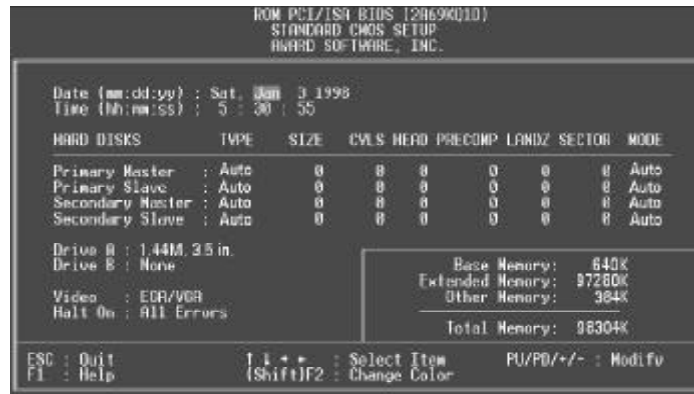
Figure-2   Standard CMOS Setup Menu

Hard Disk
Primary Master/Primary Slave/Secondary Master/Secondary Slave

These categories identify the HDD types of 2 IDE channels installed in the computer system. There are three choices provided for the Enhanced IDE BIOS: None, Auto, and User. "None" means no HDD is installed or set; "Auto" means the system can auto-detect the hard disk when booting up; by choosing "user", the related information should be entered regarding the following items. Enter the information directly from the keyboard and press < Enter>:

CYLS	number of cylinders	HEAD	number of heads
PRECOMP	write pre-compensation	LANDZ	landing zone
SECTOR	number of sectors	MODE	HDD access mode

Video
Set this field to the type of video display card installed in your system.

EGA/ VGA	Enhanced Graphics Adapter / Video Graphic Array. For EGA, VGA, SEGA, SVGA, or PGA monitor adapters.
CGA 40	Color Graphic Adapter, powering up in 40 column mode.
CGA 80	Color Graphic Adapter, powering up in 80 column mode.
MONO	Monochrome adapter, including high resolution monochrome adapters.

Halt On

This category determines whether or not the computer will stop if an error is detected during powering up.

No errors	The system boot will not stop for any errors that may be detected.
All errors	Whenever the BIOS detects a non-fatal error, the system will stop and you will be prompted.
All, But Keyboard	The system boot will not stop for a keyboard error; but it will stop for all other errors.
All, But Diskette	The system boot will not stop for a disk error; but it will stop for all other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error, but it will stop for all other errors.

Memory

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

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

BIOS Features Setup

Figure-3   BIOS Features Setup Menu

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

Item	Option	Description
● ChipAway Virus On Guard	Enabled	Guards against boot virus threats early in the boot cycle, before they have a chance to load into your system, ensuring your computer boots to a clean operating system.
	Disabled	Invalidates this function.
● CPU L1/L2 Cache	Enabled	Enables CPU internal Level1/Level2 cache.
	Disabled	Disables CPU internal Level1/Level2 cache.
● CPU L2 Cache ECC	Enabled	Enables CPU L2 Cache ECC(Error Checking and Correction) function.
	Disabled	Disables CPU L2 Cache ECC function.
● Quick Power on Self Test	Enabled	Enables quick POST. BIOS will shorten or skip some check items during POST, to speed up POST after you power on the system.
	Disabled	Normal POST.
● Boot Sequence	C,A,SCSI,... C,CDROM,A LS/ZIP, C	Any of these search sequences can be chosen for booting.
● Swap Floppy Drive	Enabled	Exchanges the assignment of A&B floppy drives.
	Disabled	The assignment of A&B floppy drives are normal.
● Boot Up Numlock Status	On	Keypad is used as number keys.
	Off	Keypad is used as arrow keys.
● Gate A20 Option	Normal	The A20 signal is controlled by the keyboard controller or chipset hardware.
	Fast	Default setting. The A20 signal is controlled by Port 92 or the chipset specific method.

|		
● Password Setting	*System*	The system will not boot and access to BIOS Setup will be denied if the correct password is not entered when prompted.
	Setup	The system will boot up, but access to BIOS Setup will be denied if the correct password is not entered when prompted.
● MPS Version Contro For OS	*1.1*	MPS version is 1.1(usually for UNIX).
	1.4	MPS version is 1.4 (usually for Windows NT).
● OS Select For DRAM>64MB	*Non-OS2*	If your operating system is not OS/2, please select this item.
	OS2	If system DRAM is more than 64MB and the operating system is OS/2, please select this item.
● Video BIOS Shadow	*Enabled*	Video BIOS will be copied to RAM. Video Shadow will increase the video speed.
	Disabled	Video shadow is disabled.
● C8000~CBFFF Shadow: DC000-DFFFF	*Enabled*	Optional ROM will be copied to RAM by 16K bytes per unit.
Shadow:	*Disabled*	The shadow function is disabled.
● Show Bootup	*Enabled*	Enables the logo when system boots up
Logo	*Disabled*	Logo will not be shown when system boots up.
● Flash Write Protect	*Enabled*	Does not allow you to upgrade the BIOS. **Note: Enabling this item can protect the system BIOS from being attacked by severe virus such as CIH. Therefore disable this item only when wanting to flash BIOS, afterwards set this item as Enabled (default).**
	Disabled	Disabling this item allows you to upgrade the BIOS.

Chipset Features Setup
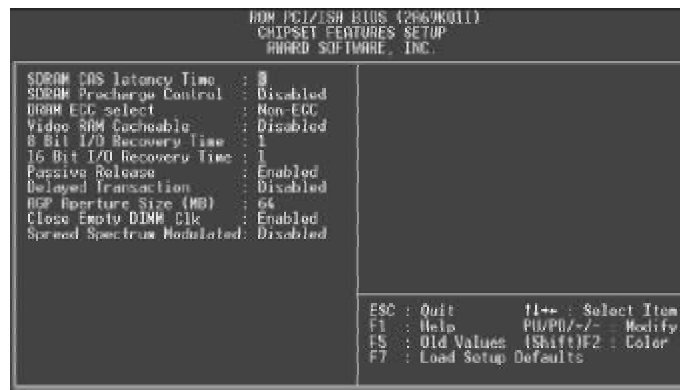
Figure-4   Chipset Features Setup Menu

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

Item	Option	Description
● SDRAM CAS Latency Time	2	Defines the CLT timing parameter of SDRAM. Latency Time =2xSystem Clocks.
	3	Latency Time =3xSystem Clocks.
● SDRAM Precharge Control	Enabled	Default setting is suggested.
	Disabled	
● DRAM ECC Select	ECC	Provides ECC (Error Checking and Correction) function.
	Non-ECC	Disables ECC function.
● Video RAM Cacheable	Enabled	Beside conventional memory, video RAM area is also cacheable.
	Disabled	Video RAM area is not cacheable.
● 8 Bit I/ O Recovery Time.	1~ 8	Defines the ISA Bus 8 bit I/O operating recovery time.
	NA	8 bit I/O recovery time does not exist.
● 16 Bit I / O Recovery Time	1~ 4	Defines the ISA Bus 16 bit I/O operating recovery time.
	NA	16 bit I/O recovery time does not exist.
● Passive Release	Enabled	Default setting is suggested.
	Disabled	
● Delayed Transaction	Enabled	Default setting is suggested.
	Disabled	
● AGP Aperture Size (MB)	4~256	Sets the effective size of the Graphics Aperture to be used in the particular PAC Configuration.

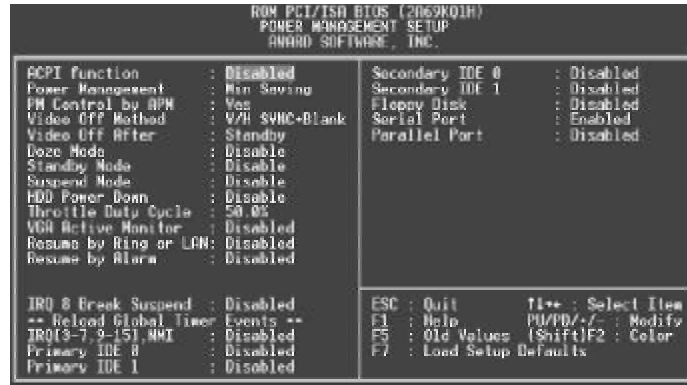| ● Close Empty DIMM Clock | *Enabled* | Closes empty DIMM Clock to reduce EMI. |
	Disabled	Does not close DIMM Clock.
● Spread Spectrum Modulated	*Enabled*	Enables Clock Spread Spectrum to reduce EMI.
	Disabled	Disables Clock Spread Spectrum.

Power Management Setup

Figure-5   Power Management Setup Menu

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

Item	Option	Description
• ACPI function	*Disabled*	Invalidates ACPI function.
	Enabled	Validates ACPI function.
• Power Management	*Disabled*	Global Power Management (PM) will be disabled.
	User Define	Users can configure their own Power Management Timer.
	Min Saving	Pre - defined timer values are used. All timers are in their MAX values.
	Max Saving	Pre - defined timer values are used. All timers are in their MIN values.
• PM Control by APM	No	System BIOS will ignore APM when Power Management is enabled.
	Yes	System BIOS will wait for APM's prompt before entering any PM mode e.g. Standby or Suspend. **Note: If APM is installed, and there is a task running, even when the timer is time out, the APM will not prompt the BIOS to put the system into any power saving mode. But if APM is not installed, this option has no effect.**
• Video Off Method	*Blank Screen*	The system BIOS will only blank off the screen when disabling video.
	V / H SYNC + Blank	In addition to Blank Screen, BIOS will also turn off the V-SYNC & H - SYNC signals from VGA cards to monitor.

	DPMS	This function is enabled only for the VGA card supporting DPMS. **Note: When the green monitor can't detect the V/H-SYNC signals, the electron gun will be turned off.**
● Video Off After	*N/A*	System BIOS never turns off the screen.
	Suspend	Screen blanks after the system enters Suspend mode.
	Standby	Screen blanks after the system enters Standby mode.
	Doze	Screen blanks after the system enters Doze mode.
● Doze mode	*Disabled*	The system never enters Doze mode.
	1Min ~ 1 Hr	Defines the continuous idle time before the system enters Doze mode. If any items defined in "Reload Global Timer Events" are On and activated, the system will be woken up.
● Standby Mode	*Disabled 1 Min ~ 1Hr*	The system never enters Standby mode. Defines the continuous idle time before the system enters Standby mode. If any items defined in "Reload Global Timer Events" are On and activated, the system will be woken up.
● Suspend Mode	*Disabled Min ~ 1Hr*	The system never enters Suspend mode. Defines the continuous idle time before the system enters Suspend mode. If any items defined in "Reload Global Timer Events" are On and activated, the system will be woken up.
● HDD Power Down	*Disabled*	HDD's motor will not be off.
	1 ~15 Min	Defines the continuous HDD idle time before the HDD enters the power saving mode (motor off).
● Throttle Duty Cycle	*12.5%* *25%* *37.5%* *50 %* *62.5%* *75%*	Selects the duty cycle of the STPCLK# signal, slowing down the CPU speed when the system enters the green mode.
	Disabled	Does not slow down the CPU Speed.
● VGA Active Monitor	*Enabled*	VGA active reloads global timer.
	Disabled	VGA active has no influence to global timer.
● Soft-Off by PWR-BTTN	*Instant-off*	The system will power off immediately once the power button is pressed.
	Delay 4 Secs	The system will not power off until the "Power" button is pressed continuously for more than 4 seconds.

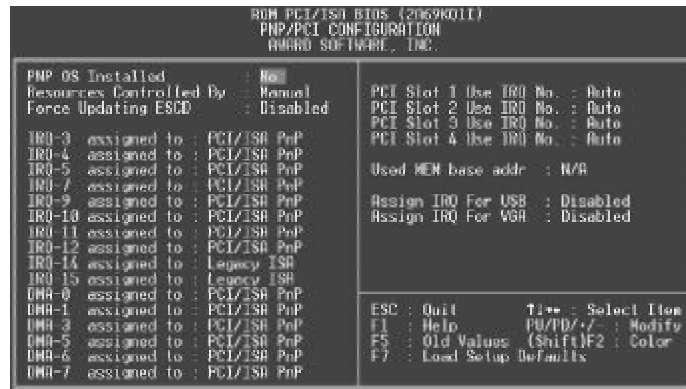|		
● Resume by Ring/LAN	*Enabled*	Allows the system to be powered on when a ring indicator signal comes up to UART1 or UART2 from an external modem or comes up to WOM header from an internal modem card, or when a remote wake up signal comes up to the WOL header from LAN adapter.
	Disabled	Does not allow wake up on LAN or wake up from internal/external modem.
● Resume by Alarm	*Enabled*	RTC alarm can be used to generate a wake event to power up the system which is in power-off status. You can set any date, any time to power up the system.
	Disabled	RTC has no alarm function.
● IRQ8 Break suspend	*Enabled*	Generates a clock event.
	Disabled	Does not generate a clock event.
● IRQ [3-7, 9-15], NMI	*Enabled*	Reloads global timer.
	Disabled	Does not influence the global timer.
..... Parallel Port		

PNP/PCI Configuration Setup

Figure-6   PNP/PCI Configuration Setup Menu

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

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

● Assign IRQ
   For USB

Enabled   Assigns an IRQ for USB. If an USB device is
              used, enable this item.

Disabled   Does not assign an IRQ for USB. If no USB device
              is used, disabling this item can release the IRQ.

● Assign IRQ
   For VGA

Enabled   Assigns an IRQ for VGA Card.

Disabled   Does not assign an IRQ for the VGA card. In
              order to release the IRQ.
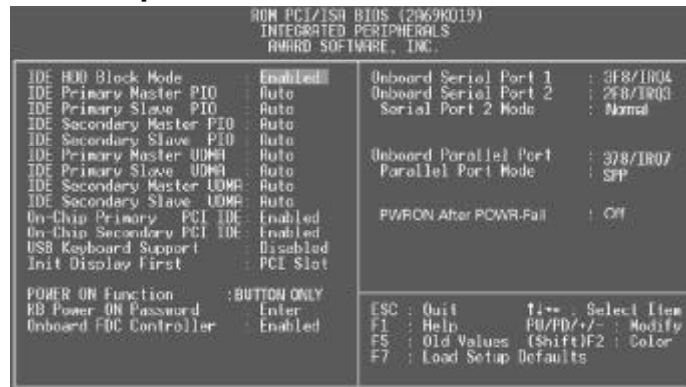
Integrated Peripherals

Figure-7 Integrated Peripherals Menu

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

Item	Option	Description
● IDE HDD Block Mode	Enabled	Allows IDE HDD to read/write several sectors at once.
	Disabled	IDE HDD only reads/writes a sector once.
● IDE Primary/ Secondary Master/Slave PIO	Mode 0 - 4	Defines the IDE primary/secondary master/ slave PIO mode.
	Auto	The IDE PIO mode is defined by auto -detection.
● IDE Primary/ Secondary Master/Slave UDMA	Auto	Ultra DMA mode will be enabled if ultra DMA device is detected.
	Disabled	Disables this function.
● On-chip Primary/Secondary PCI IDE	Enabled	On-chip primary/secondary PCI IDE port is enabled.
	Disabled	On-chip primary/secondary PCI IDE port is disabled.
● USB Keyboard Support	Enabled	USB Keyboard Support is enabled.
	Disabled	USB Keyboard Support is disabled.
● Init Display First	PCI SLOT	Initializes the PCI VGA first. If a PCI VGA card and an AGP card are installed together in the system, the one initialized first functions.
	AGP	Initializes the AGP first.
● POWER ON FUNCTION	Password /Button	Either the power button or the keyboard password can be used to power up the system. Other than choosing this option, the password should be set to implement the keyboard password power-on function.
	Button Only	Disables the keyboard password power-on function. The system can be powered on only by the power switch.

	Password	Enables the keyboard password power-on function and disables the power button' s power-on function. Other than choosing this option, the password should be set to implement this function. **Note: 1. If the option(Password) is chosen, the jumper JKB must be set as pin1&pin2 closed, or you will be unable to power up the system. 2. The keyboard password must be set no more than 5 characters and can only use the numbers and alphabetic letters. The pass-word will always remain unless you clear CMOS or reset it.**
● Onboard Serial Port 1/2	3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3,	Defines the onboard serial port address and required interrupt number.
	Auto	Onboard serial port address and IRQ are automatically assigned.
	Disabled	Onboard serial port is disabled.
● Serial Port 2 Mode	Normal	Defines Serial Port 2 as standard serial port.
	ASKIR	Supports SHARP ASK-IR protocol with maximum baud rate up to 57600bps.
	IrDA	Supports IrDA version1.0 SIR protocol with maxiumum baud rate up to 115.2Kbps.
● Onboard Parallel Port	378/IRQ7, 278/IRQ5, 3BC/IRQ7	Defines onboard parallel port address and IRQ channel.
	Disabled	Onboard parallel port is disabled.
● Parallel Port Mode	SPP EPP ECP, ECP+EPP	Defines the parallel port mode as, Standard Parallel Port (SPP), Enhanced Parallel Port (EPP), or Extended Capabilities Port (ECP).
● 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 pevious status (ON/OFF) when the AC power supply resumes.

System Monitor

Figure-8 System Monitor Menu

The following describes the meaning of each item.

Item	Current Data Shown	Description
● Current CPU1 Temp.	$88^0C/190^0C$	The temperature of the CPU core.
Current CPU2 Temp.	N/A	
Current CPUFAN1 speed	3813RPM	PRM(Revolution Per Minute)- speed of fan
Current CPUFAN2 speed	3813RPM	connected to the fan header CPUFAN or
Current BAKFAN speed	3360RPM	CHSFAN. Fan speed value is based on an
Curren CHSFAN speed	3360RPM	assumption that tachometer signal is two pulses per revolution; In other cases, you should regard it relatively.
● +3.3V Voltage,	3.24V	Displays current Voltage values including all
VTT (+1.5)	1.4V	significant voltages of the mainboard.
+5V Voltage,	4.84V	+3.3V, +5V, +12V and -12V are voltages
VCCVID(CPU1)	2.00V	from an ATX power supply, VTT (+1.5)
+12V	11.91V	Voltage is GTL Termination Voltage from
-12V	-12.03V	the on-board regulator. VCCVID(CPU1) and
VCCVID(CPU2)	2.00V	VID2(CPU2) Voltages are CPU core voltage
		the onboard switching power supply.

SecurityEasy Setup

Figure-9 SecurityEasy Setup Menu

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

Item	Option	Description
● Lock Function Select	Enable	Enables the SecurityEasy function.
	Disable	Disables the SecurityEasy function.
● SecurityEasy Passord	Enter	When the SecurityEasy function is enabled, you need to set the SecurityEasy password, since typing the SecurityEasy password is the only way to exit the SecurityEasy lock mode. When selecting this option, the following message "ENTER PASSWORD" will appear at the center of the screen to assist you in creating a password. Set the password no more than six characters, and press<Enter>. The password set now will clear any previously entered password from CMOS memory. Confirm the password when prompted.
● Keyboard Inactive Timer	Disable	The system will not enter the SecurityEasy lock mode due to the keyboard inactive timer.
	4 Min~ 1 Hour	Sets the continunous idle time of keyboard before the system enters the SecurityEasy lock mode.
● Hotkey Function Select	Disabled	Disables the hotkey function.
	Enabled	Push once the hotkey (Ctrl + F12) after enabling this option, the system will enter the SecurityEasy lock status.
● Video Blanking Control	Enabled	Video is blank in the LOCK mode.
	Disabled	Video is normal in the LOCK mode.

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 CMOS Setup freely.

PASSWORD DISABLED

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

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

IDE HDD Auto Detection

The Enhanced IDE features are included in all Award BIOS. Below is a brief description of these features.

```
         ROM  PCI/ISA BIOS (2A69KQ10)
            CMOS SETUP UTILITY
           AWARD SOFTWARE, INC.

HARD DISKS   TYPE SIZE CYLS HEAD PRECOMP LANDZ SECTOR  MODE

Primary Master:

         Select Primary Master Option (N=Skip): N

OPTION SIZE  CYLS  HEAD  PRECOMP  LANDZ    SECTOR   MODE
  2(Y)  541  525   32       0     1049       67     LBA
   1    541  1050  16     65535   1049       63     NORMAL
   3    541  525   32     65535   1049       63     LARG

  Note:   Some OSes (like SCO-UNIX) must use "NORMAL" for installation
                          ESC:  Skip
```

Figure-9 IDE HDD Auto Detection Menu

1. Setup Changes

With auto-detection

- BIOS setup will display all possible modes supported by the HDD including NORMAL, LBA and LARGE.
- If HDD does not support LBA modes, no "LBA" option will be shown.
- If number of physical cylinder is less than or equal to 1024, "LARGE" option may not be shown.
- Users can select their appropriate mode .

With Standard CMOS Setup

	CYLS	HEADS	PRECOMP	LAND ZONE	SECTOR	MODE
Drive C: User(516MB)	1120	16	65535	1119	59	Normal
Drive D: None(203MB)	684	16	65535	685	38	--------

When HDD type is in "user" type, the "MODE" option will be available for users to select their own HDD mode.

2. HDD Modes

The Award BIOS supports 3 HDD modes: NORMAL, LBA and LARGE.

NORMAL
Generic access mode in which neither the BIOS nor the IDE controller will make any transformation during accessing. The maximum number of cylinders, heads and sectors for NORMAL mode are 1024,16 and 63.

If the user sets his HDD to NORMAL mode, the maximum accessible HDD size will be 528 megabytes even though its physical size may be greater than that.

LBA (Logical Block Addressing) mode
A new HDD accessing method to overcome the 528 Megabyte bottleneck. The number of cylinders, heads and sectors shown in setup may not be the number physically contained in the HDD.

During HDD accessing, the IDE controller will transform the logical address described by sector, head and cylinder number into its own physical address inside the HDD. The maximum HDD size supported by LBA mode is 8.4 Gigabytes.

LARGE mode
Some IDE HDDs contain more than 1024 cylinder without LBA support (in some cases, users do not want LBA). The Award BIOS provides another alternative to support these kinds of HDD.

BIOS tricks DOS (or other OS) into devising the number of cylinders is less than 1024 by dividing it by 2. At the same time, the number of heads is multiplied by 2. A reverse transformation process will be made inside INT13h in order to access the right HDD address.

If using Auto detect, the BIOS will automatically detect the IDE hard disk mode and set it as one of the three modes.

3. Remark

To support LBA or LARGE mode of HDDs, there must be some softwares involved which are located in Award HDD Service Routine(INT13h).It may fail to access a HDD with LBA (LARGE) mode selected if you are running under an Operating System which replaces the whole INT 13h.

Boot with BIOS defaults

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

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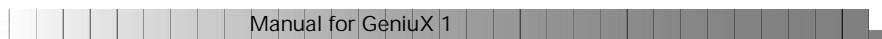
Appendix A

QDI Mainboard Utility CD-ROM / Intel®LDCM V3.3 CD-ROM and Floppy Disk

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

1. Installation of Intel 440GX Chipset Driver:
   This utility program was developed for updating several Windows 95/98 INF files so that the latest Intel chipset components can be recognized or configured properly in the system.
   a. Windows 95 INF Update
   Run \ChipDrv\Intel\G1\Win95\Setup.exe for installation.
   b. Windows98 INF Update

   Run \ChipDrv\Intel\G1\Win98\Setup.exe for installation.

2. Installation of Intel 82558 LAN Driver:
   Locate the appropriate driver for your OS in directory \DevDrv\LAN\82558
   Note: You must copy all the files to the hard disk while you install the 82558 driver on Windows NT.
   For more information about this Intel PCI LAN adapter, please refer to the files contained in the directory \DevDrv\LAN\82558\Info.
   Driver are updated from the website
   ftp://ftp.intel.com/pub/support/enduser_reseller/etherexpress_lan_adapters.

3. Installation of Adaptec AIC-7890 SCSI Driver:
   Locate the appropriate driver for your OS in directory \DevDrv\SCSI\7890.
   Note: 1. \DevDrv\SCSI\7890\UNIX\7890.img is the driver for UNIX, you could decom press it to a floppy disk with HDCOPY.EXE before installation.
   2. Windows NT 4.0 should be installed from floppy disk with the SCSI hard disk. For detailed installation instructions, please refer to the readme file in the related directory.
   Driver are updated from the website
   http://www.adaptec.com/support/files/drivers.html

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

Installation of PC-cillin 98

For Windows 95/98 English version, run Setup.exe for installation from the utility CD directory \Pccillin\Win9x.

For Windows 95/98 Chinese version, run Setup.exe for installation from the utility CD directory \Pccillin\PWin9x.

For Windows NT 4.0, run Setup.exe for installation from the utility CD directory \Pccillin\WinNT4.0.

S/N is PN EF-9991-6558-5857-5535.

3. QDI ManageEasy V2.0

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

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

your local area network. With QDI ManageEasy, you can improve your management level.

Installation of QDI ManageEasy V2.0

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

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

Intel®LDCM V3.3 CD-ROM and Floppy Disk

GeniuX 1 supports Intel®LANDesk®Client Manager (LDCM), a software product from Intel that lets a system administrator for a local area network (LAN) see the configurations and monitor the status of PCs on the LAN. Using LDCM, a LAN administrator can be notified automatically when a workstation is nearing problem status. LDCM's "PC health monitoring" can notify the administrator of the status of low memory, any recoverable parity error, any boot virus that may be present, the motherboard and CPU temperatures, and other status information. LDCM also allows an inventory to be kept of all software and hardware characteristics of all workstations.

Run \Auto.exe from LDCM Ver3.3 CD-ROM for installation. It's recommended that you view the online readme before installation. When installing QDI Instrumentation, and "Choose a model" window pops up, choose "Setup From A:", insert the Intel®LDCM V3.3 patch for GeniuX 1 floppy disk, and press Setup.

Appendix B.

## Retention Module & Intel® Pentium II/Pentium III Celeron™ Processor Installation Procedures

1. Place Plastic Guide with plastic caps on the motherboard, and secure all four caps.

Plastic Guide with
four nuts

plastic stopper

plastic nut

calliper
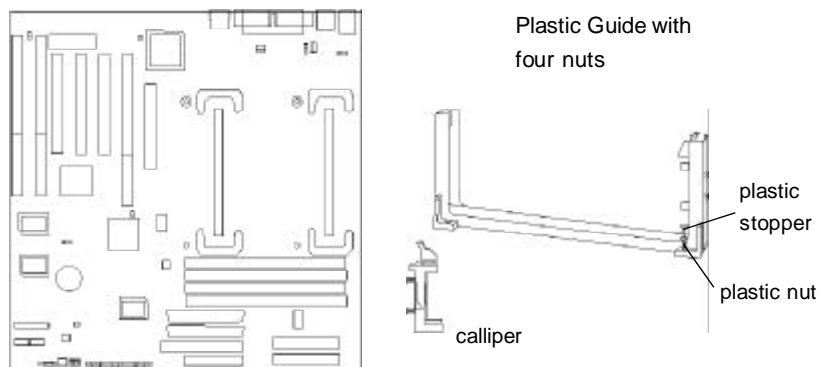
Installation steps:

1. Place the retention module onto the mainboard, paying attention to the 4 holes on the mainboard around the Slot 1.
2. Place the 4 plastic nuts into the 4 holes, located on each corner of the retention module.
3. Place the 4 plastic stoppers into the plastic nuts, and secure them.
4. Insert the Intel®Pentium II/Pentium IIIor Celeron™ Processor onto the retention module.

2. Insert Intel®Pentium II/Pentium III or Celeron™ Processor in Slot1.
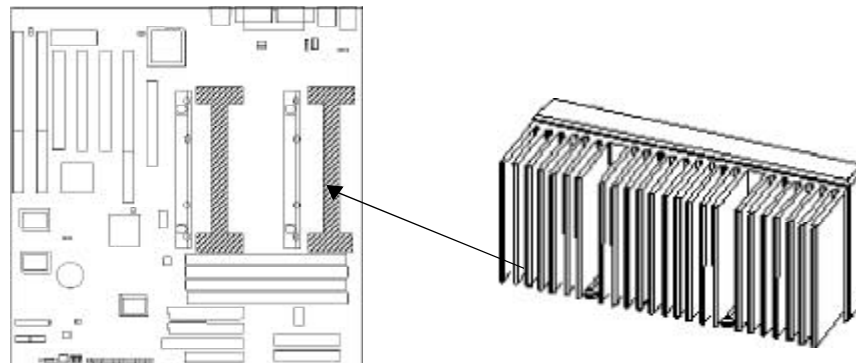
. The Retention Module installation procedure is completed as shown below.
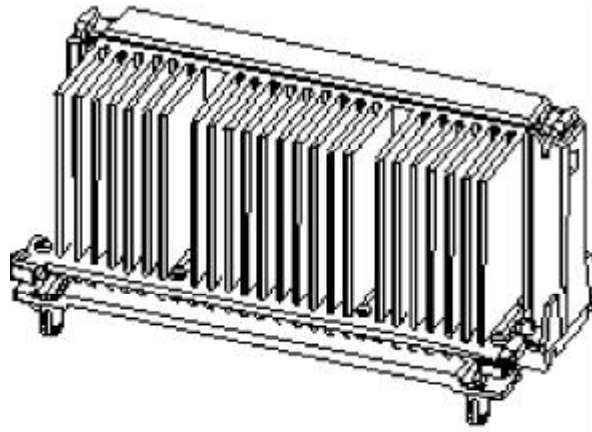
Appendix C
Boot Logo

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

If you press **<Esc>**, it switches to the booting message screen. Otherwise, it enters operating system directly. You can use "**cblogo.exe**" (included on the QDI Mainboard Utility CD) to replace it by any other logo prefered. Regarding the method of using **cblogo.exe** utility, please refer to its online help. If you don' t prefer the logo displayed on the screen during boot up, set the "Show Bootup Logo" option as Disabled in the ' BIOS FEATURES SETUP" section of the BIOS

* We reserve the right of modifying the default full-logo of QDI without further notification.

P/N : 430-01016-901-00
Manual GeniuX 1 Ver 1.0

Item Checklist

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

- ☑ GeniuX 1 mainboard
- ☑ QDI Mainboard Utility CD-ROM
- ☑ Retention Module
- ☑ I/O shield (manufacturing option)
- ☑ 1 IDE ribbon cable
- ☑ 1 floppy ribbon cable
- ☑ Internal 50-pin narrow SCSI cable with 3 headers(manufacturing option)
- ☑ Internal 68-pin Ultra 2 SCSI cable with 5 headers& terminator
- ☑ External 68-pin wide SCSI cable with bracket (manufacturing option)
- ☑ User's manual
- ☑ Intel®LDCM V3.3 CD-ROM and Floppy Disk (manufacturing option)

Notice

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

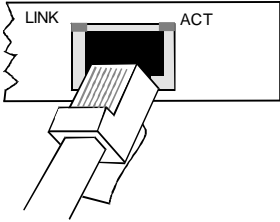All trademarks are the property of their respective owners.

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

Board Layout of
GeniuX 1 V1.0

Supplement for Intel LAN adapter manual

For the onboard LAN adapter on G1 mainboard, refer to the chart below instead of the chart on page1.

100BASE-TX Wiring

LINK   ACT

Twisted pair Ethemet(TPE).
Use category 5 cable and RJ-45 connec-
tor for this adapter. Do not use category 3
wiring at 100 Mbps. At 100 Mbps, connect
to a TX hub, not a T4 hub. For full duplex,
see instruction on page 11.